Mayor Ted Wysocki
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New Berlin, Wisconsin 53151-0921

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MEMORANDUM

TO: Utility Committee
City of Milwaukee

FROM: Telesfore P. Wysocki TPW
Mayor City of New Berlin

RE: Milwaukee Water Purchase Agreement

DATE: March 24, 2003

Introduction

I write this memo in response to the recent proposed resolution by the City of Milwaukee's Common Council relating to "criteria for the sale of water to neighboring communities." As a result of concerns over water quality, the reduction of sandstone aquifer levels and, in general, the long-term water quality degradation from the sandstone aquifer, New Berlin is at a point in its history where it is strategically planning for its future water needs. A critical decision needs to be made as to where and how the City of New Berlin will provide high quality water resources in sufficient quantities. Obtaining Milwaukee water was one of the options proposed for serving already existing customers east of Sunnyslope Road (roughly east of the sub-continental divide).

The amount of available vacant land in the area east of Sunnyslope Road is minimal. It contains no vacant land zoned for industrial uses and only 17 acres of vacant land zoned for commercial uses. Ultimately, New Berlin's influence on Milwaukee's industrial and commercial growth would be minimal considering there are only 15 acres of vacant industrially zoned land and 20 acres of vacant commercially zoned land remaining within the Lake Michigan watershed.

1987 Master Plan

The City of New Berlin adopted its first comprehensive Master Plan in 1987 under State Statute 62.23. This plan was prepared by SEWRPC and had a time horizon until 2010.

There are eleven major principles guiding the City of New Berlin's Master Plan. Two of the most relevant principles to this memo are:

1) *Housing units within the New Berlin area should be geographically well distributed and include a full range of housing by type, size and cost, including manufactured housing, detached single-family dwellings, attached two-family dwellings, attached multi-family rowhouses or townhouses, and attached multi-family garden apartments or condominiums.*

Recognizing the importance of regional cooperation , New Berlin and SEWRPC used two important documents in the preparation of the City's original Master Plan. The first significant document used in the Plan preparation for New Berlin was the regional housing plan, described in SEWRPC Planning Report No. 20, A Regional Housing Plan for Southeastern Wisconsin. This plan identifies existing housing needs within the Region and recommends steps, which would help to meet those needs.

The City has long recognized the need for a balanced housing stock - one that is supportive of its significant industrial land uses. As indicated by the City's Master Plan, a balance between single-family and multi-family housing is important. The Community Development Department monitors the ratio of single-family to multi-family residential properties. The ratio we strive for is 80% single-family units to 20% multi-family units.

The second principle relevant to this memo is:

2) *An integrated area transportation system serves to interconnect freely the various land use activities within the neighborhoods, City, and Region, thereby providing the attribute of accessibility essential to the support of these activities.*

The second significant planning document used was SEWRPC's Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000. This document provides recommendations regarding the amount, spatial distribution, and general arrangement of the various land uses required to serve the need of the existing and future resident population and economic activity levels of the Region. This adopted regional transportation plan, as presented by SEWRPC Planning Report No. 25, describes how the regional land use plan can best be served by highway and transit facilities.

The New Berlin Industrial Parks are serviced by at least two (2) separate bus lines from Milwaukee County. The Milwaukee County Transit System and Wisconsin Coach Lines operate routes into New Berlin. These routes connect to approximately 25 separate bus routes within Milwaukee County providing ample opportunity for City of Milwaukee and Milwaukee County residents to reach jobs in New Berlin and vice versa. As identified in our "draft" Transportation Plan, New Berlin recognizes and is in support of continuing the fixed route transit service from Milwaukee County.

GDMP Update

In 1999, the City hired Clarion Associates to help the City update the 1987 plan. This new Plan update was called the Growth and Development Master Plan (GDMP). This Master Plan update will help the City guide its growth as it faces new planning challenges over the coming decade. This update essentially was an update to the land use element of the 1987 Plan and focused on several key issues that included: 1) updating the future land use map; 2) addressing issues of "community character" and land use compatibility; and 3) developing open space, rural preservation, and environmental preservation principles. The GDMP Plan placed limits on the already developed eastern portion of the city through neighborhood preservation and encouragement of compatible infill development. In addition, the plan takes great lengths to preserve our existing open spaces and rural areas. New development regulations have incorporated the use of conservation subdivisions, transfer of density rights, and larger lot sizes.

Smart Growth

Since the adoption of the GDMP Plan, the State passed Wisconsin Act 6 (Smart Growth – State Statute 66.1001) which laid out one of the most "comprehensive" pieces of land use law requirements in the state in over 50 years. Since January 1, 2000, the City's Department of Community Development has been preparing for the complete update of the City's overall Master Plan. Although not required to comply with the "Smart Growth" until January 2010, the City has proceeded in the spirit of the law by working on updating the City's Master Plan. Since the law was passed, the City has updated the GDMP Plan ("Land Use Element"), prepared and adopted an "Economic Development Plan / Element", and is now working on a "Transportation Plan/Element". The City is also about to about to adopt a new Park and Open Space Plan that will become part of the "Agricultural, Natural and Cultural Resources Element". The Department has also prepared for the New Berlin Plan Commission a "Plan for a Plan" which outlines the timeline the City will follow in order to meet the Smart Growth requirements in a fiscally responsible manner.

Other Plans

More recently, the City has adopted an Alternative Transportation Plan that carries a vision of "providing safe, convenient and pleasant alternative modes of transportation for bicyclists and pedestrians within the community".

Boards and Commissions

In order to assist the City to ensure that we have a balanced housing stock, a Housing Authority and Community Development Authority have been created. The City's Housing Authority is operated by Waukesha County and continues to receive high marks from HUD. The City's Community Development Authority is brand new and is looking forward to taking over the duties of the Housing Authority and maintaining its quality programming.

I. EXECUTIVE SUMMARY

A. Background

The water system serving the City of New Berlin includes a total of nine wells, three elevated storage tanks, six ground level storage reservoirs, two booster stations and approximately 150 miles of water mains. These facilities provide water to about 8,100 connections which serve residential, commercial, industrial and public establishments throughout the City. In 2000, the average day pumpage volume delivered by these facilities was about 3.25 million gallons per day (3.25 MGD).

In 2000, the City of New Berlin authorized Ruekert/Mielke to prepare a Lake Michigan water supply facilities plan. The purpose of the plan was to identify and evaluate current and future infrastructure needs and the feasibility of meeting those needs with a Lake Michigan water supply. The ultimate goal is to provide a water system that will reliably meet the future needs of the City. The study considered water demands associated with full development of areas in the City where properties will eventually be connected to the public water system.

This report presents the results of the system planning effort. This report considers three possible alternatives for future water supply for the City. These are:

- Permanent groundwater supply for the entire portion of the City lying west of the subcontinental divide to be served by municipal water.
- Permanent groundwater supply for the western portion of the City and future Lake Michigan water supply for the eastern portion;
- Permanent Lake Michigan supply for the entire portion of the City to be served by municipal water.

Under either of the two options which include Lake Michigan water, the water would be purchased from the Milwaukee Water Utility. It would be repumped to pressures required to serve the existing portions of the City served by municipal water.

Map 1 shows the location of the area limits in the City which can be served by the Milwaukee Metropolitan Sewerage District (MMSD). These limit lines do not coincide with the subcontinental divide as in other Waukesha County Communities. The subcontinental divide is a topographic feature marking the boundary between the Lake Michigan surface drainage basin and the Fox River surface drainage basin. International agreements, as well as agreements among the Great Lakes states, prohibit the diversion of surface water from the Great Lakes basin to other drainage basins. Interpretations of current regulations have indicated that because the source of Milwaukee water is Lake Michigan, any such water supplied to the City cannot be distributed to areas where surface waters do not ultimately drain back to the Lake Michigan basin. In New Berlin, areas which do drain back to the Lake Michigan basin

are shown in color on **Map 1**. Other areas of the City lie outside the MMSD limits and are not expected to be served by municipal water in the future. Therefore, under the Lake Michigan water option, the New Berlin Water Utility would include both lake water and groundwater components to serve the entire identified water service area of the City. The possibility exists that in the future the entire water service area of the City could be served by lake water, but lengthy planning and negotiation would likely be required.

B. Purpose

This water facilities study has three major areas of focus:

- Evaluation of the existing New Berlin supply facilities, and investigation of each of the three long term water supply alternatives.

- Development of recommendations for improvements and additional capital construction needed for implementation of each of the three water supply alternatives.

- Estimation of incremental capital and operation and maintenance costs associated with each of the three water supply alternatives.

It is not the purpose or intent of this report to recommend or not recommend implementation of any particular long term water supply plan. Rather, this report will evaluate the aspects of each option, with the objective of assisting the City in making decisions regarding future water supply alternatives.

C. Recommendations

Based on the findings of this study, the following actions are recommended to provide adequate water supply facilities capable of meeting the present and future needs of the City:

1. If the City chooses only groundwater as its permanent long term source of supply, implement the recommendations offered under the Permanent Groundwater Supply Plan. Acquire land on which the recommended facilities may be constructed.

2. If the City chooses a combination of groundwater and Lake Michigan water as its long term sources of supply, act upon the following:

   a. Determine what additional capital costs may be realized due to construction of water supply infrastructure in the City of Milwaukee necessary to provide lake water service to the City of New Berlin under this option.

b. Request the City of Milwaukee to supply lake water to the City based on the results of this study. Enter into negotiations with the Milwaukee Water Works for wholesale water service. The objective of negotiations is to secure a renewable long term agreement by which the terms and conditions of service will be defined. The agreement should address water quality, magnitude of supply, connection points, cost of water, cost sharing of facilities, length of agreement, and other relevant issues.

c. Acquire land on which the recommended facilities may be constructed.

d. Implement the recommendations offered under the Combined Lake Water and Groundwater Supply Plan.

3. If the City desires to obtain Lake Michigan water for the entire water service area, act upon the following:

a. Determine what additional capital costs may be realized due to construction of water supply infrastructure in the City of Milwaukee necessary to provide lake water service to the City of New Berlin under this option.

b. Request the City of Milwaukee to supply lake water to the City based on the results of this study. Enter into negotiations with the Milwaukee Water Works for wholesale water service. The objective of negotiations is to secure a renewable long term agreement by which the terms and conditions of service will be defined. The agreement should address water quality, magnitude of supply, connection points, cost of water, cost sharing of facilities, length of agreement, and other relevant issues.

c. Acquire land on which the recommended facilities may be constructed.

d. Implement the recommendations offered under the Permanent Lake Water Supply Plan.

4. Recommendations common to all alternative water supply plans should be given priority for implementation.

D. Benefits

Benefits to the city wide groundwater supply alternative over either alternative involving Lake Michigan water are:

1. The City will continue to have complete control of its water sources and delivery system. There would be no reliance upon outside sources for water supply.

2. The city wide groundwater option has substantially lower operation and maintenance costs than the lake water - groundwater supply plan. The largest operational cost associated with either lake water-groundwater supply plan is the

cost of purchased water. The city wide groundwater supply alternative avoids the costs associated with purchasing water from an outside supplier. New Berlin water customers will not be affected by future rate increases in the cost of purchased water.

3. The complications of operating a water system using two different sources which must be kept separate would be avoided.

Benefits to the lake water-groundwater supply alternatives over the city wide groundwater alternative are:

1. The plan uses treated Lake Michigan water from the Milwaukee Water Works as a source of supply. Treated lake water is of excellent quality. Lake water is naturally low in constituents which most influence customers' perception of poor aesthetic quality. These include concentrations of iron, hardness, total dissolved solids, and sulfates. Since the time of the cryptosporidiosis outbreak in 1993, substantial improvements have been completed by the Milwaukee Water Works which enhance and protect the finished water quality minimizing or eliminating the likelihood of recurrence.

2. The City would reduce its dependence upon the deep sandstone aquifer which underlies the region and from which much of New Berlin's current water supply is now obtained. It is well known that a general recession is occurring in water levels in this aquifer. In New Berlin, water level declines of approximately seven feet per year in this aquifer have been documented. In the long term, these declines may become so pronounced as to require securement of alternate water sources. This has been the history of suburban Chicago, where the sandstone aquifer water level declines became so severe in the mid 1980s that many suburban communities have converted to Lake Michigan water.

   By using Lake Michigan water as a replacement source for a portion of the City's groundwater supply, a benefit would be to minimize concern over continued water level declines in the sandstone aquifer. The City currently operates six sandstone wells. Under the lake water-groundwater plan, the City could discontinue the use of at least one well, and decrease reliance on the other wells.

3. Aesthetic water quality degradation can occur as a result of over pumping and regional static water level declines in the sandstone aquifer. In certain sandstone wells in Waukesha County and in the Fox Valley area, degradation of water quality has been correlated with increased pumpage, and regional static water level declines. By using Lake Michigan water as a replacement source for a portion of New Berlin's groundwater supply, concerns over long term quality degradation in water from sandstone aquifer would be reduced. These concerns relate primarily to saline water intrusion and increased arsenic levels.

4. By eliminating or reducing the use of some sandstone wells, the City would also minimize concerns regarding federal and state water quality standards for radionuclides in drinking water such as radium. Radium is a naturally occurring radioactive element which is present in the deep sandstone aquifer that underlies southeastern Wisconsin. The drinking water standard for the combined isotopes of Radium 226 and Radium 228 established by federal regulation is 5 picocuries per liter. Based on the most recent sampling results, all sandstone wells supplying the City are producing water which exceeds these standards. The need to reduce radium in water from at least one of these wells will be avoided by the abandonment of the well under this option.

5. The City can continue to make use of all of its other well sources as part of a combined lake water-groundwater supply plan.

6. The need to identify, acquire, develop and protect multiple new well sites needed to augment groundwater supply capacity will be reduced. The Wisconsin Administrative Code requires wells to be located such that minimum separation distances from potential contamination sources are provided. Such sources include storm and sanitary sewers, gasoline and oil storage tanks, and storm water detention ponds. These requirements place significant restrictions on areas acceptable as well sites. Given these limitations and the degree to which the City has been developed, it will be difficult to locate and develop the additional well sites within the City. Under the Combined Lake Water and Groundwater Supply Plan, it is projected that only three additional well sites will be needed to meet ultimate supply requirements. In contrast, it is projected that at least five new well sites will be needed under the city wide groundwater supply plan by 2010 and six ultimately.

E. Costs

The present worth of capital, operation and maintenance costs attendant to each of the three water supply alternatives is summarized below. Costs are based upon an analysis period of 50 years and a interest rate of 6.0 percent. The analysis includes estimated changes in operation and maintenance, transmission and distribution costs, general overhead and administration, and includes purchased water costs for the lake water option. The analysis assumes that full implementation of the lake water option would occur at year 2005. It is assumed that the lake water option would include purchasing the lake water from the Milwaukee Water Utility.

The present worth analyses is based upon the value of money in terms of year 2001 constant dollars (no adjustment for inflation). These analyses are intended to determine which alternative is the least costly. They are not estimates of actual total costs, which would be determined as part of a financial analysis. The financial analyses would take into account interest rates, timing of borrowing, sources of funds, and other factors.

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Department Fax (262) 780-4612
Website: www.newberlin.org/dcd

To: Greg Kessler, Director
From: David Haines, Planning Manager
Date: March 19, 2003
RE: Master Plan Completion Schedule

New Berlin is mandated under Wis Stat. 66.1001 to adopt a Master Plan that includes nine "elements" by January 1, 2010. New Berlin is fortunate to have much of the information and plans already completed. A majority of the work will be identifying and reorganizing the existing plans into the new formats. However, some new information will be needed to update existing plans to meet new requirements.

Each element will take approximately 15 months to complete –

- Nine months for staff to write the initial draft, and then present to Plan Commission
- Three months for Plan Commission and public review of the draft
- Two months for staff to make revisions to the draft based on comment, and then present revisions to Plan Commission
- One month for final plan review followed by Adoption.

The following timeline is very aggressive, it requires at least 35 public meetings over the next three to four years. Failure to meet the deadlines will likely delay other elements and adoption of the completed Master Plan.

Master Plan Timeline:

Elements	Plan Commission Meeting			
	Draft Plan Presentation	**Public Hearing**	**Plan Revision Presentation**	**Final Plan Adoption under 62.23**
Issues & Opportunities:	September 2004	December 2004	February 2005	March 2005
Housing:	May 2004	August 2004	October 2004	November 2004
Transportation:	May 2003	July 2003	September 2003	October 2003
Utilities & Community Facilities:	January 2005	April 2005	June 2005	July 2005
Agricultural, Natural and Cultural Resources:	January 2004	April 2004	June 2004	July 2004
Economic Development:	Completed			
Intergovernmental Cooperation:	May 2005	August 2005	October 2005	November 2005
Land Use:	September 2005	December 2005	February 2006	March 2006
Implementation:	January 2006	April 2006	June 2006	July 2006
Plan Commission Adoption under Wis Stat. 62.1001(4)(b): August 2006				
Common Council Public Hearing under Wis Stat. 62.1001(4)(d): September 2006				
Common Council Adoption under Wis Stat. 62.1001(4)(c): November 2006				

Plan Commission Master Plan Meeting Schedule

2003

May	Transportation Presentation of Draft
June	-
July	Transportation Public Hearing
August	-
September	Transportation Presentation of Revision
October	Transportation Adoption
November	-
December	-

2004

January	Agricultural, Natural & Cultural Resources Presentation of Draft
February	-
March	-
April	Agricultural, Natural & Cultural Resources Public Hearing
May	Housing Presentation of Draft
June	Agricultural, Natural & Cultural Resources Presentation of Revisions
July	Agricultural, Natural & Cultural Resources Adoption
August	Housing Public Hearing
September	Issues & Opportunities Presentation of Draft
October	Housing Presentation of Revision
November	Housing Adoption
December	Issues & Opportunities Public Hearing

2005

January	Utilities & Community Facilities Presentation of Draft
February	Issues & Opportunities Presentation of Revision
March	Issues & Opportunities Adoption
April	Utilities & Community Facilities Public Hearing
May	Intergovernmental Cooperation Presentation of Draft
June	Utilities & Community Facilities Presentation of Revisions
July	Utilities & Community Facilities Adoption
August	Intergovernmental Cooperation Public Hearing
September	Land Use Presentation of Draft
October	Intergovernmental Cooperation Presentation of Revisions
November	Intergovernmental Cooperation Adoption

December	Land Use Public Hearing

2006

January	Implementation Presentation of Draft
February	Land Use Presentation of Revisions
March	Land Use Adoption
April	Implementation Public Hearing
May	-
June	Implementation Presentation of Revisions
July	Implementation Adoption
August	Plan Commission Master Plan Adoption under 62.1001
September	Common Council Public Hearing on Master Plan under 62.1001
October	-
November	Common Council Adoption of Master Plan as Ordinance under 62.1001
December	-

COMMON COUNCIL
OF THE
CITY OF NEW BERLIN, WISCONSIN

Resolution No. 34-85

A RESOLUTION CREATING THE
HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

WHEREAS, the City of New Berlin, Wisconsin (the "City") is a municipal corporation organized and existing under and pursuant to the laws of the State of Wisconsin and is authorized by Sections 66.395 and 66.40 through 66.404, Wisconsin Statutes, as amended (hereinafter sometimes referred to as the "Housing Authority Law") by proper resolution of this Common Council to declare that there is a need for a housing authority ("Authority") in the City which shall be a public body corporate and politic authorized to transact business and exercise any and all powers granted to it in the Housing Authority Law, upon the making of certain findings by this Common Council; and

WHEREAS, it is the finding and determination of this Common Council that there is a shortage of safe dwelling accomodations in the City available to elderly persons and to persons of low income at rentals they can afford, as defined in the Housing Authority Law; and

WHEREAS, an Authority established by the City may exercise its powers to alleviate such shortage of accomodations in part through cooperation between the Authority and private developers with respect to housing projects selected and approved by the Authority, at no cost to or financial liability on the part of the Authority or the City, direct or contingent, of any kind or degree whatsoever; and

WHEREAS, it is the finding and determination of this Common Council that the City would derive public benefits from the creation of an Authority and the exercise by the Authority of its powers under the Housing Authority Law, including its power to issue revenue bonds to provide financing for qualifying

housing projects to be constructed by private developers, including by way of illustration but not limitation, the following: the provisión of accomodations to elderly persons and persons of low income in the City; the provision and retention of gainful employment opportunities for the citizens of the City; and the stimulation of the flow of investment capital into the City with resultant beneficial effects upon the economy in the City; and

WHEREAS, it is the finding and determination of this Common Council that the public interest will be served if the City were to create an Authority in the City;

NOW, THEREFORE, BE IT RESOLVED:

1. This Common Council hereby declares that there is a need for a Housing Authority in the City to be known as the "Housing Authority of the City of New Berlin", authorized to transact business and exercise any and all powers granted to such an Authority under the Housing Authority Law.

2. This Resolution shall be effective immediately upon its passage and approval. Upon such approval, the Mayor of the City shall, with the confirmation of this Common Council, appoint five (5) persons to serve as commissioners of the Authority.

3. The Authority created by this Resolution shall require, in connection with each housing project financed in whole or in part by revenue bonds issued by the Authority which is to be owned by a private developer, that the private developer or other entity acceptable to the Authority agree to indemnify and hold harmless the Authority and the City from all liability in respect to the ownership and operation of the Project.

CERTIFICATIONS BY CLERK

I, Donald W. De Bruin, being first duly sworn, do hereby depose and certify that I am the duly (appointed) (elected), qualified and acting Clerk of the City of New Berlin, in the County of Waukesha, State of Wisconsin, and as such I have in my possession, or have access to, the complete corporate records of said City and of its Common Council; that I have carefully compared the transcript hereto attached with the aforesaid corporate records; that said transcript hereto attached is a true, correct and complete copy of all the corporate records in relation to the adoption of Resolution No. 34-85 entitled:

A RESOLUTION
CREATING THE HOUSING AUTHORITY OF THE
CITY OF NEW BERLIN

I do hereby further depose and certify as follows:

1. Said resolution was considered for adoption by the Common Council at a meeting held in the City Hall at 7:30 P.M. on July 23, 1985. Said meeting was a regular meeting of the Common Council and was held in open session in compliance with Subchapter IV of Chapter 19 of the Wisconsin Statutes.

2. Said resolution was on the agenda for said meeting and public notice thereof was given not less than 24 hours prior to the commencement of said meeting in compliance with Section 19.84 of the Wisconsin Statutes, including, without limitation, by posting on the bulletin board in the City Hall, by notice to those news media who have filed a written request for notice of meetings and by notice to the official newspaper of the City.

3. Said meeting was called to order by Timothy K. Tully, Mayor, who chaired the meeting. Upon roll I noted and recorded that the following aldermen were present:

Gray, Wysocki, Andries, Smith, Sheahan, Schkeryantz and Kuenstler

and that the following aldermen were absent: none

I noted and recorded that a quorum was present. Various matters and business were taken up during the course of the meeting without intervention of any closed session. One of the matters taken up was said resolution which was introduced and its adoption was

moved by Alderman Sheahan, and seconded by Alderman Smith. Following discussion and after all aldermen who desired to do so had expressed their views for or against said resolution, the question was called and upon roll being called and the continued presence of a quorum being noted, the recorded vote was as follows:

Aye: Aldermen Gray, Wysocki, Andries, Smith, Sheahan, Schkeryantz and Kuenstler

Nay: None

Abstain: None

Whereupon the Mayor declared said resolution adopted, and I so recorded it.

4. Said resolution was approved by the Mayor on July 23, 1985, and I have so recorded.

IN WITNESS WHEREOF, I have signed my name and affixed the seal of the City hereto on this 23rd day of July, 1985.

[Municipal Seal]

Donald W. Gebhardt
Clerk

STATE OF WISCONSIN)
) SS
COUNTY OF WAUKESHA)

Subscribed and sworn to before me this day, the date last above written.

Florence Greve
Notary Public
My commission expires: 9-24-86

[Notarial Seal]

APPROVAL OF RESOLUTION BY MAYOR

The attached Resolution No. 34-85, entitled

A RESOLUTION
CREATING THE HOUSING AUTHORITY OF THE
CITY OF NEW BERLIN

which was adopted by the Common Council of the City of New Berlin, Wisconsin, on July 23rd, 1985, is hereby approved.

Dated July 23, 1985.

Mayor

Waukesha City & County Housing Authority and New Berlin Housing Authority
Section 8 Housing Voucher Programs
Occupancy Report for the Month of: 02/07/03

Average Rents By Bedroom Size & Program

WHA - Vouchers		No. of Units	Contract Rent	HAP	UAP	HAP+UAP	Tenant Rent
Bedroom	0	18	473.44	209.83	0.00	209.83	263.61
Bedrooms	1	326	569.44	320.73	0.00	320.73	248.71
Bedrooms	2	328	693.14	409.93	0.52	410.45	283.21
Bedrooms	3	101	847.48	541.23	1.97	543.20	306.25
Bedrooms	4	6	1030.00	663.40	0.00	663.40	366.60
Bedrooms	5+	1	1185.00	473.00	0.00	473.00	712.00
Program Total		**780**	**659.38**	**386.90**	**0.48**	**387.38**	**272.48**

WCHA - Vouchers		No. of Units	Contract Rent	HAP	UAP	HAP+UAP	Tenant Rent
Bedroom	0	30	469.40	213.63	0.00	213.63	255.77
Bedrooms	1	196	570.13	327.81	0.00	327.81	242.32
Bedrooms	2	187	702.74	416.43	0.14	416.57	286.31
Bedrooms	3	46	817.89	525.36	3.38	528.74	292.53
Bedrooms	4	2	917.50	650.50	0.00	650.50	267.00
Bedrooms	5+					0.00	
Program Total		**461**	**643.28**	**377.16**	**0.39**	**377.55**	**266.11**

NBHA - Vouchers		Units	Contract Rent	HAP	UAP	HAP+UAP	Tenant Rent
Bedroom	0	2	424.00	188.50	0.00	188.50	235.50
Bedrooms	1	44	595.50	337.86	0.00	337.86	257.64
Bedrooms	2	36	694.46	339.46	0.00	339.46	355.00
Bedrooms	3	4	826.67	500.33	0.00	500.33	326.33
Bedrooms	4	1	1000.00	927.00	0.00	927.00	73.00
Bedrooms	5+						
Program Total		**87**	**645.13**	**347.67**	**0.00**	**347.67**	**297.46**

Client Counts by City for all Programs

City	No. of Clients	City	No. of Clients	City	No. of Clients	City	No. of Clients
Big Bend	3	Eagle	3	Merton	1	Oconomowoc	29
Brookfield	43	Elm Grove	2	Mukwonago	40	Ottowa	0
Butler	2	Hartland	76	Muskego	30	Pewaukee	54
Chenequa	0	Lac La Belle	0	Nashotah	9	Sussex	43
Delafield	15	Lannon	0	New Berlin	104	Wales	2
Dousman	7	Menomonee Falls	89	North Prairie	1	Waukesha	774
Clients residing outside of County		3					
Total All Programs		**1330**					

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

Waukesha, Wisconsin

FINANCIAL STATEMENTS

Including Independent Auditors' Report

September 30, 2002

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

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September 30, 2002

Virchow Krause & company

INDEPENDENT AUDITORS' REPORT

To the Board of Commissioners
Housing Authority of the City of New Berlin
Waukesha, Wisconsin

We have audited the accompanying basic financial statements of the Housing Authority of the City of New Berlin ("Authority"), a component unit of the City of New Berlin, Wisconsin, as of and for the year ended September 30, 2002, as listed in the table of contents. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of September 30, 2002, and the changes in its financial position and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note I.B to the basic financial statements, the Authority adopted the provisions of Governmental Accounting Standards Board Statement No. 34, *Basic Financial Statements - and Management's Discussion and Analysis – For State and Local Governments*, Statement No. 37, *Basic Financial Statements – and Management's Discussion and Analysis – For State and Local Governments: Omnibus*, Statement No. 38, *Certain Financial Statement Note Disclosures* and Interpretation No. 6 *Recognition and Measurement of Certain Liabilities and Expenditures in Governmental Fund Financial Statements*, as of October 1, 2001.

In accordance with *Government Auditing Standards*, we have issued a report on our consideration of the Authority's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts and grants. That report is an integral part of an audit performed in accordance with Government Auditing Standards and should be read in conjunction with this report in considering the results of our audit.

The management's discussion and analysis on pages 3 through 6 is not a required part of the basic financial statements but is supplementary information required by the Governmental Accounting Standards Board. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the required supplementary information. However, we did not audit the information and express no opinion on it.

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The combining schedules are presented for purposes of additional analysis and are not a required part of the basic financial statements. The combining schedules) have been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, are fairly stated in all material respects in relation to the basic financial statements taken as a whole.

Virchow, Krause + Company, LLP

Milwaukee, Wisconsin
January 16, 2003

WAUKESHA COUNTY HOUSING AUTHORITY
MANAGEMENT'S DISCUSSION AND ANALYSIS
September 30, 2002

As management of the Waukesha County Housing Authority ("Authority"), we offer readers of the Authority's financial statements this narrative overview and analysis of the financial activities of the Authority for the year ended September 30, 2002. We encourage readers to consider the information presented here in conjunction with the Authority's financial statements, which begin on page 8.

FINANCIAL HIGHLIGHTS

- The assets of the Authority exceeded its liabilities at the close of the most recent fiscal year by $549,806.
- The Authority's cash and investment balance at September 30, 2002 was $647,476 representing an increase of $58,600 from September 30, 2001.
- U.S. Department of Housing and Urban Development (HUD) grants amounting to $2,231,003 were reported as revenues, an increase of $753,282 from the prior year.

OVERVIEW OF THE FINANCIAL STATEMENTS

The Authority adopted the provisions of Governmental Accounting Standards Board Statement No. 34, *Basic Financial Statements – Management's Discussion and Analysis – for State and Local Governments*, Statement No. 37, *Basic Financial Statements-and Management's Discussion and Analysis-For State and Local Governments: Omnibus*, Statement No. 38, *Certain Financial Statement Note Disclosures* and Interpretation No. 6 *Recognition and Measurement of Certain Liabilities and Expenditures in Governmental Fund Financial Statements*, as of October 1, 2001. Therefore, comparative data for the year is not available for a comprehensive discussion of the Authority's change in net assets. However, a comparative analysis of data will be presented in the financial statements in future years.

The financial statements included in this report are those of a special-purpose government engaged only in a business-type activity. The following statements are included:

The *statement of net assets* presents information on all of the Authority's assets and liabilities, with the difference between the two reported as *net assets*. Over time, increases or decreases in net assets may serve as a useful indicator of whether the financial position of the Authority is improving or deteriorating.

The *statement of revenues, expenses and changes in net assets* presents information showing how the Authority's net assets changed during the most recent fiscal year. All changes in net assets are reported as soon as the underlying event giving rise to the change occurs, *regardless of the timing of related cash flows*. Thus, revenues and expenses are reported in this statement for some items that will only result in cash flows in the future fiscal periods (e.g., earned but unused vacation leave).

The basic financial statements can be found on pages 7-10 of this report.

Notes to the financial statements. The notes provide additional information that is essential to a full understanding of the data provided in the basic financial statements. The notes to the financial statements can be found on pages 11-18 of this report.

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

MANAGEMENT'S DISCUSSION AND ANALYSIS
September 30, 2002

FINANCIAL ANALYSIS OF THE AUTHORITY

Net assets may serve over time as a useful indicator of a government's financial position. In the case of the Authority, assets exceeded liabilities by $48,112 at the close of the most recent fiscal year.

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN NET ASSETS
September 30, 2002

ASSETS	
Current assets	$ 53,420
LIABILITIES	
Current liabilities	5,308
NET ASSETS	
Unrestricted	$ 48,112

At the end of the current fiscal year, the Authority is able to report positive balances of net assets. The same situation held true for the prior fiscal year.

The Authority's net assets increased $7,124 during the current fiscal year. The increase was primarily due to the unexpended administrative fees earned from HUD.

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

MANAGEMENT'S DISCUSSION AND ANALYSIS
September 30, 2002

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN CHANGES IN NET ASSETS
For the year ended September 30, 2002

OPERATING REVENUE	$ -
OPERATING EXPENSES	
Voucher Program	411,308
Operating income (loss)	(411,308)
NONOPERATING REVENUE (EXPENSES)	
HUD grants	417,929
Interest on investments	503
Total nonoperating revenue (expenses)	418,432
CHANGE IN NET ASSETS	7,124
NET ASSETS - Beginning of Year	40,988
NET ASSETS - END OF YEAR	$ 48,112

BUDGETS

The Authority is required by contractual agreements to adopt annual, appropriated operating budgets for funds receiving federal expenditure awards. All budgets are prepared on a basis prescribed by HUD which is materially consistent with generally accepted accounting principles. All annual appropriations lapse at year-end.

CAPITAL ASSET AND DEBT ADMINISTRATION

CAPITAL ASSETS

	2002	2001
Furniture, equipment and machinery	$ -	$ 2,489
Less accumulated depreciation	-	(2,489)
Total	$ -	$ -

LONG-TERM DEBT

The Authority does not have any long-term liabilities at this time.

ECONOMIC FACTORS AND NEXT YEAR'S BUDGETS

It is difficult to predict the fiscal year 2003 budget. As of February 7, 2003, the United States Congress has not yet passed the 2003 budget for the fiscal year beginning 10/1/2002 and funding is based on a continuing resolution of FY 2002 funding levels. The Section 8 Program is proposed to lose approximately 1,300 vouchers in Wisconsin. It has not been determined which housing authorities would lose vouchers due to the proposed funding cut. If our program is cut locally, we will reduce the number of households served to compensate for the funding cut.

REQUESTS FOR INFORMATION

This financial report is designed to provide a general overview of the Authority's finances for all those with an interest in the Authority's finances. Questions concerning any of the information provided in this report, or requests for additional financial information should be addressed to the Executive Director, 120 Corrina Boulevard, Waukesha, Wisconsin, 53186.

BASIC FINANCIAL STATEMENTS

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN
STATEMENT OF NET ASSETS
September 30, 2002

ASSETS	
CURRENT ASSETS	
Cash and cash equivalents	$ 52,157
Other receivables	907
Prepaid expenses	356
Total assets	53,420
LIABILITIES	
CURRENT LIABILITIES	
Accounts payable	530
Accrued compensated absences	385
Intergovernmental payables	4,393
Total current liabilities	5,308
NET ASSETS	
Unrestricted	48,112
Total net assets	$ 48,112

The accompanying notes are an integral part of these financial statements.

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN
STATEMENT OF REVENUES, EXPENSES AND
CHANGES IN FUND NET ASSETS
For the year ended September 30, 2002

OPERATING REVENUE	$ -
OPERATING EXPENSES	
Administration	40,525
Tenant services	2,278
General expense	1,359
Housing assistance payments	367,146
Total operating expenses	411,308
Operating income (loss)	(411,308)
NONOPERATING REVENUE (EXPENSES)	
HUD grants	417,929
Interest on investments	503
Total nonoperating revenue (expenses)	418,432
CHANGE IN NET ASSETS	7,124
NET ASSETS - Beginning of Year	40,988
NET ASSETS - END OF YEAR	$ 48,112

The accompanying notes are an integral part of these financial statements.

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN
STATEMENT OF CASH FLOWS
For the year ended September 30, 2002

CASH FLOWS FROM OPERATING ACTIVITIES	
Cash received from other governments	$ 417,196
Cash paid to employees	(22,959)
Cash paid to suppliers	(21,122)
Other payments	(363,980)
Net Cash Flows From Operating Activities	9,135
CASH FLOWS FROM INVESTING ACTIVITIES	
Interest received on investments	503
Net Change in Cash and Cash Equivalents	9,638
CASH AND CASH EQUIVALENTS - Beginning of Year	42,519
CASH AND CASH EQUIVALENTS - END OF YEAR	$ 52,157
Reconciliation fo operating income (loss) to net cash flows from operating activities	
Operating income (loss)	$ (411,308)
Adjustments to reconcile operating income (loss) to net cash flows from operating activities	
HUD grants	417,929
(Increase) decrease in assets	
Other receivables	(733)
Prepaid expenses	(40)
Increase (decrease) in liabilities	
Accounts payable	311
Accrued compensated absences	(190)
Intergovernmental payables	3,166
Net cash flows from operating activities	$ 9,135

The accompanying notes are an integral part of these financial statements.

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

INDEX TO NOTES TO FINANCIAL STATEMENTS
September 30, 2002

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

INDEX TO NOTES TO FINANCIAL STATEMENTS
September 30, 2002

NOTE I – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accounting policies of the Housing Authority of the City of New Berlin, Wisconsin conform to generally accepted accounting principles as applicable to enterprise funds of governmental units.

A. REPORTING ENTITY

This report contains the financial information of the Housing Authority of the City of New Berlin (the "Authority"), which is a component unit of the City of New Berlin.

The Authority is a legally separate organization. The board of commission of the Authority is appointed by the mayor and city council of the City of New Berlin. Wisconsin Statutes provide for circumstances whereby the City of New Berlin can impose their will on the Authority, and also create a potential financial benefit to or burden on the City of New Berlin.

The reporting entity for the Authority consists of (a) the primary government, (b) organizations for which the primary government is financially accountable, and (c) other organizations for which the nature and significance of their relationship with the primary government are such that their exclusion would cause the reporting entity's financial statements to be misleading or incomplete. Component units are legally separate organizations for which the elected officials of the primary government are financially accountable. The primary government is financially accountable if it appoints a voting majority of the organization's governing body and (1) it is able to impose its will on that organization or (2) there is a potential for the organization to provide specific financial benefits to or burdens on the primary government. The primary government may be financially accountable if an organization is fiscally dependent on the primary government. This report does not contain any component units.

The Authority was established for the purpose of engaging in the development, acquisition, and administrative activities of low-income housing programs and other programs with similar objectives. The United States Department of Housing and Urban Development (HUD) has direct responsibility for administering the low-income housing programs under the United States Housing Act of 1937, as amended. HUD is authorized to enter into contracts with local housing authorities to make loans to assist the local housing authorities in financing the acquisition, construction and/or leasing of housing units and to make annual contributions (subsidies) to local housing authorities for the purpose of maintaining the low-rent character of the local housing programs.

B. FINANCIAL STATEMENTS

In June 1999 issued Statement No. 34 *Basic Financial Statements – and Management's Discussion and Analysis – for State and Local Governments* (GASB 34) and in June 2001, issued Statement No. 37 *Basic Financial Statement – and Management's Discussion and Analysis – For State and Local Governments – Omnibus, (GASB 37)*, and Statement No. 38 *Certain Financial Statement Note Disclosures.*

The Authority made the decision to implement these standards effective October 1, 2001.

NOTE I – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

B. FINANCIAL STATEMENTS (cont.)

Statements No. 34 and 37, among many other changes, add two new "government-wide" financial statements as basic financial statements required for all governmental units. The statement of net assets and the statement of activities are the two new required statements. Both statements are prepared on the full accrual basis. Previously, in accordance with accounting standards for governmental units, the Authority used the full accrual basis of accounting. Statement No. 38 requires additional note disclosures.

All activities of the Authority are accounted for within a single proprietary (enterprise) fund. Proprietary funds are used to account for operations that are (a) financed and operated in a manner similar to private business enterprises where the intent of the governing body is that the cost (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges; or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes.

C. MEASUREMENT FOCUS, BASIS OF ACCOUNTING, AND FINANCIAL STATEMENT PRESENTATION

The accounting and financial reporting treatment applied to the Authority is determined by its measurement focus. The transactions of the Authority are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the balance sheet. Net assets (i.e., total assets net of total liabilities) are segregated into "invested in capital assets, net of related liabilities"; "restricted for capital activity and debt service"; and "unrestricted" components.

The Authority has elected to follow Financial Accounting Standards Board pronouncements issued before November 30, 1989, and all pronouncements of the Governmental Accounting Standards Board. The Authority distinguishes *operating* revenues and expenses from *nonoperating* items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's principal ongoing operations. The principal operating revenues of the Authority are administrative fees earned based on the number of leased rental units. Operating expenses for the Authority include administrative expenses, tenant expenses, maintenance and operation, housing assistance payments and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenditures/expenses during the reporting period. Actual results could differ from those estimates.

NOTE I – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

D. ASSETS, LIABILITIES, AND NET ASSETS OR EQUITY

1. Deposits and Investments

For purposes of the statement of cash flows, the Authority considers all highly liquid investments with an initial maturity of three months or less when acquired to be cash equivalents.

Available investments are limited to:

1. Time deposits in any credit union, bank, savings bank or trust company maturing in three years or less.
2. Bonds or securities of any county, city, drainage district, technical college district, village, town, or school district of the state. Also, bonds issued by a local exposition district, a local professional baseball park district, a local professional football stadium district, a local cultural arts district, or by the University of Wisconsin Hospitals and Clinics Authority.
3. Bonds or securities issued or guaranteed by the federal government.
4. The local government investment pool.
5. Any security maturing in seven years or less and having the highest or second highest rating category of a nationally recognized rating agency.
6. Securities of an open-end management investment company or investment trust, subject to various conditions and investment options.
7. Repurchase agreements with public depositories, with certain conditions.

Investments are stated at fair value, which is the amount at which an investment could be exchanged in a current transaction between willing parties. Fair values are based on quoted market prices. No investments are reported at amortized cost. Adjustments necessary to record investments at fair value are recorded in the operating statement as increases or decreases in investment income. Investment income on commingled investments of municipal accounting funds is allocated based on average balances. The difference between the bank balance and carrying value is due to outstanding checks and/or deposits in transit.

See NOTE III.A. for further information.

2. Receivables

Accounts receivable have been shown net of an allowance for uncollectible accounts of $-0-.

NOTE I – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

D. *ASSETS, LIABILITIES, AND NET ASSETS OR EQUITY* (cont.)

3. *Prepaid Items*

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in both government-wide and fund financial statements.

4. *Capital Assets*

Capital assets used by the Authority are those assets owned by the Housing Authority of the City of Waukesha. Consequently, the Authority does not report any capital assets. Assets reported in prior years were retired during the year.

5. *Compensated Absences*

Under terms of employment, employees are granted sick leave and vacations in varying amounts. Only benefits considered to be vested are disclosed in these statements.

All vested vacation and sick leave pay is accrued when incurred.

Payments for vacation and sick leave will be made at rates in effect when the benefits are used. Accumulated vacation and sick leave liabilities at September 30, 2002 are determined on the basis of current salary rates and include salary related payments.

6. *Claims and Judgments*

Claims and judgments are recorded as liabilities if all the conditions of Governmental Accounting Standards Board pronouncements are met. Claims and judgments are recorded as expenses when the related liabilities are incurred. There were no significant claims or judgments at year end.

7. *Equity Classifications*

Equity is classified as net assets and displayed in two components:

a. Restricted net assets – Consists of net assets with constraints placed on the use either by 1) external groups such as creditors, grantors, contributors, or laws or regulations of other governments or, 2) law through constitutional provisions or enabling legislation.

b. Unrestricted net assets – All other net assets that do not meet the definition of "restricted" or "invested in capital assets, net of related debt."

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

INDEX TO NOTES TO FINANCIAL STATEMENTS
September 30, 2002

NOTE II – STEWARDSHIP, COMPLIANCE, AND ACCOUNTABILITY

A. BUDGETARY INFORMATION

The Authority is required by contractual agreements to adopt annual, appropriated operating budgets for funds receiving federal expenditure awards. All budgets are prepared on a basis prescribed by HUD which is materially consistent with generally accepted accounting principles. All annual appropriations lapse at year-end.

NOTE III – DETAILED NOTES ON ALL FUNDS

A. DEPOSITS AND INVESTMENTS

The Authority's deposits and investments are categorized to give an indication of the level of custodial credit risk assumed by the entity at year end. Category 1 includes items that are insured or registered or which are collateralized by or evidenced by securities held by the Authority or its agent in the Authority's name. Category 2 includes deposits collateralized with securities held by the pledging financial institution's trust department or agent in the Authority's name, or uninsured and unregistered investments for which the securities are held by the counter party's trust department or agent in the Authority's name. Category 3 includes uncollateralized deposits, and uninsured and unregistered investments, with securities held by the counterparty or its trust department or agent but not in the Authority's name.

	Category				Carrying Amount/
	1	2	3	Totals	Fair Value
Local and area banks	$ 52,157	$ -	$ -	$ 52,157	$ 52,157

The Authority had no significant type of investment during the year not included in the above schedule.

Deposits in each local and area bank are insured by the FDIC in the amount of $100,000 for interest bearing accounts and $100,000 for noninterest bearing accounts.

Bank accounts are also insured by the State Deposit Guarantee Fund in the amount of $400,000. However, due to the relatively small size of the Guarantee Fund in relationship to the total deposits covered and other legal implications, recovery of material principal losses may not be significant to individual municipalities. This coverage has been considered in computing the amounts in Category 1 above.

Fluctuating cash flows during the year due to receipt of federal grants and/or proceeds from borrowing may have resulted in temporary balances exceeding insured amounts by substantially higher amounts.

NOTE III – DETAILED NOTES ON ALL FUNDS (cont.)

B. CAPITAL ASSETS

Capital asset activity for the year ended September 30, 2002 was as follows:

	Beginning Balance	Additions	Deletions	Ending Balance
Furniture, equipment and machinery	$ 2,489	$ -	$ (2,489)	$ -
Less: Accumulated depreciation for:				
Furniture, equipment and machinery	(2,489)	-	2,489	-
Net Other Capital Assets	$ -	$ -	$ -	$ -

NOTE IV – Other Information

A. RISK MANAGEMENT

The Authority is exposed to various risks of loss related to torts; theft of, damage to, or destruction of assets; errors and omissions; workers compensation; and health care of its employees. All of these risks are covered through the purchase of commercial insurance, with minimal deductibles. Settled claims have not exceeded the commercial coverage in any of the past three years. There were no significant reductions in coverage compared to the prior year.

B. COMMITMENTS AND CONTINGENCIES

From time to time, the Authority is party to various pending claims and legal proceedings. Although the outcome of such matters cannot be forecasted with certainty, it is the opinion of management and the Authority's Attorney that the likelihood is remote that any such claims or proceedings will have a material adverse effect on the Authority's financial position or results of operations.

The Authority has received federal and state grants for specific purposes that are subject to review and audit by the grantor agencies. Such audits could lead to requests for reimbursements to the grantor agency for expenditures disallowed under terms of the grants. Management believes such disallowances, if any, would be immaterial.

C. ECONOMIC DEPENDENCY

The Authority is economically dependent on annual contributions and grants from the U.S. Department of Housing and Urban Development (HUD). The Authority operates at a loss prior to receiving contributions and grants from HUD.

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SUPPLEMENTAL INFORMATION

Financial Data Schedule - Balance Sheet NEW BERLIN HOUSING AUTHORITY

Line Item #	Account Description	Housing Choice Voucher 14.871	Business Activities	Component Units	TOTAL	Financial Indicator Components: 1 Current Ratio		2 Number of Months Expendable Fund Balance		3 Tenant Receivable Outstanding	4 Occupancy Loss	5 Expense Management/Utility Consumption	6 Net Income (Loss)	
	ASSETS:													
	CURRENT ASSETS:													
	Cash:													
111	Cash - unrestricted	52,157			52,157	52,157	A	52,157	A				52,157	B
112	Cash - restricted - modernization and development				-									
113	Cash - other restricted				-									
114	Cash - tenant security deposits				-	-	A	-	A				-	B
115	Cash - restricted for payment of current liability				-		A	-	A				-	B
100	Total cash	52,157	-	-	52,157									
	Accounts and notes receivables:													
121	Accounts receivable - PHA projects				-									
122	Accounts receivable - HUD other projects	907			907									
124	Accounts receivable - other government				-									
125	Accounts receivable - miscellaneous				-									
126	Accounts receivable- tenants - dwelling rents				-					-	A			
126.1	Allowance for doubtful accounts - dwelling rents				-									
126.2	Allowance for doubtful accounts - other				-									
127	Notes, loans & mortgages receivable - current				-									
128	Fraud recovery				-									
128.1	Allowance for doubtful accounts - fraud				-									
129	Accrued interest receivable				-									
120	Total receivables, net of allowances for doubtful accounts	907	-	-	907	907	A	907	A				907	B
	Current Investments													
131	Investments - unrestricted				-	-	A	-	A				-	B
132	Investments - restricted				-									
135	Investments -restricted for payment of current liability				-	-	A	-	A				-	B
142	Prepaid expenses and other assets	356			356	356	A	356	A				356	B
143	Inventories				-									
143.1	Allowance for obsolete inventories				-									
144	Interprogram - due from				-									
145	Assets held for sale				-									
146	Amounts to be provided				-									
150	TOTAL CURRENT ASSETS	53,420	-	-	53,420									
	NONCURRENT ASSETS:													
	Fixed assets:													
161	Land				-									
162	Buildings				-									
163	Furniture, equipment & machinery - dwellings				-									
164	Furniture, equipment & machinery - administration				-									
165	Leasehold improvements				-									
166	Infrastructure				-									
166	Accumulated depreciation				-									
167	Construction in progress				-									
160	Total fixed assets, net of accumulated depreciation	-	-	-	-									
	Other Non Current Assets													
171	Notes, loans & mortgages receivable - non current				-									
172	Notes, loans & mortgages receivable - non current -past due				-									
173	Grants Receivable - non current				-									
174	Other assets				-									
176	Investment in joint ventures				-									
180	TOTAL NONCURRENT ASSETS	-	-	-	-									
190	TOTAL ASSETS	53,420	-	-	53,420									

Financial Data Schedule - Balance Sheet NEW BERLIN HOUSING AUTHORITY

Financial Indicator Components

Line Item #	Account Description		Business Activities			1		2		3	4	5	6	
	LIABILITIES AND EQUITY:													
	LIABILITIES:													
	Current Liabilities													
311	Bank overdraft													
312	Accounts payable< 90 days	530			530									
313	Accounts payable > 90 days past due				-									
321	Accrued wage/payroll taxes payable				-									
322	Accrued compensated absences - current portion	385			385									
324	Accrued contingency liability				-									
325	Accrued interest payable				-									
331	Accounts payable - HUD PHA programs				-									
332	Accounts Payable - PHA Projects				-									
333	Accounts payable - other government	4,393			4,393									
341	Tenant security deposits				-									
342	Deferred revenues				-									
343	Current portion of Long-Term debt - capital projects/mortgage revenue bonds				-			-	A				-	B
344	Current portion of Long-Term debt - operating borrowings				-									
345	Other current liabilities				-									
346	Accrued liabilities - other				-									
347	Inter-program - due to				-	-	B	-	A					
348	Loan Liability - current				-									
310	TOTAL CURRENT LIABILITIES	5,308	-	-	5,308	5,308	B	5,308	A				(5,308)	B
	Non Current Liabilities													
351	Long-term debt, net of current- capital projects/ mortgage revenue bonds				-									
352	Long-term debt, net of current- operating borrowings				-			-	A				-	B
353	Noncurrent liabilities- other				-									
354	Accrued Compensated Absences - non current				-									
355	Loan Liability - non current				-									
350	TOTAL NONCURRENT LIABILITIES	-	-	-	-									
300	TOTAL LIABILITIES	5,308	-	-	5,308									
	EQUITY:													
501	Investment in general fixed assets				-									
	Contributed Capital:													
502	Project notes (HUD)				-									
503	Long-term debt - HUD guaranteed				-									
504	Net HUD PHA contributions				-									
505	Other HUD contributions				-									
507	Other contributions				-									
508	Total contributed capital	-	-	-	-									
508.1	Invested in Capital Assets, Net of Related Debt				-									
	Reserved fund balance:													
509	Reserved for operating activities				-									
510	Reserved for capital activities				-									
511	Total reserved fund balance	-	-	-	-									
511.1	Restricted Net Assets				-									
512	Undesignated fund balance/retained earnings				-									
512.1	Unrestricted Net Assets	48,112			48,112									
513	TOTAL EQUITY/NET ASSETS	48,112	-	-	48,112									
600	TOTAL LIABILITIES and EQUITY/NET ASSETS	53,420	-	-	53,420									
	Proof of concept	(0)			(0)									

Financial Data Schedule - Revenue & Expenses NEW BERLIN HOUSING AUTHORITY

	Account Description	Housing Choice Voucher 14.871	Business Activities	Component Units	TOTAL	Financial Indicator Components 1 Current Ratio	2 Number of Months' Expendable Fund Balance	3 Tenant Receivable Outstanding	4 Occupancy Cost	5 Expense mgmt/ Utility Consumption (Non Low Rent Program Only CFDAF 14.850a)	6 Net Income (Loss)
	REVENUE:										
703	Net tenant rental revenue				-						
704	Tenant revenue - other				-						
705	Total tenant revenue	-	-	-	-			B			
706	HUD PHA operating grants	417,929			417,929						A
706.1	Capital Grants				-						
708	Other government grants				-						
711	Investment income - unrestricted	503			503						
712	Mortgage interest income				-						
712	Proceeds from disposition of assets held for sale				-						
713.1	Cost of sale of assets				-						
714	Fraud recovery				-						
715	Other revenue				-						
716	Gain or loss on the sale of fixed assets				-						
720	Investment income - restricted				-						
700	TOTAL REVENUE	418,432	-	-	418,432						
	EXPENSES:										
	Administrative										
911	Administrative salaries	16,172			16,172					#REF!	A
912	Auditing fees	1,000			1,000					#REF!	A
913	Outside management fees				-					#REF!	A
914	Compensated absences	(190)			(190)					#REF!	A
915	Employee benefit contributions- administrative	7,201			7,201					#REF!	A
916	Other operating- administrative	16,342			16,342					#REF!	A
	Subtotal	40,525			40,525						
	Tenant services										
921	Tenant services - salaries	1,787			1,787					#REF!	A
922	Relocation costs				-					#REF!	A
923	Employee benefit contributions- tenant services	491			491					#REF!	A
924	Tenant services - other				-					#REF!	A
	Subtotal	2,278			2,278						
	Utilities										
931	Water				-					#REF!	A
932	Electricity				-					#REF!	A
933	Gas				-					#REF!	A
934	Fuel				-					#REF!	A
935	Labor				-					#REF!	A
937	Employee benefit contributions- utilities				-					#REF!	A
938	Other utilities expense				-					#REF!	A
	Subtotal	-	-	-	-						
	Ordinary maintenance & operation				-					#REF!	A
941	Ordinary maintenance and operations - labor				-					#REF!	A
942	Ordinary maintenance and operations - materials & other				-					#REF!	A
943	Ordinary maintenance and operations - contract costs				-					#REF!	A
945	Employee benefit contributions- ordinary maintenance				-					#REF!	A
	Subtotal	-	-	-	-						
	Protective services				-					#REF!	A
951	Protective services - labor				-					#REF!	A
952	Protective services- other contract costs				-					#REF!	A
953	Protective services - other				-					#REF!	A
955	Employee benefit contributions- protective services				-					#REF!	A
	Subtotal	-	-	-	-						
	General expenses										
961	Insurance premiums	1,359			1,359					#REF!	A
962	Other General Expenses				-					#REF!	A
963	Payments in lieu of taxes				-					#REF!	A
964	Bad debt - tenant rents				-					#REF!	A
965	Bad debt- mortgages				-					#REF!	A
966	Bad debt - other				-					#REF!	A
967	Interest expense				-					#REF!	A
968	Severance expense				-					#REF!	A
	Subtotal	1,359	-	-	1,359						
969	TOTAL OPERATING EXPENSES	44,162	-	-	44,162		44,162	B			

Financial Data Schedule - Revenue & Expenses NEW BERLIN HOUSING AUTHORITY — **Financial Indicator Components**

	Account Description	Housing Choice Vouchers (14.871)	Housing Choice Vouchers Activities	Component Units	TOTAL	1 Current Ratio	2 Unrestricted Fund Balance	3 Total Residual Receipts or Operating Reserve	4 Government Fund Debt	5 Expense Coverage Ratio (Net Income Per Unit Month)	6 Net Income Per Unit Month
970	EXCESS OPERATING REVENUE OVER OPERATING EXPENSES	374,270	-	-	374,270						374,270 A
971	Extraordinary maintenance				-		B			#REF! A	- A
972	Casualty losses - non-capitalized				-		B				- A
973	Housing assistance payments	367,146			367,146						367,146 A
974	Depreciation expense				-						
975	Fraud losses				-					#REF! A	- A
976	Capital outlays- governmental funds				-						- A
977	Debt principal payment- governmental funds				-		B			#REF! A	-
978	Dwelling units rent expense				-		B			#REF! A	- A
900	TOTAL EXPENSES	411,308	-	-	411,308						
	OTHER FINANCING SOURCES (USES)										
1001	Operating transfers in				-						
1002	Operating transfers out				-						
1003	Operating transfers from/to primary government				-						
1004	Prior Period Adjustments, Equity/Net Assets				-						
1005	Proceeds from notes, loans and bonds				-						
1006	Proceeds from property sales				-						
1007	Extraordinary items (net gain/loss)				-						
1008	Special items (net gain/loss)				-						
1010	TOTAL OTHER FINANCING SOURCES (USES)	-	-	-	-						
1000	EXCESS (DEFICIENCY) OF TOTAL REVENUE OVER (UNDER) TOTAL	7,124	-	-	7,124						
MEMO account information											
1101	Capital contributions				-						
1102	Debt principal payments- enterprise funds				-		B			#REF! A	
1103	Beginning equity	40,988			40,988						
1104	Prior period adjustments, equity transfers and correction of errors				-						
1105	Changes in compensated absence liability balance (in the GLTDAG)				-		B			#REF! A	- A
1106	Changes in contingent liability balance (in the GLTDAG)				-		B			#REF! A	- A
1107	Changes in unrecognized pension transition liability (in the GLTDAG)				-		B			#REF! A	- A
1108	Changes in special term/severance benefits liability (in the GLTDAG)				-		B			#REF! A	- A
1109	Changes in allowance for doubtful accounts - dwelling rents				-		B	B		#REF! A	
1110	Changes in allowance for doubtful accounts - other				-		B	B		#REF! A	
1112	Depreciation "add back"				-						
1113	Maximum annual contributions commitment (per ACC)	388,804			388,804						
1114	Prorata maximum annual contributions applicable to a period of less than twelve months				-						
1115	Contingency reserve, ACC program reserve	34,129			34,129						
1116	Total annual contributions available	422,933			422,933						
1120	Unit months available	1,056			1,056				1,016 B		
1121	Number of unit months leased	1,016			1,016				1,016 A	1,016 B	
	Equity Roll Forward Test:										
	Calculation from R/E Statement	48,112	-		48,112						
	B/S Line 513	48,112	-		48,112						
	Difference	(0)	-		(0)						
	SUM OF A: (numerator)					53,420	48,112	-	1,016	#REF!	7,124
	SUM OF B: (denominator)					5,308	44,162	-	1,056	1,016	48,112
	Variable: (Enter PHA's reporting period — the number could be less or greater than the normal 12-month period or 365 days)										
	Reporting Period- months						12				
	Reporting Period - Days							365			
	Net Denominator						3,680	-			
	RATIO: (A/B)					10.06	13.07	#DIV/0!	3.79%	#REF!	14.81%

SINGLE AUDIT

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended September 30, 2002

Federal Grantor/Pass Through Grantor/Program Title	Federal CFDA Number	Expenditures
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT		
Housing Choice Vouchers	14.871	$ 417,929

See accompanying notes to Schedule of Expenditures of Federal Awards.

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended September 30, 2002

NOTE 1 - The report on Expenditures of Federal Awards includes all of the funds of the Housing Authority of the City of New Berlin. The reporting entity for the Authority is based upon criteria established by the Governmental Accounting Standards Board.

NOTE 2 - The accounting records for the grant programs are maintained on the accrual basis of accounting.

NOTE 3 - The Authority federal oversight agency for audit is the U.S. Department of Housing and Urban Development.

NOTE 4 – **STATUS OF PRIOR YEAR FINDINGS**

No findings of noncompliance were identified in the Single Audit Report for the year ended September 30, 2001.

Virchow Krause & company

INDEPENDENT AUDITORS' REPORT ON COMPLIANCE AND ON INTERNAL CONTROL OVER FINANCIAL REPORTING BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Board of Commissioners
Housing Authority of the City of New Berlin
Waukesha, Wisconsin

We have audited the basic financial statements of the Housing Authority of the City of New Berlin ("Authority") as of and for the year ended September 30, 2002, and have issued our report thereon dated January 16, 2003. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States.

Compliance

As part of obtaining reasonable assurance about whether the Authority's basic financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grants, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance that are required to be reported under *Government Auditing Standards.*

Internal Control Over Financial Reporting

In planning and performing our audit, we considered the Authority's internal control over financial reporting in order to determine our auditing procedures for the purpose of expressing our opinion on the general purpose financial statements and not to provide assurance on the internal control over financial reporting. Our consideration of the internal control over financial reporting would not necessarily disclose all matters in the internal control over financial reporting that might be material weaknesses. A material weakness is a condition in which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that misstatements in amounts that would be material in relation to the general purpose financial statements being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions. We noted no matters involving the internal control over financial reporting and its operation that we consider to be material weaknesses.

This report is intended solely for the information and use of the Authority's management, federal awarding agencies and pass-through entities and is not intended to be, and should not be, used by anyone other than these specified parties.

Virchow, Krause + Company, LLP

Milwaukee, Wisconsin
January 16, 2003

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Virchow Krause & company

INDEPENDENT AUDITORS' REPORT ON COMPLIANCE WITH REQUIREMENTS APPLICABLE TO EACH MAJOR PROGRAM AND INTERNAL CONTROL OVER COMPLIANCE IN ACCORDANCE WITH *OMB CIRCULAR A-133* AND THE SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

To the Board of Commissioners
Housing Authority of the City of New Berlin
Waukesha, Wisconsin

Compliance

We have audited the compliance of the Housing Authority of the City of New Berlin with the types of compliance requirements described in the *U.S. Office of Management and Budget (OMB) Circular A-133, Compliance Supplement* that are applicable to each of its major federal programs for the year ended September 30, 2002. The Authority's major federal programs are identified in the summary of auditors' results section of the accompanying Schedule of Findings and Questioned Costs. Compliance with the requirements of laws, regulations, contracts and grants applicable to each of its major federal programs is the responsibility of the Authority's management. Our responsibility is to express an opinion on the Authority's compliance based on our audit.

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States and *OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations*. Those standards and *OMB Circular A-133*, require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Authority's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion. Our audit does not provide a legal determination on the Authority's compliance with those requirements.

In our opinion, the Authority complied, in all material respects, with the requirements referred to above that are applicable to each of its major federal programs for the year ended September 30, 2002.

Internal Control Over Compliance

The management of the Authority is responsible for establishing and maintaining effective internal control over compliance with requirements of laws, regulations, contracts and grants applicable to federal programs. In planning and performing our audit, we considered the Authority's internal control over compliance with requirements that could have a direct and material effect on a major federal program in order to determine our auditing procedures for the purpose of expressing our opinion on compliance and to test and report on internal control over compliance in accordance with *OMB Circular A-133*.

Our consideration of the internal control over compliance would not necessarily disclose all matters in the internal control that might be material weaknesses. A material weakness is a condition in which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that noncompliance with applicable requirements of laws, regulations, contracts and grants that would be material in relation to a major federal program being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions. We noted no matters involving the internal control over compliance and its operation that we consider to be material weaknesses.

Schedules of Expenditures of Federal Awards

We have audited the basic financial statements of the Housing Authority of the City of New Berlin as of and for the year ended September 30, 2002, and have issued our report thereon dated January 16, 2003. Our audit was performed for the purpose of forming an opinion on the basic financial statements taken as a whole. The accompanying Schedule of Expenditures of Federal Awards is presented for purposes of additional analysis as required by *OMB Circular A-133* and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated, in all material respects, in relation to the basic financial statements taken as a whole.

This report is intended solely for the information and use of the Authority's management, federal awarding agencies and pass-through entities and is not intended to be, and should not be, used by anyone other than these specified parties.

Virchow, Krause + Company, LLP

Milwaukee, Wisconsin
January 16, 2003

HOUSING AUTHORITY OF THE CITY OF NEW BERLIN

SCHEDULE OF FINDINGS AND QUESTIONED COSTS
Year Ended September 30, 2002

Section I: Summary of Auditors' Results

Financial Statements

Type of auditor's report issued	Unqualified			
Internal control over financial reporting				
Material weakness(es) identified?	_____	yes	X	no
Reportable condition(s) identified not considered to be material weaknesses?	_____	yes	X	none reported
Noncompliance material to financial statements noted?	_____	yes	X	no

Federal Awards

Internal control over major programs				
Material weakness(es) identified?	_____	yes	X	no
Reportable condition(s) identified not considered to be material weaknesses?	_____	yes	X	no
Type of auditor's report issued on compliance for major programs	Unqualified			
Any audit findings disclosed that are required to be reported in accordance with Circular A-133 Section .510(a)?	_____	yes	X	no

Identification of major federal programs

CFDA NUMBER(S)	Name of Federal Program or Cluster
14.871	Housing Choice Vouchers

Dollar threshold used to distinguish between Type A and Type B programs	$ 300,000			
Auditee qualified as low-risk auditee?	X	yes	_____	no

Section II: Financial Statement Findings

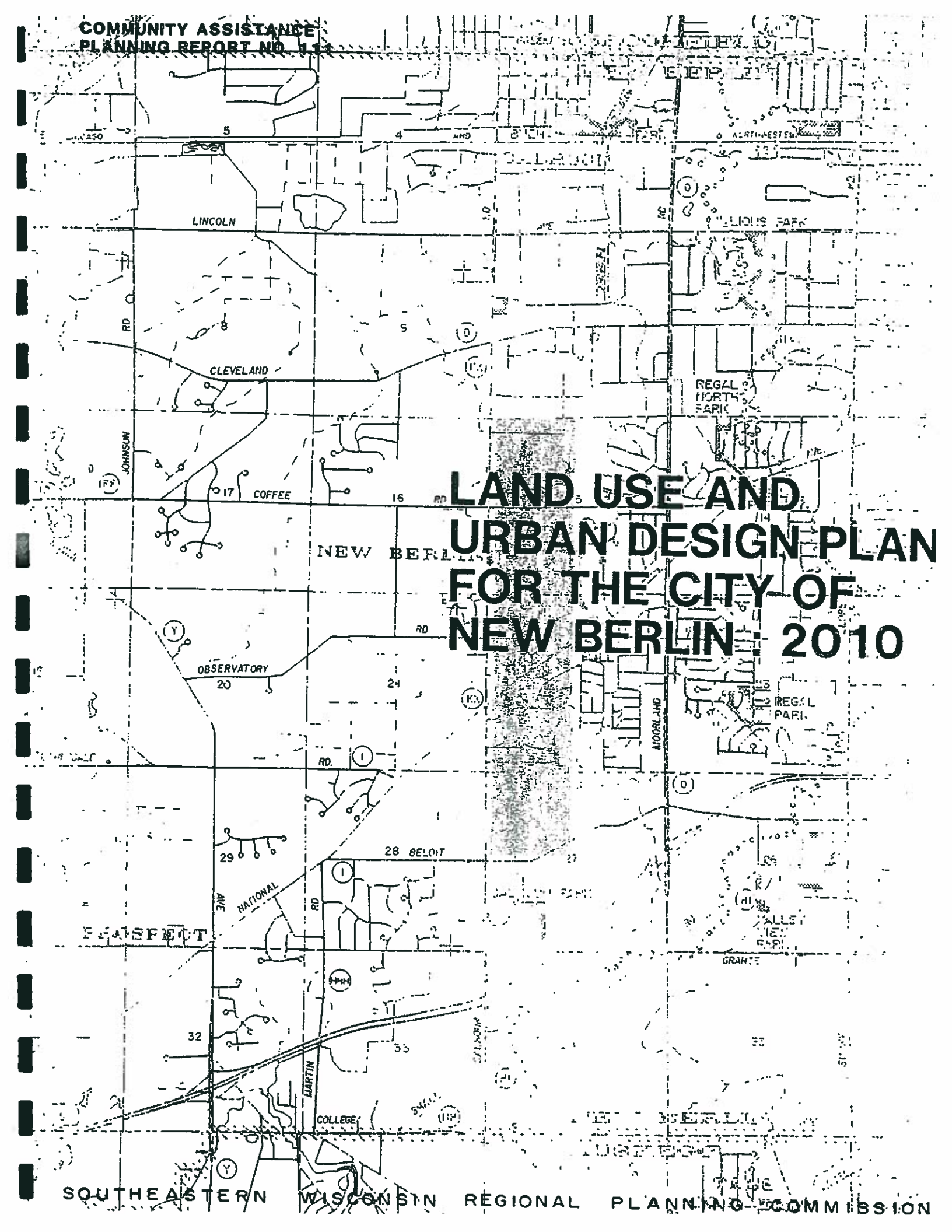
There were no findings required to be reported in accordance with Generally Accepted Government Auditing

Section III: Federal Award Findings and Questioned Costs

There were no findings or questioned costs for federal awards.

COMMUNITY ASSISTANCE
PLANNING REPORT NO. 111

LAND USE AND URBAN DESIGN PLAN FOR THE CITY OF NEW BERLIN: 2010



SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

Appendix D

CITY PLAN COMMISSION AND COMMON COUNCIL RESOLUTIONS FOR ADOPTING THE CITY OF NEW BERLIN LAND USE AND URBAN DESIGN PLAN

Appendix D-1

CITY PLAN COMMISSION RESOLUTION FOR ADOPTING THE CITY OF NEW BERLIN LAND USE AND URBAN DESIGN PLAN

WHEREAS, the City of New Berlin, pursuant to the provisions of Section 62.23 of the Wisconsin Statutes, has created a City Plan Commission; and

WHEREAS, it is the duty and function of the City 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 City of New Berlin; and

WHEREAS, the City of New Berlin Plan Commission, with the assistance of the staff of the Southeastern Wisconsin Regional Planning Commission, has prepared a land use and urban design plan for the City of New Berlin; which plan 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 City.

2. A forecast of growth and change.

3. Statements of land use objectives, principles, standards, and related urban design criteria.

4. A land use and arterial street system plan map.

5. Suggested revisions to City ordinances for the implementation of the selected plan; and

WHEREAS, the City of New Berlin Planning Department, under the direction of the City Plan Commission, has held public informational meetings on July 8, 12, 17, 18, 19, 22, and 25, 1985, at the New Berlin City Hall to acquaint residents and owners within the City with plan recommendations; and

WHEREAS, the City of New Berlin Plan Commission held a formal public hearing on the plan on November 4, 1985, at Eisenhower High School in the City of New Berlin; and

WHEREAS, the City of New Berlin Plan Commission has considered the plan together with the statements and requests of residents and landowners in the City, and has proceeded to incorporate, where deemed advisable, their requests in the plan; and

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

NOW, THEREFORE, BE IT RESOLVED, that pursuant to Section 62.23(3)(b) of the Wisconsin Statutes, the City of New Berlin Plan Commission, on the 2nd day of March 1987, hereby adopts a land use master plan for the City of New Berlin as a guide for the future development of the City of New Berlin.

BE IT FURTHER RESOLVED, that the Secretary of the City of New Berlin Plan Commission transmit a certified copy of this resolution to the Common Council of the City of New Berlin, after recording the action on the adopted plan.

Chairman
City of New Berlin Plan Commission

ATTESTATION:
Rick W. Kuckhahn
Secretary
City of New Berlin
Plan Commission

COMMUNITY ASSISTANCE PLANNING REPORT
NUMBER 111

A LAND USE AND URBAN DESIGN PLAN FOR THE CITY OF NEW BERLIN: 2010

WAUKESHA COUNTY, WISCONSIN

Prepared by the

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

April 1987

Inside Region	$10.00
Outside Region	$20.00

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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Ralph A. Becker, P. E.

Special acknowledgement is due former City Planner Rick W. Kuckkahn, AICP, for his assistance in the conduct of this study and of the planning effort for the City of New Berlin.

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION STAFF

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Bruce P. Rubin . . . . . Chief Land Use Planner
Roland O. Tonn, AICP . . . . . Chief Community Assistance Planner
Joan A. Zenk . . . . . Administrative Officer

Special acknowledgement is due Mr. Patrick J. Meehan, SEWRPC Principal Planner, for his contribution to the preparation of this report.

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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Serving the Counties of: KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WALWORTH, WASHINGTON, WAUKESHA

April 28, 1987

The Honorable Timothy K. Tully
Mayor of the City of New Berlin
and Members of the Common
Council and City Plan Commission
City of New Berlin
3805 S. Casper Drive, City Hall
New Berlin, Wisconsin 53151-5510

Ladies and Gentlemen:

By letter dated March 15, 1982, the City of New Berlin requested the Southeastern Wisconsin Regional Planning Commission to assist the City in the preparation of a land use plan together with certain related plan implementation devices for the City. The planning effort was initiated in 1982 and the Regional Planning Commission staff, working with city officials, has now completed the requested plan, which is presented in this report.

In addition to setting forth an adopted land use plan and supporting plan implementation devices for the City, this report presents pertinent information on the present stage of development of the City, including information on population and employment levels; on existing land use; on sanitary sewerage, water supply, and transportation system development; and on the topography and drainage pattern, soils, woodlands, wetlands, wildlife habitat areas, prime agricultural areas, and environmental corridors of the City, all of which constitute important considerations in any local planning effort. In addition, urban design analyses and recommendations are presented relating to the W. National Avenue corridor, as are recommendations pertaining to the delineation of neighborhood planning units. The planning process involved an unusual degree of public participation as documented in Appendix C of this report.

Based upon certain stated assumptions concerning probable future population and employment levels in the City, the report sets forth a series of alternative land use plans, a preliminary recommended land use plan, and the final plan selected by the City for adoption. The report also outlines a recommended new zoning ordinance for the City. The plan as presented in this report is intended to serve as a point of departure for the making of day-to-day development decisions by city officials, and as a basis for developing more detailed plans and plan implementation devices over time.

The Regional Planning Commission is appreciative of the assistance offered by the Common Council, City Plan Commission, Planning Director, and Planning Department staff in the preparation of this report. The Commission staff stands ready to assist the City in presenting the information contained in this report and in implementing the plan set forth herein over time.

Sincerely,

Kurt W. Bauer
Executive Director

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Chapter I

INTRODUCTION

BACKGROUND

The State's city 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 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. The Statutes indicate that the master plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the municipality which will, in accordance with existing and future needs, best promote the public health, safety, morals, order, prosperity, and general welfare, as well as efficiency and economy in the process of development.

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 stormwater drainage elements. Recognizing this importance and acting in accordance with its statutory charge, the City of New Berlin on March 15, 1982, requested the Regional Planning Commission to assist the City Plan Commission in the development of a land use plan for the City, together with implementing ordinances. This report sets forth the findings and recommendations of the planning effort undertaken in response to that request. It is intended to assist in defining the land use development objectives of the City and in identifying and attaining a spatial distribution of land use in the City which will achieve those objectives over time.

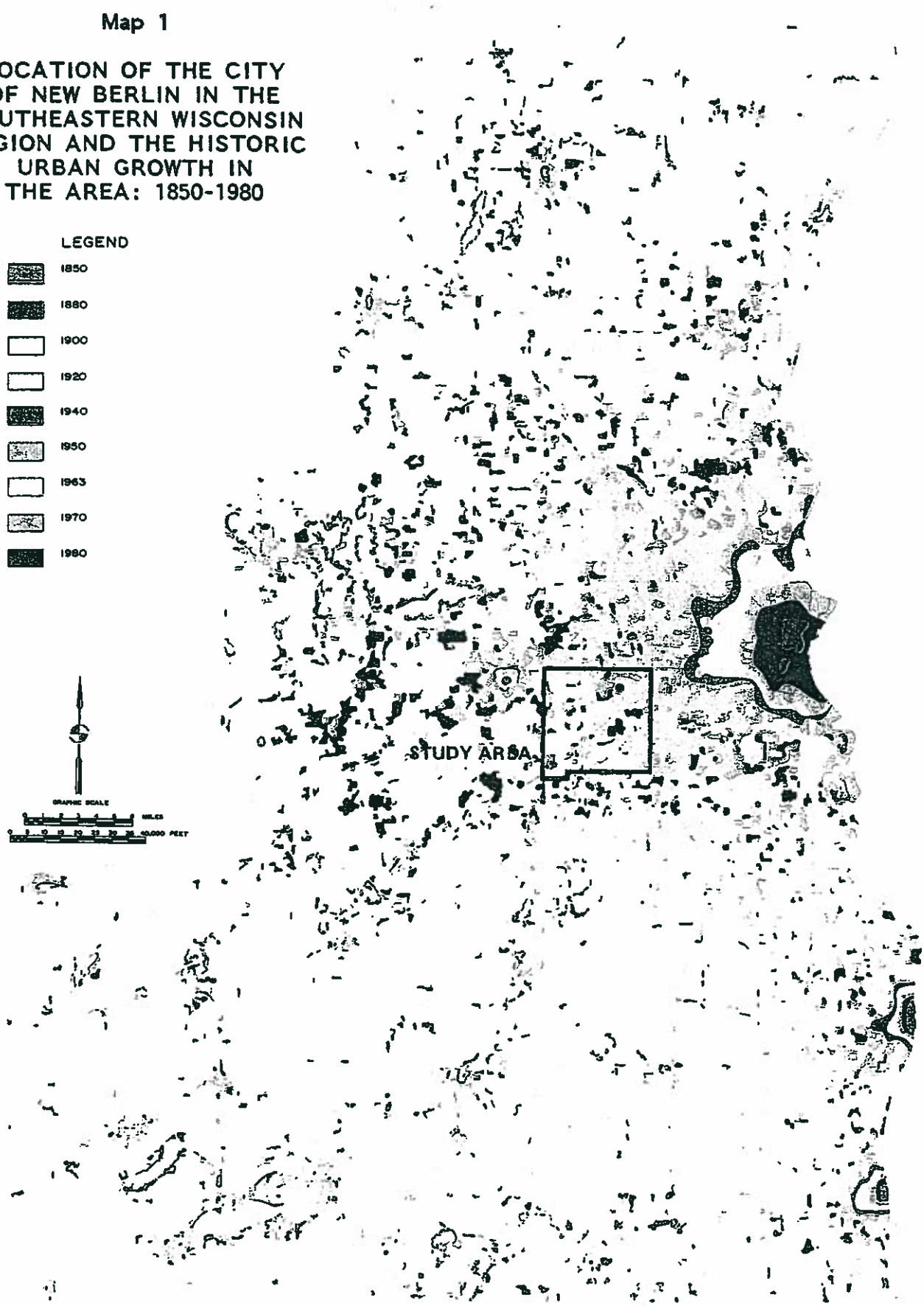
The planning effort involved extensive inventories and analyses of the factors and conditions affecting land use development within the City, including extensive inventories of the existing natural and cultural resource base of the City; the preparation of forecasts of a possible range of future population and economic activity levels in the City; the formulation of a set of recommended land use development and urban design objectives for the City; the preparation of alternative land use plans which may be expected to accommodate the probable future population and employment levels; and the selection of a recommended plan which best meets the agreed-upon objectives. The plan, when adopted by the City Plan Commission and Common Council, is intended to serve as a guide in the making of land use development decisions within the City.

THE PLANNING AREA

The planning area considered consists of the City of New Berlin. The City is located in eastern Waukesha County. As shown on Map 1, the City is bounded

Map 1

LOCATION OF THE CITY OF NEW BERLIN IN THE SOUTHEASTERN WISCONSIN REGION AND THE HISTORIC URBAN GROWTH IN THE AREA: 1850-1980



Source: SEWRPC.

on the north by the City and Town of Brookfield; on the south by the City of Muskego; on the east by the Village of Hales Corners, the City of Greenfield, and the City of West Allis; and on the west by the Town of Waukesha. The City of New Berlin consists of U. S. Public Land Survey Sections 1 through 36 in Township 6 North, Range 20 East, and portions of Sections 5 and 6 in Township 5 North, Range 20 East, all in Waukesha County, Wisconsin. The total planning area encompasses approximately 23,589 acres, or about 36.8 square miles.

EARLY COMMUNITY HISTORY[1]

The New Berlin study area first came under local government as part of the Town of Muskego in 1838, that Town being then comprised of what later became the Towns of Waukesha, New Berlin, Vernon, and Muskego. In 1839, the area that is now the City of New Berlin was created from the original Town of Muskego and given the name Town of Mentor. On January 13, 1840, the name of the Town of Mentor was changed to the Town of New Berlin. The first settlement of the Town by persons of European descent began in mid-1836 with the arrival of Sidney Evans and P. G. Harrington, these two settlers locating in Sections 12 and 13 in the eastern part of the Town. The Town of New Berlin remained primarily a rural agricultural area until the 1940's, when urban development began to take place in the Town at a relatively rapid rate because of the expansion of the Milwaukee urbanized area. The pattern of urban growth in the City of New Berlin since 1940 is shown on Map 2. The Town of New Berlin was incorporated as the City of New Berlin in 1959.

REGIONAL INFLUENCES

Sound planning practice dictates that local plans be prepared within the framework of adopted areawide plans. The Southeastern Wisconsin Regional Planning Commission is the official areawide planning agency for the seven-county Southeastern Wisconsin Region, which includes Waukesha County and the City of New Berlin. The Commission has, since its creation in 1960, pursued the preparation of an advisory plan for the physical development of the Region through the systematic formulation of those elements of such a plan most important to the units and agencies of government operating within the Region. The salient recommendations of the adopted regional plan elements applicable to the City of New Berlin are shown on Maps 3 and 4.

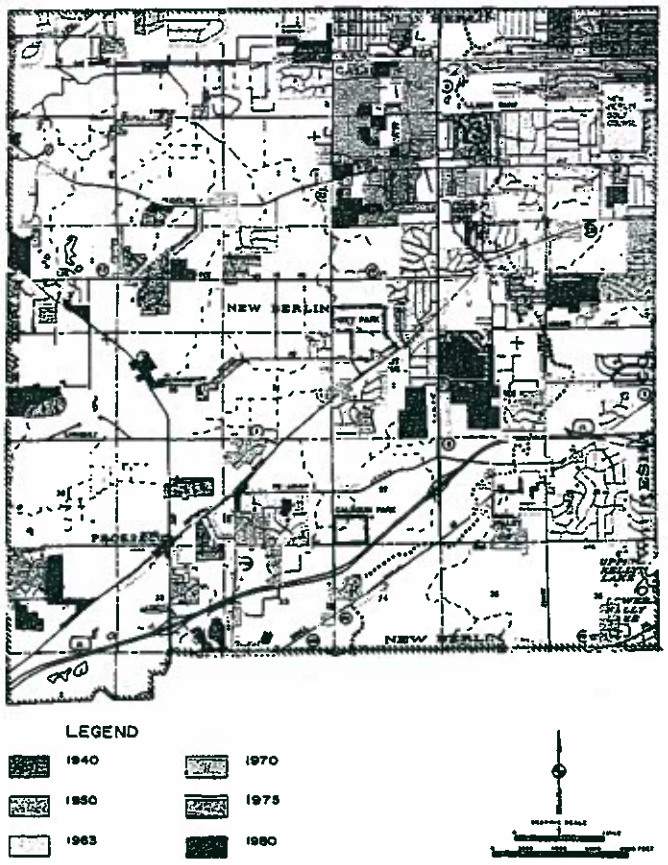
The adopted regional land use plan, as set forth in SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, provides recommendations regarding the amount, spatial distribution, and general arrangement of the various land uses required to serve the needs of the existing and future resident population and economic

---

[1]This brief history of New Berlin was derived, in part, from the following sources: The Western Historical Company, The History of Waukesha County, Wisconsin (Chicago, 1880) pp. 768-771; Theron W. Haight (ed.), Memoirs of Waukesha County (Madison, Wisconsin: The Western Historical Association, 1907) pp. 319-321; Eileen Hammer, "A Backward Glance: Historic Evolution of the Local Governmental Structure in Southeastern Wisconsin," Technical Record, Volume 4, No. 3, Southeastern Wisconsin Regional Planning Commission, February 1982, pp. 81-95.

Map 2

HISTORIC URBAN GROWTH IN THE CITY OF NEW BERLIN: 1940-1980



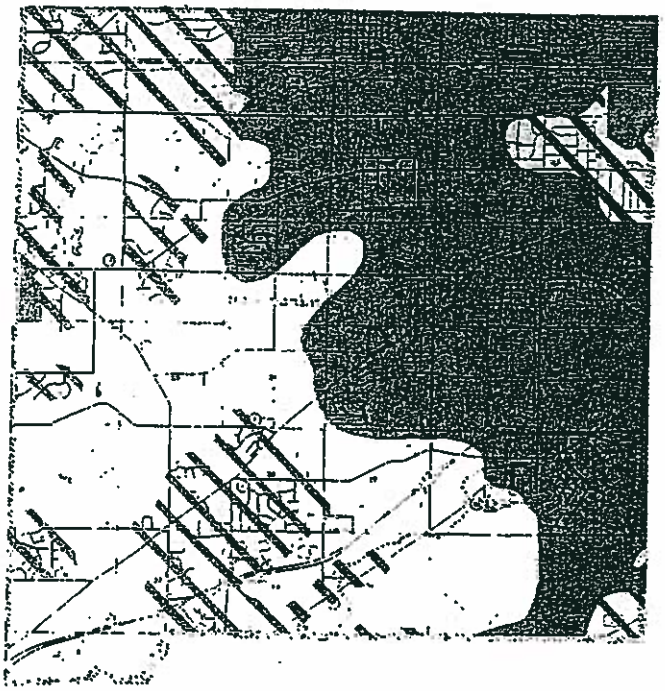
Source: SEWRPC.

activity levels of the Region. Particularly pertinent to the preparation of a land use plan for the City of New Berlin area are the recommendations for the preservation of the primary environmental corridors and prime agricultural lands of the Region, and for the encouragement of more compact urban development, with such development being encouraged to occur in those areas of the Region which are covered by soils suitable for such use; which are not subject to special hazards, such as flooding; and which can be readily served by such essential urban facilities and services as public sanitary sewerage and water supply. These three major recommendations of the regional land use plan provided the basic framework around which the city land use plan was developed. The adopted regional land use plan as it pertains to the City of New Berlin is shown on Map 3.

The adopted regional transportation system plan, as presented in SEWRPC Planning Report No. 25, describes 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 transportation system plan was developed on the basis of careful quantitative analyses of existing and probable future traffic movements, and of existing highway and transit system capacity and use. The adopted regional transportation system plan as it pertains to the City of New Berlin is shown on Map 4.

Map 3

ADOPTED REGIONAL LAND USE PLAN AS RELATED TO THE CITY OF NEW BERLIN: 2000



LEGEND

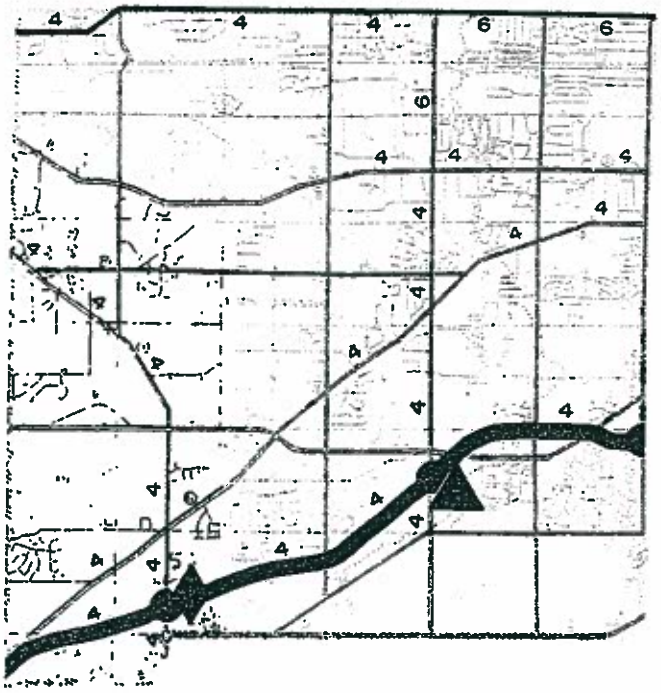
PRIMARY LAND USES

- 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)
- MAJOR INDUSTRIAL
- PRIMARY ENVIRONMENTAL CORRIDOR
- OTHER AGRICULTURAL AND RURAL LAND
- WATER

Source: SEWRPC.

Map 4

ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN AS RELATED TO THE CITY OF NEW BERLIN: 2000



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

URBAN MASS TRANSIT SYSTEM

- SERVICE AREA
- TRANSIT STATION
  - P - WITH PARKING
- PARK AND POOL LOT

Source: SEWRPC.

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; existing outdoor recreation facilities and sites and their use; existing county and local park and open space plans; the administrative structure for the provision of parks and open space plans and the laws and regulations relating to the provision of parks and open spaces; and 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 resource-oriented parks, for recreational corridors, and for smaller urban parks, together with their attendant recreation facility requirements.

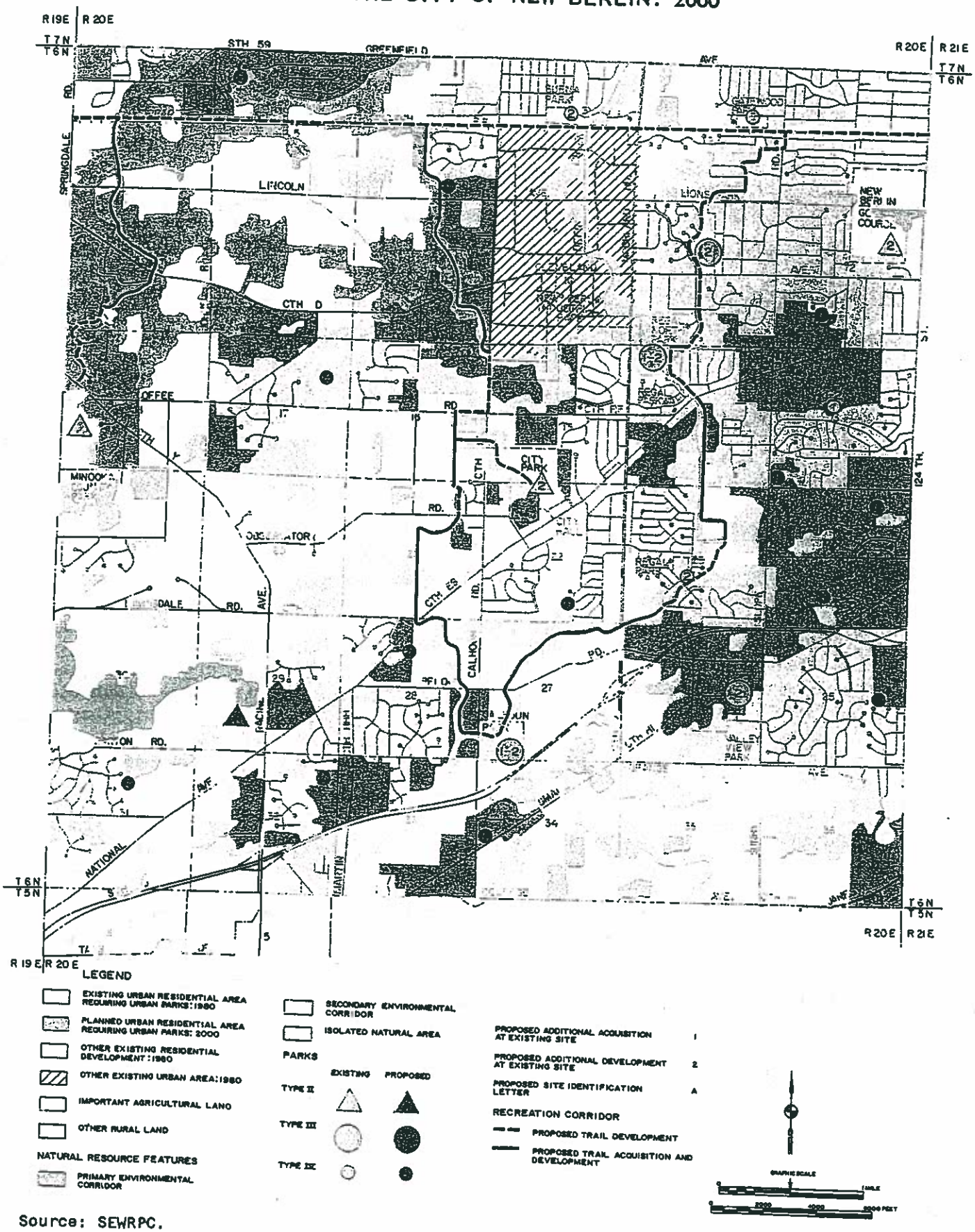
The adopted regional park, outdoor recreation, and related open space plan was refined and detailed by the Commission staff in response to a request from the City of New Berlin Park and Recreation Commission on May 30, 1980. The resulting park and open space plan for the City is documented in SEWRPC Community Assistance Planning Report No. 66, A Park and Open Space Plan for the City of New Berlin. That report addresses the park, recreation, and open space facilities needs of the City of New Berlin. The recommended park and open space plan for the City of New Berlin is shown on Map 5. The recommendations contained in that report were incorporated into the land use plan presented herein for the City of New Berlin.

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 City of New Berlin, 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 those needs. 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, and alternative housing allocation strategies, and provides a recommended regional housing plan. In addition to considering the housing problems of the Region as a whole, the report addresses the housing problems and needs of smaller subregional areas as well. The recommended land use plan reflects certain of the specific housing recommendations for the City contained in the regional housing plan.

The 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 a 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, eco-

Map 5

RECOMMENDED PARK AND OPEN SPACE PLAN FOR THE CITY OF NEW BERLIN: 2000



Source: SEWRPC.

nomic activity, and land use trends; presents and evaluates alternative plans; and recommends a water quality management plan for the Region. The plan documented in this report consists of a land use and sanitary sewer service area element, a wastewater sludge management element, and a water quality monitoring element. The report also sets forth a plan implementation strategy. Certain of the water quality management plan recommendations, particularly those related to the delineation of a sanitary sewer service area for the New Berlin area, are reflected in the recommended land use plan.

In addition to the regional plan elements, there are three subregional plan elements of importance to the City of New Berlin. These plans are the plans for the Root River, Fox River, and Menomonee River watersheds as documented in SEWRPC Planning Report No. 9, A Comprehensive Plan for the Root River Watershed; SEWRPC Planning Report No. 12, A Comprehensive Plan for the Fox River Watershed; and SEWRPC Planning Report No. 26, A Comprehensive Plan for the Menomonee River Watershed. These subregional plans contain recommendations for floodland management, water pollution abatement, and water supply which pertain to the City of New Berlin.

The findings and recommendations of the above-mentioned regional, subregional and local plan elements have important implications for any land use planning effort for the City of New Berlin. Pertinent recommendations of these plan elements are included in the land use plan presented herein by reference and are considered further in the inventory and analysis sections of this report.

Other Local Plans

A development plan was prepared for the City of New Berlin in 1961 by City Planning Associates, Inc., of Mishawaka, Indiana.[2] The plan included information on the City's geography; population; economic base; and the findings of a resident attitude survey concerning sewerage, streets, parks and playgrounds, schools, fire protection, and public transit. The plan presented recommendations for the development of such community facilities as parks, schools, fire stations, a civic administrative center, and a city garage; thoroughfare development; and land use development, including a central business district development plan map. This development plan map, which is shown on Map 6, was prepared for the design year 1980.

The 1961 comprehensive plan for the City of New Berlin recommended that residential areas be adequately served by municipal water and sanitary sewerage systems because of the soil characteristics prevalent in the City. This recommendation has been implemented to a significant degree. Indeed, in 1961, about 61 percent of the respondents to a questionnaire identified that issue as a "most urgent problem"; in 1983, no respondents did so. In 1961 there were no municipal public water supply or sanitary sewer services provided within the City. In 1983, however, public water supply service was provided to a total of 3,407 water utility accounts, and public sanitary sewer service was provided to a total of 6,282 sewerage utility accounts.

The 1961 plan for the City also indicated an urgent need for more parks and playgrounds, and recommended application of the combined school/park concept in the development of the needed new parks and playgrounds within the City.

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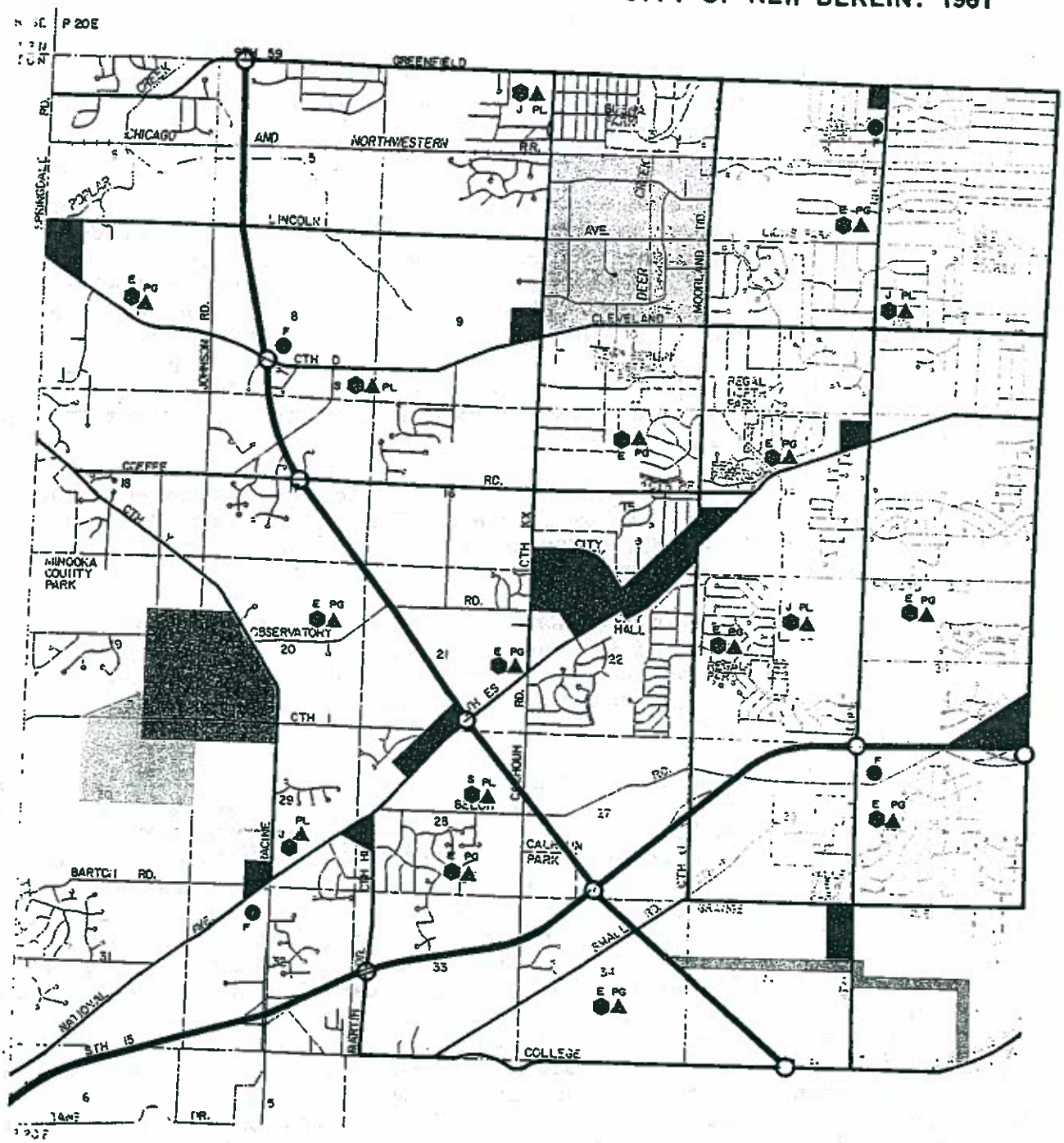
[2]City Planning Associates, Inc., A Development Plan for New Berlin Wisconsin, Mishawaka, Indiana, September 1961.

Map 6

EARLY DEVELOPMENT PLAN FOR THE CITY OF NEW BERLIN: 1961



LEGEND

- RESIDENTIAL
- COMMERCIAL
- LIGHT INDUSTRY
- HEAVY INDUSTRY
- EXTRACTIVE INDUSTRY
- COMMUNITY FACILITIES
  - C CITY HALL
  - F FIRE STATION
  - G STREET DEPARTMENT GARAGE
- SCHOOLS
  - S SENIOR HIGH
  - J JUNIOR HIGH
  - E ELEMENTARY
- PARKS
  - PG PLAYGROUND
  - PL PLAYFIELD
- COMMUNITY PARK
- BUFFER
- MAJOR THOROUGHFARES
- EXPRESSWAYS
- INTERCHANGE

Source: City Planning Associates, Inc., Mishawaka, Indiana.

The City of New Berlin had only one undeveloped park site (a 32-acre site surrounding City Hall) and five developed park/playground sites associated with elementary schools (a total of about 48 acres of land including school facilities). The 1961 plan for the City recommended that 18 public parks be provided by 1980, of which 17 were to be of the combined school/park type. By 1980, the City area had actually acquired 20 public park sites, of which 12 were of a combined school/park type, totaling about 763 acres.

The 1961 plan also indicated a perceived need for better fire protection. The plan analyzed fire station location requirements in the City and made recommendations for the placement of four additional fire stations in the City. These stations were to be located in U. S. Public Land Survey Section 2 along Sunny Slope Road; in Section 32 along National Avenue; in Section 25 along Beloit Road; and in Section 8 along Cleveland Avenue. Two of these stations have been built at the locations recommended--the National Avenue station in Section 32 and the Sunny Slope Road station in Section 2. Two other stations have been built near the other two recommended locations. As a result, fire protection is no longer a perceived urgent need.

Another recommendation made in the 1961 plan was to expand community-related facilities at the site of the new City Hall. Since that time, the municipal water utility, sewer utility, street maintenance, and park offices have been located at the site, together with a municipal garage.

The plan contained much information of value and, while now obsolete, was carefully reviewed as part of the current planning effort in order to incorporate into the effort those concepts held to be still valid. The 1961 plan, however, was not formally adopted by either the City Plan Commission or the Common Council.

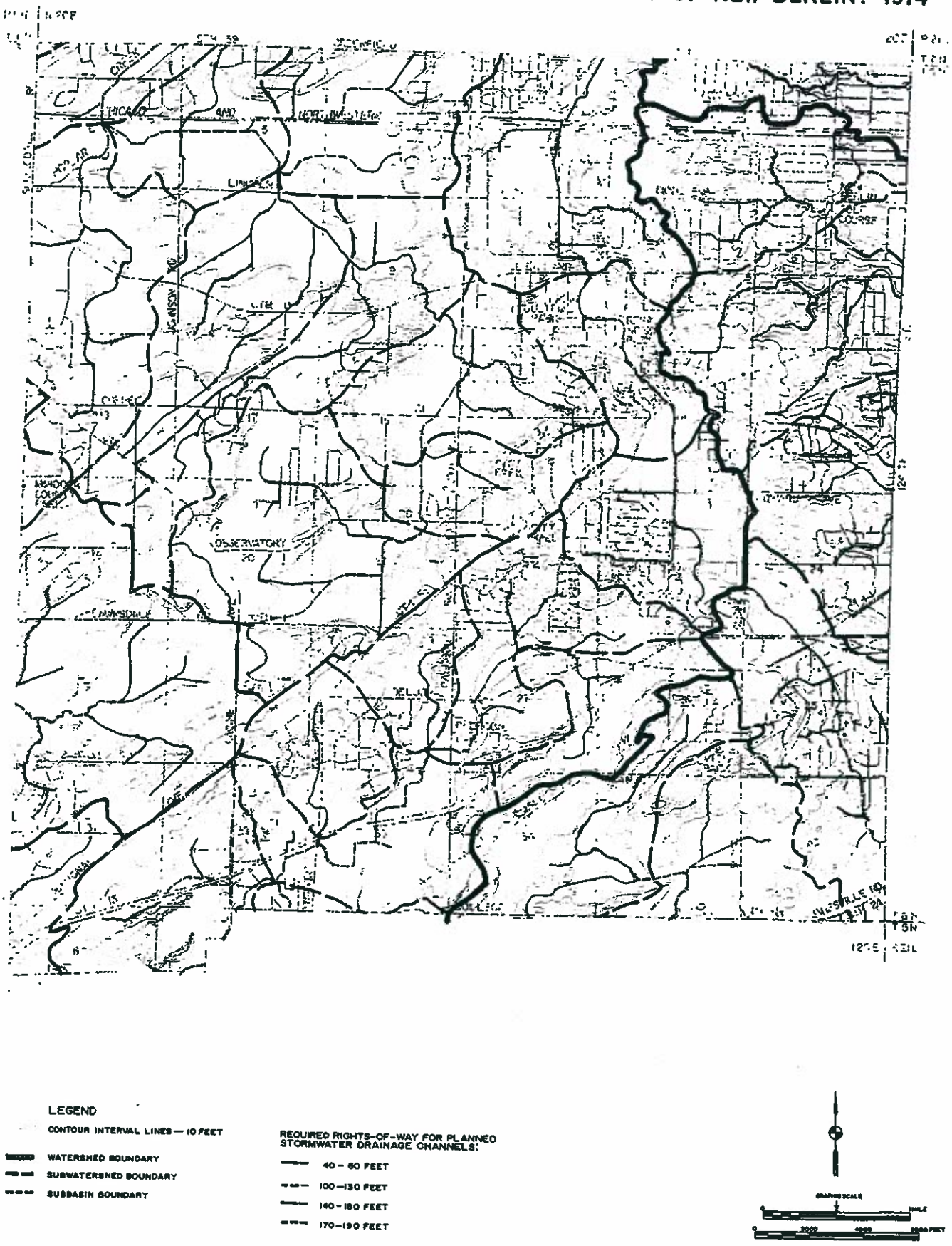
In 1974 a stormwater drainage master plan was prepared by J. C. Zimmerman Engineering Corporation, consulting engineers, for the City of New Berlin. The purpose of the study was "to review the entire problem of storm water drainage and to recommend a program which will enable the City to provide an adequately designed system of storm water drainage facilities which can be implemented during the course of development of remaining open lands within the City." The study delineated the boundaries of the drainage basins located in the City and of the identified existing natural drainage channels. Thirty-eight detailed "Storm Water Drainage Master Plan" maps were prepared for the City. All peak runoff rates shown in the stormwater master plan were calculated based upon a 100-year recurrence interval rainfall, and all major channel sections shown on the plans were selected to accommodate the resulting peak rates of flows. An important recommendation of the plan was that major drainage facilities should be designed as open channel sections consisting of smooth-graded earth bottoms and gentle side slopes. In certain instances, where constraints warranted, alternatives to the open earth channel were recommended, including concrete-lined channels, concrete flumes, or concrete conduit sections. The general stormwater drainage master plan for the City of New Berlin is shown on Map 7.

DEFINITION OF STUDY PURPOSE

The primary purpose of the requested planning effort was to provide the City with one of the key elements of a comprehensive community development plan--a land use plan. This plan, while primarily intended to meet local development objectives, was also intended to carry related regional plan elements into

Map 7

STORMWATER DRAINAGE MASTER PLAN FOR THE CITY OF NEW BERLIN: 1974



Source: J. C. Zimmerman Engineering Corporation, City of New Berlin Planning Department, and SEWRPC.

greater detail as necessary for sound local and regional planning. In conducting this planning effort, an attempt was made to identify the physical development constraints imposed upon, and the development opportunities open to, the resource base; to identify the land use development objectives of the City of New Berlin and associated urban design criteria; and to determine the future land use requirements of the City of New Berlin to the year 2000. Alternative land use plans were prepared and evaluated, and the best elements of these plans were identified and incorporated into the plan recommended for adoption. Neighborhood planning units were delineated within the City. Finally, plan implementation measures and devices were identified, with particular emphasis upon needed adjustments in the city zoning and subdivision control ordinances.

THE COMMUNITY LAND USE PLANNING PROCESS

The recommended land use plan and the alternatives thereto presented herein were developed through a planning process consisting of the following steps:

1) a comprehensive inventory of the factors affecting land use development and redevelopment in the City; 2) a careful analysis of the inventory data and identification of land use development and redevelopment problems and potential; 3) the formulation of community land use development objectives, principles, and standards, and of related urban design criteria; 4) the identification of land use requirements in the City through the year 2000, based upon the developed community land use development standards; 5) the development and evaluation of alternative land use plans; 6) the selection of a recommended land use plan; and 7) the recommendation of plan implementation measures. The land use planning process utilized is summarized in Figure 1. Imperative to any sound community planning process is active citizen participation in each stage of the process. Also imperative is the need to continually reevaluate adopted community land use plans and alternatives thereto based upon the emergence of new information and changing public attitudes and opinions.

Inventory and Analysis

Reliable basic planning data are absolutely essential to the formulation of workable development plans. Consequently, inventory becomes the first operational step in the planning process. The crucial nature of factual information in the planning process should be evident, since no intelligent forecasts can be made or alternative courses of action evaluated without knowledge of the current state of the system being planned. The sound formulation of a land use and urban design plan for the City of New Berlin requires that factual data be acquired on the existing land use pattern, on the potential demand for each of the various major land use categories, on the major determinants of these demands, and on local development objectives and constraints, as well as on the underlying natural resource and public utility base and their ability to support land use development.

The necessary inventory and analysis not only provides data describing existing conditions but also provides a basis for identifying existing and potential problems in the planning area, as well as opportunities and the potential for good land use development. The inventory data are also crucial to the forecasting of future community land use needs, and to formulating alternative land use plans and evaluating such plans.

Formulation of Community Land Use Planning Objectives, Principles, and Standards and Related Urban Design Criteria

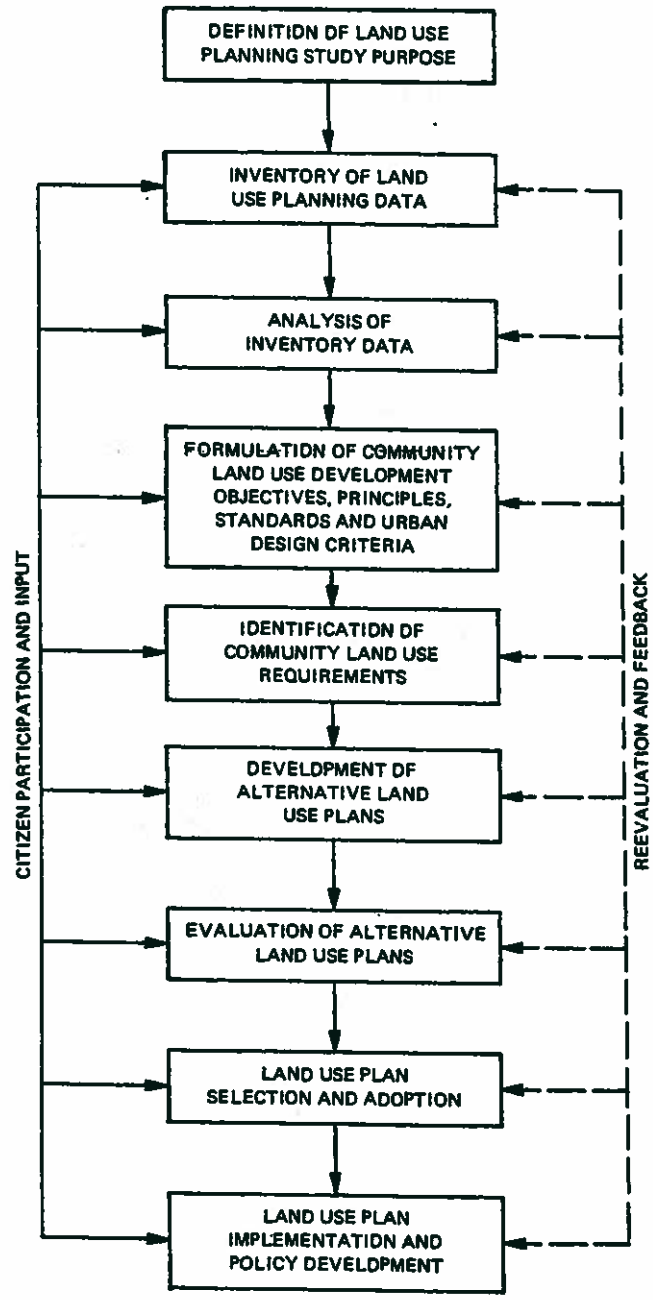
An objective is a goal or end toward the attainment of which plans and policies are directed. Planning is a rational process for formulating and attaining objectives. The objectives developed serve as a guide to the preparation of alternative plans and provide an important basis for the selection of a recommended plan from among the alternatives considered. To this end, the community land use plan should be clearly related to the defined objectives through a set of standards and urban design criteria. Objectives may change as new information is developed, as objectives are fulfilled through plan implementation, or as objectives fail to be implemented because of changing public attitudes and values. The formulation of objectives should involve the active participation of public officials and citizens. To this end, the City Plan Commission includes citizen members and public officials and provides active guidance throughout the course of plan preparation. About 40 citizens and elected officials participated in a special work session held for community land use problem identification. In addition, a resident attitude survey was conducted by the city planning staff.

Identification of Community Land Use Requirements

Although the preparation of forecasts is not planning, a land use plan must anticipate future requirements in the development of alternative plans. In the planning effort, forecasts are required of future events and conditions which are outside the scope of the system to be planned. The future demand for land will depend primarily upon the size of the future population and the nature of future economic activity within the City. The control of changes in population and economic activity levels, however, lies largely outside the scope of government activity at the local

Figure 1

THE COMMUNITY LAND USE PLANNING PROCESS



Source: SEWRPC.

level and therefore outside the scope of the local planning process. Therefore, future population and economic activity levels must be forecast. These levels, in turn, can be used to determine the probable future demand for each of the various categories of land use. This is not to say that governmental policies at the local level cannot influence the course of economic development and, consequently, of population and economic growth rates.

Development and Evaluation of Alternative Land Use Plans and Selection and Adoption of a Recommended Plan

Having estimated the probable future demand for each of the various categories of land use, alternative land use plans which meet the land use demand can be developed. The alternative plans should be evaluated based upon their relative ability to attain the agreed-upon development objectives, and the plan which is judged best to meet those objectives should be selected for adoption. The evaluation should be made by the City Plan Commission, whose members are knowledgeable citizens and elected and appointed public officials. Such evaluation and selection involves the use of data obtained during the inventory and analysis stages of the planning process.

Land Use Plan Implementation

Implementation of the adopted land use plan requires the use of several planning tools of a legal nature. Land subdivision regulations should be applied to assure that any proposed land subdivision plats and certified survey maps conform to the land uses proposed to be accommodated in the plan and to such details as street, block and lot layout, and required improvements. A zoning ordinance and accompanying zoning map should be used to legally assure that land use development and redevelopment are in conformance with the adopted land use plan. The zoning regulations should govern not only the types of land uses permitted in various parts of the community but the height and arrangement of buildings on the land, the intensity of the use of land, and the supporting facilities required to carry out the intent of the land use plan. An official map should be used to assure that the land required for the streets, parkways, parks, and playgrounds required to serve the land use pattern recommended in the plan is reserved for future public use. Implementation of the plan should also be promoted by the formulation of public policies which will ensure plan implementation. A capital improvements program is one particularly effective expression of such policies.

Chapter II

POPULATION AND EMPLOYMENT FORECASTS, INVENTORIES, ANALYSES, AND ATTITUDINAL SURVEYS

INTRODUCTION

Information on the size, characteristics, distribution, and attitudes of the resident population of the City, and on anticipated changes in these demographic factors over time, is essential to the preparation of a land use plan for the City of New Berlin. In the final analysis, the proposed land use pattern should benefit the resident population of the community by maintaining and enhancing living and working conditions in the area. The size and characteristics of the existing and probable future population have a direct influence on certain land use requirements and needs. The primary purpose of the land use plan is to meet those needs.

POPULATION AND EMPLOYMENT FORECASTS

The population, employment, and land use forecasts initially selected for use in the land use planning for the City of New Berlin were based upon consideration of a range of alternative population and employment levels for the Region, Waukesha County, and the City of New Berlin, as shown in Table 1. This range was based upon a set of alternative futures developed by the Regional Planning Commission and used by the Commission in municipal land use planning, local sewer service area planning, and regional transit and highway planning. The range was believed to represent the reasonable extremes of development likely within the Region, as well as within Waukesha County and the City of New Berlin.

Two of the four alternative futures--the optimistic growth-centralized development future and the optimistic growth-decentralized development future--envision modest population and economic growth within the Region, County, and City over the next two decades. The optimistic growth-centralized development future envisions that population and economic growth will be accommodated in a centralized manner, with most new urban development occurring at medium densities contiguous to and outward from existing urban centers. The optimistic growth-decentralized development future envisions that much of the population and economic growth will be accommodated in a decentralized manner, with most new urban development occurring at low densities in a highly diffused manner, well beyond existing urban centers.

The other two futures envision only slight economic growth and an actual decline in the resident population level. One of these two futures, the pessimistic growth-centralized development future, envisions that the future redistribution of population and employment will be accommodated in a centralized manner. The other, the pessimistic growth-decentralized development future, envisions that the future redistribution of population and employment will be accommodated in a decentralized manner.

Table 1

ALTERNATIVE FUTURES FOR SOUTHEASTERN WISCONSIN, WAUKESHA COUNTY, AND THE CITY OF NEW BERLIN: 2000

Demographics	Existing Year 1980	Optimistic Growth: Year 2000		Pessimistic Growth: Year 2000	
		Centralized Development Pattern	Decentralized Development Pattern	Centralized Development Pattern	Decentralized Development Pattern
Regional Level of Growth[a]	--	Modest growth	Modest growth	No growth	No growth
Land Use Pattern[a]	--	Centralized pattern primarily at medium density (2.3 to 6.9 dwelling units per acre)	Decentralized sprawl pattern primarily at low and suburban density (0.2 to 2.2 dwelling units per acre)	Centralized pattern primarily at medium density (2.3 to 6.9 dwelling units per acre)	Decentralized sprawl pattern primarily at low and suburban density (0.2 to 2.2 dwelling units per acre)
Region					
Population	1,764,800	2,219,300	2,219,300	1,688,400	1,688,400
Jobs	874,700	1,016,000	1,016,000	887,000	887,000
Waukesha County					
Population	230,300	420,600	463,300	310,000	390,000
Jobs	136,300	157,400	162,400	124,100	136,100
City of New Berlin					
Population	30,500	56,400	57,800	35,900	44,300
Jobs	15,900	19,900	23,700	17,100	17,900

[a]Region, Waukesha County, and the City of New Berlin.

Source: SEWRPC.

The optimistic futures envision that jobs in the Region will increase from 874,700 in 1980 to 1,016,000 by the year 2000, an increase of 141,300 jobs, or 16 percent; and that the resident population will increase from 1,764,800 persons in 1980 to 2,219,300 in the year 2000, an increase of 454,500, or 26 percent. Similar increases are expected for Waukesha County and the City of New Berlin. These futures assume that the Region as a whole will be relatively more attractive for development than some other metropolitan and nonmetropolitan areas of the United States over the next two decades, and that today's out-migrational trend toward the sunbelt states will subside considerably. This greater attractiveness would be due to such factors as the availability of ample supplies of high-quality water; the availability of certain raw materials, particularly agriculturally related materials; the presence of a well-maintained transportation network; low-cost public utilities including public sanitary sewer, public water, and low-cost electric power; the high quality of the environment and public services; ample recreational opportunities; labor availability and wage rates; the tax structure; and community attitudes toward business and industry. The optimistic growth futures assume that the out-migration of population from the Region will end and that an in-migration of population will begin. This assumption is based, in part, on the projected increase in jobs in the year 2000 under the optimistic futures and, in part, on assumptions that there will be a return to more traditional family lifestyles in the Region, including a return to replacement-level birthrates; no further increases in female and total labor force participation; and the stabilization of household size. The return to more traditional population lifestyles should result in the movement of population into the Region, including Waukesha County and the City of New Berlin, to meet the projected growth of jobs.

The pessimistic futures, on the other hand, envision that the number of jobs in the Region will increase to only about 887,000 by the year 2000, or an increase of fewer than 13,000 jobs, or only 2 percent. These futures envision

that the population will actually decline by the year 2000 to about 1,688,400, a decline of about 76,400 people, or 4 percent. This future assumes that the Region will be relatively less attractive for economic development than other metropolitan and nonmetropolitan areas of the United States. The pessimistic futures assume that there will be continued out-migration of population from the Region. This will be due, in part, to the lack of growth in jobs, and in part to a continuation of nontraditional lifestyles in the Region, including low-replacement-level birthrates, continuing declines in household size, and increasing female and total population labor force participation. However, some very limited growth under this future can be expected for the County and City because of their location within metropolitan Milwaukee.

Centralized and decentralized development patterns have been postulated under both the optimistic and pessimistic growth futures for the Region, as both types of development patterns are possible under either future. Whether the Region, County, or City develops in a centralized or decentralized pattern will depend on such factors as the housing type and location preferences of the resident populations. A centralized development pattern will require a preference on the part of a significant proportion of the resident population to live in an urban setting with urban facilities and services in a mix of single-family homes, duplexes, townhouses, garden apartments, and mid- to high-rise multi-family developments. Other factors that could influence the evolution of a centralized land use development pattern include energy prices and the degree of public land use regulation exercised on a regional, county, and local basis for example, for the preservation of agricultural lands. The evolution of a decentralized land use pattern in the future depends upon a preference on the part of a significant proportion of the resident population for urban services, particularly centralized sanitary sewer and water supply services, in truly sub-urban and rural settings, with few, if any, urban services, on large lots with single-family, detached homes. Under decentralized futures, land use controls to preserve farmland would likely be minimal, and diffused residential, commercial, and industrial development would be accommodated through utilization of conventional onsite sewage disposal systems or the newer types of "package" onsite soil sewage disposal systems--such as mound systems--which are designed to overcome certain soil limitations such as impermeability, high groundwater, and shallow bedrock. Water supply would have to be provided largely by private wells.

Under these four alternative futures, the future population of the City of New Berlin would range from 35,900 to 57,800 persons--increases of 5,400 persons, or about 18 percent, and 27,300 persons, or about 90 percent, over the 1980 level of 30,500. Similarly, under these alternative futures, employment levels in New Berlin would increase from the 1980 level of 15,900 to between 17,100 jobs and 23,700 jobs, increases of about 8 and 49 percent, respectively.

It is recommended that the optimistic growth alternative future for the Region, County, and City and a centralized development pattern be used as a basis for the preparation of a land use plan for the City of New Berlin. This is the future currently used by the Regional Planning Commission in its planning work. Also, this future represents the near-maximum population and economic growth which could reasonably be expected to occur within the City over the 20-year plan design period. Should actual growth be less than the levels anticipated under this future, the design year of the plan could be set back an additional 10 to 15 years without significantly affecting the substance of the plan. Such an approach would be desirable, since land use decisions as a practical matter are virtually irreversible. In order to place this optimistic

growth pattern for the City in perspective, the historic population levels of the State, Region, Waukesha County, and City of New Berlin are presented in Table 2. This table indicates that there has been a steady increase in the resident population level of the City of New Berlin since about 1920. Figure 2 shows the historic and probable future resident population level for the City of New Berlin based upon an optimistic growth-centralized development pattern.

HISTORIC AND PROBABLE FUTURE AGE DISTRIBUTION

The historic and probable future population distribution by age group for the Southeastern Wisconsin Region, Waukesha County, and City of New Berlin is set forth in Table 3 and summarized in Figure 3 for the years 1980 and 2000. The range of population forecasts shown for the year 2000 is based upon the pessimistic growth-centralized development pattern, and optimistic growth-

Table 2

HISTORIC POPULATIONS FOR THE STATE OF WISCONSIN, THE SOUTHEASTERN WISCONSIN REGION, WAUKESHA COUNTY, AND CITY OF NEW BERLIN: 1850-1980

	Wisconsin		Southeastern Wisconsin Region		Waukesha County		City of New Berlin[a]	
ear	Population	Percent Change From Previous Period	Population	Percent Change From Previous Period	Population	Percent Change From Previous Period	Population	Percent Change From Previous Period
850	305,391	--	113,389	--	19,258	--	1,293 [b]	--
860	775,881	154.1	190,409	67.9	26,831	39.3	1,903 [b]	47.2
870	1,054,670	35.9	223,546	17.4	28,274	5.4	1,809 [b]	-4.9
880	1,315,497	24.4	277,119	24.0	28,957	2.4	1,620 [b]	-10.4
890	1,693,330	28.7	386,774	39.6	33,270	14.9	1,519 [b]	-6.2
900	2,069,042	22.2	501,808	29.7	35,229	5.9	1,579 [b]	3.9
910	2,333,860	12.8	631,161	25.8	37,100	5.3	1,584 [b]	0.3
920	2,632,067	12.8	783,681	24.2	42,612	14.9	1,642 [b]	3.7
930	2,939,006	11.7	1,006,118	28.4	52,358	22.9	2,197 [b]	33.8
940	3,137,587	6.8	1,067,699	6.1	62,744	19.8	3,034 [b]	38.1
950	3,434,575	9.5	1,240,618	16.2	85,901	36.9	5,334 [b]	75.8
960	3,952,771	15.1	1,573,620	26.8	158,249	84.2	15,788	196.0
970	4,417,933	11.8	1,756,086	11.6	231,338	46.2	26,910	70.4
980	4,689,055	6.1	1,764,919	0.5	280,326	21.2	30,529	13.4

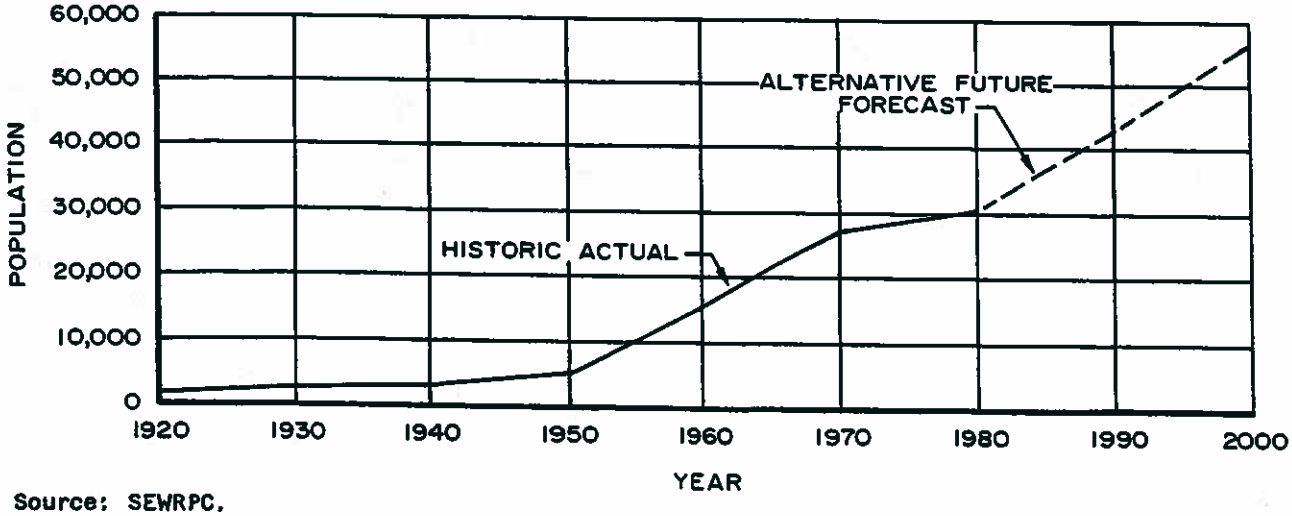
The City of New Berlin was incorporated in 1959 and the Town of New Berlin was dissolved at that time. The City of New Berlin occupies the same geographic area as the former Town of New Berlin.

Town of New Berlin population.

Source: SEWRPC.

Figure 2

HISTORIC AND FORECAST FUTURE POPULATION LEVELS FOR THE CITY OF NEW BERLIN: 1920-2000



Source: SEWRPC.

Table 3

HISTORIC AND ALTERNATIVE FUTURE COMPOSITION OF THE RESIDENT POPULATION BY AGE GROUP AND SEX IN THE SOUTHEASTERN WISCONSIN REGION, WAUKESHA COUNTY, AND CITY OF NEW BERLIN: 1980 AND 2000

Age Group	Southeastern Wisconsin Region: 1980					
	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Under 5.....	65,588	7.7	62,497	6.9	128,085	7.3
5 to 14.....	139,738	16.3	134,348	14.8	274,086	15.5
15 to 19.....	84,952	10.0	83,945	9.2	168,897	9.6
20 to 64.....	487,407	57.0	511,150	56.1	998,557	56.4
65 and Older....	76,440	9.0	118,854	13.0	195,294	11.2
All Ages	854,125	100.0	910,794	100.0	1,764,919	100.0

Age Group	Alternative Forecast Range: 2000[a]					
	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Under 5.....	53,916-80,338	6.6-7.5	53,341-80,596	6.1-7.0	107,257-160,934	6.4-7.3
5 to 14.....	117,843-168,482	14.5-15.8	117,324-168,438	13.4-14.6	235,167-337,320	13.9-15.2
15 to 19.....	54,145-76,055	6.7-7.1	56,195-75,630	6.4-6.5	110,340-151,685	6.5-6.8
20 to 64.....	505,712-632,114	62.1-59.4	518,072-664,340	59.3-57.5	1,023,784-1,296,454	60.6-58.4
65 and Older....	82,680-107,170	10.2-10.1	129,194-165,787	14.8-14.4	211,874-272,962	12.5-12.3
All Ages	814,296-1,064,559	100.0	874,126-1,154,796	100.0	1,688,422-2,219,355	100.0

Age Group	Waukesha County: 1980					
	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Under 5.....	10,370	7.4	9,684	6.9	20,054	7.2
5 to 14.....	26,057	18.6	24,870	17.6	50,857	18.1
15 to 19	15,305	10.9	14,227	10.1	29,532	10.5
20 to 64	79,410	57.0	79,559	56.7	158,969	56.7
65 and Older	8,584	6.1	12,330	8.7	20,914	7.5
All Ages	139,726	100.0	140,600	100.0	280,326	100.0

Age Group	Alternative Forecast Range: 2000[a]					
	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Under 5	9,877-15,548	6.6-7.4	9,598-15,556	6.1-7.3	19,475-31,104	6.3-7.4
5 to 14	20,279-33,698	13.5-16.1	19,877-33,586	12.5-15.9	40,156-67,284	13.0-16.0
15 to 19.....	8,901-14,692	5.9-7.0	8,841-14,490	5.6-6.9	17,742-29,182	5.7-6.9
20 to 64.....	92,558-125,948	61.5-60.2	94,205-121,945	59.4-57.7	186,763-247,893	60.4-58.9
65 and Older....	18,947-19,340	12.6-9.2	26,198-25,759	16.5-12.2	45,145-45,099	14.6-10.7
All Ages	150,562-209,226	100.0	158,719-211,336	100.0	309,281-420,562	100.0

Age Group	City of New Berlin: 1980					
	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Under 5.....	1,034	6.8	939	6.1	1,973	6.5
5 to 14.....	2,739	18.0	2,803	18.3	5,542	18.2
15 to 19.....	1,752	11.5	1,741	11.4	3,493	11.4
20 to 64.....	9,017	59.3	9,041	59.0	18,058	59.1
65 and Older....	694	4.4	789	5.2	1,463	4.8
All Ages	15,216	100.0	15,313	100.0	30,529	100.0

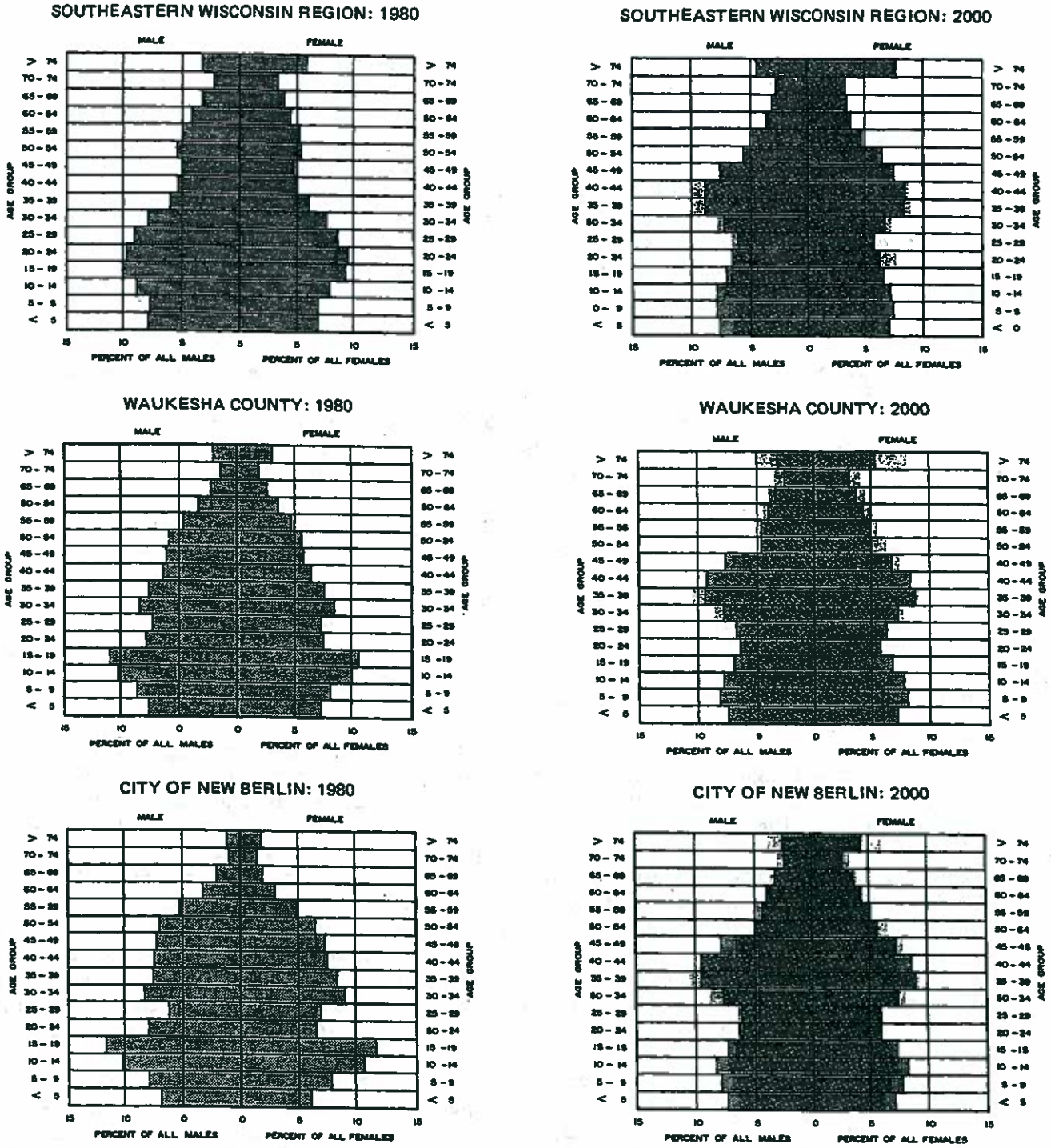
Age Group	Alternative Forecast Range: 2000[a]					
	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Under 5.....	1,147-2,030	6.5-7.2	1,115-2,031	6.1-7.2	2,262-4,061	6.3-7.2
5 to 14.....	2,592-4,549	14.7-16.2	2,541-4,532	13.9-16.0	5,133-9,081	14.3-16.1
15 to 19.....	1,206-2,045	6.9-7.3	1,199-2,016	6.6-7.1	2,405-4,061	6.7-7.2
20 to 64.....	10,805-17,130	61.5-60.9	10,987-16,596	59.9-58.7	21,792-33,726	60.7-59.8
65 and Older....	1,821-2,365	10.4-8.4	2,487-3,106	13.6-11.0	4,308-5,471	12.0-9.7
All Ages	17,571-28,119	100.0	18,329-28,281	100.0	35,900-56,400	100.0

[a]The first number shown in the range represents forecasts based upon the pessimistic growth-centralized development pattern and the second number represents forecasts based upon the optimistic growth-centralized development pattern.

Source: SEWRPC.

Figure 3

HISTORIC AND ALTERNATIVE FUTURE AGE COMPOSITION BY SEX FOR SOUTHEASTERN WISCONSIN, WAUKESHA COUNTY, AND CITY OF NEW BERLIN: 1980 AND 2000



Source: SEWRPC.

centralized development pattern. The table and accompanying figure indicate distinctly different population growth rates for the various age groups for each of the extremes of the population forecast ranges.

Within the Region, the population of the age group from 0 through 4 years of age, representing the preschool population, may be expected to change from about 128,085 persons in 1980 to from 107,257 to 160,934 persons by the year 2000. This range represents a possible decrease in this age group of about 20,800 persons, or 16 percent, and a possible increase of about 53,680 persons, or about 42 percent. In Waukesha County, the population of this age group may be expected to change from 20,054 persons in 1980 to from 19,475 to 31,104 persons by the year 2000. This range represents a possible decrease in this age group of about 579 persons, or 3 percent, and a possible increase of about 11,050 persons, or about 55 percent. In the City of New Berlin, the population of this age group may be expected to change from 1,973 persons in 1980 to from 2,262 to 4,061 persons by the year 2000. This range represents increases in this age group of from 289 to 1,799 persons, or from 15 to 91 percent.

The population of the age group from 5 through 14 years of age, representing the elementary school-age population, may be expected to change from 274,086 persons in 1980 to from 235,167 to 337,320 persons by the year 2000. This range represents a possible decrease in this age group of about 38,919 persons, or 14 percent, and a possible increase of about 63,234 persons, or about 23 percent. In Waukesha County, the population of this age group may be expected to change from 50,857 persons in 1980 to from 40,156 to 67,284 persons by the year 2000. This range represents a possible decrease in this age group of about 10,701 persons, or 21 percent, and a possible increase of about 16,427 persons, or about 32 percent. In the City of New Berlin, the population of this age group is expected to change from 5,542 persons in 1980 to from 5,133 to 9,081 persons by the year 2000. This range represents a possible decrease in this age group of about 409 persons, or 7 percent, and a possible increase of about 3,539 persons, or 63 percent.

The population of the age group from 15 through 19 years of age, representing the high school-age population, may be expected to decrease from about 168,897 persons in 1980 to from 110,340 to 151,685 persons in the year 2000, representing a decline of from 58,557 to 17,212 persons, or from 53 percent to 11 percent. In Waukesha County, the population of this age group may also be expected to decline somewhat--from 29,532 persons in 1980 to from 17,742 to 29,182 persons by the year 2000. This range represents a decrease in this age group of from 11,790 to 350 persons, or from 66 percent to 1 percent. In the City of New Berlin, the population of this age group may be expected to change from 3,493 persons in 1980 to from 2,405 to 4,061 persons in the year 2000. This range represents a possible decrease in this age group of about 1,088 persons, or 31 percent, and a possible increase of 568 persons, or 16 percent.

The population of the age group from 20 through 64 years of age, representing the working-age population, may be expected to increase from about 998,557 persons in 1980 to from 1,023,784 to 1,296,454 persons in the year 2000, representing an increase of from 25,227 to 297,897 persons, or from about 3 to 30 percent. In Waukesha County, the population of this age group is also expected to increase--from 158,969 persons in 1980 to from 186,763 to 247,893

persons in the year 2000. This range represents an increase of from 27,794 to 88,924 persons, or from 17 to 36 percent. The population of this age group is also expected to increase in the City of New Berlin--from 18,058 persons in 1980 to from 21,792 to 33,726 persons in the year 2000, representing an increase of from 3,734 to 15,668 persons, or from about 21 percent to 87 percent. The City is thus expected to experience a significantly higher rate of increase than is the Region or Waukesha County.

The population of the age group 65 years of age and older, representing the elderly population, may be expected to increase from about 195,294 persons in 1980 to from 211,874 to 272,962 persons in the year 2000, representing an increase of from 16,580 to 77,668 persons, or from 8 to 40 percent. In Waukesha County, the poulation of this age group is expected to increase from 20,914 persons in 1980 to about 45,100 in the year 2000, representing an increase of about 24,186 persons, or about 116 percent. In the City of New Berlin, this age group is forecast to increase dramatically from the 1980 figure of 1,463 persons to from 4,308 to 5,471 persons, representing an increase of from 2,845 to 4,008 persons, or of about 194 to 274 percent.

The potential changes in the age composition of the population of the City of New Berlin have important implications for land use planning in the City. If the future population reaches the higher end of the forecast range, there may be a need for additional high schools and elementary schools, as well as ancillary recreational facilities for children between the ages of 5 and 14. The labor force in the City is also expected to increase substantially and, accordingly, the number of persons seeking work within the City and surrounding areas may be expected to increase. Finally, the changes indicate that a general aging of the population will occur which may be expected to affect the demand for elderly housing units and special transportation and health care needs within the City.

HISTORIC AND PROBABLE FUTURE HOUSEHOLD SIZE

Table 4 compares historic and probable future household sizes in the Southeastern Wisconsin Region, Waukesha County, and City of New Berlin under the optimistic growth-centralized development future. This table indicates that in 1980, the average household size in the City was 3.26, compared with 3.11 in the County and 2.75 in the Region. The table also indicates that the average household size in the Region, County, and City may be expected to increase slightly by the plan design year, contrary to trends from 1970 to 1980 of rapid decreases in household size. This slight increase is reflective of a return to a more traditional lifestyle. These changes in average household size have particularly important implications for housing and residential land use planning, since average household size is a basic factor used to convert a future population level to the number of dwelling units needed over the plan-

Table 4

COMPARISON OF HISTORIC AND PROBABLE FUTURE POPULATION PER OCCUPIED HOUSING UNIT IN THE SOUTHEASTERN WISCONSIN REGION, WAUKESHA COUNTY, AND CITY OF NEW BERLIN: 1960-2000

Year	Region	Waukesha County	City of New Berlin
1960	3.30	3.66	3.91
1970	3.20	3.66	3.92
1980	2.75	3.11	3.26
1990	2.95	3.53	3.75
2000	2.90	3.50	3.69

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

ning period--in this case, to the year 2000. Based upon an increase in average household size from 3.26 persons per household in 1980 to 3.69 persons per household in the year 2000 in the City of New Berlin, an additional 7,010 housing units may be expected to be needed by the year 2000 to meet the housing needs of a year 2000 resident population of 56,400 persons.

HOUSING CHARACTERISTICS

As shown in Table 5, the available data show a steady growth in housing units as well as population in the Southeastern Wisconsin Region, Waukesha County, and City of New Berlin from 1960 to 1980. Table 6 shows that while the total number of housing units in the Region increased only by about 17 percent between 1970 and 1980, housing units increased by 42 percent and 39 percent in Waukesha County and the City of New Berlin, respectively.

Table 5 shows the total number of both owner-occupied year-round housing units and renter-occupied year-round housing units. From 1970 to 1980, the number of owner-occupied year-round housing units increased by about 18 percent in the Region while Waukesha County and the City of New Berlin experienced comparatively dramatic increases of 39 and 37 percent, respectively--increases of more than double that experienced by the Region as a whole. During this same period the number of renter-occupied year-round housing units in the Region increased by only about 16 percent, while the County and the City of New Berlin had relatively high residential growth during the decade.

City Housing Construction Activity 1960 to 1982

Table 6 provides a summary of residential building activity in the City of New Berlin from 1960 to 1982. During this 23-year period a total of 5,857 dwelling units were constructed, of which 4,754 units, or 81 percent, were single-family units; 30, or only 0.5 percent, were two-family units; and 1,073, or about 18 percent, were multi-family units. The table indicates that there may be a need for additional two-family dwelling units in the City in order to provide a more adequate choice in the type of housing available. The table also indicates that residential building activity in the City peaked in 1968 and again in 1977. Between 1960 and 1980, an average of 272 dwelling units were constructed each year within the City. However, the economic recession brought the level of construction down to only 48 units in 1981, and 81 units in 1982.

Housing Costs in 1980

Table 7 shows the 1980 monthly owner costs, including mortgage costs, of owner-occupied, mortgaged, noncondominium housing units in the Southeastern Wisconsin Region, Waukesha County, and the City of New Berlin. The table indicates a general consistency in the percent of the population within each of the monthly owner cost categories for the Region, Waukesha County, and City of New Berlin. Table 7 indicates that the median monthly mortgage housing cost was $549 in southeastern Wisconsin, $462 in Waukesha County, and $449 in the City of New Berlin, which indicates that the 1980 cost of mortgaged units in the City was comparatively low when compared with such costs in the Region and County. In 1980, the City of New Berlin had 5,509 mortgaged owner-occupied noncondominium dwelling units, representing 58 percent of the total housing stock in the City.

Table 5

HISTORIC POPULATION AND HOUSING CHARACTERISTICS OF THE SOUTHEASTERN WISCONSIN REGION, WAUKESHA COUNTY, AND CITY OF NEW BERLIN: 1960-1980

Characteristic	Southeastern Wisconsin Region					Waukesha County					City of New Berlin				
	Year			1970-1980		Year			1970-1980		Year			1970-1980	
	1960	1970	1980	Change	Percent	1960	1970	1980	Change	Percent	1960	1970	1980	Change	Percent
Total Population.....	1,573,620	1,756,083	1,764,919	8,836	0.5	158,249	231,335	280,326	48,991	21.2	15,788	26,910	30,529	3,619	13.4
Total Housing Units.....	500,761	566,756	664,973	98,217	17.3	47,301	65,249	92,622	27,373	42.0	4,148	6,849	9,546	2,697	39.3
Persons per Occupied Housing Unit.....	3.30	3.20	2.75	-0.45	14.1	3.66	3.66	3.11	-0.55	-15.0	3.91	3.92	3.26	-0.66	-16.8
Owner-Occupied Year-Round Housing Units.....	284,707	331,339	389,381	58,042	17.5	33,322	49,597	69,154	19,557	39.4	3,653	5,956	8,152	2,196	36.9
Renter-Occupied Year-Round Housing Units.....	181,206	205,147	238,574	33,427	16.3	9,072	12,338	19,398	7,060	57.2	319	812	1,198	386	47.5
Vacant Year-Round Housing Units.....	19,438	20,100	27,791	7,691	38.3	2,076	1,719	2,814	1,095	63.7	171	80	190	110	137.5

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

Table 6

RESIDENTIAL BUILDING ACTIVITY IN THE CITY OF NEW BERLIN: 1960-1982

Year	Single-Family Dwelling Units	Two-Family Dwelling Units	Multiple-Family Dwelling Units	Total Dwelling Units
1960	241	4	0	245
1961	182	2	0	184
1962	143	6	4	153
1963	241	0	6	247
1964	247	6	16	269
1965	272	4	46	322
1966	277	0	8	285
1967	357	2	168	527
1968	304	0	224	528
1969	116	0	108	224
1970	61	0	128	189
1971	138	2	128	268
1972	203	2	16	221
1973	182	0	184	366
1974	145	0	0	145
1975	296	0	0	296
1976	353	0	5	358
1977	407	0	0	407
1978	251	0	0	251
1979	106	0	12	118
1980	105	0	20	125
1981	48	0	0	48
1982	79	2	0	81
Total	4,754	30	1,073	5,857

Source: City of New Berlin and SEWRPC.

Table 7

NUMBER OF UNITS OF OWNER-OCCUPIED, MORTGAGED, NONCONDOMINIUM HOUSING AND MONTHLY OWNER COSTS, INCLUDING MORTGAGE, IN SOUTHEASTERN WISCONSIN, WAUKESHA COUNTY, AND THE CITY OF NEW BERLIN: 1980

Monthly Owner Costs with Mortgage	Southeastern Wisconsin		Waukesha County		City of New Berlin	
	Number of Units	Percent of Total	Number of Units	Percent of Total	Number of Units	Percent of Total
Less than $100	161	0.1	26	0.1	0	0.0
$100 to $149	707	0.3	71	0.2	12	0.2
$150 to $199	3,197	1.5	325	0.7	49	0.9
$200 to $249	12,785	6.1	1,459	3.2	115	2.1
$250 to $299	26,743	12.7	3,677	8.0	486	8.8
$300 to $349	29,134	13.9	4,914	10.7	735	13.3
$350 to $399	28,389	13.5	5,671	12.4	708	12.9
$400 to $449	25,356	12.1	5,501	12.0	669	12.1
$450 to $499	21,523	10.2	5,157	11.3	628	11.4
$500 to $599	28,677	13.6	7,683	16.8	929	16.9
$600 to $749	20,090	9.6	6,431	14.1	791	14.4
$750 or more	13,562	6.4	4,798	10.5	387	7.0
Total	210,324	100.0	45,713	100.0	5,509	100.0
Median Cost	$549	--	$462	--	$449	--

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

Table 8 shows the 1980 monthly gross rent of renter-occupied housing in the Southeastern Wisconsin Region, Waukesha County, and the City of New Berlin. The table indicates that in 1980 the median monthly rent for renter-occupied housing was $252 in the Southeastern Wisconsin Region, $292 in Waukesha County, and $321 in the City of New Berlin. Table 8 further indicates that the average monthly rent paid for renter-occupied housing was $255 in the Region, $300 in Waukesha County, and $332 in the City of New Berlin. As noted in Table 8, the City of New Berlin had higher median and mean rents for renter-occupied housing in 1980 than did the Region and Waukesha County.

Housing Vacancy Rates

Housing vacancy rates for both owner-occupied and rental-type housing in 1980 for southeastern Wisconsin, Waukesha County, and the City of New Berlin are shown in Table 9. The overall vacancy rate for owner-occupied housing in the City--that is, for vacant, once-owner-occupied housing units which were for sale--was about 1.5 percent, or 121 dwelling units of the total of 8,723 units. In the Region the vacancy rate was 1.1 percent and in Waukesha County it was 1.3 percent--slightly lower vacancy rates than in the City.

Out of a total of about 1,215 rental units in the City of New Berlin in 1980, 17 dwelling units, or about 1.4 percent, were vacant. The vacancy rate for rental units in the City is 3 percent lower than the rate for southeastern Wisconsin and 2 percent lower than the rate for Waukesha County in 1980, based upon the federal census of 1980.

Standards contained in SEWRPC Planning Report No. 20, A Regional Housing Plan for Southeastern Wisconsin, recommend that housing vacancy rates within a local housing analysis area such as the City of New Berlin be maintained at a

Table 8

NUMBER OF DWELLING UNITS BY MONTHLY GROSS RENT OF RENTER-OCCUPIED HOUSING IN SOUTHEASTERN WISCONSIN, WAUKESHA COUNTY, AND THE CITY OF NEW BERLIN: 1980

Gross Rent[a]	Southeastern Wisconsin		Waukesha County		City of New Berlin	
	Housing Units	Percent of Total	Housing Units	Percent of Total	Housing Units	Percent of Total
Less than $60	1,454	0.6	112	0.6	0	0.0
$60 to $79	5,173	2.2	291	1.6	0	0.0
$80 to $99	4,204	1.8	205	1.1	0	0.0
$100 to $119	4,488	1.9	182	1.0	7	0.6
$120 to $149	10,028	4.3	399	2.1	6	0.5
$150 to $169	10,527	4.5	461	2.5	14	1.2
$170 to $199	23,363	10.0	908	4.9	22	2.0
$200 to $249	54,756	23.4	2,976	15.9	49	4.3
$250 to $299	53,408	22.9	4,160	22.2	259	23.0
$300 to $349	32,367	13.8	3,545	19.0	409	36.3
$350 to $399	14,923	6.4	2,177	11.6	158	14.0
$400 to $499	10,037	4.3	1,814	9.7	80	7.1
$500 or more	3,464	1.4	817	4.3	52	4.6
No Cash Rent	5,946	2.5	657	3.5	72	6.4
Total	234,138	100.0	18,704	100.0	1,128	100.0
Median Costs	$252	--	$292	--	$321	--
Mean	$255	--	$300	--	$332	--

[a]Gross rent is the sum of contract rent and utility costs.

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

Table 9

HOUSING VACANCY RATES FOR OWNER- AND RENTER-OCCUPIED YEAR-ROUND HOUSING UNITS IN SOUTHEASTERN WISCONSIN, WAUKESHA COUNTY, AND THE CITY OF NEW BERLIN: 1980

Housing Unit Type	Southeastern Wisconsin		Waukesha County		City of New Berlin	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Owner-Occupied Year-Round Housing Units.....	389,381	98.9	69,154	98.7	8,152	98.5
Vacant Year-Round Housing Units for Sale....	4,429	1.1	898	1.3	121	1.5
Total	393,810	100.0	70,052	100.0	8,273	100.0
Renter-Occupied Year-Round Housing Units.....	238,574	95.6	19,398	96.6	1,198	98.6
Vacant Year-Round Renter-Occupied Housing Units.....	10,918	4.4	688	3.4	17	1.4
Total	249,492	100.0	20,086	100.0	1,215	100.0

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

minimum of 4 percent and a maximum of 6 percent for rental units; and at a minimum of 1 percent and a maximum of 2 percent for owner-occupied units over a full range of housing types, sizes, and costs. These vacancy proportions are desirable to facilitate mobility and to enable households to exercise choices in the selection of suitable housing. The city vacancy rate of 1.5 percent for owner-occupied housing falls within the recommended standard of between 1 and 2 percent. The city vacancy rate of 1.4 percent for rental housing, however, falls far short of the recommended standard of between 4 and 6 percent. It may thus be concluded that the City of New Berlin is in some need of additional rental housing.

ECONOMIC CHARACTERISTICS AND FORECASTS

Family Income

Table 10 shows the number of families having various ranges of family income in 1980 for southeastern Wisconsin, Waukesha County, and the City of New Berlin, as well as the median income and mean income for each of the geographic areas shown. In 1980, the median family income (median family income means that 50 percent of the families have an income over a certain amount and 50 percent have an income under that amount) in the Southeastern Wisconsin Region was $23,515; in Waukesha County--$27,648; and in the City of New Berlin--$30,110. The mean, or average, family income in 1980 for the Southeastern Wisconsin Region was $26,193; for Waukesha County--$31,534; and for the City of New Berlin--$32,667. Both the median and mean family incomes were slightly higher in the City of New Berlin in 1980 than in the Southeastern Wisconsin Region and Waukesha County.

Table 10

FAMILY INCOME IN SOUTHEASTERN WISCONSIN, WAUKESHA COUNTY, AND THE CITY OF NEW BERLIN: 1980

Income Range	Southeastern Wisconsin		Waukesha County		City of New Berlin	
	Number of Families	Percent of Total	Number of Families	Percent of Total	Number of Families	Percent of Total
Less than $2,500	7,873	1.7	582	0.8	67	0.8
$2,500 to $4,999	12,672	2.8	782	1.1	42	0.5
$5,000 to $7,499	20,161	4.4	1,625	2.2	112	1.4
$7,500 to $9,999	22,172	4.8	2,174	2.9	138	1.7
$10,000 to $12,499	24,975	5.5	2,724	3.7	224	2.8
$12,500 to $14,999	25,653	5.6	2,654	3.6	221	2.7
$15,000 to $17,499	30,169	6.6	3,699	5.0	323	4.0
$17,500 to $19,999	32,476	7.1	4,305	5.8	329	4.0
$20,000 to $22,499	38,469	8.4	5,744	7.7	575	7.1
$22,500 to $24,999	34,876	7.6	5,607	7.6	550	6.8
$25,000 to $27,499	36,159	7.9	6,865	9.2	874	10.7
$27,500 to $29,999	28,904	6.3	5,558	7.5	578	7.1
$30,000 to $34,999	49,233	10.8	9,762	13.1	1,362	16.7
$35,000 to $39,999	30,978	6.8	6,595	8.9	777	9.5
$40,000 to $49,999	33,175	7.2	7,713	10.4	1,057	13.0
$50,000 to $74,999	20,857	4.6	5,355	7.2	718	8.8
$75,000 or more	8,751	1.9	2,435	3.3	197	2.4
Total	457,553	100.0	74,179	100.0	8,144	100.0
Median Income	$23,515	--	$27,648	--	$30,110	--
Mean Income	$26,193	--	$31,534	--	$32,667	--

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

Occupations and Employment Types

In 1980, 826,456 persons in the Region, or about 47 percent of the Region's population, were in the employed labor force. In Waukesha County there were 136,327 persons, or about 49 percent of the county population, in the employed labor force; in the City of New Berlin there were 15,882 persons, or about 52 percent of the city population, in the employed labor force. Table 11 provides information on the employed population 16 years and over by occupation in the Southeastern Wisconsin Region, Waukesha County, and the City of New Berlin in 1980. According to Table 11, white collar workers, including managerial and professional specialty and technical, sales, and administrative support workers, represented 427,947, or about 52 percent, of the employed persons in the Region; 79,034, or about 58 percent, of the employed persons in Waukesha County; and 9,382, or about 59 percent, of the employed persons in the City of New Berlin. Blue collar workers, including workers in the job categories of service, farming, forestry, and fishing and precision production, craft, and repair, as well as operators, fabricators, and laborers, represented 398,509, or about 48 percent, of the employed persons in the Region; 57,293, or about 42 percent, of the employed persons in Waukesha County; and 6,500 or about 41 percent, of the employed persons in the City of New Berlin.

Table 12 indicates the number of persons 16 years and over by class of worker in the Southeastern Wisconsin Region, Waukesha County, and the City of New Berlin in 1980. The table shows that in the City of New Berlin, 13,691 workers, or about 86 percent, were private wage and salary workers, compared to 83 percent for the Region and 84 percent for Waukesha County; that 1,544 workers, or about 10 percent, were government workers, compared to about 13 percent for the Region and about 11 percent for Waukesha County; that 593 workers, or about 4 percent, were self-employed workers, compared to about 4 percent for the Region and about 5 percent for Waukesha County; and that 54 workers, or less than 1 percent, were unpaid family workers, with there being a similar percentage of unpaid family workers in the Region and Waukesha County in 1980.

Table 11

EMPLOYED PERSONS 16 YEARS AND OVER BY OCCUPATION IN SOUTHEASTERN WISCONSIN, WAUKESHA COUNTY, AND THE CITY OF NEW BERLIN: 1980

Occupation	Southeastern Wisconsin		Waukesha County		City of New Berlin	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Managerial and Professional Specialty						
Executive, Administrative, Managerial	81,635	9.9	17,926	13.1	1,980	12.5
Professional Specialty	96,863	11.7	17,472	12.8	2,137	13.5
Technical, Sales, and Administrative Support						
Technicians and Related Support	25,271	3.1	4,385	3.2	506	3.2
Sales	81,057	9.8	16,712	12.3	1,841	11.6
Administrative Support Including Clerical	143,121	17.3	22,539	16.5	2,918	18.3
Service						
Private Household	2,486	0.3	296	0.2	4	0.0[a]
Protective Service	11,721	1.4	1,154	0.9	125	0.8
Service, Except Protective and Household	95,816	11.6	13,207	9.7	1,548	9.7
Farming, Forestry, and Fishing	9,065	1.1	1,448	1.1	79	0.5
Precision Production, Craft, Repair	100,953	12.2	18,304	13.4	2,277	14.3
Operators, Fabricators, and Laborers						
Machine Operators, Assemblers, Inspectors	109,787	13.3	13,136	9.6	1,412	8.9
Transportation and Material Moving	33,843	4.1	5,014	3.7	507	3.2
Handlers, Equipment Cleaners, Helpers, Laborers	34,838	4.2	4,734	3.5	548	3.5
Total	826,456	100.0	136,327	100.0	15,882	100.0

[a]Less than one-tenth of 1 percent.

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

Table 13 shows the place of work of workers 15 years and over living in Waukesha County and the City of New Berlin in 1980. The table indicates that about 19 percent of the labor force of the City of New Berlin, or 3,038 persons, worked in the City of New Berlin; while about 74 percent, or 11,857 persons, worked outside the City. A total of 1,033 workers, or about 7 percent of the labor force living in the City of New Berlin, did not report their place of work. About 31 percent of the labor force living in Waukesha County--or 30,193 workers--worked in the County, while 62 percent, or 60,941 workers, worked outside Waukesha County. A total of 7,246 workers, or about 7 percent of the labor force living in Waukesha County, did not report their place of work. The data for both Waukesha County and the City of New Berlin shown in Table 13 indicate that both are bedroom communities since the majority of the workers living inside the County and the City work outside the community in which they reside.

Employment Forecasts

Table 14 sets forth the employment levels for the City of New Berlin to the year 2000 for the optimistic growth-centralized development scenario for six employment categories for the City, including retail, service, industry, government and education, transportation including communication and utilities, and agriculture. Each of these categories is related to various types of land use. Forecasts of employment in these categories are used in the land use planning process to assist in the allocation of land to various land use categories such as commercial, industrial, and government uses. Overall employment for the City of New Berlin may be expected to increase from 7,155 jobs in 1972 to about 19,912 jobs by the year 2000, distributed as 2,257 jobs, or 11.3 percent, in retail; 3,838 jobs, or 19.3 percent, in service; 11,232 jobs, or 56.4 percent, in industry; 2,309 jobs, or 11.6 percent, in government and education; 226 jobs, or 1.1 percent, in transportation, including communication and utilities; and 50 jobs, or only 0.3, percent in agriculture. The employment forecasts for the City are based, in part, upon an analysis of historic trends of selected characteristics for industry groups, an extrapolation of the employment trends, and industry outlooks as published by the U. S. Department of Commerce.

Table 12

EMPLOYED PERSONS 16 YEARS AND OVER BY CLASS OF WORKER IN SOUTHEASTERN WISCONSIN, WAUKESHA COUNTY, AND THE CITY OF NEW BERLIN: 1980

Class of Worker	Southeastern Wisconsin		Waukesha County		City of New Berlin	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Private Wage and Salary....	684,138	82.8	114,474	84.0	13,691	86.2
Federal Government.....	15,954	1.9	1,938	1.4	232	1.5
State Government.....	15,872	1.9	1,898	1.4	220	1.4
Local Government.....	73,370	8.9	10,692	7.8	1,092	6.9
Self-Employed.....	34,300	4.2	6,724	4.9	593	3.7
Unpaid Family Worker.....	2,822	0.3	601	0.5	54	0.3
Total	826,456	100.0	136,327	100.0	15,882	100.0

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

Table 13

PLACE OF WORK OF WORKERS 16 YEARS AND OVER LIVING IN WAUKESHA COUNTY AND THE CITY OF NEW BERLIN: 1980

Place of Work	Waukesha County		City of New Berlin	
	Number of Workers	Percent of Total	Number of Workers	Percent of Total
Worked in Community of Residence....	30,193	30.7	3,038	19.1
Worked Outside Community of Residence.....	60,941	61.9	11,857	74.4
Not Reported.....	7,246	7.4	1,033	6.5
Total	98,380[a]	100.0	15,928	100.0

[a]Excludes 36,216 workers not living in an identified community (i.e., rural place of residence) as defined by the U. S. Bureau of the Census.

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

Table 14

ESTIMATED AND FORECAST EMPLOYMENT BY TYPE IN THE CITY OF NEW BERLIN: 1972-1980

Year	Employment Type						
	Retail	Service	Industry	Government and Education	Transportation, Communications, and Utilities	Agriculture	Total
1972	572	1,077	5,032	976	113	228	7,998
2000[a]	2,257	3,838	11,232	2,309	226	50	19,912

[a]The adopted regional land use plan forecast--the optimistic growth-centralized development scenario.

Source: SEWRPC.

THE CITY RESIDENT 1982 ATTITUDINAL SURVEYS

Introduction

In order to define and assess the attitudes of the City of New Berlin residents toward land use planning issues, the City of New Berlin planning staff conducted an attitudinal survey of the resident population in September 1982.[1] This survey was supplemented by a nominal group process meeting. The attitudinal survey consisted of a mail questionnaire sent to a randomly drawn sample of the resident population of the City. The nominal group process meeting was attended by about 40 citizens representing citizen groups and individuals invited by the City Planning Department who are concerned with urban planning and urban design in the City, including members of the City Plan Commission.

[1]All attitudinal survey data contained in this report were furnished to SEWRPC by the City of New Berlin Planning Department staff.

The Nominal Group Process Meeting

The nominal group process meeting was conducted at the City Library on September 27, 1982. A group of 40 citizens was involved in this process. The group was divided into six subgroups each comprised of from six to seven persons. The process began with each person of each subgroup listing, independently, problems and concerns regarding land use planning in the City. Within each subgroup, each of the problems and concerns was then read aloud, one at a time, in a round-robin fashion, and then listed on large sheets of paper. Each problem and concern was then clarified as necessary, and discussed at length. After the discussion of all of the problems and concerns listed, a secret ballot was taken within each subgroup to rank order the identified problems and concerns. The results of this ranking were then reorganized by topical areas of importance, with the entire group participating. The rank-ordered areas of concern so determined were: 1) the preservation of natural open space; 2) land use; 3) transportation; 4) urban growth; and 5) housing. The specific problems and concerns as rank ordered under each topical area were as follows:

A. Preservation of Natural Open Space
   1. Retention of the open spaces and rural character of the New Berlin area through:
      a) Preservation of natural corridors.
      b) Development of a program to purchase conservancy-type land for public use.
      c) Utilization of natural corridors as buffers between unrelated land uses.
      d) Prohibition of building activity in wetland areas.

   2. Park development through:
      a) Continuation of the development of new and existing parklands.
      b) Development of a bike trail system.

B. Land Use
   1. Avoid mixing unrelated land uses.
   2. Expand industrial land use.
   3. Limit "strip" commercial uses along major arterials.

C. Transportation
   1. Widen and improve National Avenue between Moorland Road and 124th Street.
   2. Provide park-ride lots where needed along bus transit routes.
   3. Examine land held in reserve for the once-planned metropolitan belt freeway for potential re-use.

D. Urban Growth
   1. Urban growth should be controlled in an effort to limit the need to extend urban services.
   2. The impact of external forces upon the land use planning process should be recognized, including the Milwaukee Metropolitan Sewerage District plans, plans of the Southeastern Wisconsin Regional Planning Commission, and developer-proposed plans.

E. Housing
   1. Increase multi-family housing stock.
   2. Provide for full range of housing types in the City.
   3. Allow the construction of smaller single-family homes in the City.
   4. Provide for senior citizen housing in the City.

The Master Plan Attitudinal Survey

As already indicated, the City of New Berlin planning staff also conducted a resident attitudinal survey. The survey consisted of a mail questionnaire sent to a randomly drawn sample of 2,763 households from the city voter registration list. A total of 1,503 usable questionnaires, representing about 54 percent of the households surveyed, were returned. Some of the issues addressed by the survey questionnaire included the residents' reasons for choosing to live in New Berlin, perceived acceptable and unacceptable land use development for the expansion of the city tax base, satisfaction with the existing levels of city services, perceived recreational facility needs for the City, and preferences for residential street design.

Reasons for Choosing to Live in New Berlin: Table 15 shows the reasons given by residents in the survey for living in New Berlin. Approximately 81 percent of the respondents indicated that they lived in New Berlin because the neighborhood they lived in was safe and secure; about 74 percent of the respondents also indicated that they lived in New Berlin because of the privacy and quiet; and about 58 percent of those polled cited property taxes. Other areas of concern indicated in the survey were the location and proximity to place of employment, the availability of parks and open spaces, the quality of schools, the proximity to friends and relatives, the population homogeneity, the rural environment, and the availability of sanitary sewers.

Perceived Acceptable and Unacceptable Land Use Development Types: The acceptable and unacceptable land use development types for expansion of the City of New Berlin tax base as perceived by city residents are shown on Table 16. About 72 percent of the survey respondents felt that the expansion

Table 15

REASON FOR CHOOSING TO LIVE IN NEW BERLIN

Reason	Very Important		Somewhat Important		Not Important	
	Number	Percent	Number	Percent	Number	Percent
Neighborhood is safe and secure....	1,218	81.0	209	13.9	76	5.1
Privacy and quiet.....	1,114	74.1	318	21.2	71	4.7
Property taxes.....	868	57.8	476	31.7	157	10.5
Availability of open space.....	824	54.9	506	33.7	171	11.4
Good schools.....	820	54.6	315	20.9	368	24.5
The rural environment.....	754	50.2	554	36.9	195	12.9
Availability of sanitary sewers....	460	30.6	450	29.9	593	39.5
Location is close to work.....	376	25.0	611	40.7	516	34.3
People in the community have lifestyles and values that are similar.....	293	19.5	673	44.8	537	35.7
Availability of parks.....	197	13.1	740	49.3	564	37.6
Location close to friends and relatives.....	173	11.5	539	35.9	791	52.6

Source: City of New Berlin Planning Department and SEWRPC.

of the industrial areas was acceptable and about 69 percent felt that expansion of office complex land uses was acceptable. Approximately 61 percent of the respondents also felt that development should be limited to areas of the City where municipal services such as sanitary sewer service and public water supply were already available. Regarding residential development, 61 percent of the respondents viewed more multiple-family residential rental housing as unacceptable; however, about 47 percent of the respondents viewed more condominium residential development as acceptable.

Existing Levels of City Services: Resident satisfaction with 1982 levels of various city services is indicated in Table 17. Table 17 indicates a general satisfaction with all existing city services. The service which residents were most dissatisfied with was street cleaning and maintenance. However, only about 16 percent of the respondents were not satisfied with that particular service.

Perceived Needs for Additional City Facilities and Services: Table 18 indicates the need for city facilities and services that were not offered in 1982 as perceived by city residents. Approximately 48 percent of the survey respondents felt that public library expansion was necessary, that a housing maintenance program was needed, and that there was a need for city solid waste collection. About 47 percent of the respondents felt that housing for the elderly was needed and that there was a need for expanded police patrols.

Perceived Recreational Facility Needs: The recreational facility needs of the City of New Berlin as perceived by city residents are shown in Table 19. Approximately 40 percent of the survey respondents felt that an outdoor swimming pool is needed; about 37 percent felt that a winter sports area is needed with an ice skating rink and sledding facilities; and about 32 percent felt that physical fitness trails are needed in the City.

Table 16

ACCEPTABLE AND UNACCEPTABLE LAND USE DEVELOPMENT TYPES FOR EXPANSION OF THE CITY TAX BASE AS PERCEIVED BY RESIDENTS: 1982

Development Type	Acceptable		Unacceptable		No Opinion	
	Number	Percent	Number	Percent	Number	Percent
Expansion of industrial areas.....	1,081	71.9	275	18.3	147	9.8
Expansion of office complexes.....	1,039	69.2	235	15.6	228	15.2
Limitation of new development to areas where municipal services are already provided (i.e., sanitary sewer and public water supply)....	915	61.0	267	17.8	317	21.2
Attraction of prestigious shops, luxury condominiums, and large lot subdivisions.....	723	48.2	507	33.8	271	18.0
More condominium residential development.....	701	46.7	591	39.3	210	14.0
More multiple-family rental housing.....	360	24.0	920	61.3	221	14.7

Source: City of New Berlin Planning Department and SEWRPC.

Table 17

SATISFACTION WITH EXISTING 1982 LEVELS OF CITY SERVICES

Service	Very Satisfied		Somewhat Satisfied		Not Satisfied		No Opinion	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Fire Protection.....	936	62.3	380	25.3	32	2.1	154	10.3
Police.....	838	55.8	526	35.0	77	5.1	61	4.1
Ambulance.....	804	53.5	317	21.1	25	1.7	357	23.7
Park and Recreation.....	629	41.9	555	36.9	96	6.4	222	14.8
Library Services.....	622	41.4	510	34.0	114	7.6	256	17.0
Street Cleaning and Maintenance.....	568	37.9	604	40.2	242	16.1	87	5.8
Contacts with City Hall Personnel....	316	21.0	493	32.8	229	15.3	465	30.9
Quality of Public Water (taste and color).....	290	19.3	317	21.1	166	11.0	730	48.6
Programs for the Elderly.....	129	8.6	223	14.8	90	6.0	1,061	70.6

Source: City of New Berlin Planning Department and SEWRPC.

Table 18

NEED FOR CITY FACILITIES AND SERVICES CURRENTLY NOT OFFERED AS PERCEIVED BY RESIDENTS: 1982

Service	Yes		No		No Opinion	
	Number	Percent	Number	Percent	Number	Percent
Library Expansion.....	786	52.3	392	26.1	325	21.6
Regulation and Enforcement of Housing Maintenance.....	728	48.4	461	30.7	314	20.9
City Garbage Collection.....	723	48.1	650	43.2	130	8.6
Housing for the Elderly.....	713	47.4	294	19.6	496	33.0
Expanded Police Patrols.....	707	47.0	472	31.4	324	21.6
Low Interest Loans for Housing Rehabilitation.....	563	37.5	594	39.5	345	23.0
Street Lights.....	512	34.1	852	56.7	139	9.2
Recreation Center Expansion...	507	33.7	603	40.1	393	26.1
Public Transit (buses).....	374	24.9	855	56.9	274	18.2
Housing for Low- and Moderate-Income Families.....	290	19.3	902	60.0	311	20.7
City Hall Expansion.....	275	18.3	769	51.2	459	30.5
Sidewalks.....	141	9.4	1,236	82.2	126	8.4

Source: City of New Berlin Planning Department and SEWRPC.

Resident Preferences for Residential Street Design: In the survey, residents were asked: "What kind of a street would you prefer to live on--arterial, collector, minor, or cul-de-sac?" An arterial street was defined as a public street or highway used or intended to be used primarily for fast or heavy through traffic; a collector street is a street used or intended to be used to carry traffic from minor streets to the major system or arterial streets; a minor street is used, or intended to be used, primarily for access to abutting properties; a cul-de-sac street is a local street with only one outlet and having an appropriate turnaround for the safe and convenient reversal of traffic movement. Based upon the survey and as shown in Table 20, only about 1 percent of the respondents preferred arterial streets; about 8 percent preferred collector streets; about 55 percent preferred minor streets; and about

36 percent preferred cul-de-sac or dead-end streets. It can be concluded that residents overwhelmingly prefer both minor and cul-de-sac streets for residential development. Specific urban design criteria for residential streets are discussed in greater detail in Chapter V.

SUMMARY

Population and Employment Forecasts

The population, employment, and land use forecasts which were utilized for the City of New Berlin land use planning effort are based upon consideration of a range of alternative population and employment levels. Development of population forecasts is based upon a number of futures chosen to represent the range

Table 19

RECREATIONAL FACILITY NEEDS OF THE CITY OF NEW BERLIN AS PERCEIVED BY RESIDENTS: 1982

Recreational Facility Type	Percentage of Respondents Indicating Need of the Facility
Outdoor swimming pool.....	40.2
Winter sports (ice rink, sledding, etc.).....	36.7
Fitness trails.....	31.5
Additional picnic areas.....	19.3
Lake.....	16.9
Additional tennis courts.....	15.3
Golf.....	11.4
Camping areas.....	11.0
Additional ball diamonds.....	10.3
Outdoor basketball courts.....	10.1
Other facilities.....	10.9
No additional recreational facilities needed.....	28.7

Source: City of New Berlin Planning Department and SEWRPC.

Table 20

RESIDENT PREFERENCES OF RESIDENTIAL STREETS

Street Type	Percentage of Respondents Indicating Street Preference
Minor street.....	55.0
Cul-de-sac street.....	35.5
Collector street.....	8.1
Arterial street.....	1.4

Source: City of New Berlin Planning Department and SEWRPC.

of future conditions which may be reasonably expected to occur over the plan design period--in this case, to the year 2000. Four alternative future population and employment levels were initially developed for the City to the year 2000. The population levels under these futures range from 35,900 persons to 57,800 persons. The 1980 population of the City was 30,529. One of the four alternative futures for the City is the optimistic growth-centralized development scenario, upon which the adopted regional land use plan is based. A year 2000 population for the City of 56,400 persons and an employment level of 19,912 persons are projected under this future. Year 1972 employment in the City was 7,998 persons. It is recommended that this alternative population and employment forecast be used for the land use planning effort since it would accommodate a near maximum population growth that could be reasonably expected to occur within the City during the planning period. Should the actual growth be somewhat less than this maximum, the design year of the plan can be simply set back without significantly affecting the substance of the plan.

Age Distribution and Household Size

The potential changes in the age composition of the population of the City of New Berlin have important implications for land use planning in the City. The extremes in the range of potential change envisioned are those projected under the optimistic growth-centralized development future and the pessimistic growth-centralized development future. If the future population reaches the higher end of the forecast range, there may be a need for additional high schools and elementary schools, as well as ancillary recreational facilities for children between the ages of 5 and 14. The labor force in the City is also expected to increase substantially and, accordingly, the number of persons seeking work within the City and surrounding areas may be expected to increase. Finally, the changes indicate that a general aging of the population will occur which may be expected to affect the demand for elderly housing units and special transportation and health care needs within the City.

In 1980, the average household size in the City was 3.26, compared with 3.11 in the County and 2.75 in the Region. The average household size in the Region, the County, and the City may be expected to increase slightly by the plan design year, contrary to trends from 1970 to 1980 of rapid decreases in household size. This slight increase is reflective of a return to a more traditional lifesytle as envisioned in the moderate growth alternative future scenario. These changes in average household size have particularly important implications for housing and residential land use planning since average household size is a basic factor used to convert alternative population futures to the number of dwelling units needed to the year 2000. Based upon an increase in average household size of from 3.26 persons per household in 1980 to 3.69 persons per household in the year 2000 in the City of New Berlin, an additional 7,010 housing units may be expected to be needed by the year 2000 to meet the housing needs of a year 2000 resident population of 56,400 persons.

Housing Characteristics

From 1970 to 1980 the total number of housing units in southeastern Wisconsin increased by about 17 percent, while Waukesha County and the City of New Berlin experienced increases of 42 percent and 39 percent, respectively. In 1980, the median monthly mortgage housing cost in southeastern Wisconsin was

$549, in Waukesha County--$462, and in the City of New Berlin--$449, indicating that the 1980 cost of mortgaged units in the City was comparatively low. In 1980, the median monthly rent paid for renter-occupied housing was $252 in southeastern Wisconsin, $292 in Waukesha County, and $321 in the City of New Berlin. In 1980, about 87 percent of the occupied housing units in the City were owner-occupied and about 13 percent were renter-occupied. In comparison, about 62 percent of the occupied housing units in the Region were owner-occupied and about 38 percent of the Region's occupied housing units were renter-occupied. In Waukesha County, about 78 percent of the occupied housing units in the County were owner-occupied and about 22 percent were renter-occupied.

The overall vacancy rate for owner-occupied housing in the City--that is, for vacant once-owner-occupied housing units which were for sale--was about 1.5 percent. The vacancy rate in the Region was 1.1 percent, and in Waukesha County was 1.3 percent. The overall vacancy rate of rental units in the City in 1980 was 1.4 percent--3 percent lower than the rate in the Region and 2 percent lower than the rate in Waukesha County. Regional Planning Commission standards recommend that housing vacancy rates within New Berlin be maintained at a minimum of 1 percent and a maximum of 2 percent for owner-occupied units, and at a minimum of 4 percent and a maximum of 6 percent for rental units. The city vacancy rate of owner-occupied housing falls within the recommended standard. However, the city vacancy rate of 1.4 percent for rental housing falls short of the recommended standard. It may thus be concluded that the City of New Berlin is in need of some additional rental housing--namely, two-family dwellings and multi-family dwellings.

Family Income

In 1980, the median family income in the Region was $23,515, in Waukesha County--$27,648, and in New Berlin--$30,110. The 1980 mean, or average, family income in the Region was $26,193, in Waukesha County was $31,534, and in the City of New Berlin was $32,667. In 1980, 52 percent of the residents of the City of New Berlin were in the employed labor force, compared with 47 percent in the Region and 49 percent in Waukesha County. Also, in 1980 about 74 percent of that labor force worked outside the City, indicating that the City of New Berlin is primarily a "bedroom" community of the greater Milwaukee area.

Forecast Employment

Year 2000 employment forecasts prepared for the City of New Berlin land use planning effort indicate an increase of employment in the City for five different employment categories, including retail, service, industry, government and education, and transportation including communication and utilities, and a decrease in agricultural employment. Overall employment for the City may be expected to increase from 7,998 jobs in 1972 to 19,912 jobs based upon the adopted regional land use plan forecast for the optimistic growth-centralized development scenario, representing an increase of 12,757 jobs, or 178 percent, over the 1972 figure.

Attitudinal Survey

In order to define and assess the attitudes of the city residents toward land use planning issues, the city planning staff conducted an attitudinal survey in 1982. The survey was conducted through a mail questionnaire. To supplement

the survey, the city planning staff also conducted a nominal group process meeting attended by invited citizens, including members of the City Plan Commission who have shown concern about urban planning.

The nominal group process meeting identified five basic areas of land use planning concern in the following order of importance: 1) the preservation of natural open space; 2) land use; 3) transportation; 4) urban growth; and 5) housing. Specific problems and concerns for each of these areas were also listed.

The attitudinal survey obtained resident attitudes on reasons for choosing to live in New Berlin, acceptable and unacceptable land use development, satisfaction with the existing levels of city services, needs for additional city facilities and services, recreational facility needs for the City, and preferences for residential street design. The following attitudes were indicated regarding each of these issues.

1. Approximately 81 percent of the survey respondents indicated that they lived in New Berlin because the neighborhood they lived in was safe and secure, and 74 percent of the respondents also indicated that they lived in New Berlin because of its privacy and quiet.

2. About 72 percent of the respondents felt that expansion of the industrial areas was acceptable and about 69 percent felt that expansion of office complex land use was acceptable for the expansion of the city tax base. Approximately 61 percent of the respondents also felt that development should be limited to areas of the City where municipal services were already available, including sanitary sewer service and public water supply.

3. There was general survey respondent satisfaction with all existing city services. The service which resident respondents were most dissatisfied with was street cleaning and maintenance; however, only about 16 percent of the respondents were not satisfied with that particular service.

4. Approximately 48 percent of the respondents felt that a housing maintenance program was needed, that public library expansion was necessary, and that there was a need for city solid waste collection. About 47 percent of the respondents felt that there was a need for elderly housing and for expanded police patrols.

5. With respect to recreation, 40 percent of the respondents felt that an outdoor swimming pool was needed; about 37 percent felt that a winter sports area was needed with an ice skating rink and sledding facilities; and about 32 percent felt that physical fitness trails were needed.

6. Survey respondents overwhelmingly, by 91 percent, preferred to live on minor and cul-de-sac streets.

Chapter III

NATURAL RESOURCE BASE INVENTORY AND ANALYSIS

INTRODUCTION

The conservation and wise use of the natural resource base is vital to the physical, social, and economic development of any area and to the continued ability of the area to provide a pleasant and habitable environment for life. As a result of the relatively high rate of population growth forecast for the study area over the planning period, the natural resource base of the area may be expected to be subject to substantial deterioration from improper land use development. Consequently, a sound land use plan for the City of New Berlin should identify areas having concentrations of natural resources deserving of protection from intensive urban development, as well as areas having natural resource characteristics that may impose severe limitations on urban development.

For the purpose of the planning program, the principal elements of the natural resource base were defined as 1) soils; 2) topographic and topographic-related features, including watershed boundaries, surface waters and associated floodlands, wetlands, areas of steep slopes, and scenic vistas; 3) woodlands; 4) wildlife habitat areas; and 5) certain other natural resource base elements. Without a proper understanding and recognition of these elements and of the interrelationships which exist between them, human use and alteration of the natural environment proceeds at the risk of excessive costs in terms of both monetary expenditures and environmental degradation. The natural resource base is highly subject to misuse through improper land use development. Such misuse may lead to severe environmental problems which are difficult and costly to correct, and to the deterioration and destruction of the natural resource base itself. Selection of the most desirable land use plan from among the alternatives available must, therefore, be based in part upon a careful assessment of the effects of each plan upon the supporting natural resource base.

SOILS

Soil properties exert a strong influence on the manner in which man uses land. Soils are an irreplaceable resource, and mounting pressures upon land are constantly making this resource more and more valuable. There is a need in any planning effort, therefore, to examine not only how land and soils are presently used, but also how they can best be used and managed. This requires an areawide soil suitability study which maps the geographic locations of various kinds of soils; identifies their physical, chemical, and biological properties; and interprets these properties for land use and public facilities planning. The resulting comprehensive knowledge of the character and suitability of the soils is extremely valuable in every phase of the planning process. The soils information presented herein comprised a particularly important consideration in the preparation of the land use plan, being essential for the analysis of existing land use patterns, alternative plan development and

evaluation, and plan selection. The soil assessments are used in conjunction with the data presented for the development and selection of a desirable spatial distribution pattern for residential, commercial, industrial, agricultural, and recreational land use development, and various facility locations.

Map 8 shows the areas of the City of New Berlin covered by the following four selected types of soils: 1) soils that have a slow permeability rate; 2) soils with a fluctuating or high water table or that are subject to ponding, overwash, or runoff hazard; 3) soils that are subject to flooding or overflow; and 4) soils that exhibit slopes of 12 percent or more. There are no areas of shallow bedrock in the City.

Soils that have a slow permeability rate are found predominantly in the eastern one-half of the City. Those soils which exhibit a fluctuating or high water table, or that are subject to ponding, are also found predominantly in the eastern one-half of the City. Soils subject to flooding or overflow are found predominantly in the northwestern portion of the City and in several scattered areas of the City. Soils with slopes of 12 percent or more are found in scattered subareas of the southern and western portions of the City.

As shown on Map 9, 12,862 acres, or about 54 percent of the total area of the City, are covered by soils having severe or very severe limitations for residential development utilizing conventional, onsite, soil absorption sewage disposal systems (septic tanks) on lots one acre or more in size. Characteristically, these soils have slow permeability rates, a high or fluctuating water table, and a high shrink-swell potential, and they may be located on steep slopes and be subject to periodic flooding or surface ponding in low areas. All of these characteristics are detrimental to development for urban use, in particular residential use utilizing septic tanks for sewage disposal. "Severe" limitations are indicative of soil problems which are difficult and costly to overcome and require careful planning and above-average design and management. "Very severe" soil limitations are problems that are very difficult to overcome. The costs of overcoming such problems are generally prohibitive, and major soil reclamation work is generally required. Soils with severe or very severe limitations for urban use without sanitary sewer service are found throughout the City.

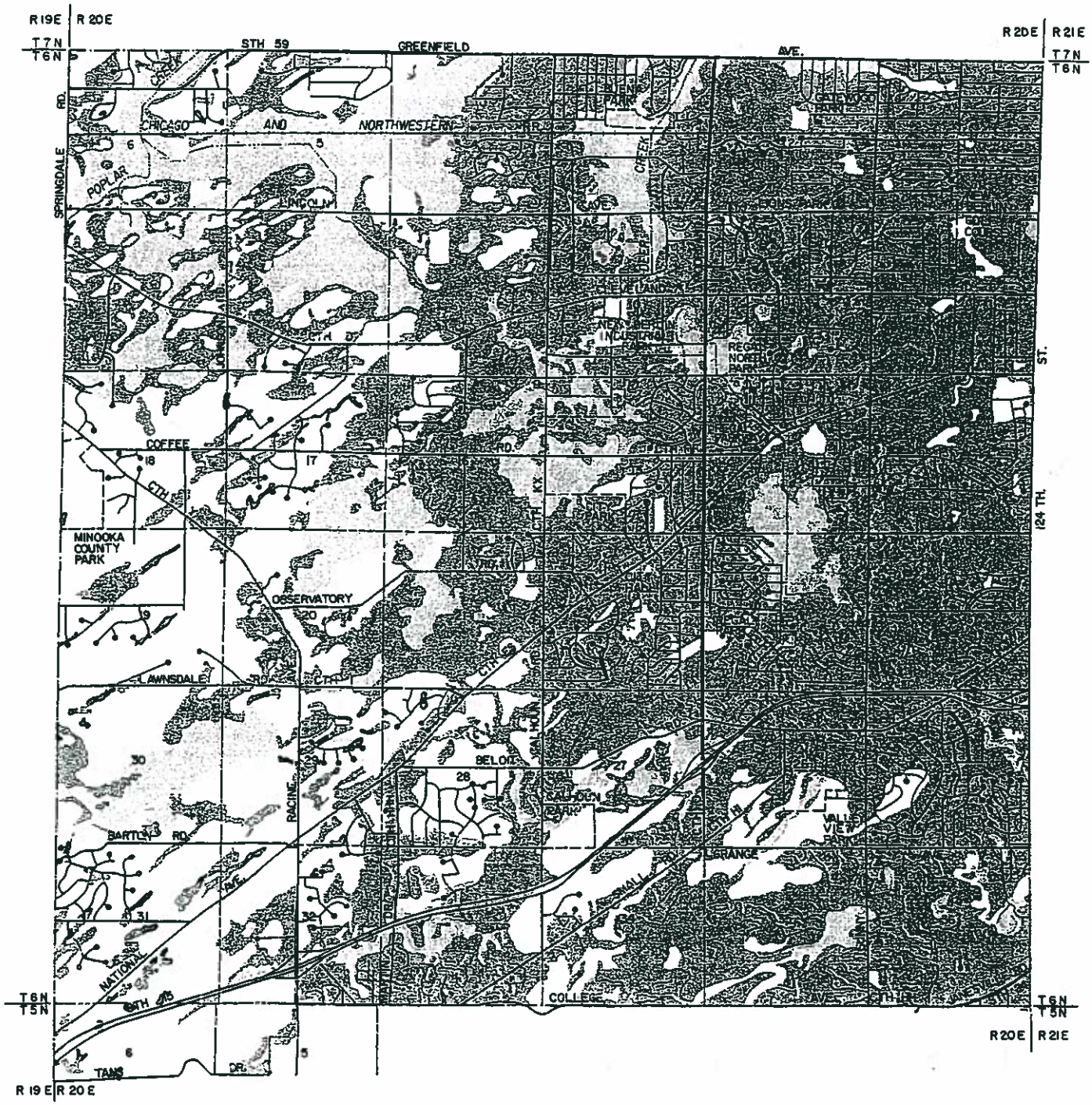
Map 10 shows the areas covered by soils poorly suited for residential development with public sanitary sewer service. About 6,240 acres, or about 26 percent of the total area of the City, are covered by soils which have severe and very severe limitations for such development. These soils are found scattered throughout the City.

WATERSHEDS, SUBWATERSHEDS, AND SUBBASINS

As shown on Map 11, the City of New Berlin is located within three watersheds: the Fox River watershed, the Root River watershed, and the Menomonee River watershed. About 27.0 square miles, or about 73 percent of the total area of the City, are located within the Fox River watershed, which lies west of the subcontinental divide and is, therefore, part of the Mississippi River drainage system. About 9.2 square miles, or about 25 percent of the total area of the City, are located in the Root River watershed. The remaining 0.6 square mile, or about 2 percent of the total area of the City, is located in the

Map 8

SELECTED PHYSICAL CHARACTERISTICS OF SOILS IN THE CITY OF NEW BERLIN



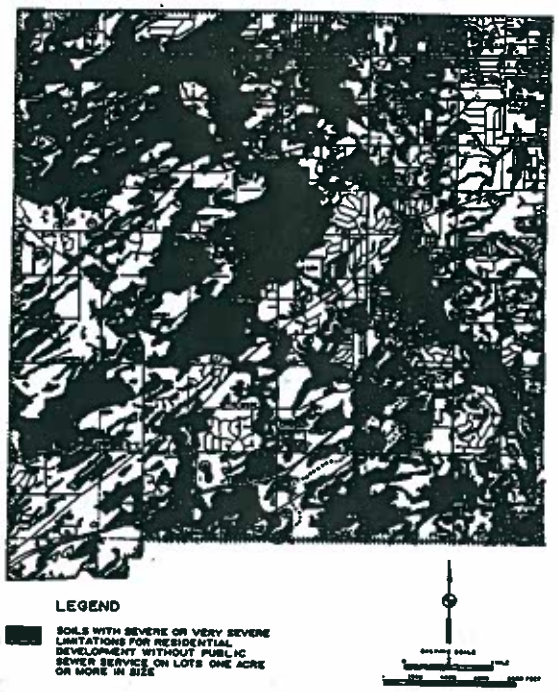
LEGEND

- SOILS THAT HAVE A SLOW PERMEABILITY RATE
- SOILS THAT HAVE A FLUCTUATING OR HIGH WATER TABLE OR ARE SUBJECT TO PONDING, OVERWASH, OR RUNOFF HAZARD
- SWAMPS, MARSHES, ORGANIC MATERIALS, OR SOILS THAT ARE SUBJECT TO FLOODING OR OVERFLOW
- SOILS HAVING A SLOPE OF 12% OR MORE
- OTHER SOILS

Source: SEWRPC.

MAP 9

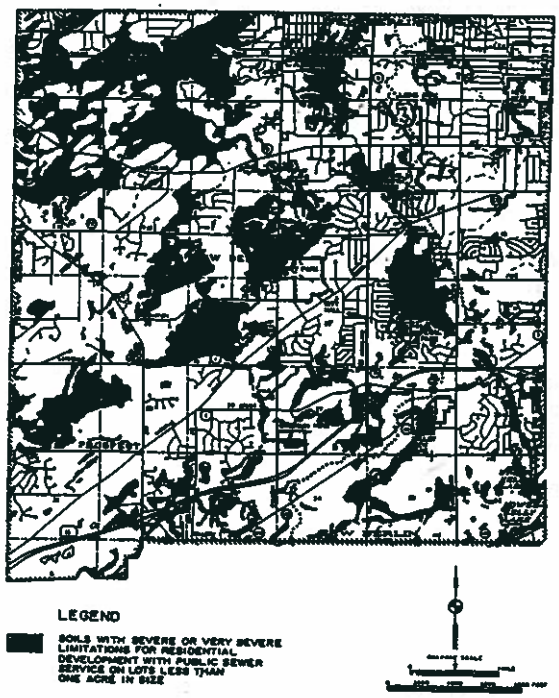
SOIL LIMITATIONS FOR RESIDENTIAL DEVELOPMENT ON LOTS ONE ACRE OR MORE IN SIZE NOT SERVED BY PUBLIC SANITARY SEWERAGE FACILITIES IN THE CITY OF NEW BERLIN



Source: SEWRPC.

Map 10

SOIL LIMITATIONS FOR RESIDENTIAL DEVELOPMENT ON LOTS SERVED BY PUBLIC SANITARY SEWERAGE FACILITIES IN THE CITY OF NEW BERLIN



Source: SEWRPC.

Menomonee River watershed. Both the Root River watershed and the Menomonee River watershed lie east of the subcontinental divide and are, therefore, a part of the Great Lakes-St. Lawrence River drainage system.

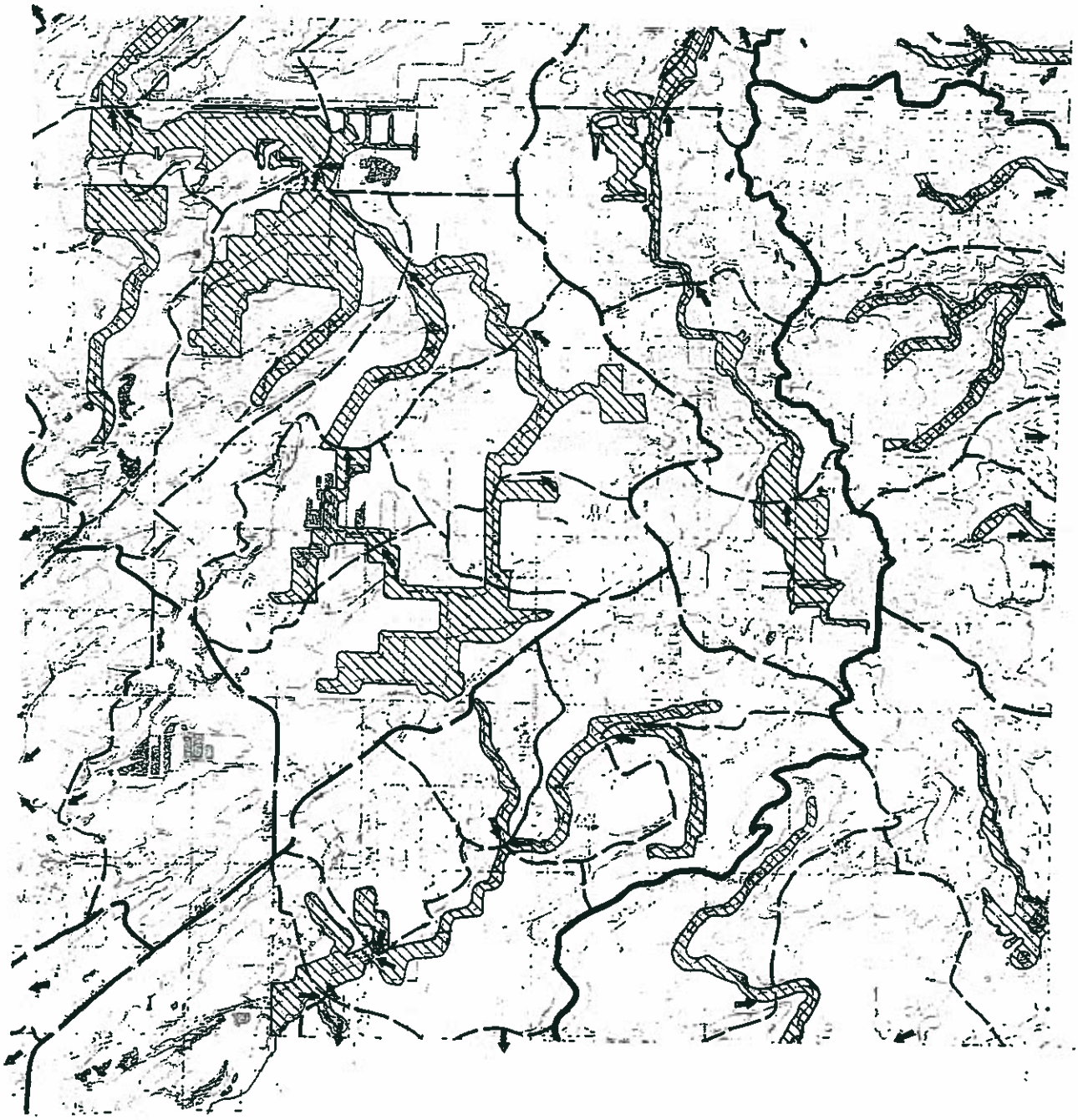
The Fox River watershed, within the City of New Berlin, is divided into several subwatersheds, including the Deer Creek, Muskego Lake, Pebble Brook, and Poplar Creek subwatersheds. The Root River watershed within the City is divided into the Upper Root River subwatershed and the Whitnall Park Creek subwatershed. The Menomonee River watershed within the City has only the South Branch Underwood Creek subwatershed within its area. The subwatersheds may be subdivided into individual drainage areas, termed subbasins, which are also shown on Map 11.

SURFACE WATER RESOURCES

Surface water resources--consisting of lakes, streams, and associated floodlands--form a particularly important element of the natural resource base of the City of New Berlin. Surface water resources provide recreational opportunities, and influence the physical development and enhance the aesthetic quality of the City. Lakes and streams constitute a focal point for water-

Map 11

TOPOGRAPHY, SURFACE WATER DRAINAGE, WETLANDS, FLOODLANDS, AND WATERSHED FEATURES IN THE CITY OF NEW BERLIN



LEGEND

CONTOUR INTERVAL--10 FEET

WATERSHED BOUNDARY

SUB-WATERSHED BOUNDARY

SUB-BASIN BOUNDARY

PERENNIAL STREAM OR WATERCOURSE

INTERMITTENT STREAM OR WATERCOURSE

DIRECTION OF FLOW

100-YEAR FLOODPLAIN AS DELINEATED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, FEDERAL INSURANCE ADMINISTRATION

WETLANDS

WATER

GRAPHIC SCALE

0 1 MILE

0 2000 4000 8000 FEET

Source: SEWRPC.

related recreational activities; provide an attractive setting for properly planned residential development; and, when viewed in the context of the total land- and cityscapes, greatly enhance the aesthetic quality of the environment. Lakes and streams are readily susceptible to degradation through improper rural as well as urban land use development and management. Water quality can be degraded by excessive pollutant loads--including nutrient loads--from malfunctioning and improperly located onsite sewage disposal systems, sanitary sewer overflows, urban runoff, including runoff from construction sites, and careless agricultural practices. The water quality of lakes and streams may also be adversely affected by the excessive development of riverine areas in combination with the filling of peripheral wetlands, which removes valuable nutrient and sediment traps while adding nutrient and sediment sources.

Lakes

There are no major lakes within the City of New Berlin--that is, lakes having a surface area of 50 acres or more. There are, however, three named minor lakes--that is, lakes or ponds having a surface area of less than 50 acres. The named minor lakes are Linnie Lac, with a surface area of 6 acres, lower Kelly Lake, with a surface area of 3 acres, and Upper Kelley Lake, with a surface area of 11.7 acres. Unnamed minor lakes or ponds located in the City have a total surface area of about 105.3 acres and include the 28-acre Bodus Lake (unofficial named lake), which is a water-filled quarry, as well as all other unnamed minor lakes and ponds in the City. These minor lakes generally have few riparian owners and only marginal fisheries. The primary values of the minor lakes and ponds are ecological and aesthetic. However, some of these minor lakes--Linnie Lac in particular--have pollution problems.

Rivers and Perennial and Intermittent Streams

The perennial and intermittent streams within the City of New Berlin are shown on Map 11, along with a 50-foot-wide shoreline area along the banks. Perennial streams are defined herein as those watercourses that maintain, at a minimum, a small continuous flow throughout the year except under unusual drought conditions. Within the City of New Berlin, there are approximately 13.3 miles of such streams. Intermittent streams are defined herein as those watercourses that do not maintain a continuous flow throughout the year. Intermittent streams are scattered throughout the City.

Floodlands

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

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 event that would be reached or exceeded in severity once on the average of every 100-years or, stated another way, there

is a 1 percent chance of this event being reached or exceeded in severity in any given year. Floodland areas are generally not well suited to urban development, not only because of the flood hazard, but because of the presence of high water tables and of soils poorly suited to urban use. The floodland areas, however, generally contain important elements of the natural resource base such as high-value woodlands, wetlands, and wildlife habitat and, therefore, constitute prime locations for needed park and open space areas. Every effort should be made to discourage indiscriminate and incompatible urban development on floodlands, while encouraging compatible park and open space use.

Because of the importance of floodland data to sound land use and land management decisions, the identification of the 100-year recurrence interval flood hazard areas in the City of New Berlin is important to the preparation of a sound land use plan. Such flood hazard areas were delineated along selected streams in the City of New Berlin by the U. S. Department of Housing and Urban Development, Federal Insurance Administration, in 1975. These floodlands total approximately 2,507 acres, or 11 percent of the total area of the City. Map 11 depicts the extent of the floodland areas within the City.

Wetlands

Wetlands are defined as areas that are inundated or saturated by surface or groundwater at a frequency and with a duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include swamps, marshes, bogs, and similar areas. Precipitation provides water to wetlands either falling as rain or snow, becoming surface water runoff or percolating through the soil to become groundwater seepage. Wetlands may receive mostly surface water--direct precipitation, overland flow, and floodwaters--or mostly groundwater precipitation that infiltrates and moves through the ground. The location of the wetland in the landscape affects the type of water received. Wetlands can occur on slopes as well as in depressions.

Wetlands located in the City are identified on Map 11. Wetlands have an important set of natural functions which make them a particularly valuable resource. These functions may be summarized as follows:

1. Wetlands enhance water quality. Aquatic plants change inorganic nutrients such as phosphorus and nitrogen into organic material, storing it in their leaves or in the peat which is composed of their remains. The stems, leaves, and roots of these plants also slow the flow of water through a wetland, allowing suspended solids and related water pollutants to settle out. Thus, the destruction of wetlands may be expected to adversely affect the quality of surface waters in the area.

2. Wetlands regulate surface water runoff, storing water during periods of flood flows to release such waters during periods of dryer weather. Wetlands thus help to stabilize streamflows.

3. Wetlands provide essential breeding, nesting, resting, and feeding grounds and predator escape cover for many forms of wildlife, and thus contribute to the overall ecological health and quality of the environment of the study area, as well as providing recreational, research, and educational opportunities and adding to the aesthetic quality of the community.

4. Wetlands may serve as groundwater recharge and discharge areas.

Recognizing the many environmental attributes of wetland areas, continued efforts should be made to protect this resource by discouraging costly, both in monetary and environmental terms, wetland draining, filling, and urbanization.

As shown on Map 11, wetlands covered about 2,161 acres in the City of New Berlin in 1980, or about 9 percent of the total area of the City. It should be noted that such areas as tamarack swamps and other lowland wooded areas are classified as wetlands rather than woodlands because the water table is located at, near, or above the land surface, and such areas are characterized by hydric soils which support hydrophytic trees and shrubs. As also shown on Map 11, large areas of wetlands are located in the northwestern portion of the City south of the Chicago & North Western Transportation Company railway right-of-way. In addition, smaller wetland areas are distributed throughout the City.

Water and wetland areas combined totaled 2,287 acres in the City in 1980, or about 9.7 percent of the total city area. In comparison, water and wetland areas comprised 49,789 acres in Waukesha County, or 13.4 percent of the total county area, and 180,830 acres in the Region, or 10.5 percent of the Region.

TOPOGRAPHIC FEATURES

The topography, or relative elevation of the land surface, within the City of New Berlin has been determined generally by the configuration of the bedrock geology, and more specifically by the overlying glacial deposits. Surface elevations within the City range from a low of about 750 feet above mean sea level in the northwestern corner of the City, along an intermittent stream which is tributary to the Root River and adjacent to CTH D, to a high of more than 1,070 feet above mean sea level in the southwestern corner of the City. In general, the topography of the City is level to gently rolling, with the low-lying areas associated with the perennial stream valleys.

Slope, to a considerable extent, determines the land uses practicable on a given parcel of land. Lands with steep slopes are poorly suited for urban development, as well as for most agricultural purposes, and, therefore, should be maintained in natural cover for wildlife habitat and erosion control. Lands with less severe slopes may be suitable for certain agricultural uses, such as pasturelands, and for certain urban uses, such as carefully designed low-density residential areas. Lands which are gently sloping or nearly level are best suited to agricultural production and to high-density residential, industrial, or commercial uses. It should also be noted that slope is directly related to water runoff and erosion hazards and, therefore, the type and extent of both urban and rural land uses should be carefully adjusted to the slope of the land. In general, slopes of 12 percent or more should be considered unsuitable for urban development and for most types of agricultural land uses and, therefore, should be maintained in essentially natural, open uses. In the City, about 1,028 acres of land, or about 4 percent of the total area, have slopes of 12 percent or more.

SCENIC VISTAS

Scenic vistas are defined as areas that provide a panoramic or picturesque view, comprised of a variety of natural resource features. There are two important components of a scenic vista--the picturesque view itself, which usually consists of a diversity of natural or cultural features, and the vantage point or viewpoint from which to observe the diversity of features. In identifying such viewpoints, it was determined that three basic criteria should be met: 1) the variety of features viewed should exist harmoniously in a natural or rural landscape; 2) there should be one dominant or particularly interesting feature such as a river or lake which serves as a focal point of the scenic area; and 3) the viewpoint should permit an unobstructed observation area from which the variety of natural features can be seen.

A special inventory of scenic vistas meeting these criteria was conducted as part of the land use planning effort. To permit an unobstructed observation area, it was determined that vantage points should have an elevated view of surrounding natural and cultural features. With the aid of 1 inch equals 2,000 feet scale, 10-foot contour interval topographic maps, areas with a relief greater than 30 feet and a slope of 12 percent or more were identified. Those areas of steep slope so identified having a ridge of at least 200 feet in length and a view of at least three natural resource features--including surface water, wetlands, woodlands, agricultural lands, or other significant geological features--within approximately one-half mile of the ridge were identified as scenic viewpoints. Within the City of New Berlin, two scenic vistas were found. One is located in Sections 8 and 9 north of Cleveland Avenue. The second is in the west one-half of U. S. Public Land Survey Section 30, south of Lawnsdale Road (CTH I). Scenic vistas in the City of New Berlin are shown on Map 11.

WOODLANDS

Woodlands are defined as those upland areas one acre or more in size having 17 or more deciduous trees per acre, each measuring at least four inches in diameter at breast height and having 50 percent or more tree canopy coverage. In addition, coniferous tree plantations and reforestation projects are identified as woodlands.

Woodlands have value beyond any monetary return for forest products. Under good management, woodlands can serve a variety of beneficial functions. In addition to contributing to clean air and water, and regulating surface water runoff, woodlands can contribute to the maintenance of a diversity of plant and animal life in association with human life. The woodlands of the study area, which required a century or more to develop, can be destroyed through mismanagement within a comparatively short time. The deforestation of hillsides contributes to rapid stormwater runoff, the siltation of lakes and streams, and the destruction of wildlife habitat. Woodlands can and should be maintained for their total values: scenic, wildlife habitat, open space, educational, recreational, and air and water quality protection.

Primarily located on ridges and slopes, along lakes and streams, and in wetlands, woodlands provide an attractive natural resource of immeasurable value. The beauty of streams and glacial land forms of the area is accentuated by

woodlands, and, as already noted, woodlands are essential to the maintenance of the overall environmental quality of an area. Presettlement vegetation, including woodlands, in the City in 1836 is shown on Map 12. Inventories of woodlands in the City of New Berlin were conducted by the Regional Planning Commission as part of its 1963, 1970, 1975, and 1980 land use and cover inventories. Woodlands, as shown on Map 13, occur in scattered locations throughout the study area. As previously noted, all lowland wooded areas such as tamarack swamps have been classified as wetlands. As indicated on Map 13, in 1980 woodland areas covered about 1,173 acres in the City, or 5 percent of the total area of the City. In comparison, woodlands covered 32,595 acres in Waukesha County, or 8.8 percent of the total county area, and 125,286 acres in the Region, or 7.3 percent of the Region.

WILDLIFE HABITAT

Wildlife in the City of New Berlin includes upland game such as rabbit and squirrel, predators such as raccoons, game birds including pheasant and grouse, and marsh furbearers such as muskrat. In addition, water fowl are present, and deer are found in scattered areas. The remaining habitat areas and the wildlife living therein provide valuable recreational opportunities and constitute an invaluable aesthetic asset to the City.

The complete spectrum of wildlife species originally native to the city area has, along with the habitat, undergone tremendous alterations since settlement by Europeans. The change is the direct result of conversion of the environment by the European settlers, beginning with the clearing of forests and the draining of wetlands for agricultural purposes, and ending with the intensive development of urban land uses. This process, which began in the early nineteenth century, is still operative today. Successive cultural uses and attendant management practices, both rural and urban, have been superimposed on the overall land use changes and have also affected the wildlife and wildlife habitat. In agricultural areas, these cultural management practices include land drainage by ditching and tiling and the expanding use of fertilizers and pesticides. In the urban areas, cultural management practices that affect wildlife and their habitat are the use of fertilizers and pesticides, road salting, heavy traffic which produces disruptive noise levels and damaging air pollution, and the introduction of domestic animals. Thus, the environmental and recreational importance of the need to protect and preserve the remaining wildlife habitat areas in the City should be apparent.

The wildlife habitat areas remaining in the City were identified by the Regional Planning Commission in 1970 and were categorized as either high-, medium-, or low-value habitat areas. High-value wildlife habitat areas contain a good diversity of wildlife, are adequate in size to meet all the habitat requirements of the species concerned, and are generally located in proximity to other wildlife habitat areas. Medium-value wildlife habitat areas generally lack one of the above three criteria for a high-value wildlife habitat. However, they do retain a good plant and animal diversity. Low-value habitat areas are remnant in nature in that they generally lack two or more of the above three criteria for a high-value wildlife habitat but may, nevertheless, be important if located in proximity to high- or medium-value wildlife habitat areas, if they provide corridors linking higher value wildlife habitat areas, or if they provide the only available habitat range in an area.

As shown on Map 14, wildlife habitat areas in the City of New Berlin generally occur in association with the existing surface water, wetland, and woodland resources, and in 1980 covered about 2,966 acres, or about 13 percent of the total area of the City. Of this total acreage, 137 acres, or 5 percent, were rated as high-value areas; 1,054 acres, or 35 percent, were rated as medium-value areas; and 1,775 acres, or 60 percent, were rated as low-value areas. In comparison, wildlife habitat areas covered 77,507 acres in Waukesha County, or 20 percent of the county area, and 259,832 acres in the Region, or 15 percent of the Region.

OTHER RESOURCE ELEMENTS

In addition to the basic elements of the underlying and sustaining natural resource base, existing and potential sites having scenic, scientific, historic, and recreational value should be considered in any comprehensive land use planning effort.

Existing Park and Open Space Sites

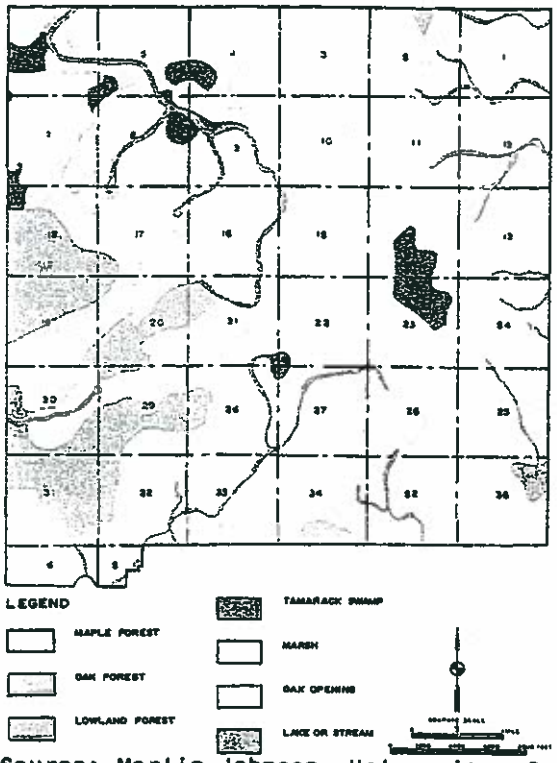
Park and open space sites within the City of New Berlin have been classified into three general categories: general-use outdoor recreation sites, special-use outdoor recreation sites, and rural open space sites. General-use outdoor recreation sites may be defined as areas of land and water whose primary function is the provision of space and facilities for outdoor recreational activities. Such general-use outdoor recreational sites, when publicly owned, are commonly known as parks. Thus, parks are a special form of publicly owned open space in which the major portion of needed outdoor recreation facilities is provided. School-related outdoor recreation areas are also classified as general-use outdoor recreation sites. Finally, nonpublic recreation areas which provide facilities similar to those provided at parks and school sites, including private golf courses, campgrounds, and nonpublic school sites, have also been categorized as general-use outdoor recreation sites. As shown on Map 15 and indicated in Table 21, in 1980 there were 22 general-use outdoor recreation sites in the City of New Berlin. These 22 sites encompassed a total area of 782 acres, or 3 percent of the total area of the City. Of this total, 20 sites encompassing 763 acres were publicly owned.

Special-use outdoor recreation sites differ significantly from general-use outdoor recreation sites in that the special-use sites, as defined by the Regional Planning Commission, are primarily spectator-oriented rather than user-oriented, or provide facilities for unique recreational pursuits. Special-use outdoor recreation sites include both spectator-oriented facilities, such as zoos and botanical gardens, and special participant-oriented sites, such as skeet- and trap-shooting areas. In 1980, there were, as shown on Map 15, five special-use outdoor recreation sites in the City--New Berlin Historical Park, Double R Driving Range, Milwaukee Casting Club, Mopsy's Golf School and Outdoor Driving Range, and Ojibwa Bow Hunters of Milwaukee. These sites totaled 126 acres, or about 0.5 percent of the total area of the City.

Rural open space sites are those areas of woodlands, wetlands, wildlife habitat, or other open areas acquired by public agencies or private organizations to preserve such lands and natural resource amenities in an essentially open state for resource preservation and limited recreational purposes. It is important to note that undeveloped park sites, which are generally located

Map 12

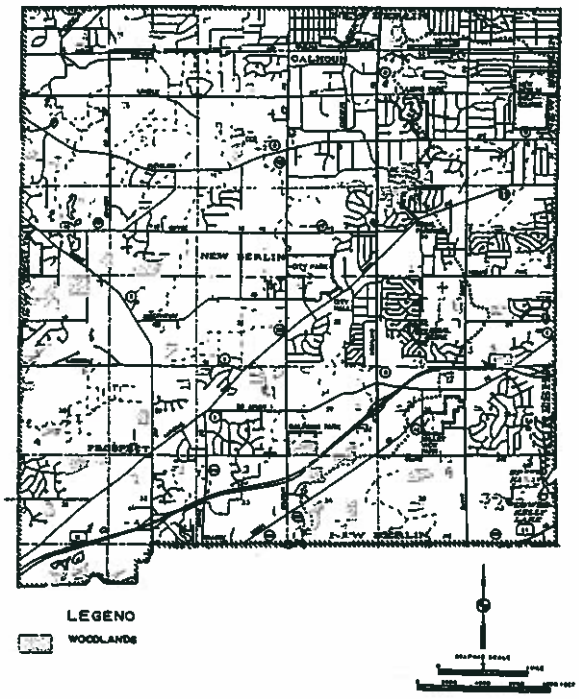
PRESETTLEMENT VEGETATION IN THE CITY OF NEW BERLIN AREA: 1836



Source: Marlin Johnson, University of Wisconsin-Waukesha; and J. A. Schwarzmeier, Waukesha County Naturalist.

Map 13

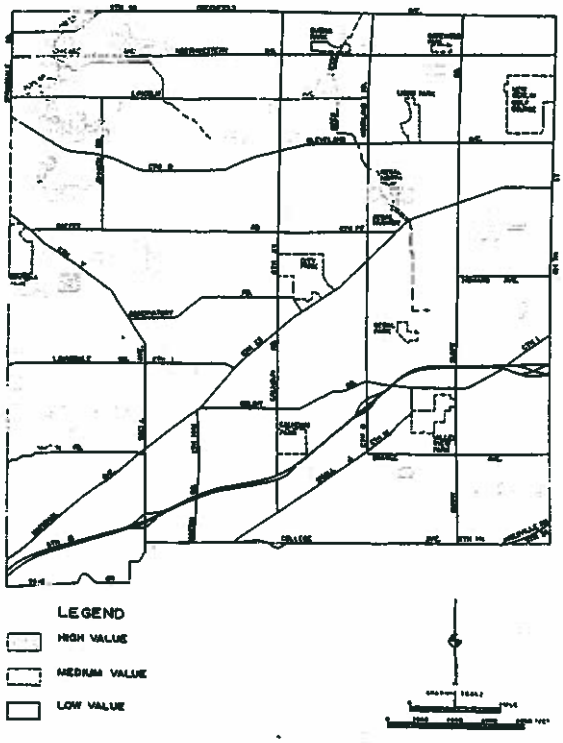
WOODLANDS IN THE CITY OF NEW BERLIN: 1980



Source: SEWRPC.

Map 14

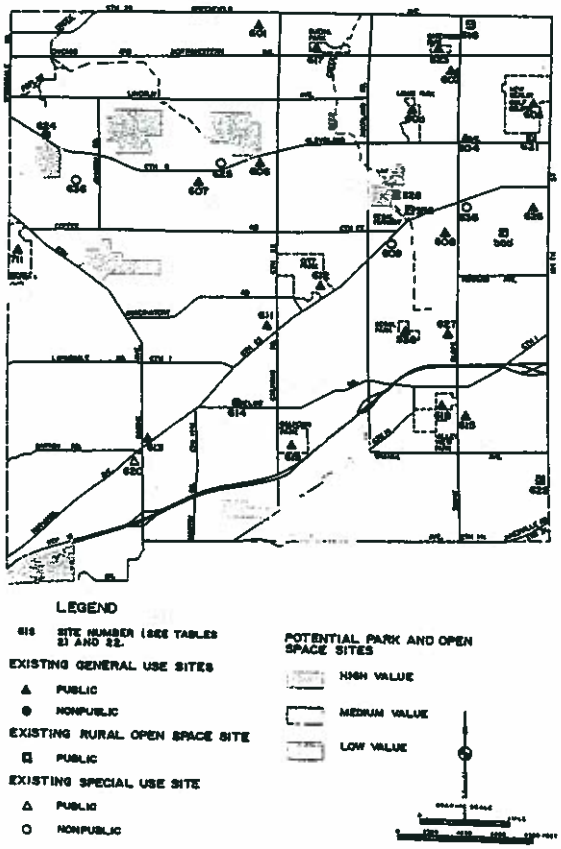
WILDLIFE HABITAT AREAS IN THE CITY OF NEW BERLIN: 1980



Source: SEWRPC.

Map 15

EXISTING AND POTENTIAL PARK AND OPEN SPACE SITES IN THE CITY OF NEW BERLIN: 1980



Source: SEWRPC.

in developing areas and which often include natural resource amenities, have also been placed in this rural open space site category. In 1980, there were six rural open space sites in the City of New Berlin, totaling 18 acres, or less than one-half of 1 percent of the total area of the City (see Map 15 and Table 22).

Potential Park Sites

Certain outdoor recreational activities are dependent upon the natural resource base for their pursuit, as in the case of nature study, while others are dependent on natural resource amenities to enhance the quality of the recreational experience, as in the case of picnicking. To some extent, sites needed to meet the demand for such recreational activities can be created by earth moving, water impoundment, and planting activities. Usually, however, it is far more economical to satisfy the need for such outdoor recreational facilities by developing parks at sites where appropriate natural resource amenities already exist. This approach identifies and preserves sites at which the need for facilities for resource-oriented outdoor recreational activities can be met. Recognizing the need to preserve high-value resource areas to meet the recreational demand of the existing and future population, the Regional Planning Commission in 1963 undertook an inventory of the best remaining potential park sites in southeastern Wisconsin and updated this inventory

Table 21

GENERAL-USE OUTDOOR RECREATION SITES IN THE CITY OF NEW BERLIN: 1980

Number on Map 15	Site Name	Ownership	Acreage
558	Regal Park	City	18
601	Calhoun School	School district	9
602	Orchard Lane School	School district	6
603	Lions Park	City	40
604	Hickory Grove School	School district	4
605	New Berlin Golf Course	City	181
606	Cleveland Heights School	School district	5
607	New Berlin West High School	School district	34
608	Glen Park Junior High School	School district	7
611	New Berlin Center School	School district	2
612	City Park	City	128 [a]
613	Prospect Hill School	School district	10
615	Elmwood School	School district	7
617	Buena Park	City	25
618	Valley View Park	City	75
619	Calhoun Park	City	56
623	Gatewood Park	City	9
626	Herbert Hoover School	School district	7
627	Eisenhower High School	School district	58
711	Minooka Park	County	82 [b]
	Public Subtotal	20 sites	763
614	Hoeppner Horn VFW Post	Organizational	16
624	Springdale School	Organizational	3
	Nonpublic Subtotal	2 sites	19
	Total	22 sites	782

[a] Includes the 80-acre Casper Farm addition.

[b] This site is located partially within the Town of Waukesha and partially within the City of New Berlin. Only the area within the City of New Berlin has been tabulated here.

Source: City of New Berlin Park and Recreation Department and SEWRPC.

Table 22

RURAL OPEN SITES IN THE CITY OF NEW BERLIN: 1980

Number on Map 15	Site Name	Ownership	Acreage
555	Greenridge Park Site.....	City	1
556	Regal Parkway.....	City	3
616	Prospect Parkway.....	City	7
621	Lagoon Parkway.....	City	1
622	Kelly Lake Park.....	City	1
628	Regal North Park.....	City	5
Total		6 sites	18

Source: City of New Berlin Park and Recreation Department and SEWRPC.

in 1975. The procedures utilized in these potential park site inventories are described in SEWRPC Technical Report No. 1, Potential Parks and Related Open Spaces.

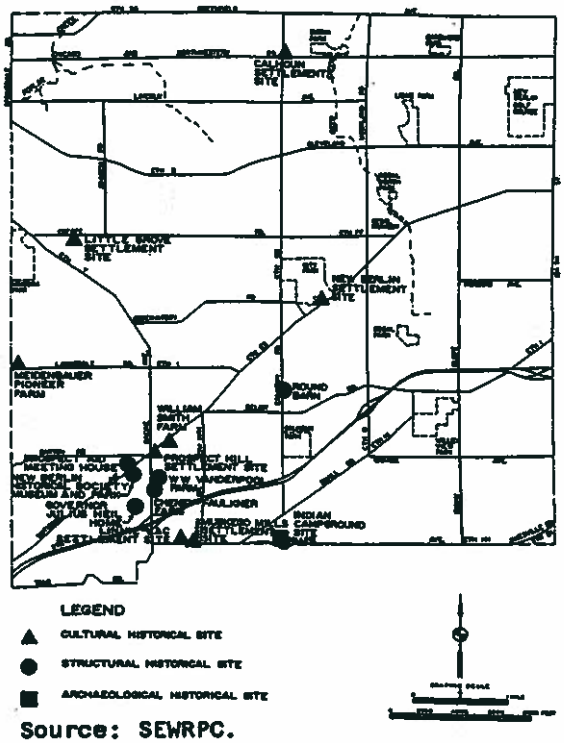
In 1975, 11 potential park sites in the City of New Berlin encompassing 1,389 acres, or 6 percent of the total area of the City, were identified. Of this total, two sites encompassing 212 acres were classified as high-value sites; four sites encompassing 687 acres were classified as medium-value sites; and the remaining five sites encompassing 490 acres were classified as low-value sites. These areas are shown on Map 15.

Historic Sites

Historic sites have been classified by the Commission into one of three general categories: structures, archaeological features, and other cultural features. In general, historic structures include architecturally or historically significant homes, churches, government buildings, mills, schools, and museums. Archaeological sites consist of areas occupied or utilized by humans in a way and for a sufficient length of time to be marked by certain features--such as burial or effigy mounds--or to contain artifacts. Such sites are generally associated with early American Indian settlements. Other cultural features include sites of early European settlements or are closely related to such settlements, and include the location, for example, of old plank roads, cemeteries, and settlement sites. An inventory of historic sites within the Region was conducted by the Commission in 1973 under the regional park and open space planning program. Six structures, one archaeological feature, and eight cultural features of historic value were identified in the City of New Berlin. The six structures include a round barn, the Prospect Aid Meeting House, the New Berlin Historical Society Museum and Park, the Cheney/Faulkner Home, the Governor Julius Heil Home, and the W. W. Vanderpool Farm. Since the 1973 inventory, the Cheese Factory on Lincoln Avenue has been added to the City's list of historic structures. The one archaeological feature is the Indian campground site located in the southeast one-quarter of Section 33. The eight cultural sites include the Calhoun settlement site, the Little Grove settlement site, the New Berlin settlement site, the William Smith farm, the Prospect Hill settlement site, the Linnie Lac settlement site, the Muskego Mills settlement site, and the Meidenbauer pioneer farm. These historic structures, archaeological features, and cultural features are shown on Map 16.

Map 16

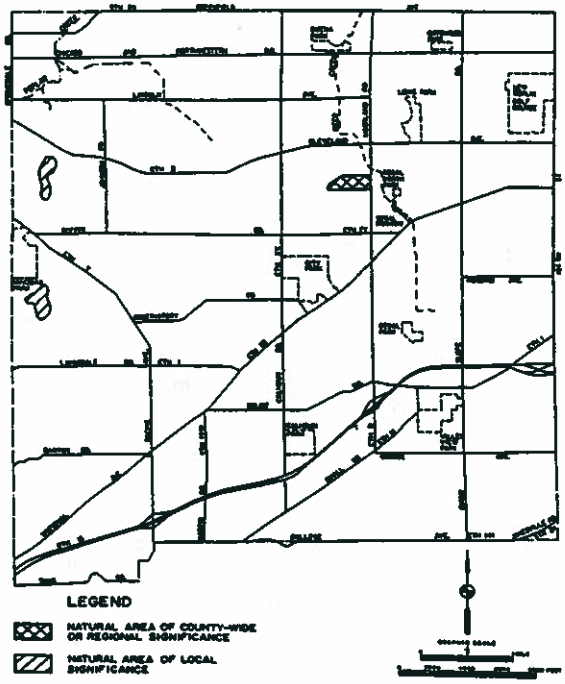
HISTORIC STRUCTURES, ARCHAEOLOGICAL FEATURES, AND CULTURAL FEATURES IN THE CITY OF NEW BERLIN



Source: SEWRPC.

Map 17

NATURAL AREAS IN THE CITY OF NEW BERLIN: 1980



Source: SEWRPC.

Natural and Scientific Areas

Natural areas, as defined by the Wisconsin Scientific Areas Preservation Council, are tracts of land or water so little modified by human activities, or sufficiently recovered from the effects of such activities, that they contain intact native plant and animal communities believed to be representative of the presettlement landscape. As shown on Map 17, in 1980 a total of three natural areas encompassing 77 acres were identified in the City of New Berlin.

ENVIRONMENTAL CORRIDOR DELINEATION[1]

Environmental corridors are defined by the Regional Planning Commission as linear areas in the landscape which contain concentrations of high-value elements of the natural resource base. Preservation of the natural resource base elements, especially where these elements are concentrated in identifiable geographic areas, is essential to the maintenance of the overall environmental

[1]A more detailed discussion of environmental corridor delineation can be found in SEWRPC Community Assistance Planning Report No. 66, A Park and Open Space Plan for the City of New Berlin, pp. 23-25.

quality of an area, to the continued provision of certain amenities that provide a high quality of life for the resident population, and to the avoidance of the excessive costs associated with the development and operation and maintenance of urban land uses in the area.

Seven elements of the natural resource base are considered by the Regional Planning Commission to be essential to the maintenance of the ecological balance and overall quality of life in an area. These elements include: 1) lakes and streams and their associated shorelands and floodlands; 2) wetlands; 3) areas covered by wet, poorly drained, and organic soils; 4) woodlands; 5) prairies; 6) wildlife habitat areas; and 7) rugged terrain and high-relief topography having slopes exceeding 12 percent. Six of these seven elements of the natural resource base as they occur in the study area have been described earlier in this chapter. There are no data on prairies for the City of New Berlin.

As already noted, there are certain other elements which, although not a part of the natural resource base per se, are closely related to or centered on that base. These elements include: 1) existing parks and outdoor recreation sites; 2) potential park, outdoor recreation, and related open space sites; 3) historic sites and structures; 4) areas having scientific value; and 5) scenic areas and vistas or viewpoints. Scenic areas and vistas or viewpoints, as discussed earlier, are defined as areas with a local relief greater than 30 feet and a slope of 12 percent or more having a ridge of at least 200 feet in length, and a view of at least three natural resource features--including surface water, wetlands, woodlands, agricultural lands, or other significant geological features--within approximately one-half mile of the ridge.

It is important to note that, because of the many interlocking and interacting relationships between living organisms and their environment, the destruction or deterioration of any one element of the total natural resource base may lead to a chain reaction of deterioration and destruction. The drainage and filling of wetlands, for example, may destroy fish spawning grounds, wildlife habitat, groundwater recharge areas, and the natural filtration action and floodwater storage functions which contribute to the maintenance of high levels of water quality and stable streamflows and lake stages in a watershed. The resulting deterioration of surface water quality may, in turn, lead to the 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 may result in soil erosion and stream siltation, and more rapid stormwater runoff and attendant increased flood flows and stages, as well as in the 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, and destruction of the unique natural beauty of the area. The need to maintain the integrity of the remaining environmental corridors and environmentally significant lands thus becomes apparent. The adopted regional land use plan accordingly recommends that the remaining environmental corridors be maintained in essentially natural, open uses, which may, in some cases, include limited agricultural and low-density residential uses.

Primary Environmental Corridors

The primary environmental corridors in the City of New Berlin are located generally along the intermittent streams which are located in the western and northwestern portions of the City and which are tributary to the Fox River. These corridors contain the best remaining woodlands, wetlands, and wildlife habitat areas within the City, are, in effect, a composite of the best individual elements of the natural resource base, and have truly immeasurable environmental and recreational value. The protection of the primary environmental corridors from intrusion by incompatible rural and urban uses, and thereby from degradation and destruction, should be one of the principal objectives of a local land use plan. Preservation of these corridors in an essentially open, natural state--including park and open space uses, limited agricultural uses, and country estate-type residential uses--will serve to maintain a high level of environmental quality, protect their natural beauty, and provide valuable recreational opportunities. Such preservation will also avoid the creation of serious and costly environmental and developmental problems such as flood damage, poor drainage, wet basements, faulty structures, and water pollution. About 1,508 acres in the City of New Berlin, or 6 percent of the total area of the City, are encompassed within primary environmental corridors, as shown on Map 18; about 24 percent of Waukesha County is in primary environmental corridor; about 9 percent of Milwaukee County is in primary environmental corridor; and about 19 percent of the Southeastern Wisconsin Region is in primary environmental corridor.

Secondary Environmental Corridors

The secondary environmental corridors in the City of New Berlin are also generally located along intermittent streams or serve as links between segments of primary environmental corridors. These corridors contain a variety of resource elements, often remnant resources from former primary environmental corridors which have been developed for intensive agricultural purposes or urban land uses. Secondary environmental corridors facilitate surface water drainage, maintain "pockets" of natural resource features, and provide for the movement of wildlife, as well as for the movement and dispersal of seeds for a variety of plant species. Such corridors should be preserved in essentially natural, open uses as urban development proceeds within the City, particularly when the opportunity is presented to incorporate such corridors into urban stormwater detention areas, associated drainageways, and neighborhood parks. As shown on Map 18, about 1,643 acres, or 7 percent of the total area of the City, are encompassed within secondary environmental corridors.

Isolated Natural Features

In addition to the primary and secondary environmental corridors, other, small concentrations of natural resource base elements exist within the City. These resource base elements are isolated from the environmental corridors by urban development or agricultural uses and, although separated from the environmental corridor network, may have important natural values. Isolated natural features may provide the only available wildlife habitat in an area, provide good locations for local parks and nature study areas, and lend aesthetic character and natural diversity to an area. Important isolated natural features within the City of New Berlin include a geographically well-distributed

variety of isolated wetlands, woodlands, and wildlife habitat. These isolated natural features should also be protected and preserved in a natural state whenever possible. Such isolated natural areas five acres or greater in size are shown on Map 18 and total 57 sites encompassing 841 acres, or 4 percent of the total area of the City.

AGRICULTURAL SOILS AND PRIME AGRICULTURAL LAND DELINEATION

In 1964, prime agricultural lands in the Region were first delineated by the Regional Planning Commission in cooperation with the county agricultural agents and the U. S. Department of Agriculture, Soil Conservation Service, district staff. In late 1976, the U. S. Department of Agriculture, Soil Conservation Service, developed a national classification system for use in the preparation of agricultural capability maps. Map 19 depicts the agricultural capability of lands in the City based upon this national soils classification system. This map classifies land in the City as either national prime farmland or farmland of statewide significance.

Prime farmland is defined as land best suited for producing food, feed, forage, fiber, and oilseed crops, and also is available for these uses; the existing land use could be cropland, pastureland, rangeland, forest land, or other land, but not urban land or water. Prime farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when properly treated and managed.

Farmland of statewide significance is defined as land, in addition to prime and unique farmlands, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. These classifications of farmland are based upon policies set forth by the U. S. Department of Agriculture on the protection and preservation of prime farmland.[2]

The Wisconsin Farmland Preservation Act, enacted in 1977, provides for the preparation of county farmland preservation plans and the grant of state income tax credits for the maintenance of farmlands in delineated preservation areas. Ultimately, only those farmers owning lands within delineated prime agricultural areas which are zoned for exclusive agricultural use, and, in southeastern Wisconsin, which are in an area for which a farmland preservation plan has been prepared will be eligible for the full state income tax credits provided under the law. Map 20 identifies agricultural lands in the City in 1980, including pastureland and unused agricultural land. In 1980, 8,971 acres in the City of New Berlin, or 38 percent of the total area of the City, were in agricultural use.

The Waukesha County Park and Planning Commission received assistance funds authorized by the Wisconsin Farmland Preservation Act of 1977 to identify prime agricultural lands within Waukesha County. Under the mapping and planning program, the Waukesha County Park and Planning Commission prepared maps

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

Map 18

ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL AREAS IN THE CITY OF NEW BERLIN: 1980

Source: SEWRPC.

Map 19

AGRICULTURAL CAPABILITY OF SOILS IN THE CITY OF NEW BERLIN

Source: SEWRPC.

Map 20

AGRICULTURAL AREAS IN THE CITY OF NEW BERLIN: 1980

Source: SEWRPC.

of the County identifying soil capability classes one and two,[3] existing incompatible land uses, topography, and areas which are currently or could potentially be utilized for farming. Utilizing these data, the County Park and Planning Commission staff developed criteria for the identification of farmland areas for preservation, with the objective of the planning process being the preservation of farmland areas through the placement of such lands in exclusive agricultural zoning districts. That portion of the proposed Waukesha County agricultural land preservation plan applicable to the City of New Berlin is shown on Map 21.

THE CLIMATE, AND URBAN DESIGN CONSIDERATIONS FOR ENERGY CONSERVATION

The Climate

Climate may be regarded as a resource that presents both problems to be resolved and opportunities to be used in the sound development of a community. Climate may be defined as the habitual state and behavior of the atmosphere. Climate varies from place to place, but is, in any one place, relatively stable over time. The latter characteristic permits expectation of weather conditions. To define climate, an arbitrary reference period is selected and mean values of such characteristics as temperature and rainfall, together with measures of the variability in these characteristics, are determined.

The general climate of a relatively large geographic area is termed the macroclimate. The climate of a smaller geographic area that may not be representative of the general climatic conditions within a larger surrounding area is termed the mesoclimate. Examples of areas with mesoclimates are small valleys, forest clearings, frost hollows, and open spaces within urban areas. The climate of the air space from the surface of the earth to a height where the underlying terrain does not significantly impact upon the mesoclimate--about six feet as a general rule--is termed the microclimate.

The macroclimate has long been recognized in community planning and development, as reflected, for example, in certain features of architectural design, in the provision of small curb lawns for the storage of snow, in stormwater drainage design, and in such standards for public works as the minimum depth of cover for water mains. The climate of an area is susceptible to change and modification by man, as are the other elements of the natural resource base such as topography, drainage, soils, and vegetation. Urban form, however, can be planned and designed to accommodate this important environmental element in an energy-efficient fashion in order to improve human comfort and the overall quality of the environment for area residents.

Those climatic elements which have particular importance in urban planning, from the standpoint of energy utilization as well as human comfort, include

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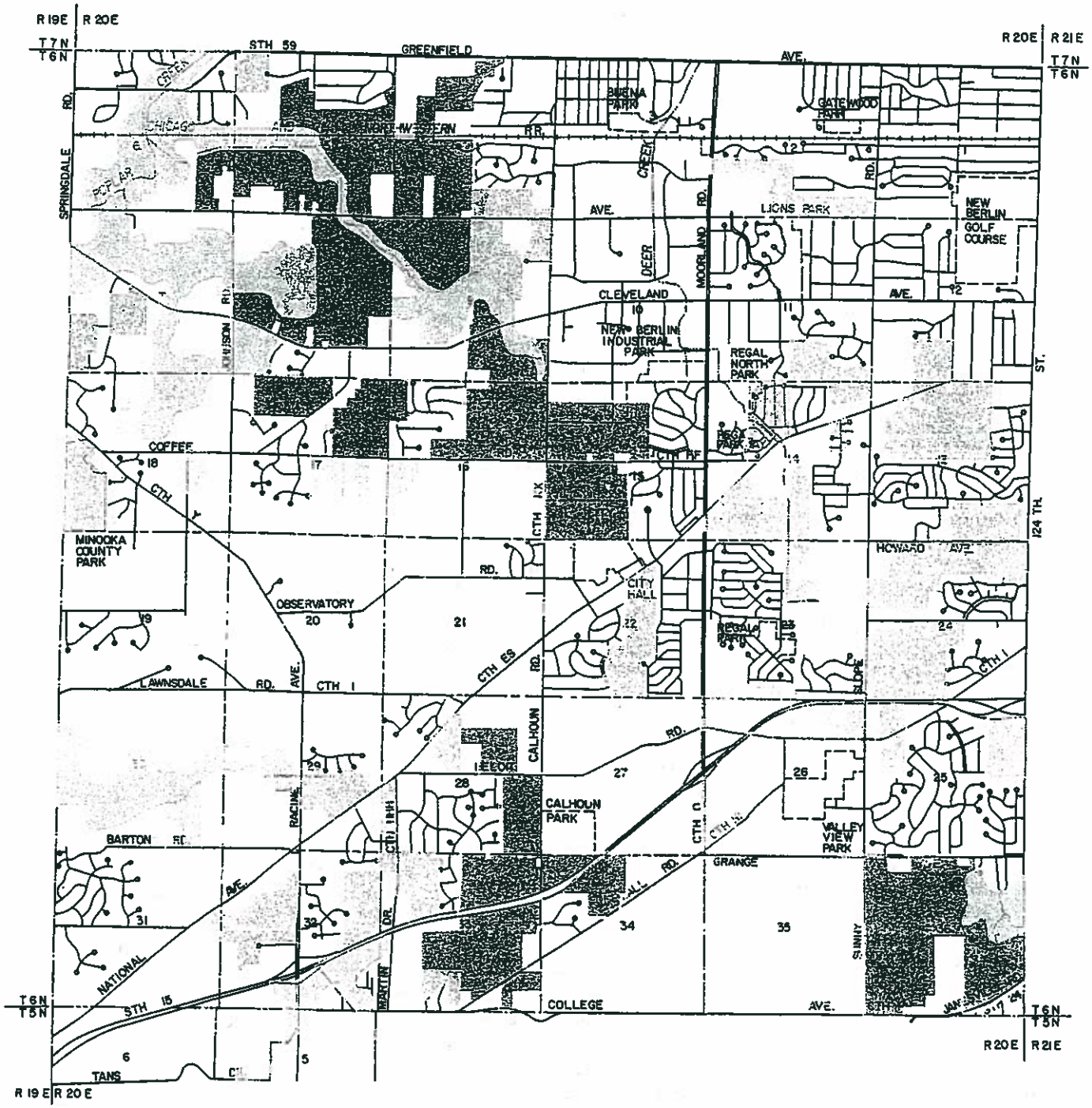
[3]Soils included in soils capability class one are those deep, well-drained, or moderately well-drained, nearly level soils with no serious limitations that restrict their use for cultivated crops. Included in soil capability class two are those soils that have some limitations which reduce the choice of plants that can be economically produced, or which require some conservation practices.

Map 21

THE PROPOSED WAUKESHA COUNTY AGRICULTURAL LAND PRESERVATION PLAN AS IT APPLIES TO THE CITY OF NEW BERLIN



LEGEND

- RECOMMENDED FOR AGRICULTURAL PRESERVATION PARCEL SIZE 35 ACRES OR GREATER
- RECOMMENDED FOR AGRICULTURAL PRESERVATION PARCEL SIZE LESS THAN 35 ACRES
- RECOMMENDED FOR AGRICULTURAL PRESERVATION TRANSITIONAL LANDS
- LAND TO ACCOMODATE FUTURE GROWTH
- ENVIRONMENTAL CORRIDOR
- OTHER LANDS

Source: Waukesha County Park and Planning Commission and SEWRPC.

solar radiation, air temperature, humidity, and wind. Each of these climatic elements represents a physical condition which should be considered in the urban design process. Each of these climatic variables is affected by other physical elements of the study area, including topography, character of the surface and ground cover, wetland areas and bodies of water, and three-dimensional features such as vegetation and structures. These climatic elements are also important for the potential utilization of solar energy in either a passive form--i.e., through proper orientation of building lots and structures for maximum heat gain in winter and minimum heat gain in summer--or active form--i.e., through proper orientation of building lots to accommodate the installation of efficient solar energy-collecting devices--and further serve to implement public policy regarding long-term energy conservation.

Moreover, as envisioned in Section Ind. 22.01 of the Wisconsin Administrative Code, which constitutes the energy conservation portion of the state uniform building code, knowledge of certain characteristics of the climate helps to promote the use of innovative approaches to architectural design. Climatic knowledge is required, for example, in order to properly analyze buildings to determine whether they meet state building code requirements for thermal transmittance (U value). Solar radiation, air temperature, humidity, and wind are, accordingly, all climatic characteristics which should be considered in urban planning in order to promote conditions favorable for the design and construction of more energy-efficient and comfortable buildings. Proper lot orientation, building orientation, landscape plantings, insulation and vapor barrier placement in buildings, and heating system size are dependent upon a knowledge of each of these climatic elements. A more detailed discussion of each of these elements and their respective characteristics as they relate to the City of New Berlin area can be found in Appendix A.

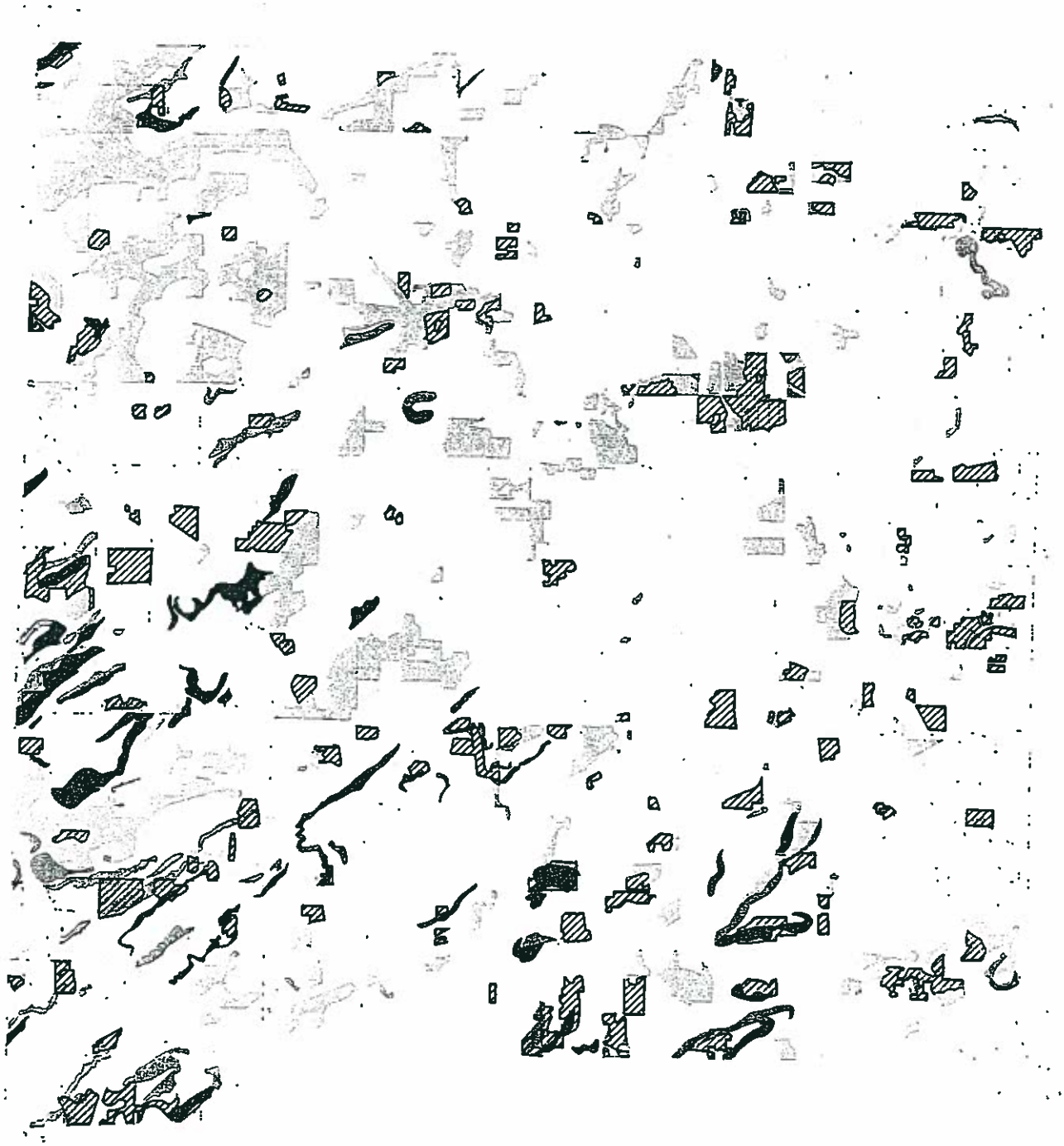
The Microclimate

Within the context of the general climate, or macroclimate, of the larger region within which New Berlin is located, the specific climate, or microclimate, of the New Berlin area can be analyzed. The analysis of the New Berlin microclimate should consider the location and orientation of future streets, blocks, lots, and eventually buildings in order to make the most efficient use of the climate in terms of energy conservation. Macroclimatic elements such a solar radiation, air temperature, humidity, and wind may have different effects upon different sites within the City, depending upon the site-specific physical characteristics of the terrain, vegetation, location and extent of bodies of water, and various other natural and man-made features. These effects, when properly identified and analyzed, should influence urban design and planning. Climate, however, is complex and variable, and any climatic analysis can serve only as a general analysis of probable climatic conditions within the area during the seasons of summer and winter, which represent the two extremes of the climatic spectrum.

A microclimatic analysis was done for the City of New Berlin area, based upon the climatic information presented in Appendix A. The results of the microclimatic analysis are shown on Map 22. Based upon the position of the sun in New Berlin's latitude, as well as other solar radiation considerations, several conclusions can be drawn regarding the pattern of slopes and insolation (incoming solar radiation) in the New Berlin area:

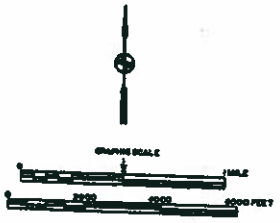
Map 22

MICROCLIMATE ANALYSIS FOR THE CITY OF NEW BERLIN



LEGEND

- WOODLAND AREAS
- AREAS OF IMPEDED AIR DRAINAGE, DAMP HOLLOWS, AND POTENTIAL NOCTURNAL FROST POCKETS
- SOUTHERNLY, WESTERNLY, AND EASTERNLY FACING SLOPES EXCEEDING 12 PERCENT WITH HIGH INSOLATION WHEN UNSHADED
- NORTHERNLY FACING SLOPES EXCEEDING 12 PERCENT WITH LOW INSOLATION
- PREVAILING SUMMER WIND DIRECTION
- PREVAILING WINTER WIND DIRECTION



Source: SEWRPC.

1. North-facing slopes oriented between approximately North 95° West and North 95° East have the lowest available insolation for solar heat gain surfaces.

2. South-facing slopes oriented between approximately North 80° West and North 80° East have the highest available insolation.

3. East-facing slopes oriented between approximately South and North 45° East have maximum insolation in the morning.

4. West-facing slopes oriented between South and North 45° West have maximum insolation in the afternoon, with the potential for over-heating structures in the summer.

As discussed earlier and shown on the wind data shown in Appendix A, prevailing winter winds are from the west, northwest, and southwest, and prevailing summer winds are from the southwest. During the winter, buildings should be protected from these winds to the maximum extent practicable. During the summer these winds can be used to provide cooling.

Cold air is heavier than warm air and, because of this physical property, cold air from high-relief areas will flow to low areas and is replaced by warmer air from above these low areas. This process, occurring frequently at night when air pressure is high and the sky is clear, produces katabatic or drainage winds. The low-lying areas in the New Berlin area are identified on Map 22 and represent areas of impeded air drainage, typically damp hollows in the summer and frost pockets in the winter. The nighttime temperatures in these areas may be as much as 10°F lower and the humidity 20 percent higher than in the surrounding areas which are at higher elevations. In the daytime, these conditions reverse--the low areas will tend to be warmer than the ridges swept by winds and the humidity will tend to be higher. Generally, buildings should not be placed in these areas.

Temperature within the New Berlin area can also be affected, to a small degree, by variations in soil types. A dry soil such as sand and gravel tends to cause higher temperatures and lower humidity. Wet soils, loams, and clays in poorly drained, marshy areas tend to cause lower temperatures and higher humidity. These variations are, on the whole, small in magnitude; however, in situations such as the siting of a residence, the difference may be locally significant.

The microclimate of the New Berlin area can also be affected by the size and locations of woodland and tree planting areas. The woodland and tree-planting areas act as a purification element for the air which passes through them. The amount of airborne particulate matter decreases rapidly toward the interior of a woodland, reflecting the effective filtering action of woodland and tree-planting areas.

Woodland and tree-planting areas can also affect the temperature of the environment. The moisture dispelled into the atmosphere through transpiration contributes to the lowering of temperatures in surrounding areas. This lowering of temperature can average from 3°F to 5°F below the annual mean for the area. Moreover, this effect is greatest in the summer because of the existence of foliage on deciduous trees, and is negligible in winter because of the dormancy of trees.

The climatic elements discussed herein should be addressed in the design of the City since they are important considerations in providing an urban form which is energy-efficient, as well as in providing an urban setting which enhances human comfort and environmental quality for the residents of the community.

SUMMARY

The natural resources of the City of New Berlin are vital to its ability to provide a pleasant and habitable environment for human life. Natural resources not only condition, but are conditioned by, growth and development. Any meaningful planning effort must, therefore, recognize the existence of a limited natural resource base to which urban development must be properly adjusted if serious environmental problems are to be avoided. The principal elements of the natural resource base which require careful consideration in planning for the City include its soils, surface water resources and related drainage basins and floodlands, topographic features, scenic vistas, woodlands, wetlands, wildlife habitat, agricultural lands, and climate. Consideration is also required of certain resource-related features, such as existing and potential park and outdoor recreation sites, and historical and cultural sites and structures. Synthesis of these data (with the exception of climate) results in the delineation of the environmental corridors of the City.

Soils

Soil properties exert a strong influence on the manner in which man uses land. Soil suitability maps of the City were prepared and analyzed, identifying soil limitations for residential use with and without sanitary sewer service, and specific limitations such as high water tables and steep slopes. As shown on Map 9, about 54 percent of the total area of the City is covered by soils having severe or very severe limitations for residential development utilizing conventional, onsite, soil absorption sewage disposal systems (septic tanks) on lots one acre or more in size. Soils with severe or very severe limitations for urban use without sanitary sewer service are found in scattered locations throughout the City. As shown on Map 10, about 26 percent of the total area of the City is covered by soils which have severe and very severe limitations for residential development served with public sanitary sewers. These soils are also found in scattered locations throughout the City.

Surface Water Resources and Related Drainage Basins

Surface water resources--consisting of lakes, streams, associated floodlands, and wetlands--form a particularly important element of the natural resource base of the City. Surface water resources and their related watersheds, or drainage areas, influence physical development, provide recreational opportunities, and enhance the aesthetic quality of the City.

As shown on Map 11, the City is located within three watersheds: the Fox River watershed, the Root River watershed, and the Menomonee River watershed. As further shown on Map 11, the watersheds may be divided into subwatersheds which, in turn, may be subdivided into individual drainage areas, termed subbasins. Knowledge of these watershed features is particularly important in the planning of sanitary sewer and stormwater drainage facilities.

There are no major lakes within the City--that is, lakes having a surface area of 50 acres or more. There are, however, three minor lakes--that is, lakes or ponds having a surface area of less than 50 acres. These lakes are shown on Map 11 and are Linnie Lac, Lower Kelly Lake, and Upper Kelly Lake. Together, these three lakes have a surface area of 20.7 acres.

The perennial and intermittent streams within the City are also shown on Map 11, along with a 50-foot-wide shoreline area along the banks. Perennial streams are defined as those watercourses that maintain a continuous flow throughout the year except under unusual drought conditions. Within the City, there are approximately 13.3 miles of such streams. Intermittent streams are defined as those watercourses that do not maintain a continuous flow throughout the year. Intermittent streams are found throughout the City, as shown on Map 11, and, together with the perennial streams, are a particularly important consideration in land use planning. These streams have important recreational and aesthetic values and form a part of the City's stormwater drainage and flood control system.

Floodlands: The floodlands of a river or stream are the wide, gently sloping areas contiguous to, and usually lying on both sides of, the river or stream channel. 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. Floodland areas are generally not well suited to urban development, not only because of the flood hazard, but because of the presence, usually, of high water tables and of soils poorly suited to urban use. The floodland areas, however, generally contain important elements of the natural resource base such as high-value woodlands, wetlands, and wildlife habitat and, therefore, constitute prime locations for needed park and open space areas. Floodlands in the City total approximately 2,500 acres, or about 11 percent of the total area of the City, as shown on Map 11. Every effort should be made to discourage indiscriminate and incompatible urban development on floodlands, while encouraging compatible park and open space use.

Wetlands: Wetland areas are generally unsuited or poorly suited for most agricultural or urban development purposes. Wetlands, however, have important recreational and ecological values. Wetlands contribute to flood control and water quality enhancement, since such areas naturally serve to store excess runoff temporarily, thereby tending to reduce peak flows and to trap sediments, nutrients, and other water pollutants. Wetlands located in the City are identified on Map 11. Additional important natural functions of wetlands, which make them particularly valuable resources, include the provision of breeding, nesting, resting, and feeding grounds and predator escape cover for many forms of wildlife; and groundwater recharge and discharge. There are about 2,200 acres of wetlands in the City, representing about 9 percent of the total area of the City.

Topographic Features

The topography, or relative elevation of the land surface, within the City of New Berlin has been determined, generally, by the configuration of the bedrock geology, and more specifically, by the overlying glacial deposits. In general, the topography of the City is level to gently rolling, with the low-lying areas associated with stream valleys. Lands with steep slopes are poorly suited for urban development, as well as for most agricultural purposes, and,

therefore, should be maintained in natural cover for wildlife habitat and erosion control. Lands with less severe slopes may be suitable for certain agricultural uses, such as pasturelands, and for certain urban uses, such as carefully designed low-density residential areas. Lands which are gently sloping or nearly level are best suited for agricultural production and to high-density residential, industrial, or commercial uses.

Scenic Vistas

Scenic vistas are defined as areas that provide a panoramic or picturesque view comprised of a variety of natural resource features. There are two important components of a scenic vista--the picturesque view itself, which usually consists of a diversity of natural or cultural features, and the vantage point or viewpoint from which to observe the diversity of features. Within the City, two such scenic vistas can be found--one located in U. S. Public Land Survey Sections 8 and 9 north of Cleveland Avenue; and one in the west one-half of Section 30 south of Lawnsdale Road (CTH I).

Woodlands

Located primarily on ridges and slopes and along streams and lakeshores, woodlands provide an attractive natural resource of immeasurable value. Woodlands accentuate the beauty of the lakes, streams, and topography of the area, and are essential to the maintenance of the overall environmental quality of the area. In addition to contributing to clean air and water, and to limiting stormwater runoff and enhancing groundwater recharge, woodlands can contribute to the maintenance of a diversity of plant and animal life in association with human life, and can provide important recreational opportunities. As shown on Map 13, woodlands in the City cover about 1,200 acres, or about 5 percent of the total area of the City.

Wildlife Habitat

Wildlife in the City includes upland game such as rabbit and squirrel, predators such as raccoons, game birds including pheasant and grouse, and marsh furbearers such as muskrat. In addition, water fowl are present, and deer are found in scattered areas. The remaining wildlife habitat areas and the wildlife living therein provide valuable recreational opportunities and constitute an invaluable aesthetic asset to the City. As shown on Map 14, wildlife habitat areas in the City generally occur in association with the surface water, wetland, and woodland resources, and cover about 3,000 acres, or about 13 percent of the total area of the City.

Other Resource Elements

In addition to the basic elements of the underlying and sustaining natural resource base, existing and potential sites having scenic, scientific, historic, and recreational value should be considered in any land use planning effort. Park and open space sites within the City have been classified into three general categories: general-use outdoor recreation sites, special-use outdoor recreation sites, and rural open space sites. General-use outdoor recreation sites may be defined as areas of land and water whose primary function is the provision of space and facilities for outdoor recreational activities. As shown on Map 15 and indicated in Table 21, in 1980 there were 22

general-use outdoor recreation sites in the City encompassing a total area of 782 acres, or about 3 percent of the total area of the City. Special-use outdoor recreation sites are primarily spectator-oriented rather than user-oriented, or provide facilities for unique recreational pursuits. In 1980, as shown on Map 15, there were five special-use outdoor recreation sites in the City encompassing 126 acres of land, or about 0.5 percent of the total area of the City. Rural open space sites are those areas of woodlands, wetlands, wildlife habitat, or other open areas acquired by public agencies or private organizations to preserve such lands and natural resource amenities in an essentially natural, open state for resource conservation and limited recreational purposes. In 1980 there were six rural open space sites in the City totaling 18 acres, or less than 0.5 percent of the total area of the City. In 1980 there were 11 potential park sites in the City encompassing 1,389 acres, or about 6 percent of the total area of the City. Of these 11 sites, two sites encompassing 212 acres were classified as high-value sites; four sites encompassing 687 acres were classified as medium-value sites; and the remaining five sites encompassing 490 acres were classified as low-value sites.

Historic sites in the City have been classified by the Commission into one of three general categories: historic structures, archaeological features, and other cultural features. In general, historic structures include architecturally or historically significant buildings. Archaeological sites consist of areas occupied or utilized by humans in a way and for a sufficient length of time to be marked by certain features or to contain artifacts. Seven structures, one archaeological feature, and eight cultural features of historic value were identified in the City.

Natural areas, as defined by the Wisconsin Scientific Areas Preservation Council, are tracts of land or water so little modified by human activities, or sufficiently recovered from the effects of such activities, that they contain intact native plant and animal communities believed to be representative of the presettlement landscape. As shown on Map 17, in 1980 there were a total of three natural areas remaining in the City encompassing 77 acres, or about 0.3 percent of the total area of the City.

Environmental Corridors

Environmental corridors are defined as elongated areas in the landscape encompassing concentrations of the best remaining elements of the natural resource base. Such corridors should, to the maximum extent practicable, be preserved in essentially natural open uses in order to maintain a sound ecological balance, to protect the overall quality of the environment, and to preserve the unique natural beauty and cultural heritage of the City, as well as the Region. One of the most important tasks undertaken by the Regional Planning Commission as part of its regional planning effort was the identification and delineation of environmental corridors. Such areas normally include one or more of the following elements of the natural resource base: 1) lakes, rivers, and streams, and their associated undeveloped shorelands and floodlands; 2) wetlands; 3) woodlands; 4) prairies; 5) wildlife habitat areas; 6) wet, poorly drained, and organic soils; and 7) rugged terrain and high-relief topography. Also considered in the identification of environmental corridors are the following elements which, although not part of the natural resource base per se, are closely related to that base: 1) existing outdoor recreation sites;

2) potential outdoor recreation sites; 3) historic, archaeological, and other cultural sites; 4) significant scenic areas and vistas; and 5) natural and scientific areas.

The delineation of the natural resource base and natural resource-related elements within the City results in a limited number of relatively narrow environmental corridors. Primary environmental corridors, by definition, include a variety of the above-mentioned resource elements and are at least 400 acres in size, two miles long, and 200 feet wide. Primary environmental corridors in the City generally lie along the stream valleys and contain almost all of the remaining high-value woodlands, wetlands, and wildlife habitat areas in the City, and all of the remaining undeveloped floodlands. The primary environmental corridors encompass a total area of about 1,500 acres, or about 6 percent of the total area of the City, as shown on Map 18.

Secondary environmental corridors and other environmentally significant lands contain fewer natural resource base elements than do primary corridors, and are usually remnants of former primary environmental corridors which have been developed for agricultural purposes or intensive urban land uses. Secondary environmental corridors are generally located along intermittent streams and typically serve as links between segments of primary environmental corridors. Secondary environmental corridors are, by definition, at least 100 acres in size and one mile in length. Secondary environmental corridors and other environmentally significant lands encompass about 2,500 acres, or about 10 percent of the total area of the City.

Agricultural Land

In 1964, prime agricultural lands in the Region were first delineated by the Regional Planning Commission in cooperation with the county agricultural agents and the U. S. Department of Agriculture, Soil Conservation Service district staff. In late 1976, the U. S. Department of Agriculture, Soil Conservation Service, developed a national classification system for use in the preparation of agricultural capability maps. Map 19 depicts the agricultural capability of lands in the City based upon this national soils classification system, showing both national prime farmland and farmland of statewide significance.

The Wisconsin Farmland Preservation Act, enacted in 1977, provides for the preparation of county farmland preservation plans and the grant of state income tax credits for the maintenance of farmlands in delineated preservation areas. Ultimately, only those farmers owning lands within delineated prime agricultural areas which are zoned for exclusive agricultural use and which are in an area for which a county farmland preservation plan has been prepared will be eligible for the full state income tax credits provided under the law. In 1980, 8,971 acres, or about 38 percent of the total area of the City, were in agricultural use. The Waukesha County Park and Planning Commission began preparing a Waukesha County farmland preservation plan in 1977.

Climatic Conditions and Urban Planning

Climate may be regarded as a resource that presents both problems to be resolved and opportunities to be used in the sound development of a community. Urban form should be planned and designed to accommodate the climate in an

energy-efficient fashion in order to improve human comfort and the overall quality of the environment for area residents.

Those climatic elements which have particular importance in land use planning, from the standpoint of energy utilization as well as human comfort, include solar radiation, air temperature, humidity, and wind. Each of these climatic elements represents a physical condition which should be considered in the urban design process. Also, each of these climatic variables is affected by other physical elements of the City, including topography, character of the surface and ground cover, wetland areas and bodies of water, and three-dimensional features such as vegetation and structures. Each of these climatic elements is also important for the potential utilization of solar energy in either a passive form--i.e., through proper orientation of building lots and structures for maximum heat gain in winter and minimum heat gain in summer--or active form--i.e., through proper orientation of building lots to accommodate the installation of efficient solar energy-collecting devices--and further serves to implement public policy regarding long-term energy conservation.

Moreover, as envisioned in Chapter 22.01 of the Wisconsin Administrative Code, which constitutes the energy conservation portion of the state uniform building code, knowledge of certain characteristics of the climate helps to promote the use of innovative construction approaches and techniques to achieve more effective utilization of energy. Such climatic knowledge is required, for example, in order to properly analyze buildings to determine whether they meet state building code requirements for thermal transmittance (U value). Solar radiation, air temperature, humidity, and wind are, accordingly, all climatic characteristics which should be considered in land use planning in order to promote conditions favorable for the design and construction of more energy-efficient and comfortable dwellings.

Chapter IV

INVENTORIES AND ANALYSES OF MAN-MADE FEATURES

INTRODUCTION

If the City of New Berlin land use and urban design plan is to constitute a sound and realistic guide to the making of decisions concerning the physical development of the City, it must be based upon consideration of pertinent man-made as well as natural features of the area. For the purposes of the city planning program, the pertinent man-made features were identified as: 1) the existing land uses; 2) the existing community facilities; 3) the existing public utilities; 4) the existing land development regulations including the existing zoning ordinance, land subdivision control ordinance, and official map; and 5) certain public financial resource-related programs such as the tax incremental financing district program. Each of these man-made features is described in this chapter as it affects physical development in the City.

EXISTING LAND USE

In 1980, a special field survey was conducted cooperatively by the staffs of the City Planning Department and the Regional Planning Commission to determine the nature and extent of existing land uses in the City. The data gathered in this survey were mapped and analyzed in order to provide a basis for the determination of appropriate patterns of future land use development in the City.

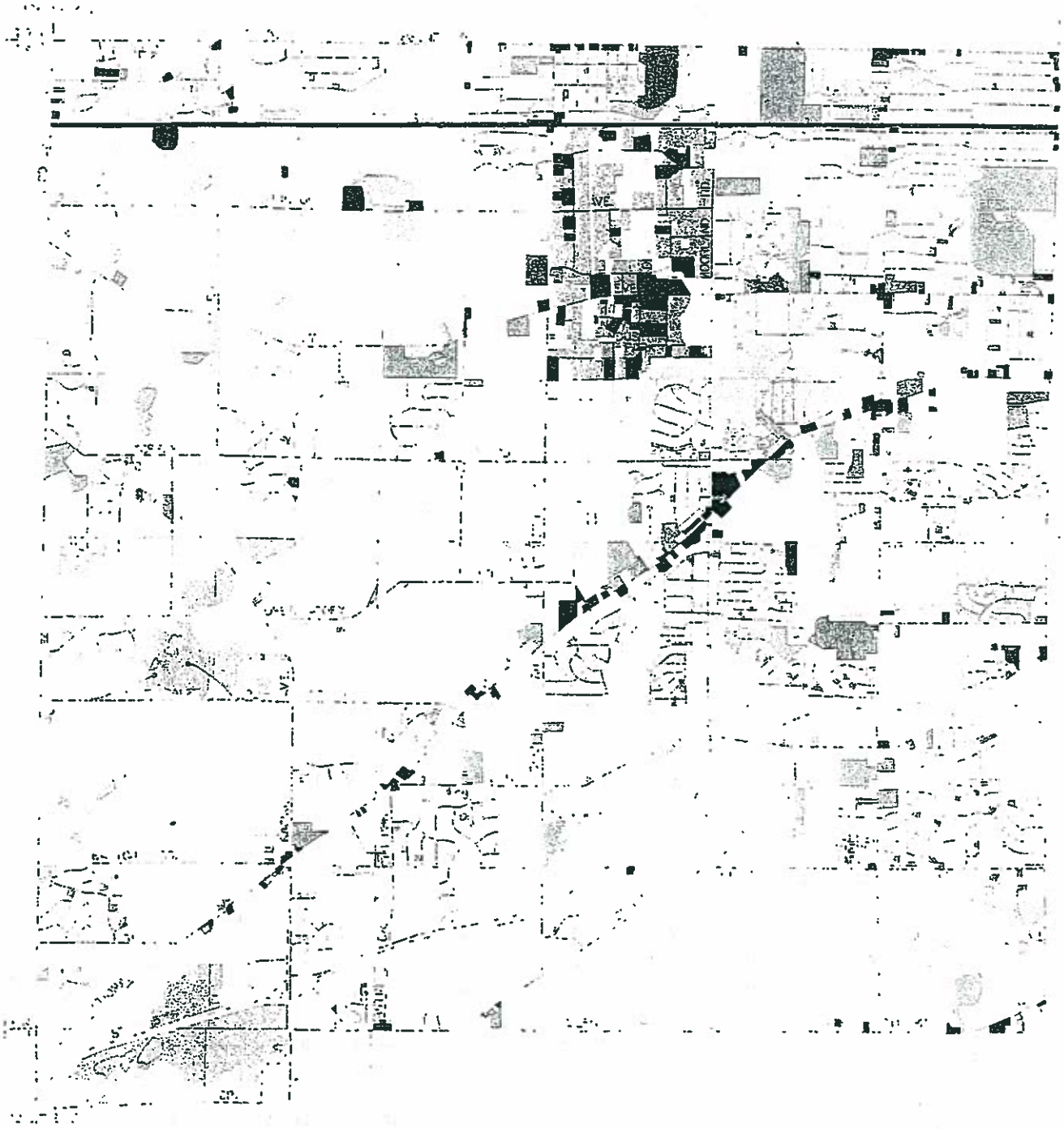
The existing 1980 land uses in the City of New Berlin are graphically shown on Map 23, and the amount of land devoted to each type of land use in the City is set forth in Table 23. Approximately 23,589 acres, or about 36.8 square miles, are contained within the corporate limits of the City of New Berlin. In 1980, urban land uses occupied about 9,574 acres, or about 41 percent of the total city area. Rural land uses, which include water, wetlands, woodlands, agricultural and other open lands, and farmsteads, totaled about 14,015 acres, or about 59.4 percent of the city area. Several important characteristics of the city land use pattern may be noted from Table 23 and Map 23. First, the singularly largest land use in the City is still agricultural and other open rural lands, representing almost 45 percent of the city area. Second, urban land uses account for about 41 percent of the city area, almost equal to the amount of agricultural and other open rural land uses in the City. And third, natural areas occupy only about 15 percent of the City.

Urbanized Land Use

Residential Land Use: The residential use section of a community land use plan is the section which normally holds the interest of the largest number of residents. Since the residential land use elements of the land use plan exist primarily to provide a safe, attractive, and comfortable setting for housing, it is particularly important that this element be given careful consideration.

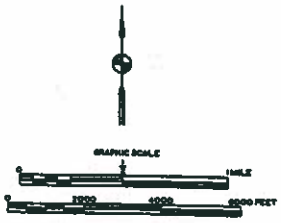
Map 23

EXISTING LAND USE IN THE CITY OF NEW BERLIN: 1980



LEGEND

- SINGLE-FAMILY RESIDENTIAL
- TWO-FAMILY RESIDENTIAL
- MULTI-FAMILY RESIDENTIAL
- RESIDENTIAL LAND UNDER DEVELOPMENT
- COMMERCIAL
- MANUFACTURING AND EXTRACTIVE
- TRANSPORTATION, COMMUNICATION, AND UTILITIES
- GOVERNMENTAL AND INSTITUTIONAL
- PARKS AND RECREATIONAL
- WETLANDS
- WOODLANDS
- AGRICULTURAL AND OTHER OPEN LANDS
- WATER



Source: SEWRPC.

Table 23

SUMMARY OF EXISTING LAND USE IN THE CITY OF NEW BERLIN: 1980

Land Use Category	Acreage	Percent of City Area	Percent of Subtotal
Urban			
Residential			
Single Family	5,398	22.9	56.4
Two Family	6	0.0[c]	0.1
Multiple Family	66	0.3	0.6
Under Development	547	2.3	5.7
Subtotal	6,017	25.5	62.8
Retail Sales and Service	271	1.2	2.8
Industrial	403	1.7	4.8
Transportation and Utilities			
Arterial Streets	801	3.4	8.4
Collector and Other Streets	948	4.0	9.9
Trucking Terminals	4	0.0[c]	0.1
Railroad, Communications, Utilities, and Other[a]	426	1.8	4.4
Subtotal	2,179	9.2	22.8
Governmental and Institutional	360	1.5	3.8
Recreational[b]			
Public	316	1.4	3.3
Private	28	0.1	0.3
Subtotal	344	1.5	3.6
Urban Land Use Subtotal	9,574	40.6	100.0
Rural			
Natural Areas			
Water	126	0.5	0.9
Wetlands	2,161	9.2	15.4
Woodlands	1,173	5.0	8.4
Subtotal	3,460	14.7	24.7
Quarrying and Extractive[d]	449	1.9	3.2
Agricultural and Other			
Open Lands	10,031	42.5	71.6
Farmsteads	75	0.3	0.5
Subtotal	10,106	42.8	72.1
Rural Land Use Subtotal	14,015	59.4	100.0
Total	23,589	100.0	--

[a] Includes off-street parking areas.

[b] Includes only areas used for intensive outdoor recreational activities.

[c] Less than 0.1 percent.

[d] Includes active and inactive quarries.

Source: SEWRPC.

The nature and extent of residential development is an important determinant of the need for supporting community facilities and public utilities and of the type, location, and capacity of transportation facilities. In 1980, residential land use accounted for approximately 63 percent of the developed urban area, but only about 26 percent of the total city area. Single-family, two-family, and multiple-family residential land uses are located throughout the City in a diffuse fashion, as shown on Map 23. Table 23 indicates that of the total of 6,017 acres of residential land use in 1980, only six acres, or less than one-tenth of 1 percent, were in two-family residential use; and only about 66 acres, or 1 percent, were in multiple-family residential use.

A history of residential land subdivision platting activity in the City in the years 1920 through 1980 is provided in Table 24. A total of 7,905 residential lots were platted in the City from 1920 through 1980. Of this total, 856, or about 11 percent, remained undeveloped--that is, vacant and unused. These undeveloped lots could accommodate a population increase of from 2,790 to 3,160 persons. Lots currently platted but undeveloped could thus accommodate about two to three years of growth if the city population increases at a rate consistent with the population forecasts presented in Chapter II of this report. From 1950 to 1980, a total of 6,276 residential lots were platted, of which 748, or about 12 percent, remained undeveloped. Since 1920, the number of residential lots per net acre has averaged 2.17.

Commercial Land Use: In 1980, commercial land uses accounted for about 271 acres, or about 3 percent of the urban land uses and about 1 percent of the total city area. The commercial land uses in the City, as indicated on Map 23, occur in strips along almost the entire length of National Avenue, and along Greenfield Avenue between Calhoun Road and S. 124th Street. The National Avenue corridor of scattered commercial uses is an important planning issue facing the community, and therefore will be dealt with in more detail later in this report.

Table 25 lists the types and number of retail trade businesses located in the City. In 1980 there were 140 such businesses in the City. Of this total, eating and drinking establishments numbered 32, or about 23 percent of all the retail trade businesses, and represented the largest category of such uses; service stations numbered 21, or about 15 percent; and building material and garden supply businesses numbered 17, or about 12 percent.

Table 26 lists the types and number of service and financial businesses in the City in 1980. Of the total of 176 such establishments, general business services numbered 36, or about 21 percent, the largest category in the City; personal services numbered 27, or about 15 percent; and auto repair services numbered 21, or about 12 percent.

Industrial Land Use: In 1980, industrial land uses accounted for about 403 acres, or about 4 percent of the urban land uses within the City and less than 2 percent of the total city area. Industrial land uses were concentrated south of the Chicago & North Western Railway right-of-way and north of the south line of U. S. Public Land Survey Section 10, located between Moorland Road and Calhoun Road, as shown on Map 23. In addition, there were scattered industrial sites located in the still predominantly undeveloped area along the western segment of Lincoln Avenue in the northwestern part of the City, as indicated on Map 23.

Table 24

HISTORICAL RESIDENTIAL LAND SUBDIVISION IN THE CITY OF NEW BERLIN: 1920 TO 1980

Subdivision Name	Year Recorded	U. S. Public Land Survey Location				Total Number of Lots	Gross Acres	Net Acres	Typical Lot Size (square feet)	Lots Developed	Lots Vacant	Lots per Net Acre
		Township	Range	Section	Quarter Section							
Sunny Slope No. 1	192T	T6N	R20E	01	NW	188	51.14	32.31	T,500	180	8	5.81
Buena Park	1928	T6N	R20E	03	NW	791	130.5T	85.20	4,800	T47	44	9.08
Graham & Bloms Maplewood	1928	T6N	R20E	01	SE	98	19.81	15.25	6,T50	88	10	6.45
Linnie Lac Subdivision	1928	T6N	R20E	32	SE	55	17.39	15.59	12,000	39	16	3.63
Parmenter Subdivision	1931	T6N	R20E	32	SE	26	7.12	7.12	11,100	19	7	3.92
Arcadian Hills	1934	T6N	R20E	01	NW	44	51.21	42.34	39,100	43	1	1.11
Youngs Robert Subdivision	193T	T6N	R20E	01	SE	16	3.91	3.21	8,850	16	0	4.92
Brunwood Subdivision	1938	T6N	R20E	01	NW	24	21.52	18.59	37,500	22	2	1.16
Calhoun Farms	1939	T6N	R20E	04	NE	24	15.68	10.84	21,960	23	1	1.98
Brunwood Subdivision (continuation)	1940	T6N	R20E	01	NW	23	15.23	13.06	26,625	22	1	1.64
Calhoun Farms Addition No. 1	1940	T6N	R20E	04	NE	46	27.35	21.11	21,204	45	1	2.05
Parkview Gardens	1942	T6N	R20E	01	NE	27	11.89	8.30	12,690	27	0	3.43
Ravine Woods	1942	T6N	R20E	01	NE	9	4.50	4.09	20,400	7	2	2.14
Green Acres	1942	T6N	R20E	02	NE	17	7.95	6.14	17,290	17	0	2.52
Cheaney Home Sites Subdivision	1945	T6N	R20E	01	SE	42	20.83	16.44	18,078	39	3	2.41
Pintsrs Acres	1945	T6N	R20E	01	SE	21	21.23	18.44	41,674	21	0	1.05
Crest View Acres	1945	T6N	R20E	02	SE	21	19.00	16.58	35,T60	21	0	1.22
Meadowmere Subdivision	1946	T6N	R20E	11	NE	111	140.61	119.47	43,134	106	5	1.01
Honey Lane Acres	1946	T6N	R20E	01	SE	12	7.T1	6.64	22,200	12	0	1.96
Calhoun Farms Addition No. 2	1947	T6N	R20E	04	NE	16	T.20	5.67	15,675	16	0	2.78
Kelly Subdivision	1948	T6N	R20E	36	NE	18	26.72	23.60	5T,000	11	7	0.76
Fergusons Subdivision	1950	T6N	R20E	01	SW	14	T.76	6.24	21,750	11	3	2.00
Kelly Subdivision No. 2	1950	T6N	R20E	36	NE	13	12.96	12.96	43,000	11	2	1.01
Prospect Heights Subdivision	1950	T6N	R20E	28	SW	31	1T.66	15.46	20,000	31	0	2.18
Eckels Acres Subdivision	1951	T6N	R20E	26	SE	24	19.79	1T.08	30,000	21	3	1.45
East Brook Subdivision	1951	T6N	R20E	06	NW	36	25.88	21.93	26,000	32	4	1.68
Gatewood Subdivision	1952	T6N	R20E	02	NE	98	42.46	31.26	15,000	98	0	2.90
Ravine Woods No. 2	1952	T6N	R20E	01	NE	15	12.38	9.48	25,380	15	0	1.T2
Kensington Subdivision	1952	T6N	R20E	12	NW	64	49.63	39.57	28,055	62	2	1.55
Gatewood Addition	1952	T6N	R20E	02	NE	92	44.25	35.09	15,000	92	0	2.90
Rindt Subdivision	1952	T6N	R20E	29	SW	24	14.89	11.93	19,800	17	7	2.20
Village Park Subdivision	1953	T6N	R20E	22	NE	110	91.89	81.06	33,600	108	2	1.30
Swartz Orchards Subdivision No. 1	1953	T6N	R20E	18	SW	16	10.40	9.26	24,300	15	1	1.79
Ronke Estates	1954	T6N	R20E	11	NW	37	31.09	25.54	28,700	37	0	1.52
Greenfield Acres	1954	T6N	R20E	04-05	NW-NE	44	51.51	42.TT	44,000	39	5	0.99
Crestview Acres Addition No. 1	1954	T6N	R20E	02	SE	37	19.28	14.66	16,700	3T	0	2.61
Fergusons Subdivision Addition	1954	T6N	R20E	01	SW	28	13.95	11.91	17,500	24	4	2.49
Monterey Subdivision	1955	T6N	R20E	15	NE	69	51.27	39.66	24,070	68	1	1.81
Sun Valley Subdivision	1955	T6N	R20E	23	SE	73	56.64	46.81	25,200	6T	6	1.73
Observatory Heights	1955	T6N	R20E	21	NE	71	49.66	39.81	23,380	71	0	1.86
Alan Acres	1955	T6N	R20E	11	SE	43	27.90	22.93	22,100	41	2	1.9T
Hale Heights Addition No. 1	1955	T6N	R20E	25	SE	63	40.02	32.T2	20,925	62	1	2.08
Westward Manor	1955	T6N	R20E	04	SE	54	38.75	32.12	26,642	50	4	1.64
Hales Heights	1955	T6N	R20E	25	SE	29	22.42	14.49	20,250	29	0	2.15
Swartz Orchards Subdivision No. 2	1955	T6N	R20E	18	SW	29	19.35	14.38	20,475	25	4	2.13
Bel Aire Subdivision	1955	T6N	R20E	15	SE	119	63.64	48.58	17,490	113	6	2.49

Table 24 (continued)

Subdivision Name	Year Recorded	U. S. Public Land Survey Location				Total Number of Lots	Gross Acres	Net Acres	Typical Lot Size (square feet)	Lots Developed	Lots Vacant	Lots per Net Acre
		Township	Range	Section	Quarter Section							
Sunny View Subdivision.....	1955	T6N	R20E	13	SW	67	40.77	34.47	20,000	36	31	2.18
Lincoln Hills Eststes.....	1955	T6N	R20E	12	NW	52	26.86	20.29	17,500	48	4	2.49
Maylore Subdivision No. 1.....	1955	T6N	R20E	11	SE	17	14.38	11.08	30,000	15	2	1.45
Sunset Trails Subdivision.....	1955	T6N	R20E	12	SW	18	12.41	10.18	23,800	17	1	1.83
Westbrooke.....	1955	T6N	R20E	06	NE-NW	58	51.98	40.54	28,000	46	12	1.56
Glen Garry Highlands.....	1956	T6N	R20E	31	NW	31	22.46	19.00	26,390	26	5	1.65
Greenfield Acres Addition No. 1...	1956	T6N	R20E	04-05	NW-NE	23	28.72	23.94	44,180	22	1	0.99
Top O Hill.....	1956	T6N	R20E	15	SE	28	18.08	14.36	20,272	28	0	2.15
Westmoor Farms.....	1956	T6N	R20E	02	SW	44	43.14	36.89	33,825	44	0	1.29
Cleveland Heights.....	1956	T6N	R20E	12	SW	39	29.59	20.74	20,400	28	11	2.14
Broadale Eststes.....	1956	T6N	R20E	07	NW	11	17.51	14.82	59,000	5	6	0.74
Murphy Heights.....	1956	T6N	R20E	06	NE	16	9.65	7.84	21,120	14	2	2.06
Monterey Subdivision Addition No. 1.....	1956	T6N	R20E	15	NE	79	60.35	48.79	21,600	75	4	2.02
Top O Hill Addition.....	1956	T6N	R20E	15	SE	25	20.28	16.79	29,394	25	0	1.48
Woodhaven Subdivision.....	1956	T6N	R20E	11	SW	28	19.69	16.13	27,750	23	5	1.57
Highisnd Meadows.....	1956	T6N	R20E	32	NE	15	8.90	6.36	18,400	13	2	2.37
Maylore Subdivision No. 2.....	1956	T6N	R20E	11	SE	8	6.54	5.84	30,590	8	0	1.42
Highland Terrace.....	1956	T6N	R20E	32	NE	7	5.05	3.85	24,500	5	2	1.78
Westward Manor Addition.....	1956	T6N	R20E	04	SE	80	56.45	48.17	27,000	76	4	1.61
Monterey Park.....	1956	T6N	R20E	14	NW	58	40.35	31.15	20,800	58	0	2.09
Hales Heights Estates.....	1956	T6N	R20E	25	SW	109	72.82	62.34	27,000	105	4	1.61
Hearthside Acres.....	1956	T6N	R20E	22	NW-SW	58	52.52	41.25	20,400	49	9	2.14
Glen Garry Highlands Addition No. 1.....	1956	T6N	R20E	31	NW	142	96.72	T9.72	24,000	132	10	1.82
Moorland Highlands.....	1956	T6N	R20E	03	NE	22	15.04	11.50	21,960	19	3	1.98
Schunk Wimmer Subdivision.....	1957	T6N	R20E	12	NE	14	10.73	8.06	23,400	13	1	1.86
Mercury Meadows.....	1957	T6N	R20E	14	NE	70	46.81	36.85	21,600	64	6	2.02
De Werths Heights.....	1957	T6N	R20E	01	SW	6	2.50	2.50	18,128	6	0	2.40
Mary Knoll Heights.....	1957	T6N	R20E	25	SW	28	22.24	16.48	24,975	24	4	1.74
Hearthside Acres Addition No. 1...	1958	T6N	R20E	22	SW	131	92.37	69.70	21,600	96	35	2.02
Sunny Acres.....	1958	T6N	R20E	23	SE	20	14.94	9.32	20,160	20	0	2.16
Thorn Apple Hill.....	1958	T6N	R20E	09-16	SW-NE-NW	75	50.82	41.21	22,500	73	2	1.94
Rolling Hills.....	1958	T6N	R20E	24-25	SE-NE	53	40.66	30.25	26,3T5	51	2	1.65
Majors Subdivision.....	1958	T6N	R20E	28	SW-SE	43	31.30	26.1T	23,750	43	0	1.83
Sunny Hills.....	1958	T6N	R20E	29	SE	12	8.09	7.36	25,300	12	0	1.72
Ridgewood Estates.....	1958	T6N	R20E	36	NE	7	6.43	5.28	29,400	6	1	1.48
Sunny Acres Addition No. 1.....	1958	T6N	R20E	23	SE	14	10.36	6.74	20,250	14	0	2.15
Lu El Oale Subdivision.....	1959	T6N	R20E	33	SW	8	5.51	4.22	24,9T5	8	0	1.74
Hales Heights Estates Addition No. 1.....	1959	T6N	R20E	25	NW	77	55.56	44.75	24,000	76	1	1.82
Maylore Subdivision No. 3.....	1959	T6N	R20E	11	SE	17	15.16	12.34	33,880	16	1	1.29
Maryknoll Heights Addition No. 1.....	1959	T6N	R20E	25	SW	62	46.91	38.04	26,600	59	3	1.64
Lilly Highlands.....	1959	T6N	R20E	06	NE	14	10.82	8.80	24,648	12	2	1.77
Highland Terrace Addition No. 1...	1959	T6N	R20E	32	NE-SE	31	20.86	16.16	20,040	30	1	2.1T
West Allis View.....	1959	T6N	R20E	12	SE	76	49.00	39.31	21,875	75	1	1.99
Halecrest.....	1959	T6N	R20E	25	SE	90	59.00	48.74	22,950	87	3	1.90
Majors Subdivision Addition No. 1.....	1959	T6N	R20E	28	SE	29	20.45	16.39	24,050	29	0	1.81
Woody Acres Subdivision.....	1959	T6N	R20E	07	SW	13	13.23	9.79	30,525	12	1	1.43
Prospect Heights Addition No. 1...	1959	T6N	R20E	28	SW	92	56.01	45.45	20,000	89	3	2.18

Table 24 (continued)

Subdivision Name	Year Recorded	U. S. Public Land Survey Location				Total Number of Lots	Gross Acres	Net Acres	Typical Lot Size (square feet)	Lots Developed	Lots Vacant	Lots per Net Acre
		Township	Range	Section	Quarter Section							
Orchard Valley	1960	T6N	R20E	25	NE	80	56.28	45.09	23,750	76	4	1.83
Highview Subdivision	1960	T6N	R20E	28	SE	26	18.40	15.04	22,320	26	0	1.95
Hi Knoll	1961	T6N	R20E	33	NW	35	25.42	20.64	26,910	26	9	1.62
Highland Vista	1962	T6N	R20E	28	NW	73	50.40	40.23	21,780	46	27	2.00
Oakwood Knoll Subdivision	1962	T6N	R20E	18	SW	24	18.53	15.14	24,472	20	4	1.78
De Werths Heights Addition No. 2	1963	T6N	R20E	01	SW	7	3.24	3.24	20,240	7	0	2.15
Forest View Heights	1964	T6N	R20E	01	SW	195	75.99	59.27	13,500	194	1	3.23
Woodland Park	1965	T6N	R20E	02	SE	96	39.78	31.89	13,493	96	0	3.23
Honey Lane Heights	1966	T6N	R20E	01	SW	6	3.15	3.15	23,275	6	0	1.87
Green Ridge	1966	T6N	R20E	13	NE-SE	227	80.16	60.97	12,150	226	1	3.59
Sun Shadows West	1966	T6N	R20E	34	NW	26	25.11	20.94	31,200	22	4	1.40
Orchard View	1967	T6N	R20E	13	NE	41	14.63	10.05	10,030	41	0	4.34
Orchard View East	1967	T6N	R20E	13	NE	18	7.33	5.01	12,840	18	0	3.39
Bundy Subdivision	1968	T6N	R20E	05	NW	7	9.40	8.20	51,615	5	2	0.84
Overlook Estates	1968	T6N	R20E	29-32	SE-NE	29	27.47	23.41	35,400	27	2	1.23
Greenridge North	1968	T6N	R20E	13	NE	29	11.00	7.44	11,050	29	0	3.94
New Berlin Heights Subdivision	1969	T6N	R20E	16	NW	24	31.43	26.85	43,350	21	3	1.00
Hillside Terrace	1969	T6N	R20E	29	NE	33	36.81	31.28	38,640	30	3	1.13
Glendale Park No. 1	1970	T6N	R20E	14	SE	133	56.89	44.05	12,750	131	2	3.42
Parkland Green West	1970	T6N	R20E	11	NW	51	30.44	24.85	17,500	51	0	2.49
Regal Manors	1970	T6N	R20E	23	NW-SW-SE	678	248.28	175.48	10,200	656	22	4.27
Regal Manors North	1970	T6N	R20E	14	NW	162	68.97	45.66	10,200	6	156	4.27
Regal Manors West	1970	T6N	R20E	22	SE	209	68.18	50.12	10,200	138	71	4.27
Cari-Adam Heights	1971	T6N	R20E	17	NW-SW-SE	87	91.72	T5.37	37,650	73	14	1.16
Hidden Valley Estates	1971	T6N	R20E	19	SW-SE	34	48.66	42.58	46,170	27	T	0.94
Parkland Green East	1971	T6N	R20E	11	NW	88	46.TT	33.20	16,200	88	0	2.69
Woodland Park View	1971	T6N	R20E	02	NE	10	3.24	2.68	12,276	10	0	3.55
Cleveland Hills	1972	T6N	R20E	08	SW-SE	27	33.67	28.46	47,600	25	2	0.92
Greenridge West	1972	T6N	R20E	13	SW	245	85.20	61.49	10,080	240	5	4.32
Hilly Acres Subdivision	1972	T6N	R20E	17	NW	12	20.75	17.46	54,860	11	1	0.79
Will-Ella Subdivision	1972	T6N	R20E	14	SE	6	1.50	1.50	11,050	6	0	3.94
Glen Garry East Subdivision	1973	T6N	R20E	31	NW	31	43.15	37.28	53,375	29	2	0.82
Orchard Knoll	1973	T6N	R20E	28	SE	16	15.03	12.63	34,400	15	1	1.27
Twin Willows	1973	T6N	R20E	06	NE	19	17.96	15.21	32,832	8	11	1.33
Konia Acres	1974	T6N	R20E	31	SE	7	9.99	6.98	41,976	7	0	1.04
Timberline Estates	1974	T6N	R20E	17	NE	8	12.34	10.61	54,860	6	2	0.79
Park Place	1974	T6N	R20E	18	NW	23	51.63	45.34	53,784	23	0	0.81
Hidden Valley Estates Addition No. 1	1974	T6N	R20E	19	SW	31	37.95	33.03	44,440	27	4	0.98
Glen Garry South	197T	T6N	R20E	31	SW	20	30.61	26.21	47,120	17	3	0.92
Weatheratone	1979	T6N	R20E	24	NE-NW	106	74.65	61.84	11,700	8	98	3.72
Monterey Subdivision No. 2	19T9	T6N	R20E	15	NE	7	2.43	2.43	15,180	2	5	2.87
Glendale Park No. 2	1980	T6N	R20E	14	NE	40	17.46	14.30	13,500	0	40	3.23
Total						7,905	4,576.02	3,634.24	--	7,049	856	2.17

NOTE: This table does not include cemetery or industrial lots developed during this same period.

Source: SEWRPC.

Table 25

RETAIL TRADE RELATED BUSINESSES IN THE CITY OF NEW BERLIN: 1980

Business Type	Standard Industrial Classification Number (SIC)	Number of Businesses	Percent of Total
Miscellaneous	59	43	30.7
Eating and Drinking Places	58	32	22.9
Service Stations	55	21	15.0
Building Materials/Garden Supplies	52	17	12.1
Furniture/Home Furnishings	57	13	9.3
Food Stores	54	8	5.7
Automotive Dealers	55	4	2.9
General Merchandise Stores	53	2	1.4
Total		140	100.0

Source: City of New Berlin Planning Department and SEWRPC.

Table 26

SERVICE AND FINANCIAL RELATED BUSINESSES IN THE CITY OF NEW BERLIN: 1980

Business Type	Standard Industrial Classification Number (SIC)	Number of Businesses	Percent of Total
Business Services	73	36	20.6
Personal Services	72	27	15.3
Auto Repair Services	75	21	11.9
Miscellaneous Professional Services	89	20	11.4
Miscellaneous Repair Services	76	20	11.4
Insurance Agents	64	11	6.3
Legal Services	81	10	5.7
Real Estate	65	10	5.7
Amusement/Recreation Services	79	8	4.5
Savings and Loans--Credit	61	5	2.8
Banks	60	3	1.7
Insurance Carriers	63	2	1.1
Motion Pictures	78	2	1.1
Security, Commodity Brokers/Services	62	1	0.5
Total		176	100.0

Source: City of New Berlin Planning Department and SEWRPC.

Table 27 lists the types and number of manufacturing, construction, and wholesale trade industries in the City. There were a total of 355 such establishments in the City in 1980. Table 27 indicates that the predominant industry type in the City was wholesale trade--durable goods, with 85 businesses, or about 24 percent of the total industries in the City. Fifty-six, or about 16 percent, of the total number of establishments represented consisted of special trade contractors. Plants engaged in the manufacture of fabricated metal products--machine shops--numbered 40, or about 11 percent of the total industrial establishments in the City.

Table 27

MANUFACTURING, CONSTRUCTION, AND WHOLESALE TRADE RELATED INDUSTRIES IN THE CITY OF NEW BERLIN: 1980

Business Type	Standard Industrial Classification Number (SIC)	Number of Industries	Percent of Total
Wholesale Trade--Durable Goods	50	85	23.9
Special Trade Contractors	17	56	15.8
Fabricated Metal Products (machine shops)	34	40	11.3
Machinery, Except Electrical	35	37	10.4
Printing/Publishing	27	29	8.2
General Building Contractors	15	28	7.9
Electric/Electronic Equipment	36	17	4.8
Wholesale Trade--Nondurable Goods	51	10	2.8
Stone, Clay, Glass Products	32	8	2.2
Lumber and Wood Products	24	7	2.0
Instruments and Related Products	38	7	2.0
Rubber and Plastics	30	5	1.4
Transportation Equipment	37	4	1.1
Miscellaneous Manufacturing	39	4	1.1
Heavy Construction Contractors	16	3	0.8
Paper Products	26	3	0.8
Chemicals and Allied Products	28	3	0.8
Mining	14	2	0.6
Furniture and Fixtures	25	2	0.6
Petroleum, Asphalt, and Coal Products	29	2	0.6
Food Products	20	1	0.3
Leather and Leather Products	31	1	0.3
Primary Metal Industries	33	1	0.3
Total		355	100.0

Source: City of New Berlin Planning Department and SEWRPC.

Governmental and Institutional Land Use: In 1980, governmental and institutional land uses accounted for about 360 acres of land, or about 4 percent of the urban area of the City and about 1.5 percent of the total city area. Major governmental and institutional land uses in the City include the City Hall, five fire stations, the Public Library, the New Berlin Police Department, the U. S. Post Office, the Milwaukee Astronomical Society Observatory, New Berlin Memorial Hospital, Calhoun School, Cleveland Heights School, Elmwood School, Glen Park School, Herbert Hoover School, Hickory Grove School, Holy Apostles School, New Berlin Center School, New Berlin High School, Orchard Lane School, New Berlin Eisenhower High School, Eisenhower Middle School, and Prospect Hill School.

Table 28 lists the number of institutional establishments providing health services, educational services, and social services in the City in 1980. Also listed are those establishments which serve membership organizations and justice, public order, and safety organizations. As shown in Table 28, there were 26 health service establishments, representing 74 percent of all institutional establishments, in the City in 1980. Also, as shown in Table 28, there were six educational service establishments representing about 17 percent of all institutional establishments. The remaining institutional establishments were social service centers, membership organizations, and justice, public order, and safety organizations, and represented only about 9 percent of all institutional establishments.

Table 28

INSTITUTIONALLY RELATED ESTABLISHMENTS IN THE CITY OF NEW BERLIN: 1980

Business Type	Standard Industrial Classification Number (SIC)	Number of Establishments	Percent of Total
Health Services.....	80	26	74.2
Educational Services.....	82	6	17.1
Social Services.....	83	1	2.9
Membership Organizations.....	86	1	2.9
Justice, Public Order, Safety....	92	1	2.9
Total		35	100.0

Source: City of New Berlin Planning Department and SEWRPC.

Table 29

TRANSPORTATION AND UTILITY RELATED SERVICES IN THE CITY OF NEW BERLIN: 1980

Business Type	Standard Industrial Classification Number (SIC)	Number of Establishments	Percent of Total
Trucking and Warehousing....	42	23	71.9
Transportation Services.....	47	4	12.5
Communication.....	48	3	9.4
U. S. Postal Service.....	43	1	3.1
Electric, Gas, and Sanitary Services.....	49	1	3.1
Total		32	100.0

Source: City of New Berlin Planning Department and SEWRPC.

Recreational Land Use: In 1980, recreational land uses represented approximately 344 acres of land, or about 3.6 percent of the urban portion of the City and about 1.5 percent of the total city area. The various recreational land use sites are located and identified on Map 15 and in Table 21 of Chapter III, and shown on Map 23.

Transportation and Utilities: In 1980, transportation and utility land uses, which include arterial streets and highways, collector streets, minor land access streets, railways, utilities, communications, and public and private trucking and transportation services, occupied approximately 2,179 acres of land, or about 9 percent of the total city area. Within this category, streets and highways occupied 1,749 acres, or about 7.4 percent of the total area of the City; railways, communications, and utilities occupied 426 acres, or about 1.8 percent; and trucking terminals occupied only about 4 acres, or about less than 1 percent.

Table 29 lists by type and number the various transportation and utility service establishments in the City. There were a total of 32 such establishments in the City in 1980. As indicated in Table 29, trucking and warehousing represented the largest number of establishments in the City with 23 establishments, representing about 72 percent of all such businesses.

Rural Land Use: Rural land uses include surface water, wetlands, woodlands, quarrying and extractive uses, unused land, other open lands, and agricultural lands. In 1980, surface water areas represented about 126 acres in the City, or only about 0.8 percent of the rural uses in the City and about 0.5 percent of the total city area. In 1980, wetlands within the City occupied 2,161 acres, or about 15 percent of the rural area and about 9 percent of the total city area.

In 1980, woodlands occupied 1,173 acres of land, or about 8 percent of the rural land uses in the City and about 5 percent of the total city area. Quarrying and extractive uses accounted for about 449 acres of land, or about 3 percent of the rural land uses and about 2 percent of the total city area. Agricultural and other open lands accounted for about 10,031 acres, or about 72 percent of the rural land uses and about 43 percent of the entire city area. Farm dwelling sites--or farmsteads--were classified as an agricultural use. A site area of about 20,000 square feet was selected as a basis for delineating the sites. Farmsteads in the City in 1980 occupied about 75 acres, or about 0.5 percent of the rural land and only 0.3 percent of the entire city area. All other farm buildings were also included in the overall agricultural land use category.

COMMUNITY FACILITIES

City Hall

The City of New Berlin City Hall in use in 1985 was a one-story brick masonry building with an attached prefabricated annex. The City Hall was located at 16300 W. National Avenue on a site approximately 6 acres in size and was constructed in the early 1960's, with a temporary annex added in 1974. In 1984, the City Hall building housed the Mayor's office, Common Council/Municipal Court chambers, City Clerk's office, Treasurer-Comptroller's office, Engineering Department, Building Inspection Department, Planning Department, and related supplementary spaces. The building contains a total of 10,168 square feet of gross floor area and housed 27 employees in 1984. A new City Hall was completed in 1986.

Police Protection

The City of New Berlin Police Department is located in a building at 17165 W. Glendale Drive. The Police Department shared this building with the Assessor's Office and the Parks and Recreation Department. The building has a total gross floor area of 14,950 square feet, of which 6,350 square feet are occupied by the Police Department. In 1985, the Police Department employed 50 sworn personnel and 12 nonsworn support staff.

Fire Protection

The City of New Berlin is currently served by five fire stations. These stations are located on the south side of W. National Avenue west of Racine Avenue; on the northeast corner of W. National Avenue and Casper Drive; on the west side of Sunny Slope Road north of Elmwood Drive, on the southeast corner of Glendale Drive and Calhoun Road; and on the west side of Sunny Slope Road north of Kostner Lane. The Fire Department consists of a full-time chief, a full-time fire inspector, and an all volunteer force of 18 men per station. The Fire Department has the following major equipment: seven fire engine pumper

trucks, one snorkel truck, one grass fire rig, one deluge unit, five ambulances, one light-duty crash rescue squad, one heavy-duty crash rescue squad, one fire inspector vehicle, and one staff car. The fire station locations are indicated on Map 24.

The adequacy of fire protection within the City is evaluated by the Insurance Service Office (ISO) through the use of the Grading Schedule for Municipal Fire Protection. The schedule provides criteria for use by insurance grading engineers in classifying their fire defenses and physical conditions of municipalities. Gradings obtained under the schedule are used throughout the United States in establishing base rates for fire insurance purposes. While the ISO does not presume to dictate the level of fire protection services provided by a municipality, reports of surveys made by its municipal survey office generally contain recommendations for correcting any serious deficiencies found and, over the years, have been widely accepted as guides by many municipal officials in planning improvements in their fire-fighting services. The gradings are obtained by ISO based upon their analyses of fire department equipment, alarm systems, water supply, fire prevention programs, building construction, and distance from a fire department station in order to determine a reasonable basis for fire insurance premiums on a particular property. In rating a community, total deficiency points in the several areas of evaluation are used to assign a numerical rating of from 1 to 10, 1 representing the best protection and 10 expressing an essentially unprotected community. Class 9 usually indicates a community without effective public water supply and hydrant protection, while higher categories have such facilities. According to the ISO, the areas in the City served by public water supply hydrants are generally rated Class 5 and those areas of the City which are not served by public water supply hydrants are rated Class 9.

Public Library

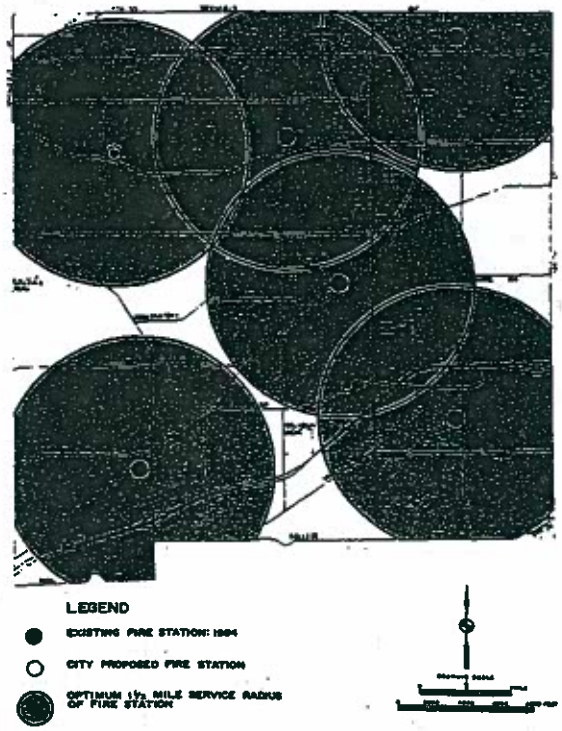
The City of New Berlin is served by a City Public Library located at 14750 W. Cleveland Avenue, in the northeast portion of the City. Its building contains about 8,702 square feet of gross floor area, and consists of the following functional areas: circulation (762 square feet); juvenile (756 square feet); reference (468 square feet); adult (3,096 square feet); technical services (600 square feet); three public meeting rooms (625, 625, and 576 square feet); staff lounge (176 square feet); adult lounge (144 square feet); young adult lounge (120 square feet); periodicals (72 square feet); general storage area (420 square feet); and an office/board room (256 square feet). In 1984, the City of New Berlin Public Library housed approximately 72,000 volumes and had an acquisition of about 2,800 volumes purchased and another approximately 2,000 donated.

Public Schools

The City of New Berlin lies within the boundaries of four school districts: the New Berlin School District, the Elmbrook School District, the West Allis-West Milwaukee School District, and the Muskego-Norway School District. The boundaries of these school districts as they pertain to the City of New Berlin are shown on Map 25. The New Berlin School District operates 10 schools: Eisenhower High School (grades 9-12), New Berlin High School (9-12), Eisenhower Middle School (7-8), Glen Park Middle School (7-8), and Calhoun (K-6), Cleveland Heights (K-6), Elmwood (K-6), New Berlin Center (K-6), Orchard Lane (K-6),

Map 24

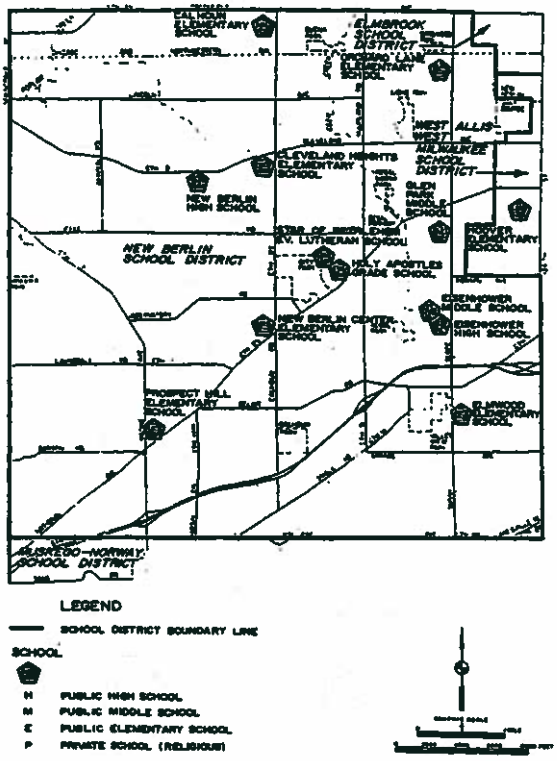
OPTIMUM TRAVEL DISTANCES FOR FIRE-FIGHTING VEHICLES FROM THE EXISTING AND PROPOSED FIRE STATIONS SERVING THE CITY OF NEW BERLIN



Source: SEWRPC.

Map 25

CITY OF NEW BERLIN SCHOOL DISTRICT BOUNDARIES AND SCHOOL LOCATIONS: 1984



Source: SEWRPC.

and Prospect Hill (K-6) Elementary Schools. The Elmbrook School District operates eight schools, none of which are located in the City. The West Allis-West Milwaukee School District operates 17 schools, of which only one--Hoover Elementary School--is located in the City of New Berlin. The Muskego-Norway School District operates six schools, none of which are located in the City of New Berlin.

Table 30 lists the 1983-84 school year enrollments for the New Berlin, Elmbrook, West Allis-West Milwaukee, and Muskego-Norway School Districts by school building. It also shows the maximum capacity for each school in these districts, as well as school locations.

PUBLIC UTILITIES

Public utility systems are one of the most important elements influencing community growth and development. Moreover, certain utility facilities are closely linked to the surface water and groundwater resources of the area, and may, therefore, affect the overall quality of the natural resource base. This is

Table 30

ENROLLMENTS FOR THE NEW BERLIN, ELMBROOK, WEST ALLIS-WEST MILWAUKEE, AND MUSKEGO-NORWAY SCHOOL DISTRICTS: 1983-1984 SCHOOL YEAR

School	Location	1983-1984 Enrollment	School Capacity
New Berlin School District			
Eisenhower High School (9-12)[a]	New Berlin	918	1,360
New Berlin High School (9-12)	New Berlin	953	1,120
Eisenhower Middle School (7-8)[a]	New Berlin	398	-- a
Glen Park Middle School (7-8)	New Berlin	376	440
Calhoun Elementary (K-6)	New Berlin	278	525
Cleveland Heights Elementary (K-6)	New Berlin	315	650
Elmwood Elementary (K-6)	New Berlin	262	550
New Berlin Center Elementary (K-6)	New Berlin	386	525
Orchard Lane Elementary (K-6)	New Berlin	381	525
Prospect Hill Elementary (K-6)	New Berlin	407	625
Subtotal		4,674	6,320
Elmbrook School District			
Brookfield Central Senior (9-12)	Brookfield	1,554	1,480-1,665[b]
Brookfield East Senior (9-12)	Brookfield	1,357	1,440-1,620[b]
Burleigh Middle School (7-9)	Brookfield	439	875
Elmbrook Middle School (7-9)	Elm Grove	649	1,060
Wisconsin Hill Middle School (Special)	Brookfield	149	675
Brookfield Elementary (K-6)	Brookfield	432	600
Brookside Elementary (K-6)	Brookfield	316	--c
Fairview South Elementary (K-6)	Brookfield	400	--d
Hillside Elementary (K-6)	Brookfield	435	600
Linfield Elementary (K-6)	Brookfield	279	--c
Swanson Elementary (K-6)	Brookfield	323	--c
Tonawanda Elementary (K-6)	Elm Grove	427	500
Subtotal		6,774	7,595
West Allis-West Milwaukee School District			
Central High School (9-12)	West Allis	1,301	1,600
Nathan Hale High School (9-12)	West Allis	1,107	1,500
West Milwaukee High School (9-12)	West Milwaukee	555	700
Frank Lloyd Wright Middle School (7-8)	West Allis	774	1,200
Horace Mann Middle School (7-8)	West Allis	336	500
Franklin Elementary (K-6)	West Allis	305	285
General Mitchell Elementary (K-6)	West Allis	419	413
Hoover Elementary (K-6)	New Berlin	379	550
Irving Elementary (K-6)	West Allis	287	330
Jefferson Elementary (K-6)	West Allis	512	525
Lincoln Elementary (K-6)	West Allis	369	385
Longfellow Elementary (K-6)	West Allis	326	275
Madison Elementary (K-6)	West Allis	185	220
Pershing Elementary (K-6)	West Milwaukee	225	250
Roosevelt Elementary (K-6)	West Allis	205	220
Walker Elementary (K-6)	West Allis	295	385
Woodrow Wilson Elementary (K-6)	West Allis	365	440
Subtotal		7,945	9,328
Muskego-Norway School District			
Muskego High School (9-12)	Muskego	1,380	1,600
Bay Lane Middle School (6-8)	Muskego	839	1,100
Lakeview Elementary (K-5)	Wind Lake	349	400
Mill Valley Elementary (K-5)	Muskego	192	300
Muskego Elemantary (K-5)	Muskego	313	400
Tess Corners Elementary (K-5)	Hales Corners	458	550
Subtotal		3,531	4,350
Total		22,924	27,593

[a]Eisenhower High School and Middle School are housed in the same facility, and therefore the combined capacity is 1,360 students.

[b]The first of these two figures refers to 80 percent capacity for a seven-period day, and the second refers to 90 percent capacity for a seven-period day.

[c]Reported by the school district as closed in mid-1984.

[d]Special education facility.

Source: New Berlin, Elmbrook, West Allis/West Milwaukee, Muskego/Norway School Districts and SEWRPC.

particularly true of sanitary sewerage, water supply, and stormwater drainage facilities, which are in a sense modifications of, or extensions to, the natural lake, stream, and watercourse system of the area and of the underlying groundwater reservoir. Knowledge of the location and capacities of these utilities is, therefore, essential to intelligent land use planning for the City.

Sanitary Sewer Service

In 1982, wastewater treatment was provided for the City by a privately owned facility--the Regal Manors sewage treatment plant, the Milwaukee Metropolitan Sewerage District, and the City of Muskego. In December 1982, Ruekert and Mielke, Inc., Consulting Engineers, prepared a report entitled New Berlin--Regal Manors Interceptor Facility Plan, recommending abandonment of the Regal Manors sewage treatment plant and the conveyance of the sewage from the tributary sewage area to the Milwaukee metropolitan sewerage system. The abandonment of the Regal Manors sewage treatment plant was also recommended in the areawide water quality management plan prepared and adopted by the Regional Planning Commission. The City followed the recommendations contained in these two plans and in 1985 abandoned the Regal Manors wastewater treatment facility.

The City of Muskego treatment plant providing service to the City of New Berlin was also abandoned in 1985 and its tributary service area, including such area within the City of New Berlin, connected to the Milwaukee metropolitan sewerage system. Thus, by 1985 sewage treatment services for the City were provided entirely by the Milwaukee Metropolitan Sewerage District.

The existing 1986 city sanitary sewer service area and sanitary sewer system are shown on Map 26. The existing sanitary sewer service area totaled about 7,042 acres--about 11.0 square miles--or about 30 percent of the total city area.

Public Water System

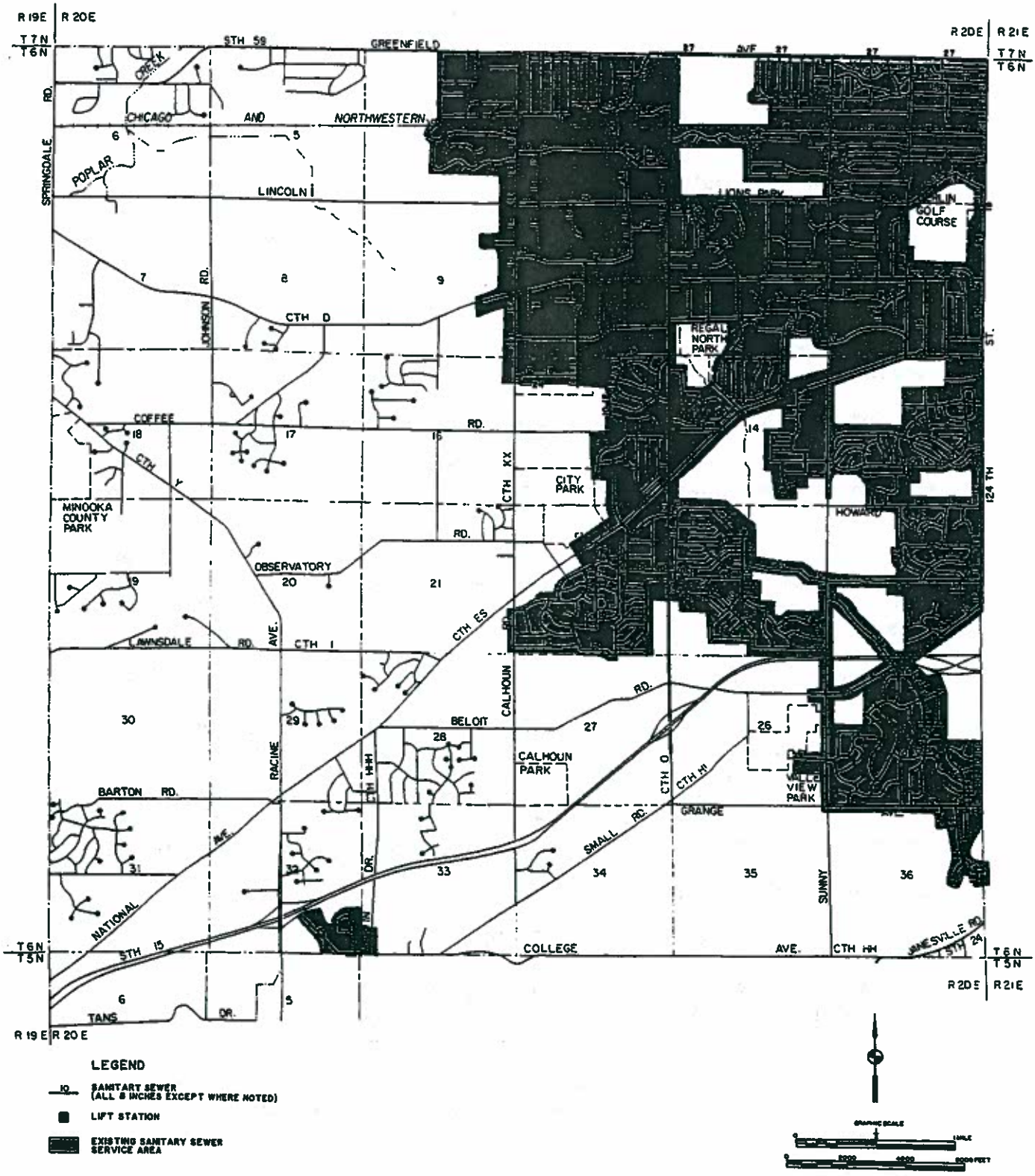
The City of New Berlin public water supply area is shown on Map 27. In 1984 the system generally served 5,455 acres--8.5 square miles--or about 23 percent of the total city area, and served a total of 3,407 customer accounts in 1983. In 1984 one water tower with a 500,000-gallon capacity was in use, located on Calhoun Road north of Cleveland Avenue. An additional 500,000-gallon water tower located on the west side of Sunny Slope Road north of Elmwood Drive was completed but not yet connected to the water supply system in 1984. In addition, there are six underground reservoirs.

Engineered Stormwater Drainage Facilities

As noted in Chapter I of this report, in 1974 a stormwater drainage master plan was prepared by J. C. Zimmerman Engineering Corporation, consulting engineers, for the City of New Berlin. The study delineated the boundaries of the drainage basins located in the City and the identified natural drainage channels. An important recommendation contained in the plan was that major drainage facilities be designed as open channel sections consisting of smooth graded earth bottoms and gentle side slopes. In certain instances, where constraints warranted, alternatives to the open earth channel were recommended. These included concrete-lined channels, concrete flumes, and concrete conduit

Map 26

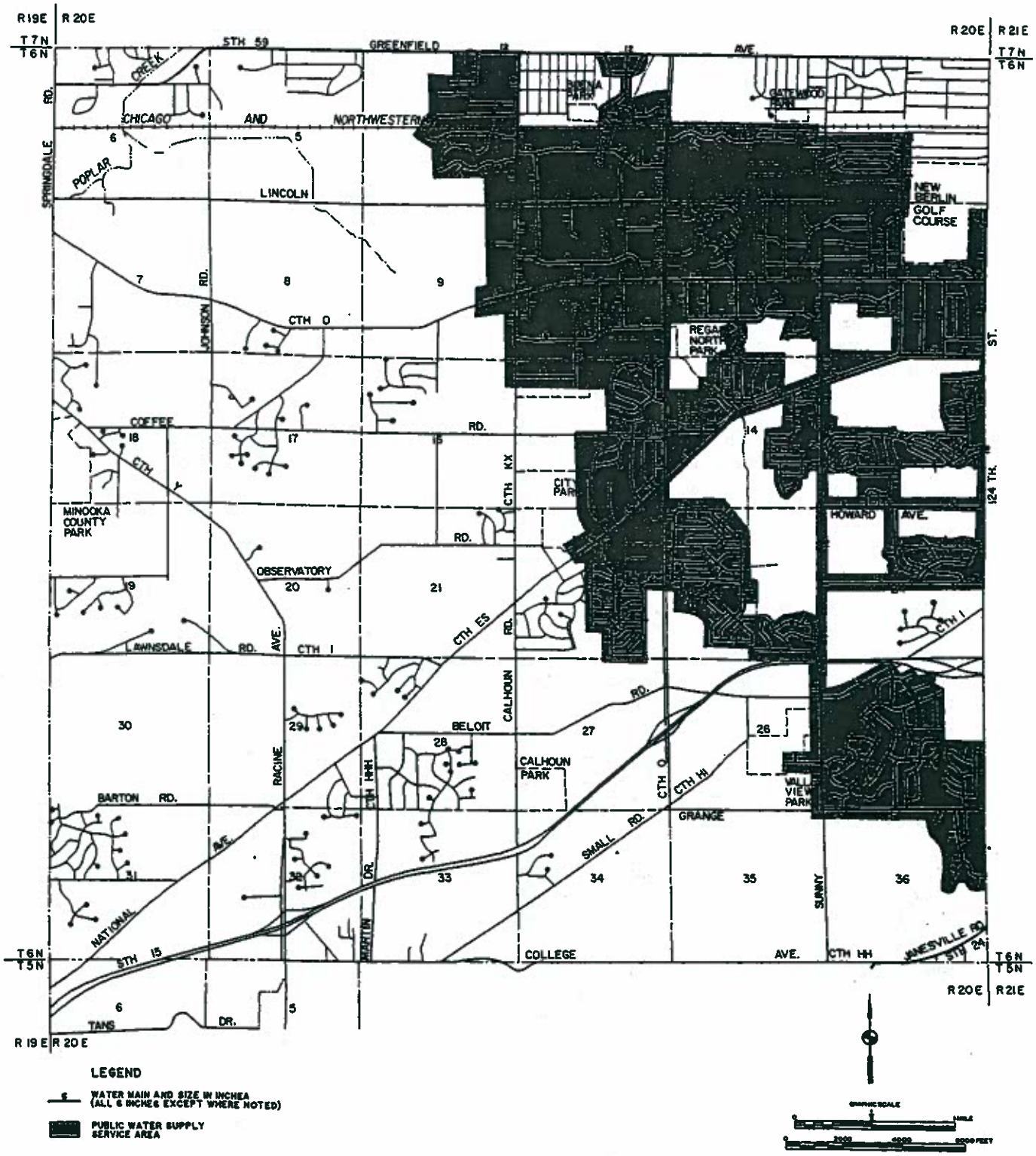
EXISTING SANITARY SEWER SYSTEM AND SERVICE AREA OF THE CITY OF NEW BERLIN: 1986



Source: City of New Berlin Engineering Department and SEWRPC.

Map 27

EXISTING PUBLIC WATER SUPPLY SYSTEM AND SERVICE AREA OF THE CITY OF NEW BERLIN: 1986



Source: City of New Berlin Engineering Department and SEWRPC.

sections. The general stormwater drainage master plan for the City of New Berlin is shown on Map 7 of Chapter I. Currently, there is no system map which indicates the location and configuration of all the existing engineered stormwater drainage facilities in the City. It is recommended that such a system map be prepared.

EXISTING ZONING

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

A zoning ordinance is a public law which regulates and restricts the use of private property in the public interest. A zoning ordinance divides a community into a number of districts for the purpose of regulating: 1) the use of land, water, and structures; 2) the height, size, shape, and placement of structures; and 3) the density of population. Zoning seeks to confine certain land uses to those areas of the community which are peculiarly suited to these uses, thereby encouraging the most appropriate use of land throughout the community; it seeks to assure adequate light, air, and open space for each building and reduce fire hazards; and it seeks to prevent the overcrowding of land and congestion of the street system, the overloading of the utility systems, and the uneconomic development of utility systems. Zoning should also seek to protect and preserve the natural resource base.

A single set of regulations applying to the entire community could not achieve these objectives of zoning, since different areas of the community differ in character and function. In this respect, zoning differs from building, housing, and sanitation codes which, in general, apply uniformly to all land or buildings of like use wherever they may be located in a community. Zoning regulations may be different for different types of districts, but regulations within any given district must be uniform. Accordingly, a zoning ordinance consists of two parts: 1) a text setting forth regulations which apply to each of the various zoning districts, together with procedural, administrative, and legal provisions; and 2) a map delineating the boundaries of the various districts to which the regulations apply.

Wisconsin enabling legislation requires that zoning regulations be made in accordance with a "comprehensive plan." There are a number of definitions of the term "comprehensive plan" as related to zoning, and they vary from the idea that the zoning must regulate the use, height, and area of city development, to the idea that the zoning must be applied to the entire corporate limits of the community or must be based upon careful and comprehensive study prior to adoption, and to the idea that the zoning must be based upon a documented, long-range plan of land use. The fourth concept is that which is the most commonly accepted by professional planners.

Each zoning ordinance text and its accompanying zoning map must be carefully tailored to the individual community, or certain hardships may be created which result in lawsuits, or the zoning may be set aside as arbitrary, capri-

cious, or unconstitutional. The preparation of a zoning ordinance text and map, therefore, is a complex task, calling for exhaustive studies and close cooperation between the land use planning and legal professions. The zoning text and map must be prepared so as to bear a just relationship to existing conditions and yet to direct the future development of the community along better lines. If challenged in court, the municipality should be able to show that sufficient accurate data were utilized in the drafting of the ordinance to meet the legal requirement of reasonableness. The lack of such data could result in the zoning ordinance being declared invalid.

All land development and building activity in the City of New Berlin is regulated by zoning, land division, and building ordinances and codes. The present zoning ordinance of the City of New Berlin, Chapter 17 of the Municipal Code, is characterized by the provision of 20 zoning districts--seven single-family residential districts, one two-family residential district, one multifamily residential district, one condominium district, four business districts, two industrial districts, one quarrying district, one conservancy district, and, in effect, two flood hazard districts. The application of these districts is shown on Map 28. Table 31 presents a brief summary of the regulations applicable within each of these 20 districts, including principal and accessory uses, conditional uses, maximum residential density, minimum lot size, minimum yard requirements, building height, and the size of each district zoned in the City.

The existing City of New Berlin Zoning Ordinance became effective on June 5, 1962. Although the zoning ordinance has had many amendments since its effective date--as documented in the ordinance itself--it has not been comprehensively updated since 1962 to reflect either current conditions in the City of New Berlin, or changes in the state-of-the-art of zoning. The completion of a comprehensive land use plan such as that documented herein dictates that such an update be accomplished.

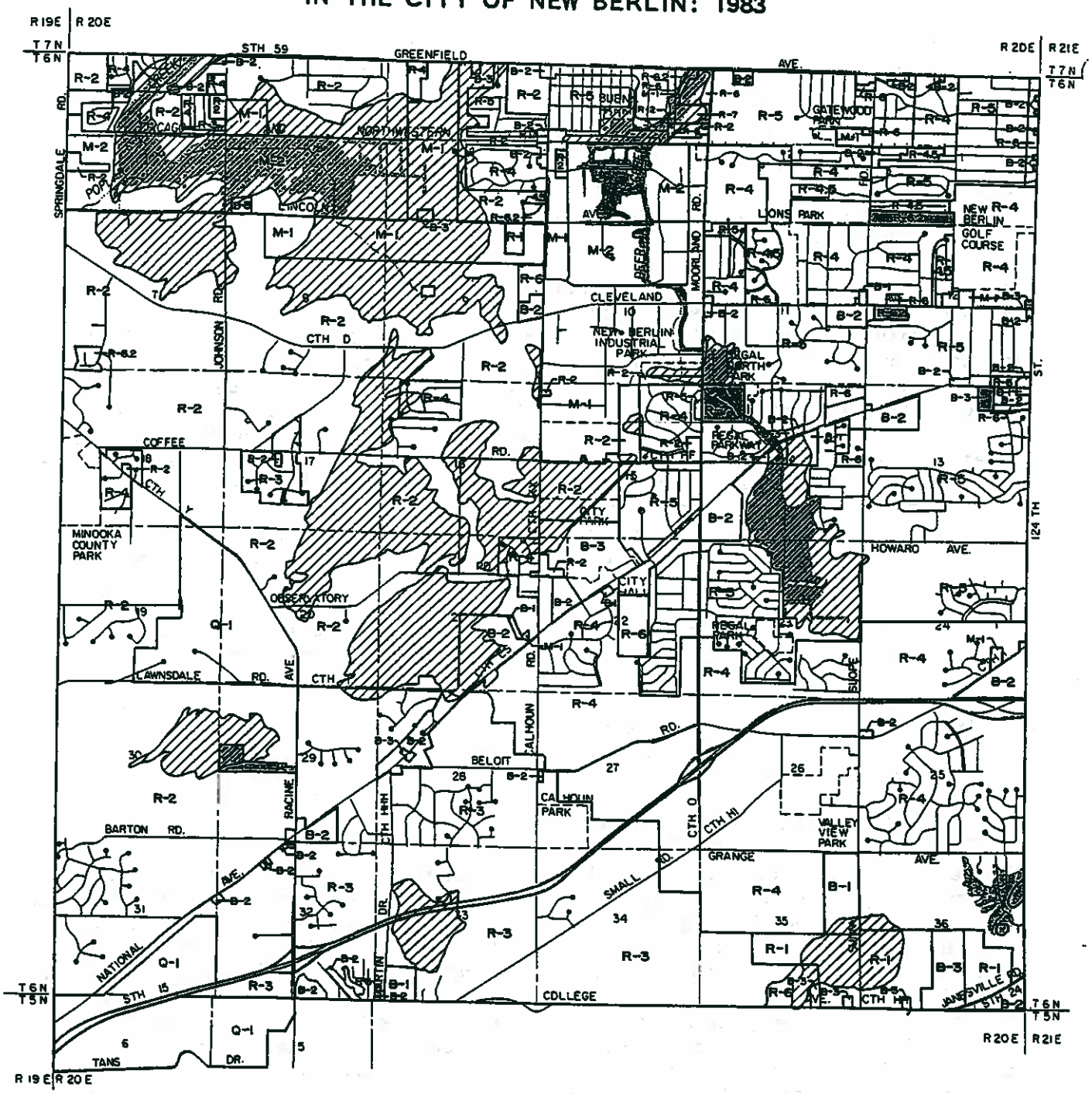
Zoning District Structure and Types

The existing City of New Berlin Zoning Ordinance follows a variation of the "pyramid" approach to use classifications in zoning districts, rather than an "exclusive use district" approach. The pyramid approach to land use classification in zoning districts is typically based upon a land use hierarchy so that zoning districts can be classified from the "highest" (the residential districts) to the "lowest" (the industrial districts), with the business districts somewhere between the two categories. Those uses in the highest class are permitted throughout the pyramid, and those at the lowest level typically permit residential and business uses along with permitted industrial uses. The "exclusive use district" concept, on the other hand, permits specific similar uses in a particular basic district but excludes these uses from other zoning districts of the ordinance. The pyramid concept is illustrated in Figure 4, as is the exclusive use district concept.

The application of the pyramid approach in the City of New Berlin Zoning Ordinance, albeit in modified form, is evident from an analysis of the permitted uses in the residential, business, and industrial districts. In the residential use category, for instance, the R-2 district permits uses of the R-1 district; the R-3 permits uses of the R-1 and R-2; the R-4 permits uses of the R-1, R-2, and R-3; the R-4 and R-4.75 permit uses of the R-1, R-2, R-3, and R-4; the R-5 permits uses of the R-1, R-2, R-3, and R-4; the R-6 permits

Map 28

OFFICIAL ZONING MAP AND EXISTING ZONING IN THE CITY OF NEW BERLIN: 1983



LEGEND

R-1	RESIDENTIAL DISTRICT	R-6	RESIDENTIAL DISTRICT	M-2	HEAVY INDUSTRY
R-2	RESIDENTIAL DISTRICT	R-6.2	RESIDENTIAL DISTRICT (DUPLEX)	Q-1	QUARRYING DISTRICT
R-3	RESIDENTIAL DISTRICT	R-7	RESIDENTIAL DISTRICT (CONDOMINIUM)		CONSERVANCY DISTRICT
R-4	RESIDENTIAL DISTRICT	B-1	RESTRICTED-COMMERCIAL		FLOODPLAIN DISTRICT
R-4.5	RESIDENTIAL DISTRICT	B-2	LOCAL COMMERCIAL		PLANNED UNIT DEVELOPMENT (AS A CONDITIONAL USE)
R-4.75	RESIDENTIAL DISTRICT	B-3	GENERAL COMMERCIAL		
R-5	RESIDENTIAL DISTRICT	M-1	LIGHT INDUSTRY		

Source: City of New Berlin Planning Department.

uses of the R-1, R-2, R-3, R-4, and R-5; and the R-6.2 permit uses of the R-1, R-2, R-3, R-4, and R-5. In the business districts, the B-2 district permits uses of the B-1 district, and the B-3 permits uses of the B-1 and B-2 districts except residential uses; the B-4 Limited Business Development District, however, is an exclusive district. With respect to the industrial districts, the M-1 district permits uses of the B-3 business district, and the M-2 industrial district permits uses of the B-3 and M-1 districts. Using the pyramid approach in this fashion makes it very difficult to plan for limited and specific types of development in any area of the City--the type of planning which is necessary to the implementation of a land use plan. The pyramid approach also leads to undesirable mixed uses, and does not adequately protect lands from incompatible uses.

Overzoning and Underzoning

Overzoning may be defined as the designation of land for residential, commercial, or industrial use that is far beyond the community's short-term needs for such land uses. Overzoning is often done to attract and encourage development that will improve the community's tax base. Actually, overzoning only encourages scattered development having high municipal service costs, the development of marginal uses, and undesirable speculation on land values. Moreover, overzoning often results in petitions to redistrict for other uses which, if granted, result in undesirable mixed-use and mixed-age development. Historically, overzoning, coupled with zoning regulations which permit all "higher" uses in "lower" use districts, has created severe land use problems for local municipalities, including undesirable mixtures of residential and commercial or industrial uses. This practice does not serve to implement a sound land use plan.

Underzoning, just as overzoning, can also create development problems. Underzoning may be defined as the provision of inadequate land for necessary land uses. Inadequately sized zoning districts can inhibit the growth of a community and create monopolies for existing land uses. A City Planning Commission must, therefore, be realistic in determining the aggregate land area to be devoted to the various use districts when providing for future expansion. A common failure leading to underzoning is overlooking the fact that the entire urban area must be studied in preparing a good zoning ordinance for a community, and that the zoning ordinance and accompanying zoning map should be based upon a community master or land use plan.

Table 32 shows the existing 1980 land use in the City as compared to the City's existing zoning, and Table 33 shows forecast year 2000 land use needs as compared to existing zoning in the City. Based upon an analysis of the data contained in these two tables, the following conclusions may be drawn regarding the amount of existing and proposed land use and existing zoning in the City:

1. Single-family residential development at densities ranging from 0.5-acre to 1.4-acre lots presently occupies 3,017 acres. However, 13,227 acres are zoned for this use. This is almost 9,900 acres more than would be required by the year 2000, as indicated in Chapter VI and Table 33, and could accommodate an incremental population of from 19,000 to 53,000 persons.

2. Single-family residential development at densities less than 0.5 acre per dwelling unit presently occupies 1,265 acres. However, 3,160 acres are zoned for this use. This is almost 1,030 acres more than would be

Table 31

SUMMARY OF EXISTING ZONING DISTRICTS FOR THE CITY OF NEW BERLIN: 1983

District	Permitted Uses		Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Minimum Lot Size			Minimum Yard Requirements			Maximum Building Height (feet)	Area of City in Zoning District (acres)	Percent of Total
	Principal	Accessory			Total Area (square feet)	Area per Family (square feet)	Width at Setback (feet)	Front Yard (feet)	Side Yard (feet)	Rear Yard (feet)			
R-1 Rural Home[a]	One-family dwellings, public parks and recreation areas, general farming on not less than 3 acres	Private garages, quarters for household or farm employees, private boathouses, stables, barns, home occupations	Airport, dumps, transportation terminals, cemeteries, churches, commercial fish hatchery, extraction of raw materials, golf courses, schools	0.33	130,680 (3 acres)	130,680 (3 acres)	200	60	30 (50 for stables, barns, or poultry houses)	50	Principal Building--35 Accessory Building--15	343.5	1.5
R-2 Residential[a]	Same as R-1 District and the keeping of usual household pets	Same as R-1 District	Same as R-1 District	1.0	43,560 (1 acre)	43,560 (1 acre)	150	60	20	50	Principal Building--35 Accessory Building--15	6,383.0	23.1
R-3 Residential[b]	Same as R-1 and A-2 Districts	Same as R-1 and R-2 Districts	Same as R-1 District	1.45	30,000	30,000	120	50	15	50	Principal Building--35 Accessory Building--15	2,842.0	12.1
R-4 Residential[c]	Same as R-1, R-2, and R-3 Districts	Same as R-1, R-2, and R-3 Districts	Same as R-1 District	2.13	20,000	20,000	100	50	15	25	Principal Building--35 Accessory Building--15	4,002.0	17.0
R-4.5 Residential[c]	Same as R-1, R-2, R-3, and R-4 Districts	Same as R-1, R-2, R-3, and R-4 Districts	Same as R-1 District	2.9	15,000	15,000	100	50	15	25	Principal Building--35 Accessory Building--15	128.5	0.5
R-4.75 Residential[c]	Same as R-1, R-2, R-3, and R-4 Districts	Same as R-1, R-2, R-3, and R-4 Districts	Same as R-1 Dixtrict	3.6	12,000	12,000	85	25	12	35	Principal Building--35 Accessory Building--15	--	--
R-5 Residential[c]	Same as R-1, R-2, R-3, and R-4 Districts	Same as R-1, R-2, R-3, and R-4 Districts	Same as R-1 District	4.35	10,000	10,000	85	With open ditches--40; with gutter and storm sewer--30	With open ditches--10; with gutter and storm sewer--10	With open ditches--25; with gutter and storm sewer--35	Principal Building--35 Accessory Building--35	3,032.0	12.9
R-6 Residential[d]	Same as R-1, R-2, R-3, R-4, and R-5 Districtx and multiple-family dwellings	Same as R-1, R-2, R-3, R-4, and R-5 Districts	Same as R-1 District	11.9	10,000	3,660	Single-family--85 Two or more families--100	40	10	35	Principal Building--35 Accessory Building--15	239.0	1.0
R-7 Residential	Same as R-1, R-2, R-3, R-4, and R-4.75 Districts	Same as R-1, R-2, R-3, R-4, and R-4.75 Districts	Same as R-1 District	7.92	5,500	5,500	--	25	10	25	Principal Building--35 Accessory Building--15	0.0	0.0
R-6.2 Residential	Same as R-1, R-2, R-3, R-4, and R-5 Districts and two-family dwellings	Same as R-1, R-2, R-3, R-4, and R-5 Districts	Same as R-1 District	4.84	Single-family--12,000 two family--18,000	9,000	Single-family--85 Two-family--120	30	10	15	Principal	29.0	0.1
C-1 Conservancy	Grazing, farming, harvesting of wild crops, hunting, fishing, forestry, dams, etc.	--	As per underlying use district	--	--	--	--	--	--	--	--	3,576.5[1]	15.2[1]
B-1 Restricted	Boarding or lodging houses, delicatessens, florist shops, funeral homes, interior decoration, professional offices, single-family residences connected with business use	--	Same as R-1 District	4.35	10,000	10,000	85	40	15	25	Principal Building--35 Accessory Building--15	117.5	0.5
B-2 Business	Same as O-1 District and also including art shops, appliance stores, bakeries, clinics, drug stores, hardware stores, taverns, etc.	--	Same as R-1 District	4.35	10,000	10,000	85	40	Commercial--10 Residential--15	25	Principal Building--35 Accessory Building--20	528.0	2.2

Table 31 (continued)

District	Permitted Uses		Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Minimum Lot Size			Minimum Yard Requirements			Maximum Building Height (feet)	Area of City in Zoning District (acres)	Percent of Total
	Principal	Accessory			Total Area (square feet)	Area per Family (square feet)	Width at Setback (feet)	Front Yard (feet)	Side Yard (feet)	Rear Yard (feet)			
B-3 General Business	Same as B-1 and B-2 Districts except that new residential shall not be permitted. Also permitted in the District are drive-in theaters, used car lots, storage yards, garages, laundries, etc.	--	Same as R-1 District	4.35 (however, no new residential uses are permitted)	10,000	10,000	85	30	Commercial--10 Residential--15	25	Principal Building--35 Accessory Building--20	244.0	1.0
B-4 Limited Business Development	Medical and dental clinics, professional and business offices	Uses and structures customarily accessory and incidental to the principal permitted uses	None permitted	--	No required minimum	--	100	25	-- [e]	25	Principal Building--30 Accessory Building--15	--	--
Q-1 Quarrying[g]	Uses permitted in the R-1 District and quarrying	Manufacturing of concrete building blocks and ready-mix concrete	Same as R-1 District	0.33	130,680 (3 acres)	130,680 (3 acres)	200	240 [f]	20 [f]	20 [f]	Principal Building--35 Accessory Building for Quarrying--60 Other Accessory Building--15	825.5	3.5
M-1 Limited Industrial	Uses permitted in the B-3 District except new residences. Also permitted are junk yards, drop forges, foundries, truck terminals, dairies, etc.	--	Same as R-1 District	No maximum stated	As necessary to comply with all district regulations	No minimum stated	100	50	10	25	45	1,103.5	4.8
M-2 General Industrial	Uses permitted in the B-3 and M-1 Districts, quarrying, cement manufacture, acid manufacture, stockyards, etc.	--	Same as R-1 District	No maximum stated	As necessary to comply with all district regulations	No minimum stated	100	50	10	25	60	1,045.0	4.4
FP-1 Floodplain District; Floodway Subdistrict (FW)	Open spaces	--	Nonhabitable accessory structures	--	--	--	--	--	--	--	--	--	--
FP-1 Floodplain District; Flood Fringe Subdistrict (FF)	Open space uses permitted in the underlying use district	--	Residential, commercial, and industrial uses when placed on fill or floodproofed	-- [h]	-- [h]	-- [h]	-- [h]	-- [h]	-- [h]	-- [h]	-- [h]	627.0 [i]	2.7 [i]
												2,686.5	11.4
Unzoned Public Street Rights-of-Way												23,589.0	100.0
Total													

[a] Minimum floor area (in square feet) of principal residential buildings in this district are as follows:

1. First floor living area, two or fewer bedrooms: One story--1,300, multi-story--900.
2. Total living area: one story--1,300, multi-story--1,700.
3. Add for each additional bedroom: one story--200, multi-story--0.
4. Add if basement area is under 600 square feet: one story--250, multi-story--0.

[b] Minimum floor area (in square feet) of principal residential buildings in this district are as follows:

1. First floor living area, two or fewer bedrooms: one story--1,200, multi-story--900.
2. Total living area: one story--1,200, multi-story--1,600.
3. Add for each additional bedroom: one story--200, multi-story--0.
4. Add if basement area is under 600 square feet: one story--250, multi-story--0.

[c] Minimum floor area (in square feet) of principal residential buildings in this district are as follows:

1. First floor living area, two or fewer bedrooms: one story, 1,100, multi-story--900.
2. Total living area: one story--1,100, multi-story--1,500.
3. Add for each additional bedroom: one story--190, multi-story--0.
4. Add if basement area is under 600 square feet: one story--250, multi-story--0.

[d] Minimum floor area requirements for this district are as follows:

1. Two to four dwelling units: one-bedroom apartment--800 square feet and add 200 square feet for each additional bedroom.
2. Five to 10 dwelling units: one-bedroom apartment--700 square feet, and 850 square feet for two-bedroom apartments. Only one- and two-bedroom units are permitted.
3. Eleven or more dwelling units: one-bedroom apartment--560 square feet, and 810 square feet for two-bedroom units. Only one- and two-bedroom units are permitted.

[e] None required except when adjoining any residential district, and then not less than one-half of the height of the building, but in no case less than 15 feet minimum.

[f] See district regulations for a more detailed yard requirement breakdown.

[g] There are two subdistricts to this district; the Floodway Subdistrict (FW) and Flood Fringe Subdistrict (FF).

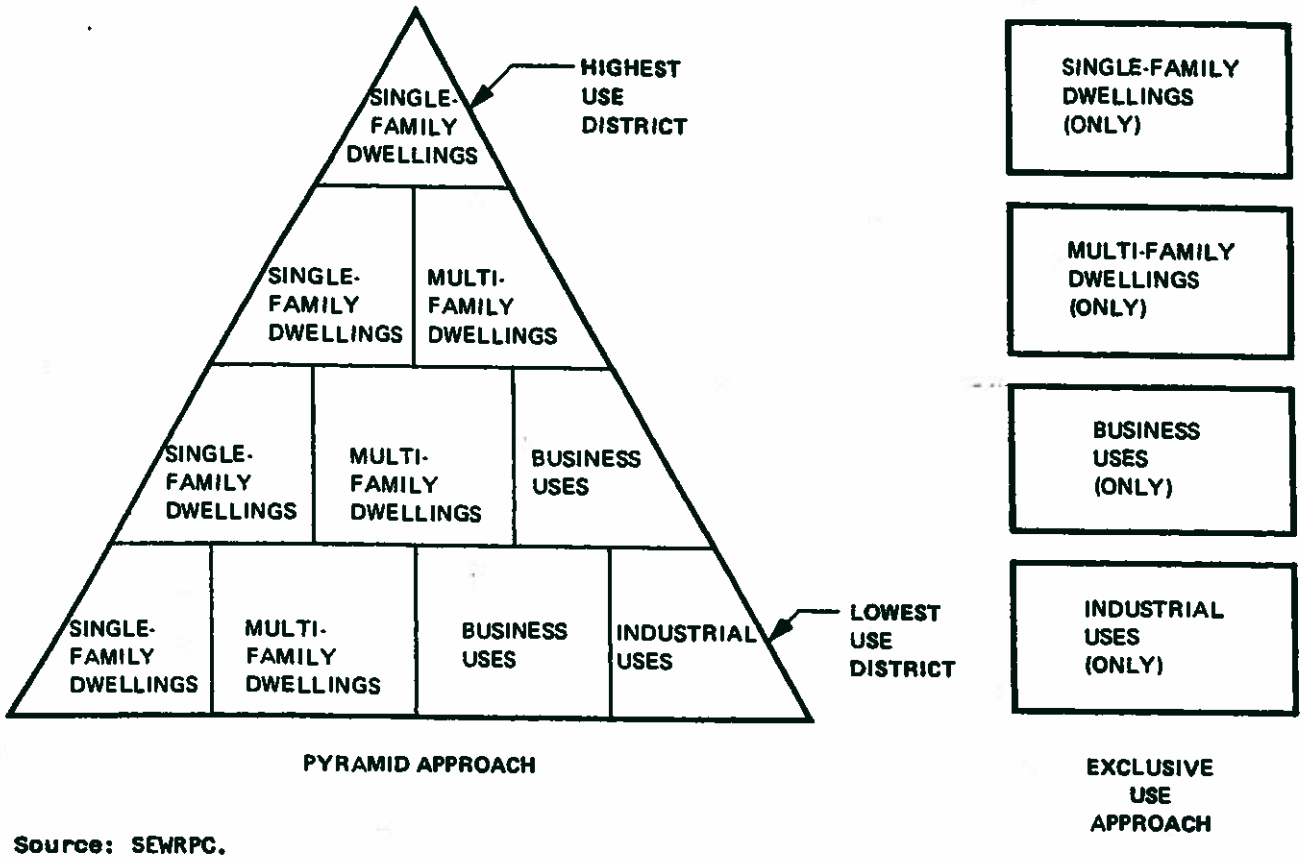
[h] As per underlying basic use requirement.

[i] Excluded from total since this district is used as an overlay district over other basic use districts.

Source: SEWRPC.

Figure 4

SIMPLIFICATION OF THE PYRAMID AND EXCLUSIVE USE DISTRICT APPROACHES TO ZONING ORDINANCE DISTRICT STRUCTURE



Source: SEWRPC.

required by the year 2000, as indicated in Chapter VI and Table 33, and could accommodate an incremental population of from 9,890 to 21,540 persons.

3. Retail sales and service land uses presently occupy 271 acres. However, about 890 acres are zoned for this use. This is almost 345 acres more than would be required by the year 2000, as indicated in Chapter VI and Table 33.

4. Industrial uses presently occupy 403 acres. However, about 2,190 acres are zoned for this use. This is almost 1,060 acres more than would be required by the year 2000, as indicated in Chapter VI and Table 33.

Communities desiring to regulate growth in an orderly manner by placing development in both time and space are faced with the problem of just how far in advance of development land should be zoned for the various uses. This is particularly true in communities in which land may be in rapid transition from rural to urban uses, as is the case in the City of New Berlin. Immediate zoning of large tracts for residential development in accordance with a long-range land use plan that has been prepared for conditions that are anticipated 20 or 30 years into the future results in overzoning with its attendant undesirable effects. Therefore, it is best for large tracts of undeveloped agricultural

Table 32

EXISTING 1980 LAND USE COMPARED TO 1980 ZONING IN THE CITY OF NEW BERLIN

Land Use Category	1980 Existing Land Use		1980 Existing Zoning	
	Total Acres	Percent of City Area	Total Acres	Percent of City Area
Residential[a]				
Single family (5-acre to 10-acre lots).....	596	2.5	0[e]	0[e]
Single family (1.5-acre to 4.9-acre lots).....	1,116	4.7	343.5[f]	1.5[f]
Single family (0.5-acre to 1.4-acre lots).....	3,017	12.8	13,227.0	56.2
Single family (lots less than 0.5-acre).....	1,265	5.4	3,160.5	13.4
Two family.....	6	0.0[d]	29.0	0.1
Multiple family.....	66	0.3	239.0	1.0
Retail Sales and Service.....	271	1.2	889.5	3.7
Industrial.....	403	1.7	2,188.5	9.2
Governmental and Institutional.....	360	1.5	0[g]	0[g]
Recreational[b].....	344	1.5	0[g]	0[g]
Natural Areas including Water, Wetland, and Woodlands.....	3,460	14.7	3,576.5[h]	15.2[h]
Quarrying and Extractive[c].....	449	1.9	825.5	3.5
Agricultural and Other Open Lands....	10,057	42.6	0[e]	0[e]
Transportation, Communication, and Utilities.....	2,179	9.2	2,686.5[i]	11.4[i]
Total	23,589	100.0	23,589.0	100.0

[a]Not including platted subdivision lands under development but not developed in 1980.

[b]Includes only areas used for intensive outdoor recreational activities.

[c]Includes active and inactive quarries.

[d]Less than 0.1 percent.

[e]No such zoning district in the existing zoning ordinance.

[f]No single-family residential zoning district(s) exists with this density range except the R-1 Rural Home District which has a three-acre minimum lot size.

[g]No exclusive zoning district for this type of use exists under the present zoning ordinance.

[h]Excluded from total since this district is used as an overlay district over other basic use districts which are already counted in this table.

[i]These lands are not zoned under the present zoning ordinance.

Source: SEWRPC.

and other open lands to be placed in either an agricultural district or an agricultural holding district until urban development becomes imminent. Based on the analyses presented of overzoning and underzoning, it may be concluded that the current city zoning district map should be revised following completion and adoption of the land use plan.

Strip Zoning

Historically, lands fronting arterial streets and highways were zoned for multiple-family residential, commercial, or industrial use. This practice resulted in strip zoning along arterials even out into undeveloped rural areas. Strip zoning is a particularly detrimental type of overzoning. Strip zoning is herein defined as zoning for multiple-family residential, commer-

Table 33

FORECAST YEAR 2000 LAND USE NEEDS AND EXISTING 1980 ZONING IN THE CITY OF NEW BERLIN

Land Use Category	Forecast Year 2000 Land Use Needs		1980 Existing Zoning		Year 2000 Overzoning/Underzoning	
	Total Acres	Percent of City Area	Total Acres	Percent of City Area	Total Acres Over/Under Forecast Land Use	Percent Overzoning Related to Forecast Land Use
Residential						
Single family (5 acre to 10 acre lots)	1,032.3[a]	4.4	0[b]	0[b]	--[b]	--[b]
Single family (1.5 acre to 4.9 acre lots)	1,387.5[c]	5.9	343.5[d]	1.5[d]	--[b]	--[b]
Single family (0.5 acre to 1.4 acre lots)	3,337.5[e]	14.2	13,227.0	56.2	9,889.5	296.3
Single family (lots less than 0.5 acre)	2,129.6	9.0	3,160.5	13.4	1,030.9	48.4
Two family	259.4	1.1	29.0	0.1	-230.4	-794.4
Multiple family	259.0	1.1	239.0	1.0	- 20.0	- 7.7
Retail Sales and Service	544.8	2.3	889.5	3.7	344.7	63.3
Industrial	1,132.2	4.8	2,188.5	9.2	1,056.3	93.3
Governmental and Institutional	581.1	2.5	0[f]	0[f]	--[f]	--[f]
Recreational	784.0	3.3	0[f]	0[f]	--[f]	--[f]
Primary Environmental Corridors, Secondary Environmental Corridors, and Isolated Natural Areas	3,992.0	16.9	3,576.5[g]	15.2[g]	-415.5	- 10.4[b]
Agricultural and Other Rural Lands	8,149.6	34.5	0[b]	0[b]	--[b]	--
Total	23,589.0	100.0	23,589.0	100.0	--	--

[a]Existing 1980 plus the infilling of 56 vacant parcels (in 1980) representing 436.5 acres of land.

[b]No such zoning district in the existing zoning ordinance.

[c]Existing 1980 plus the infilling of 96 vacant lots (in 1980) representing 271.7 acres of land.

[d]No single-family residential zoning district(s) exists with this density range except the R-1 Rural Home District which has a three-acre minimum lot size.

[e]Existing 1980 plus the infilling of 444 vacant lots (in 1980) representing 320.0 acres of land.

[f]No exclusive zoning district for this type of use exists under the present zoning ordinance.

[g]Excluded from total since this district is used as an overlay district over other basic use districts.

Source: SEWRPC.

cial, or industrial use one tier of lots deep, fronting upon and extending along an arterial street or highway for a distance of from one-eighth to one-quarter mile. Single-family and two-family residential uses may be interspersed with the commercial and industrial uses. There are two examples of strip zoning in the city zoning ordinance, as may be seen on Map 28. They are W. National Avenue (to be discussed in greater detail in Chapter VIII) and Lincoln Avenue west of Calhoun Road.

Buffer Zoning

Buffer zoning may be defined as the placement of an intermediate use between two clearly incompatible uses, such as between single-family residences and noisy, unattractive industrial or commercial uses. It has been common practice to use an intermediate zoning district as such a buffer; for example, the placement of a multi-family residential district between a commercial or industrial zoning district and a single-family residential district. The logic of such application of zoning districts as buffer zones may be questioned,

particularly with respect to the use of multi-family residences to buffer commercial and industrial districts. If the presence of a commercial or industrial district is harmful to the health, safety, and welfare of a few families residing in single-family dwellings, its harmful effects are not minimized by replacing a few such families with many families residing in multi-family dwellings. Within residential areas, however, it is quite logical to buffer the higher density residential and multi-family residential areas from the lower density, single-family residential uses by means of medium-density, two-family residential uses.

Lot Sizes and Setback Requirements

Minimum lot sizes and setback requirements in the existing City of New Berlin Zoning Ordinance are set forth in Table 31. The City can regulate population density primarily by means of minimum lot size requirements. Figure 5 illustrates graphically the lot size and setback relationships between the seven single-family residential zoning districts currently provided in the city zoning ordinance. The total number of single-family residential districts may be excessive, with the differences between many of these districts being only a slight modification of lot size and setback requirements: For instance, the R-4 and R-4.5 districts have the same minimum lot width and minimum setback requirements and the R-4.75 and R-5 districts have the same minimum lot width and similar minimum lot size requirements (12,000 square feet and 10,000 square feet, respectively).

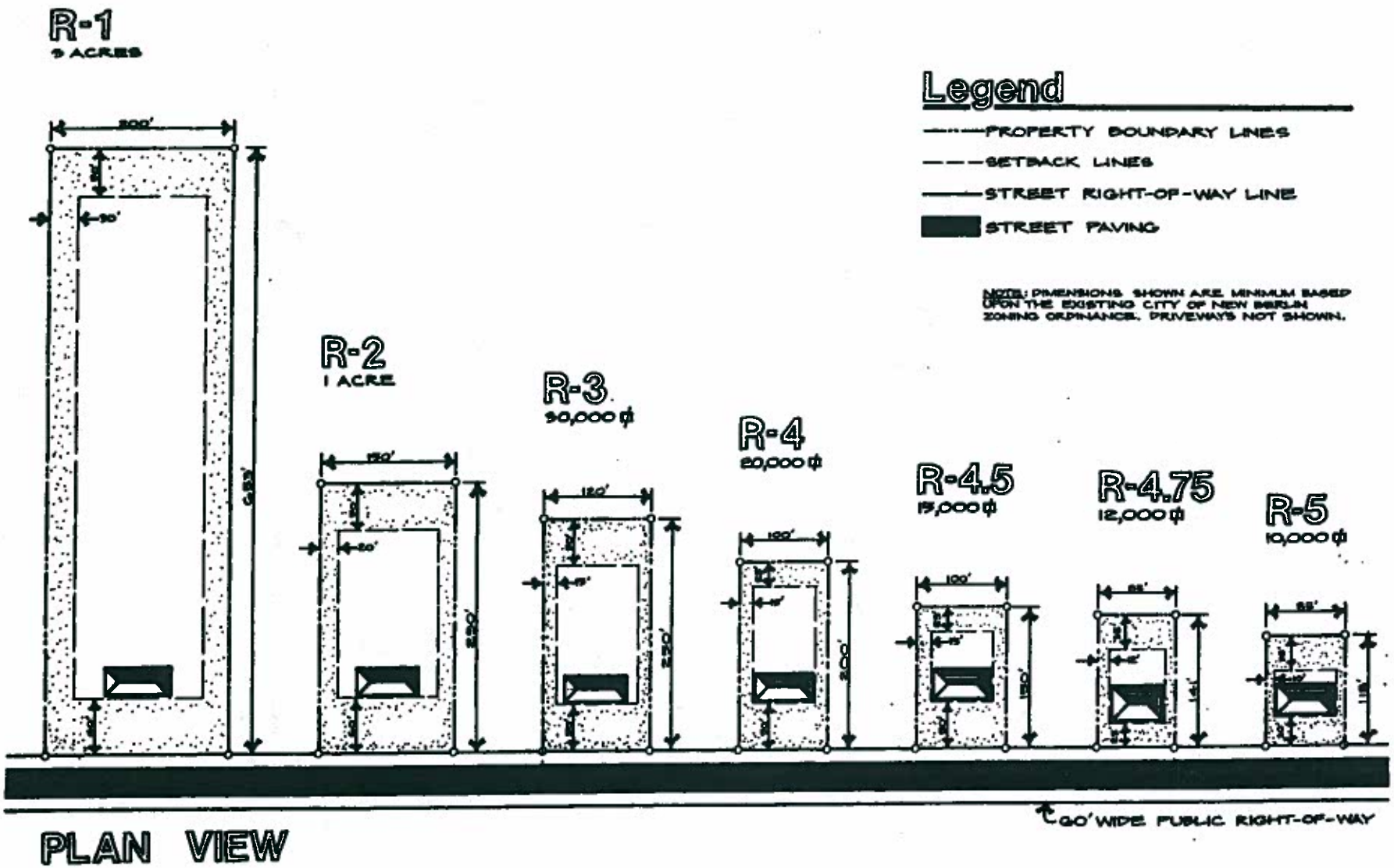
The B-1, B-2, and B-3 Business Districts all have a minimum lot size requirement of 10,000 square feet. This combined with strip zoning has resulted in the location of many small commercial establishments along arterial streets such as W. National Avenue, each with its own egress, creating serious safety problems and adversely affecting the capacity and level of service, and destroying the public investment in the arterial as an effective facility. A small minimum lot size for business districts may also present difficult and costly problems if the street which these small lots front needs to be widened. The B-4 Business District does not have any minimum lot size requirements and, therefore, may in particular severely hamper sound development where it is used. The M-1 and M-2 Industrial Districts also have no minimum lot size requirements. This is mitigated by substantial minimum yard requirements which, when applied, in effect dictate the lot size.

Dwelling Unit Sizes

Regulation of the floor area of buildings, as well as of lot sizes, is an extremely important function of zoning. The adopted regional housing plan, as documented in SEWRPC Planning Report No. 20, A Regional Housing Plan for Southeastern Wisconsin, recommends that in order to assure decent, safe, and sanitary housing, the minimum total improved area and sleeping areas set forth in Table 34 be provided. In addition, the Wisconsin Uniform Building Code as adopted by the City of New Berlin has certain minimum requirements for the dwelling unit sizes of one- and two-family dwellings, as illustrated in Table 35. Table 36 shows the minimum residential dwelling unit floor area requirements of the City of New Berlin Zoning Ordinance as compared to the recommended minimum dwelling unit floor area requirements. A comparison of Table 34 and Table 36 shows that some of the minimum floor area requirements of the City of New Berlin Zoning Ordinance may be excessive, especially as they pertain to the two or fewer bedroom, single-family dwelling unit floor area requirements of the R-1, R-2, R-3, R-4, R-4.5, R-4.75, and R-5 Residen-

Figure 5

GRAPHIC COMPARISON OF THE RANGE IN LOT SIZE FOR SINGLE-FAMILY RESIDENTIAL DWELLINGS UNDER THE EXISTING CITY OF NEW BERLIN ZONING ORDINANCE



Source: SEWRPC.

Table 34

ADOPTED REGIONAL HOUSING PLAN MINIMUM TOTAL IMPROVED FLOOR AREA[a] AND SLEEPING AREA REQUIRED FOR DECENT HOUSEHOLD LIVING ACCOMMODATIONS

Number of Persons	Minimum		Total Minimum Square Feet of Improved Floor Area
	Number of Bedrooms[b]	Square Feet of Sleeping Area	
1	0	100	250
2	1	120	420
3	2	200	550
4	2	200	700
5	3	280	830
6	3	280	980
7	4	380	1,130
8	4	380	1,230
9[c]	5	480	1,330

[a] Minimum total improved floor area includes total usable floor area, including bathrooms, hallways within the living unit, and closets, but excludes basements, garages, and attics except those portions of some which are improved and could be utilized as year-round living space.

[b] The standard of no more than two persons per bedroom is appropriate for regional analysis purposes. Ideally, however, assuming detailed data were available, each household's bedroom needs should be evaluated on an individual basis, and the number of bedrooms required for each household should be allocated in the following order:

1. One bedroom to each married couple.
2. One bedroom to single persons 21 years of age or older.
3. One bedroom to each pair of persons 10 to 20 years of age of the same sex.
4. One bedroom to an individual 10 to 20 years of age paired with an individual under 10 of the same sex. (If no pairing of this kind is possibla, individuals 10 to 20 years of age should have separate bedrooms).
5. One bedroom to each remaining pair of individuals under 10 years of age. (Any remaining child under 10 should have a separate bedroom).

[c] For one additional person, add 100 square feet to the total minimum square feet of improved floor area. For each two additional persons, add one bedroom or 100 square feet of sleeping area and 200 square feet of improved floor area.

Source: SEWRPC.

tial Districts. Within the R-6 Residential District, the minimum floor area requirement of 850 square feet for a two-bedroom dwelling unit may also be excessive. Also within the R-6 Residential District, the minimum floor area requirement of 1,200 square feet for a three-bedroom apartment may be excessive since the minimum requirement for a detached single-family home in the R-4, R-4.5, R-4.75, and R-5 Residential Districts is 1,250 square feet. Table 35 also indicates that the minimum floor area requirements for the R-1 and R-2 Residential Districts are identical, and that the minimum floor area requirements for the R-4, R-4.5, R-4.75, and R-5 Residential Districts are also identical.

Site Plan Review

Good zoning practice dictates that for major developments, the developer submit a site plan to the City Plan Commission for review and approval. By its review of this plan, the community can be assured that the development proposal will not prevent adjacent property from receiving an adequate supply of

Table 35

MINIMUM SIZES OF ONE- AND TWO-FAMILY DWELLINGS BASED ON THE ADOPTED WISCONSIN UNIFORM BUILDING CODE

Minimum		Total Minimum Square Feet of Improved Floor Area[a]
Number of Bedrooms	Square Feet of Sleeping Area	
1	100	374
2	200	474
3	300	574
4	400	674
5	500	774

[a]Assuming, based upon the Wisconsin Uniform Building Code, a combined living room with dining space of 180 square feet; a kitchen of 60 square feet; and one bathroom with one water closet, one bathtub, and one lavatory occupying a minimum of 34 square feet. This figure excludes hallways, closets, basements, garages, and attics.

Source: Wisconsin Uniform Building Code and SEWRPC.

light and air or substantially increase the danger of fire or traffic congestion, or otherwise endanger the public health or safety, or substantially diminish or impair property values in the City. More specifically, through a careful site plan review of a development, the community can be assured that:

1. The proposed use conforms to the uses permitted in that zoning district.

2. The dimensional arrangement of buildings and structures conforms to the required yard setback and height restrictions of the ordinance.

3. The proposed use conforms to all use and design provisions and requirements (if any) in the zoning ordinance.

4. There is a proper relationship between the existing and proposed streets and highways within the vicinity of the project so as to assure the safety and convenience of pedestrian and vehicular traffic.

5. The proposed onsite buildings, structures, and entryways are situated and designed to minimize adverse effects on owners and occupants of adjacent and surrounding properties by providing for adequate design of ingress/egress, interior/exterior traffic flow, stormwater drainage, erosion prevention, grading, and lighting and parking, as specified by the zoning ordinance or any other laws.

6. Natural features of the landscape are retained where they can enhance the development on the site, or where they furnish a barrier or buffer between the project and adjoining properties used for dissimilar purposes, or where they assist in preserving the general safety, health, and appearance of the neighborhood.

7. Adverse effects of the proposed development and activities on adjoining residents or owners are minimized by appropriate screening, fencing, or landscaping as provided or required in the zoning ordinance.

8. Buildings and structures are readily accessible to emergency vehicles and the handicapped.

9. The site plan, as approved, is consistent with the intent and purpose of the zoning ordinance, which is to promote the public health, safety, and general welfare, to encourage the use of lands in accordance with their character and adaptability, to avoid the overcrowding of population, to lessen congestion on the public roads and streets, to reduce hazards of life and property, and to facilitate existing land use and development plans.

10. The site plan as approved is consistent with the objectives, principles, standards, and urban design criteria set forth in the city-adopted land use and urban design plan.

At this time, the City of New Berlin does have a site plan review requirement in its zoning ordinance through the occupancy and use permit application process described in Section 17.06, City of New Berlin Zoning Code.

Preservation of Open Space

Zoning is usually used to regulate the kinds of buildings which can be erected in different zoning districts and the uses to which they may be put. However, it is also possible to regulate open lands without buildings. At present, the City of New Berlin Zoning Ordinance has three zoning districts which, to some degree, regulate the preservation of open space. They are the conservancy district and the two floodplain districts. However, these three districts are regarded as overlay zoning districts--i.e., zoning districts which superimpose certain additional requirements upon a basic zoning district without negating the requirements of the basic zoning district. As such, such districts are quite limited in their application. Unfortunately, the existing city zoning ordinance does not provide for a large-lot agricultural district, a conservancy district of the basic use district type rather than of the overlay district type, or a park district. All three could help the City in needed open space preservation, natural resource protection, and environmental enhancement.

The Zoning Map

An accurate base map of the community is essential to the preparation of a good zoning district map. This base map should show the following information: the U. S. Public Land Survey township, range, section and quarter-section lines and identifying numbers; all lakeshore, stream, watercourse, and marsh lines; municipal corporate limit lines; all existing public streets and highways and all railroad rights-of-way; and selected public and semipublic ownerships, such as school sites, airports, and parks. It is also highly desirable that the base maps show all real property boundary lines in their correct location and orientation, including all platted blocks and lots.

The scale of the map should be determined by consideration of map legibility, development density, and size of the community being zoned. Zoning map scales commonly will range from not larger than 1 inch equals 100 feet to not smaller than 1 inch equals 1,000 feet. Existing base maps, such as quarter-section plat maps, tax assessment maps, an official map, or cadastral maps, may be adaptable for use as zoning maps. Map 29 is an example of a zoning map prepared at a scale of 1 inch equals 100 feet on a cadastral base map showing real property lines. Ratioed and rectified enlargements of aerial photographic

Table 36

MINIMUM RESIDENTIAL DWELLING UNIT FLOOR AREA REQUIREMENTS OF THE CITY OF NEW BERLIN ZONING ORDINANCE AS COMPARED TO THE ADOPTED REGIONAL HOUSING PLAN-RECOMMENDED MINIMUM DWELLING UNIT FLOOR AREA REQUIREMENTS

Total Number of Bedrooms in Dwelling Unit	Recommended Range of Total Minimum Improved Floor Area (square feet)[a]	Minimum Floor Area Requirements of Residential Zoning Districts									
		R-1 Single-Family (square feet)[a]	R-2 Single-Family (square feet)	R-3 Single-Family (square feet)	R-4 Single-Family (square feet)	R-4.5 Single-Family (square feet)	R-4.75 Single-Family (square feet)	R-5 Single-Family (square feet)	R-6.2 Single-Family and Two-Family (square feet)[b]	R-6 Single-Family and Multi-Family (square feet)[c]	R-7 Condominium (square feet)
0	250	1,300	1,300	1,200	1,100	1,100	1,100	1,100	1,000	Not permitted	Not permitted
1	420	1,300	1,300	1,200	1,100	1,100	1,100	1,100	1,000	560	950
2	550- 700	1,300	1,300	1,200	1,100	1,100	1,100	1,100	1,000	810	1,100
3	830- 980	1,500	1,500	1,400	1,250	1,250	1,250	1,250	1,200	1,200	1,250
4	1,130-1,230	1,700	1,700	1,600	1,400	1,400	1,400	1,400	1,400	1,400	1,400
5	1,330	1,900	1,900	1,800	1,550	1,550	1,550	1,550	1,600	1,600	1,550

[a]Floor area includes total usable floor area, including bathrooms, hallways within the living unit, and closets, but excludes basements, garages, and attics except those portions of some which are improved and could be utilized as year-round living space.

[b]Minimums shown are for two-family dwelling units only. Single-family detached dwellings have a higher minimum-square-foot requirement.

[c]Minimums shown are for multiple-family dwelling units only. Single-family detached dwellings have higher minimum-square-foot requirements.

Source: SEWRPC.

negatives at a scale of 1 inch equals 400 feet may also be used in the preparation of zoning district maps, although this type of zoning district map is better utilized in rural areas with large expanses of individual zoning districts. Map 30 is an example of a zoning map prepared at a scale of 1 inch equals 400 feet on an aerial photograph enlargement.

The existing Official Zoning Map of the City of New Berlin (see Map 28) was prepared in 1962 and drawn to a scale of 1 inch equals 1,000 feet. The Official Zoning Map shows U. S. Public Land Survey section lines, existing street rights-of-way, a street address grid, and the boundaries of the various zoning districts in the City. Property boundary lines are not shown on the Official Zoning Map and, as a consequence, the precise location of the zoning district boundaries may sometimes be questionable. The City Planning staff, as a supplement to the Official Zoning Map, has prepared an atlas using real estate plat maps which show each zoning district in relation to real property boundary lines; however, these maps are not official or reproducible and serve only as a Planning Department in-house tool. The boundaries of zoning districts on the Official Zoning Map should be shown in a fashion which can be readily reproduced on the ground, and to the extent producible, easily discernible in the field. In this respect, good zoning district boundaries are formed by the centerlines of street and highway rights-of-way; U. S. Public Land Survey township, section, and quarter-section lines; real property boundary lines, including platted lot lines; and centerlines of railway rights-of-way. When such features are not suitable to the placement of district boundaries, it may become necessary to place dimensions on the zoning district map defining the location of the district boundaries in relation to lines which are readily reproducible on the ground.

The Official Zoning Map was prepared when the City of New Berlin was still predominantly rural in character, and was prepared at a scale and in a manner which lent itself quite well to rural zoning patterns. However, the rapid urbanization which has occurred in the City over the past 20 years has resulted in the need for a new and more detailed zoning map in a format which is easy to amend and to reproduce for public distribution.

The Need for a Comprehensive Revision of the Existing Zoning Ordinance and Map

Based on the analysis of the existing City of New Berlin Zoning Ordinance, it is evident that some substantial changes and amendments to both the text and map of the zoning ordinance will be necessary following city adoption of the land use plan. The revised ordinance should recognize both the existing and short-term future land use needs of the City and utilize up-to-date zoning techniques. Chapter IX of this land use plan provides some guidelines and recommendations for the development of such a new zoning ordinance and map which will serve to implement the land use plan.

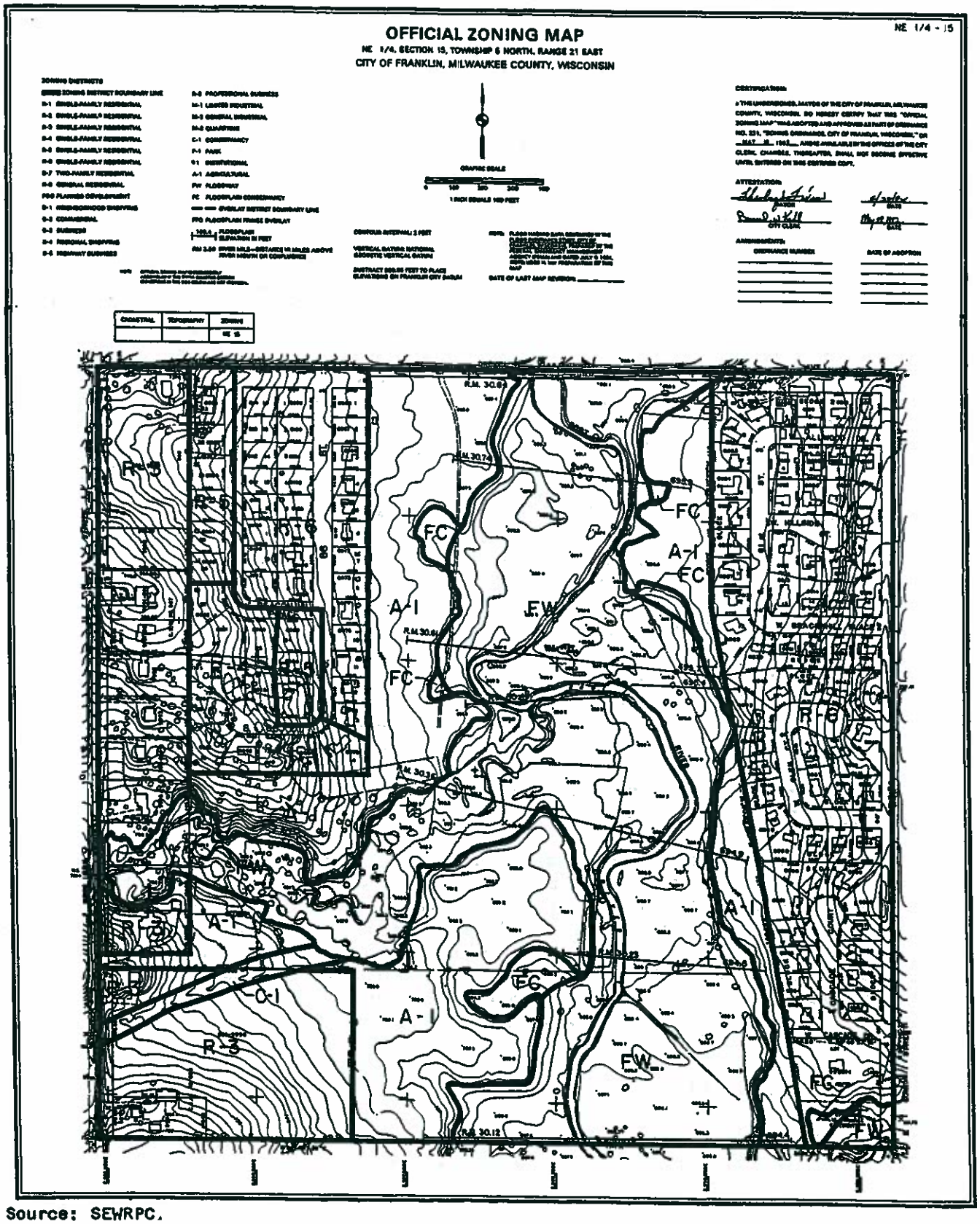
THE LAND SUBDIVISION ORDINANCE

A land subdivision ordinance is a public law regulating the dividing of land. Such regulation is necessary to ensure that:

1. The subdivision of land will fit properly into the existing and proposed land use pattern and overall plan for the physical development of the community;

Map 29

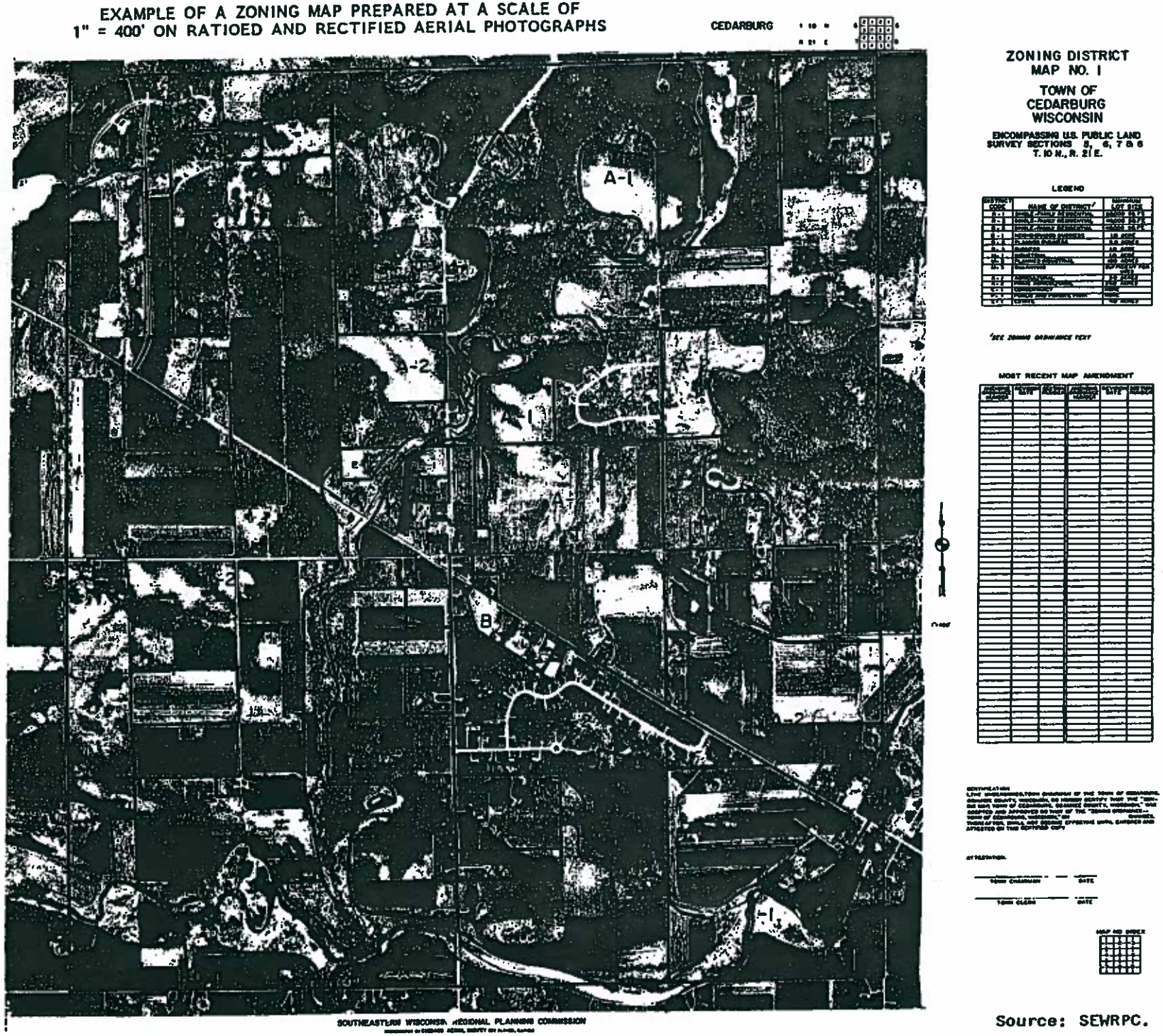
EXAMPLE OF A ZONING MAP PREPARED AT A SCALE OF 1" = 100' ON A CADASTRAL BASE MAP



Source: SEWRPC.

Map 30

EXAMPLE OF A ZONING MAP PREPARED AT A SCALE OF
1" = 400' ON RATIOED AND RECTIFIED AERIAL PHOTOGRAPHS



Source: SEWRPC.

2. Adequate provision is made for necessary community and neighborhood facilities--parks, schools, churches, shopping centers--so that a harmonious and desirable environment will result;

3. Adequate standards are met in the design of the land divisions and the improvement of the land being subdivided, with particular attention to such requirements as utilities, stormwater drainage, street improvements, and lot improvements;

4. A sound basis is provided for clear and accurate property boundary line records; and

5. The health, safety, and general welfare of all citizens in the community, as well as the future occupants of the land to be subdivided, are protected.

Land division control regulations are a means of implementing a community's comprehensive plan. As such, land division regulations should coordinate development with the community's comprehensive plan. Such regulations are, therefore, properly prepared within the context of such a plan. Since land division is far more than a means of marketing land--being the first step in the process of building a community--substantial benefits are to be derived from sound subdivision regulations. Much of the form and character of a community are determined by the quality of its land divisions and the standards which are built into them. Once land has been divided into blocks and lots, streets established, and utilities installed, the development pattern is permanently established and unlikely to be changed. For generations, the entire community, as well as the individuals who occupy these subdivisions, will be influenced by the quality and character of the design of the subdivisions.

The present land subdivision ordinance used by the City of New Berlin, Chapter 18 of the Municipal Code, became effective on July 6, 1962. The existing land subdivision ordinance has been amended several times since its effective date. By reference and associated text, Chapter 18 of the Municipal Code conforms to the procedures outlined in Chapter 236 of the Wisconsin Statutes for platting lands within the City. The land division ordinance regulates the subdivision of land into lots larger than 1.5 acres and the subdivision of a parcel of land into less than five new parcels by the use of certified survey maps. Design standards for land divisions are also set forth in the ordinance.

The land division ordinance has relatively few deficiencies. These deficiencies can be readily resolved through the amendment of those areas of concern in the ordinance. Since the adoption of the city land division ordinance, Chapter 236 of the Wisconsin Statutes has been altered to revise the former 40-day preliminary plat review period for a municipality to 90 days, and to revise the 20-day preliminary plat review period of an objecting authority to 30 days.

THE OFFICIAL MAP

The Official Map is one of the oldest plan implementation devices at the disposal of local communities. It is also one of the most effective and efficient devices which can be brought to bear on the problem of preserving land for future public use. Section 62.23(6) of the Wisconsin Statutes provides that the governing body of a local municipality 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 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 to 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 beyond the corporate limit lines but within the extraterritorial plat approval jurisdiction of the municipality.

The Official Map is thus intended to constitute a means of implementing the community's master plan of streets, highways, parkways, parks, and playgrounds. Its basic purpose 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. The Official Map permits the community to protect the beds of future streets, as well as the beds of partially or wholly developed streets which are to be widened, by essentially prohibiting construction of new buildings in such beds. Possible monetary savings which can accrue to the community from such protection are large. The fact that an Official Map assures the integrity of the community's long-range plan of streets is even more important. The Official Map has similar functions with respect to implementing the community's plan for parks and parkways. An incidental but important benefit of an Official Map is that it adequately locates and records existing street lines that constitute the boundaries of the public property, and thereby tends to stabilize the location of real property boundary lines, both private and public.

Section 17.285 of Chapter 17 of the City of New Berlin Municipal Code, titled "Zoning Code," represents the text of the City's Official Map Ordinance. The Official Map itself is comprised of a series of individual one-quarter-section maps drawn at a scale of 1 inch equals 100 feet for all areas of the City. While the City's Official Map does show all existing property and street right-of-way lines, the Map does not show proposed streets, highways, parkways, parks, or playgrounds. As a consequence, following adoption of the city land use plan, it may be necessary to amend the Official Map in order to facilitate the proper implementation of the adopted land use plan.

Chapter V

LAND USE OBJECTIVES, PRINCIPLES, AND STANDARDS, AND RELATED URBAN DESIGN CRITERIA

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. Accordingly, a set of land use development objectives was formulated for the New Berlin area based on the problems and issues identified in Chapter II of this report, and based on those objectives contained in regional plans which were considered applicable to, and supportable by, the City. This chapter sets forth the resulting set of land use development objectives and supporting principles and standards. These relate to the allocation and distribution of the various land uses and the provision of community facility and supporting services to meet the needs of the existing and probable future resident population of the New Berlin area over the next two decades.

BASIC CONCEPTS AND DEFINITIONS

The terms "objective," "principle," "standard," "design criteria," "plan," "policy," and "program" are subject to a range of interpretations. Therefore, they are defined below.

1. Objective: a goal or end toward the attainment of which plans and policies are directed.

2. Principle: a fundamental, 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. Design criteria: a body of information which can be applied to the development of a solution or solutions to a specific design problem or set of problems.

5. Plan: a design which seeks to achieve agreed-upon objectives.

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

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

Although this chapter deals with only the first four of these terms, an understanding of their interrelationship and the concepts they represent is essential to understanding the land use development objectives, principles, and standards, and related urban design criteria. The land use development

objectives, principles, and standards, as developed and approved by the City Plan Commission, deal primarily with the spatial allocation and distribution of land uses in the community, land use compatibility, natural resource base protection, and accessibility. Each objective, together with its supporting principles and standards, follows:

OBJECTIVES, PRINCIPLES, AND STANDARDS

OBJECTIVE NO. 1

A balanced allocation of space to the various land use categories which meets the social, physical, and economic needs of the New Berlin 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 amount of land area set aside for accommodating forecast growth in the City of New Berlin should be determined by application of the standards set forth in Table 37.

OBJECTIVE NO. 2

A spatial distribution of the various land uses which will result in a compatible arrangement of land uses.

PRINCIPLE

The proper allocation of uses to land can avoid or minimize hazards and dangers to health, safety, and welfare and maximize amenity and convenience in terms of accessibility to supporting land uses.

STANDARDS

1. Urban residential uses should be located in planned neighborhood units which are served with centralized public sanitary sewerage and water supply facilities and contain, within a reasonable walking distance, necessary supporting local service uses, such as neighborhood parks, neighborhood commercial areas, and elementary school facilities. Reasonable access should be provided through the appropriate component of the transportation system to employment; to community and regional commercial, cultural, and governmental centers; and to secondary and higher educational facilities. Housing types should be provided pursuant to Objective 11 and at densities consistent with those shown in Table 37.

2. Rural and suburban residential uses should have reasonable access through the appropriate component of the transportation system to local service uses; employment; community and regional commercial, cultural, and governmental centers; and secondary and higher educational facilities.

Table 37

LAND USE STANDARDS FOR THE CITY OF NEW BERLIN

Land Use Category	Development Standard (gross area)[a]
Residential (single-family dwellings)[b]	
Rural Estate (5-acre lots or greater)...	1,594 acres/1,000 persons
Suburban (1.5-acre to 5-acre lots).....	553 acres/1,000 persons
Low-Density Urban (20,000- to 62,000-square-foot lots).....	154 acres/1,000 persons
Medium-Density Urban (10,000- to 20,000-square-foot lots).....	87 acres/1,000 persons
Residential (Multifamily)[b]	
High Medium-Density Urban (4.4 to 6.9 dwelling units per net residential acre).....	46 acres/1,000 persons
High-Density Urban (7.0 to 12.0 dwelling units per net residential acre).....	23 acres/1,000 persons
Commercial	6.0 acres/100 commercial employees
Industrial	12.0 acres/100 industrial employees
Governmental/Institutional	
Public Elementary.....	0.3 acre/100 students
Public Middle School.....	0.3 acre/100 students
Public High School.....	0.3 acre/100 students
Church.....	2.5 acres/1,000 persons
Other.....	4.5 acres/1,000 persons
Public Outdoor Recreation[c]	
Regional and Multi-Community	As recommended in the local and regional park and open space plans
Community	
In Park Sites.....	2.2 acres/1,000 persons
In Middle School or High School Sites.....	0.9 acre/1,000 persons
Neighborhood	
In Park Sites.....	1.7 acres/1,000 persons
In Elementary School Sites.....	1.6 acres/1,000 persons

[a]Gross areas include associated street rights-of-way and off-street parking for each land use category. These standards have been based upon the land use studies of the Southeastern Wisconsin Region and are reasonably responsive to expected future as well as present conditions.

[b]Based upon the year 2000 forecast of 3.69 persons per occupied household in the City of New Berlin, as well as existing local and adopted regional land use plan standards.

[c]See Table 39 for more detailed standards.

Source: SEWRPC.

3. Industrial uses should be located so as to have direct access to arterial street and highway facilities and reasonable access through an appropriate component of the transportation system to residential areas, and should not be intermixed with commercial, residential, governmental, recreational, educational, or institutional uses.

4. Neighborhood and community commercial uses should be located in centers of concentrated activity on only one side of an arterial street and should be afforded direct access to the arterial street system. However, this is not to say that properly designed and separated frontage roads cannot also be desirable.

OBJECTIVE NO. 3

The location of facilities offering goods and services so as to afford maximum convenience to the resident population of the study area.

PRINCIPLE

The location and extent of commercial, educational, transportation, and recreational facilities and of employment opportunities are important determinants of the quality of life in the City of New Berlin area and should be preserved and expanded as required to meet the needs of the resident population.

STANDARD

Sites for neighborhood and community service facilities should be provided in accordance with the standards set forth in Table 38.

OBJECTIVE NO. 4

A spatial distribution of the various land uses which will result in the protection and wise use of the natural resources of the area, including soils, lakes and streams, wetlands, woodlands, and wildlife.

PRINCIPLE

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

A. Soils

Principle

The proper relation of urban and rural land use development to soil type and distribution can serve to avoid costly environmental and developmental problems, aid in the establishment of better settlement patterns, and promote the wise use of an irreplaceable resource.

Standards

1. Sewered urban development should not be located in areas covered by soils identified in the regional detailed operational soil survey as having severe or very severe limitations for such development except in areas less than five acres in size, with no exceptions for delineated protected wetland areas.

2. Unsewered suburban and rural residential development should not be located in areas covered by soils identified in the regional detailed operational soil survey as having severe or very severe limitations for such development.

B. Lakes and Streams

Principle

Inland lakes and streams contribute to the atmospheric water supply through evapotranspiration; provide a suitable environment for desirable and sometimes unique plant and animal life; provide the population with opportunities for certain scientific, cultural, and educational pursuits; constitute prime

Table 38

COMMUNITY FACILITY SITE AREA AND SERVICE RADIUS STANDARDS FOR THE CITY OF NEW BERLIN

Type	Number of Persons Served	Required Site Area (gross acres)	Maximum One-Way Travel Time (minutes)	
			Automobile at 25 mph	Transit Facility Total Elapsed Time
Commercial Facilities				
Neighborhood Retail and Service Center	4,000-8,000	6.5 minimum	3	--
Community Retail and Service Center	10,000-25,000	15-40	15	20
Community Industrial Facility	300-5,000 employees	20-640	15	20
Local Transit Facilities	--	--	--	--
Educational Facilities				
Public Elementary School (grades K-6)	550 students	11	--	--
Public Middle School (grades 7-8)	900 students	19	15	20
Public Senior High School (grades 9-12)	2,300 students	48	20	30
Outdoor Recreational Facilities				
Subneighborhood	--	--	--	--
Neighborhood	6,500	10	--	--
Community	--	25-99	20	--

Source: SEWRPC.

recreational areas; provide a desirable aesthetic setting for certain types of land use development; serve to store and convey floodwaters; and provide certain water withdrawal requirements.

Standards

1. Floodlands should not be allocated to any urban development which would cause or be subject to flood damage.

2. The floodwater storage capacity of natural floodlands should not be reduced by urban or rural development.

3. The flow capacity of perennial stream channels and associated floodlands should be maintained.

C. Wetlands

Principle

Wetlands support a wide variety of desirable and sometimes unique plant and animal life; assist in the stabilization of lake levels and streamflows; trap and store plant nutrients in runoff, thus reducing the rate of enrichment of surface waters and growth of noxious weed and algae; contribute to the atmospheric water supply; reduce stormwater runoff by providing areas for floodwater impoundment and storage; trap soil particles suspended in runoff and thus reduce stream sedimentation; and provide the population with opportunities for certain scientific, educational, and recreational pursuits.

Standard

Wetland areas adjacent to streams or lakes, wetlands within areas having special wildlife and other natural values, and wetlands having an area in excess of 50 acres should not be allocated to any urban development except limited recreation and should not be drained or filled. Under State law, all wetlands five acres or more in size in floodland and shoreland areas must be preserved pursuant to Chapter NR 117 of the Wisconsin Administrative Code.

D. Woodlands

Principle

Woodlands assist in maintaining the unique natural relationships between plants and animals; reduce stormwater runoff; contribute to the atmospheric oxygen supply; contribute to the atmospheric water supply through transpiration; aid in reducing soil erosion and stream sedimentation; provide the resource base for the forest product industries; provide the population with opportunities for certain scientific, educational, and recreational pursuits; and provide a desirable aesthetic setting for certain types of land use development.

Standards

1. High- and medium-value woodland areas having a minimum area of five acres should not be allocated to urban development except for limited recreation purposes.

2. A minimum community aggregate of five acres of woodland per thousand population should be maintained for recreational pursuits.

E. Wildlife

Principle

Wildlife, when provided with a suitable habitat, will supply the population with opportunities for certain scientific, educational, and recreational pursuits; comprises an integral component of the life systems which are vital to beneficial natural processes, including the control of harmful insects and other noxious pests and the promotion of plant pollination; provides food sources; offers an economic resource for the recreation industries; and serves as an indication of environmental health.

Standard

The most suitable habitat for wildlife--that is, the area where fish and game can best be fed, sheltered, and reproduced--is a natural habitat. Since the natural habitat for fish and game can best be achieved by preserving or maintaining in a wholesome state other resources such as soil, air, water, wetlands, and woodlands, the standards for each of these other resources, if met, would ensure the preservation of a suitable wildlife habitat and population.

OBJECTIVE NO. 5

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

PRINCIPLE

Ecological balance and natural beauty are important determinants of a community'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--that is, primary environmental corridors and prime agricultural lands--contributes to the maintenance of the ecological balance, natural beauty, and economic well-being of the City.

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, including lakes, rivers, and streams and their associated floodlands; wetlands; woodlands; 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 provided for scientific, educational, and recreational pursuits.

Standards

1. All remaining undeveloped lands within the designated primary environmental corridors in the city planning area should be preserved in essentially natural, open uses.

2. All remaining undeveloped lands within the designated secondary environmental corridors in the city planning area should be considered for preservation as urban development proceeds and used as drainageways, flood water detention areas, and neighborhood parks.

B. Prime Agricultural Lands

Principle

Prime agricultural lands constitute the most productive farmlands in the study area and, in addition to providing food and fiber, contribute significantly to maintaining the ecological balance between plants and animals; provide locations close to urban centers for the production of certain food commodities which may require nearby population concentrations for an efficient production-distribution relationship; provide open spaces which give form and structure to urban development; and serve to maintain the natural beauty and unique cultural heritage of portions of the City.

Standards

1. Parcels 35 acres or larger in size which are comprised of 50 percent or more of national prime farmland as designated by the U. S. Department of Agriculture, Soil Conservation Service, and included within national prime farmland parcel aggregates of 100 acres or larger should be preserved in agricultural use.

2. Nonfarm residential development should not be located in prime agricultural areas. Nonfarm residential development in other agricultural areas should be

discouraged, but, if permitted, should generally be limited to densities equivalent to rural estate-density, single-family residential dwelling units, provided the soils are adequately permeable and free from severe bedrock, groundwater, flooding, and steep slope hazards for the installation of an onsite soil absorption sewage disposal system.

OBJECTIVE NO. 6

An integrated system of public general-use outdoor recreation sites and related open space areas which will allow the resident population of the area and Region adequate opportunity to participate in a wide range of outdoor recreational activities.

PRINCIPLE

Attainment and maintenance of good physical and mental health is an inherent right of all residents of the city area. The provision of public general-use outdoor recreation sites and related open space areas contributes to the attainment and maintenance of physical and mental health by providing opportunities to participate in a wide range of both intensive and extensive outdoor recreational activities. Moreover, an integrated park and related open space system properly related to the natural resource base, such as the existing surface water network, can generate the dual benefits of satisfying recreational demands while protecting and preserving valuable natural resource amenities. Finally, an integrated system of public general-use outdoor recreation sites and related open space areas can contribute to the orderly growth of the City area by lending form and structure to urban development patterns.

A. Public General-Use Outdoor Recreation Sites

Principle

Public general-use outdoor recreation sites promote the maintenance of proper physical and mental health 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--as well as 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 public general-use outdoor recreation sites also provide a sense of community. They bring people together for social, cultural, and recreational activities, and thus contribute to the desirability and stability of residential neighborhoods and the communities in which such facilities are provided.

Standards

1. The public sector should provide general-use outdoor recreation sites sufficient in size and number to meet the recreational demands of the resident population. Such sites should contain the natural resource or man-made amenities appropriate to the recreational activities to be accommodated and be spatially distributed in a manner which provides ready access by the resident

population. To achieve this standard, the site requirements indicated in Table 39 should be met. In addition, those site development standards for general-use outdoor recreation sites contained in the adopted SEWRPC Community Assistance Planning Report No. 66, A Park and Open Space Plan for the City of New Berlin, should be met.

2. Public general-use outdoor recreation sites should, to the maximum extent practicable, be located within the designated primary environmental corridors of the city area.

B. Recreation-Related Open Space

Principle

Effective satisfaction of recreation demands within the Region cannot be accomplished solely by providing public general-use outdoor recreation sites. Certain recreational pursuits such as hiking, biking, pleasure driving, and ski touring are best provided through a system of recreation corridors located on or adjacent to linear resource-oriented open space lands. A well-designed system of recreation corridors offered as an integral part of linear open space lands also can serve to connect physically existing and proposed public parks, thus forming a truly integrated park and recreation-related open space system. Such open space lands, in addition, satisfy the human need for natural surroundings, serve to protect the natural resource base, and ensure that many scenic areas and areas of natural, cultural, or historic interest assume their proper place as form determinants for both existing and future land use patterns.

Standard

The public sector should provide sufficient open space lands to accommodate a system of resource-oriented recreation corridors to meet the resident demand for extensive trail-oriented recreational activities. To fulfill these requirements, the recreation-related open space standards contained in Table 39 should be met.

OBJECTIVE NO. 7

A spatial distribution of the various land uses which is properly related to the supporting transportation, utility, and public facility systems in order to assure the economical provision of transportation, utility, and public facility services.

PRINCIPLE

The transportation and public utility facilities and the land use pattern which they serve and support are interdependent. The land use pattern determines the demand for, and loadings on, transportation and utility facilities. These facilities, in turn, are essential to, and form a basic framework for, land use development.

STANDARDS

1. Urban development should be located so as to maximize the use of existing transportation and utility systems.

Table 39

STANDARDS FOR PUBLIC GENERAL-USE RECREATION SITES FOR THE CITY OF NEW BERLIN

Site Type	Size (gross acres)	Publicly Owned General-Use Sites: Parks: Minimum Per Capita Public Requirements[d] (acres per 1,000 persons)	Parks: Typical Facilities	Parks: Maximum Service Radius (miles)[b]: Urban[e]	Parks: Maximum Service Radius (miles)[b]: Rural	Schools[a]: Minimum Per Capita Public Requirements[f] (acres per 1,000 persons)	Schools[a]: Typical Facilities	Schools[a]: Maximum Service Radius (miles)[c]: Urban[e]	Schools[a]: Maximum Service Radius (miles)[c]: Rural
I Regional[g]	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 Multi-Community[i]	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 Community[k]	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[l]	--	0.9	Playfield, baseball diamond, softball diamond, tennis court	0.5-1.0[m]	--
IV Neighborhood[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, facilities for intensive nonresource-oriented activities are commonly located in Type III or Type IV school outdoor recreation sites. These facilities often provide a substitute for facilities usually located in parks by providing opportunities for participation in intensive nonresource-oriented activities. It is important to note, however, that school outdoor recreation sites do not generally contain natural areas that provide space for passive recreation use.

[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 Region has ready access to the variety of outdoor recreational 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 active outdoor recreation facility requirements and to assure that each urban resident has ready access to the types of active intensive nonresource-oriented facilities commonly located in school recreation areas.

[d]For Type I and Type II parks, which generally provide facilities for resource-oriented outdoor recreational 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 recreational activities primarily in urban areas, the minimum per capita acreage requirements apply to the resident population of the Region in urban areas.

[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 recreational activities, the minimum per capita acreage requirements apply to the resident population residing in urban areas.

[g]Type I sites are defined as large outdoor recreation sites having a multicounty service area. Such sites rely heavily for their recreational value and character on natural resource amenities and provide opportunities for participation in a wide variety of resource-oriented outdoor recreational 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 parks and 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 multicommunity 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 recreational facilities and have smaller areas devoted to any given activity.

[j]In general, each resident of the Region should reside within 10 miles of a Type I or Type II park. It should be noted, however, that within urban areas having a population of 40,000 or greater, each urban resident should reside within four miles of a Type I or Type II park.

[k]Type III sites are defined as intermediate size sites having a multineighborhood 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 service radius of school outdoor recreation sites, for park and open space planning purposes, is governed primarily by individual outdoor recreational facilities within the school site. For example, school outdoor recreation sites which provide such facilities as playfields, playgrounds, and basketball goals typically have a service radius of 0.5 mile--which is the maximum service radius assigned to such facilities. As another example, school outdoor recreation sites which provide tennis courts and softball diamonds typically have a service radius of 1.0 mile--which is the maximum service radius assigned to such facilities. It is important to note that space for passive recreational use is generally not provided at school outdoor recreation sites, and, therefore, Type III and Type IV school sites generally do not meet Type III and Type IV park accessibility requirements.

[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 recreational activities and are generally provided in urban areas. Recreation lands at the neighborhood level should most desirably be provided through a joint community-school district venture, with the facilities and recreational land area required to be provided on one site available to serve the recreation demands of both the school students and resident neighborhood population. Using the Type IV park standard of 1.7 acres per thousand residents and the school standard of 1.6 acres per thousand residents, a total of 3.3 acres per thousand residents, or approximately 21 acres of recreation lands in a typical medium-density neighborhood, would be provided. These acreage standards relate to lands required to provide for recreational 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 stormwater 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 high-density urban areas, each urban resident should reside within 0.5 mile of a Type IV park; in medium-density urban areas, 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. It should be noted that the requirement for a Type IV park also is met by a Type I, II, or III park within a 0.5-1.0 mile service radius in high-, medium-, and low-density urban areas, respectively. Further, it should be noted that in the application of the service radius criterion for Type IV sites, only multiuse parks five acres or greater in area should be considered as satisfying the maximum service radius requirement. Such park sites generally provide areas which offer space for both passive recreational uses and active recreational uses.

Source: SEWRPC.

2. The transportation system should be located and designed to provide access not only to all land presently devoted to urban development, but also to land proposed to be used for urban development.

3. All lands developed or proposed to be developed for urban residential use should be located in areas serviceable by the existing public sanitary sewerage system and, preferably, within the gravity drainage area tributary to the system.

4. All land developed or proposed to be developed for urban residential use should be located in areas serviceable by an existing public water supply system.

5. Rural estate and suburban single-family residential development should be located in areas not planned for either public water or public sanitary sewer systems and should not be located in areas covered by soils identified in the regional detailed operational soil survey as having severe or very severe limitations for such development.

6. Adequate stormwater drainage facilities should be provided for all urban development. These stormwater drainage facilities should be designed in conformance with The Storm Water Drainage Master Plan for the City of New Berlin, prepared by J. C. Zimmerman Engineering Corporation in 1974.

7. The transportation system should be functionally classified, and arterial streets should be located to minimize the penetration of existing and proposed residential areas by through traffic.

8. Transportation terminal facilities, such as off-street parking and off-street truck loading, should be located in proximity to the principal land uses to which they are accessory.

OBJECTIVE NO. 8

The preservation, development, and redevelopment of a variety of suitable industrial and commercial sites in terms of both physical characteristics and location.

PRINCIPLE

The production and sale of goods and services are among the principal determinants of the level of economic vitality in any society. The important activities related to these functions require areas and locations suitable to their purpose.

STANDARDS

1. Local industrial development should be located in planned industrial districts which meet the following standards:

   a. Direct access to the arterial street and highway system.

   b. Available adequate water supply.

   c. Available adequate public sanitary sewer service.

d. Available adequate stormwater drainage facilities.

e. Available adequate power supply, including natural gas and electricity.

f. Site should be covered by soils identified in the regional soils survey as having very slight, slight, or moderate limitations for industrial development.

2. Local commercial development should be located within designated community and neighborhood areas, thus avoiding strip commercial development along arterial streets and highways.

OBJECTIVE NO. 9

An integrated transportation system which, through its location, capacity, and design, will effectively serve the existing and proposed land use pattern and promote the implementation of the plan, meeting the anticipated travel demand generated by the existing and proposed land uses.

PRINCIPLE

An integrated area transportation system serves to interconnect freely the various land use activities within the neighborhoods, City, and Region, thereby providing the attribute of accessibility essential to the support of these activities.

STANDARDS

1. The transportation system should provide an orderly functional hierarchy of arterials, collectors, land access streets, and pedestrian paths to service the area. All streets and highways in the City should be placed into one of the following functional classifications. Bicycle paths for the City of New Berlin should be provided as a part of an overall bicycle path system plan and should be designed in conformance with the most recent edition of Guide for Development of New Bicycle Facilities published by the American Association of State Highway and Transportation Officials, and with the City of New Berlin Bikeway Plan and amendments thereto.

Land Access Streets--conduct traffic to and from individual building sites.

Collector Streets--collect traffic from urban uses abutting land access streets and convey it to arterial streets and/or activity centers.

Arterial Streets--provide for the expeditious movement of through traffic into, out of, and within the community.

2. Streets and highways in the City should be improved to the cross-sections shown in Figure 6, as related to functional classification.

3. Left-turn channelization at the median of divided arterial highways should provide a minimum of 100 feet of queuing length for 60 left turns per hour or less (longer queuing space may be necessary based on demand) and a minimum 60-foot-long taper (longer based upon speed--e.g. 25 mph to 35 mph = 90-foot taper; 45 mph or over = 150-foot taper). Median openings should be a minimum distance of 500 feet apart.

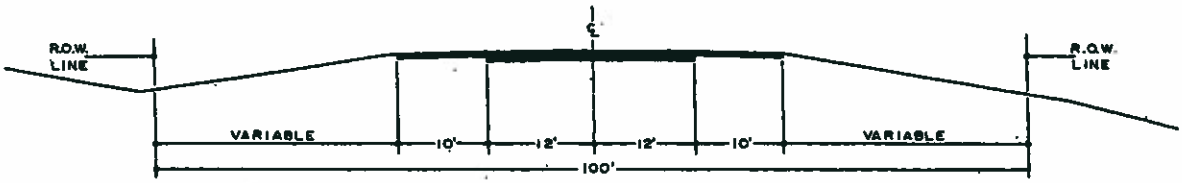
Figure 6

TYPICAL STREET AND HIGHWAY CROSS-SECTIONS RECOMMENDED FOR THE CITY OF NEW BERLIN, WAUKESHA COUNTY, WISCONSIN

RURAL AREA
TYPICAL CROSS SECTION NO. 1
MINIMUM TWO LANE ARTERIAL

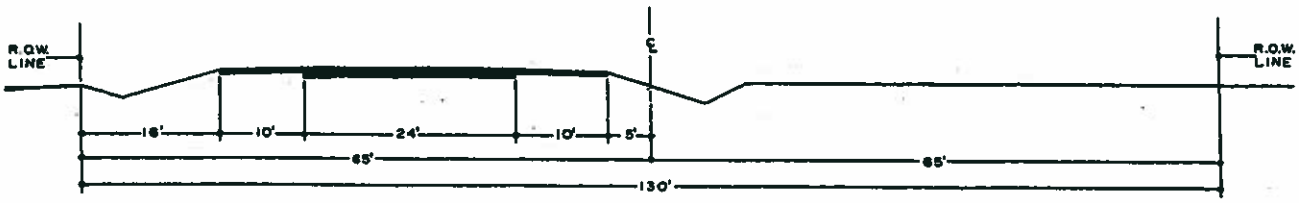
GRAVEL BASE VARIES
22' HIGH TYPE PAVEMENT, 66' R.O.W.

RURAL AREA
TYPICAL CROSS SECTION NO. 2
DESIRABLE TWO LANE ARTERIAL



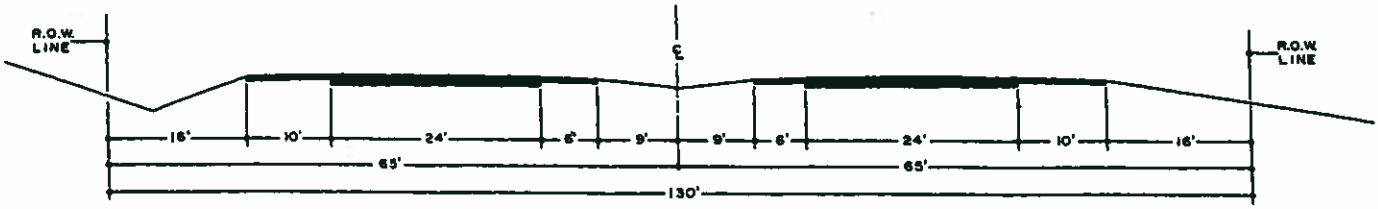
GRAVEL BASE VARIES
24' HIGH TYPE PAVEMENT, 100' R.O.W.

URBANIZING AREA
TYPICAL CROSS SECTION NO. 5
DESIRABLE TWO LANE ARTERIAL
(INITIAL STAGE OF FUTURE FOUR LANE ARTERIAL)



GRAVEL BASE VARIES
24' HIGH TYPE PAVEMENT, 130' R.O.W.

URBANIZING AREA
TYPICAL CROSS SECTION NO. 6
DESIRABLE FOUR LANE ARTERIAL



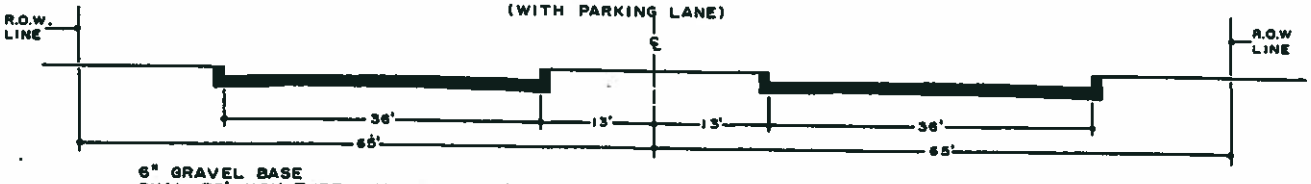
GRAVEL BASE VARIES
DUAL 24' HIGH TYPE PAVEMENT, 130' R.O.W.

Figure 6 (continued)

URBAN AREA
TYPICAL CROSS SECTION NO. 8
DESIRABLE TWO LANE ARTERIAL

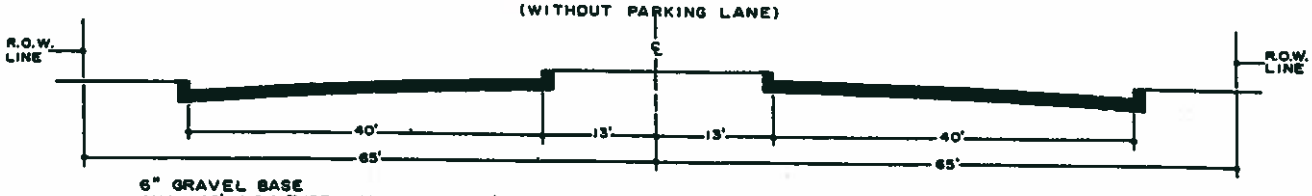
6" GRAVEL BASE
48' HIGH TYPE PAVEMENT, 80' R.O.W.
(ADDITIONAL R.O.W. MAY BE RESERVED IN UNDEVELOPED AREAS)

URBAN AREA
TYPICAL CROSS SECTION NO. 10
DESIRABLE FOUR LANE ARTERIAL
(WITH PARKING LANE)



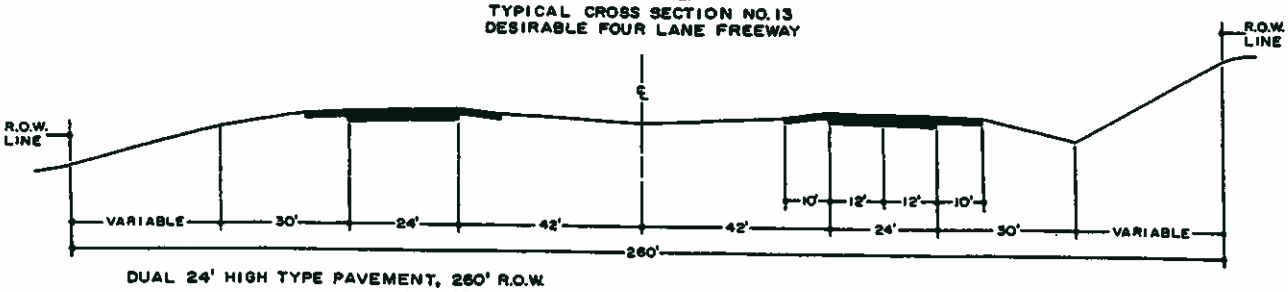
6" GRAVEL BASE
DUAL 36' HIGH TYPE PAVEMENT, 130' R.O.W.

URBAN AREA
TYPICAL CROSS SECTION NO. 12
DESIRABLE SIX LANE ARTERIAL
(WITHOUT PARKING LANE)



6" GRAVEL BASE
DUAL 40' HIGH TYPE PAVEMENT, 130' R.O.W.

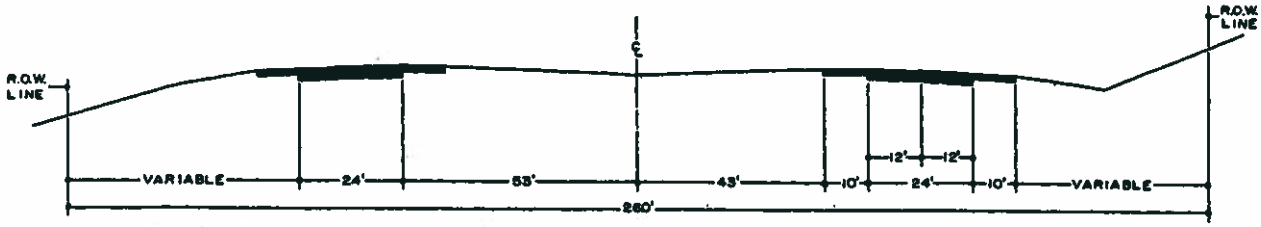
RURAL AREA
TYPICAL CROSS SECTION NO. 13
DESIRABLE FOUR LANE FREEWAY



DUAL 24' HIGH TYPE PAVEMENT, 260' R.O.W.

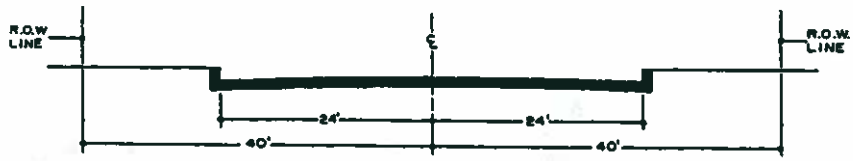
Figure 6 (continued)

URBAN AREA
TYPICAL CROSS SECTION NO. 16
DESIRABLE FOUR LANE FREEWAY



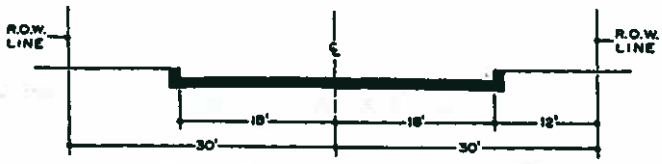
DUAL 24' HIGH TYPE PAVEMENT, 260' R.O.W.

URBAN AREA
TYPICAL CROSS SECTION
COLLECTOR STREET



6" GRAVEL BASE
46' HIGH TYPE PAVEMENT
80' R.O.W.

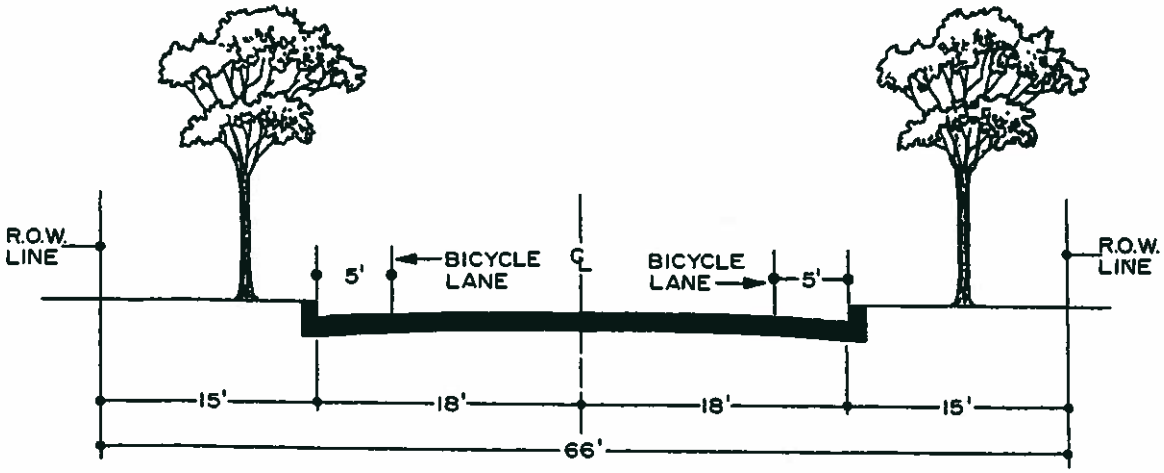
URBAN AREA
TYPICAL CROSS SECTION
MINOR STREET



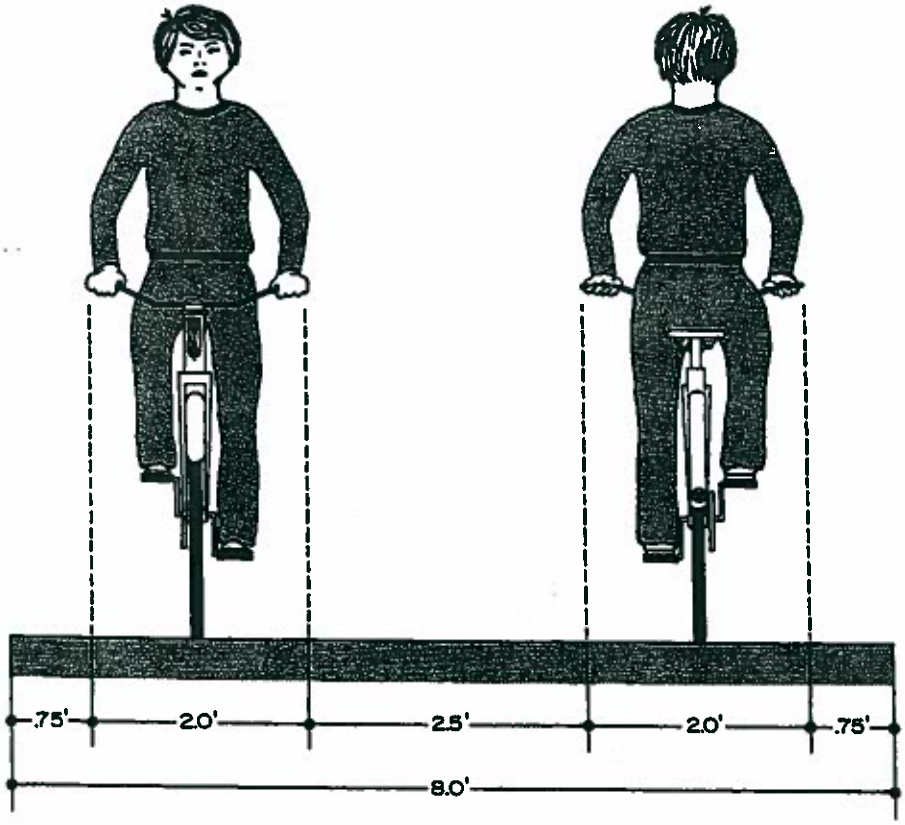
6" GRAVEL BASE
36' HIGH TYPE PAVEMENT
60' R.O.W.

Figure 6 (continued)

RECOMMENDED TYPICAL CROSS-SECTION MINOR STREET WITH BICYCLE LANES (UNOFFICIAL AND UNMARKED)



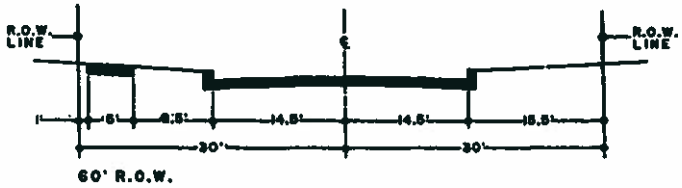
RECOMMENDED MINIMUM TWO-LANE BICYCLE PATH ON SEPARATE RIGHT-OF-WAY



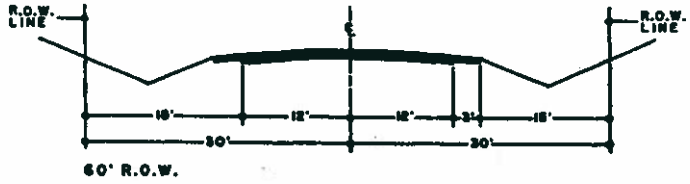
NOTE: Sidewalks are optional for urban area cross-sections and are at the discretion of City of New Berlin policy at the time of platting, but all street cross-sections must be developed with a 1 inch: 1 foot side slope area for potential future sidewalk and terrace area. See the City of New Berlin Bikeway Plan and amendments thereto.

Figure 6 (continued)

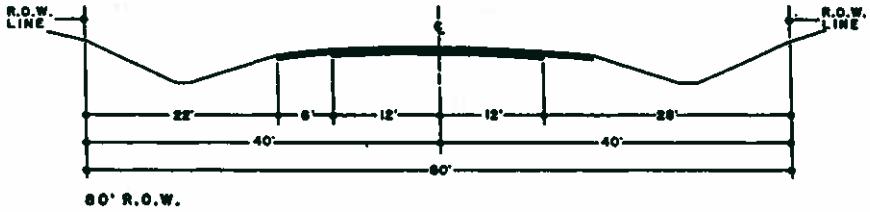
SUBURBAN AREA
TYPICAL CROSS SECTION
MINOR STREET



RURAL AREA
TYPICAL CROSS SECTION
MINOR STREET



MINIMUM TYPICAL CROSS SECTION OF INDUSTRIAL STREET



Source: SEWRPC.

OBJECTIVE NO. 10

Provision of facilities necessary to maintain high-quality fire protection throughout the City.

PRINCIPLE

The adequacy of fire protection in the City is dependent on the relationship between the size and distribution of city population and the location of facilities available to service that population.

STANDARD

Fire stations and equipment should be distributed, in part, on the basis of the standards shown in Table 40.

OBJECTIVE NO. 11

Provision of adequate location and choice of housing and a variety of housing types for varying age and income groups and different size households.

PRINCIPLE

Adequate choice in size, cost, and location of housing units will assure equal opportunity.

STANDARDS

1. Housing units within the New Berlin area should be geographically well distributed and include a full range of housing by type, size, and cost, including manufactured housing, detached single-family dwellings, attached two-family dwellings, attached multi-family rowhouses or townhouses, and attached multi-family garden apartments or condominiums.

2. The supply of vacant and available housing units should be sufficient to maintain and facilitate ready housing consumer turnover. Rental and homeowner vacancy rates should be maintained at a minimum of 4 percent and a maximum of 6 percent for rental units, and a minimum of 1 percent and a maximum of 2 percent of homeowner units over a full range of housing types, sizes, and costs.

3. Residential densities in the City of New Berlin should be provided in general accordance with the following guidelines:

   a. Existing vacant rural estate, suburban, and low-density platted residential lots larger than 20,000 square feet in area should be developed and infilled with single-family residential development.

   b. Approximately 25 percent of the total gross residential development area should consist of medium-density urban single-family dwelling units on 10,000- to 20,000-square-foot lots.

   c. Approximately 2.5 percent of the total gross residential development area should consist of high medium-density urban multifamily dwelling units at densities ranging from 4.4 to 6.9 dwelling units per net residential acre.

Table 40

FIRE COMPANY DISTRIBUTION STANDARDS

District and Required Fire Flow	Optimum Service Radius in 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.....	3/4	1
Where required fire flow is 5,000 to 8,999 gallons per minute.....	1	1 1/4
Where required fire flow is less than 4,500 gallons per minute.....	1 1/2	2
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 1/2	2
Same as above, but where the life hazard is above normal.....	1	1 1/4
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	3
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	4

NOTE: The above distances should be considered as direct street travel distances. Also, these distances should be reduced if a severe hazard to life 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 district or municipality indicate that such a reduction is needed.

Source: SEWRPC.

d. **Approximately 4 percent of the total gross residential development area should consist of high-density urban multifamily dwelling units at densities ranging from 7.0 to 12.0 dwelling units per net residential acre.**

The objectives, principles, and standards set forth in this chapter express the physical development intent of the City of New Berlin. The standards perform a particularly important function in land use plan design since they form the basis upon which estimates of future community land use needs are based. Community land use requirements are developed in Chapter VI based upon these objectives, principles, and standards.

URBAN DESIGN CRITERIA

In order to develop physical solutions to the urban design problems identified in Chapter IV, certain urban design criteria must be agreed upon. In this respect, urban design criteria can be defined as a body of information which

can be applied to the development of a solution or solutions to a specific urban design problem or set of problems. Specific urban design decisions should be based, in part, upon urban design criteria, as well as the underlying objectives, principles, and standards outlined above. Urban design criteria are of a high level of specificity in order to assist in the development of detailed urban design solutions to the highly specific urban design problems outlined. Urban design criteria have been developed with respect to residential development, industrial development, and commercial development in the New Berlin area. These criteria were used to arrive at the designs for city development outlined in the recommended plans presented in Chapters VII, VIII, IX, and X.

RESIDENTIAL DEVELOPMENT URBAN DESIGN CRITERIA

Urban design criteria for residential development are herein proposed for residential neighborhood recreational facilities; street, block, and lot layouts and arrangements; residential structure orientation for solar access and energy conservation; general landscaping; utility easements; and stormwater drainage and erosion/sedimentation control. These criteria should form the basis for the design of future residential neighborhood development plans as recommended in Chapter VII.

Neighborhood Recreational/Educational Facilities

Recreational lands at the neighborhood level should provide a focal point for neighborhood activities and should be located and developed in conjunction with a neighborhood elementary school. The elementary school and recreational facilities should be provided on a common site available to serve the recreation demands of both the school student and the resident neighborhood population. Using a neighborhood park site standard of 1.7 acres per 1,000 residents, and an elementary school site standard of 1.6 acres per 1,000 residents, a total site area of 3.3 acres per 1,000 residents should be provided, with the joint site having a minimum area of 10 acres in size, however. The individual recreational facility requirements should be based upon the values listed in Table 41.

Walking Distances to Neighborhood Facilities: Residents of residential neighborhoods should be afforded convenient access to existing and proposed commercial, educational, transportation, recreational, and community facilities which meet the maximum walking distance and travel time criteria shown in Table 38.

Streets

Limitation of Access to Arterial Streets: Whenever proposed residential land uses abut an arterial street or highway, the character of the residential uses and the capacity and safety of the arterial facility should be protected by limiting access from the abutting land uses, and by separating through and local traffic, where possible, as shown in Figure 7. In addition, a planting screen should be provided in a nonaccess reservation along the rear property line as shown in Figure 7.

Street Cross-Sections: Street cross-section design criteria for arterial, collector, land access, and cul-de-sac streets are shown graphically in Figure 6.

Table 41

OUTDOOR RECREATION FACILITY REQUIREMENTS IN A TYPICAL MEDIUM-DENSITY RESIDENTIAL NEIGHBORHOOD UNIT

Facility	Minimum Standard Public Facility Requirement	Number of Facilities Required	Total Acreage Required
Active Recreation			
Baseball Diamond	0.09 per 1,000	0.59 = 1	4.5
Basketball Goal.....	0.91 per 1,000	5.9 = 6	0.42
Ice-Skating Rink....	0.15 per 1,000	0.98 = 1	0.35 minimum
Playfield.....	0.39 per 1,000	2.5 = 3	4.95 minimum
Playground.....	0.35 per 1,000	2.3 = 2	1.24 minimum
Softball Diamond....	0.53 per 1,000	3.4 = 2	5.36
Tennis Court.....	0.50 per 1,000	3.3 = 3	0.96
Subtotal	--	--	17.78 minimum
Passive Recreation	Add 10 percent of active recreation area total		1.8
Other Recreation [a]	Add 10 percent of active recreation area total		1.8
Total	--	--	21.38 minimum

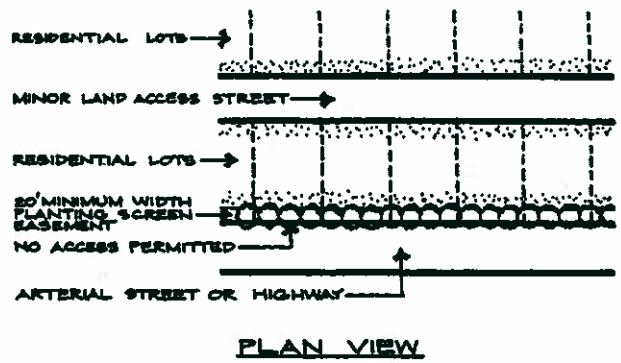
NOTE: Medium density is defined as 2.3 to 6.9 dwelling units per net residential acre, with a total population of 6,500 within an area of one square mile (640 acres).

[a] Picnicking facilities should be provided in a neighborhood park.

Source: SEWRPC.

Figure 7

REVERSED FRONTAGE LOTS FOR LIMITATION OF ACCESS TO ARTERIAL STREETS



Source: SEWRPC.

Street Grades: Unless necessitated by exceptional topography, the maximum grade of any street should not exceed the following: arterial streets, 6 percent; collector streets, 8 percent; minor streets, alleys, and frontage streets, 10 percent; and pedestrian ways, 10 percent unless steps of acceptable design are provided. In addition, the grade of any street should not exceed 10 percent or be less than 0.5 percent. Street grades should be established so as to avoid excessive grading, the promiscuous removal of ground cover and tree growth, and unnecessary leveling of the topography.

Street Intersections: Streets should intersect each other at as near to right angles as topography and other limiting factors of design permit. In addition, the number of streets converging at one intersection should be held to a minimum, preferably to not more than two streets at one intersection; the number of intersections along arterial streets and highways should be held to a minimum; and the distance between such intersections should generally not be less than 600 feet.

Street Alignment: When a continuous street centerline deflects or bends at any point by more than 5°, a circular curve should be introduced having a radius of curvature on the centerline of not less than the following: arterial streets, 500 feet; collector streets, 300 feet; and minor streets, 200 feet. A tangent at least 100 feet in length should be provided between reverse curves on arterial and collector streets. In addition, minor and collector streets should not necessarily continue across arterial streets. If the distance between the centerline of any street and any intersecting street is less than 250 feet measured along the centerline of the intersecting street, then the street location should be adjusted so that the distance is increased or the adjoinment across the intersecting street is continuous, thus avoiding a jog in the flow of traffic.

Street, Block, and Structure Orientation for Solar Access: In order to facilitate solar access, where topography and other natural features permit, streets, blocks, and structures should generally be layed out in an east-west

direction, with a maximum of 10° variation to the northwest and a maximum of 25° variation to the southwest, as shown in Figure 8. In situations where topography and other natural features do not permit positioning these features in an east-west direction, lot and/or building orientation should be flexible to compensate for these natural barriers to solar access, while still maintaining minimum yards and setbacks. In developments along north-south streets, structures should be built with the long roof axis facing south, as shown in Figure 8.

Half Streets: The platting of half streets should be avoided. Half streets put an unrealistic reliance on the chance that adjacent property owners will develop their properties at the same time. If half streets are allowed and then improved, their narrow width may result in street maintenance and traffic circulation problems.

Cul-de-Sac Streets: Cul-de-sacs, which are designed to have one end permanently closed, should generally not exceed 600 feet in length. Such cul-de-sac streets should terminate in a circular turnaround having a design similar to the design illustrated in Figure 9.

Handicap and Bicycle Access: Wheelchair and bicycle curb ramps should be installed at street intersection crosswalks pursuant to Section 66.616 of the Wisconsin Statutes.

Blocks

The widths, lengths, and shapes of blocks should be suited to the planned use of the land; zoning requirements; the need for convenient access, control, and safety of street traffic; and the limitations of and opportunities provided by topography.

Length: Blocks in residential areas should not be less than 600 feet nor more than 1,200 feet in length, unless otherwise dictated by exceptional topography or other limiting factors of good design.

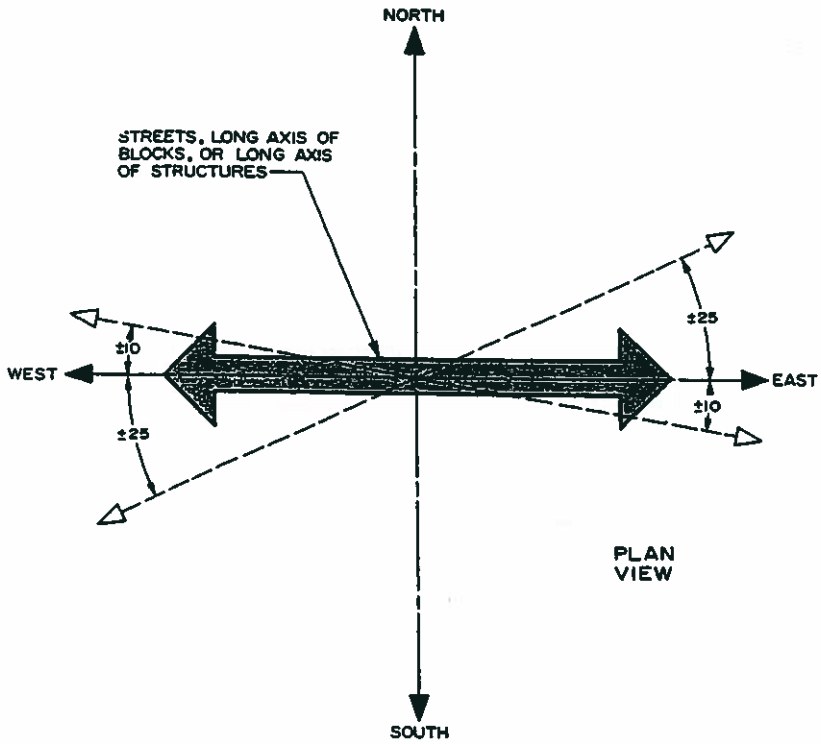
Pedestrian Ways: Pedestrian ways of not less than 16 feet in width may be required near the center and entirely across any block of more than 900 feet in length to provide adequate pedestrian circulation and access to schools, parks, shopping centers, churches, or transportation facilities.

Width: Blocks should be wide enough to provide for two tiers of lots of appropriate depth except where required to separate residential development from through traffic. The width of lots or parcels reserved or designated for commercial or industrial use shall be adequate to provide for the off-street service and parking areas required by the use contemplated and to meet the area zoning restrictions for such use.

Utilities: Telephone and electric power lines should, where practical, be placed on midblock easements of not less than 20 feet in width centered on the property line and, where possible, along rear lot lines for underground construction.

Figure 8

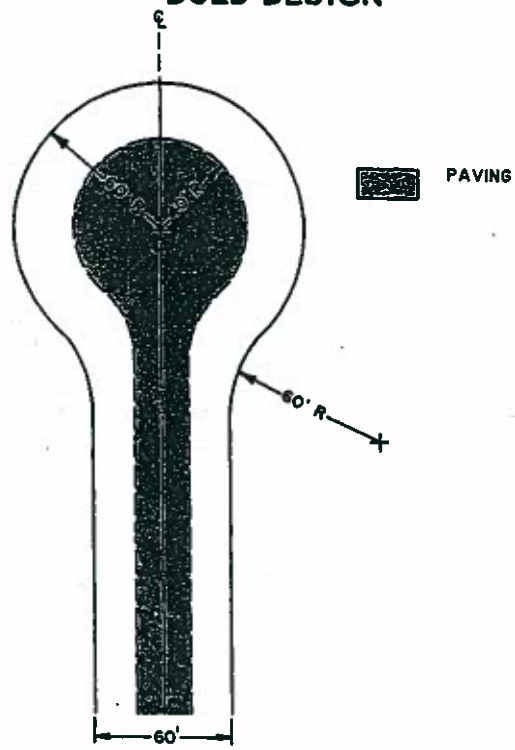
ORIENTATION FOR SOLAR ACCESS



Source: SEWRPC.

Figure 9

TYPICAL CUL-DE-SAC BULB DESIGN



Source: City of New Berlin Planning Department.

Lots

The size, shape, and orientation of lots shall be appropriate for the location of the subdivision and for the type of development and use contemplated. The lots should be designed to provide an aesthetically pleasing building site and a proper architectural setting for the building contemplated.

Side Lot Lines: Side lot lines should be at right angles to straight street lines or radial to curved street lines on which the lots face. Lot lines should follow municipal boundary lines rather than cross them.

Double Frontage: Double frontage or "through" lots should be prohibited except where necessary to provide separation of residential development from arterial traffic or to overcome specific disadvantages of topography and orientation.

Access: Every lot should front or abut a public street for a distance of at least 85 feet and, in the case of cul-de-sac public streets, for a distance of at least 50 feet.

Lot Size: Area and dimensions of all lots should conform to the requirements of the City of New Berlin Zoning Code for subdivisions within the neighborhood.

Lot Depth: Excessive depth of lots in relation to width should be avoided, and a proportion of two to one should be considered a maximum depth-to-width ratio. Lot depth should be increased by about 10 feet when abutting an arterial highway where no direct access is permitted to the arterial highway to allow for a landscaped buffer strip between the arterial highway and the residential land use. Where no landscaped buffer strip is provided, that distance should be increased to 30 feet.

Lot Width: Lots within the interior of a block should have the minimum average width required in the proposed zoning districts for the City of New Berlin as contained in Chapter IX of this plan.

Corner Lots: Corner lots should have an additional width of 10 feet to permit adequate building setbacks from side streets.

Lot Orientation for Solar Access: In order to facilitate solar access, and where topography and other natural features permit, residential lots should be laid out with the long axis of the lot in a north-south orientation.

Residential Structure Orientation for Solar Access and Energy Conservation

Code Conformance: Single-family and two-family dwelling structures should be constructed in such a manner as to meet the minimum energy conservation standards as defined in the Wisconsin Administrative Code, Section Ind. 22, "Energy Conservation," of the Uniform Dwelling Code.

Orientation of Structures: In order to facilitate solar access, generally the long axis of a residential structure (where topography and other natural features permit) should be in an east-west orientation, with a maximum of about 10° variation to the northwest and a maximum of about 25° variation to the southwest, as shown in Figure 8.

General Landscaping

Every effort should be made to protect and retain all existing trees, shrubbery, vines, and grasses not actually lying in public roadways, drainageways, paths, and trails. Trees should be protected and preserved during construction in accordance with sound conservation practices, including the use of wells or islands or retaining walls whenever abutting grades are altered.

Soils and Landscape Tree Planting: A general landscape guide for the planting and selection of various trees to perform a variety of functions such as shade, street landscaping, lawn landscaping, hedges, screens, and windbreaks for the City of New Berlin is presented in Appendix B. The landscape guide map and table are based upon soil types and various woodland suitability groups found in the City, and show the various types of trees which can be accommodated for a variety of landscape planting uses. The various soils found in the City have been grouped into categories termed "woodland suitability groups," based upon their response and suitability to the same or similar tree species. The woodland suitability groups have been numbered according to a statewide classification system. Through the use of the map and tables in Appendix B, landscape material selection in the City will be greatly assisted.

Cutting and Clearing: Tree cutting and shrubbery clearing should not exceed 30 percent of the lot or tract, if possible, and should be conducted so as to prevent erosion and sedimentation and preserve and improve scenic qualities.

Paths: Easements for paths and trails in wooded and wetland areas should not exceed 10 feet in width unless otherwise approved by the City. They should be designed and constructed so as to result in the least removal and disruption of trees and shrubs and the minimum impairment of natural beauty.

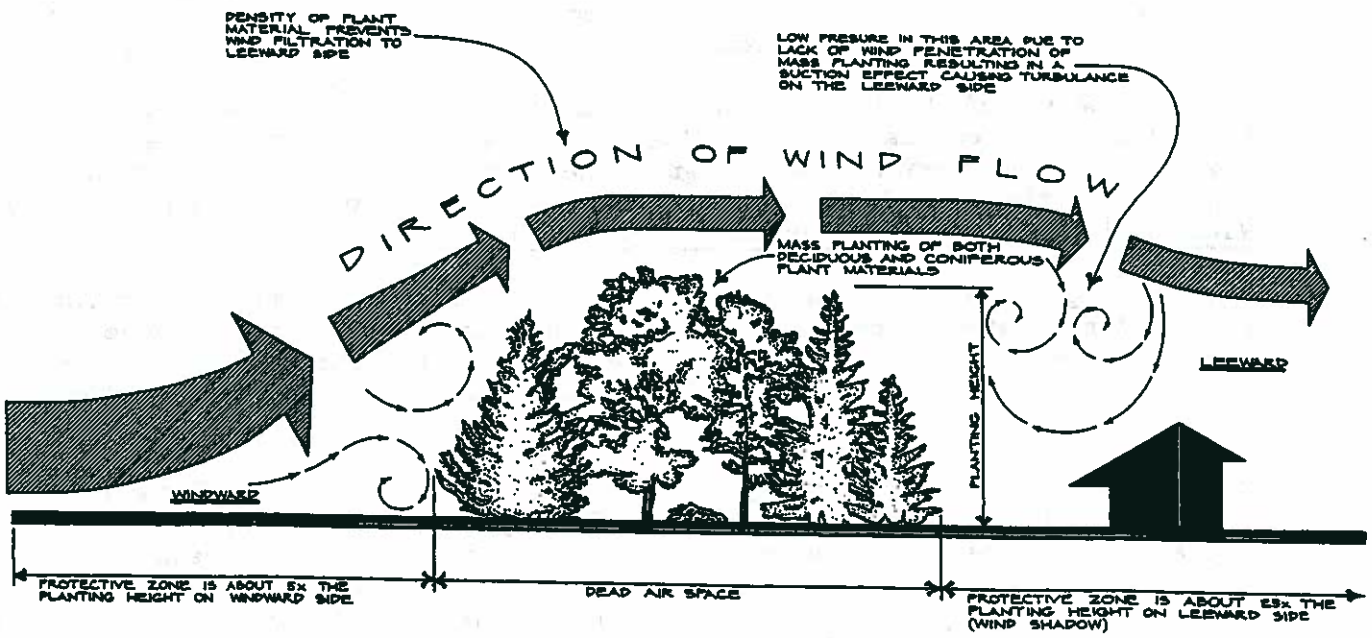
Shade Trees: At least one shade tree of at least 10 feet in height should be planted for each 50 feet of frontage on proposed lots. However, the placement and selection of street tree species should not hamper or interfere with solar access to natural light and air for nearby lots. Appendix B sets forth the species characteristics of selected trees to aid in the selection of trees for landscape planting. However, tree species should be selected, in part, based upon soil conditions and species hardiness to soil conditions, as set forth in Appendix B.

Wind and Landscape Planting: With respect to wind, landscaping should be done so as to minimize winter wind and maximize summer wind effects on structures. Winter wind protection is afforded by planting landscaping of an adequate height on the west of structures. However, if solar access would be blocked, low shrubs should be used to divert or enhance winds. An optimum distance between a winter windbreak and a structure is approximately twice the tree height. A coniferous windbreak that is two rows wide is nearly optimum for efficiency, and additional rows would not significantly increase the effectiveness of a windbreak. Figure 10 illustrates the concept.

Noise and Landscape Planting: Groups of trees, shrubs, and other landscape masses, such as earth berms, can serve as noise barriers and should be utilized where noise could create problems for neighboring land uses. Such landscaped noise barriers are most effective when the barrier is near the noise source or receiver. Under daytime conditions, dense landscape plantings can

Figure 10

LANDSCAPE PLANTING FOR WIND PROTECTION



Source: SEWRPC.

provide noise reductions of 5 to 8 dBA[1] of traffic noise. Also, earth berms 12 feet high, when combined with dense landscape plantings, can reduce truck noise by 10 to 15 dBA. However, landscaped sound barriers can be expected to be less effective at night than during the day since, when surface air is cool (inversions), the noise will be refracted over any noise barrier. Landscape planting noise barriers should be used whenever possible.

Solar Access and Landscape Planting: With respect to solar access, landscaping planted to the south of structures should be short, broad, deciduous species with open twig patterns, affording the passage of light through the branch structure in the winter. Figure 11 illustrates the concept.

Easements

Utility easements of widths adequate for the intended purpose (but not less than 10 feet on each side of all rear lot lines and on side lot lines or across lots) may be required by the City of New Berlin or by utility companies where necessary or advisable. All utilities in residential areas should be underground.

Where a subdivision is traversed by a watercourse, an adequate drainageway or easement should be provided as may be required by the City Engineer, using The Storm Water Drainage Master Plan for the City of New Berlin prepared by J. C. Zimmerman Engineering Corporation in 1974 as a guide. Solar access easements may be incorporated into preliminary and final plats or entered into between individual lot owners.

Stormwater Drainage and Erosion/Sedimentation Control

Stormwater drainage facilities should be adequate to serve the subdivision, and may include curbs and gutters, catch basins and inlets, storm sewers, road ditches, culverts, open channels, water retention structures, and settling basins. The facilities should be of adequate size and grade to hydraulically accommodate design flows through and from the subdivision, and shall be so designed as to prevent and control soil erosion and sedimentation and to present no hazards to life or property. Where feasible, stormwater drainage should consist of landscaped open channels of adequate size and grade to hydraulically accommodate design flows specified by the City of New Berlin's Engineering Department. The design flows shall be subject to review and approval by the City Engineer and should be in conformance with The Storm Water Drainage Master Plan for the City of New Berlin.

Earth-moving activities such as grading, topsoil removal, mineral extraction, road cutting, waterway construction or enlargement, excavation, channel clearing, ditching, drain tile laying, dredging, and lagooning should be so conducted as to prevent erosion and sedimentation and to least disturb the

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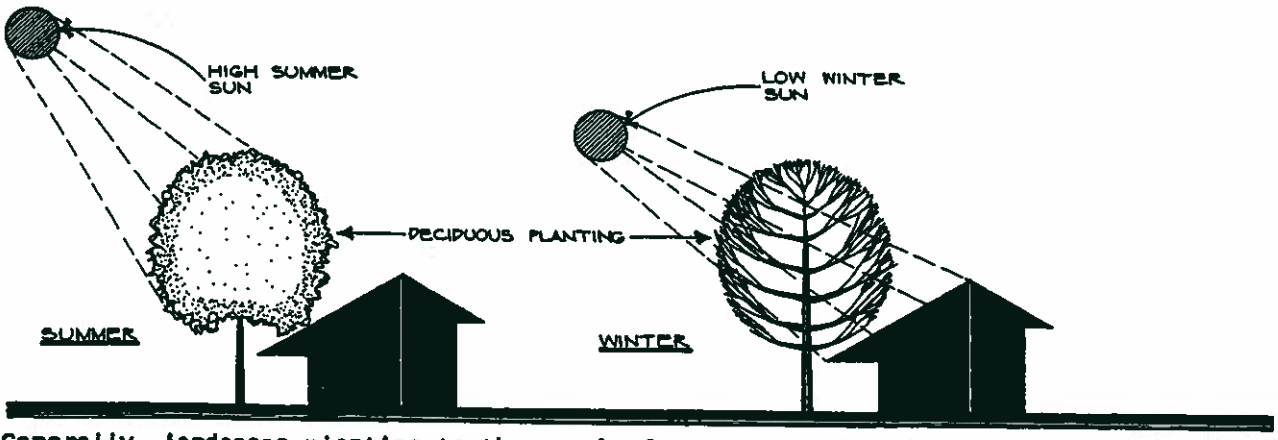
[1]The source of acoustic energy is characterized by its Sound Pressure Level (SPL), usually measured in decibels (dB), by the tonal composition of the noise, and by the variation of SPL in time. Many scales for measuring noise have been devised. Of these scales, the A weighted measure of SPL (written as dBA) is becoming more and more common as a measure of environmental noise. For this measure, the weighting of the tonal composition of the noise is similar to that of the human ear.

Figure 11

DECIDUOUS LANDSCAPE PLANTING AND SEASONAL SOLAR ACCESS



Generally, landscape planting to the south of structures should be broad, deciduous species with open twig patterns affording the passage of light through the branch structure in the winter. The choice of deciduous plantings should be made since they drop their leaves in the fall and allow low winter sun to penetrate their branching structure. In the summer, the deciduous plantings can also provide sun shading of the structure, thus moderating unwanted summer heat gain.

Source: SEWRPC.

natural fauna, flora, watercourse, water regimen, and topography. Construction activities should be planned so that the soil is disturbed a minimal amount of time. Cut and filled lands outside of street rights-of-way should be graded to a maximum slope of 25 percent, or to the angle of repose of the soil, whichever is less.

The subdivider should plant those grasses, trees, and vines--the species and size of which are to be determined by the City or, in the case of trees, those shown in Appendix B--necessary to prevent soil erosion and sedimentation. The City may require the subdivider to provide or install certain protection and rehabilitation measures, such as fencing, slopes, seeding, trees, shrubs, rip-rap, wells, revetments, berms, jetties, clearing, dredging, snagging, drop structures, brush mats, willow poles, and grade stabilization structures.

INDUSTRIAL DEVELOPMENT URBAN DESIGN CRITERIA

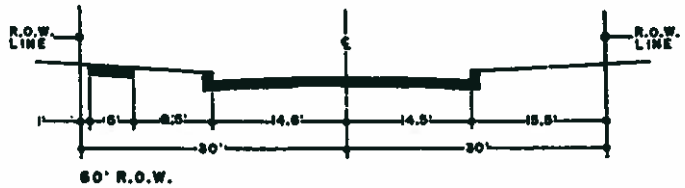
Urban design criteria relating to industrial development are proposed for street, block, and lot layouts and arrangements; automobile parking; easements; stormwater drainage and erosion/sedimentation control; and general landscaping.

Industrial Streets

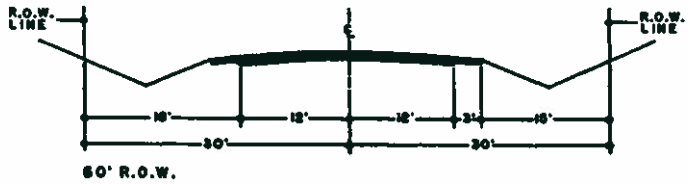
Limitation of Access to Arterial Streets: Whenever proposed industrial land uses abut an arterial street or highway, access from abutting land uses should be sufficiently limited to adequately protect the capacity and safety of the arterial facility. This protection can be accomplished through the separation of through and local traffic, and, where possible, by use of reversed frontage lots. Provision should be made for a planting screen or landscaping in a non-access reservation located along the rear property line of all such reversed

Figure 6 (continued)

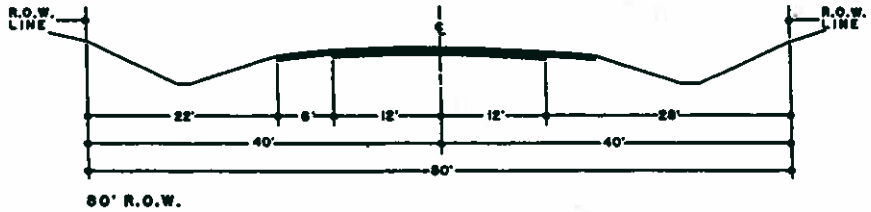
SUBURBAN AREA
TYPICAL CROSS SECTION
MINOR STREET



RURAL AREA
TYPICAL CROSS SECTION
MINOR STREET



MINIMUM TYPICAL CROSS SECTION OF INDUSTRIAL STREET



Source: SEWRPC.

OBJECTIVE NO. 10

Provision of facilities necessary to maintain high-quality fire protection throughout the City.

PRINCIPLE

The adequacy of fire protection in the City is dependent on the relationship between the size and distribution of city population and the location of facilities available to service that population.

STANDARD

Fire stations and equipment should be distributed, in part, on the basis of the standards shown in Table 40.

OBJECTIVE NO. 11

Provision of adequate location and choice of housing and a variety of housing types for varying age and income groups and different size households.

PRINCIPLE

Adequate choice in size, cost, and location of housing units will assure equal opportunity.

STANDARDS

1. Housing units within the New Berlin area should be geographically well distributed and include a full range of housing by type, size, and cost, including manufactured housing, detached single-family dwellings, attached two-family dwellings, attached multi-family rowhouses or townhouses, and attached multi-family garden apartments or condominiums.

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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 1/2	2
Same as above, but where the life hazard is above normal.....	1	1 1/4
For buildings having an average separation of less than 100 feet (and a fire flow requirement of 2,000 gsllons per minute or less).....	2	3
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NOTE: The above distances should be considered as direct street travel distances. Also, these distances should be reduced if a severe hazard to life 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 district or municipality indicate that such a reduction is needed.

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Baseball Diamond	0.09 per 1,000	0.59 = 1	4.5
Basketball Goal.....	0.91 per 1,000	5.9 = 6	0.82
Ice-Skating Rink....	0.15 per 1,000	0.98 = 1	0.35 minimum
Playfield.....	0.39 per 1,000	2.5 = 3	4.95 minimum
Playground.....	0.35 per 1,000	2.3 = 2	1.24 minimum
Softball Diamond....	0.53 per 1,000	3.4 = 2	5.36
Tennis Court.....	0.50 per 1,000	3.3 = 3	0.96
Subtotal	--	--	17.78 minimum
Passive Recreation	Add 10 percent of active recreation area total		1.8
Other Recreation[a]	Add 10 percent of active recreation area total		1.8
Total	--	--	21.38 minimum

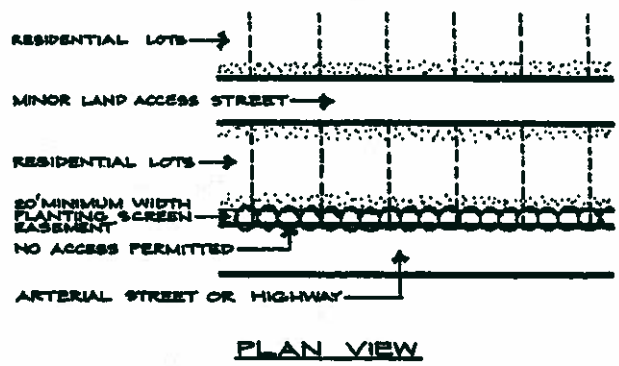
NOTE: Medium density is defined as 2.3 to 6.9 dwelling units per net residential acre, with a total population of 6,500 within an area of one square mile (640 acres).

[a]Picnicking facilities should be provided in a neighborhood park.

Source: SEWRPC.

Figure 7

REVERSED FRONTAGE LOTS FOR LIMITATION OF ACCESS TO ARTERIAL STREETS



Source: SEWRPC.

Street Grades: Unless necessitated by exceptional topography, the maximum grade of any street should not exceed the following: arterial streets, 6 percent; collector streets, 8 percent; minor streets, alleys, and frontage streets, 10 percent; and pedestrian ways, 10 percent unless steps of acceptable design are provided. In addition, the grade of any street should not exceed 10 percent or be less than 0.5 percent. Street grades should be established so as to avoid excessive grading, the promiscuous removal of ground cover and tree growth, and unnecessary leveling of the topography.

Street Intersections: Streets should intersect each other at as near to right angles as topography and other limiting factors of design permit. In addition, the number of streets converging at one intersection should be held to a minimum, preferably to not more than two streets at one intersection; the number of intersections along arterial streets and highways should be held to a minimum; and the distance between such intersections should generally not be less than 600 feet.

Street Alignment: When a continuous street centerline deflects or bends at any point by more than 5°, a circular curve should be introduced having a radius of curvature on the centerline of not less than the following: arterial streets, 500 feet; collector streets, 300 feet; and minor streets, 200 feet. A tangent at least 100 feet in length should be provided between reverse curves on arterial and collector streets. In addition, minor and collector streets should not necessarily continue across arterial streets. If the distance between the centerline of any street and any intersecting street is less than 250 feet measured along the centerline of the intersecting street, then the street location should be adjusted so that the distance is increased or the adjoinment across the intersecting street is continuous, thus avoiding a jog in the flow of traffic.

Street, Block, and Structure Orientation for Solar Access: In order to facilitate solar access, where topography and other natural features permit, streets, blocks, and structures should generally be layed out in an east-west

direction, with a maximum of 10° variation to the northwest and a maximum of 25° variation to the southwest, as shown in Figure 8. In situations where topography and other natural features do not permit positioning these features in an east-west direction, lot and/or building orientation should be flexible to compensate for these natural barriers to solar access, while still maintaining minimum yards and setbacks. In developments along north-south streets, structures should be built with the long roof axis facing south, as shown in Figure 8.

Half Streets: The platting of half streets should be avoided. Half streets put an unrealistic reliance on the chance that adjacent property owners will develop their properties at the same time. If half streets are allowed and then improved, their narrow width may result in street maintenance and traffic circulation problems.

Cul-de-Sac Streets: Cul-de-sacs, which are designed to have one end permanently closed, should generally not exceed 600 feet in length. Such cul-de-sac streets should terminate in a circular turnaround having a design similar to the design illustrated in Figure 9.

Handicap and Bicycle Access: Wheelchair and bicycle curb ramps should be installed at street intersection crosswalks pursuant to Section 66.616 of the Wisconsin Statutes.

Blocks

The widths, lengths, and shapes of blocks should be suited to the planned use of the land; zoning requirements; the need for convenient access, control, and safety of street traffic; and the limitations of and opportunities provided by topography.

Length: Blocks in residential areas should not be less than 600 feet nor more than 1,200 feet in length, unless otherwise dictated by exceptional topography or other limiting factors of good design.

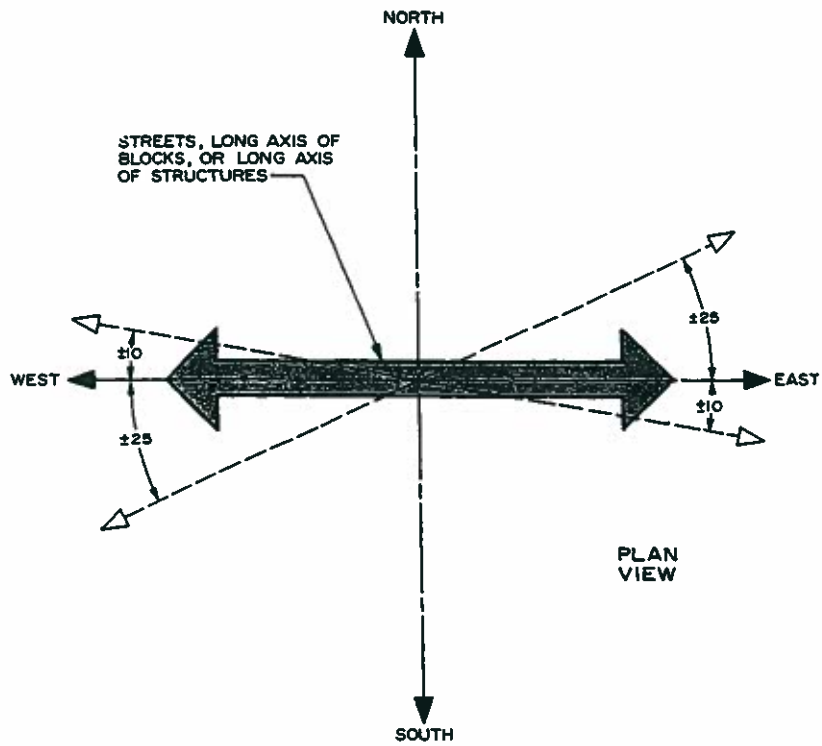
Pedestrian Ways: Pedestrian ways of not less than 16 feet in width may be required near the center and entirely across any block of more than 900 feet in length to provide adequate pedestrian circulation and access to schools, parks, shopping centers, churches, or transportation facilities.

Width: Blocks should be wide enough to provide for two tiers of lots of appropriate depth except where required to separate residential development from through traffic. The width of lots or parcels reserved or designated for commercial or industrial use shall be adequate to provide for the off-street service and parking areas required by the use contemplated and to meet the area zoning restrictions for such use.

Utilities: Telephone and electric power lines should, where practical, be placed on midblock easements of not less than 20 feet in width centered on the property line and, where possible, along rear lot lines for underground construction.

Figure 8

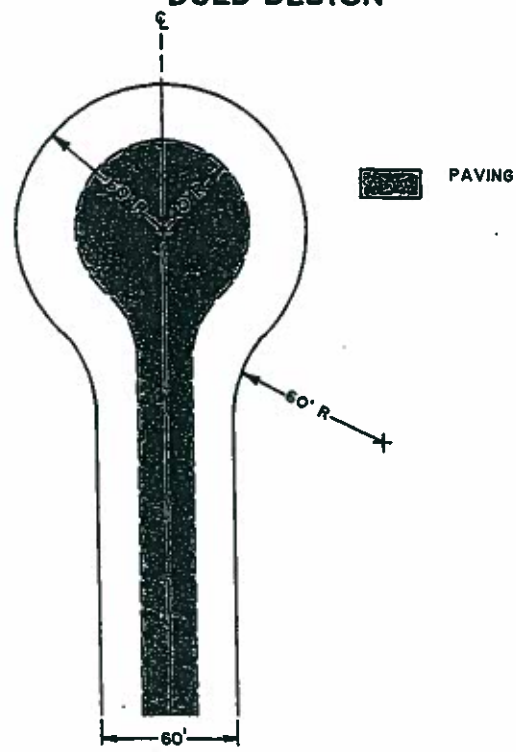
ORIENTATION FOR SOLAR ACCESS



Source: SEWRPC.

Figure 9

TYPICAL CUL-DE-SAC BULB DESIGN



Source: City of New Berlin Planning Department.

Lots

The size, shape, and orientation of lots shall be appropriate for the location of the subdivision and for the type of development and use contemplated. The lots should be designed to provide an aesthetically pleasing building site and a proper architectural setting for the building contemplated.

Side Lot Lines: Side lot lines should be at right angles to straight street lines or radial to curved street lines on which the lots face. Lot lines should follow municipal boundary lines rather than cross them.

Double Frontage: Double frontage or "through" lots should be prohibited except where necessary to provide separation of residential development from arterial traffic or to overcome specific disadvantages of topography and orientation.

Access: Every lot should front or abut a public street for a distance of at least 85 feet and, in the case of cul-de-sac public streets, for a distance of at least 50 feet.

Lot Size: Area and dimensions of all lots should conform to the requirements of the City of New Berlin Zoning Code for subdivisions within the neighborhood.

Lot Depth: Excessive depth of lots in relation to width should be avoided, and a proportion of two to one should be considered a maximum depth-to-width ratio. Lot depth should be increased by about 10 feet when abutting an arterial highway where no direct access is permitted to the arterial highway to allow for a landscaped buffer strip between the arterial highway and the residential land use. Where no landscaped buffer strip is provided, that distance should be increased to 30 feet.

Lot Width: Lots within the interior of a block should have the minimum average width required in the proposed zoning districts for the City of New Berlin as contained in Chapter IX of this plan.

Corner Lots: Corner lots should have an additional width of 10 feet to permit adequate building setbacks from side streets.

Lot Orientation for Solar Access: In order to facilitate solar access, and where topography and other natural features permit, residential lots should be laid out with the long axis of the lot in a north-south orientation.

Residential Structure Orientation for Solar Access and Energy Conservation

Code Conformance: Single-family and two-family dwelling structures should be constructed in such a manner as to meet the minimum energy conservation standards as defined in the Wisconsin Administrative Code, Section Ind. 22, "Energy Conservation," of the Uniform Dwelling Code.

Orientation of Structures: In order to facilitate solar access, generally the long axis of a residential structure (where topography and other natural features permit) should be in an east-west orientation, with a maximum of about 10° variation to the northwest and a maximum of about 25° variation to the southwest, as shown in Figure 8.

General Landscaping

Every effort should be made to protect and retain all existing trees, shrubbery, vines, and grasses not actually lying in public roadways, drainageways, paths, and trails. Trees should be protected and preserved during construction in accordance with sound conservation practices, including the use of wells or islands or retaining walls whenever abutting grades are altered.

Soils and Landscape Tree Planting: A general landscape guide for the planting and selection of various trees to perform a variety of functions such as shade, street landscaping, lawn landscaping, hedges, screens, and windbreaks for the City of New Berlin is presented in Appendix B. The landscape guide map and table are based upon soil types and various woodland suitability groups found in the City, and show the various types of trees which can be accommodated for a variety of landscape planting uses. The various soils found in the City have been grouped into categories termed "woodland suitability groups," based upon their response and suitability to the same or similar tree species. The woodland suitability groups have been numbered according to a statewide classification system. Through the use of the map and tables in Appendix B, landscape material selection in the City will be greatly assisted.

Cutting and Clearing: Tree cutting and shrubbery clearing should not exceed 30 percent of the lot or tract, if possible, and should be conducted so as to prevent erosion and sedimentation and preserve and improve scenic qualities.

Paths: Easements for paths and trails in wooded and wetland areas should not exceed 10 feet in width unless otherwise approved by the City. They should be designed and constructed so as to result in the least removal and disruption of trees and shrubs and the minimum impairment of natural beauty.

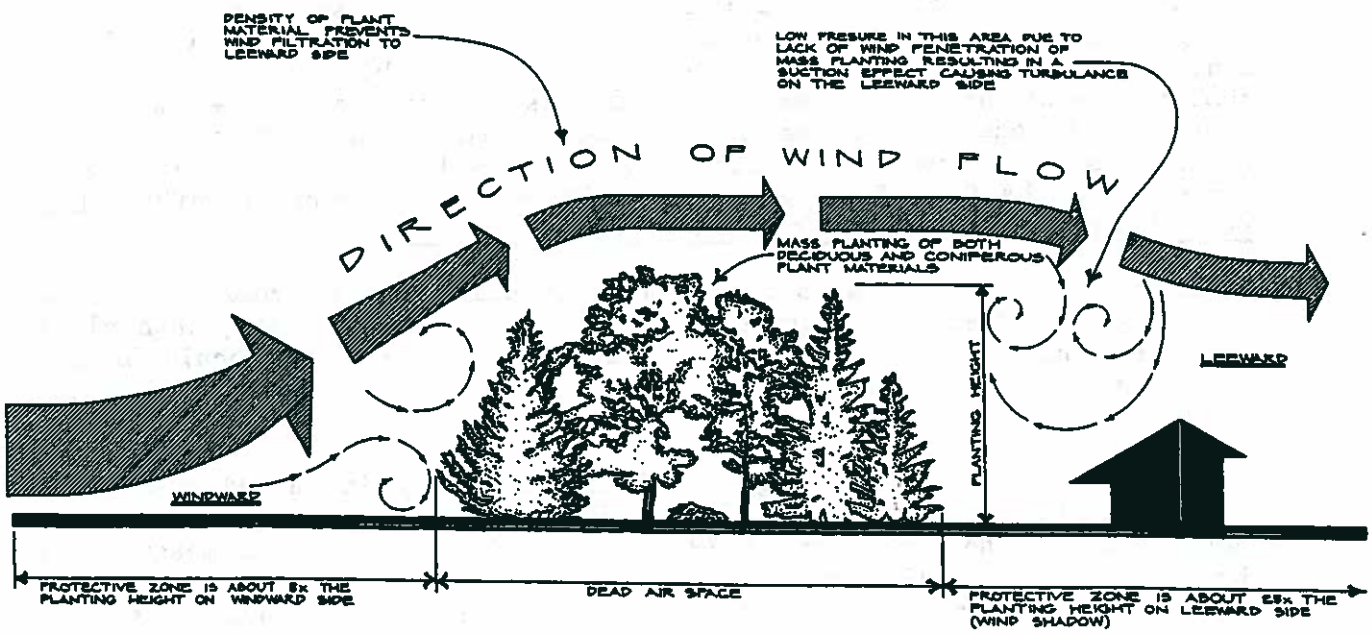
Shade Trees: At least one shade tree of at least 10 feet in height should be planted for each 50 feet of frontage on proposed lots. However, the placement and selection of street tree species should not hamper or interfere with solar access to natural light and air for nearby lots. Appendix B sets forth the species characteristics of selected trees to aid in the selection of trees for landscape planting. However, tree species should be selected, in part, based upon soil conditions and species hardiness to soil conditions, as set forth in Appendix B.

Wind and Landscape Planting: With respect to wind, landscaping should be done so as to minimize winter wind and maximize summer wind effects on structures. Winter wind protection is afforded by planting landscaping of an adequate height on the west of structures. However, if solar access would be blocked, low shrubs should be used to divert or enhance winds. An optimum distance between a winter windbreak and a structure is approximately twice the tree height. A coniferous windbreak that is two rows wide is nearly optimum for efficiency, and additional rows would not significantly increase the effectiveness of a windbreak. Figure 10 illustrates the concept.

Noise and Landscape Planting: Groups of trees, shrubs, and other landscape masses, such as earth berms, can serve as noise barriers and should be utilized where noise could create problems for neighboring land uses. Such landscaped noise barriers are most effective when the barrier is near the noise source or receiver. Under daytime conditions, dense landscape plantings can

Figure 10

LANDSCAPE PLANTING FOR WIND PROTECTION



Source: SEWRPC.

provide noise reductions of 5 to 8 dBA[1] of traffic noise. Also, earth berms 12 feet high, when combined with dense landscape plantings, can reduce truck noise by 10 to 15 dBA. However, landscaped sound barriers can be expected to be less effective at night than during the day since, when surface air is cool (inversions), the noise will be refracted over any noise barrier. Landscape planting noise barriers should be used whenever possible.

Solar Access and Landscape Planting: With respect to solar access, landscaping planted to the south of structures should be short, broad, deciduous species with open twig patterns, affording the passage of light through the branch structure in the winter. Figure 11 illustrates the concept.

Easements

Utility easements of widths adequate for the intended purpose (but not less than 10 feet on each side of all rear lot lines and on side lot lines or across lots) may be required by the City of New Berlin or by utility companies where necessary or advisable. All utilities in residential areas should be underground.

Where a subdivision is traversed by a watercourse, an adequate drainageway or easement should be provided as may be required by the City Engineer, using The Storm Water Drainage Master Plan for the City of New Berlin prepared by J. C. Zimmerman Engineering Corporation in 1974 as a guide. Solar access easements may be incorporated into preliminary and final plats or entered into between individual lot owners.

Stormwater Drainage and Erosion/Sedimentation Control

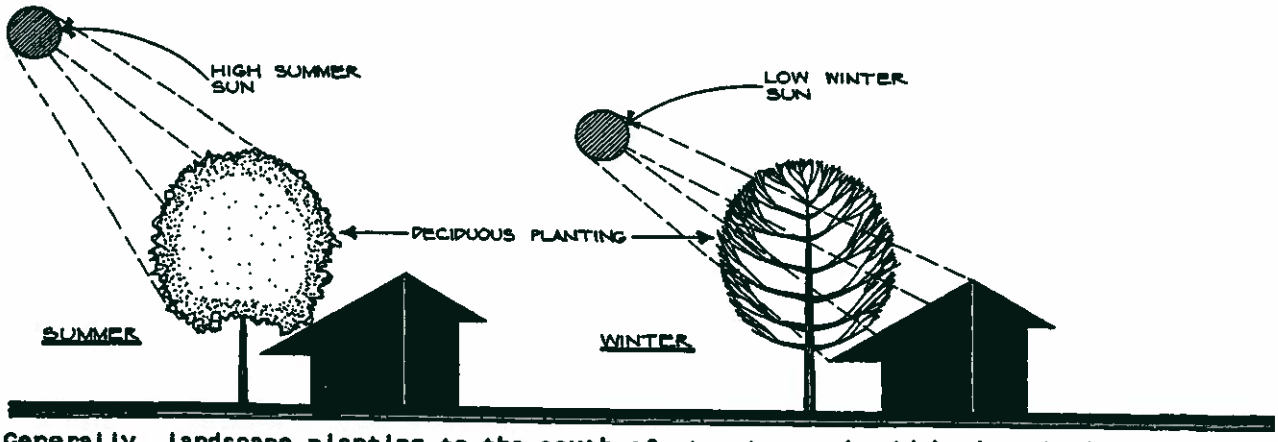
Stormwater drainage facilities should be adequate to serve the subdivision, and may include curbs and gutters, catch basins and inlets, storm sewers, road ditches, culverts, open channels, water retention structures, and settling basins. The facilities should be of adequate size and grade to hydraulically accommodate design flows through and from the subdivision, and shall be so designed as to prevent and control soil erosion and sedimentation and to present no hazards to life or property. Where feasible, stormwater drainage should consist of landscaped open channels of adequate size and grade to hydraulically accommodate design flows specified by the City of New Berlin's Engineering Department. The design flows shall be subject to review and approval by the City Engineer and should be in conformance with The Storm Water Drainage Master Plan for the City of New Berlin.

Earth-moving activities such as grading, topsoil removal, mineral extraction, road cutting, waterway construction or enlargement, excavation, channel clearing, ditching, drain tile laying, dredging, and lagooning should be so conducted as to prevent erosion and sedimentation and to least disturb the

[1]The source of acoustic energy is characterized by its Sound Pressure Level (SPL), usually measured in decibels (dB), by the tonal composition of the noise, and by the variation of SPL in time. Many scales for measuring noise have been devised. Of these scales, the A weighted measure of SPL (written as dBA) is becoming more and more common as a measure of environmental noise. For this measure, the weighting of the tonal composition of the noise is similar to that of the human ear.

Figure 11

DECIDUOUS LANDSCAPE PLANTING AND SEASONAL SOLAR ACCESS



Generally, landscape planting to the south of structures should be broad, deciduous species with open twig patterns affording the passage of light through the branch structure in the winter. The choice of deciduous plantings should be made since they drop their leaves in the fall and allow low winter sun to penetrate their branching structure. In the summer, the deciduous plantings can also provide sun shading of the structure, thus moderating unwanted summer heat gain.

Source: SEWRPC.

natural fauna, flora, watercourse, water regimen, and topography. Construction activities should be planned so that the soil is disturbed a minimal amount of time. Cut and filled lands outside of street rights-of-way should be graded to a maximum slope of 25 percent, or to the angle of repose of the soil, whichever is less.

The subdivider should plant those grasses, trees, and vines--the species and size of which are to be determined by the City or, in the case of trees, those shown in Appendix B--necessary to prevent soil erosion and sedimentation. The City may require the subdivider to provide or install certain protection and rehabilitation measures, such as fencing, slopes, seeding, trees, shrubs, rip-rap, wells, revetments, berms, jetties, clearing, dredging, snagging, drop structures, brush mats, willow poles, and grade stabilization structures.

INDUSTRIAL DEVELOPMENT URBAN DESIGN CRITERIA

Urban design criteria relating to industrial development are proposed for street, block, and lot layouts and arrangements; automobile parking; easements; stormwater drainage and erosion/sedimentation control; and general landscaping.

Industrial Streets

Limitation of Access to Arterial Streets: Whenever proposed industrial land uses abut an arterial street or highway, access from abutting land uses should be sufficiently limited to adequately protect the capacity and safety of the arterial facility. This protection can be accomplished through the separation of through and local traffic, and, where possible, by use of reversed frontage lots. Provision should be made for a planting screen or landscaping in a non-access reservation located along the rear property line of all such reversed

frontage lots. The landscape planting reservation strip should be a minimum of 20 feet wide. Suggested alternative landscape planting designs for these strips are shown in Figure 12.

Street Cross-Sections: Street cross-section design criteria for industrial development are shown graphically in Figure 6. It is recommended that cross-section N, which shows a minimum right-of-way width of 80 feet, be used as the land access street cross-section for industrial development.

Street Grades: Unless necessitated by exceptional topography, the maximum grade of any street in an industrial park should not exceed 3 percent. In addition, the grade of any street should in no case be less than five-tenths of 1 percent. Finally, street grades should be established so as to avoid excessive grading, the promiscuous removal of ground cover and tree growth, and unnecessary leveling of the topography.

Stormwater Drainage and Street Location: Wherever practical, streets should follow lines of natural stormwater drainage.

Street Intersections: Streets should intersect each other at as nearly right angles as topography and other limiting factors of good design permit. In addition, the number of streets converging at one intersection should be held to a minimum, and the distance between such intersections should, generally, not be less than 600 feet for unsignalized intersections or 1,600 to 2,000 feet for signalized intersections. Land access street openings onto arterial streets should be minimized to improve traffic flow and reduce traffic hazard. When a continuous street centerline deflects at any point by more than 5°, a circular curve should be introduced having a radius curvature on the centerline of not less than the following: arterial streets, 500 feet; collector streets, 300 feet; and industrial parkland access streets, 300 feet. A tangent of at least 100 feet in length should be provided between reverse curves on arterial, collector, and industrial parkland access streets. Streets should not necessarily continue across arterial streets. If the distance between the centerline of any street with any intersecting street is less than 250 feet, measured along the centerline of the intersecting street, then the street location should be adjusted so that the distance is increased or the connection across the intersecting street is continuous in alignment, thus avoiding a jog in the flow of traffic.

Half Streets: The platting of half streets should be avoided. Half streets put an unrealistic reliance on the chance that adjacent property owners will develop their properties at the same time. If half streets are allowed and then improved, their narrow width may result in street maintenance and traffic circulation problems.

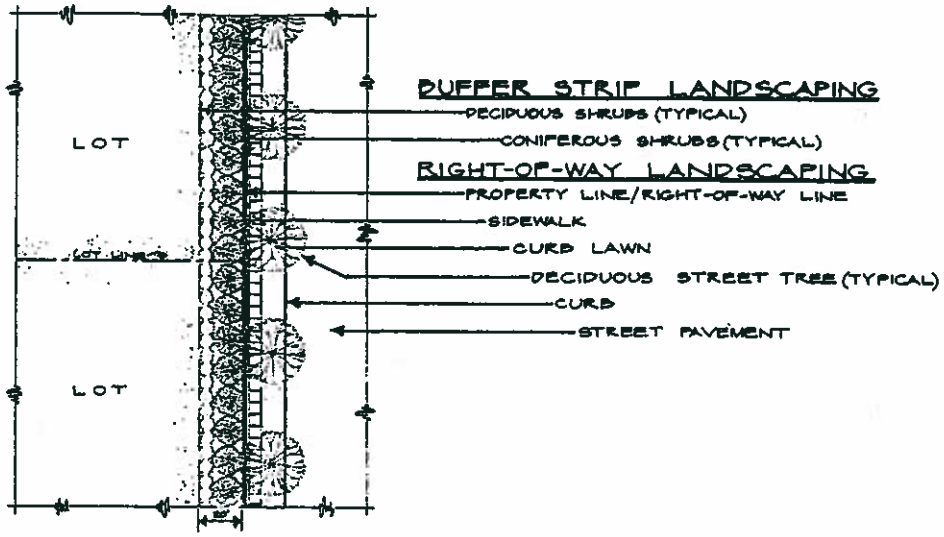
Industrial Blocks

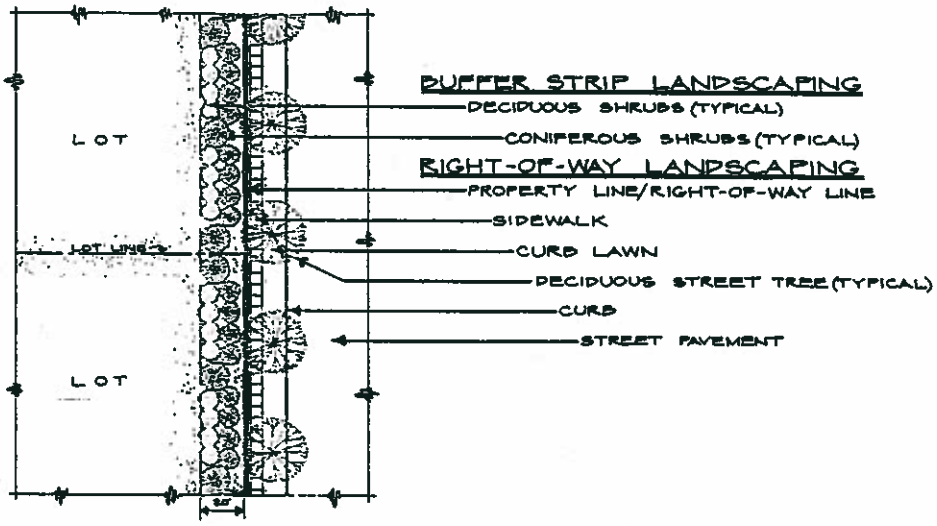
General: The widths, lengths, and shapes of blocks should be suited to the planned industrial use of the land; zoning requirements; the need for convenient access, control, and safety of street traffic; and the limitations of and opportunities provided by the topography.

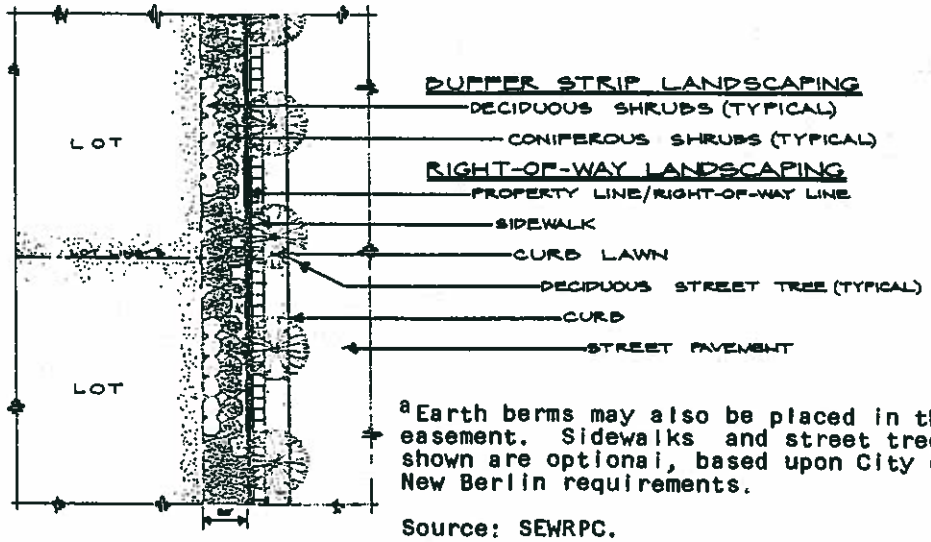
Block Width: Blocks should be wide enough to provide for two tiers of industrial lots of appropriate depth. The width of lots or parcels reserved or designated for industrial use shall be adequate to provide for the off-street service and parking required by the use contemplated and the area zoning restrictions for the use.

Figure 12

MINIMUM ALTERNATIVE LANDSCAPE PLANTING FOR PLANTING SCREENS[a]







[a]Earth berms may also be placed in the easement. Sidewalks and street trees shown are optional, based upon City of New Berlin requirements.

Source: SEWRPC.

Industrial Lots

General: The size, shape, and orientation of lots should be appropriate for the type of development and use contemplated. Lots should be designed to provide an aesthetically pleasing building site and a proper architectural setting for the industrial buildings contemplated.

Side Lot Lines: Side lot lines should be at right angles to straight street lines or radial to curved street lines on which the lots face. Lot lines should follow municipal boundary lines rather than cross them.

Double Frontage Lots: Double frontage or "through" lots should be prohibited except where necessary to provide separation of industrial development from arterial traffic or to overcome specific disadvantages of topography and orientation. Where double frontage lots prove to be a necessary design feature of the industrial development, the lots should face minor streets for access and be provided with sufficient setbacks from major streets to minimize hazards.

Street/Lot Access: Every lot should front, or abut, a public street.

Lot Size: Area and dimensions of all industrial lots should conform (at a minimum) to the requirements of the City of New Berlin Zoning Ordinance for industrial uses.

Lot Depth: The depth of lots or parcels designated for industrial use should be adequate to provide for the off-street service and parking required by the use contemplated. Industrial lots backing onto lands of a lesser intensity of land use should have adequate depth to permit landscape plantings or other design elements to serve as a buffer area between the two land uses. Lot depths which permit the assembly of individual lots to create large parcels of industrial property under one ownership should be encouraged.

Lot Width: Lots within the interior of an industrial block should have the minimum average width required in the zoning districts for the City.

Corner Lots: Corner lots should have an additional width to permit adequate building and facility setbacks from side streets.

Setbacks: No building or portion of any industrial building should be built nearer than 50 feet from the front lot line of any industrial lot. Where industrial use directly abuts residential uses, an open space 50 feet wide should be provided on the industrial lot between the two uses.

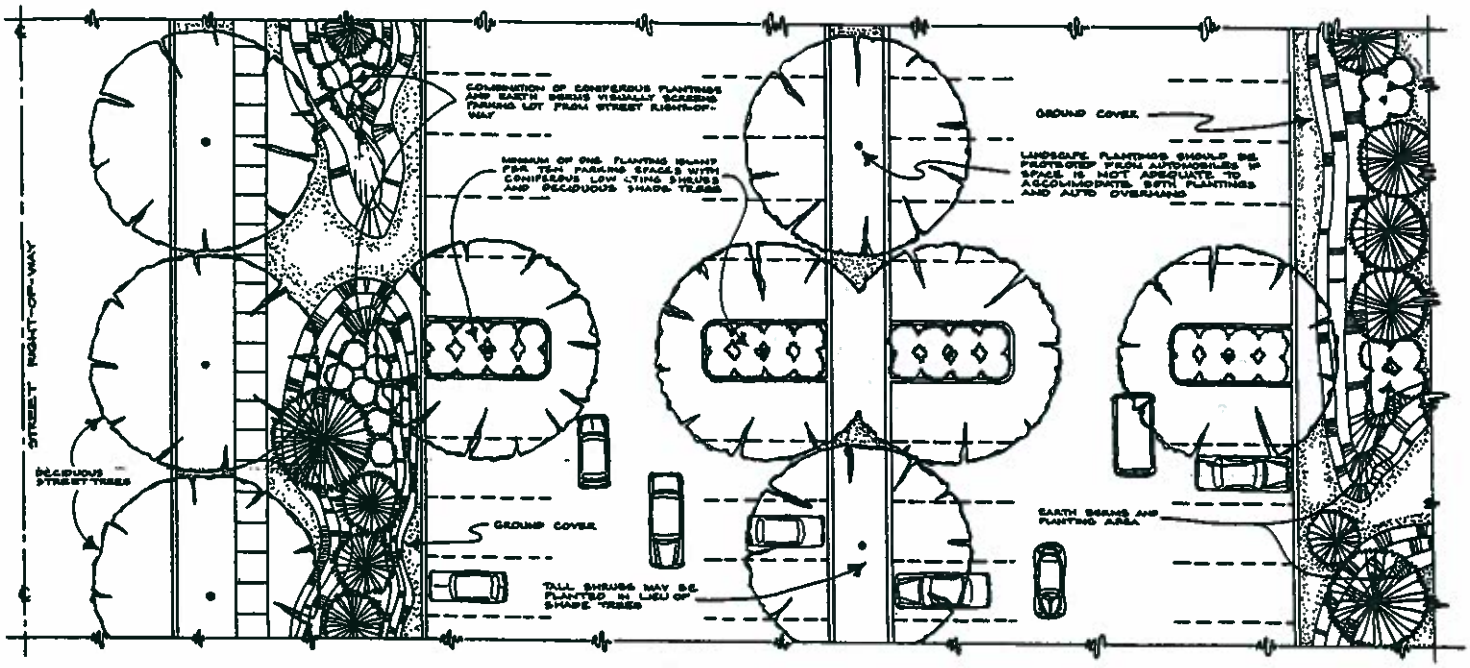
Side Yards: Each building in the industrial park should have a side yard along each side lot line of not less than 10 feet, and the combined total side yards shall not be less than 30 feet. Side yards on all street sides of corner lots should be 37-1/2 feet. The parking or storage of trucks, products, or equipment should be prohibited in any side yard.

Automobile Parking Lot Design Criteria

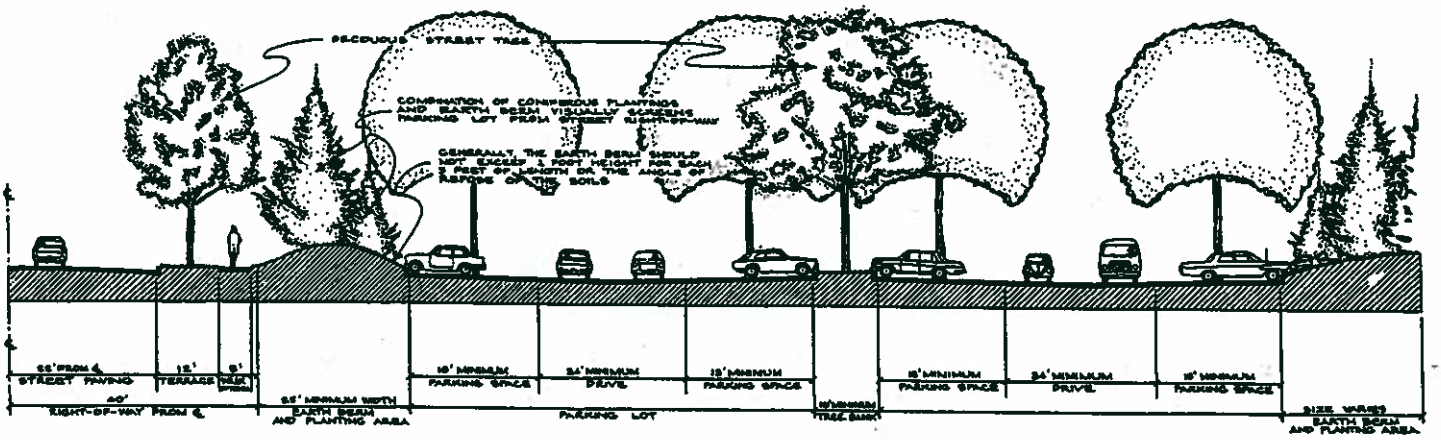
Placement of Off-Street Parking Lots: Employee off-street parking should not be permitted within the front yard setback line of any industrial lot. However, visitor or customer parking may be allowed within the front setback from the street right-of-way line when approved by the City Plan Commission.

Figure 13

LANDSCAPING OF INDUSTRIAL-RELATED AUTOMOBILE PARKING LOTS



PLAN



SECTION

Source: SEWRPC.

Parking Spaces: One parking stall of not less than 180 square feet, excluding drives and parking stall access area, should be provided on each industrial property for each 1,200 square feet of building area or for every three employees on a maximum shift, whichever amount constitutes the greater number of parking stalls. Parking stalls should be added on each property as needed to accommodate all employees as building facilities expand.

Parking Lot Landscaping: Landscaping should be provided for automobile parking lots in a manner similar to that illustrated in Figure 13.

Easements

Utility Easement: Utility easements of widths adequate for the intended purpose but not less than 10 feet on each side of all rear lot lines and on side lot lines or across lots, may be required by the City of New Berlin where necessary or advisable for electric power and communication wires and conduits; storm and sanitary sewers; and gas, water, and other utility lines.

Where a land division is traversed by a watercourse, drainageway, or street, an easement should be provided for drainage purposes of a width and alignment specified by the City Engineer in conformance with The Storm Water Drainage Master Plan for the City of New Berlin.

Pedestrian Ways: Pedestrian ways in wooded and wetland areas of an industrial park should not exceed 10 feet in width unless otherwise approved by the City of New Berlin, and should be designed and constructed so as to result in the least removal and disruption of trees and shrubs, in the minimum disturbance of the natural soil, and in the minimum impairment of natural beauty.

Stormwater Drainage and Erosion/Sedimentation Control

Stormwater drainage and erosion/sedimentation control should be in conformance with the design criteria for residential development set forth earlier in this chapter, and should be in conformance with The Storm Water Drainage Master Plan for the City of New Berlin.

General Landscaping

The general landscaping design criteria developed in this chapter for residential development are also applicable to industrial development. These design criteria relate to soils and landscape tree planting, cutting and clearing of existing vegetation, paths, street trees, wind and landscape planting, noise and landscape planting, solar access and landscape planting, and open space.

COMMERCIAL DEVELOPMENT URBAN DESIGN CRITERIA

Urban design criteria for commercial development are proposed with respect to vehicular circulation, the limitation of arterial highway vehicular access, parking lot access from arterial streets, pedestrian circulation, land use spatial considerations, internal site circulation, onsite parking areas, landscaping and site development, and architectural design.

Vehicular Circulation

The vehicular circulation system should be developed for easy access to the commercial parking facilities from the community. Vehicular and pedestrian conflicts should be avoided where possible and, where conflicts cannot be totally avoided, they should be minimized. Arterial streets and highways should be designed in accordance with Figure 6.

Limitation of Arterial Highway Vehicular Access

Arterial Highway Access and Street Intersections: No new direct public or private access should be permitted to an arterial street or highway within 100 feet of the intersection of the right-of-way lines of another arterial

street; and, where land parcel size permits, no new direct public or private access should be permitted to an arterial street or highway within 250 feet of the intersection of the right-of-way lines of another arterial street, as shown in Figure 14.

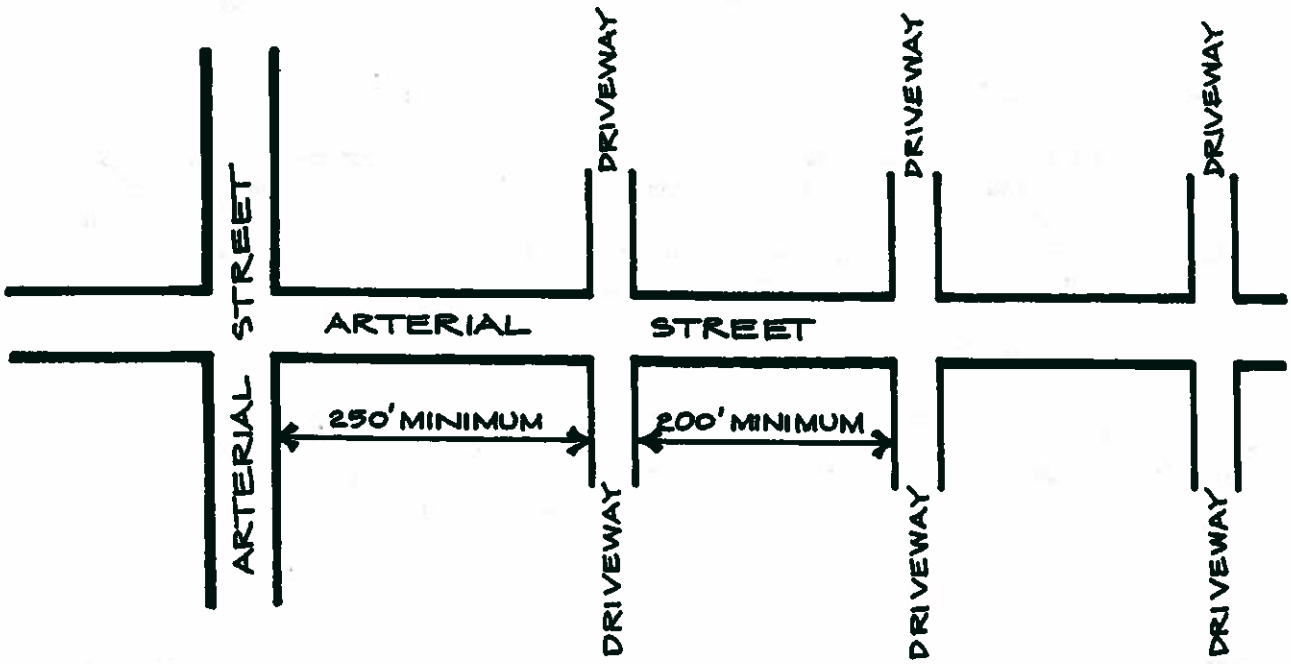
Arterial Highway Access Barriers: Access barriers such as curbing, fencing, landscaping, or other topographic barriers should be erected to prevent undesirable vehicular ingress or egress to arterial streets or highways and to properly and safely channelize traffic movements. When landscaping is used as an access barrier, the width of such landscaped area should be a minimum of 10 feet, as shown in Figure 15.

Reversed Frontage Lots to Limit Arterial Highway Access: Access to arterial highways from abutting lands should be limited to adequately protect the capacity and safety of the arterial. This protection can be accomplished, in part, through the use of reversed frontage lots and the limitation of street and private drive intersections with the arterial highway, and by requiring a minimum lot width frontage along the arterial. Figure 7 illustrates the reversed frontage lot concept.

Driveways and Land Access Streets: Driveways should be spaced a minimum of 200 feet apart, as shown in Figure 13, and where such spacing cannot be readily achieved, joint access with adjoining property should be encouraged. Also, the number of intersections of streets along arterial streets and highways should be held at a minimum, with the distance between such intersections generally being not less than 1,200 feet. Streets and land access driveways should intersect each other at as nearly right angles as topography and other limiting factors of good design permit. Driveway entrances along both sides

Figure 14

ARTERIAL HIGHWAY ACCESS AND STREET INTERSECTIONS



Source: SEWRPC.

of an arterial should be aligned as illustrated in Figure 16, which will assist in reducing the number of driveways needed and limit some of the confusion caused by unaligned driveways. Also, the use of shared driveways and parking lots in commercial areas should be promoted, as shown in Figure 17. The use of looped land access streets or drives can also assist in reducing the number of driveway intersections along an arterial, as illustrated in Figure 18.

Parking Lot Access from Arterial Streets

Parking Visibility from Arterial Streets: Commercial parking lots should be clearly visible from an arterial street or highway, have clearly marked entrances and exits, and be visually distinguished from public rights-of-way.

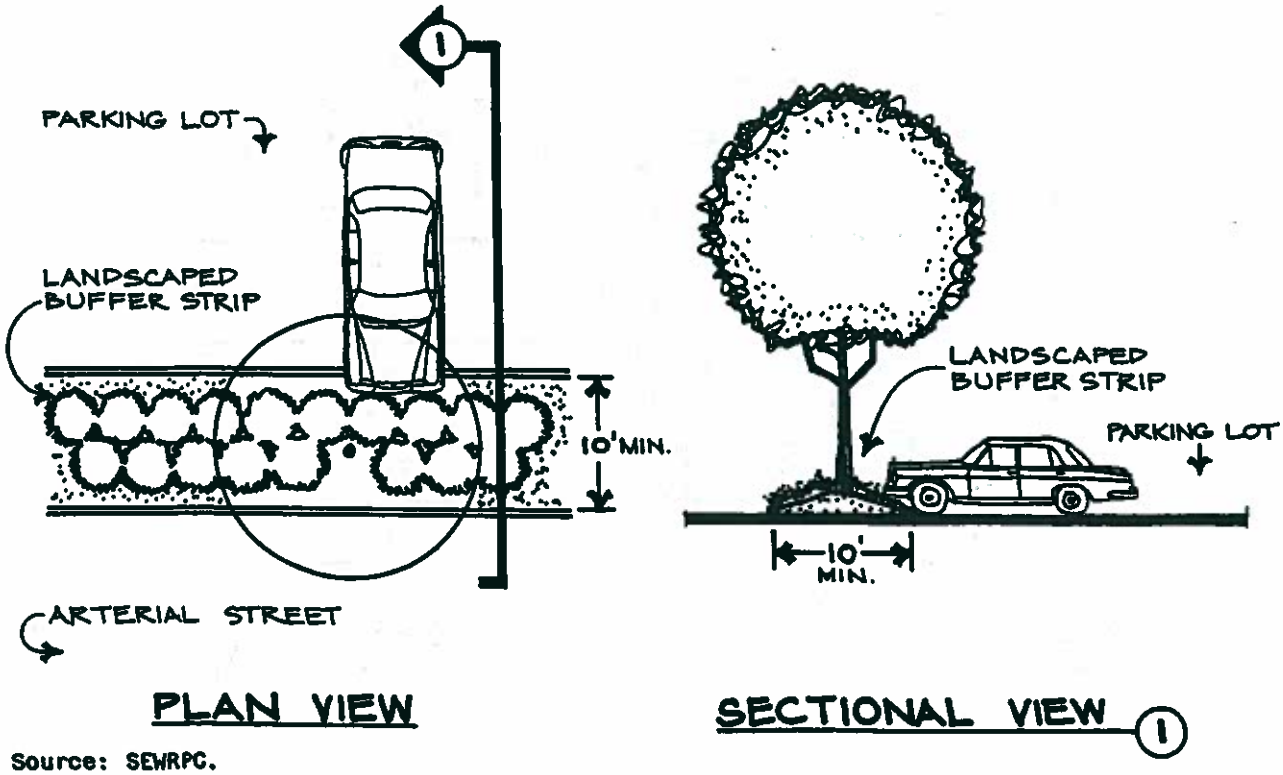
Off-Street Parking: All parking areas serving commercial development should be off-street. Parking perpendicular to arterial street rights-of-way with direct access to the right-of-way without a service drive should be prohibited.

Pedestrian Circulation

The pedestrian movement system in commercial areas should form linkages between the various commercial activities and commercial sites. The system should not conflict with vehicular circulation; if conflicts cannot be totally avoided, they should be minimized. Spatial sequences, visual aspects, and pavement texture should also be taken into consideration in the placement of sidewalks so that the pedestrian is offered a variety of visually pleasing experiences

Figure 15

MINIMUM DESIGN OF LANDSCAPED HIGHWAY ACCESS BARRIERS



Source: SEWRPC.

which add to the overall enjoyment of the commercial area. A recommended minimum sidewalk width is five feet. Provisions for the handicapped in sidewalk construction should also be made. In commercial strip areas, a pedestrian path system should be provided on both sides of the arterial where there are activities on both sides of the arterial, and a pedestrian crossing of the arterial should be provided at least every 400 feet (preferably every 200 feet) in areas of moderate to heavy pedestrian flow.

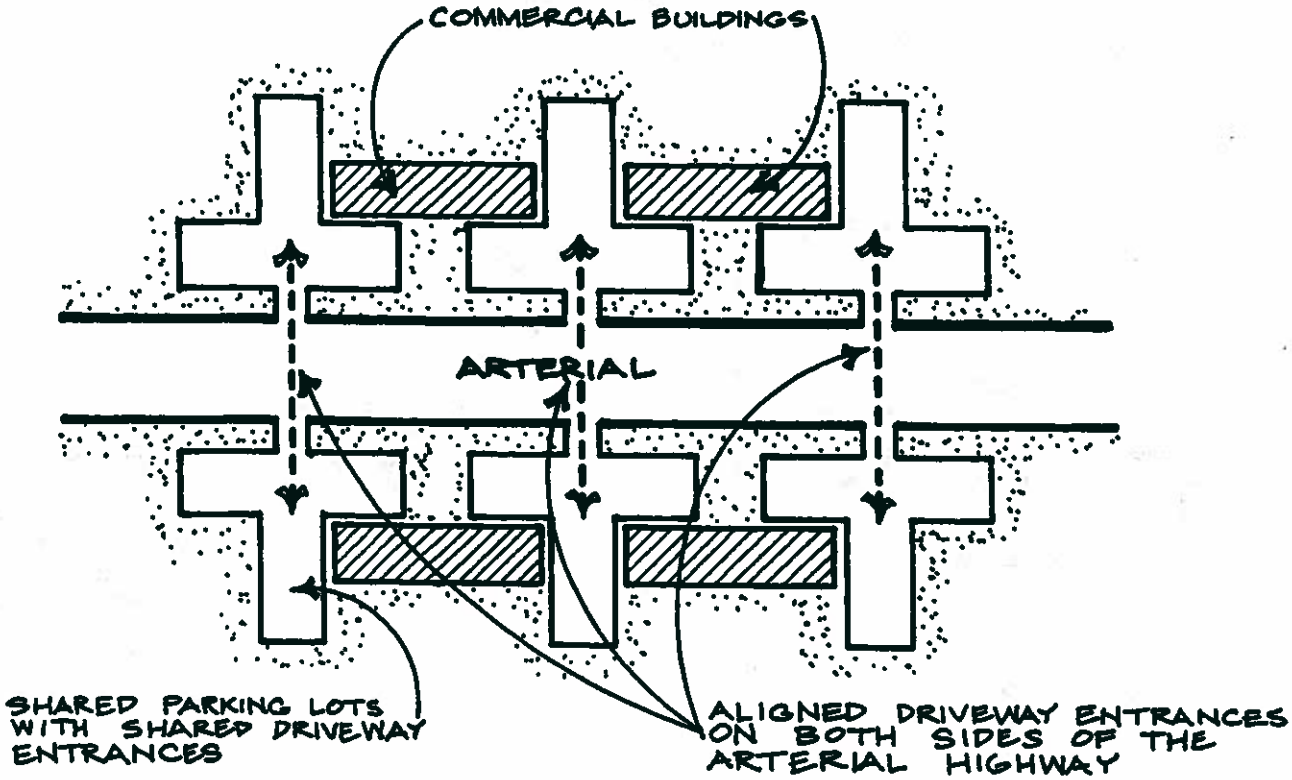
Land Use Spatial Considerations

Commercial Business Clustering: Businesses with similar characteristics should form commercial clusters and locate within proximity of one another in order to better define identifiable commercial areas for the user, provide functional linkages of similar business types, reduce distances, and provide circulation linkages for both vehicular and pedestrian traffic, as illustrated in Figure 19. Businesses may be so located forming the following five general types of clusters:

1. Shopping centers and other retail sales and services characterized by onsite parking for customer automobiles and a shopping environment geared to pedestrians. Uses in this category include general merchandise stores, food stores, apparel and accessory stores, drug stores, department stores, gift shops, personal services, banks/savings and loan institutions, and restaurants (not drive-in or drive-through).

Figure 16

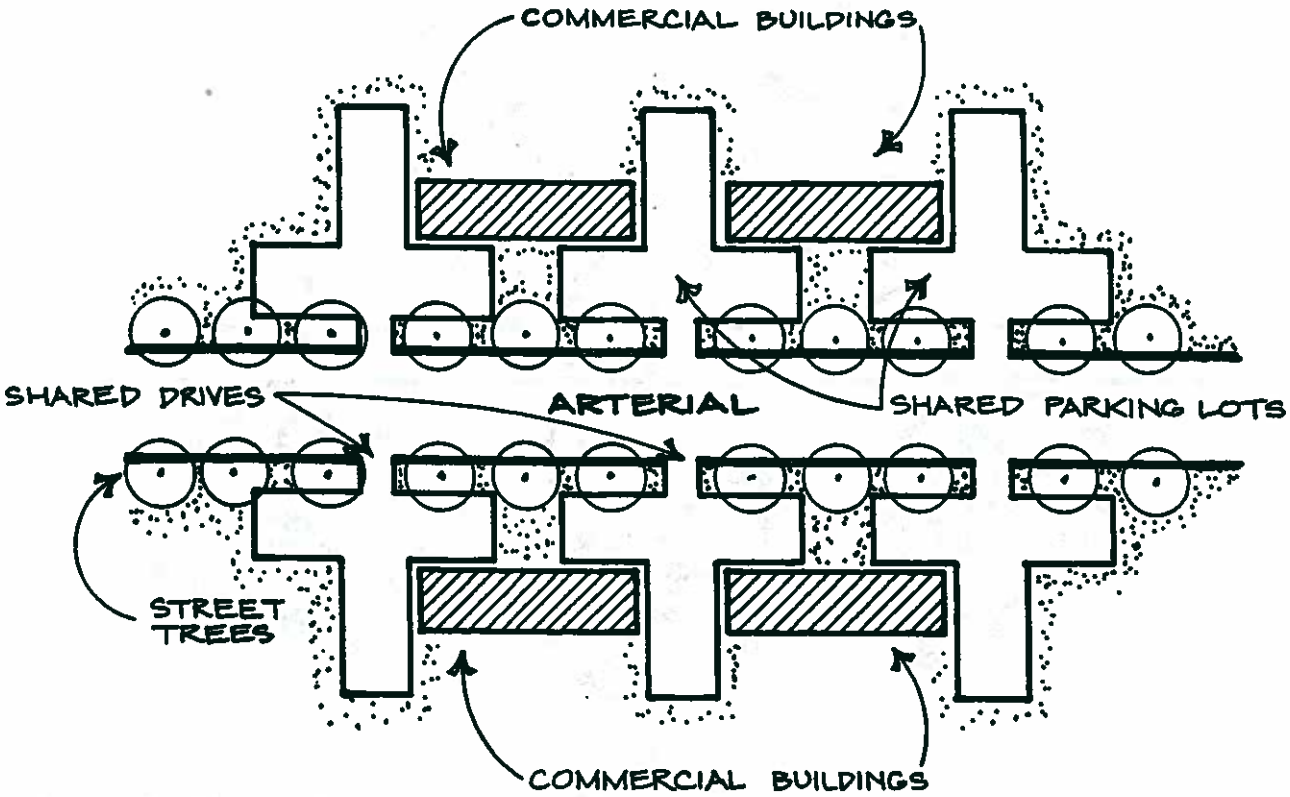
DESIRABLE DRIVEWAY ALIGNMENT ALONG ARTERIAL STREETS IN COMMERCIAL AREAS



Source: SEWRPC.

Figure 17

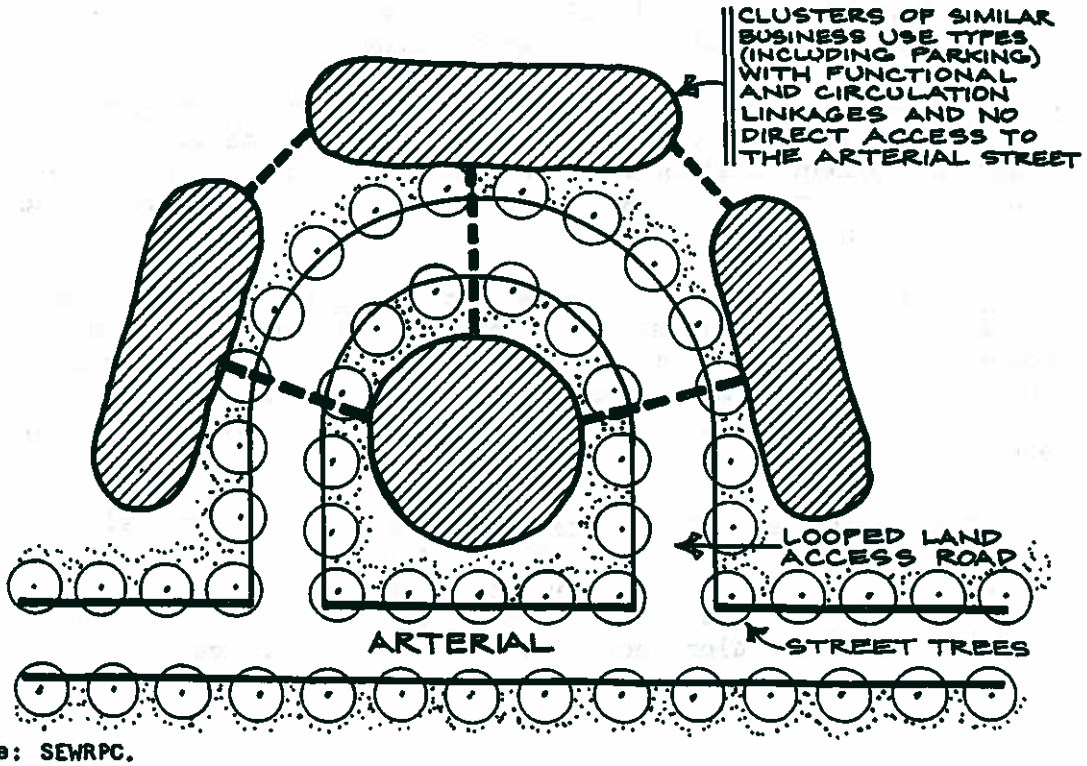
DESIRABLE USE OF SHARED DRIVEWAYS AND PARKING LOTS IN COMMERCIAL AREAS



Source: SEWRPC.

Figure 18

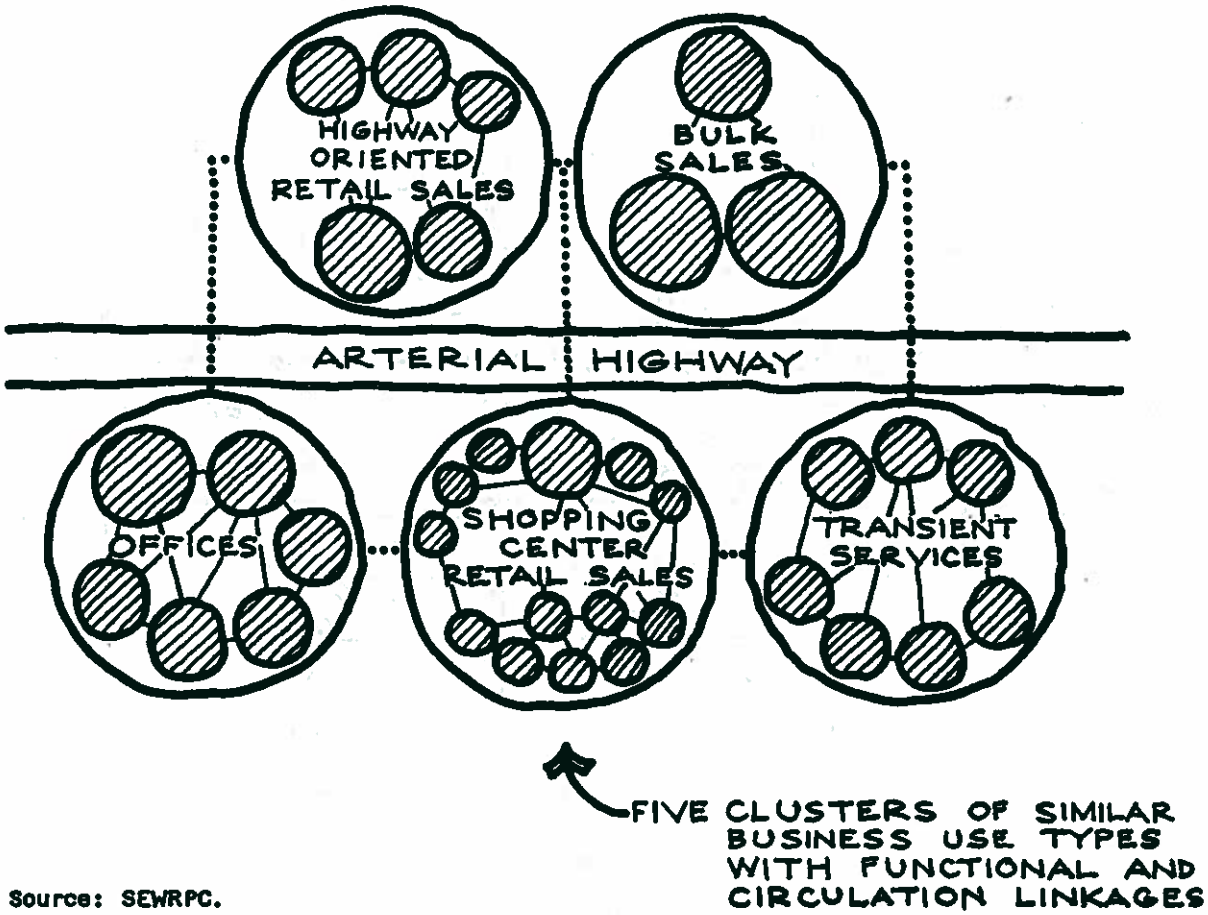
DESIRABLE LOOPING OF LAND ACCESS STREETS IN COMMERCIAL AREAS



Source: SEWRPC.

Figure 19

CONCEPTUAL SKETCH OF CLUSTERED COMMERCIAL AREAS ALONG AN ARTERIAL HIGHWAY



Source: SEWRPC.

2. Offices, including professional offices, medical offices, dental offices, clinics, and printing and photo reproduction services.

3. Large floor-area retail sales characterized by onsite parking for customer automobiles, customer off-street loading facilities, and a limited pedestrian-oriented shopping environment. Uses in this category would include furniture sales, appliance sales, factory outlet stores, and garden centers.

4. Automobile-oriented retail sales and services characterized by sales and service to commercial customers. These types of commercial uses are not pedestrian-oriented onsite. Uses in this category include gasoline stations, automobile sales/service, bowling alleys, car washes, drive-in theaters, drive-in banking, drive-in drive-through restaurants, and motels.

5. Bulk sales and construction services characterized by onsite parking for customer automobiles, onsite outdoor areas for merchandise storage and sales, customer off-street loading facilities, and open outdoor pedestrian areas for bulk sales of merchandise. Uses in this category include building supplies sales, equipment sales, septic system service, and LP gas sales/storage.

Minimum Commercial Lot Sizes: Minimum lot sizes in certain designated commercial areas along arterial streets and highways should be one acre, with minimum frontage of 150 feet. Commercial lot sizes should meet at least minimum lot size requirements specified by the City Zoning Ordinance.

Land Use Buffers: Commercial land uses should be buffered from adjacent non-compatible land uses (such as residential, industrial, and institutional land uses) by either natural or man-made means, such as distance, landscaping, fencing, or walls.

Internal Site Circulation

Vehicular Circulation Between Adjacent Properties: Provision should be made for circulation between adjacent commercial uses through coordinated land access drives and/or jointly used parking lots.

Onsite Vehicular Circulation: The vehicular circulation system within and around separate parcels of land should be developed so as to provide easy access to parking facilities from the larger community without destroying the safety or capacity of arterials. Vehicular pedestrian conflicts should be avoided where possible and, where conflicts cannot be totally avoided, they should be minimized. Also, delivery and service circulation patterns on the site should not conflict with customer circulation.

Onsite Queued Vehicle Storage: There should be sufficient onsite space to accommodate at least three queued vehicles waiting to park or exit the parking lot without utilizing any portion of the arterial street right-of-way or in any other way interfering with arterial street traffic and safety. For drive-up services, queuing area to accommodate a minimum of 10 vehicles onsite should be provided.

Onsite Parking Areas

Parking Lot Surfacing: All off-street parking areas should be graded and hard surfaced so as to be dust free and properly drained. The aisles and parking spaces of any parking area for more than five vehicles should be clearly marked in order to distinguish between parking stalls and vehicular circulation areas. Minimum dimensions for parking lots are shown in Figure 20.

Parking Space Size: The size of each parking space should be not less than 180 square feet, exclusive of the space required for ingress and egress to the parking space.

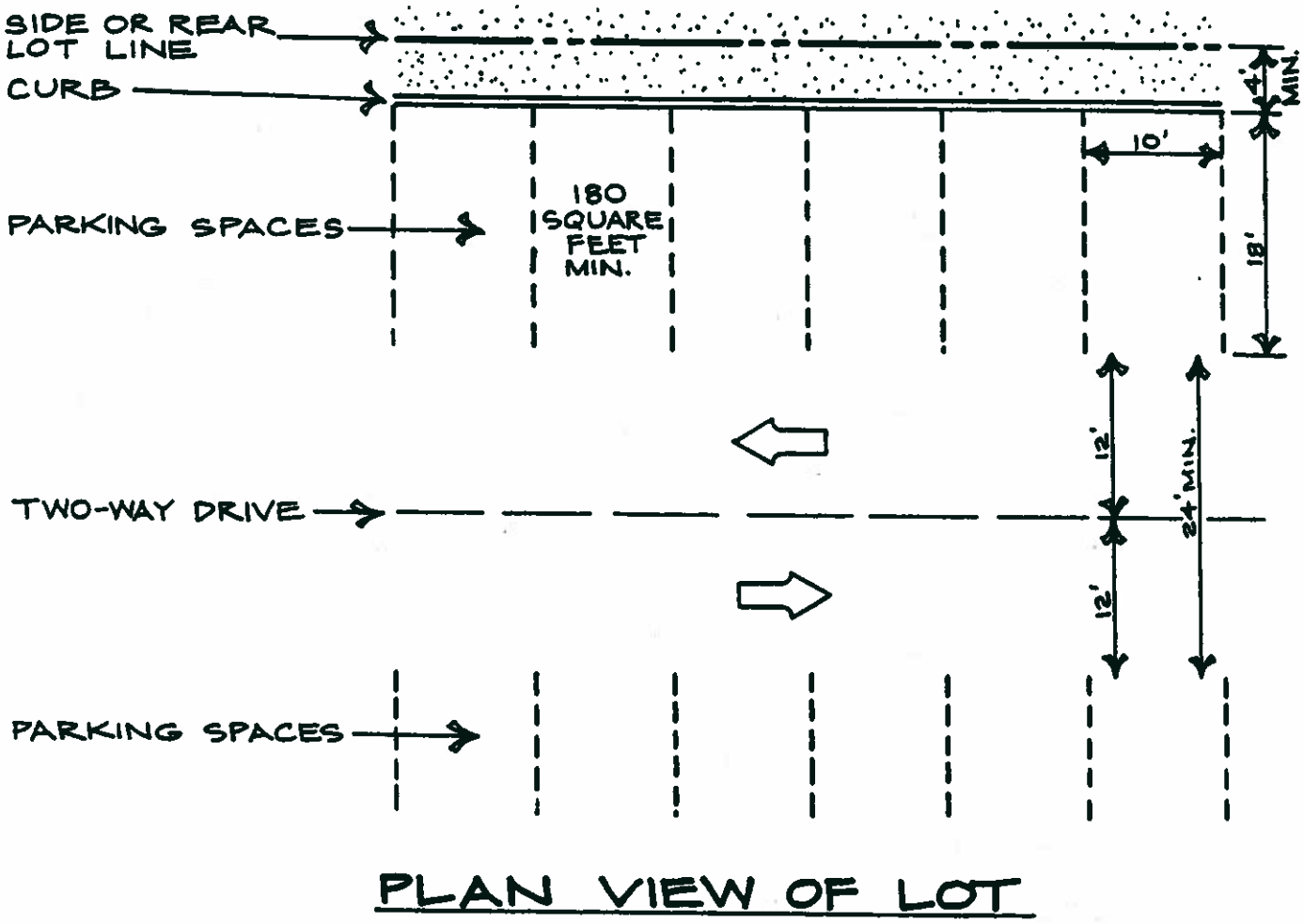
Number of Parking Spaces: Parking spaces should be provided in sufficient number to meet the requirements of the City Zoning Ordinance. Parking spaces shall also be provided to serve the handicapped.

Parking Lot Drive Width: Parking lot drives should be a minimum of 24 feet wide for two-way traffic and at least 12 feet wide for one-way traffic.

Parking Curbs and Barriers Near Side and Rear Lot Lines: Curbs or barriers should be installed a minimum of four feet from side and rear property lines so as to prevent the parked vehicles from extending over any lot lines and to provide a minimum space for visual screening when needed.

Figure 20

MINIMUM DESIGN DIMENSIONS FOR COMMERCIAL PARKING LOTS



Source: SEWRPC.

Parking Lot Lighting: Parking lot lighting in commercial areas should serve four purposes. First, the lighting should provide for the safe movement of pedestrian and vehicular traffic. Second, it should aid in the provision of an environment which promotes security and crime prevention. Third, the lighting should aid in creating an aesthetically pleasing environment at night, as well as during the daylight hours. Fourth, the lighting should assist in promoting the use of the commercial facilities both day and night.

Recommended illumination for commercial parking areas should be about 1.0 foot-candle.[2] All other outside lighting should be arranged and shielded to prevent glare or reflection, nuisance, inconvenience, or hazardous interference of any kind on adjoining streets or residential properties.

Parking Lot Location: Parking lots should be so located on the site as to minimize customer walking distances to the facility which the parking lot serves.

Onsite Service and Loading Areas

Service and loading areas should be located for easy service vehicle access. Service and loading areas should not conflict with pedestrian or general vehicular traffic in the area. Also, service and loading areas which are generally not aesthetically pleasing should be so oriented or designed as to obscure visual contact from the customers of the area.

Landscaping and Site Development

Shade Trees Location: At least one shade tree of at least six feet in height should be planted for each 50 feet of frontage. Columnar varieties of shade trees may require shorter distances between plantings.

Urban Landscape Plant Selection: Landscape plantings are an important part of an attractive commercial area. Landscape plantings have functional as well as aesthetic characteristics which would improve a commercial area to a great extent. Plantings of trees and shrubs can provide shade and shelter, act as limited noise buffers and visual screens, assist in the channeling of pedestrian and vehicular traffic, act as windbreaks, and decrease insolation (incoming solar radiation) before it reaches the ground, thus preventing re-radiation (long-wave radiation) from asphalt and concrete surfaces. As discussed earlier, a general landscape guide for tree planting in the City of New Berlin is shown in Appendix B, and should be used in the selection of well-suited landscape plant materials for the City of New Berlin.

Parking Lot Landscaping: All off-street parking areas which serve five vehicles or more should be provided with accessory landscape areas totaling not less than 5 percent of the total surfaced parking area. The minimum size of each landscape area should not be less than 180 square feet. Location of landscape areas, plant materials, and protection afforded the plantings, including curbing and provision for maintenance, should be considered. Plans for such proposed parking areas should include a topographic map or grading plan which shows existing and proposed grades and the location of improvements. Existing trees, shrubs, and other natural vegetation in the parking area may be included in the required minimum landscape area. Those parking areas for five or more

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[2]Recommended standards from the U. S. Department of Transportation, Federal Highway Administration's Roadway Lighting Handbook, Washington, D. C.: U. S. Government Printing Office, December 1978, p. 118. The recommended illumination value shown is meaningful only when designed in conjunction with other elements. The most critical elements are luminaire mounting height, spacing, transverse location of luminaires, luminaire selection, traffic conflict areas, border areas, transition lighting, alleys, and roadway lighting layouts.

vehicles, if adjoining a residential use, should be screened from such uses by a solid wall, fence, dense evergreen planting, or other effective means, built and maintained at a minimum height of six feet. Off-street parking should not be closer than 10 feet to the base building setback lines as determined by the City Zoning Ordinance. Landscaping elements should be placed where they will not interfere with the act of parking, parking lot maintenance, vehicular egress and ingress, or snow removal.

Areas of Existing Vegetation: Every effort should be made to protect and retain existing trees, shrubbery, vines, and grasses not actually growing in public roadways, drainageways, paths, or trails. Trees should be protected and preserved during construction in accordance with sound conservation practices, including the preservation of trees by the use of wells, islands, or retaining walls whenever abutting grades are altered to the extent that an existing tree could be damaged or destroyed.

Site Furniture and Amenities: Site furniture and amenities include a myriad of man-made objects which have the functions of serving pedestrian needs and adding visual variety in a commercial area. Site furniture and amenity items include lighting luminaires and posts, plant containers, street seating, fences and gates, handrails, drinking fountains, water fountains, sculpture, clocks, play equipment, bicycle racks, garbage receptacles, fire hydrants, telephones, bollards, kiosks, newspaper boxes, sunshading devices, parking meters, and signage. The design and placement of such items should contribute to the overall design theme of the commercial area, serving an aesthetic function as well as a utilitarian function, while adding a sense of design continuity and human scale.

Above-Ground Utility Cables

The location or relocation of above-ground utilities underground should be considered, since these wires detract from the overall appearance of the commercial area and typically add to visual clutter.

Utility Easements: Utility easements of widths adequate for the intended purpose, but not less than 10 feet on each side of all rear lot lines and on side lot lines or across lots, may be required by the City of New Berlin where necessary or advisable for electric power and communication wires and conduits; storm and sanitary sewers; and gas, water, and other utility lines. Where a land division is traversed by a watercourse, drainageway, or street, an easement should be provided for drainage purposes of a width and alignment specified by the City Engineer in conformance with The Storm Water Drainage Master Plan for the City of New Berlin.

Stormwater Drainage and Erosion/Sedimentation Control: Stormwater drainage and erosion/sedimentation control should be in conformance with the design criteria established in this chapter for residential development, and should be in conformance with The Storm Water Drainage Master Plan for the City of New Berlin.

General Commercial Area Maintenance: A complete and thorough public maintenance program for public lands, as well as individual private maintenance programs in the commercial areas, should be established in order to ensure attractiveness. Improvements to buildings and their continued positive appearance is dependent upon proper maintenance attitudes and procedures. However,

during the urban design process, certain future maintenance requirements should be considered. These include the provision of easy access for window and building facade cleaning, painting, and repairing and the selection of building materials with consideration of their durability and future maintenance requirements. Maintenance programs should be established for the watering, maintenance, and pruning of any landscape planting areas; the cleaning up of litter and emptying of trash containers in a timely fashion; the sweeping, cleaning, and repairing of paved surfaces; and the care and maintenance of site furniture, the replacement of broken and/or vandalized parts, and the replacement of burned-out light bulbs.

Architectural Design

Commercial Streetscape Facades: The structural shapes of buildings and their proportions, the placement of openings such as doors or windows, the placement of signs, and various other building details all contribute to the overall commercial streetscape appearance. Although the building facades of two adjacent buildings may be different, their overall appearance can be made compatible through the proper use of these visual elements. Individual building facade treatment plans should be developed based, in part, upon the design character of the surrounding commercial area and the various urban design criteria developed herein, thus assuring a degree of compatibility of architectural design with neighboring structures.

Front Yards, Rear Yards, and Side Yards: Front, rear, and side yards should be kept clean and proper garbage receptacles used. Other unsightly features should be covered from view in a creative fashion. Entrances which are used by the general public should provide a walkway which exhibits safe and attractive features, including landscape plantings when practicable. Where a building site and/or yard is exposed to public view, consideration should be given to its impact on the surrounding area. Setbacks in commercial areas should be determined based on the City of New Berlin Zoning Ordinance.

Urban Scale and Mass: The relative proportion or scale of a building to its neighboring buildings, of a building to the pedestrian or observer, or of a building to the surrounding area in general should be considered when new commercial buildings are built or when existing commercial buildings are remodeled or altered. Visual elements which contribute to this overall scale and mass in commercial areas include the visual rhythm and proportion of the elements of the building facades, the architectural detailing, the visual directional emphasis of the streetscape (which can either be horizontal or vertical line direction), the symmetrical or asymmetrical character of the building facades, the mass of individual buildings, the presence or absence of landscape planting materials, the size and configuration of site open spaces, the use of building materials, the use of color, building height and width, and the presence or absence of street furniture. These elements of urban scale and mass should be considered whenever possible to create an attractive environment. Figure 21 illustrates the relationship of urban scale to the commercial streetscape.

Streetscape Rooflines and Roof Shapes

The upper edges of building roofs or rooflines visually define the upper edge or height of the buildings and/or streetscape. The visual continuity of roofline urban design elements should be maintained, if warranted, and building

development or redevelopment with opposing rooflines should be discouraged. Figure 22 illustrates the relationship of rooflines and roof shapes to an overall commercial streetscape.

Materials: Material selection for both architectural and landscape design in commercial areas should be based upon several areas of concern, including material unity, the atmosphere desired, the material composition of surrounding buildings and landscape features, the material compatibility with other materials, and climatic considerations. Conflicting material use and relationships such as those shown in Figure 23 should be avoided.

Colors: The selection of colors for privately owned commercial buildings is generally an individual decision. However, the use of colors does have significant effect upon the overall appearance of a commercial area. Colors should be selected based upon both the colors of the surrounding man-made environment and the natural environment. Colors which clash with the overall visual character of the commercial area should be avoided and discouraged.

Architectural Details: Architectural details and building ornamentation (if present) often represent historic elements of architecture and are important components of the overall character of a commercial area. The distinctiveness of older commercial buildings is directly associated with their architectural details. Unsympathetic design changes on a building can destroy both the architectural character of a building and the overall commercial streetscape as well. Significant architectural details, where they exist, should not be lost in rehabilitation or "modernization" of existing buildings. Remodeling efforts should attempt to retain any rich architectural details. However, efforts to transform an existing building into an earlier period through the use of details that were not originally used on the structure do not usually retain the original architectural integrity of the building. Consequently, if there is an introduction of modern detail or a mixture of old and new parts on the building, the overall visual character of the building should not be spoiled.

Accessory Buildings: Accessory buildings and structures in commercial areas should be compatible with principal structures in terms of building facade character, scale and mass, rooflines and roof shapes, materials, colors, and architectural details, particularly if these accessory structures are visible from public areas.

Mechanical Equipment for Commercial Buildings: Mechanical equipment visible from public areas should be installed to be unobtrusive and/or shielded from view. Rooftop and grade-level mechanical equipment should be effectively screened from public view.

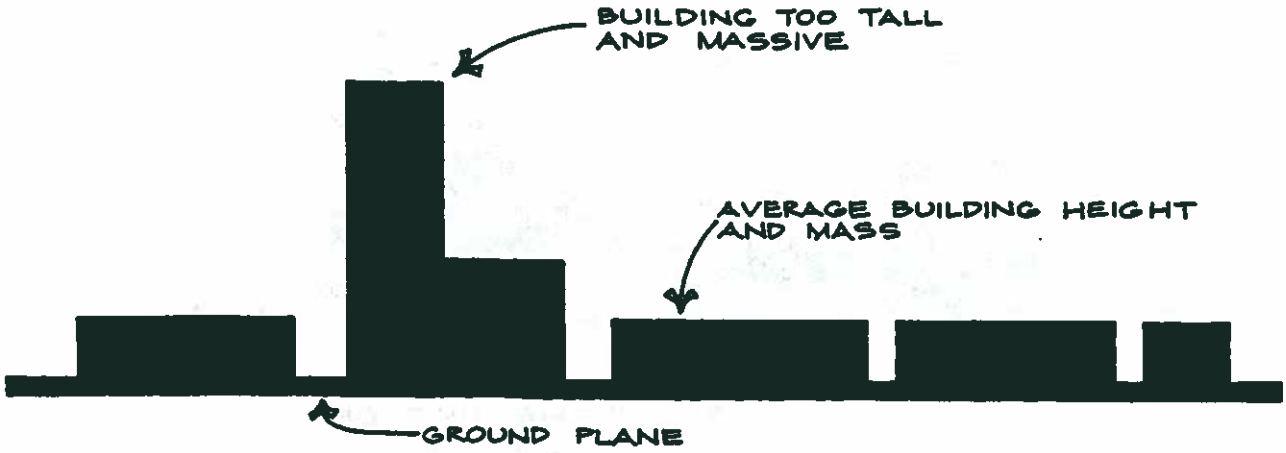
SIGNAGE IN THE CITY

General

In addition to conforming with the rules and regulations of the sign ordinance, signs should be designed so that they are in keeping with the overall character of the commercial area and its buildings. Lettering on signs should be functional as well as visually pleasing. Truly functional lettering is of

Figure 21

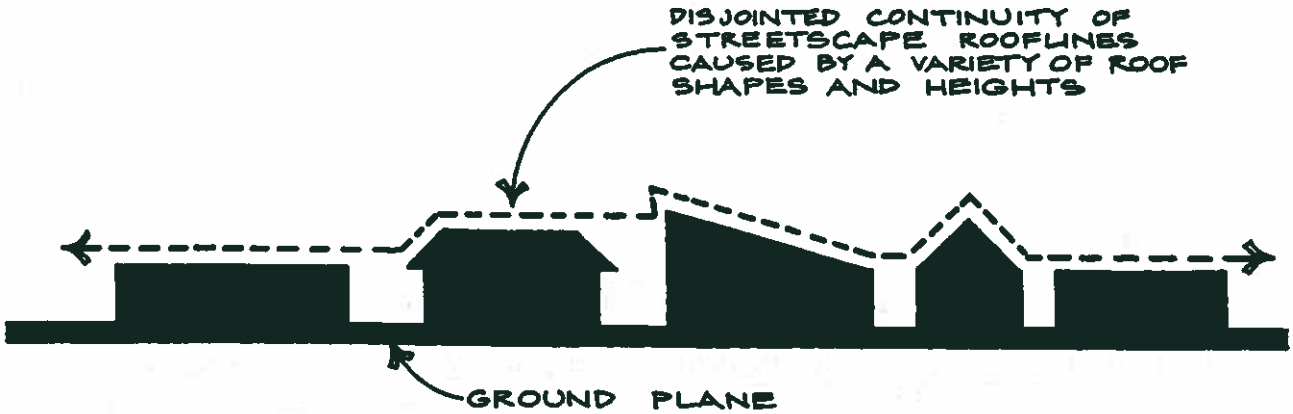
URBAN SCALE AND MASS OF COMMERCIAL BUILDINGS



Source: SEWRPC.

Figure 22

COMMERCIAL STREETSCAPE ROOFLINES AND SHAPES



Source: SEWRPC.

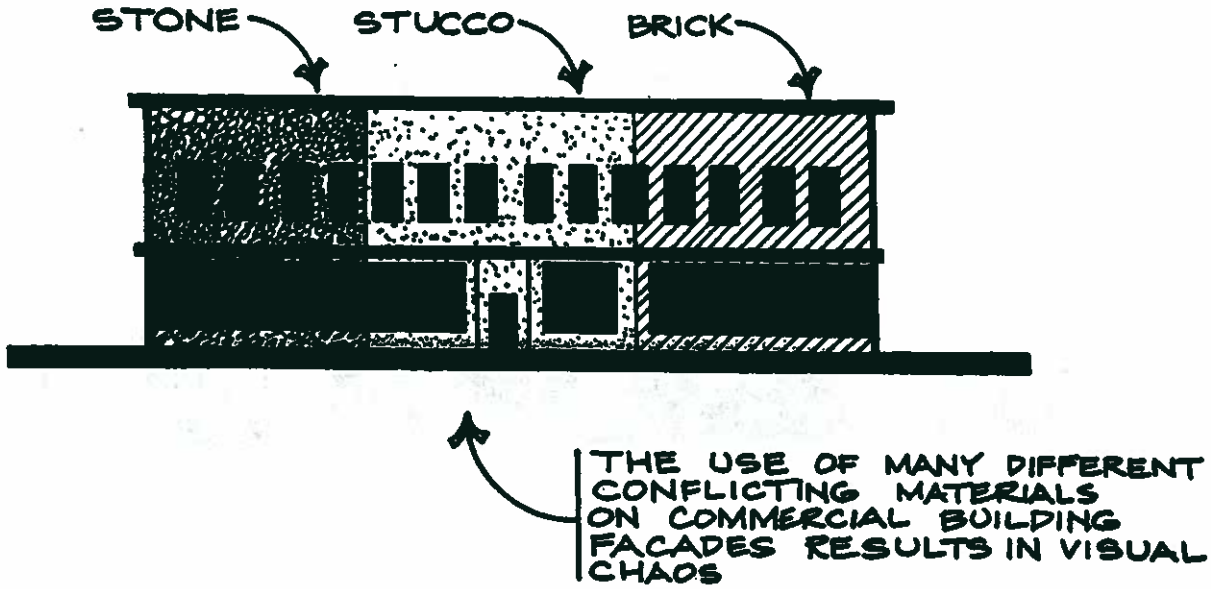
a typeface which is properly spaced, is easy to read, and makes its message clear from the distance it is intended to be read. Generally, the fewer the words on the sign face, the more likely people will be able to read the sign with ease.

Street Signs

Street signs should be located at each street intersection and should be legible for all user groups.

Figure 23

USE OF MATERIALS ON COMMERCIAL STREETSCAPE FACADES



Source: SEWRPC.

Parking Lots

The entrances and exits of parking lots for more than five automobiles should be clearly identified with a standarized graphic symbol, if required by the City Plan Commission.

Building Signs

Residential Buildings: Residential signs should be limited to one sign per residence for a home occupation. The size of the sign should not exceed six square feet in area, and the sign should not be illuminated.

Industrial and Commercial Buildings: The maximum number of signs for industrial and commercial buildings should be one wall sign and one ground sign per building per street frontage. For multi-tenant industrial and commercial buildings, the wall sign should be a building name and the ground sign should be a building directory which lists all the occupants of the building.

Building Addresses: Building addresses should be placed in a standardized location with an established minimum size so that they are easily legible from a moving automobile.

Sign Size: The square-foot size of a sign should not exceed the length of the building facade to which it is mounted. The design of the sign should be coordinated with the architectural design of the building upon which it is placed.

Sign Height: The maximum height for all ground signs should be 14 feet. Signs attached to buildings should not exceed the roof height or 14 feet, whichever is greater.

Chapter VI

YEAR 2000 COMMUNITY LAND USE AND FACILITY REQUIREMENTS

INTRODUCTION

The objectives, principles, and standards, and related urban design criteria set forth in Chapter V express the physical development goals of the City, the supporting rationale behind each goal, and the standards and urban design criteria to be used as a basis for generating and evaluating alternative land use plans and development proposals. The standards perform a particularly important function in the plan formulation process since they are utilized to identify future land use and facility requirements. The standards adopted by the City 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 alternative 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 V were applied to the City of New Berlin's forecast population level and other pertinent anticipated future conditions. This analysis provided a set 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 the Regional Planning Commission were incorporated into the land use plan for the City. The land use and community facility requirements for the City used in the land use planning design process are described in the following paragraphs.

LAND USE REQUIREMENTS

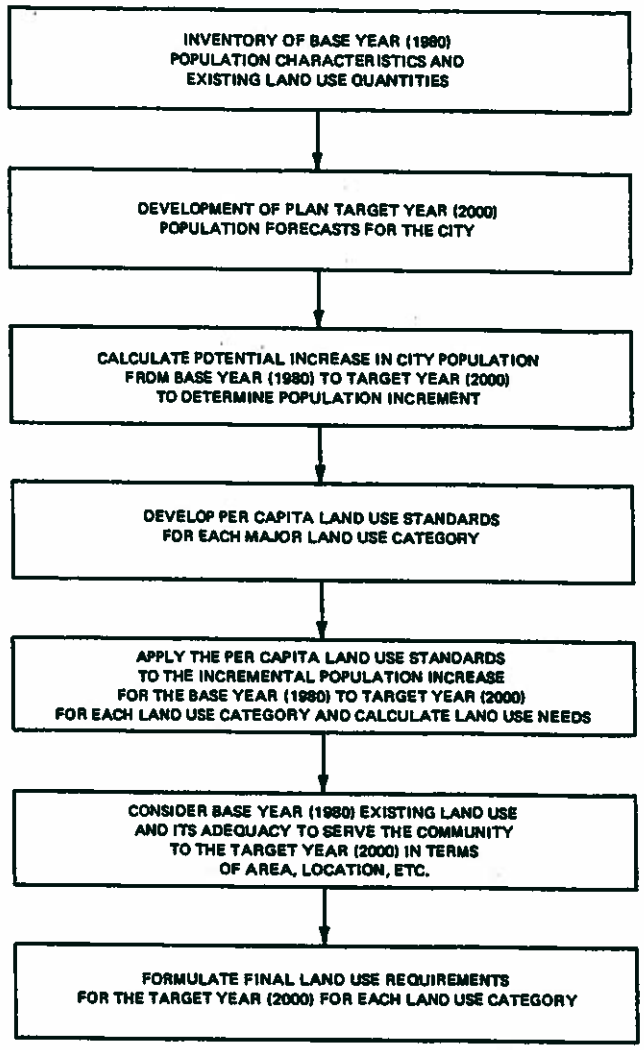
The land use requirements of the City's probable future resident population were determined by applying two basic types of standards. First, per capita standards, expressed as the number of acres of a given land use category per hundred or per thousand population, were used to help estimate the total number of acres of land needed to satisfy each basic land use requirement of the resident population in the year 2000. Second, accessibility standards, expressed as a maximum service area for certain sites, land uses, and facilities, were used to assure that these sites, uses, and facilities are spatially distributed in a manner convenient and efficient to the population which they are to serve. The accessibility standards, as outlined in Chapter V, as well as the per capita standards are embodied in each of the alternative and recommended plans presented in Chapter VII. It should be recognized that in some situations, per capita standards may be met but a need may still exist for additional sites or facilities because of the relative inaccessibility or distance of an existing use or facility to some of the resident population of the City. The process used to determine the City's year 2000 land use requirements is graphically shown in Figure 24.

Table 42 summarizes future urban land use requirements in the City of New Berlin through the year 2000. The table utilizes the land use standards set forth under land use development Objective No. 1 and Table 37 of Chapter V for residential, commercial, industrial, governmental/institutional, and recreational development. It should be recognized that while forecasts of population levels must be prepared and utilized in the application of land use standards, these forecasts involve uncertainty and, therefore, must be used with caution. Forecasts cannot take into account events which are not predictable but which may have major effects upon future conditions. The validity of the need determined through the application of the standards to forecast population levels must, therefore, be periodically reexamined by City Planning Department staff and the City Plan Commission. It should also be noted that while many of the objectives and standards relate to the resident population to be served, one of the most important of the objectives--that relating to the preservation and protection of the underlying and sustaining natural resource base--is, in effect, independent of any resident population level. Preservation of the environmental corridors within the City in an essentially open, natural state and preservation of important agricultural lands in agricultural use is required in any case to largely achieve this important objective.

Land needs for each urban land use category shown in Table 42 were determined by applying the appropriate land use development standard for the year 1980 to the forecast population increment for the year 2000, as indicated in Figure 24. Table 42 indicates that about 3,524 acres of rural land may need to be converted to urban use by the year 2000. Table 42 is expressed in gross acres of each given land use category which, by definition, includes all supporting public street rights-of-way.

Figure 24

PROCESS USED FOR DETERMINING YEAR 2000 LAND USE REQUIREMENTS FOR THE CITY OF NEW BERLIN



Source: SEWRPC.

Residential Development

Table 42 indicates that an additional 2,114 acres of land in the City will be needed to accommodate the population increase of 26,000 persons expected by the year 2000 under the moderate growth, centralized land use alternative future--or a total resident population of 56,000 persons. To

Table 42

FUTURE URBAN LAND USE REQUIREMENTS FOR THE CITY OF NEW BERLIN: 2000

Urban Land Use Category	1980 Gross Area (acres)	Percent of Total 1980 Gross Area	1980 Population	1980 Development Ratios	Development Standards	Forecast Incremental Population: 1980-2000[a]	Required Incremental Land Use Acreages as per Development Standards	Required Incremental Land Use After Consideration of 1980 Gross Acres	Total Land Requirements: 2000	
									Acres	Percent
Residential Rural Estate (5-acre lots or greater)	41[g]	0.1	267	2,220 acres/ 1,000 persons	1,594 acres/ 1,000 persons	207	329.9	28.0[h]	0.0[i]	--[i]
Suburban (1.5-acre to 5-acre lots)	1,116	4.7	1,398	797 acres/ 1,000 persons	553 acres/ 1,000 persons	539	298.0	238.0	1,354.0	5.7
Low Density Urban (20,000- to 62,000-square-foot lots)	3,295	14.0	14,383	229 acres/ 1,000 persons	154 acres/ 1,000 persons	3,535	544.4	2,085.0[j]	5,380.0	22.8
Medium Density Urban (10,000- to 20,000-square-foot lots)	1,756	7.4	10,485	167 acres/ 1,000 persons	87 acres/ 1,000 persons	8,112	705.7	241.0	1,997.0	8.5
High Medium Density Urban (4.4 to 6.9 dwelling units per net residential acre)	7	0.0[b]	91	76 acres/ 1,000 persons	46 acres/ 1,000 persons	5,487	119.0	151.0	158.0	0.6
High Density Urban (7.0 to 12.0 dwelling units per net residential acre)	76	0.3	3,905	19 acres/ 1,000 persons	23 acres/ 1,000 persons	7,956	119.0	157.0	233.0	1.0
Subtotal	6,291[c]	26.7	30,529	206 acres/ 1,000 persons	--	25,871	2,411.2	2,900.0	9,122.0	38.7
Commercial	355[d]	1.5	2,932 employees[e]	12.1 acres/ 100 employees	6 acres/ 100 employees	3,163 employees	189.8	189.8	554.8	2.3
Industrial	525[d]	2.2	6,172 employees[e]	8.5 acres/ 100 employees	12 acres/ 100 industrial employees	5,060 employees	607.2	607.2	1,132.2	4.8
Governmental and Institutional	400[d]	1.7	30,529	13.1 acres/ 1,000 persons	7.0 acres/ 1,000 persons	25,871	181.1	181.1	581.1	2.5
Recreational	352[d]	1.5	30,529	11.5 acres/ 1,000 persons	6.4 acres/ 1,000 persons	25,871	165.6	432.0[f]	784.0	3.3
Agricultural and Other Rural Lands	15,666	66.4	--	--	--	--	--	--	11,424.9	48.4
Total	23,589	100.0	--	--	--	--	--	4,310.1	23,589.0	100.0

[a]To arrive at the forecast incremental population for each residential density classification, the following allocations were used: infilling of existing vacant lots in the rural estate, suburban, and low-density urban areas, 31 percent in medium-density urban area, 21 percent in high-medium-density urban area, and 31 percent in high-density urban area. Using these residential density allocations for the forecast incremental population of 25,871 persons will allow the City to achieve the following overall residential density proportions in the year 2000 for the forecast city population of 56,400: infilling of existing vacant rural estate, suburban, and low-density urban lots, 63 percent in medium-density urban area, 10 percent in high-medium-density urban area, and 20 percent in high-density urban area.

[b]Less than 0.1 percent.

[c]Gross area includes associated street rights-of-way.

[d]Gross area includes associated off-street parking.

[e]Wisconsin Department of Industry, Labor and Human Relations and SEWRPC.

[f]This number is based upon an incremental requirement of 170 acres for the year 2000 as recommended in the adopted SEWRPC Community Assistance Planning Report No. 66, A Park and Open Space Plan for the City of New Berlin, plus 262 acres of designated city park areas not fully developed in 1980 but required to be developed by the year 2000.

[g]Represents 82 occupied residential lots totaling 596 acres. However, only 41 developed acres are shown here; the other 514 acres are included in the "Agricultural and Other Rural Lands" category.

[h]Represents an additional 56 residential lots totaling 437 acres. However, only 28 developed acres are shown here; the other 381 acres are included in the "Agricultural and Other Rural Lands" category.

[i]A total of 138 lots, or about 1,032 acres, actually are recommended for the year 2000, but they have been included in the "Agricultural and Other Rural Lands" category because of their predominant rural character.

[j]Includes the development of 444 already existing vacant platted lots and the infilling of vacant lands in areas surrounded by this density category.

Source: SEWRPC.

accommodate this population increase, 7,000 additional dwelling units would be required. As shown in Table 42, the number and types of dwelling units needed were broken down into six density classifications in order to provide for a wide range of housing choice in the City. These ranges of residential densities and the City's attendant acreage and dwelling unit needs for the year 2000 are: 1,032 acres, or about 138 dwelling units, in rural estate (5-acre lots or greater) residential development, representing 11.3 percent of the total year 2000 residential land use requirements; 1,354 acres, or 250 to 900 dwelling units, in suburban (1.5-acre to 5-acre lots) residential development, representing 14.8 percent of the total year 2000 residential land use requirements; 5,380 acres, or about 3,500 to 10,700 dwelling units, in low-density urban (20,000- to 62,000-square-foot lots) residential development, representing 58.9 percent of the total year 2000 residential land use requirements; 1,997 acres, or about 8,600 dwelling units, in medium-density urban (10,000- to 20,000-square-foot lots) residential development, representing 21.9 percent of the total year 2000 residential land use requirements; 158 acres, or about 695 to 1,090 dwelling units, in high-medium-density urban (4.4 to 6.9 dwelling units per net residential acre) residential development, representing 1.7 percent of the total year 2000 residential land use requirements; and 233 acres, or about 1,630 to 2,790 dwelling units, in high-density urban (7.0 to 12.0 dwelling units per net residential acre) residential development, representing 2.5 percent of the total year 2000 residential land use requirements. Total residential land use needs for the year 2000 are 9,122 acres, or 39 percent of all year 2000 land use requirements for the City. The low amounts of existing acreage in both two-family (4.4 to 6.9 dwelling units per net acre) and multiple-family (7.0 to 12.0 dwelling units per net acre) residential development support the findings of Chapter II of this report.

There is a need to achieve a better balance between two-family, multiple-family, and single-family residential development in order to provide a greater choice of housing types in the City. As reflected in Table 42, new residential growth will also generate additional urban land needs in other urban land use categories.

Retail Commercial Development

To meet the forecast increase in retail and service employment within the City of about 3,200 jobs by the year 2000, to a total of about 6,100 such jobs, an additional 190 acres of commercial land will be needed, as indicated in Table 42. This represents an increase of about 53 percent over the 1980 level of 355 acres of commercial land use. These additional commercial lands should be located within the City in accordance with the objectives and standards outlined in Chapter V.

Industrial Development

Table 42 indicates that there will be a need for about 607 additional acres of industrial development in the City by the year 2000. This represents an increase of about 116 percent over the 1980 level of 525 acres of industry-related land uses. The relatively large increase in this land use category is due to the anticipated increase in industrial employment from about 6,200 jobs in 1980 to a year 2000 level of about 11,000 jobs, an increase of about 5,000 jobs, or about 82 percent. The application of the objectives and standards set forth in Chapter V would provide about 12 gross acres of industrial land for each 100 industrial employees, and thereby provide adequate space for primary

industrial buildings, accessory buildings, and related off-street parking for employees and visitors. Generally, new industrial land uses should be located near supporting transportation facilities such as a railway and major arterial streets and highways, pursuant to Objective No. 8 in Chapter V.

Governmental and Institutional Development

Table 42 indicates that by the year 2000, the City will have a need for an additional 181 acres of governmental and institutional land uses, representing an increase of 45 percent over the 1980 level of 400 acres. The additional required land for governmental and institutional uses may be expected to be occupied by new fire stations, schools, churches, health care facilities, day-care facilities, and other institutional uses.

Recreational Development

SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000, and SEWRPC Community Assistance Planning Report No. 66, A Park and Open Space Plan for the City of New Berlin, both contain recommendations 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. Based upon the findings and recommendations of these two plans, the City should provide an additional 170 acres of fully developed recreational land by the year 2000, bringing the total of such land to 432 acres. The salient recommendations contained in these two plans are summarized in Chapter I and on Map 5 of that chapter, and are discussed in greater detail in Chapter VII.

TRANSPORTATION SYSTEM REQUIREMENTS

The arterial street and highway facilities required to serve the probable future traffic demands within the City, as recommended in the adopted regional transportation system plan, are shown on Map 31. State trunk highways are shown in red, county trunk highways in blue, and local trunk highways in green. The plan map also indicates the number of traffic lanes needed for each arterial street segment in the City in order to carry the anticipated arterial traffic volumes through the year 2000. Figure 6 of Chapter V illustrates the types of cross-sections which could be used to accommodate the recommended number of traffic lanes.

In addition, in SEWRPC Planning Report No. 33, A Primary Transit System Plan for the Milwaukee Area, a two-tier primary transit system plan for the greater Milwaukee area is recommended. Under this plan, the City of New Berlin would be provided with bus-on-freeway primary transit service with a shared freeway and surface arterial right-of-way. This plan recommended that primary transit stations with automobile parking facilities be located at the intersections of Racine Avenue with STH 15 and S. Moorland Road with STH 15. As of 1984, both of these primary transit stations had been developed--the Racine Avenue site accommodating 60 automobile parking spaces, and the S. Moorland Road site accommodating 197 automobile parking spaces. For the design year 2000, the Racine Avenue facility is recommended to have a minimum site area of about 1.8 acres, and to provide parking space for 175 automobiles. The S. Moorland Road site, however, with 197 existing automobile parking spaces, exceeds the design year 2000 requirements by 57 spaces and, therefore, will not have to be expanded.

Map 31

TRANSPORTATION SYSTEM REQUIREMENTS FOR THE CITY OF NEW BERLIN: 2000

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

URBAN MASS TRANSIT SYSTEM

TRANSIT STATION

P- WITH PARKING

PARK AND POOL LOT

Source: SEWRPC.

COMMUNITY FACILITY NEEDS

While conducting the initial work on the land use plan, the City Plan Commission determined that, in addition to providing general guidelines for land use development within the City, the plan should provide a more detailed level of guidance concerning land requirements for certain community facilities. Accordingly, this part of the chapter provides estimates of land requirements for the City Hall, the police department, the fire stations, the public library, and public elementary and secondary schools. The requirements are based upon a collation of data from other completed studies. It may be necessary, however, to conduct further studies of the requirements for each of these community facilities prior to their physical expansion in order to validate and refine the requirements discussed herein.

City Hall

In 1983 the firm of Flad & Associates of Milwaukee, Inc., architects, was retained by the City of New Berlin to develop a City Hall building program, i.e., a building space needs analysis; to inventory and analyze the existing space occupied by city departments currently housed in the existing City Hall; and to project City Hall space needs to the year 2000. The study resulted in the publication of a report entitled Building Program for a New City Hall: City of New Berlin, dated August 1, 1983. The findings of the spatial needs analysis are summarized in Table 43. The study concluded that the City of New Berlin should construct a new City Hall with approximately 35,000 square feet of gross area. The new City Hall was constructed on city-owned land adjacent to the existing City Hall at 16300 W. National Avenue, where ample space is available, in 1986.

Table 43

BUILDING PROGRAM SPACE NEEDS FOR THE NEW CITY OF NEW BERLIN CITY HALL: 1985-2000

City Department Or Use	Existing Net Square Feet[a] 1983	Net Square Feet[a]		Gross Square Feet	
		1985	2000	1985	2000
Mayor	319	459	459	597	597
City Council	1,467	1,236	1,236	1,607	1,607
City Clerk/Comptroller	773	997	1,177	1,296	1,530
Treasurer	154	862	862	1,121	1,121
Assessor	836	754	1,240	980	1,612
Public Works	--	--	567	--	737
Water Utility	--	360	360	468	468
Inspection	509	1,005	1,194	1,306	1,552
Engineering	1,337	2,563	2,914	3,332	3,788
Planning	509	1,335	1,533	1,736	1,993
Parks and Recreation	1,332	1,482	1,878	1,927	2,441
Municipal Court	--	81	81	105	105
City Attorney	--	414	414	538	538
Supplementary Space	2,932[c]	--	--	7,675	9,775
Subtotal	10,168[d]	11,548	13,915	22,688	27,864
Mechanical, Structural, Circulation, etc.				5,672	6,966
Gross[b] Total Square Footage				28,360	34,830

[a]Excluding space for mechanical equipment, structures, circulation, etc.

[b]Including space for mechanical equipment, structures, circulation, etc.

[c]This figure represents gross square feet for the existing City Hall.

[d]This subtotal includes the Assessor's Office and the Parks and Recreation Department, which are presently located in the Municipal Building.

Source: Flad & Associates of Milwaukee, Inc.; and SEWRPC.

Police Department

As noted in Chapter IV, in 1985 the City of New Berlin Police Department shared a building known as the Municipal Building located at 17165 W. Glendale Drive with three other city departments, including the Assessor's Office, the Parks and Recreation Department, and the Municipal Court. The Police Department occupied an area of 6,350 square feet in the building, excluding ancillary basement facilities. Based on the spatial needs analyses prepared by Flad & Associates, upon the recommended relocation of the Parks and Recreation Department, Assessor's Office, and Municipal Court to the proposed new City Hall, the Police Department acquired an additional 1,900 square feet of building area available to it for departmental expansion in the existing Municipal Building. In addition, various functions housed in the Municipal Building not related to the Police Department, and which might compromise police security, were moved to the new City Hall, thus improving the functional adequacy of the existing facility. Accordingly, the Police Department will probably remain housed at its existing facility for the term of the planning period.

Fire Stations

Map 24 in Chapter IV graphically illustrates the locations of the five existing fire stations in the City along with their attendant optimum 1.5-mile service radii. A sixth fire station has been proposed to be located at the northeast corner of the intersection of Cleveland Avenue and Johnson Road. The site of this station was initially proposed in the plan prepared by City Planning Associates in 1961, and was subsequently purchased by the City for that purpose. The location of the proposed sixth fire station is still sound, and, when constructed, this station will afford better fire protection to the northwest quadrant of the City. In addition to the sixth fire station, the City Fire Department anticipates a need for the following other pieces of fire-fighting equipment by the year 2000: one fire engine truck, one "tele-a-squirt" truck, one "first in" minipumper, one ladder truck, one hose truck, one personnel carrier, one ambulance, one trauma medical unit, two fire inspector vehicles, and two staff cars. These equipment additions to the City Fire Department will result in the need to expand the buildings in which fire equipment is housed. An important related issue is whether or not the City will be able to continue to maintain a nearly all-volunteer fire-fighting force, or whether a full-time fire-fighting force would better meet the fire protection needs of the community by the year 2000. Should the City decide to maintain a full-time fire-fighting force, a need will exist to expand the existing fire stations to provide crew quarters. A study of this issue is, however, beyond the scope of the land use planning study.

Public Library

As stated in Chapter IV, the City of New Berlin Public Library, located at 14750 W. Cleveland Avenue, currently has about 8,702 square feet of space and a collection of approximately 72,000 volumes. The total resident population of the City in 1980 was 30,529 and the forecast year 2000 population is about 56,400 under the optimistic centralized development scenario discussed in Chapter II. Table 44 provides a comparison of the total number of volumes and the total population served by libraries in communities with populations ranging from 30,000 to 60,000 in 1982, including the City of New Berlin. Table 44 also provides data relating to volumes per capita for each of the 14 communities listed. In 1982, the average number of volumes per capita for cities of this size was 3.5; in the City of New Berlin this figure was 2.3, which, as illustrated in the table, was the second lowest of the communities listed. The American Library Association standards for serving community populations ranging from 25,000 to 49,999 indicate that the minimum size library to serve the 1980 population of the City should be about 18,300 square feet; and to serve the forecast population of 56,400 in the year 2000, about 33,800 square feet in area.[1] In the year 2000, the library should house from 141,000 to 155,100 total volumes, based upon the forecast year 2000 city population and American Library Association standards.[2] The existing library facility is inadequate to meet these standards.

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[1]The standard is 0.6 square foot of gross building floor area per capita.

[2]The standard is 2.5 to 2.75 book volumes per capita for communities with populations of from 35,000 to 100,000.

Table 44

A COMPARISON OF LIBRARIES IN WISCONSIN SERVING COMMUNITY POPULATIONS RANGING FROM 30,000 TO 60,000 PERSONS: 1982

Community	Population	Total Volumes	Total Volumes Per Capita
Beloit (Rock County).....	34,051	92,535	2.7
Janesville (Rock County).....	51,165	156,873	3.1
Eau Claire (Eau Claire County).....	53,166	162,605	3.1
Manitowoc (Manitowoc County).....	32,654	150,547	4.6
Fond du Lac (Fond du Lac County)....	35,865	225,480	6.3
Wauwatosa (Milwaukee County).....	51,206	123,610	2.4
Marinette County.....	40,071	128,051	3.2
Appleton (Outagamie County).....	59,909	182,794	3.1
Sheboygan (Sheboygan County).....	47,802	267,711	5.6
Waukesha (Waukesha County).....	51,138	134,400	2.6
La Crosse (La Crosse County).....	48,479	165,824	3.4
Oshkosh (Winnebago County).....	49,916	236,205	4.7
Brookfield (Waukesha County).....	33,761	75,359	2.2
New Berlin (Waukesha County).....	30,377	70,564	2.3
Mean			3.5

Source: State of Wisconsin, Department of Public Instruction, Division of Library Services, Wisconsin Library Service Record: 1982 (Madison, Wisconsin: Division of Library Services, 1983); and SEWRPC.

The existing library is located on a site having an area of over 30 acres, and can accommodate expansion. However, the present location of the library is not centralized within the community.

Public Schools

Table 45 provides a range of population estimates by age group and school grades for the City of New Berlin, and Map 25 in Chapter IV shows the locations of all schools within the City. Specifically, the year 2000 total student enrollment for both public and private schools, based upon a year 2000 resident population range of from 35,900 to 56,400, may be expected to range from about 3,600 to about 6,400 elementary school students (grades K-6), from 1,000 to 1,800 middle school students (grades 7-8); and from 2,000 to 3,300 high school students (grades 9-12). The total school-age population may be expected to range from about 6,600 to 11,500 students. This ranges from a

Table 45

FORECAST SCHOOL AGE POPULATION AND ENROLLMENT RANGE FOR THE CITY OF NEW BERLIN: 2000

School-Age Group	Public School Enrollment Range[a]		Private School Enrollment Range[b]		Total School Enrollment Range[c]	
	Number	Percent	Number	Percent	Number	Percent
Grades K-6 (Ages 5-11)	2,695 - 4,768	51.1 - 51.7	898 - 1,589	69.1 - 69.5	3,593 - 6,357	54.7 - 55.2
Grades 7-8 (Ages 12-13)	822 - 1,453	15.6 - 51.7	205 - 363	15.8 - 15.9	1,027 - 1,816	15.6 - 15.8
Grades 9-12 (Ages 14-17)	1,760 - 3,011	33.3 - 32.6	196 - 334	15.1 - 14.6	1,956 - 3,345	29.7 - 29.0
All Grades and Ages	5,277 - 9,232	100.0	1,299 - 2,286	100.0	6,576 - 11,518	100.0

[a] It is assumed that the following percentages of the total school enrollment will be enrolled in public schools: 75 percent for grades K-6, 80 percent for grades 7-8, and 90 percent for grades 9-12.

[b] It is assumed that the following percentages of the total school enrollment will be enrolled in private schools: 25 percent for grades K-6, 20 percent for grades 7-8, and 10 percent for grades 9-12.

[c] Based upon forecast year 2000 population data (by age group) contained in Chapter II of this report.

Source: SEWRPC.

decrease of about 1,300 students to an increase of about 3,700 students when compared to the 1980 school-age population in the City of about 7,800 students. A comparison of Table 45 and Table 30 of Chapter IV, and application of the school capacity standards set forth in Table 38 of Chapter V, indicates that there may be a need for three additional elementary schools (grades K-6), one additional middle school (grades 7-8), and one additional high school by the year 2000. It is recognized that these additional schools may not be needed during the land use plan design period if the school-age population remains at the lower end of the forecast range or increases only slightly. However, the City Plan Commission determined that in order to plan properly for the City's future, these additional facilities should be shown on the land use plan maps so that needed land can be reserved for additional schools. Should the need for the additional schools not develop during the planning period, the reserved land can be utilized for other purposes.

Chapter VII - Alternative and Recommended Plans have been excluded from this copy to save space. These plans are not the adopted land use plan and are only included in the document as reference. Copies of this section can be obtained from the Dept. of Community Development.

Page 163 through 178 are excluded

Page 178 through 186 are included since the adopted land use plan recommends the use of cluster-style development and this section discusses the benefits of cluster-style development.

Page 187 through 195 are excluded.

The areas proposed for medium-density urban residential development total about 2,247 acres under Alternative Plan D. Because of their lot size of 10,000 to 20,000 square feet, these areas are proposed to be served by public sanitary sewer, and are generally located east of Calhoun Road and north of STH 15.

The areas proposed for high-medium-density urban residential development total about 195 acres under Alternative Plan D, as shown on Map 35. These areas are also planned to be served by public sanitary sewer and are located generally east of Calhoun Road and north of the Rock Freeway (STH 15). This type of residential area is also typically located near arterial street and highway facilities so as to provide ease of vehicular access. In addition, high-medium-density residential uses are used as transitional areas between medium-density and high-density residential areas.

The areas proposed for high-density urban residential development total 335 acres under Alternative Plan D, as shown on Map 35. These areas are also proposed to be served by public sanitary sewer and are located east of Calhoun Road and north of STH 15. This type of residential area is also typically located along arterial streets and highways in order to provide ease of vehicular access. In addition, high-density residential areas are used as transitional areas between high-medium-density residential and commercial areas, while also providing ready access to commercial retail and service centers.

Also recommended under Alternative Plan D is the use of a "cluster" concept for residential site planning, provided that the overall residential site density of an area--i.e., the total number of dwelling units per net residential acre--designated in the land use plan is maintained. In cluster-type development, the buildings are arranged in closely related groups on smaller lots than are used in conventional land subdivisions. Side-yard, rear-yard, and front-yard requirements are reduced from those typically associated with conventionally designed land subdivisions. Common open space and recreational areas are usually provided contiguous to the rear boundary lot lines. In large cluster developments, the open space lands may form a neighborhood, as well as provide for certain recreational uses. Cluster development can accommodate either attached or detached dwelling units. Table 48 compares the characteristics of conventional subdivision design and cluster subdivision design. Figure 25 shows a typical cul-de-sac cluster development with one dwelling unit per lot, and common open space; Figure 26 shows a typical cul-de-sac cluster development with one attached/ zero lot line (no side-yard setback) dwelling unit per lot and common open space; Figure 27 shows a typical mixed dwelling structure cluster development with attached townhouse structures and common open space; and Figure 28 shows a typical multi-family apartment cluster development.

Cluster-type residential development designs can also be applied on real property parcels that are located partly within environmental corridors or isolated natural areas and partly outside such natural resource features. Common open space and recreation areas can be provided within the environmental corridors or isolated natural areas, and are typically contiguous to the rear or side boundary lot line. In the City of New Berlin, these open space lands may form a pedestrian walkway system, as well as an attractive landscaped setting for the residences. Such open space lands may be incorporated into the City of New Berlin park system through dedication or city acquisition of such lands.

Table 48

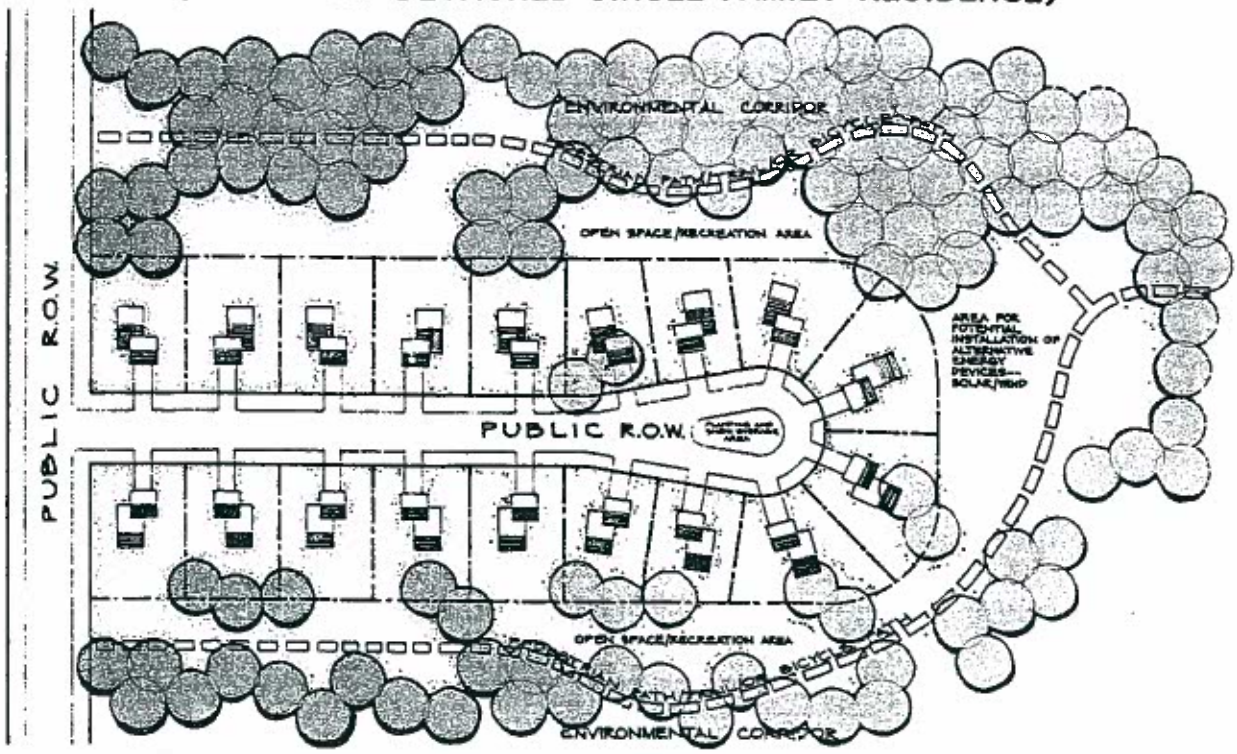
COMPARION OF DESIGN CHARACTERISTICS: CONVENTIONAL SUBDIVISION VERSUS CLUSTER AND PLANNED UNIT DEVELOPMENT SUBDIVISION DESIGN

Consideration	Type of Subdivision Design	
	Conventional	Cluster/PUD
Housing Choice	Limited generally to single-family or two-family detached homes	Potential for a wide range of housing types and styles, providing great diversity
Marketability	Varies with location, price, and market demand	Also varies with location, price, and market demand. Although the open space of a cluster/PUD, if properly designed and developed, is typically a strong selling point, and although cluster/PUD subdivisions often outsell traditional subdivisions in other parts of the country, this has not historically been the case within southeastern Wisconsin. A growth in the regional acceptance of the cluster/PUD concept may be expected, however, once the public becomes educated concerning the higher quality of urban design associated with such developments
Legal Requirements	Requires only compliance with zoning and subdivision regulations	Requires careful site plan review by the Plan Commission and permits modification of certain zoning and subdivision regulations
Maintenance Cost of Common Open Space	The only open space is in privately owned yards	Costs must be borne through a homeowners' association
Costs of Utility Lines	May be higher than cluster development because of relatively larger lot sizes resulting in greater frontage	Clustering may result in economies in both installation and maintenance
Costs of Road Installation and Maintenance	High proportion of land devoted to streets results in higher costs for installation and maintenance, as well as higher land costs	Minimal portion of total land area in streets, with resultant lower construction, maintenance, and land costs
Recreation and Open Space	Private back yards. Public parks located at some distance from the dwelling units	Ready access to resident-owned common open spaces--as well as private back yards in most cases
Site Plan	More limited opportunity for varied and imaginative design	Allows maximum flexibility in site design
Natural Features, Topography, Vegetation, Wildlife Habitat, and Wetlands	More apt to be disturbed to facilitate subdivision development and to ensure maximum number of units from available land	More apt to be preserved as amenities integral to the site plan
Traffic	Rapid through traffic can be discouraged by good design	Rapid through traffic can be more readily discouraged by good design
Pedestrian Circulation	Street intersections and through traffic have the potential to make walking unsafe, particularly for children and the elderly	Can be designed to separate pedestrian and vehicular traffic for maximum safety. Pedestrian circulation can be directed through the open space areas rather than along street rights-of-way
Solar Access (sun and wind)	Limited flexibility of building placement based upon setback requirements. Individual lot owners can be adversely affected by neighbors, thus limiting solar access potential	Flexibility of building placement more readily allows for proper solar access orientation. Consideration can be given in the entire development for access to each lot or building. Common open space allows for the construction of solar energy systems wich can serve more than one dwelling unit
Security/Safety	Visual surveillance by residents of street rights-of-way and private yards	Cul-de-sac street designs allow for communal visual surveillance of street areas. However, visual surveillance of open areas may be hampered by landscaping, and unlimited access to these areas by persons from outside the cluster/PUD development may cause security concerns
Visual Characteristics/ Impact	Curving streets can offer changing vistas; however, a rectilineer street pattern can create visual monotony. No common open spaces to add to aesthetics	Curving streets can offer changing vistas. Common open spaces can add to the aesthetics
Social Interaction	Typically, no homeowners' association to foster neighborhood interaction	Homeowners' association can provide the vehicle for local communal social interaction. In addition, cul-de-secs serve as a catalyst for social interaction among neighbors sharing the same cul-de-sac

Source: SEWRPC.

Figure 25

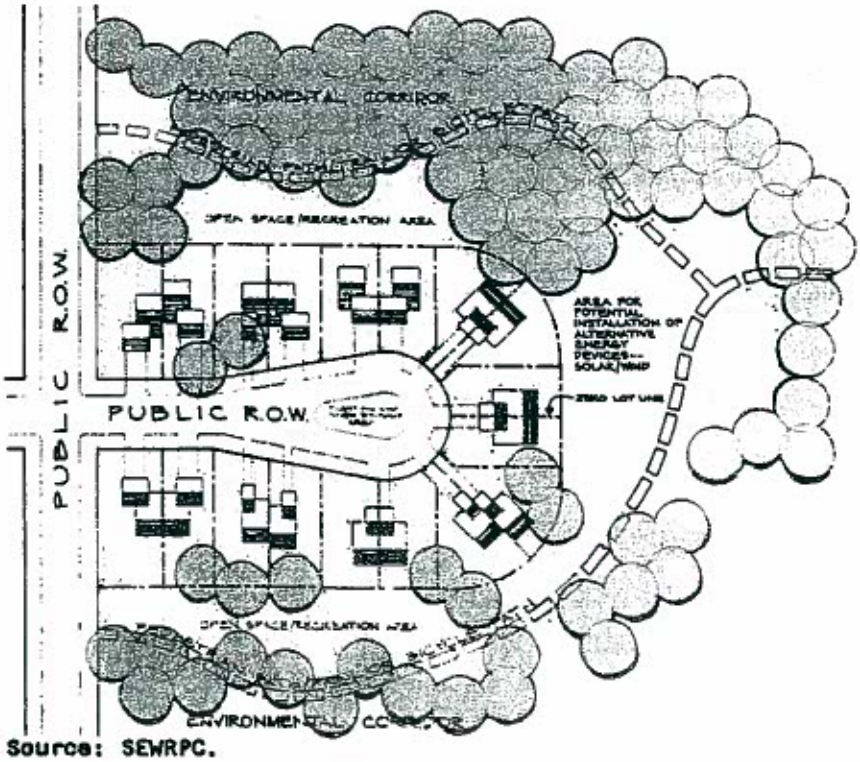
DETAILED ALTERNATIVE RESIDENTIAL CLUSTER DEVELOPMENT DESIGNS
(CLUSTERED DETACHED SINGLE-FAMILY RESIDENCE)



Source: SEWRPC.

Figure 26

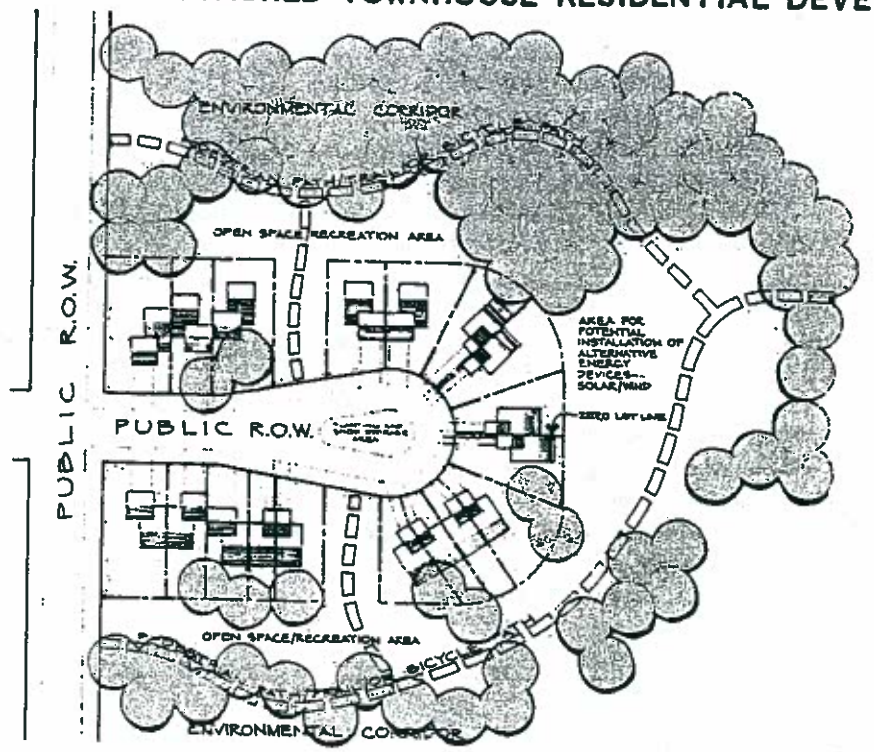
DETAILED ALTERNATIVE RESIDENTIAL CLUSTER DEVELOPMENT DESIGNS
(CLUSTERED TWO-FAMILY RESIDENTIAL DEVELOPMENT)



Source: SEWRPC.

Figure 27

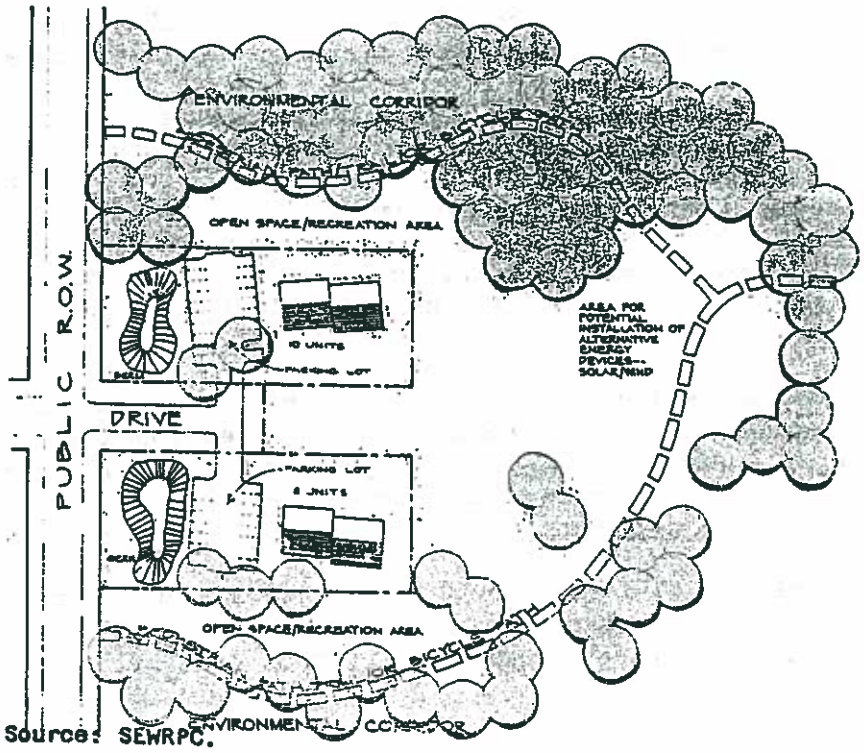
DETAILED ALTERNATIVE RESIDENTIAL CLUSTER DEVELOPMENT DESIGNS
(CLUSTERED ATTACHED TOWNHOUSE RESIDENTIAL DEVELOPMENT)



Source: SEWRPC.

Figure 28

DETAILED ALTERNATIVE RESIDENTIAL CLUSTER DEVELOPMENT DESIGNS
(CLUSTERED MULTI-FAMILY RESIDENTIAL DEVELOPMENT)



Source: SEWRPC.

Figure 29 presents 3 options under which environmental corridor and isolated natural area lands would be preserved while accommodating residential development in the rural portion of the City. Figure 29, option 1 shows the typical rural estate residential lot subdivision, in which individual residential units would be located on relatively large lots in a fashion that would be compatible with the natural resource features of the lot. In this example, restrictions would be placed on the amount of natural vegetation that could be removed or altered for residential purposes. Figure 29, options 2 and 3 show the same number of residential units as shown in Figure 29, option 1. However, the lot sizes in Figure 29, options 2 and 3 are smaller, thereby providing larger undisturbed areas for the preservation of the environmental corridor or isolated natural area. In each option, the overall density of the development, including developable open space, would not be permitted to exceed the maximum residential development density determined by the underlying zoning district in which the development is located.

Cluster-type development should be accomplished under a planned unit development overlay district zoning classification. As shown in these examples, clustered development can be used to accommodate both attached or detached dwelling units, thereby providing for economical residential development and, at the same time, ensuring the preservation of important natural resource land and overall planned residential densities.

Commercial Retail Sales and Service Land Uses

Alternative Land Use Plan D (Map 35) identifies six neighborhood shopping centers, two community shopping centers, eight office centers, one large floor area retail sales and service center, and one automobile retail sales and service center. These specific use commercial areas, together with other planned commercial areas of a more general type, would encompass an area of about 358 total acres, as shown on Map 35.

As with the other three alternative plans described, shopping centers--both neighborhood- and community-oriented--are characterized by onsite parking for customer automobiles and a shopping environment geared to pedestrians. Typical land uses in this category include general merchandise stores, food stores, apparel and accessory stores, drug stores, department stores, gift shops, personal services, banks/savings and loan institutions, and restaurants, but not including drive-in or drive-through restaurants.

Office centers, including both general and industrial support offices, are characterized by professional office uses, medical office uses, and other general office uses.

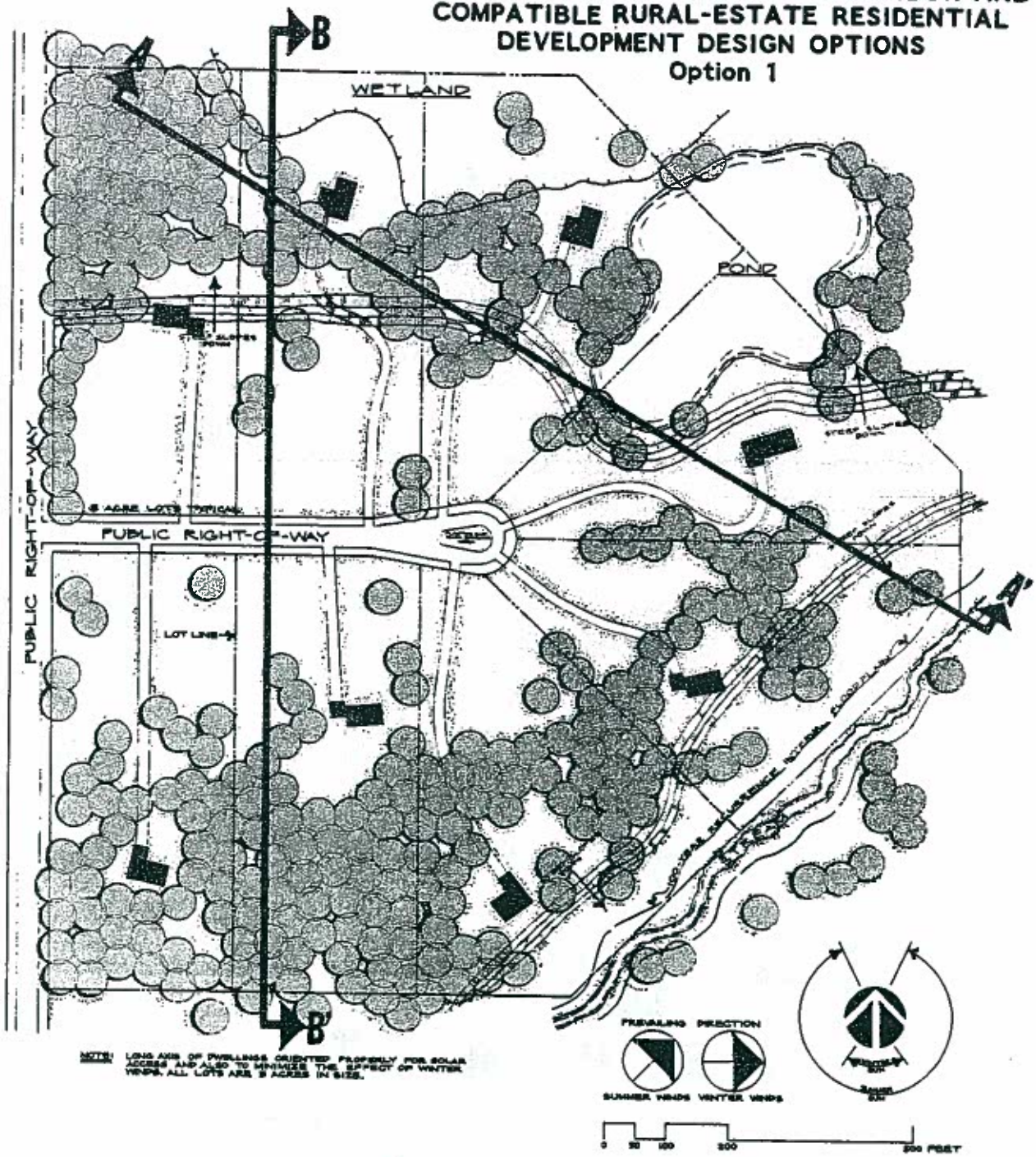
Large floor area retail sales and service centers are characterized by onsite parking for customer automobiles, customer off-street loading facilities, and a limited shopping environment geared to pedestrians. Land uses typical of such centers include furniture sales, appliance sales and service, factory outlet stores, and garden centers.

Uses typical of automobile retail sales and service centers include gasoline stations, automobile sales and service, car washes, drive-in theaters, drive-in banks, and drive-in and drive-through restaurants.

Figure 29

PRESERVED ENVIRONMENTAL CORRIDOR AND COMPATIBLE RURAL-ESTATE RESIDENTIAL DEVELOPMENT DESIGN OPTIONS

Option 1



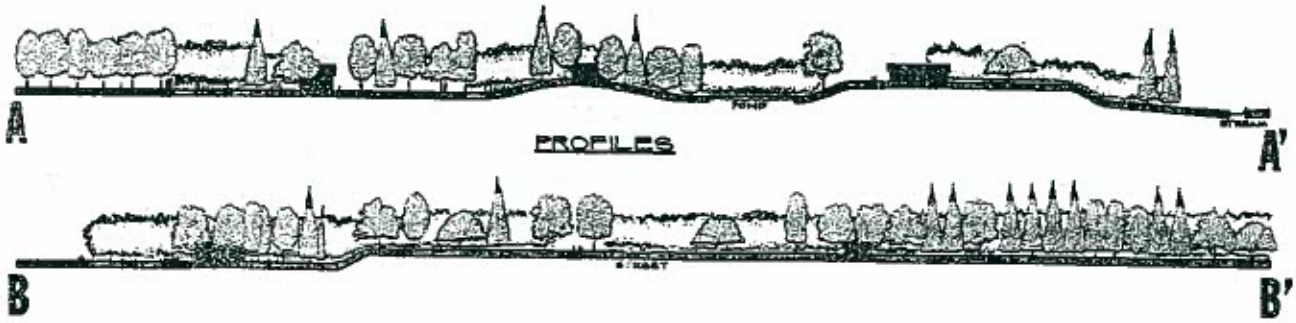


Figure 29 (continued)
Option 2

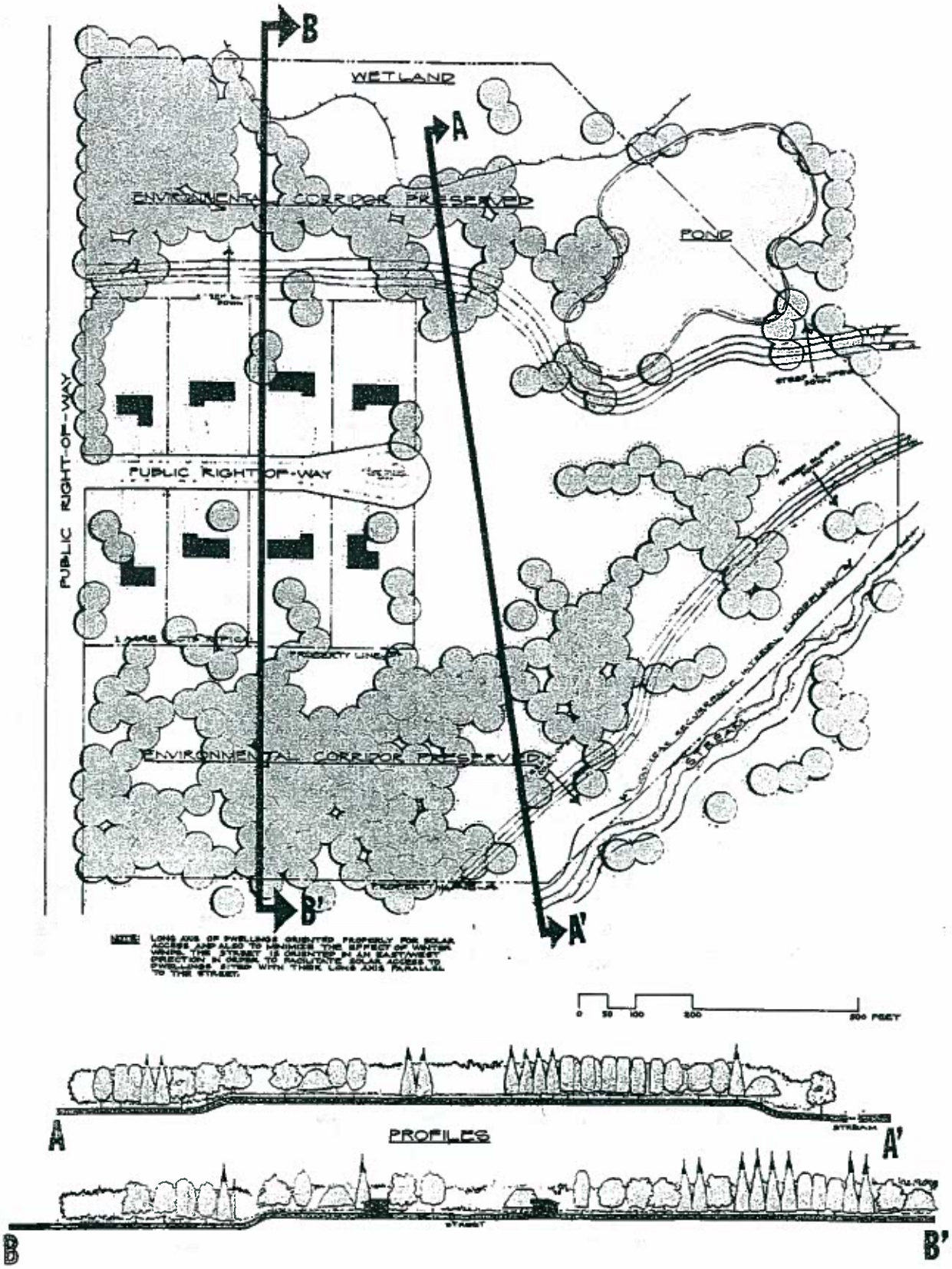
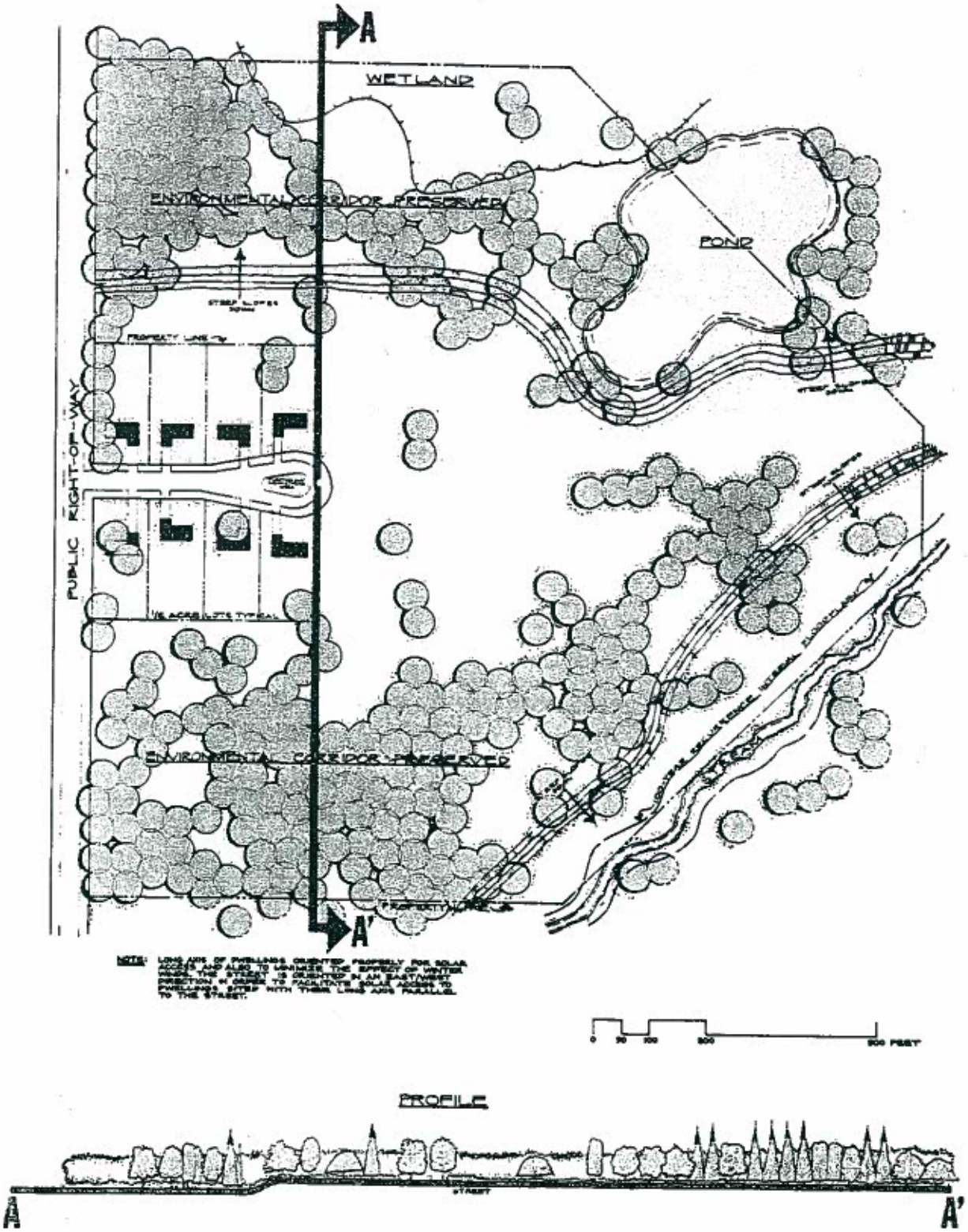


Figure 29 (continued)
Option 3



Source: SEWRPC.

Chapter VIII – W National Avenue Analysis and Detailed Land Use and Urban Design Plans have been excluded from this copy to save space. This plan has been largely replaced both other National Avenue corridor plans. Copies of this section can be obtained from the Dept. of Community Development.

Page 196 through 236 are excluded.

Chapter IX

LAND USE AND URBAN DESIGN PLAN IMPLEMENTATION

INTRODUCTION

The recommended land use and urban design plan described in Chapter VII of this report provides a design for the attainment of the development objectives set forth in Chapter V. In a practical sense, however, the plan is not complete until the steps necessary to implement it have been specified. After formal adoption of the land use plan, realization will require faithful, long-term dedication to the underlying objectives by the city officials concerned with its implementation. Thus, the adoption of the plan is only the beginning of a series of actions necessary to achieve the objectives expressed in this report. The plan should be used as a guide for making decisions concerning land development in the City. Adjustments to the plan should be made as required by changing conditions. Consequently, one of the important tasks of plan implementation is a periodic reevaluation and reexamination of the plan to ensure that it continues to properly reflect current conditions. It is recommended that this reevaluation and reexamination take place on an annual basis, or more frequently if warranted by changing conditions.

Attainment of the selected land use and urban design plan for the City will require some changes in the development policies of the City. Since the maintenance of the present character of the City 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 at urban densities--that is, at densities equal to or greater than 0.7 dwelling unit per net residential acre (0.6 dwelling unit per gross residential acre), or 1.4 acres per dwelling unit--it is confined to those areas where urban services can be provided.

Development should be avoided that would entail the conversion of the best remaining agricultural lands from rural to urban use; the encroachment of urban land uses into primary environmental corridors, secondary environmental corridors, or other environmentally significant lands; the draining and filling of wetlands; or the grading of hilly, wooded areas. These policies are central to a sound development strategy for the City. In fact, the effectiveness of many of the more specific recommendations of this report will be lost if these policies are ignored or greatly compromised. Development policies and practices that consider the limitations of the natural environment will, in the long term, not only preserve the overall quality of the environment in the City, but will avoid the creation of serious and costly environmental and developmental problems, and will avoid the need to prematurely provide costly urban facilities and services over an ever-widening area of the City. Any residential development in that part of the City lying generally west of Calhoun Road should be permitted only on rural estate-size lots--that is, at densities equal to or less than 0.2 dwelling unit per net residential acre (0.17 dwelling unit per gross residential acre), or 5.0 acres per dwelling unit--in order to preserve the rural character and setting of that part of the City.

Attainment of the recommended land use plan for the City will require not only changes in certain development policies of the City, but also the introduction of some new plan implementation instruments and the modification of some existing implementation devices. Certain modifications should be made to Chapter 18 of the Municipal Code--the city land subdivision control ordinance--to bring that ordinance into conformance with recent revisions to Chapter 236 of the Wisconsin Statutes. The city zoning ordinance should be revised to better reflect current land uses, and to make zoning a more effective tool for implementing the adopted land use plan. All rezoning applications should be carefully reviewed as to their relationship to the adopted land use plan. An official map should be prepared and adopted to implement the plan as it relates to streets, highways, waterways, and parkways, and the location and extent of railway rights-of-way, public transit facilities, and parks and playgrounds. All sanitary sewer extensions should be carefully reviewed for their impact on land use plan implementation.

PUBLIC INFORMATIONAL MEETINGS AND HEARINGS AND LAND USE PLAN ADOPTION

Wisconsin city planning enabling legislation does not require local plan commissions to hold public hearings on proposed plans prior to adoption. It is nevertheless good planning practice to do so in order to provide for and promote active citizen participation in the planning process. Public hearings and public informational meetings are desirable to acquaint residents and landowners with the details of the proposed plan, and to solicit public reaction to the plan proposals. The plan should then be modified to reflect any pertinent new information, and to incorporate any sound and desirable new ideas that may be advanced at the informational meetings and hearings.

Accordingly, seven informational meetings were held on the preliminary plan at the City Hall on July 8, 12, 17, 18, 19, 22, and 25, 1985. In addition, a formal public hearing was held on the proposed plan before the City Plan Commission at Eisenhower High School on November 4, 1985. Detailed minutes of these meetings were recorded by the City and are held in the offices of the City Clerk and City Planner. The public reaction to the preliminary land use and urban design plans is documented in Appendix C.

ZONING

Following adoption of the land use plan by the City Plan Commission and certification of the adopted plan to the Common Council, as provided by Section 62.23 of the Wisconsin Statutes, the City Plan Commission should initiate appropriate amendments to the city zoning ordinance and zoning district map to bring the ordinance and map into conformance with the concepts and proposals advanced in the adopted land use plan. Of all the land use implementation devices presently available, perhaps the most important and most versatile is the zoning ordinance. Pursuant to state-enabling legislation, the zoning changes recommended by the Plan Commission can be enacted by the Common Council only after formal public hearing. Based upon the findings of an analysis of the current zoning ordinance as reported in Chapter IV, the plan policies set forth in Chapter V, and the recommended land use and urban design plan set forth in Chapter VII, the following new zoning district types and attendant regulations are recommended for adoption by the City to help implement the adopted land use and urban design plan.

A-1 Agricultural District

An A-1 Agricultural District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. This district is intended to maintain, enhance, and preserve agricultural lands historically utilized for crop production and the raising of livestock. This district should have a minimum parcel size of 35 acres and permit only agricultural and related uses. The 35-acre minimum parcel size is necessary in order for owners of farmland areas to be eligible to participate in the Wisconsin Farmland Preservation Program for tax credit. This district is intended to maintain in agricultural and related uses those areas identified in the land use plan as remaining in agricultural use through at least the plan design period.

A-2 Agricultural Holding and Rural/Urban Transitional District

An A-2 Agricultural Holding and Rural/Urban Transitional District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. This district is intended to avoid the premature conversion of agricultural land to scattered urban uses and to thereby protect agricultural lands from premature urban development until the orderly transition of those lands into urban uses is required. The district should have a minimum parcel size of 10 acres and permit only agricultural and related uses. The 10-acre minimum lot size is necessary to avoid piecemeal, scattered residential uses in those agricultural or related areas located generally west of Calhoun Road. This district is intended to allow the continuation of agricultural and related uses as interim land uses in those areas of the City that are committed in the adopted land use plan to urban development, but which are not yet ripe for such development.

Rs-1 Rural Estate Single-Family Residential/Limited Agricultural District

An Rs-1 Rural Estate Single-Family Residential/Limited Agricultural District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. The district is intended to accommodate the demand for rural single-family residential development by that segment of the population which, while in fact urban in character, nevertheless desires to live away from an urban environment. The district regulations should be drawn to accommodate this desire in an environmentally sound manner, assuring that the permitted development is indeed rural in character and does not create costly problems, such as poor drainage and flooding, nor demands for urban services, such as sanitary sewer, water supply, solid waste collection, and public transit. This district should require each dwelling unit to have a lot area of 5.0 or more acres and, in addition to detached single-family residences and appurtenant structures, should permit limited agricultural uses. A rural estate residential district should also provide an alternative means of preserving primary and secondary environmental corridors and isolated natural areas while allowing private development to occur in such corridors and areas, as illustrated in Chapter VII. This district may be applied to those areas shown on the adopted plan as rural estate and other agricultural lands, as well as in a limited way to the primary and secondary environmental corridors and isolated natural areas identified on the adopted plan.

Rs-2 Suburban Single-Family Residential District

An Rs-2 Suburban Single-Family Residential District should be provided in the city zoning ordinance. This district would be similar to the existing R-1 Rural Home District and can be viewed as a modification of that district with respect to the overall dwelling unit densities permitted. Whereas the R-1 Rural Home District permits a density not exceeding 0.3 dwelling unit per net residential acre (0.24 dwelling unit per gross residential acre), or a minimum 3.0-acre lot size, the proposed Rs-2 Suburban Single-Family Residential District is intended to accommodate a density range of from 0.2 to 0.7 dwelling unit per net residential acre (0.17 to 0.57 dwelling unit per gross residential acre), or a lot size range of from 1.5 to 5 acres for single-family dwellings. The proposed Rs-2 Suburban Single-Family Residential District is intended to be used in the City for residentially platted lots already existing at the time of the adoption of the new zoning ordinance and so identified for this density range on the adopted plan. This district should be applied to those areas of the City generally located south of Lawnsdale Road extended and west of Calhoun Road.

Rs-3 Low-Density Single-Family Residential District

An Rs-3 Low-Density Single-Family Residential District should be provided in the city zoning ordinance. This district would serve to combine and simplify the existing R-2, R-3, and R-4 Residential Districts with respect to overall residential densities and lot sizes permitted. The existing R-2 Residential District provides for a density not exceeding 1.0 dwelling unit per net residential acre (0.8 dwelling unit per gross residential acre), or a minimum lot size of 1 acre. The R-3 Residential District provides for a density not exceeding 1.5 dwelling units per net residential acre (1.2 dwelling units per gross residential acre), or a minimum lot size of 30,000 square feet. The R-4 Residential District provides for a density not exceeding 2.2 dwelling units per net residential acre (1.7 dwelling units per gross residential acre), or a minimum lot size of 20,000 square feet for single-family dwellings. The proposed Rs-3 Low-Density Single-Family Residential District is intended to accommodate a density range of from 0.7 to 2.2 dwelling units per net residential acre (0.57 to 1.7 dwelling units per gross residential acre), or lot sizes from 20,000 to 62,000 square feet in area. This district is further intended to be used as a transitional district between the proposed Rs-2 Suburban Single-Family Residential District and Rs-4 Medium-Density Single-Family Residential District. The district should be used in those areas identified on the adopted land use plan as allocated to low-density urban residential development.

Rs-4 Medium-Density Single-Family Residential District

An Rs-4 Medium-Density Single-Family Residential District should be provided in the city zoning ordinance. This district would serve to combine and simplify the existing R-4.5, R-4.75, and R-5 Residential Districts with respect to overall residential densities and lot sizes permitted. The existing R-4.5 Residential District provides for a density not exceeding 2.9 dwelling units per net residential acre (2.2 dwelling units per gross residential acre), or a minimum lot size of 15,000 square feet. The R-4.75 Residential District provides for a density not exceeding 3.6 dwelling units per net residential acre, or a minimum lot size of 12,000 square feet. The R-5 Residential District

provides for a density not exceeding 4.4 dwelling units per net residential acre (3.4 dwelling units per gross residential acre), or a minimum lot size of 10,000 square feet. The proposed Rs-4 Medium-Density Single-Family Residential District is intended to accommodate an overall density range of from 2.2 to 4.4 dwelling units per net residential acre (1.7 to 3.4 dwelling units per gross residential acre), or lot sizes from 10,000 to 20,000 square feet in area for single-family dwellings. This district is further intended to be used as a transitional district between the lower density Rs-3 Low-Density Single-Family Residential District and the higher density Rd-1 High-Medium-Density Two-Family Residential District. The district is to be applied to those areas of the City located east of Calhoun Road identified on the adopted land use plan as medium-density urban residential development served by a full range of municipal services, including sanitary sewerage and water supply.

Rd-1 High-Medium-Density Two-Family Residential District

An Rd-1 High-Medium-Density Two-Family Residential District should be provided in the city zoning ordinance. This district would be similar to the existing R-6.2 Residential District and can be viewed as a modification of that district with respect to the overall dwelling unit densities permitted. The R-6.2 Residential District permits a density not exceeding 4.8 dwelling units per net residential acre (3.7 dwelling units per gross residential acre), or a minimum lot size of 12,000 square feet for single-family dwellings, or 18,000 square feet for two-family dwellings. The proposed Rd-1 High-Medium-Density Two-Family Residential District is intended to accommodate a density range of from 4.4 to 6.9 dwelling units per net residential acre, or a minimum lot size of 12,000 to 18,000 square feet for the exclusive use of two-family dwellings. This district is further intended to be used as a transitional district between the lower density Rs-4 Medium-Density Single-Family Residential District and the higher density Rm-1 High-Density Multiple-Family Residential District. The district is to be applied to those areas of the City situated east of Calhoun Road identified on the adopted plan as high-medium-density urban residential development served by a full range of municipal services, including sewerage and water supply.

Rm-1 High-Density Multiple-Family Residential District

An Rm-1 High-Density Multiple-Family Residential District should be provided in the city zoning ordinance. This district would be similar to the existing R-6 Residential District, and can be viewed as a modification of that district with respect to the densities permitted. The R-6 Residential District permits densities up to and including 11.9 dwelling units per net residential acre (8.9 dwelling units per gross residential acre), or a minimum lot size of 10,000 square feet for one-, two-, or multiple-family structures. The proposed Rm-1 High-Density Multiple-Family Residential District is intended to accommodate a density range of from 7.0 to 12.0 dwelling units per net residential acre (5.3 to 9.0 dwelling units per gross residential acre), or a minimum lot size of 11,000 square feet for the exclusive use of multiple-family dwellings. The district is to be applied to those areas of the City generally located east of Calhoun Road identified on the adopted land use plan as high-density urban residential development served by a full range of municipal services, including sanitary sewerage and water supply.

B-1 Neighborhood Shopping Center District

A B-1 Neighborhood Shopping Center District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. This district is intended to provide for relatively small groupings of retail and customer service establishments away from other business districts, but within proximity of the residential neighborhoods intended to be served. This district is further characterized by the requirement of onsite parking and loading facilities, and a partially pedestrian-oriented shopping environment. Uses in this district should be compatible with the character of the adjacent residential areas served. Permitted uses in this district should include small general merchandise stores, food stores, apparel and accessory stores, drug stores, department stores, gift shops, personal services, banks/savings and loan institutions (not including drive-in or drive-through), and restaurants, but not drive-in or drive-through types of establishments. This district is intended to occupy a minimum district area of 3.0 acres. Buildings constructed in the B-1 Neighborhood Shopping Center District could be clustered on parcels of land and be under individual or multiple ownership. Building height in this district would not exceed one story, and buildings would be required to follow the urban design criteria outlined in Chapter V of the plan, as well as to architecturally blend with surrounding residential uses and structures. This district should be used where neighborhood shopping centers are proposed on the adopted land use plan for the City.

B-2 Community Shopping Center District

A B-2 Community Shopping Center District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. The district is intended to provide for relatively large groupings of retail and customer service establishments in a community-serving shopping center setting. The district would be characterized by establishments that have onsite parking for customer automobiles combined with a pedestrian-oriented shopping environment. Permitted uses in this district should include large general merchandise stores, food stores, apparel and accessory stores, drug stores, department stores, gift shops, personal services, banks/savings and loan institutions, and restaurants, but not including drive-in or drive-through types of establishments. This district is intended to occupy a minimum district area of 10 acres. Buildings constructed in the B-2 Community Shopping Center District could be clustered on parcels of land and under individual or multiple ownership. Building height in this district would not exceed two stories, and buildings would be required to follow the urban design criteria outlined in Chapter V of the plan. The B-2 Community Shopping Center District should be used, as the adopted land use plan recommends, at the northeast and southeast corners of the intersection of W. National Avenue and Moorland Road.

B-3 Office and Business Service District

A B-3 Office and Business Service District should be provided in the city zoning ordinance. This district would be similar to the existing B-4 Limited Business District, and can be viewed as a modification of that district with respect to minimum lot size. Whereas the B-4 Limited Business District has no minimum lot area requirement, the proposed B-3 Office and Business Service District should have a minimum lot area of 20,000 square feet. The B-3 Office and Business Service District is intended to provide for individual or grouped

office and business service uses, including professional offices, medical offices, dental offices, clinics, and drug and medical supply establishments, in areas where the office uses will be compatible with surrounding uses. Building height in this district would not exceed five stories, and buildings would be required to follow the urban design criteria outlined in Chapter V of the plan. This district should be used where office centers are proposed on the adopted land use plan for the City.

B-4 Automobile-Oriented and Large Floor Area Retail Sales and Service District

A B-4 Automobile-Oriented and Large Floor Area Retail Sales and Service District should be provided in the city zoning ordinance. This district would be similar to the existing B-3 General Business District, and can be viewed as a modification of that district with respect to both minimum lot size and permitted uses. Whereas the B-3 General Business District has a minimum lot size of 10,000 square feet, the proposed B-4 Automobile-Oriented and Large Floor Area Retail Sales and Service District should have a minimum lot area of 20,000 square feet. The B-4 District is intended to provide for such highway-oriented uses as gasoline stations, automobile sales/service establishments, car washes, drive-in theaters, drive-in banking, drive-in or drive-through restaurants, and motels. The district is further intended to provide for retail sales and service establishments requiring large sites, and providing such services as furniture and appliance sales, factory outlet stores, and garden centers. The district should require onsite parking for customer automobiles and customer off-street loading facilities, combined with a very limited pedestrian-oriented shopping environment. Building height in this district would not exceed one story, and buildings would be required to follow the urban design criteria outlined in Chapter V of the report. The district is intended to be used along W. National Avenue between S. 124th Street and Moorland Road in areas recommended for commercial uses on the adopted land use plan for the City.

B-5 Bulk Sales District

A B-5 Bulk Sales District should be provided in the city zoning ordinance. This district would be similar to the existing B-3 General Business District, and can be viewed as a modification of that district with respect to both minimum lot size and permitted uses. Whereas the B-3 General Business District has a minimum lot size of 10,000 square feet, the proposed B-5 Bulk Sales District should have a minimum lot area of one acre, or 43,560 square feet. The proposed district is intended to provide for such uses as building supplies, equipment sales, contracting services, septic system service, and LP gas sales and outdoor storage establishments. The district should require onsite parking for customer automobiles, onsite outdoor areas for merchandise storage and sales, customer off-street loading facilities, and open outdoor areas for bulk sale of merchandise. Building height in this district would not exceed one story, and buildings would be required to follow the urban design criteria outlined in Chapter V of the plan. In addition, adequate screening should be provided to buffer these uses from any adjacent incompatible land uses.

B-6 Nonfreeway-Oriented Office and Manufacturing Support Business Service District

A B-6 Nonfreeway-Oriented Office and Manufacturing Support Business Service District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. This district is intended to provide for individual or grouped office and financial services at or near the existing New Berlin Industrial Park on lots one acre or more in area. Building height in this district would not exceed five stories, and buildings would be required to follow the urban design criteria outlined in Chapter V of the plan. This district is intended to be used at or near the west side of the intersection of Moorland Road and W. Cleveland Avenue as indicated on the adopted land use plan for the City.

B-7 Freeway-Oriented Office and Manufacturing Support Business Service District

A B-7 Freeway-Oriented Office and Manufacturing Support Business Service District should be provided in the city zoning ordinance. This existing city zoning ordinance does not contain such a district. The district is intended to provide for the development of attractive groupings of office and financial service uses at or near freeway interchanges. Such uses should be set in aesthetically pleasing open space, with a maximum site-to-building ground cover area ratio of 7 to 1; minimum lot size of three acres; and adequate buffering from nearby land uses. Buildings located in this district should be high-rise, with height limitations to be established which take into account the City's ability to provide good fire protection. In addition, buildings would be required to follow the urban design criteria outlined in Chapter V of the plan. Based upon the adopted land use plan, this zoning district is intended to be used at or near the Moorland Road and STH 15 freeway interchange.

B-8 General Retail Sales and Service District

A B-8 General Retail Sales and Service District should be provided in the city zoning ordinance. This district would be similar to the existing B-2 Local Business District, and can be viewed as a modification of that district in order to accommodate a broader range of retail sales and service uses. This district is intended to provide for the orderly and attractive development and grouping in appropriate and convenient locations of small-lot business activities of a general nature. Such business district uses should be located on a minimum lot area of 10,000 square feet; should provide ample off-street parking and loading areas, and landscape planting screens in areas adjacent to nonbusiness development or other incompatible uses; and should be developed in character with the adjacent land uses. Building height in this district would not exceed two and one-half stories, and buildings would be required to follow the urban design criteria outlined in Chapter V of the plan. This district is intended to be used in general commercial areas of the City as indicated on the adopted land use plan.

M-1 Light Manufacturing District

An M-1 Light Manufacturing District should be provided in the city zoning ordinance. This district would be similar to the existing M-1 Limited Industrial District but would provide for a larger range of light manufacturing

uses, and would exclude other general commercial uses which are accommodated by other commercial-oriented zoning districts. The M-1 Light Manufacturing District is intended to provide for manufacturing and industrial development of a more restrictive nature than permitted in the proposed M-2 General Manufacturing District on lots not less than 20,000 square feet in area. Building height in this district would not exceed two stories, and buildings would be required to follow the urban design criteria outlined in Chapter V of the plan. This district is intended to be used, in part, in those areas designated for industrial development at nonfreeway locations, as indicated on the adopted land use plan.

M-2 General Manufacturing District

An M-2 General Manufacturing District should be provided in the city zoning ordinance. This district would be similar to the existing M-2 General Industrial District and would provide for similar uses; however, general commercial uses which are accommodated by other commercial-oriented zoning districts would be excluded from the M-2 General Manufacturing District. The M-2 General Manufacturing District is intended to provide for manufacturing and industrial development of a less restrictive nature than permitted in the proposed M-1 Light Manufacturing District in areas where surrounding land uses would create fewer problems of compatibility. This district should not normally abut residential districts. Individual lot sizes for this district should not be less than 1.0 acre in area. This district is intended to be used, in part, in those areas designated for industrial development at nonfreeway locations, as indicated on the adopted land use plan.

M-3 Limited Industrial and Warehousing District

An M-3 Limited Industrial and Warehousing District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. The M-3 Limited Industrial and Warehousing District is intended to provide for manufacturing, warehousing, and construction-related uses. The district should require a minimum lot size of 20,000 square feet. All uses and improvements within this district should be required to maintain the same quality of site design and architecture as required in the M-1 and M-2 Districts. High standards should be specified in this district, particularly as the district relates to outdoor storage of equipment and supplies.

M-4 Freeway-Oriented Limited Manufacturing District

An M-4 Freeway-Oriented Limited Manufacturing District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. The district is intended to provide for the development of attractive groupings of manufacturing and industrial development at or near freeway interchanges. Such development would be of a limited intensity and would provide aesthetically pleasing open space, with a maximum site-to-building ground cover area ratio of 7 to 1; a minimum lot size of 3.0 acres; and adequate buffering from nearby land uses. The district would provide for ample off-street parking and loading areas, and landscape planting screens in areas adjacent to nonbusiness development or other incompatible uses. This district should be applied to the area of the City located at or near the Moorland Road and STH 15 interchange.

Q-1 Quarrying and Extractive District

A Q-1 Quarrying and Extractive District should be provided in the city zoning ordinance. This district would be similar to the existing Q-1 Quarrying District. The Q-1 Quarrying and Extractive District is intended to provide for the operation of quarries or other mineral extractive activities, and for the proper restoration of the quarried or mined areas. This district should be utilized in planned quarry and extractive use areas located in the southeast quarter of the City.

L-1 Landfill District

An L-1 Landfill District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. This district is intended to regulate land use at existing, as well as former, landfill sites in the City. The district requirements should address public health and safety issues pertaining to landfills, as well as protection of the natural resource base. In addition, the district should outline detailed requirements pertaining to the restoration of landfill sites when the sites are abandoned. The district should be utilized in areas required as landfill sites.

I-1 Institutional District

An I-1 Institutional District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a 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 purpose is anticipated to be permanent. The district should have a minimum lot size of 10,000 square feet, and should be used in areas identified for institutional development on the adopted land use plan.

P-1 Park District

A P-1 Park District should be provided in the city zoning ordinance. The existing city zoning ordinance does not contain such a district. The P-1 Park District is intended to provide areas where the open space and outdoor recreational needs of the citizens can be met without unduly disturbing natural resources and adjacent uses. When applied to privately owned recreational lands, this district is intended to avoid the conversion of such lands to other urban uses without adequate public review and approval. There is no minimum lot size requirement for this district. The district should be used for areas designated as parks on the adopted land use plan.

LC Lowland Conservancy District

An LC Lowland Conservancy District should be provided in the city zoning ordinance on a citywide basis immediately upon adoption of the new zoning ordinance and map. In addition, Chapter NR 117 of the Wisconsin Administrative Code sets forth minimum standards for local zoning ordinances in order to protect identified wetland areas. This district would be similar to the existing C-1 Conservancy District. The LC Lowland Conservancy District is intended to be used to prevent the destruction of valuable natural resources and, in particular, wetland areas where development would result in hazards to health or safety, or would deplete or destroy natural resources or be otherwise

incompatible with the public welfare. Regulation of these areas will serve to protect the natural resource base and promote and maintain the natural beauty of the area, as well as to promote the health, safety, and welfare of city residents. This district should include reasonable uses of the land such as recreational uses and open space for adjoining higher intensity land uses. The district should have no minimum area requirements. The district should be used in those areas of the City identified as significant wetlands on the adopted land use plan, and would generally be applied in lowland and wetland areas identified on the adopted land use plan as primary or secondary environmental corridors or isolated natural areas.

UC Upland Conservancy Overlay District

A UC Upland Conservancy Overlay District should be provided in the city zoning ordinance on a citywide basis immediately upon adoption of the new zoning ordinance and map. This district would be similar to the existing C-1 Conservancy District. The UC Upland Conservancy Overlay District is intended to be used to prevent the destruction of valuable natural resources and, in particular, woodlands, wildlife habitat areas, areas of steep topography, and related scenic areas. Regulation of these areas should serve to control erosion and sedimentation, and to protect the natural resource base and promote and maintain the natural beauty of the area, as well as the health, safety, and welfare of city residents. This district should include uses of the land such as low-density residential development, recreational uses, and open space for adjoining higher intensity land uses, such as small lot subdivisions or multiple-family residential developments. Underlying basic use districts should be compatible with the intent of the UC Upland Conservancy Overlay District. The district should have no minimum area requirements. The district should be used in those areas of the City identified as significant combinations of woodland and wildlife habitat on the adopted land use plan, and would generally be applied in the upland portions of areas identified in the plan as primary or secondary environmental corridors or isolated natural areas.

PUD Planned Unit Development Overlay District

A PUD Planned Unit Development Overlay District should be provided in the city zoning ordinance. The existing city zoning ordinance treats planned unit developments as conditional uses in all zoning districts. The PUD Planned Unit Development Overlay District is intended to permit development that will be enhanced by coordinated site planning, diversified location of structures, and mixing of land uses. Such developments are intended to provide a safe and efficient system for vehicular and pedestrian traffic; to provide attractive recreation and open spaces as integral parts of the developments; to facilitate the economic development of public and private utilities and community facilities; and to ensure adequate site development standards. The PUD Planned Unit Development Overlay District would allow for flexibility in site design, with benefits from such flexibility intended to be derived by both the developer and the community, while at the same time maintaining, insofar as possible, the land use intensity and other standards or use requirements set forth in the underlying basic zoning district or overlay district. The district may be used in areas designated for residential, commercial, governmental and institutional, industrial, or recreational and open space land use in the adopted land use plan. Vacant land areas should not be prezoned into this district until detailed site development plans for the parcel(s) in question have been prepared by the developer.

F-1 Floodland District

An F-1 Floodland District should be provided in the city zoning ordinance on a citywide basis immediately upon adoption of the new zoning ordinance and map utilizing a single zoning district approach to floodland regulation. The existing city zoning ordinance utilizes an FP-1 Floodplain District, which has two subdistricts called the Floodway Subdistrict (FW) and the Flood Fringe Subdistrict (FF). The F-1 Floodland District is intended to preserve in essentially open space and natural use lands which are unsuitable for intensive urban development owing to soil conditions and periodic inundation, and should include all land and water area lying within the 100-year recurrence interval flood hazard area as identified on the adopted land use plan. The proper regulation of these areas will serve to maintain and improve water quality; provide storage for floodwaters, thereby reducing downstream flood flows and stages and preventing flood damage; protect wildlife habitat; and prohibit the location of structures on soils which are generally not suitable for such use. Where wetland areas occur within the delineated F-1 Floodland District, the regulations outlined for the LC Lowland Conservancy District would also apply. The F-1 Floodland District should be applied to the flood hazard areas identified on the adopted plan.

The Use of Buffer Yards

The proper separation of uses is important to the long-term preservation of property values within the City of New Berlin. Therefore, it is important to separate visually and physically dissimilar land use types and intensities. In order to formalize the precise type of separation required to accommodate the diversity of land use relationships, the zoning ordinance should include specifications for the creation of buffer areas or yards between differing land use types and intensities. These buffer area or yard requirements should be carefully defined in the zoning ordinance and should address the use of a variety of methods for their accomplishment, including but not limited to the use of earth berms with or without landscape plant materials; fencing and walls; the maintenance of environmental corridors and other rural open lands; streets and highways; graduated changes in land use intensity; grade separation; and general landscaping in order to effectively accomplish the buffering between dissimilar land use types and intensities.

OFFICIAL MAPPING

Section 62.23(6) of the Wisconsin Statutes provides that the common council of any city may establish an official map for the precise identification of right-of-way lines and site boundaries of streets, highways, and waterways and parkways, and the location and extent of railway rights-of-way, public transit facilities, and parks and playgrounds. Such a map has 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 waterways and parkways, and the location and extent of railway rights-of-way, public transit facilities, and parks and playgrounds.

The official map is intended to be used as a precise planning tool to implement public plans for streets, highways, waterways and parkways, railways,

public transit facilities, and 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 public use. The official map is a plan implementation device that operates on a communitywide basis in advance of land development, 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 official map can operate over the entire city in advance of development proposals. The official map is a useful device to achieve public acceptance of long-range plans in that it serves legal notice of the government's intention to all parties concerned well in advance of any actual improvements. It thereby avoids the altogether too common situation of development being undertaken without knowledge of or regard for the long-range plan, and thereby can help avoid public resistance when plan implementation becomes imminent.

As indicated in Chapter IV, Section 17.285 of Chapter 17 of the City of New Berlin Municipal Code, entitled, "Zoning Code," sets forth the regulatory text of the city official map ordinance. The Official Map itself comprises a series of 147 sheets drawn at a scale of 1 inch equals 100 feet, each map sheet covering a U. S. Public Land Survey quarter-section. The existing City Official Map shows all existing property and street right-of-way lines and some proposed streets. Following adoption of the city land use and urban design plan, the Official Map should be amended to show all planned streets and highways, public transit facilities, parks and parkways, and drainage facilities.

SUBDIVISION PLAT REVIEW AND REGULATION

The land use plan should serve as a basis for the review by appropriate city officials of land subdivision plats and certified survey maps. Urban subdivisions should not be approved in areas recommended in the plan to remain in nonurban uses unless the developer can justify changing the land use and urban design plan. Any such proposed departures from the land use plan should be carefully considered by the City Plan Commission, and should be made by that Commission only when it finds that such departures are in the public interest. All urban subdivisions should be required to provide for a full complement of urban services.

The City land subdivision ordinance as set forth in Chapter 18 of the Municipal Code has relatively few deficiencies. The deficiencies that do exist can be readily removed through the amendment of the existing ordinance. Since the adoption of the city land division ordinance, Chapter 236 of the Wisconsin Statutes has been altered to revise the former 40-day preliminary plat review period for a municipality to 90 days, and to revise the 20-day preliminary plat review period of an objecting authority to 30 days. The city ordinance should be amended to reflect these changes.

THE CAPITAL IMPROVEMENTS PROGRAM

In 1985, the City of New Berlin took initial steps to develop a capital improvements program, and these steps should be brought to fruition. A capital improvements program is a list of fundable major public improvements needed in a community over the next five years, arranged in order of preference to

assure that the improvements are carried out in priority of need and in accord with the community's ability to pay. Major public improvements include such items as streets, sanitary sewers, storm sewers, water mains, and public buildings and parks, which together form the "urban infrastructure" required to support urban land use development and redevelopment. A capital improvements program is intended to promote well-balanced community development without overemphasis on any particular phase of such development, and to promote coordinated development both in time and between functional areas. With such a program, required bond issues and tax revenues can be foreseen and provisions made. Needed land for the projects can be acquired in a timely fashion and staged construction facilitated.

The general procedure for the preparation of a capital improvements program is as follows. An initial list of the improvements believed to be needed over the next five years is compiled. This list is then evaluated to determine the relative importance and desirability of each improvement. This evaluation should initially be divorced completely from the issue of funding availability. Criteria which may be helpful in assigning an order of priority to the list of projects include: protection of life, maintenance of public health, protection of property, conservation of resources, maintenance of property, provision of essential public services, and reduction in operating costs.

When the relative need or desirability of the various proposed projects has been determined--that is, when the list of projects has been arranged in priority order--the available financial resources of the community are analyzed, and the funds which may be expected to become available for the proposed improvements over the five-year period are determined. The projects are then selected and scheduled for construction in accordance with their priority order and the funds available. The first year of the five-year schedule is then recommended as the capital budget for the ensuing year and the recommended program given legislative consideration. At the end of the first year, the program is again reviewed, and any new projects which appear to be needed are shifted in position in the schedule as new information may dictate. An additional year is added to replace the year completed, and the revised list of projects is again scheduled over the full period of the program. Thus, a carefully conceived public improvements program is always available and in readiness for use, but with only one year of the program being actually committed at any time. Since, as the process becomes established, proposed projects are evaluated year after year before ultimately reaching authorization, a safeguard is provided against hasty or ill-conceived actions.

The plan for the physical development of the community should be the primary source of projects to be included in the initial list. However, this list may also include projects suggested by city officials and by community and neighborhood groups.

The capital improvements program should be presented in a well-arranged tabular form, listing projects in the proposed order of implementation and in the order of year scheduled. The estimated cost of the proposed projects, together with resulting changes in operation and maintenance costs and financial charges, should be shown. Where a project extends over more than one year, costs should be distributed accordingly. Proposed methods of financing should be indicated and explanations regarding urgency of need provided. A financial summary sheet should be prepared showing the effect of the proposed program upon the finances of the community and, particularly, upon taxes.

THE NEED FOR PRECISE URBAN DEVELOPMENT PLANNING

Based upon the objectives, principles, and standards and urban design criteria presented in Chapter V, and the recommended land use and urban design plan presented in Chapter VII, it is recommended that the City Plan Commission prepare precise residential neighborhood plans for the 11 residential neighborhoods identified in Chapter VII, as well as detailed development plans for the special New Berlin Business Park planning area located near the intersection of STH 15 and Moorland Road. The preparation of detailed urban development plans for these areas will serve to further refine and detail the adopted land use and urban design plan. A more detailed discussion of the residential neighborhood unit as a planning concept is presented in Chapter X, along with a precise neighborhood unit plan for the delineated Deer Creek Neighborhood to illustrate the type of detailed planning being recommended.

Chapter X

THE ADOPTED LAND USE AND URBAN DESIGN PLAN

INTRODUCTION

The initially recommended land use and urban design plan for the City of New Berlin--as shown in graphic summary form on Map 36 of Chapter VII--was revised during joint meetings of the City Plan Commission and Common Council held in late 1986 and early 1987 following the public informational meetings and hearings on the plan. While the recommended plan illustrated on Map 36 was generally favorably received by both elected officials and citizens, some members of the City Plan Commission and Common Council expressed concerns over several of the recommendations contained in the recommended plan--Alternative Plan E--and requested that some modifications be made to that plan prior to formal plan adoption by the City Plan Commission. Accordingly, a sixth alternative plan--Alternative Plan F--was prepared by the Regional Planning Commission staff. The major differences between the initially recommended plan--Alternative Plan E--and Alternative Plan F related to the identification and extent of certain commercial areas; to the use of buffers between land uses of differing intensities; and to the intensity and location of certain residential land uses. Alternative Plan F was formally adopted by the City Plan Commission and certified to the Common Council on March 2, 1987. The Plan Commission adopting resolution is provided in Appendix D of this report. Although the state planning enabling legislation does not require plan adoption by the Common Council, a resolution for adopting the land use and urban design plan by the Common Council is also provided in Appendix D.

ALTERNATIVE LAND USE PLAN F--THE ADOPTED PLAN

As was Alternative Plan E--the initially recommended plan--Alternative Land Use Plan F--the adopted plan--is based upon the intermediate growth, centralized development alternative future. Therefore, the plan is designed to serve a design year resident population of about 43,000 persons. This design population level is about midway between the 1980 resident population of the City of 30,529 persons and the population of 56,400 which may be expected under the optimistic growth, centralized development future. The adopted land use plan is graphically summarized on Map 48. The land uses shown on Map 48 are quantified in Table 58 and compared to the existing 1980 land uses in the City.

Residential Land Uses

Areas designated on the adopted land use plan for residential use approximate 8,850 acres, as indicated in Table 58. As did Alternative Plans A, B, C, D, and E, the adopted land use plan identifies six categories of residential land use based upon the residential density standards advanced in Chapter V and the land use needs set forth in Chapter VI. These categories are: 1) rural estate, with a 5-acre or greater net lot area per dwelling unit; 2) low-density urban, with a 20,000- to 62,000-square-foot net lot area per dwelling unit; 3) medium-density urban, with a 10,000- to 20,000-square-foot net lot area per dwelling unit; 4) high-medium-density urban, with 4.4 to 6.9 dwelling units per net

residential acre; and 5) high-density urban, with 7.0 to 12.0 dwelling units per net residential acre.

The areas proposed for rural estate residential development under the adopted land use plan totals about 1,032 acres, and would provide about 138 lots for single-family residential development. Because of the large lots envisioned, these residential land uses have been included in the "agricultural and other rural lands" category shown on Map 48 and would be served by onsite sewage disposal and water supply facilities. Soil conditions would thus be an important consideration in the location of this type of residential development.

The areas proposed for suburban residential development under the adopted land use plan would total about 1,269 acres of land by the year 2010, an increase of about 153 acres, or about 14 percent, over the 1980 level. These areas, as shown on Map 48, are located generally west of Calhoun Road and in the southeast quarter of the City. These residential uses could be served by onsite sewage disposal and water supply facilities in areas covered by soils suitable for such facilities, or by public sanitary sewer and water supply facilities.

The areas proposed for low-density urban residential development under the adopted land use plan would total about 5,030 acres of land by the year 2010, an increase of about 1,735 acres, or about 53 percent, over the 1980 level. These areas, as shown on Map 48, are proposed to be located throughout the City but primarily at, or abutting, existing development of this same density. This type of development has been used as a transitional land use between areas of suburban density and medium-density residential land uses. These residential land uses should be served by public sanitary sewer and water supply facilities.

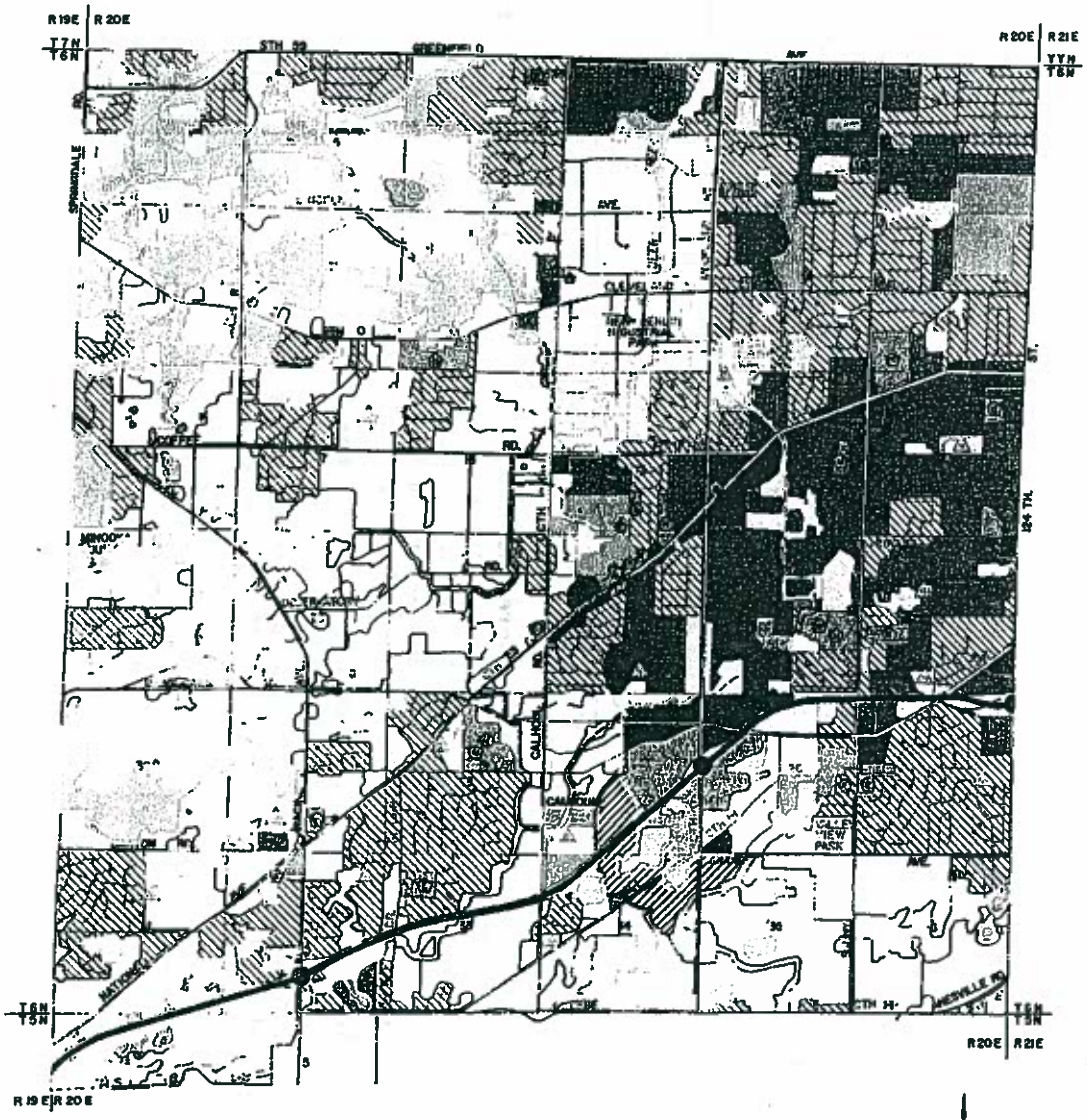
The areas proposed for medium-density urban residential development under the adopted land use plan would total about 2,051 acres of land by the year 2010, an increase of about 295 acres, or about 17 percent, over the 1980 level. Because of the lot size envisioned, these areas are proposed to be served by public sanitary sewer and water supply facilities. These areas are generally located east of Calhoun Road and north of the Rock Freeway (STH 15).

The areas proposed for high-medium-density urban residential development total about 166 acres of land under the adopted land use plan, as shown on Map 48, an increase of 159 acres over the 7 acres in such use in 1980. These areas are proposed to be served by public sanitary sewer and water supply and are generally located east of Calhoun Road and north of the Rock Freeway (STH 15). These areas are typically located near and along arterial streets and highways so as to provide ease of vehicular access and to facilitate future mass transit service.

The areas proposed for high-density urban residential development under the adopted land use plan would total 335 acres of land by the year 2010, an increase of about 259 acres, or about 341 percent, over the 1980 level. These areas are also proposed to be served by public sanitary sewer and water supply, and are also generally located east of Calhoun Road and north of the Rock Freeway (STH 15). Furthermore, these areas are also typically located near and along arterial streets and highways to provide ease of vehicular access and to facilitate future mass transit service. In addition, these areas are located in convenient proximity to commercial retail and service centers.

Map 48

ALTERNATIVE LAND USE PLAN F: THE ADOPTED LAND USE PLAN



LEGEND

- RURAL ESTATE RESIDENTIAL AND OTHER AGRICULTURAL LANDS (5-ACRE LOTS OR GREATER)
- SUBURBAN RESIDENTIAL DEVELOPMENT (1.5-ACRE TO 5-ACRE LOTS)
- LOW-DENSITY URBAN RESIDENTIAL DEVELOPMENT (20,000- TO 62,000-SQUARE-FOOT LOTS)
- MEDIUM-DENSITY URBAN RESIDENTIAL DEVELOPMENT (10,000- TO 20,000-SQUARE-FOOT LOTS)
- HIGH-MEDIUM-DENSITY URBAN RESIDENTIAL DEVELOPMENT (4.4 TO 6.9 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- HIGH-DENSITY URBAN RESIDENTIAL DEVELOPMENT (7.0 TO 12.0 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- COMMERCIAL DEVELOPMENT
- GOVERNMENTAL AND INSTITUTIONAL
  - C CITY HALL
  - F FIRE STATION
  - L MAIN PUBLIC LIBRARY
  - B BRANCH PUBLIC LIBRARY
  - O POST OFFICE
  - P CITY POLICE DEPARTMENT
  - CC CITY COMMUNITY CENTER
  - HO HOSPITAL
  - E PUBLIC ELEMENTARY SCHOOL
  - M PUBLIC MIDDLE SCHOOL
  - H PUBLIC HIGH SCHOOL
  - R PRIVATE SCHOOL
- PARK AND RIDE LOT
- LIGHT INDUSTRIAL DEVELOPMENT
- LANDS TO BE USED FOR INDUSTRIAL-RELATED USE BEYOND THE YEAR 2010
- QUARRYING AND EXTRACTIVE DEVELOPMENT
- RECREATIONAL
  - M MULTICOMMUNITY PARK
  - C COMMUNITY PARK
  - N NEIGHBORHOOD PARK
  - S SPECIAL PARK
- 50-FOOT-WIDE EARTH BERM/LANDSCAPED PLANTING STRIP
- RECREATION CORRIDOR (TRAIL)
- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR
- ISOLATED NATURAL AREA
- SECONDARY ENVIRONMENTAL CORRIDORS TO BE CAREFULLY INTEGRATED INTO PLANNED URBAN AREAS
- ISOLATED NATURAL AREAS TO BE CAREFULLY INTEGRATED INTO PLANNED URBAN AREAS
- PRIME AGRICULTURAL LANDS
- WATER

ARTERIAL STREET AND HIGHWAY SYSTEM

- STATE TRUNK HIGHWAY - FREEWAY
- STATE TRUNK HIGHWAY - NONFREEWAY
- COUNTY TRUNK HIGHWAY
- FUTURE COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- FREEWAY-NONFREEWAY INTERCHANGE

Source: SEWRPC.

Table 58

EXISTING 1980 CITY OF NEW BERLIN LAND USE AND ALTERNATIVE PLAN F LAND USES

Land Use Category[a]	Existing 1980 Land Use		Plan Increment		Planned Land Use	
	Acres	Percent of Total	Acres	Percent Increase	Acres	Percent of Total
Residential						
Rural Estate (5-acre lots or greater)	41[b]	0.1	0[e]	--[e]	0[e]	--[e]
Suburban (1.5-acre to 5-acre lots)	1,116	4.7	153	13.7	1,269	5.3
Low-Density Urban (20,000- to 62,000-square-foot lots)	3,295	14.0	1,735	52.7	5,030	21.4
Medium-Density Urban (10,000- to 20,000-square-foot lots)	1,756	7.4	295	16.8	2,051	8.7
High-Medium-Density Urban (4.4 to 6.9 dwelling units per net residential acre)	7	0.0[f]	159	2,271.4	166	0.7
High-Density Urban (7.0 to 12.0 dwelling units per net residential acre)	76	0.3	259	340.7	335	1.4
Subtotal	6,291	26.7[c]	2,601	41.3	8,851	37.5
Commercial	355[c]	1.5	136[c]	38.3	358[c]	1.5
Industrial	525[d]	2.2	697[d]	132.7	1,355[d]	5.7
Governmental/ Institutional	400	1.7	146	36.5	546	2.3
Recreational	352	1.5	507	144.0	859	3.6
Agricultural and Other Lands	15,666	66.4	-4,087	-26.1	11,620	49.4
Total	23,589	100.0	23,589	--	23,589	100.0

[a] Each land use category area is expressed in gross acres and includes associated street rights-of-way and off-street parking.

[b] Represents 82 occupied residential lots totaling 596 acres. However, only 41 developed acres are shown here; the other 514 acres are included in the "Agricultural and Other Rural Lands" category.

[c] Excluding 133 acres as per footnote d, and other existing scattered commercial sites.

[d] A total of 133 acres of existing industrial-related commercial service uses are included in this figure. These uses are located, for the most part, at the existing industrial park.

[e] A total of 138 lots, or about 1,032 acres, actually are planned, but they have been included in the "Agricultural and Other Rural Lands" category because of their predominant rural character.

[f] Less than one-tenth of 1 percent.

Source: SEWRPC.

The adopted land use plan recommends the use of the "cluster" concept for residential site planning, provided that the overall residential site density of an area--that is, the total number of dwelling units per net residential acre envisioned in the land use plan for the area--is maintained. Clustered development can be used to accommodate both attached or detached dwelling units, thereby providing for economical residential development and, at the same time, ensuring the preservation of important natural resource land and overall planned residential densities.

Commercial Retail Sales and Service Land Uses

Under the adopted land use plan, commercial areas would encompass a total of about 358 acres of land by the year 2010, an increase of about 136 acres, or about 38 percent. The W. National Avenue corridor from S. 124th Street to Calhoun Road is a significant commercial retail sales and service facility. As a major arterial highway leading from Milwaukee generally through the center of the City of New Berlin, W. National Avenue is subject to a variety of development pressures which influence the efficiency and safety of the facility itself, and the workability and livability of the adjacent land uses. Because of the present and potential deficiencies of this facility, its importance to the City, and the necessity for its improvement, these development pressures must be addressed in the overall planning effort for the City. Accordingly, a more detailed study of land use development along W. National Avenue was made as an integral part of the land use planning effort for the City. The findings and recommendations of this study are presented in Chapter VIII of this report.

Industrial Land Uses

The adopted land use plan identifies a total of 1,355 acres of land for industrial land uses by the year 2010, an increase of 697 acres, or about 133 percent. This includes the continuation of industrial development at the New Berlin Industrial Park, as well as the logical extension of industrial uses to the south of this area into U. S. Public Land Survey Sections 10 and 15. Pursuant to the direction of the City Plan Commission, the adopted land use plan proposes approximately 253 acres of industrial development to be located, generally, in the area of the City bounded by Calhoun Road on the east, Springdale Road on the west, STH 59 on the north, and Poplar Creek on the south.

The recommended land use plan proposes that a new industrial area be located at the interchange of the Rock Freeway--STH 15--and Moorland Road. This site provides direct access to the Rock Freeway, thus facilitating ready access to the Port of Milwaukee and General Mitchell Field, as well as to the national freeway system. Contiguous lands to the south and west are shown to be set aside for industrial use beyond the plan design year. In addition, a 50-foot-wide combined earth berm and landscaped strip is proposed to buffer the industrial uses from adjoining land uses, as indicated on Map 48.

Governmental and Institutional Land Uses

Governmental and institutional land uses under the adopted land use plan occupy a total of about 546 acres, an increase of about 146 acres, or about 37 percent, as shown on Map 48. Expansion of these uses is anticipated to occur primarily at the City Hall property with the construction of a new main

library facility, City Hall, and community center.[1] Also proposed for construction as needed are a new middle school and high school near the intersection of W. National Avenue and Lawnsdale Road, two new elementary schools in Sections 24 and 33, and a new fire station at the northeast corner of the intersection of Cleveland Avenue and Johnson Road.

Park and Recreation Land Uses

The park and open space uses shown on the adopted plan Map 48 are based, in part, upon recommendations contained in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin, and SEWRPC Community Assistance Planning Report No. 66, A Park and Open Space Plan for the City of New Berlin. Detailed recommendations for park and recreation land uses are presented in the latter report and are illustrated on Map 5 in Chapter I of this report. Under the adopted land use plan, 859 acres of land are proposed to be provided within the City for park and recreation land uses, representing an increase of 507 acres, or 144 percent.

In 1985, there were three major parks in the City of New Berlin: Minooka Park--a county-owned regional park site--and City Park and the New Berlin Golf Course--both of which are community park sites owned by the City. The adopted land use plan proposes that these sites be maintained for outdoor recreation use. Also, it is proposed that an additional major community park site, to be located in the southwest portion of the City, be acquired. Proposed facilities at this site include a regulation golf course and areas for picnicking and other passive recreational activities. The adopted plan also proposes a 5-acre historical park site located at the southwest corner of the intersection of W. National Avenue (CTH ES) and Racine Avenue (CTH Y); a 24-acre addition to Calhoun Park located at the northeast corner of the intersection of Calhoun Road and STH 15; an 11-acre addition to Lion's Park located in the south one-half of U. S. Public Land Survey Section 2; and a 35-acre addition to Regal North Park located in U. S. Public Land Survey Section 14.

The adopted land use plan also proposes 21 linear miles of recreation corridor in the City of New Berlin. The first segment of this corridor is proposed to be six miles long and would traverse the northern portion of the City utilizing the Wisconsin Electric Power Company right-of-way between Greenfield Park and the western corporate limits of the City. The second recreation corridor segment is proposed to be two miles long and would be located in the northwest portion of the City. This segment would link Minooka Park to the recreation corridor proposed to be located on the Electric Power Company right-of-way. The final recreation corridor segment is proposed to be 13 miles long and would form a loop through the central portion of the City, and would connect four community parks within the City. These recreation corridors would provide opportunities for trail-oriented activities such as hiking and biking.

There is a documented need in the City of New Berlin for additional public outdoor recreation sites, as well as for nonresource-oriented playfields, playgrounds, swimming pools, and tennis courts. In contrast to resource-oriented

[1]The new City Hall was completed in 1986.

outdoor sites and facilities, nonresource-oriented sites and facilities rely less heavily on natural resource amenities, generally are more needed in urban areas than in rural areas, and have relatively small service areas.

The adopted plan for the provision of urban outdoor recreation sites and facilities consists of the development of new neighborhood parks, 5 to 24 acres in size, and the acquisition of certain additional lands and the development of additional facilities at existing outdoor recreation sites within the City. The adopted plan proposes the acquisition and development of 13 new neighborhood parks, as needed, within the City. Finally, additional outdoor recreational facilities would be provided at nine existing neighborhood parks within the City.

Environmental Corridors and Isolated Natural Areas

Primary environmental corridors encompass approximately 1,508 acres in the City of New Berlin, or about 6 percent of the total area of the City. These corridors are located primarily along the major perennial streams and large wetland complexes in the northwestern portion of the City. Under the adopted plan, it is recognized that existing private as well as public outdoor recreation and related open space uses generally serve to protect such corridors. Therefore, the plan recommends that such uses be maintained for resource preservation and limited recreation purposes and that such maintenance be promoted through proper zoning.

The secondary environmental corridors in the City of New Berlin are generally located along intermittent streams or serve as links between segments of primary environmental corridors. These corridors encompass about 1,643 acres of land, or about 7 percent of the total area of the City. It is recommended that secondary environmental corridor lands that are presently held in public park and open space use, or in compatible private park and open space use, be maintained in such use.

In addition to the primary and secondary environmental corridors, other, smaller concentrations of natural resource base elements exist in the City of New Berlin. These concentrations are isolated from the environmental corridors by urban development or agricultural uses and, although separated from the environmental corridors, have important natural values. Isolated natural areas encompass about 841 acres of land in the City of New Berlin, or about 4 percent of the City. It is recommended that such areas be preserved in essentially natural, open space uses whenever possible.

The adopted plan recommends that sanitary sewers not be extended into such corridors for the purpose of accommodating urban development. However, it is recognized in the plan that it sometimes be necessary to construct sanitary sewers through primary environmental corridors, and that certain land uses requiring sanitary sewer service could be properly located in the corridors, including park and outdoor recreation facilities and certain institutional uses. In some cases, very low-density residential development on 5-acre lots, compatible with the preservation of the corridors, may also be permitted to occupy corridor lands, and it may sometimes be desirable to extend sewers into the corridors to service such uses.

Agricultural and Other Rural Lands

The adopted land use plan proposes the preservation of about 11,620 acres of agricultural lands in agricultural use, of which 741 acres, or 6 percent, are composed of prime agricultural lands. Prime agricultural lands consist of parcels 35 acres or larger in size which are covered by soils well suited for the production of food and fiber. These prime agricultural lands are all located in U. S. Public Land Survey Sections 34, 35, and 36 (see Map 48). The nonprime agricultural lands can be used for estate-type residential development on lots 5 acres or larger in size, as well as for agricultural use. Soils limitations for the use of onsite sewage disposal systems constitute the most important site-specific factor related to the establishment of such estate-type development.

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, recreational, and cultural centers. It is essential, therefore, that land use development be designed to protect the efficiency of the existing and proposed arterial street and highway system. Transportation system plans should seek to minimize street and highway improvement costs, as well as the level of disruption to existing development caused by transportation improvements.

The arterial highway network required to serve the existing and probable future traffic demands in the City of New Berlin to the turn of the century is also shown on Map 48. Suggested cross-sections for these arterial streets and highways are shown in Figure 6 in Chapter V. In addition, the plan proposes the continued use of the two primary transit stations with attendant off-street parking provided at the intersections of Racine Avenue with the Rock Freeway (STH 15) and S. Moorland Road with the Rock Freeway.

THE DELINEATION OF NEIGHBORHOOD PLANNING UNITS AND SPECIAL PLANNING DISTRICTS

The delineation of neighborhood planning units and special planning districts described in Chapter VII of this report for Alternative Plan E is also applicable to the adopted land use plan. Ten residential neighborhoods, one industrial park neighborhood, and two special planning districts are identified and presented on Map 37 in Chapter VII. Detailed and precise development plans should be prepared for those delineated neighborhood units and special planning districts. Each of these plans not only should designate future ultimate land use patterns, but also should define future collector and land access street locations and alignments and attendant lot and block configurations. In addition, these plans should identify areas to be protected from intensive urban development for environmental reasons, and should indicate the need to reserve major drainageway and utility easements.

Chapter XI

SUMMARY

INTRODUCTION

The state city planning enabling act, as set forth in Section 62.23 of the Wisconsin Statutes, provides for the creation of city plan commissions and charges those commissions with the duty and function of making and adopting a "master"--or comprehensive--plan for the physical development of the municipality. The permitted scope and content of the comprehensive plan, as set forth in the Statutes, is very broad, extending to all aspects of the physical development of a community. The Statutes indicate that the master plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the city which will, in accordance with existing and future needs, best promote the public health, safety, morals, order, prosperity, and general welfare, as well as efficiency and economy, in the process of development.

Perhaps the most basic and important element of any comprehensive city plan is the land use element, 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 stormwater management elements. A land use plan is an official statement by a municipality setting forth major objectives for the development and redevelopment of land within the community. The land use and urban design plan for the City of New Berlin, as set forth in this report, consists of recommendations concerning the types, amounts, and spatial location of the land uses required to serve the needs of the residents of the City of New Berlin to the turn of the century. The plan is intended to be used to guide the physical development of the community into a more functional, healthful, efficient, and attractive pattern.

The City of New Berlin, on March 15, 1982, requested the Regional Planning Commission to assist the City Plan Commission in the development of a land use plan for the City. This report sets forth the findings and recommendations of the planning effort undertaken in response to that request. It is intended to assist in defining the land use development objectives of the City and in identifying and attaining a spatial distribution of the various land uses which will achieve those objectives over time.

The planning effort involved extensive inventories and analyses of the factors and conditions affecting land use development in the City, including extensive inventories of the existing natural and cultural resource base of the City; the preparation of forecasts of probable future population and economic activity levels in the City; the formulation of a set of recommended land use development and urban design objectives for the City; the preparation of alternative land use plans which may be expected to accommodate the probable future population and employment levels; the selection of a recommended plan which best meets the agreed-upon objectives; and finally, the adoption of a plan.

THE COMMUNITY LAND USE PLANNING PROCESS

The adopted land use plan was developed through a planning process consisting of the following steps: 1) a comprehensive inventory of the factors affecting land use development and redevelopment in the City; 2) a careful analysis of the inventory data, the identification of problems and potentials relating to land use development and redevelopment, and the preparation of population and employment forecasts; 3) the formulation of community land use development objectives, principles, and standards and related urban design criteria; 4) the identification of land use requirements in the City through the year 2000, based upon a set of agreed-upon community land use development objectives and supporting standards; 5) the design and evaluation of alternative land use plans to meet the forecast population and economic activity levels; 6) the selection and adoption of a land use plan; and 7) the recommendation of plan implementation measures.

Imperative to any sound community planning process is active citizen participation in each stage of the process. The planning process for New Berlin was marked by particularly intensive citizen participation. An attitudinal survey was conducted to determine public preferences and concerns relating to land use development and redevelopment. A total of seven public informational meetings and one public hearing were held on the recommended and adopted plan and alternatives thereto. The intensity of the citizen interest and participation is indicated by the newspaper articles and editorials included in Appendix C of this report.

POPULATION AND EMPLOYMENT INVENTORIES, ANALYSES, AND FORECASTS, AND RESIDENT ATTITUDINAL SURVEYS

Information on the size, characteristics, and distribution of the resident population of the City, and on anticipated changes in these factors over time, is essential to the sound preparation of a land use plan. Information on the attitudes of the resident population is another important consideration in any planning effort intended to define and meet community land use development objectives. The proposed land use pattern should benefit the resident population of the community by maintaining and enhancing living and working conditions. The size and characteristics of the existing and probable future population have a direct influence on land use requirements and needs. The purpose of the land use plan is to meet those needs.

Population and Employment Forecasts

The population, employment, and land use forecasts that were used in the land use planning effort were based upon cosideration of a range of alternative population and employment projections. These alternative projections were based, in turn, upon four alternative "futures" with respect to such factors as lifestyles, the cost and availability of energy, the ability of the Southeastern Wisconsin Region to compete with other regions of the United States for economic development, and the centralization and decentralization of urban populations and of economic activities within the Region. The population projections ranged from a low of 35,900 persons to a high of 57,800 persons, and the alternative employment projections from a low of 17,100 jobs to a high of 23,700 jobs. The 1980 population of the City was about 30,500 and the employment was about 15,900 jobs. The alternative future initially selected for use

in the plan preparation was the optimistic growth, centralized land use development alternative which envisioned a year 2000 population for the City of 56,400 persons, and an employment level of 19,912 jobs. This alternative was initially selected as a basis for the planning effort because it represented near maximum population and employment levels that could reasonably be expected to occur within the City over the planning period. If actual growth was somewhat less than this maximum, the design year of the plan could simply be set forward without significantly affecting the structure of the plan.

These initial population and employment forecasts were used in the preparation of the first three alternative land use plans for the City. Based upon citizen comments obtained at public informational meetings and public hearings on the initial three alternatives, the City Plan Commission requested that the staff of the Regional Planning Commission utilize in the preparation of a final plan a lower population forecast and its attendant employment forecast, these being based upon a moderate growth, centralized land use alternative future extending to the year 2010. As a result of this request, a forecast population level of 43,000 persons for the year 2010 and an attendant employment level of 22,200 jobs were used to design an additional alternative land use plan.

Age Distribution and Household Size

Potential changes in the age composition of the resident population have important implications for land use planning. For the City of New Berlin, these changes indicate that there may be a need for additional elementary schools, as well as ancillary recreational facilities, for children between the ages of 5 and 14 if the resident population reaches the higher end of the forecast population range. These changes also indicate that there may be a need for additional high schools. The labor force in the City may also be expected to increase substantially and, accordingly, the number of persons seeking work within the City and surrounding areas may be expected to increase over the plan design period. Finally, the changes indicate that, given the anticipated increases in the population 65 years of age and older, the demand for elderly housing units and special transportation and health care needs within the City may be expected to increase.

In 1980, the average household size in the City was 3.26 persons, compared to 3.11 persons in the County and 2.75 persons in the Region. Contrary to trends reflected from 1970 to 1980, the average household size in the City may be expected to increase slightly by the plan design year to 3.64 persons. This reflects a return to the more traditional lifestyle envisioned under the moderate growth, centralized land use alternative future. This anticipated change in average household size has important implications for housing and residential land use planning, since the average household size is the basic factor used to convert resident population to the needed dwelling units.

Housing Characteristics

From 1970 to 1980, the total number of housing units in southeastern Wisconsin increased by about 17 percent, in Waukesha County by 42 percent, and in the City by 39 percent. In 1980, the median monthly mortgage housing cost in southeastern Wisconsin was $549; in Waukesha County, $462; and in the City, $449, indicating that the 1980 cost of mortgaged units in the City was comparatively

low. In 1980, the median monthly rent paid for renter-occupied housing was $252 in the Southeastern Wisconsin Region, $292 in Waukesha County, and $321 in the City. In 1980, about 87 percent of the occupied housing units in the City were owner occupied, and about 13 percent were renter occupied, compared to about 62 percent owner occupied in the Region and about 38 percent renter occupied. In Waukesha County, about 78 percent of the occupied housing units in the County were owner occupied and about 22 percent were renter occupied.

In 1980, the overall vacancy rate for owner-occupied housing in the City was about 1.5 percent. In the Region, this percentage was 1.1, and in Waukesha County, 1.3. The overall vacancy rate of renter-occupied houses in the City, however, was 1.4 percent; in the Region, 4.4 percent; and in Waukesha County, 3.4 percent. Standards promulgated by the Regional Planning Commission recommend that housing vacancy rates within communities of the Region be maintained within a range of 1 to 2 percent for owner-occupied units, and 4 to 6 percent for renter-occupied units. The 1980 city vacancy rate of owner-occupied housing fell within the recommended standard. However, the city vacancy rate of 1.4 percent for renter-occupied housing fell substantially short of the recommended standard. Accordingly, it may be concluded that the City of New Berlin is in need of some additional rental housing in the two-family dwelling and multi-family dwelling categories.

Family Income

In 1980, the median family income in the Region was $23,515; in Waukesha County, $27,648; and in New Berlin, $30,110. In 1980 the average family income in the Region was $26,193; in Waukesha County, $31,534; and in the City of New Berlin $32,667. In 1980, 52 percent of the residents of the City of New Berlin were in the employed labor force, compared to 47 percent in the Region and 49 percent in Waukesha County. Also, in 1980, about 74 percent of that labor force worked outside the City, indicating that the city functions primarily as a "bedroom" community within the greater Milwaukee area.

Attitudinal Survey

In order to assist in defining and assessing the attitudes of city residents toward land use planning issues, the city planning staff conducted an attitudinal survey in 1982. The survey was conducted using a questionnaire mailed to a sample of 2,763 households in the City; 1,503 usable questionnaires were returned, or 54 percent of the questionnaires submitted. To supplement the survey, the city planning staff conducted a nominal group process meeting at which citizens concerned about urban planning listed land use planning concerns.

The attitudinal survey collected data on the reasons residents chose to live in New Berlin, perceived acceptable and unacceptable forms of land use development, satisfaction with the existing levels of city services, perceived needs for additional city facilities and services, including recreational facilities and services, and preferences with respect to residential street design. The following attitudes were indicated regarding these issues:

1. About 81 percent of the survey respondents indicated that they chose to live in New Berlin because the neighborhood they lived in was safe and

secure; and approximately 74 percent of the survey respondents also indicated that they chose to live in New Berlin because of the privacy and quiet afforded by the community.

2. About 72 percent of the survey respondents indicated that they felt that expansion of industrial areas within the City was acceptable; and about 69 percent indicated that expansion of office complex-related land use was acceptable in order to expand the city tax base. Approximately 61 percent of the survey respondents also felt that new urban development should be located in areas of the City where municipal services were already available, including sanitary sewer service and public water supply.

3. The survey respondents generally expressed satisfaction with the existing city services. The service which resident respondents were most dissatisfied with was street cleaning and maintenance; however, only about 16 percent of the respondents indicated that they were not satisfied with that particular service.

4. About one-half of the survey respondents indicated there was a need for a housing maintenance program, public library expansion, city solid waste collection, elderly housing, and expanded police patrols.

5. About 40 percent of the survey respondents indicated there was a need for an outdoor swimming pool; about 37 percent a need for a winter sports area with an ice-skating rink and sledding facilities; and about 32 percent, a need for physical fitness trails.

6. Over 90 percent of the survey respondents indicated that they preferred to live on minor land access and cul-de-sac streets.

NATURAL RESOURCE BASE INVENTORY AND ANALYSIS

The natural resources of the City are vital to its ability to provide a pleasant and habitable environment for human life. Natural resources not only condition, but are conditioned by, urban growth and development. Any meaningful planning effort must, therefore, recognize the existence of a limited natural resource base to which urban development must be properly adjusted if serious environmental problems are to be avoided. The principal elements of the natural resource base which require careful consideration in planning for the City include its soils; topography; ground and surface water resources, including related drainage patterns and shorelands and floodlands; scenic vistas; woodlands; wetlands; wildlife habitat; prime agricultural lands; and climate. Consideration is also required of certain resource-related features, such as existing and potential park and outdoor recreation sites and historical and cultural sites and structures.

Soils

Soil properties exert a strong influence on the manner in which man uses land. Accordingly, soil suitability maps were prepared by the City and the properties of the mapped soils analyzed, identifying areas covered by soils having limitations for residential use with and without sanitary sewer service, and indicating specific limitations such as high water tables and steep slopes.

About 54 percent of the total area of the City is covered by soils having severe or very severe limitations for residential development without sanitary sewer service--that is, for development utilizing conventional, onsite, soil absorption sewage disposal systems on lots one acre or more in area. These soils are found in scattered locations throughout the City and are illustrated on Map 9 in Chapter III. About 26 percent of the area of the City is covered by soils which have severe or very severe limitations for residential development even when served with public sanitary sewer service. These soils are also found in scattered locations throughout the City and are illustrated on Map 10 in Chapter III.

Surface Water Resources and Related Drainage Basins

Surface water resources--consisting of lakes, streams, associated shorelands and floodlands, and wetlands--form a particularly important element of the natural resource base of the City. Surface water resources and their related watersheds, or drainage areas, have a strong influence on the physical development of the City, provide recreational opportunities, and enhance the aesthetic quality of the City. These surface water resources and related drainage basins are illustrated on Map 11 in Chapter III.

The City is located within three major watersheds--the Fox River watershed, the Root River watershed, and the Menomonee River watershed. These major watersheds may be divided into subwatersheds which, in turn, may be further divided into individual drainage areas, termed subbasins. Knowledge of the location and extent of these watersheds, subwatersheds, and subbasins is particularly important to the planning of sanitary sewer and stormwater drainage facilities.

There are no major lakes within the City--that is, lakes having a surface area of 50 acres or more. In 1980, there were, however, three minor lakes--that is, lakes or ponds having a surface area of less than 50 acres: Linnie Lac, Lower Kelly Lake, and Upper Kelly Lake. Together, these three lakes have a surface area of 20.7 acres.

Perennial streams are defined as those watercourses that maintain a continuous flow throughout the year except under unusual drought conditions. In 1980, there were approximately 13.3 miles of such streams in the City. Intermittent streams are defined as those watercourses that do not maintain a continuous flow throughout the year. The location and flow characteristics of the perennial and intermittent streams are an important consideration in land use planning, the streams having important recreational and aesthetic values, and forming, as they do, integral paths of the city stormwater drainage and flood control system.

Floodlands: The floodlands of a stream are the wide, gently sloping areas lying contiguous to, and usually on both sides of, the stream channel. 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. Floodland areas are generally not well suited to urban development, not only because of the flood hazard, but because of the presence, usually, of high water tables and of soils poorly suited to urban use. The floodland areas, however, generally contain important elements of the natural resource base such as high-value woodlands, wetlands, and wildlife

habitat, and therefore constitute prime locations for needed park and open space areas. In 1980, floodlands in the City totaled approximately 2,500 acres, or about 11 percent of the total area of the City. Every effort should be made to discourage indiscriminate and incompatible urban development on these floodlands, while encouraging compatible park and open space use.

Wetlands: Wetland areas are generally unsuited or poorly suited for agricultural and urban development purposes. Wetlands, however, have important recreational and ecological values. Wetlands contribute to flood control and water quality management, since such areas naturally serve to store excess runoff temporarily, thereby tending to reduce peak flood flows and to trap sediments, nutrients, and other water pollutants. Also, wetlands are valuable resources because they provide breeding, nesting, resting, and feeding grounds and predator escape cover for many forms of wildlife, and provide areas for groundwater recharge and discharge. In 1980, there were about 2,200 acres of wetlands in the City, representing about 9 percent of the total area of the City.

Topographic Features

The topography, or relative elevation of the land surface, of the City has been determined, generally, by the configuration of the bedrock geology, and, more specifically, by the overlying glacial deposits. The topography of the City is level to gently rolling, with the low-lying areas being associated with stream valleys. Lands with steep slopes are poorly suited for urban development, as well as for most agricultural purposes, and therefore should be maintained in natural cover for wildlife habitat and erosion control. Lands with less severe slopes may be suitable for certain agricultural uses, such as pasturelands, and for certain urban uses, such as carefully designed low-density residential areas. Lands that are gently sloping or nearly level are best suited to agricultural production and to high-density residential, industrial, and commercial uses.

Scenic Vistas

Scenic vistas are defined as areas that provide a panoramic or picturesque view, comprised of a variety of natural resource features. There are two important components of a scenic vista--the picturesque view itself, which usually consists of a diversity of natural or cultural features, and the vantage point or viewpoint from which to observe the features. Within the City, two scenic vistas have been identified. The first is located in U. S. Public Land Survey Sections 8 and 9 north of Cleveland Avenue; and the second in the west one-half of Section 30 south of Lawnsdale Road (CTH I).

Woodlands

Located primarily on ridges and slopes and along streams and lakeshores, woodlands provide an attractive natural resource of immeasurable value. Woodlands accentuate the beauty of the land- and cityscape, and are essential to the maintenance of the overall environmental quality of an area. In addition to contributing to clean air and water, and to limiting stormwater runoff and enhancing groundwater recharge, woodlands can contribute to the maintenance of a diversity of plant and animal life in association with human life, and can provide important recreational opportunities. In 1980, woodlands covered about 1,200 acres in the City of New Berlin, or about 5 percent of the total area of the City. Woodlands in the City are illustrated on Map 13 in Chapter III.

Wildlife Habitat

Wildlife in the City include upland game such as rabbit and squirrel, predators such as raccoons, game birds including pheasant and grouse, and marsh furbearers such as muskrat. In addition, waterfowl are present, and deer are found in scattered areas. The remaining wildlife habitat areas and the wildlife living therein provide valuable recreation opportunities and constitute an invaluable aesthetic asset to the City. Wildlife habitat areas in the City generally occur in association with the existing surface water, wetland, and woodland resources. In 1980, such areas covered about 3,000 acres, or about 13 percent of the total area of the City. Wildlife habitat areas in the City are illustrated on Map 14 in Chapter III.

Other Resource-Related Elements

In addition to the basic elements of the underlying and sustaining natural resource base, existing and potential sites having scenic, scientific, historic, and recreational value should be considered in any land use planning effort. Park and open space sites within the City were classified into three general categories--general-use outdoor recreation sites, special-use outdoor recreation sites, and rural open space sites.

General-use outdoor recreation sites may be defined as areas of land and water whose primary function is the provision of space and facilities for outdoor recreational activities. In 1980, there were 22 general-use outdoor recreation sites in the City, encompassing a total area of 782 acres, or about 3 percent of the total area of the City. Special-use outdoor recreation sites are primarily spectator oriented rather than user oriented, or provide facilities for unique recreational pursuits. In 1980, there were five special-use outdoor recreation sites in the City, encompassing 126 acres of land, or about 0.5 percent of the total area of the City. Rural open space sites are those areas of woodlands, wetlands, wildlife habitat, or other open areas acquired by public agencies or private organizations to preserve such lands and natural resource amenities in an essentially natural, open state for resource conservation and limited recreational purposes. In 1980, there were six rural open space sites in the City totaling 18 acres, or less than 0.5 percent of the total area of the City.

In 1980, there were 11 potential park sites in the City, encompassing 1,389 acres, or about 6 percent of the total area of the City. Of this total, two sites, encompassing 212 acres, were classified as high-value sites; four sites, encompassing 687 acres, were classified as medium-value sites; and the remaining five sites, encompassing 490 acres, were classified as low-value sites.

Historic sites in the City have been classified into one of three general categories--structures, archaeological features, and other cultural features. Historic structures include architecturally or historically significant buildings. Archaeological sites consist of areas occupied or utilized by humans in a way and for a sufficient length of time to be marked by certain features or to contain artifacts. Seven structures, one archaeological feature, and eight cultural features of historic value were identified in the City. These features are illustrated on Map 16 in Chapter III.

Natural areas, as defined by the Wisconsin Scientific Areas Preservation Council, are tracts of land or water so little modified by human activities, or sufficiently recovered from the effects of such activities, that they contain intact native plant and animal communities believed to be representative of the presettlement landscape. In 1980, there were three natural areas in the City encompassing 77 acres, or about 0.3 percent of the total area of the City. These areas are illustrated on Map 17 in Chapter III.

Environmental Corridors

Environmental corridors are defined as elongated areas in the landscape encompassing concentrations of the best remaining elements of the natural resource base. Such corridors should, to the maximum extent practicable, be preserved in essentially natural, open uses in order to maintain a sound ecological balance, to protect the overall quality of the environment, and to preserve the unique natural beauty and cultural heritage of the City as well as the Region. Such areas normally include one or more of the following elements of the natural resource base: 1) lakes, rivers, and streams and their associated undeveloped shorelands and floodlands; 2) wetlands; 3) woodlands; 4) prairies; 5) wildlife habitat areas; 6) wet, poorly drained, and organic soils; and 7) rugged terrain and high-relief topography. Also considered in the identification of environmental corridors are the following elements which, although not part of the natural resource base per se, are closely related to that base: 1) existing outdoor recreation sites; 2) potential outdoor recreation sites; 3) historic, archaeological, and other cultural sites; 4) significant scenic areas and vistas; and 5) natural and scientific areas. Environmental corridors in the City are illustrated on Map 18 in Chapter III.

Primary environmental corridors are at least 400 acres in size, two miles in length, and 200 feet in width. Primary environmental corridors in the City generally lie along the stream valleys and contain almost all of the remaining high-value woodlands, wetlands, and wildlife habitat areas and all the remaining undeveloped floodlands. In 1980, primary environmental corridors encompassed an area of about 1,500 acres, or about 6 percent of the total area of the City.

Secondary environmental corridors and other environmentally significant lands contain fewer natural resource base elements than do primary corridors, and are usually remnants of primary environmental corridors that have been developed for agricultural purposes or intensive urban land uses. Secondary environmental corridors are generally located along intermittent streams and typically serve as links between segments of primary environmental corridors. Secondary environmental corridors are, by definition, at least 100 acres in size and one mile in length. In 1980, secondary environmental corridors and other environmentally significant lands encompassed about 2,500 acres, or about 10 percent of the total area of the City.

Agricultural Land

Prime agricultural lands in the Region were first delineated by the Regional Planning Commission in 1964 in cooperation with the county agricultural agents and the U. S. Department of Agriculture, Soil Conservation Service District staff. In late 1976, the U. S. Department of Agriculture, Soil Conservation Service, developed a national classification system for use in the preparation

of agricultural capability maps. The agricultural capabilities of soils in the City are illustrated on Map 19 in Chapter III.

The Wisconsin Farmland Preservation Act of 1977 provides for the preparation of county farmland preservation plans and the grant of state income tax credits for the maintenance of farmlands in delineated preservation areas. Only those farmers owning lands located within delineated prime agricultural areas that are zoned for exclusive agricultural use and that are within an area for which a county farmland preservation plan has been prepared will be eligible for the full state income tax credits provided under the law. In 1980, 8,971 acres in the City of New Berlin, or about 38 percent of the total area of the City, were in agricultural use.

The Waukesha County Park and Planning Commission received assistance funds authorized by the Wisconsin Farmland Preservation Act of 1977 to identify prime agricultural lands within Waukesha County. Under the mapping and planning program, the Park and Planning Commission prepared maps of the County identifying soil capability classes one and two, existing incompatible land uses, topography, and areas that are currently used for farming or that could be used for farming. Utilizing these data, the Park and Planning Commission staff developed criteria for identifying farmland areas that should be preserved through the placement of such lands in exclusive agricultural zoning districts. That portion of the proposed Waukesha County Agricultural Land Preservation Plan applicable to the City of New Berlin is shown on Map 21 in Chapter III.

INVENTORIES AND ANALYSES OF MAN-MADE FEATURES

If the land use and urban design plan is to constitute a sound and realistic guide to the making of decisions concerning the physical development of the City, it must be based upon careful consideration of pertinent man-made, as well as natural, features of the area. For the purposes of the city land use planning effort, the pertinent man-made features were identified as: 1) the existing land uses; 2) the existing community facilities; 3) the existing public utilities; 4) the existing land development regulations, including the existing zoning ordinance, land subdivision control ordinance, and official map; and 5) certain public financial resource programs such as the tax incremental financing district program.

Existing Land Use

In 1980, a special field survey was conducted cooperatively by the staffs of the City Planning Department and the Regional Planning Commission to determine the nature and extent of existing land uses in the City. The data gathered in this land use survey were mapped and analyzed in order to provide a basis for determining appropriate patterns of future land use development. These data are graphically shown on Map 23 and quantified in Table 23 in Chapter IV.

Approximately 23,589 acres, or about 36.8 square miles, are contained within the corporate limits of the City. In 1980, urban land uses occupied about 9,574 acres, or about 41 percent of the total city area. Rural land uses, which include water, wetlands, woodlands, agricultural and other open lands, and farmsteads, totaled about 14,015 acres, or about 59.4 percent of the city area. The singularly largest land use in the City was still agricultural and

other open rural lands, representing almost 45 percent of the total area of the City. Urban land uses occupied about 41 percent of the total area of the City, almost equal to the amount of agricultural and other open rural land uses in the City. The singularly largest urban land use was residential, which occupied 63 percent of the urban area of the City and 26 percent of the total area of the City. Natural areas occupied only about 15 percent of the City.

Residential Land Use: Of all the elements of a community land use plan, residential land use normally holds the interest of the largest number of residents. Since the residential land use elements of the land use plan exist primarily to provide a safe, attractive, and comfortable setting for housing, it is particularly important that this element be given careful and thoughtful consideration. The nature and extent of residential development is an important determinant of the need for supporting community facilities and public utilities and of the type, location, and capacity of transportation facilities. As already noted, in 1980, residential land use accounted for approximately 63 percent of the developed urban area, but only about 26 percent of the total city area. Single-family, two-family, and multiple-family residential land uses are located throughout the City in a diffused fashion. Of the 6,017 acres of residential land use in 1980, only 6 acres, or less than 0.1 percent, were in two-family residential use, and only about 66 acres, or about 1 percent, were in multiple-family residential use.

Commercial Land Use: In 1980, commercial land uses accounted for about 271 acres, or about 3 percent of the urban land uses and about 1 percent of the total city area. The commercial land uses in the City occur in strips along almost the entire length of National Avenue, and along Greenfield Avenue between Calhoun Road and S. 124th Street. The continued development and redevelopment of the National Avenue corridor is an important planning issue facing the community. Therefore, special land use studies were conducted in 1983 relative to the W. National Avenue corridor. These studies indicated that:

- The intense commercial land uses that abut W. National Avenue often back onto uses of a lesser intensity and primarily onto single-family residential development. For the most part, no transitional hierarchy of land use development exists between very high-intensity land uses and very low-intensity land uses along this corridor. This is especially prevalent in the areas just east and west of Moorland Road.

- Most shopping center and retail sales and service uses along W. National Avenue are located east of Calhoun Road, but in a dispersed rather than concentrated fashion. These land uses are not located close to the existing residential development which is dense east of Moorland Road.

- Governmental and institutional uses also tend to be dispersed along W. National Avenue instead of being grouped at designated locations.

- The newer and less "mature" development along W. National Avenue is generally located west of Calhoun Road, where there is more open land. This is an indication--clearly evidenced by historical aerial photographs and land use studies--that the strip development is continually moving westward into the more rural areas of the City rather than increasing in intensity by occupying vacant land to the east of Calhoun Road.

- Large floor area retail sales, as well as bulk sales and construction services, have tended to locate in the western portion of the W. National Avenue corridor and predominantly west of Observatory Road.

- The presence of many vehicular access points along the W. National Avenue corridor destroys the capability of this important arterial to carry traffic safely and efficiently, adding potential conflicts to the traffic stream and increasing the potential for vehicular accidents.

Industrial Land Use: In 1980, industrial land uses accounted for about 403 acres, or about 4 percent of the urban land uses within the City and less than 2 percent of the total city area. Industrial land uses were concentrated south of the Chicago & North Western Railway right-of-way and north of the south line of U. S. Public Land Survey Section 10 located between Moorland Road and Calhoun Road. In addition, there were scattered industrial sites located in the predominantly undeveloped area of the City along the western reaches of Lincoln Avenue in the northwestern part of the City.

Governmental and Institutional Land Use: In 1980, governmental and institutional land uses accounted for about 360 acres of land, or about 4 percent of the urban area of the City and about 1.5 percent of the total city area. Major governmental and public institutional land uses in the City included the old City Hall, five fire stations, the Public Library, the New Berlin Police Department, the U. S. Post Office, the Milwaukee Astronomical Society Observatory, New Berlin Memorial Hospital, Calhoun School, Cleveland Heights School, Elmwood School, Glen Park School, Herbert Hoover School, Hickory Grove School, Holy Apostles School, New Berlin Center School, New Berlin High School, Orchard Lane School, Eisenhower High School, Eisenhower Middle School, and Prospect Hill School.

Recreational Land Use: In 1980, recreational land uses represented approximately 344 acres of land, or about 3.6 percent of the urban portion of the City and about 1.5 percent of the total city area.

Transportation and Utilities: In 1980, transportation and utility land uses--including arterial streets and highways, collector streets, minor land access streets, railways, utilities, communication facilities, and public and private trucking and transportation services--occupied approximately 2,179 acres of land, or about 9 percent of the total city area. Specifically, streets and highways occupied 1,749 acres, or about 7.4 percent of the total area of the City; railways, communications, and utilities occupied 426 acres, or about 1.8 percent; and trucking terminals occupied only about 4 acres, or less than 1 percent.

Rural Land Use: Rural land uses include surface water, wetlands, woodlands, quarrying and other extractive uses, unused land, other open lands, and agricultural lands. In 1980, surface water areas occupied about 126 acres, or only about 0.8 percent of the rural uses and about 0.5 percent of the total city area. In 1980, wetlands occupied 2,161 acres, or about 15 percent of the rural land uses and about 9 percent of the total city area. Woodlands occupied 1,173 acres of land, or about 8 percent of the rural land uses and about 5 percent of the total city area. Quarrying and extractive uses accounted for about 449 acres of land, or about 3 percent of the rural land uses and about 1 percent of the total city area. Agricultural and other open lands accounted for about

10,031 acres, or about 72 percent of the rural land uses and about 43 percent of the total city area. In this analysis, farm dwelling sites--or farmsteads--were classified as an agricultural use. A site area of about 20,000 square feet was used to delineate each farmstead. Farmsteads in the City occupied about 75 acres in 1980, or about 0.5 percent of the rural uses and only 0.3 percent of the entire city area. All other farm buildings were included in the overall agricultural land use category.

LAND USE OBJECTIVES, PRINCIPLES, AND STANDARDS AND RELATED URBAN DESIGN CRITERIA

An objective is a goal or end toward the attainment of which plans and policies are directed. Planning is a rational process for formulating and attaining objectives. Objectives serve as a guide to the preparation of alternative plans and provide an important basis for the selection of a recommended plan from among the alternatives considered. To this end, the community land use plan should be clearly related to the defined objectives through a set of standards and urban design criteria. Objectives may change as new information is developed, as objectives are fulfilled through plan implementation, or as objectives fail to be implemented owing to changing public attitudes and values. The formulation of objectives involved the active participation of the City of New Berlin citizenry and elected and appointed officials and was facilitated by several means. To this end, the City Plan Commission, which includes citizen members, provided active guidance throughout the course of the plan preparation. A special work session was held for community land use problem identification in which about 40 citizens and elected officials participated. In addition, a resident attitude survey was conducted by the city planning staff. The land use development objectives, principles, and standards, as developed and approved by the City Plan Commission, deal primarily with the spatial allocation, and distribution of, land uses in the community, land use compatibility, natural resource base protection, and accessibility.

The objectives, principles, and standards set forth in the plan express the physical development intent of the City of New Berlin. The standards perform a particularly important function in land use plan design since they form the basis upon which estimates of future community land use needs are based. In order to develop physical solutions to the urban design problems, certain urban design criteria must be agreed upon. In this respect, urban design criteria are defined as a body of information which can be applied to the development of a solution or solutions to a specific urban design problem or set of problems. Specific urban design decisions should be based, in part, upon urban design criteria, as well as the underlying objectives, principles, and standards outlined herein. Urban design criteria are of a high level of specificity in order to assist in the development of detailed urban design solutions to the highly specific urban design problems outlined. Urban design criteria have been developed for residential development, industrial development, and commercial development. These criteria were used to arrive at the designs for city development outlined in the recommended and adopted plans.

Urban design criteria relating to residential development were developed for residential neighborhood recreation facilities; street, block, and lot layouts and arrangements; residential structure orientation for solar access and energy conservation; general landscaping; utility easements; and stormwater drainage

and erosion/sedimentation control. Urban design criteria relating to commercial development were developed for vehicular circulation, the limitation of arterial highway vehicular access, parking lot access from arterial streets, pedestrian circulation, land use spatial considerations, internal site circulation, onsite parking areas, landscaping and site development, and architectural design. Urban design criteria relating to industrial development were also developed for street, block, and lot layouts and arrangements; automobile parking; easements; stormwater drainage and erosion sedimentation control; and general landscaping.

LAND USE REQUIREMENTS

The land use requirements of the City's probable future resident population were determined by applying two basic types of standards--per capita standards and accessibility standards. Per capita standards are expressed as the number of acres of a given land use category per hundred or per thousand population, and are intended to help estimate the total number of acres of land needed to satisfy each basic land use requirement of the resident population for the plan design period. Accessibility standards, expressed as a maximum service area for certain sites, land uses, and facilities, are intended to assure that these are spatially distributed in a manner convenient and efficient to the population which they are to serve. The accessibility standards, as outlined in Chapter V, as well as the per capita standards, were embodied in each of the alternative and recommended plans. It should be recognized that in some situations, although per capita standards are met, a need may still exist for additional sites or facilities because of the relative inaccessibility or distance of an existing use or facility to some of the resident population in the City.

TRANSPORTATION SYSTEM REQUIREMENTS

The arterial street and highway facilities required to serve the probable future traffic demands within the City, as recommended in the adopted regional transportation system plan, are shown on Map 31 in Chapter VI. State trunk highways are shown in red, county trunk highways in blue, and local trunk highways in green. The plan map also indicates the number of traffic lanes recommended for each arterial street segment in the City to carry the anticipated arterial traffic volumes through the year 2000. Figure 6 in Chapter V illustrates the types of cross-sections that could be used to accommodate the recommended number of traffic lanes shown on Map 31.

COMMUNITY FACILITY NEEDS

While conducting the initial work on the land use plan, the City Plan Commission determined that, in addition to providing general guidelines for land use development within the City, the plan should provide a more detailed level of guidance concerning land requirements for certain community facilities. The plan provides estimated land requirements for the City Hall, the Police Department, the fire stations, the public library, and public elementary and secondary schools. The requirements are based upon a collation of data from other studies, and it may be necessary to conduct further studies of the requirements for each of these facilities prior to their physical expansion in order to validate and refine the requirements discussed.

City Hall

In 1983, the firm of Flad & Associates of Milwaukee, Inc., architects, was retained by the City of New Berlin to develop a City Hall building program, i.e., a building spatial-needs analysis; to inventory and analyze the existing space occupied by city departments currently housed in the existing City Hall; and to project City Hall spatial needs to the year 2000. The study was documented in a report entitled, Building Program for a New City Hall: City of New Berlin, dated August 1, 1983. The study concluded that the City of New Berlin should construct a new City Hall with approximately 35,000 square feet of gross floor area. The new City Hall was constructed on city-owned land located adjacent to, and north of, the existing City Hall at 16300 W. National Avenue.

Police Facilities

In 1984, the City of New Berlin Police Department shared a building known as the Municipal Building located at 17165 W. Glendale Drive with three other city departments, including the Assessor's Office, the Parks and Recreation Department, and the Municipal Court, with the Police Department occupying an area of 6,500 square feet in the building, excluding ancillary basement facilities. According to the spatial needs analyses prepared by Flad & Associates, upon the recommended relocation of the Parks and Recreation Department, Assessor's Office, and Municipal Court to the new City Hall, the Police Department would have at least an additional 1,900 square feet of building area available to it in the existing Municipal Building for departmental expansion. In addition, various functions housed at the Municipal Building not related to the Police Department and which might compromise police security would be moved to the new City Hall, thus improving the functional adequacy of the existing facility. Accordingly, the Police Department will probably remain housed at its existing facility for the term of the planning period.

Fire Stations

Map 24 in Chapter IV shows the locations of the five fire stations in the City along with their attendant optimum 1.5-mile service radius. A sixth fire station has been proposed to be located at the northeast corner of the intersection of Cleveland Avenue and Johnson Road. The location of the proposed sixth station is sound, and when constructed, this station will afford better fire protection to the northwest quadrant of the City. New equipment additions to the City Fire Department will result in the need to expand the buildings in which fire equipment is housed. An important related issue is whether or not the City will be able to continue to maintain a nearly all volunteer fire-fighting force or whether a full-time force would better meet the fire protection needs of the community by the year 2000. Should the City decide to maintain a full-time force, the existing fire stations will need to be expanded to provide for crew quarters.

Public Library

The City Public Library, located at 14750 W. Cleveland Avenue, currently has about 8,702 square feet of space and houses a collection of approximately 72,000 volumes. In 1982, the average number of volumes per capita for Wisconsin cities of this size was 3.5, and in the City this figure was 2.3. The American Library Association standards for serving community populations

ranging from 25,000 to 49,999 persons suggest that a library serving the existing 1980 population of the City should be a minimum of 18,300 square feet in size, and that a library serving the forecast population of 43,000 in the year 2010 should be at least 25,800 square feet in area. The existing library is inadequate in size to meet these year 2010 needs.

Public Schools

Based upon a city resident population range of 35,900 to 56,400 persons during the planning period, total student enrollment for both public and private schools may be expected to range from 3,600 to 6,400 elementary school students (grades K-6), from 1,000 to 1,800 middle school students (grades 7-8), and from 2,000 to 3,300 high school students (grades 9-12). The total school-age population may be expected to range from 6,600 to 11,500 students, with the lower figure representing a decrease of about 1,300 students and the higher figure an increase of about 3,700 students when compared with the 1980 school-age population in the City of about 7,800 students. Data presented in Chapter VI indicate that there may be a need for up to three additional elementary schools (grades K-6), one additional middle school (grades 7-8), and one additional high school during the planning period. It is recognized that these additional schools may not be needed during the plan design period if the school-age population remains at the lower end of the forecast range or increases only slightly. However, the City Plan Commission determined that in order to properly plan for city development, these additional facilities should be shown on the land use plan maps so that needed land can be reserved for additional schools. Should the need for the additional schools not develop during the planning period, the reserved land can always be utilized for other purposes.

THE ADOPTED LAND USE AND URBAN DESIGN PLAN

The adopted land use plan (see Map 48 and Table 58 in Chapter X) and the attendant urban design plans represent one of several alternative patterns of land use development considered that could accommodate the physical, social, and economic needs of the residents of the City of New Berlin. The selection of the adopted plan involved the comparative evaluation of land use patterns and supporting community utility proposals against the agreed-upon development objectives, principles, and standards and related urban design criteria presented in Chapter V of this document, as well as considerable citizen input as documented in Appendix C of this report.

The plan is intended to assist in the political and technical coordination of community development. Political coordination seeks to assure that a majority of the citizens within the community are in accord with and working toward the same goals. Technical coordination seeks to assure a logical relationship between private land use development and public works development so that the planning and scheduling of public and private improvements will be efficient, avoiding conflict, duplication, and waste. Effective coordination of development requires a unified, integrated plan if the physical elements of the environment are to be managed without costly conflicts of function, and if the political forces of the community are to deal with controversial development issues, including the plan itself, in an equitable and constructive manner.

The land use and urban design plan is long range, providing a means of taking into account long-range year 2010 development needs and proposals when considering short-range actions. This type of planning is intended to achieve coordination of development through time to ensure that decisions made as development issues arise will lead toward the community development goals expressed in the plan. In the case of New Berlin, the land use plan was designed for a planning period extending to the turn of the century. In this way, the plan is intended to provide for the probable future as well as present needs of the City. As described earlier, the adopted plan is designed to accommodate a resident population of 43,000 persons in the year 2010.

The land use and urban design plan, however, should not be considered rigid and unchangeable, but rather should be viewed as a flexible guide to help city officials and concerned citizens in the review of development proposals as such proposals are advanced. As conditions change from those used as the basis for the preparation of the plan, the plan should be revised as necessary.

Specific as well as general land use development recommendations are contained in the final adopted land use plan. Therefore, the plan provides city officials with substantial flexibility in guiding land use development. For example, the plan in Chapter VIII provides the City with relatively specific recommendations regarding the nature and extent of development along W. National Avenue, whereas the plan provides a more general level of guidance regarding the development of recommended neighborhood park sites and community commercial areas located away from the W. National Avenue corridor.

Residential Land Use

Areas shown on the adopted plan for residential use approximate 8,850 acres. The plan identifies six distinct categories of residential land use based upon the residential density standards advanced in Chapter V and the land requirements set forth in Chapter VI. These six categories are rural estate, with a 5-acre or greater net lot area per dwelling unit; suburban, with a 1.5-acre to 5-acre net lot area per dwelling unit; low-density urban, with a 20,000- to 62,000-square-foot net lot area per dwelling unit; high-medium-density urban, with 4.4 to 6.9 dwelling units per net residential acre; and high-density urban, with 7.0 to 12.0 dwelling units per net residential acre.

Also recommended is the use of a "cluster" concept for residential site planning, provided that the overall residential site density of an area--that is, the total number of dwelling units per net residential acre--designated in the land use plan is maintained. In cluster-type development, the buildings are arranged in closely related groups on smaller lots than are used in conventional land subdivisions. Side yard, rear yard, and front yard requirements are reduced from those typically associated with conventionally designed land subdivisions. Common open space and recreational areas are provided typically contiguous to the rear boundary lot lines. In large cluster developments, the open space lands may form a neighborhood, and provide for certain recreational uses. Cluster development can accommodate either attached or detached dwelling units.

Cluster-type residential development designs can also be applied on real property parcels that are partially located within environmental corridors or isolated natural areas. Common open space and recreational areas can be

provided within the environmental corridors or isolated natural areas, and are typically contiguous to the rear or side boundary lot line. In the City of New Berlin, these open space lands may form a pedestrian walkway system, as well as an attractive landscaped setting for the residences. Such open space lands may be incorporated into the City of New Berlin park system through dedication or city acquisition of such lands. In general, cluster-type development should be placed in zoning districts that allow planned unit development.

Commercial Retail Sales and Service Land Uses

The adopted plan identifies commercial areas which would encompass an area of about 358 total acres, as shown on Map 48 in Chapter X. The W. National Avenue corridor, as it extends from S. 124th Street to Calhoun Road, is shown as a significant commercial retail sales and service facility. As a major arterial highway leading from Milwaukee generally through the center of the City, W. National Avenue is subject to a variety of development pressures which influence the efficiency and safety of the arterial itself, and the workability and livability of the adjacent land uses. Because of certain present and potential deficiencies of this facility, its importance to the City, and the necessity for its improvement, these development pressures were addressed in the overall planning effort for the City. Accordingly, a more detailed study of land use development along W. National Avenue was made as an integral part of the planning effort for the City. The following specific recommendations were made pertaining to the development and redevelopment of the W. National Avenue corridor:

- Retain existing rural land uses located west of Calhoun Road and limit any future expansion of commercial or high-density residential land uses in this area.

- Retain and expand existing urban land uses east of Calhoun Road.

- Centralize all community-oriented retail sales and service land uses at designated locations along the eastern segment of W. National Avenue east of Calhoun Road.

- In the review and approval of all development and redevelopment proposals for W. National Avenue, the City Plan Commission should apply the urban design criteria relating to commercial areas set forth in Chapter V of the plan pertaining to vehicular circulation, the limitation of arterial highway vehicular access, parking lot access from arterial streets, pedestrian circulation, land use spatial considerations, internal site circulation, onsite parking areas, landscaping and site development, and architectural design.

- In the review and approval of all residential development and redevelopment proposals for W. National Avenue, the City Plan Commission should apply the urban design criteria relating to residential areas set forth in Chapter V pertaining to street, block, and lot layouts and arrangements; residential structure orientation for solar access and energy conservation; general landscaping; utility easements; and stormwater drainage and erosion/sedimentation control.

- An "exclusive use district" approach to zoning ordinance district organization in the City should be implemented which divides principal permitted uses into separate, distinct, and mutually exclusive classes, with the permitted uses within each district being based upon a limited number of compatible functions. In conjunction with the use of new zoning districts in the W. National Avenue corridor area, strip zoning, overzoning, and spot zoning should be minimized and, to the extent possible, eliminated.

- Five identified pastoral views located along W. National Avenue west of Calhoun Road should be retained in order to preserve the general rural character of this portion of the City.

- The W. National Avenue right-of-way width should be expanded as detailed by specific road section recommendations presented in Chapter VIII of this report.

Industrial Land Use

The adopted plan identifies a total of 1,355 acres of land for industrial use, as shown on Map 48 in Chapter X. This acreage includes about 133 acres of existing industrial-related commercial service uses at the existing New Berlin Industrial Park. The plan map proposes industrial development to continue at the New Berlin Industrial Park, as well as the logical extension of industrial uses to the south of this area into U. S. Public Land Survey Sections 10 and 15.

Pursuant to the direction of the City Plan Commission, the adopted plan also shows approximately 253 acres of industrial development to be located, generally, in the area of the City bounded by Calhoun Road on the east, Springdale Road on the west, STH 59 on the north, and Poplar Creek on the south. The proposed industrial land uses designated in this area recognize both existing environmentally significant areas and soils that pose severe and very severe limitations for industrial development. Thus, the plan proposes that industrial development occur outside these environmentally sensitive areas.

A new industrial area is proposed to be located at the interchange of the Rock Freeway (STH 15) and Moorland Road. This site provides direct access to the Rock Freeway, thus facilitating ready access to the Port of Milwaukee and General Mitchell Field, as well as to the national freeway system. Contiguous lands to the south and west of the proposed industrial area are shown to be set aside for industrial use beyond the plan design year. In addition, a 50-foot-wide combined earth berm and landscaped strip will buffer the industrial uses from adjoining lesser intensity urban land uses, as indicated on Map 48.

Governmental and Institutional Land Use

Governmental and institutional land uses under the recommended plan would occupy 546 acres, as shown on Map 48 in Chapter X. Additional land for such uses is anticipated to be provided primarily at the City Hall property with the construction of a new main library, City Hall, and community center; at a new middle school and high school facility proposed to be located near the intersection of W. National Avenue and Lawnsdale Road; at two new elementary

school sites proposed to be located in Sections 24 and 33; and at a new fire station proposed to be located at the northeast corner of the intersection of Cleveland Avenue and Johnson Road.

Park and Recreation Land Use

The park and related open space uses under the recommended plan are based upon recommendations contained in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000, and SEWRPC Community Assistance Planning Report No. 66, A Park and Open Space Plan for the City of New Berlin. Existing and proposed park and recreation facilities are shown on Map 48 in Chapter X. Also, certain detailed recommendations for park and recreation land uses are provided in the latter. Under the adopted plan, a total of 859 acres of land would be required under the adopted plan for park and recreation land uses.

Environmental Corridor and Isolated Natural Area Land Uses

The adopted plan proposes the preservation of about 1,508 acres of primary environmental corridors, or about 6 percent of the total area of the City. Under the plan, all primary environmental corridors would be preserved in essentially natural, open uses. Accordingly, the adopted plan further recommends that sanitary sewers not be extended into such corridors for the purpose of accommodating urban development. However, it is recognized in the plan that it would be necessary, in some cases, to construct sanitary sewers across and through primary environmental corridors, and that certain land uses requiring sanitary sewer service could be properly located in the corridors, including park and outdoor recreation facilities and certain institutional uses. In some cases, very low-density residential development on 5-acre lots, compatible with the preservation of the corridors, may also be permitted to occupy corridor lands, and it may be desirable to extend sewers into the corridors to service such uses. The adopted plan further proposes the preservation of about 1,643 acres of secondary environmental corridors, or 7 percent of the total area of the City, which are presently held in public park and open space use or in compatible private park and related open space use. The plan also proposes the preservation of about 841 acres of isolated natural areas, or about 4 percent of the city area, in essentially natural, open space uses.

Agricultural and Other Rural Land Uses

The adopted plan proposes the preservation of 11,620 acres of agricultural and other rural lands, of which 741 acres, or 6 percent, are composed of prime agricultural lands. Prime agricultural lands consist of parcels of land 35 acres or larger in size and are covered by soils which are potentially well suited for the production of food and fiber. These prime agricultural lands are located in U. S. Public Land Survey Sections 34, 35, and 36 (see Map 48 in Chapter X).

The nonprime agricultural lands can be used for estate-type residential development on lots 5 acres or larger in size. The most important site-specific factors related to the establishment of such development are soils limitations for the use of onsite sewage disposal systems.

Transportation System Development

The arterial highway network required to serve the existing and probable future traffic demands in the City of New Berlin to the turn of the century is also set forth in the adopted plan. Suggested cross-sections for these arterial streets and highways are shown in Figure 6 in Chapter V. In addition, two primary transit stations with attendant off-street automobile parking facilities are provided: one at the intersection of Racine Avenue with the Rock Freeway (STH 15), and one at the intersection of S. Moorland Road with the Rock Freeway.

THE DELINEATION OF NEIGHBORHOOD PLANNING UNITS AND SPECIAL PLANNING DISTRICTS

Based upon the adopted land use and transportation system plan, 10 residential neighborhoods, one industrial park neighborhood, and two special planning districts have been identified. As shown on Map 37 in Chapter VII, the residential neighborhoods identified are the Buena Park, Highland Park, Hickory Grove, Hoover, Regal Park, Civic Center, Deer Creek, Cold Spring, Valley View, and Prospect Hill Neighborhoods. The one industrial park neighborhood is the New Berlin Industrial Park, and the two special planning districts are the National Avenue Commercial Corridor--described in Chapter VIII--and the New Berlin Business Park.

The preparation of detailed neighborhood unit development plans, as well as special planning district plans, is based upon the concept that an urban area should be formed of, and developed in, a number of spatially organized, individually planned cellular units rather than as a single, large, formless mass. These cellular units may be categorized by their primary or predominant land use and, as such, may be industrial, commercial, institutional, or residential. Insofar as possible, each neighborhood unit or special planning district should be bounded by arterial streets; major park, parkway, or institutional lands; bodies of water; or other natural or cultural features which serve to clearly and physically separate each unit from surrounding units. Detailed and precise development plans should be prepared for the City for each of the delineated neighborhood units and special planning districts. Each of these plans not only should designate ultimate land use patterns, but also should define future collector and land access street locations and alignments and attendant lot and block configurations. In addition, these detailed plans should identify areas that should be protected from intensive urban development for environmental reasons, and should indicate the need to reserve major drainageway and utility easements.

PLAN IMPLEMENTATION

Attainment of the adopted land use and urban design plan for the City will require some changes in the development policies of the City. Since the maintenance of the present character of the City 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 development at urban densities--that is, at densities equal to or greater than 0.7 dwelling unit per net residential acre (0.6 dwelling unit per gross residential acre), or 1.4 acres per dwelling unit--is confined to those areas where urban services can be provided. Attainment of the adopted land use plan for the City

will require not only changes in certain development policies of the City, but also the introduction of some new plan implementation instruments, and the modification of some of the existing such instruments.

Zoning

The City Plan Commission should initiate appropriate amendments to the City of New Berlin Zoning Ordinance and zoning district map to bring both the ordinance and the map into conformance with the concepts and proposals advanced in the adopted land use plan. Of all the land use implementation devices presently available, perhaps the most important and most versatile is the zoning ordinance. Pursuant to state-enabling legislation, the zoning changes recommended by the Plan Commission can be enacted by the Common Council only after formal public hearing. Based upon the findings of an analysis of the current zoning ordinance as reported in Chapter IV, the plan policies set forth in Chapter V, and the adopted land use and urban design plan set forth in Chapter X, 28 zoning district types and attendant regulations are recommended by the plan for adoption by the City to help implement the adopted land use and urban design plan. These districts are discussed in detail in Chapter IX. The city zoning ordinance should be revised to better reflect current land uses, and to make zoning a more effective tool for implementing the adopted land use plan. All rezoning applications should be carefully reviewed as to their relationship to the adopted land use plan.

Official Mapping

The Official Map is intended to be used as a precise planning tool to implement public plans for streets, highways, waterways and parkways, railways, public transit facilities, 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 public use. The Official Map is a plan implementation device that operates on a communitywide basis in advance of land development, and can thereby effectively assure the integrated development of the street and highway system.

The existing city Official Map shows all existing property and street right-of-way lines and some proposed streets. Following adoption of the city land use and urban design plan, the Official Map should be amended to show all planned streets and highways. An Official Map should be prepared and adopted to implement the plan as it relates to streets, highways, waterways, and parkways, and to the location and extent of railway rights-of-way, public transit facilities, and parks and playgrounds.

Subdivision Plat Review and Regulations

The land use plan should serve as a basis for the review by appropriate city officials of land subdivision plats and certified survey maps. Urban subdivisions should not be approved in areas recommended in the plan to remain in nonurban uses unless the developer can justify changing the land use and urban design plan. Any such proposed departures from the land use plan should be carefully considered by the City Plan Commission and should be approved by that Commission only when it finds that such departures are warranted and are in the public interest. All urban subdivisions should be required to provide for a full complement of urban services.

The city land subdivision ordinance as set forth in Chapter 18 of the Municipal Code has relatively few deficiencies. The deficiencies that do exist can be readily removed through the amendment of the ordinance. Since the adoption of the city land division ordinance, Chapter 236 of the Wisconsin Statutes has been altered to revise the former 40-day preliminary plat review period for a municipality to 90 days, and to revise the 20-day preliminary plat review period for an objecting authority to 30 days. The city ordinance should be amended to reflect these changes.

The Capital Improvements Program

In 1985, the City of New Berlin took steps to develop a capital improvements program and these steps should be brought to fruition. A capital improvements program is a list of fundable major public improvements needed in a community over the next five years, arranged in order of preference to assure that the improvements are carried out in priority of need and in accord with the community's ability to pay. Major public improvements include such items as streets, sanitary sewers, storm sewers, water mains, and public buildings and parks, which together form the "urban infrastructure" required to support urban land use development and redevelopment. A capital improvements program is intended to promote well-balanced community development without overemphasis on any particular phase of such development, and to promote coordinated development both in time and between functional areas. With such a program, required bond issues and tax revenues can be foreseen and provisions made. Needed land for the projects can be acquired in a timely fashion and staged construction facilitated.

The plan for the physical development of the community should be the primary source of projects to be included in the initial list. However, this list may also include projects suggested by city officials and by community and neighborhood groups.

Appendixes have been excluded from this copy to save space. They have been included in the original document as only for reference. Appendix D-1 inserted in the beginning of the document. Copies of this section can be obtained from the Dept. of Community Development.

Page 285 through 383 are excluded.

GROWTH AND DEVELOPMENT MASTER PLAN UPDATE

CITY OF NEW BERLIN

PREPARED BY:
CLARION ASSOCIATES
AND
MCBRIDE DALE CLARION

September 25, 2001

RESOLUTION PC-1-10

A RESOLUTION AMENDING THE MASTER PLAN.

WHEREAS, the Plan Commission may amend the Master Plan from time to time, in whole or in part, under Wis. Stats. §62.23(2) and §62.23(3); and New Berlin Ordinance §275-15D(6); and

WHEREAS, the Land Use and Urban Design Plan for the City of New Berlin: 2010 was adopted as the Master Plan for the City of New Berlin on March 2, 1987; and

WHEREAS, the City of New Berlin had hired Clarion Associates and McBridge Dale Clarion to prepare an update to the City's Master Plan known as the Growth and Development Master Plan Update; and

WHEREAS, the Plan Commission has incorporated statements and requests made at the numerous public meetings and public hearings that have been held; and

WHEREAS, the Land Use and Urban Design Plan for the City of New Berlin: 2010 will continue to serve as the City's Master Plan as supplemented by the Growth and Development Master Plan Update. This Growth and Development Master Plan Update will help the City guide its growth as it faces new planning challenges. The Plan update is the result of a community based effort that focuses on several key issues, which include:

1) Updating the Future Land Use Map, based on balancing land capacity with anticipated future growth demands; and

2) Addressing issues of "community character" and land use compatibility, particularly in the eastern half of the City; and

3) Developing open space, rural preservation, and environmental preservation principles, particularly in the western half of the City; and

WHEREAS, the Growth and Devclopment Master Plan Update is made with the general purpose of guiding and accomplishing a coordinated, adjusted and harmonious development of the City which will, in accordance with existing and future needs, best promote public health, safety, morals, order convenience, prosperity or the general welfare, as well as efficiency and economy in the process of development.

NOW, THEREFORE, BE IT RESOLVED by the Plan Commission of the City of New Berlin that the Plan Commission does hereby adopt the Growth and Development Master Plan Update as an amendment to the City's Master Plan, and on file in the City of New Berlin Department of Community Development.

Passed and adopted by the Plan Commission this 6th day of January, 2003

APPROVED:

Mayor Telesfore Wysocki
Plan Commission Chair

Countersigned/Certified:

Plan Commission Secretary

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STATE OF WISCONSIN WAUKESHA COUNTY CITY OF NEW BERLIN

RESOLUTION NUMBER 00-20

A Resolution Approving the Future Land Use Map, Growth & Development Master Plan Update, and Concept Area Map as prepared by Clarion Associates and McBride Dale Clarion

WHEREAS, the City of New Berlin has hired Clarion Associates and McBride Dale Clarion to prepare an update to the City's 1987 Master Plan known as the Growth and Development Master Plan Update; and

WHEREAS, The City of New Berlin's 1987 Plan will continue to serve as the City's Master Plan, as supplemented by this Plan update. This Master Plan update will help the City guide its growth as it faces new planning challenges. The Plan update is the result of a community-based effort that focuses on several key issues: 1) updating the future land use map, based in large part on balancing land capacity with anticipated future growth demands; 2) Addressing issues of "community character" and land use compatibility, particularly in the eastern half of the City, and; 3) developing open space, rural preservation, and environmental preservation principles, particularly in the western half of the City; and

WHEREAS, This Plan Update is an important first step in updating the City's land use policies and regulations. The detailed zoning provisions, development standards, and procedures will be forthcoming.

NOW, THEREFORE, BE IT RESOLVED by the Common Council of the City of New Berlin that the Common Council does hereby approve the Future Land Use Map, Growth & Development Master Plan Update, and Concept Area Map.

Adopted by the Common Council this 11th day of July, 2000.

APPROVED:

Mayor James Gatzke

Countersigned/Certified:

Judy Weter, City Clerk

Table of Contents

Introduction

In 1987, the City of New Berlin adopted a community plan to guide its future growth. Known as "A Land Use and Urban Design Plan for the City of New Berlin: 2010", the Plan was comprehensive in the truest sense of the word. It covered a wide breadth of subject matter, and included substantial detail about various aspects of community development, ranging from land use to community facilities.

Since that time, the City has experienced many planning successes. The continued viability of established single family neighborhoods, the continued health of one of the state's largest industrial parks, the implementation of a new jobs center at I-43 and Moorland Road, and the initiation of a City Center Plan for the City's main business area are all examples of how the City has been guided by solid community planning.

As the City enters a new century, it is faced with new planning challenges. Ensuring the long term viability of maturing and aging neighborhoods, creating opportunities for new job growth and economic development, accommodating continued demand for housing, protecting the integrity of the natural environment, preserving rural character on the west side, and creating a stronger "sense of place" are the new challenges facing the City.

This Plan represents an update to the 1987 Plan and is targeted towards the challenges of the next century. As an update to the previous Plan, it does not attempt to duplicate the breadth of subject matter or the depth of detail of the previous planning effort. Rather it is more targeted in its approach. Specifically, it is the result of a community-based effort that focuses on several key issues including:

1. Updating the future land use map, based in large part on balancing land capacity with anticipated future growth demands;
2. Addressing issues of "community character" and land use compatibility, particularly in the eastern half of the City; and
3. Developing open space, rural preservation, and environmental preservation principles, particularly in the western half of the City.

This Plan Update consists of several elements. First, the factual basis of the Plan Update – the "Land Demand" and "Land Capacity" Analyses – are summarized. This detailed analysis informed the ongoing decision-making that occurred during the planning process. Second, the "Growth Policies" are presented. These policies represent the community planning "values" of New Berlin. Lastly, the Future Land Use Map is presented. This Map represents the way in which the geographic aspect of the Plan Update policies is to be carried out. The Growth Policies and the Future Land Use Map are closely linked.

The 1987 Plan will continue to serve as the City's Comprehensive Plan, as supplemented and modified by this Plan Update. In instances where this Plan Update is not consistent with the 1987 Plan this Plan Update shall apply.

This Plan Update was prepared concurrently with an update to the development regulations for the City. Thus, another purpose of this update is to serve as a strong policy foundation for the zoning and subdivision regulations of the City.

The Planning Process

This Plan Update was developed through a planning process that occurred on several levels. First, both the Common Council and the Planning Commission had "hands on" involvement in developing the Plan Update. In particular, the "Guiding Principles" and the "Growth Policies" that are described in this Plan Update were developed through direct interaction with the Planning Commission and were reviewed with Council. Second, a diverse citizen based advisory committee, known as the Growth and Development Management Plan Committee (GDMP), was established to serve as a community sounding board for the Plan Update development. The GDMP met on numerous occasions and was instrumental in shaping the Plan Update. Third, the city's planning staff, assisted by a consulting team, provided professional planning guidance to the process. Other mechanisms of input, including community surveys, interviews, focus group discussions, and public meetings, provided additional input by a variety of interests. Examples of these interests include major landowners in the western portion of the City, Focus New Berlin, and the building and development community. Meetings to date include:

- April 15th – Priority Setting - Plan Commission Meeting
  - Consultants meet with Planning Staff
  - Consultants meet with Ted Wysocki, Alderman of District 2.
  - Consultants meet with Mayor Gatzke and Rush Wilkens, Alderman of District 5.
  - Dinner Meeting with Parks Commission re: Master Plan
- April 16th – Consultants meet with Dennis Horbinski, Chairman of the City Center Committee.
  - Consultants meet with Jim Siepmann, Environmental Developer at his office.
  - Consultants meet with Rick Eckart, President of The Chamber of Commerce
  - Consultants meet with Focus New Berlin
  - Consultants meet with Alderman Dave Patzer and Alderman Liz Kaminski
- May 3rd – Project Timetable and Public Workshop on Land Use Issues and GDMP Review Sub-Committee Meeting
- May 17th – Growth Management Diagnosis
  - Duerksen meets with Planners to discuss presentations.
  - Duerksen meets with Engineering Staff (Hamid Hashemizadeh, Jeff Chase, and Planning Staff to discuss in detail technical code issues.
  - Meet and have lunch with Focus New Berlin representatives
  - Several interviews with developers

- Meeting with Project Review Subcommittee, including presentations made by the Planning Department and Consultants

- May 18th – Open Space and Subdivision Tour
  - Consultant has breakfast meeting with Alderman Paul Scheuble at Residence Inn
  - Lunch meeting at City Hall to discuss key open space subdivision issues.
  - Duerksen meets with Jenny Brown to discuss next steps.
  - Duerksen meets with Mark Lake to discuss code issues.
- June 21st – Staff Charette regarding character area definition
- June 22nd – Consultants meet with Planning and Engineering Staff, Phil Evanson of SEWRPC, and Dick Mace, Planning Manger of Waukesha County
- July 12th – Demand and Capacity Analysis
- July 12th – GDMP Review Sub-Committee, and Common Council Meeting
- July 12th – Consultants meet with Focus New Berlin to discuss Rural Landholders Survey
- July 12th – Consultants meet with Bob Williams, President of TDI Associates.
- July 13th – Consultants meet with planning staff to discuss next steps.
- August 16th –
- September 20th – Zoning Code and Plan Update, Joint meeting with the GDMP
- October 18th –
- November 2nd – Public Hearing of Development Polices to Common Council
- November 15th – Working Session on Development Process & Standards (2 meetings – same day)
- December 13th – Presentation of Annotated Outline and meeting with the GDMP Sub-Committee, Developers Meeting
- January 17th – GDMP Sub-Committee Review of Master Plan Update
- January 31st – Presentation of Master Plan Update to Plan Commission and the GDMP Cub-Committee

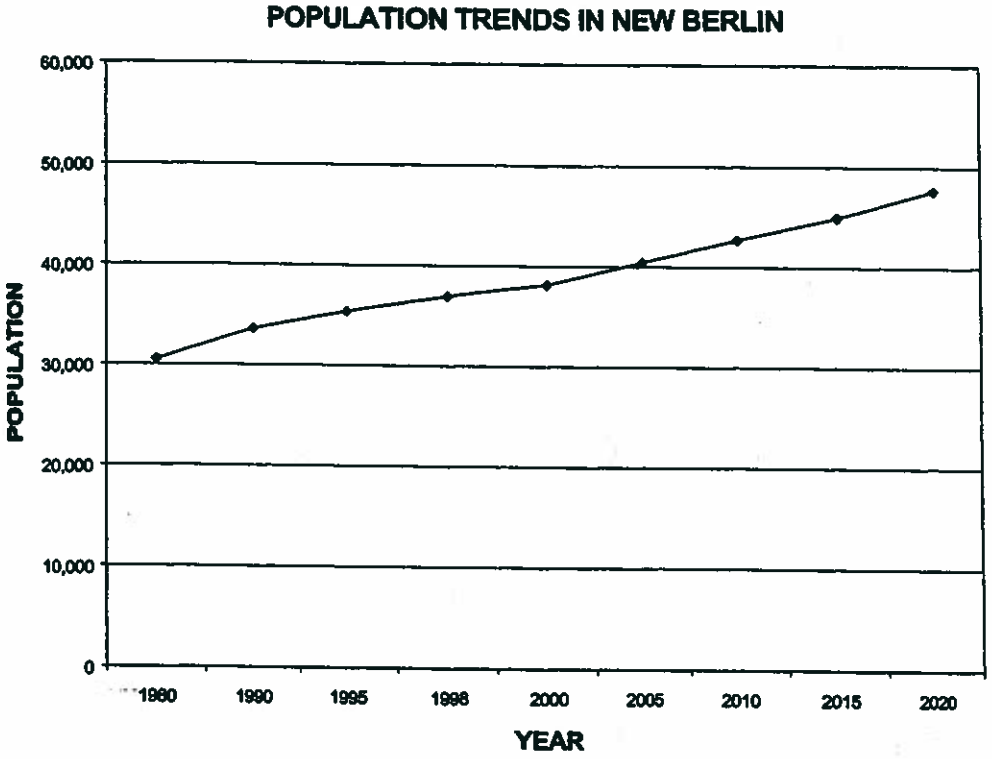
Land Demand and Land Capacity

The foundation for any community planning effort is a solid understanding of the anticipated future growth of the community, balanced against an understanding of how much growth the community can reasonably accommodate under different circumstances. The anticipated future growth can be viewed as the "land demand" component, while the "land capacity" component offers an understanding of how this demand *might* be accommodated. This analysis, in turn, serves as a basis for the creation of policies about how the demand *should* be accommodated. These policies, including the future land use map, guide the actual development regulations, such as the zoning and subdivision codes.

Residential Demand and Capacity

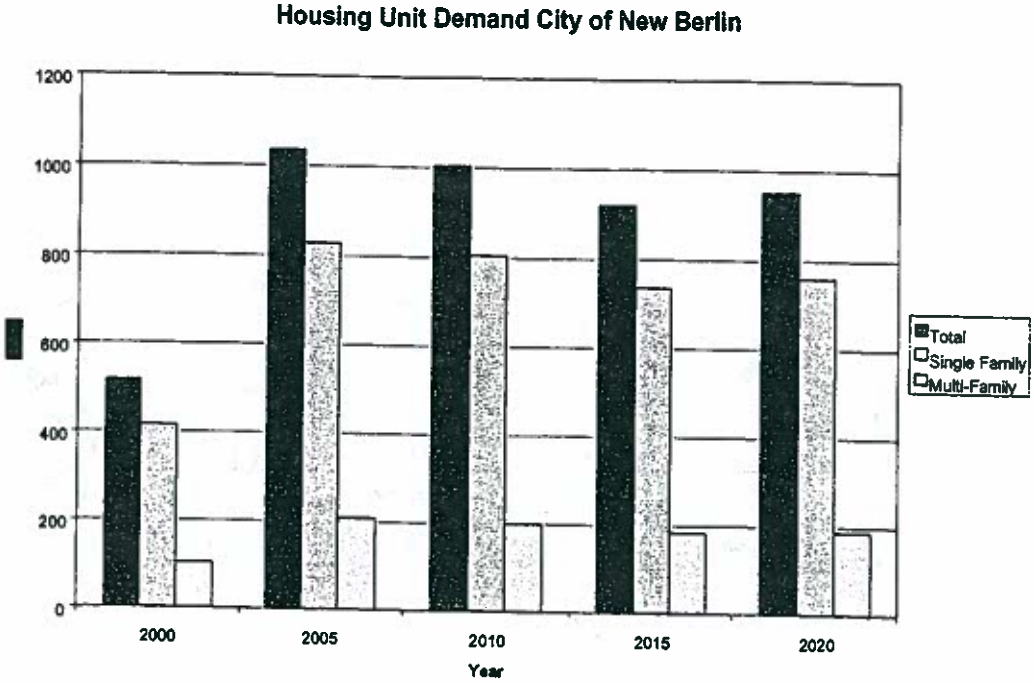
As part of this planning process, estimates were made of potential future growth demands using population and employment forecasts. These forecasts are made based on historic trends, tempered by an understanding about how those trends may change in the future.

First, with regard to population, the City of New Berlin currently has a population of approximately 37,418. By the year 2020 that population is forecasted to grow by 11,000 for a total population of approximately 48,000. That forecasted growth represents a continuation of the same basic trend of growth that has occurred since 1970. In another projection, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) forecasts New Berlin's population to grow to 59,510 by the year 2020. This represents a 22,092 (59%) increase over the next 20 years.



Source: Historic population counts 1980 and 1990 Census of Population U.S. Bureau of the Census. Population estimates 1998 and 1999.

Assuming a continuation of the trend towards smaller household sizes over the next 20 years (the average household size in New Berlin is approximately 2.81 persons currently, and is forecasted to be 2.73 in 2020) the number of *new* housing units forecasted over the next 20 years is 4,426. Of these, approximately 3,540 are expected to be single family and 885 are expected to be multi-family.



Source: New Berlin Land Demand Analysis; Pflum, Klausmeier & Gehrum Consultants; 7/99.

If the future growth occurs at the same general density as that in the past, these new forecasted housing units will consume approximately 2,500 acres, or 4 square miles.

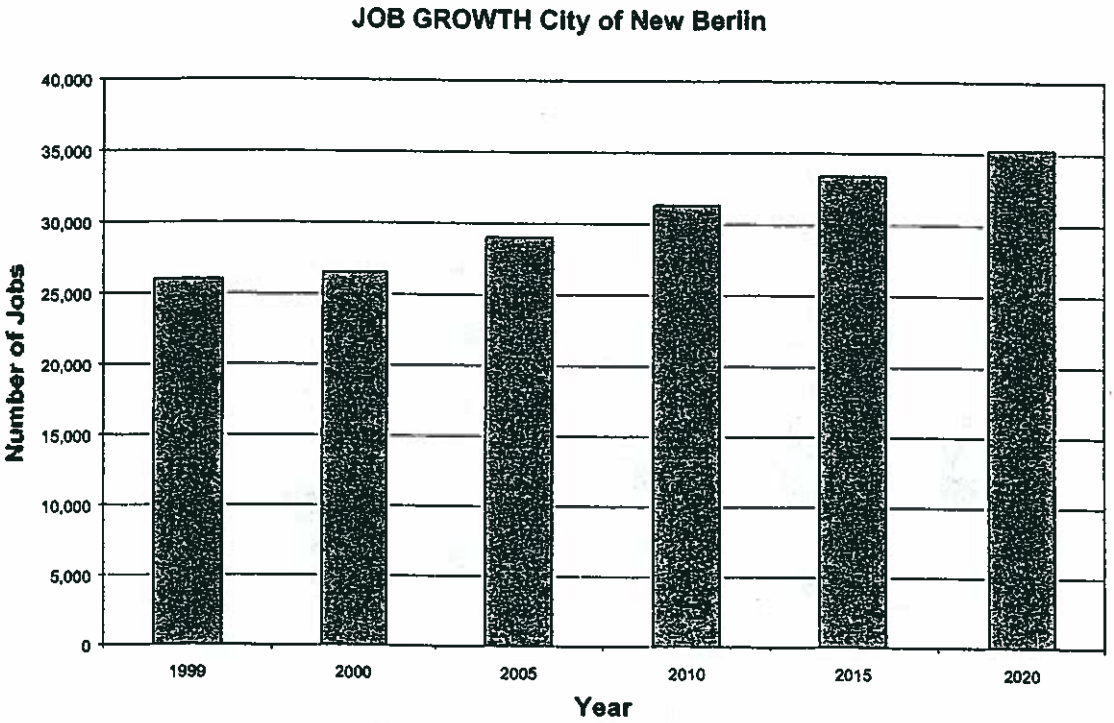
While the residential demand is fueled by population forecasts, the capacity analysis is a function of land availability, along with constraints to land development. For the purpose of this planning process, the capacity of vacant or agricultural land for new growth was assessed under several different scenarios. These scenarios assumed policies that ranged from most restrictive (assuming that all property identified as environmentally constrained in the previous plan would be protected) to less restrictive (assuming that only the environmental area zoned for protection would be undeveloped).

Also, for the purpose of this analysis, it was assumed under a "base" scenario that the density of new single family development would be 2 dwelling units per acre in the sewered east side, with 1 unit per 5 acres in the unsewered west side. This is generally consistent with existing zoning patterns and densities.

Depending on the scenario that is applied, the capacity for new residential growth is between 4,450 and 6,100 housing units. This is contrasted with the forecasted demand of 4,426 units by the year 2020. Thus, based on this analysis, the City can be expected to approach "full build-out" within the next 20 years. The implications of this conclusion are discussed below.

Non-Residential Demand and Capacity

With regard to employment, the City of New Berlin currently has approximately 26,000 employees working in the City. That amount is forecasted to increase by approximately 9,200 by the year 2020, resulting in total employment of approximately 35,200 persons.



Source: New Berlin Land Demand Analysis; Pflum, Klausmeier & Gehrum Consultants; 7/99.

Using assumptions about the economic sectors within which the projected new jobs are likely to occur, the land use categories within which those jobs will occur, and density of employment, forecasts can be made of the number of acres needed to support employment centers.

In the case of New Berlin, a demand of approximately 247 acres of retail and office use (supporting 2.7 million square feet of floor area with 7,350 employees) and 282 acres of industrial space (supporting 4.3 million square feet of floor area with 2,900 employees) is forecasted. However, it should be noted that these forecasts were heavily influenced by historic trends. Since New Berlin is home to one of the largest business parks in the area, the industrial forecasts are higher for New Berlin than for communities of comparable population.

This becomes particularly relevant when the demand is compared to the capacity. The current retail and office capacity is estimated at 36 acres (400,000 square feet). The current industrial capacity is estimated at 46 acres (700,000 square feet). Clearly the non-residential demand far exceeds the actual capacity, based on current zoning patterns. It may be unrealistic to expect the City's job growth in the future to match that of the past. At the same time, this analysis clearly demonstrates that if the City is to capture a significant portion of this potential growth, it must plan for future employment centers, even beyond the newly developing area at I-43 and Moorland Road. This Plan Update makes provision for this need.

Demand and Capacity Implications

The most important conclusion to be drawn from the demand and capacity analysis is that during the next 20-year planning period the City of New Berlin will likely begin to reach full build-out, particularly if the 5-acre density is to be preserved and continued and preserved in the western portion of the City. This scenario has several important implications for the City.

First, the City must take great care in how it oversees the land planning process during the next 20 years. For the first time in its history the City must begin to view land as a scarce resource with a finite supply. Given the primacy of preserving rural character and low density development in the west, the large amount of undeveloped land should not create the false impression of an over abundance of land supply, particularly since that land is not expected to be served with urban services.

Second, as land becomes increasingly scarce in supply, the City should expect increasing demands for higher density land uses. The City's policies associated with the western portion of the City, as articulated in this Plan Update, will likely be subject to particular pressure to change as residential land becomes more scarce.

The City should take great care to preserve certain land for nonresidential use. Once land is committed to residential use, it is "off the books" for jobs producing potential. There are certain areas identified in this Plan Update for Business uses and employment centers that will probably not be feasible for those uses in the near term due to sewer availability. However, for the long-term economic health of the City, the City must find ways to "hold the line" to preserve those long-term opportunities. Equally important is the need to preserve and protect our environmentally sensitive corridors, outdoor park and recreation opportunities, and neighborhood open space and buffers.

Given these issues, the community recognized the importance of establishing a clear set of growth principles and policies. These policies should be the planning "compass" that guides decision-making and acts as a springboard for the City's development regulations.

Growth Policies

With this understanding of the demographic and economic forces that are shaping the community, along with some of the constraints to growth, the community turned its attention to several key policy issues. These discussions focused on more discretionary and judgmental issues having to do with how the community wishes to accommodate this expected growth, both from a geographic standpoint, as well as from a quality and character standpoint.

Guiding Principles

This Plan Update is ultimately organized around creating distinctive neighborhoods and business centers. However, several overall guiding principles, or "policies" also guide it. They are as follows:

- **Policy 1: Managed Growth**
  Ensure that growth in New Berlin is affirmatively and responsibly managed based on available public services and suitability of the land for development.

- **Policy 2: Urban Boundaries**
  Maintain cohesive urbanized boundaries conducive to service delivery.

- **Policy 3: Compatible Land Uses**
  Promote an orderly and compatible pattern of land uses avoiding " hodge podge" development patterns.

- **Policy 4: Infrastructure**
  Utilize the provision of infrastructure in supporting and influencing growth in areas most suitable to accommodate growth.

- **Policy 5: Neighborhood Preservation**
  Preserve existing neighborhoods and encourage compatible infill development. (Infill development generally refers to either construction on vacant parcels in existing developed areas, or replacement of obsolete or dilapidated structures with new buildings.)

- **Policy 6: Rural Character**
  Preserve the rural character of the remaining rural areas of New Berlin.

- **Policy 7: Urban and Rural Distinction**
  Preserve and reinforce the distinction between urban areas and rural areas in New Berlin.

- **Policy 8: Open Space**
  Preserve open space throughout the city through both public ownership and open space oriented private development. Focus preservation efforts in environmentally sensitive areas, recreational and trail opportunities, land use buffering, and neighborhood open space

- **Policy 9: Development Quality**
  Require new development to meet standards of high quality with regard to architecture and site planning.

These Principles create an overall policy framework for the City. However, this Plan Update also recognizes that the City contains many distinct geographic areas, each with its own set of planning issues and opportunities. The best way to create community character and a "sense of place' so important to New Berlin is to identify these distinct areas and develop policies unique to each area. Through an interactive process involving the Planning Commission and the GDMP, eleven different grouping of neighborhoods or

business centers were defined. For each of these areas, the "planning context" is described, a long-range vision is established, and development policies are defined.

Insert concept map (See Attachment)
Urban Neighborhoods
Planning Context

The "Urban Neighborhoods" that comprise much of the eastern half of the City are primarily single-family neighborhoods. This area also includes a blend/mixture of condominiums rental apartments, and a full range of senior housing opportunities. These areas are home to most of the residents of New Berlin. It is largely built out with a mix of some of the City's oldest and newest developments. The area is predominately served by sewer and water. It is divided by the National Avenue commercial corridor. There are many neighborhood amenities such as parks, golf courses, and trails in the area.

The character of the area is that of an assemblage of "subdivisions". Older subdivisions from the 1940's, 1950's and 1960's exist with newer subdivisions, particularly in the southeastern corner of the City. Some of these developments relate well and are connected to others by streets or sidewalks; too often however, subdivisions feel isolated and unconnected to the rest of the City. They are primarily single use neighborhoods; in order to access other uses such as commercial facilities, an automobile is typically required. Cul-de-sacs abound. While they continue to be an attractive living environment to many people, cul-de-sacs make it more difficult for subdivisions to connect to each other to create a larger sense of neighborhood.

While these areas are largely built, and major changes in the design of the area are not feasible, incremental changes can be pursued to create a better sense of neighborhood. For example, the greenway corridor being developed to tie the north and south portions of this area together with City Center can create more of a sense of connection for the area. Improved pedestrian facilities between subdivisions can also help, even if sidewalks are not provided within particular subdivisions.

At the same time, it is important to emphasize maintenance of the existing housing stock and public infrastructure. As many of the early subdivisions age, concerns arise about deferred maintenance. The design of storm water facilities in this urban area appear to based on rural standards, which will continue to create long-term issues for the City. The City will need to be diligent both in monitoring housing conditions as well as its own facilities. Eventually more aggressive code enforcement programs may be needed.

Finally, even though the area is largely developed, there will continue to be pressure and opportunities for redevelopment of existing developed areas or infill development of difficult sites that had previously been passed over. Compatibility standards will be needed to allow the City to ensure that these developments help to strengthen the overall design cohesiveness of the urban neighborhoods.

Vision

The Urban Neighborhoods will be a series of well-maintained, quality single-family neighborhoods that will continue to exist indefinitely into the future. They will be served by neighborhood amenities such as parks, pedestrian connections to adjacent neighborhoods and nearby shopping areas. Both the public infrastructure and the private housing stock will be maintained in immaculate condition. New development and redevelopment will complement the residential character of the area. In compliance with the State's new "Smart Growth" Development Legislation the city will encourage infill residential development of quarter acre or larger lots to match the existing character of the neighborhood.

Development Policies

1. Preserve the same basic mix of uses, in order to maintain a City-wide ratio of single-family dwelling units to multi family dwelling units of no more than 80:20.

2. Create flexible but predictable compatibility standards for new construction and redevelopment related to site planning, building design and materials, landscaping, buffering, access, signage, and other land use impacts.

3. The City will lead by example by being aggressive in maintaining public infrastructure.

4. Monitor housing conditions and nonconforming uses, and periodically assess the need for targeted building and zoning code enforcement programs. Explore the use of revolving loans to fund renovations in targeted areas.

5. Continue to complete the linear greenway system tying the north areas into the south area adjacent to the new City Center.

6. Explore additional pedestrian and bicycle connections between subdivisions as a way to create a sense of "neighborhood" beyond individual subdivisions. Also explore connections between subdivisions and nearby commercial shopping and civic areas, such as parks, schools, and the Civic Center. Use the plan prepared by the Alternative Transportation Plan Committee as a guide to a network of trail facilities.

7. Target focused efforts on resolving stormwater problems in certain areas experiencing the worst problems.

8. Explore the use of landscaped medians where feasible.

9. Use lot clustering in site planning as a tool to preserve open spaces.

National Avenue Corridor (East)

Planning Context

The National Avenue Corridor runs from the City boundary on the east to Calhoun Road on the west. It has historically served as the primary and dominant transportation route into and through the City. It houses the majority of the City's retail facilities and it is also the home to most of the community's civic functions, including City Government, as well as substantial multi-family development.

With the construction of I-43, the historic role of National Avenue has changed. It is no longer the primary regional transportation corridor. At the same time, to many people it still represents the primary image of the City of New Berlin, and is critical to the overall character of the City.

The City government has recognized the importance of this Corridor to the City, and is investing heavily in its future. The commitment to the Civic Center, the streetscape improvements, and the visionary plans for the City Center all illustrate the importance placed on this area.

Several other key planning issues emerge from this area. Most of the retail in the Corridor was developed years ago, and is at risk of obsolescence due to changing retailing patterns related to location, size, configuration, and access. The challenge of re-energizing aging retail uses will be a long-term issue. The City Center offers an opportunity to solidify a key retail anchor for this corridor.

Much of the design character in the area is disjointed and lacks focus. There is little consistency to the building pattern, with "staggered" appearance caused by varying setbacks.

Another important factor is the role that the eastern most end of the Corridor plays as the "front door" of New Berlin. As the first impression of those traveling on National Avenue from the east, the importance of "curb appeal" should be recognized.

The relationship of National Avenue to surrounding residential areas should be emphasized. Pedestrian connections between the Corridor and the neighborhoods should be improved, particularly at the City Center. Also, the mixture of uses in the Corridor is an issue, particularly how to mix commercial and residential uses along the Corridor in a compatible way. As new infill development and redevelopment occurs, it will be a challenge to "knit" the development together into a cohesive design.

Vision

National Avenue will be an exemplary model of a suburban commercial corridor. Vehicular and pedestrian traffic will coexist in a safe and efficient way through prominent pedestrian facilities and managed vehicular access. Utilities will be relocated or placed underground whenever feasible to de-emphasize their visual prominence. Public streetscape improvements will be coordinated with private landscaping and site design. Commercial

development will be focused at nodes along the Corridor to minimize the "strip" appearance. The City Center will be the dominant commercial presence, with the Civic Center being a major high quality civic space that is a source of pride to City residents. Pedestrian access will be increased to nearby residential areas.

Development Policies

1. Create flexible but predictable compatibility standards for new construction and redevelopment related to site planning, building design and materials, landscaping (including maintenance provisions), access, signage, and other features creating potential land use impacts. Emphasize building and parking orientation, with more uniform setbacks and at least some parking encouraged on the side or to the rear of buildings.

2. Consider a City Center Overlay Zone to create flexible, yet specialized development standards for the City Center area. The standards will be based upon ensuring compliance with the City Center Plan.

3. Continue public investment in streetscape improvements, including landscaping, street lighting, sidewalks and bike trails.

4. Complete the "retrofitting" of the National Avenue/Moorland Road area as a mixed use City Center serving as a focal point for the City. Retrofitting refers to the gradual upgrading and improvement of an area without wholesale demolition and redevelopment. For example, new sidepaths, cross walks, lighting and landscaping can be installed to replace existing facilities, existing buildings can be renovated and improved, and new buildings can be constructed within or adjacent to the area as part of an overall site design.

5. Remain committed to the Civic Center as the center of local government functions for the long-term future.

6. Establish the eastern-most end of the Corridor as a major gateway in to the City. Design and implement public improvements involving landscaping, signage, and possible sculptural elements. Create site planning standards designed to create a quality of development befitting a front door into the community.

7. Prevent the development of strip commercial outside of designated commercial nodes. In those areas where small-scale strip retail has occurred outside of established nodes, encourage the gradual conversion of those uses to small scale office or other low impact uses.

8. Encourage compatible multi family uses, including senior housing in this area. Such residential uses can continue to break up the strip appearance of the corridor.

9. Develop incentives that encourage the coordinated redevelopment of multiple parcels of property in order to discourage a piecemeal appearance.

Business Parks

Planning Context

The Business Parks Concept Area includes the area generally between Moorland and Calhoun Roads, south of the railroad. This is a mature area that serves as the employment center for the City. It is a major source of revenue, generating a substantial portion of the City's revenue. There is little opportunity for expansion since most of the surrounding area is also developed.

The greatest planning concern is the long-term viability of the businesses in the area. Many of the uses involve smaller, older business operations. Some are beginning to experience deterioration. With the area closely surrounded by residential areas, there is also concern about the land use impacts on those surrounding area, such as noise, air, and water quality issues. There are many areas with outdoor storage that is unscreened, and there are traffic conflicts with trucks backing into streets. On the positive side, the size and configuration of the current buildings offer great flexibility.

The future access to the area via Calhoun Road will be an important factor, when and if an interchange is developed at I-94 and Calhoun. While such a connection could improve the viability of the area, the capacity of Calhoun will have to be improved.

Vision

This area will continue to be a major economic engine and jobs center for the City. It will be well maintained with reinvestment designed to upgrade the quality of the buildings to ensure long-term viability. It will be business, with some limited support retail and service businesses for use primarily by workers in the business parks.

Development Policies

1. The area will remain oriented to light industrial uses.

2. The City will develop standards that are designed to gradually upgrade the architectural quality of the building stock as businesses expand or reconstruct in the future.

3. The City will permit small-scale retail, restaurant, and personal and business service uses when designed to serve primarily businesses in the area.

4. The City will encourage, and where possible require screening of outdoor storage areas.

5. The City will work with business owners to explore alternatives to truck circulation that avoids conflicts with traffic on public streets.

6. The City will continue to monitor the viability of the businesses in the area and will conduct timely market and economic analyses of the area and the market in order to develop a long-term economic strategy for the area Continue to monitor changes in the business market to keep the area poised to compete.

7. The City will lobby for the new interchange at Calhoun Road & I-94 and will plan for the improvement of Calhoun to accommodate automobile and truck traffic in a way that minimizes impact on adjacent residential areas.

8. Improved connections to regional public transportation will be explored in order to provide businesses with better access to workers. Plan for internal changes to accommodate public transportation access such as bus stops and sidewalks.

9. Encourage more businesses that utilize the rail service as a transportation source.

Westridge and Moorland Road

Planning Context

The area around the I-43 /Moorland Road interchange is an example of how a major public investment, in this case a transportation improvement, can alter the perception and orientation of a community. This intersection has become the new regional front door into the City of New Berlin. It is also an example of how good planning can capitalize on opportunities. While the Business Parks Concept Area has served as the major economic engine over the past several decades, the Westridge area will serve as a new center for jobs over the next several decades. Through the use of aggressive planning, including the use of creative financing techniques, the City is well on its way towards solidifying the area as a high-quality employment center.

The remaining planning issues have to do with how to complete development of the area and how to create a transition from the high intensity uses into the lower intensity land uses surrounding it. The mixture of uses needed to support the businesses in the area, as well as businesses and services for the City as a whole, must be addressed. The City can also capitalize on the excellent regional access provided to this area through the exploration of entertainment and hospitality uses. There are also issues associated with final definition of utility service boundaries in the area.

Vision

Westridge will be completed and expanded as a major economic center for the City. It will meet or exceed high standards of architecture and site planning. The primary uses will be light manufacturing and office, with hotel, entertainment (i.e. restaurants and cinemas), small-scale retail, and other related uses. As the new front door to the City, a major civic use such as a convention center would also be appropriate depending on market conditions.

Development Policies

1. Emphasize light industrial and office uses as the dominant land use.

2. Support hospitality related uses (i.e., hotels and table service restaurants) as secondary uses.

3. Extend the light industrial and office uses of the Westridge Business Park south along Moorland Road to the City Limits.

4. Extend the business uses to the northwest, focusing on low intensity office or neighborhood oriented retail as a transitional land use that minimizes impact on the residential areas to the north and west.

5. Amend the sewer service area boundaries to allow for expansions consistent with the Future Land Use Map.

6. Permit some multifamily uses where appropriate as transitional land uses. Do not permit single-family uses in this area.

7. Establish a traffic management plan for the area so that as it builds out, traffic can be efficiently managed.

8. Require traffic impact studies to be submitted for new construction.

Sections 26 and 35

Planning Context

The two square miles of land west of Sunny Slope Road and east of the Westridge area offer a unique set of circumstances and a unique opportunity. On the one hand, it has a rural character much like western New Berlin. On the other hand, it is tucked in between newer urban neighborhoods to the east and the City's newest job center to the west. It is located in the eastern watershed, further separating it from the rural west. It is divided from the Westridge area by a significant environmentally sensitive valley. The northern half of the area (Section 26) is served by sewers and consists mainly of larger lot residential uses. The southern half (Section 35) is not served by sewers and consists primarily of larger agricultural parcels.

While it is not reasonable to expect the area to be retained as pure agricultural uses in the long term, there is an opportunity to create a unique, high-quality neighborhood with a rural character. If property owners want to continue to use their property for agricultural uses, the City should support that use. However, as pressures occur to convert those farms to other uses, the City needs to have plans and regulations in place to control those conversions to achieve a cohesive long-range vision.

Vision

This area will be a single-family neighborhood reflecting the character and quality of the newer subdivisions in Section 36, while preserving the rural flavor of the area. Agricultural uses are encouraged to continue, but as property owners desire to develop their property, that development will incorporate open space and the protection of environmentally sensitive areas, particularly the stream valley to the west. The valley will serve as a buffer to the Westridge business area to the west. This will be an area of upscale executive-style housing.

Development Policies

1. Permit only single family residential and related parks and open space land uses.

2. Pursue the extension of sewer services into Section 35.

3. Encourage the continuation of agricultural uses as long as the property owners so desire.

4. Protect the stream valley along the western edge of the area from development through possible incorporation into the City's public park system or adoption of stream protection regulations. Recognize its value as an environmentally sensitive corridor and as boundary between the Westridge area.

5. Permit a maximum gross density of 1 dwelling unit per 2 acres south of Grange Avenue. North of Grange Avenue should develop at a density consistent with the existing zoning.

6. Discourage development in Section 35 until sewers can be provided allowing the area to develop pursuant to these policies.

7. Encourage lot clustering to preserve rural character. Create development standards designed to further protect the rural character of the area through techniques such as the preservation of open space along road frontages, the preservation of mature vegetation, the use of natural topography to minimize visibility of development, preservation of stream corridors, and the preservation of scenic views.

West Side – Open Space

Planning Context

The western half of New Berlin is literally the planning frontier of the City. More than any other area, how the west develops will shape the future character of the community.

The area currently includes primarily agricultural or undeveloped land and is not served by sewers. It is not anticipated to be served by sewers in the foreseeable future. The occasional large lot subdivision is served by either septic or mound systems. There are many

environmentally sensitive areas distributed throughout the area. The area is valuable to both the City and the region as an aquifer recharge area.

The current zoning regulations permit a maximum of one dwelling unit per 5 acres, although the "adjacency" exception in the Zoning Code allows for the potential "creeping" of higher density subdivisions throughout the area.

The long-term possible extension of Johnson Road as part of the regional roadway improvements, as well as the Statewide "Com 83" rules are possible significant external influences that may change the economic dynamics in the area. On the other hand, there is a strong consensus in the community that the rural character of the area is important to the overall image and character of the City. There is a desire to balance the preservation of the rural and environmental character of the west with the impact on property values of land use regulations, along with the desires of landowners in the area.

Vision

The western half of New Berlin, generally the area West of Calhoun Road will be a regional model of rural development. It will gradually develop with as mix of lower density single-family development, farms, large areas of preserved open spaces, a network of rural trails and facilities, and small-scale neighborhood oriented retail. Development in this area will incorporate environmental protection as a basic value, including its importance as an aquifer recharge area. See attached Sewer Service Area Map.

Development Policies

1. Public sanitary sewer service will not be extended into this area.

2. While agricultural uses are encouraged to remain, it is recognized that the area will likely continue to develop for low-density residential uses. Residential uses will be permitted and accommodated pursuant to these policies.

3. Encourage the development of rural open space subdivisions that preserve rural character and sensitive natural areas. Regulations will be developed for open space subdivisions that require open spaces to be incorporated into development while allowing smaller lots to be clustered in areas of property most suited to development. Areas that are environmentally sensitive as wetlands and recharge areas will be established as priority areas for open space preservation.

4. The maximum allowable gross density will be one dwelling unit per 5 acres. The minimum individual net lot size will be 1 acre, with a requirement that an applicant demonstrate the capability of providing sewage disposal satisfying County and State regulations. A reasonable open space requirement will be established as balance between the gross and net density requirements.

5. The actual gross density will be determined on a sliding scale to be developed as part of the Development Code, based on the amount of open space to be provided and

preserved. For a minimum amount of open space (i.e., less than 40%), a gross density of no more than one dwelling unit per 5 acres will be permitted.

6. The adjacency exception in the current land regulations will be replaced with a new platting standard including natural and open space subdivision alternatives.

7. While it is recognized that State regulations for on-site sewage treatment systems may change, it is the policy of the City of New Berlin that these possible changes do not affect this maximum allowable density.

8. The City will explore an active and cooperative role in encouraging a model rural open space subdivision development. The nature of this role has not been determined, but may include actions such as the participation in providing public amenities, cooperating with property owners to conduct a search for developers, conducting a design competition, or other approaches.

9. Explore and implement amenities that are consistent with a rural theme, such as equestrian facilities, trails, bed and breakfasts, nature preserves, parks, and others.

I-43 and Racine Interchange

Planning Context

The I-43/Racine interchange offers numerous long-range planning issues and opportunities. On the one hand, any interstate interchange raises the specter of growth and development potential. On the other hand, this particular interchange is located in an area that has not experienced growth pressures and is not provided with urban services.

To the northwest is a quarry, a portion of which is planned for a regional park. To the southeast is the Linnie Lac area, which is a former lakefront neighborhood that no longer has a lake (although it is proposed to be replaced). The deterioration of an area that loses its primary amenity is predictable and visible. To the north, the historic Prospect Hill area is within close enough proximity that anything that happens at the interchange will affect it. The 4-lane improvements to Racine, and the reconstruction of the Racine/National Avenue intersection also have the potential to make this area more attractive to development. Lastly, given that the Citywide forecast for employment demand exceeds the current supply of business land, this area should be considered as a long-range job center. The way in which this is pursued while accomplishing the goal of protection of the rural character for western New Berlin is an important concern.

Vision

This area will be a third job center for the City of New Berlin. It will be a mix of light manufacturing, office, small-scale retail, and restaurant/hotel uses, much like Westridge, but on a smaller scale. It will be compatible with the historic and rural character of Prospect Hill. It will develop only after Westridge is substantially built out.

Development Policies

1. The City recognizes the long-range potential of this area for job producing business uses.

2. The City will begin to explore options for providing sanitary sewer services to this area, perhaps through an agreement with Muskego.

3. The development of this area will be prohibited at more than a rural density until services can be provided and an overall master plan can be developed for the area. A "pause for planning" mechanism will be explored while the City plans for the development of the area and the provision of sewer services.

4. A transition of land uses should occur between businesses at the interchange and the National Avenue/Racine intersection. For example, medium density residential townhouses, senior housing, or low-density office uses could create this transition, as well as supporting businesses in the Prospect Hill district.

National Avenue Corridor West

Planning Context

As National Avenue crosses Calhoun Road from the east, it transitions from a suburban commercial corridor to a rural arterial. It is the home of Prospect Hill, which is an historic commercial district. Other than another small business cluster at Beloit and Martin Roads, the remainder of the corridor is a non-cohesive mix of residential and small-scale commercial uses. There is no sewer service in the area. As one of the highest points in the City, the Prospect Hill area offers some of the best vistas in the City. The potential changes to the intersection have the potential to alter the character and function of the Prospect Hill area.

There is also a major assemblage of property immediately west of Calhoun Road. This assemblage can set the image for the National Avenue Corridor West area.

Vision

National Avenue will be scenic rural corridor, with rural-oriented commercial uses located at several nodes. These nodes include the area immediately southwest of Calhoun Road, the intersection of Beloit and Martin Roads, and the Prospect Hill area.

Development Policies

1. Encourage rural commercial land uses at the three locations identified above. Examples of rural commercial uses are commercial nurseries, feed and seed stores, farmers markets, farm implement sales and supply stores, antique stores, and small-scale grocery stores serving residents of western New Berlin.

2. Identify scenic corridors and views, and encourage their protection.

3. Develop the area immediately west of Calhoun Road as a gateway into rural western New Berlin. Permit the development of this area for a mix of commercial and residential uses, but require that commercial use to be oriented to a rural theme. Explore the extension of sewers to serve this property to make development feasible, but permit sewers to go no further to the west.

4. Reinforce the historic village nature of Prospect Hill. Promote the preservation and renovation of historic buildings in the area. Require new construction and modifications of existing buildings to be accomplished in such a way as to respect the historic character of the area.

5. Work with the County to ensure that any improvements to the National Avenue/Racine intersection are consistent with these policies.

The Quarries

Planning Context

There are several sand and gravel quarries located in the western half of New Berlin. They are in varying conditions and at various points in their respective lives as quarry operations. Some are near "completion" while others have several decades or more of useful life remaining. One major quarry is close to completion, with a major City park planned as the final use. The planning issues for the quarries have to do with the land use, nuisance and environmental impacts of their operations, jurisdiction of the monitoring and enforcement of restorations plans, and the long-term reuse of the property once the quarry operations are complete.

Vision

The quarries will continue to operate as economically productive uses providing a valuable resource to the regional economy. The land use and environmental impacts of the quarries will be mitigated through continued monitoring of their operations, compliance with applicable laws, and the use of techniques such as landscaping, setbacks, and berms. Plans will be put into place for the eventual restoration of the property when the mining operations are complete. Within the next 20 years these areas should begin their restoration phases.

Development Policies

1. Continue to monitor the land use related operations and impacts associated with the quarries, including visual impact, noise, truck traffic, off–site dust migration, storm water runoff and others.

2. Encourage the retrofitting of the mining facilities with features that mitigate land use impacts where appropriate, such as landscaping and berms, truck washing facilities, dust reduction measures and others.

3. The expansion of the quarries will be discouraged without demonstration that expansion can occur in a compatible way with existing residential uses, and without interference with the policies for the West Side Open area, including its continued development as a residential area.

4. Work with mine operators and the DNR to accelerate the restoration and final use plans for the quarries.

5. Encourage the reuse of quarry land for uses such as parks with limited other uses as defined in an approved reclamation plan.

6. The quarry located at the southwest corner of I-43 and Racine Avenue is identified as a future employment center /business park for the city.

7. The quarry located in the northwest corner of Lawnsdale Road and Racine Avenue is a potential site for rural commercial land uses.

Greenfield Avenue

Planning Context

Greenfield Avenue is the dividing line between New Berlin and Brookfield. It is primarily residential in character, although there are numerous small-scale retail uses. The character of the corridor varies from east to west, generally reflecting the transition from urban to rural of the City as a whole. The potential construction of an interchange to the immediate north at Calhoun is a potential major influence on this area.

This area was the subject of a Corridor Plan in 1995 and will be undergoing major improvements with the next 5 years, including road widening and the installation of sidewalks. The Plan recommended a parkway profile for the road, along with land use and zoning changes.

Vision

Greenfield Avenue will be mixed commercial and residential corridor with a parkway acting as the northern-most border of the City. Along the eastern half of the corridor, a "village parkway" theme will be promoted, with a mix of rural and environmental character along the western half.

Development Policies

1. The City will pursue implementation of the Greenfield Avenue Corridor Plan.

2. Create development standards suitable for this corridor related to the relationship of new development to the planned street and streetscape improvements, along with uniform building setbacks and placement.

3. Tighten nonconforming use standards, requiring compliance with landscaping regulations. Phase out non-conforming commercial uses over time.

4. Recognize the Greenfield Avenue/Moorland Road intersection as a major gateway into the City from the north. Encourage landmark buildings that are compatible with surrounding areas. Taller buildings must be off set by larger setbacks, increased landscaping, and methods to minimize the parking field, such as decked parking.

5. Prepare a specific area plan for the area around the Greenfield and Johnson Road intersection.

6. Address the flooding problems along the eastern portion of this area.

West Lincoln Avenue

Planning Context

The West Lincoln Avenue area is the most difficult planning area in the City. When the term "hodge-podge" is used, it is probably inspired by this area. Once considered to be an industrial zone, this area is an odd mix of industrial, conservation, residential, and agricultural zoning. It is not served by sewers or water, nor is it suitable for septic systems due the years of soils disturbance from numerous sod farms, peat mining and fill operations. The roads are in poor shape, and the railroad serves as a barrier to access to the north. Much of the area is in a floodplain.

On the other hand, this area is near the interstate and adjacent to the existing industrial parks. Depending on the outcome of the regional planning efforts regarding the Johnson Road extension, access to this area could be much improved. While there are substantial barriers to development, this area does have the potential to accommodate at least some of the forecasted job demand for the City. The City recognizes that major changes in this area will involve overcoming substantial barriers and will take many years to accomplish.

Vision

At present this area is considered a "business park holding zone". The vision for this area is to develop it into a unique business park environment, with campus settings designed around environmentally sensitive areas. Clean, environmentally sensitive light industrial and office parks will be encouraged. Before these uses are implemented the infrastructure (sanitary sewer) and highway access issues need to be resolved. Access to the interstate should be established via Johnson Road. Larger assemblages of environmentally sensitive or floodplain areas will be preserved as either publicly or privately owned open space. Areas to

the west, which cannot ultimately be provided with sewer service, will be developed according to the same policies that guide development in West Side Open Space area. Potential uses along this corridor could include uses needing railroad access, golf course, or corporate headquarters.

Development Policies

1. Given the substantial barriers to planning and development, a separate land planning process will be conducted for the area.

2. Explore the feasibility of providing sewers service to developable portions of this area.

3. Promote the extension of Johnson Road to provide access from Lincoln Avenue to I-94 to prevent further congestion on Moorland Road.

4. Recognize the long-term commitment that must be made, and the substantial barriers that must be overcome to implement this vision.

5. The C-1 Overlay (Ordinance No. 1001) should not be removed until the following conditions are met along Lincoln Avenue: the road and street bed are improved to allow for increased traffic capacity and is reconstructed for safety including lane width and shoulder enhancements and site distance improvements. In addition, stormwater drainage and floodplain issues are to be accommodated; a reclamation plan needs to be on file by a Engineer certifying the bearing capacity; utilities are available (adequate plan for sewer and water); and groundwater, direct access up to I-94, floodwater, and stormwater have been adequately accommodated.

6. Larger assemblages of properties should be the priority for this corridor. Pull land together in larger components rather than in a piecemeal fashion. Agreements should be sought among landowners to come together when projects arise.

Future Land Use Plan

This Land Use Plan differs from the 1987 Plan in that it does not establish rigid demarcation lines. Rather, it provides more general and flexible recommendations and categories to provide long-range guidance to decision-makers. It recognizes that the Zoning Map exists as a mechanism for more property-specific recommendations. The purpose of the Land Use Plan is to serve as a link between the Growth Policies and the development regulations.

When considering the proposed land uses for any particular parcel of property, the Growth Policies must be considered in addition to the Land Use Plan portion of this Plan Update. The Land Use Plan should only be used in conjunction with the Growth Policies; particular land use recommendations should be tempered with these Policies.

With this in mind, the Land Use Plan defines several categories of land use. These include:

Urban Residential Neighborhood

The *Urban Residential Neighborhood* designation reflects the modern form of the residential subdivision with lots ranging in size from one to four dwelling units per acre, depending on underlying zoning and surrounding development patterns. While these communities may include various size and price ranges of homes, the primary land use is single-family detached homes. Attached single-family housing may be considered as a transitional use between lower density residential uses and non-residential development and highway corridors.

Urban Residential Neighborhoods include neighborhood parks and green space that provide amenities to local residents and are encouraged to provide links with the City's existing parks and recreation. Where possible, developers should incorporate the protection of environmentally sensitive areas, including the floodplain, into the development to create unique neighborhoods while protecting the natural environment. The number of cul-de-sacs should be minimized, emphasizing loop street layouts or multiple connections through and between subdivisions.

The Urban Residential Neighborhoods also offer a continuing opportunity for more affordable housing to serve workers in the City's growing business parks. For example, housing on ¼ acre lots can help to retain and increase the diversity of the City's housing stock to allow for more personal housing options. New Berlin Housing Authority is using tax credits and rent assistance to ensure a continued supply of affordable senior housing and apartments.

Certain institutional uses that can be compatible with residential uses, such as schools and churches may be appropriate after careful site plan review.

Residential Estate

Residential Estate is similar to the Urban Residential at a gross density not to exceed one dwelling unit per two acres. While agricultural uses are encouraged to remain as long as the owners wish to operate farms, this designation provides an opportunity for the City to allow this area to develop, but maintain a sense of rural character. Before this land use category is implemented in this area, provisions for public sewer must be made.

Suburban Residential

The *Suburban Residential* designation reflects the rural setting of the existing residential areas on the western half of the City. Lots in this category are generally located in existing subdivisions that have already been developed at higher densities than the surrounding Country Residential area. The Suburban Residential areas are not served by sanitary sewer and water, they are served by private onsite sewerage disposal systems and private wells. This area has smaller lots, an average of 35,000 square feet. New development may occur as infill development, but are not expansions to the existing subdivisions. Infill development is the development of vacant lots within existing subdivisions.

Business Parks

Business Parks encompass a mixture of office, industrial and accessory retail and service uses in a development with a substantial of landscaping and open space to create an attractive image. New industrial and office growth is encouraged to occur in these large developments so traffic impacts on surrounding uses can be minimized and infrastructure can be

developed to handle the demands created by this type of development. Business Parks would meet the employment center needs in the State's Smart Growth Legislation.

New *Business Park* development will be placed in areas where there will be a minimal impact on residential uses and the natural environment. In addition, *Business Parks* will be located near major transportation corridors that can accommodate the truck and automobile traffic that is generated by such mixed-use developments.

Suburban Commercial

Suburban Commercial areas include the commercial areas and corridor of New Berlin, primarily along National Avenue east of Calhoun. While the primary focus of these areas is retail sales and personal services, some office space is intermixed. The geographic boundaries of *Suburban Commercial areas* should be controlled to limit expansion of commercial development and the increasing number of vacant buildings while providing flexibility to accommodate changes in the market.

Developers will be encouraged to develop creative *Commercial Centers* that do not place focal emphasis on the parking areas but on the commercial uses themselves. This can be accomplished by placing some parking to the side or behind buildings and utilizing internal landscaping throughout the parking areas. Signage and lighting should be placed and designed to ensure visibility without being excessive.

Commercial Center

The *Commercial Center* designation recognizes the substantial planning and investment being made in the commercial core at National Avenue immediately east of Moorland Road. While the Commercial Center is a part of the Suburban Business Center corridor, the unique qualities desired by the City for this area merit special attention. The pedestrian orientation, high quality streetscape, and the mixture of uses create the potential for this to become a unique area of the City.

Institutional

Institutional uses encompass the main City Government facilities around City Hall as well as schools, churches, and other not for profits.

Parks and Open Space

The city wishes to acquire and maintain parks and open space that are consistent with the adopted park and opens space plans to encourage private preservation of open space and environmental areas, and to encourage the use of creative development alternatives (i.e. Conservation subdivisions to create neighborhood open space).

Mixed Use Residential Transitional

The *Mixed Use Residential Transitional* designation applies to several areas where heavier intensity business uses meet single-family residential uses. The purpose of Mixed Use Residential Transitional is to provide a flexible method for the development of certain areas by the criteria of intensity and impacts of the use rather than by its general nature. There are several specific land uses that can occur in mixed-use areas. These include low-density multi-family, senior housing, duplexes, condominiums, or institutional uses. Development

approval for these uses would come only after a review process to determine compatibility with surrounding land uses, particularly the residential neighborhoods.

Rural Commercial

The agricultural community of New Berlin requires unique support services to maintain the farming and rural residential community. *Rural Commercial* areas should maintain the "rural theme" in designing retail oriented developments that include farm implement sales, produce markets, feed and seed stores, etc. but may include some small-scale office-oriented uses. In addition, convenience retail uses may be appropriate in these areas to serve the day-to-day needs of the residents minimizing the necessity of driving into the city for convenience goods.

Rural Commercial should be located primarily along National Avenue, west of Calhoun. These uses should be located in enclosed structures. Where outdoor storage and sales are necessary, they should be located in the side or rear yards. Landscaping and screening should be used to minimize the transition from agricultural and rural residential uses to these commercial developments. Lighting should also be carefully evaluated.

Country Residential

Country Residential encompasses most of the area in the western portion of the City. These areas can include various sizes and price ranges of homes with the primary land use being single-family detached homes. The average density of this area is envisioned to be a gross density of one dwelling unit per five acres as explained in the West Side Open Space Growth Policies.

Lot clustering that maintains an overall low density, while preserving substantial open space is encouraged in these areas. *Country Residential Communities* will be planned to include parks and green space or preserve agricultural land. This will provide amenities to local residents and work toward providing a link with the City's existing parks and recreation system. Where possible, developers should incorporate the protection of environmentally sensitive areas, including the floodplain, into the development to create unique neighborhoods while protecting the natural environment.

There are also a large number of farm operations that exist in this area and the protection and preservation of these uses is integral to this land use. Some on-site sales of products are appropriate including small farm markets, and similar uses. Any of these associated commercial activities should be limited in size to prevent the proliferation of *Rural Commercial Services* in areas not so designated.

Quarry

Quarries involve the mining and processing of minerals. They typically include both underground and surface mining activities. While they are typically located in rural areas, they can also create substantial land use impacts; therefore they are subject to separate attention in the Growth Policies.

Plan Update Implementation

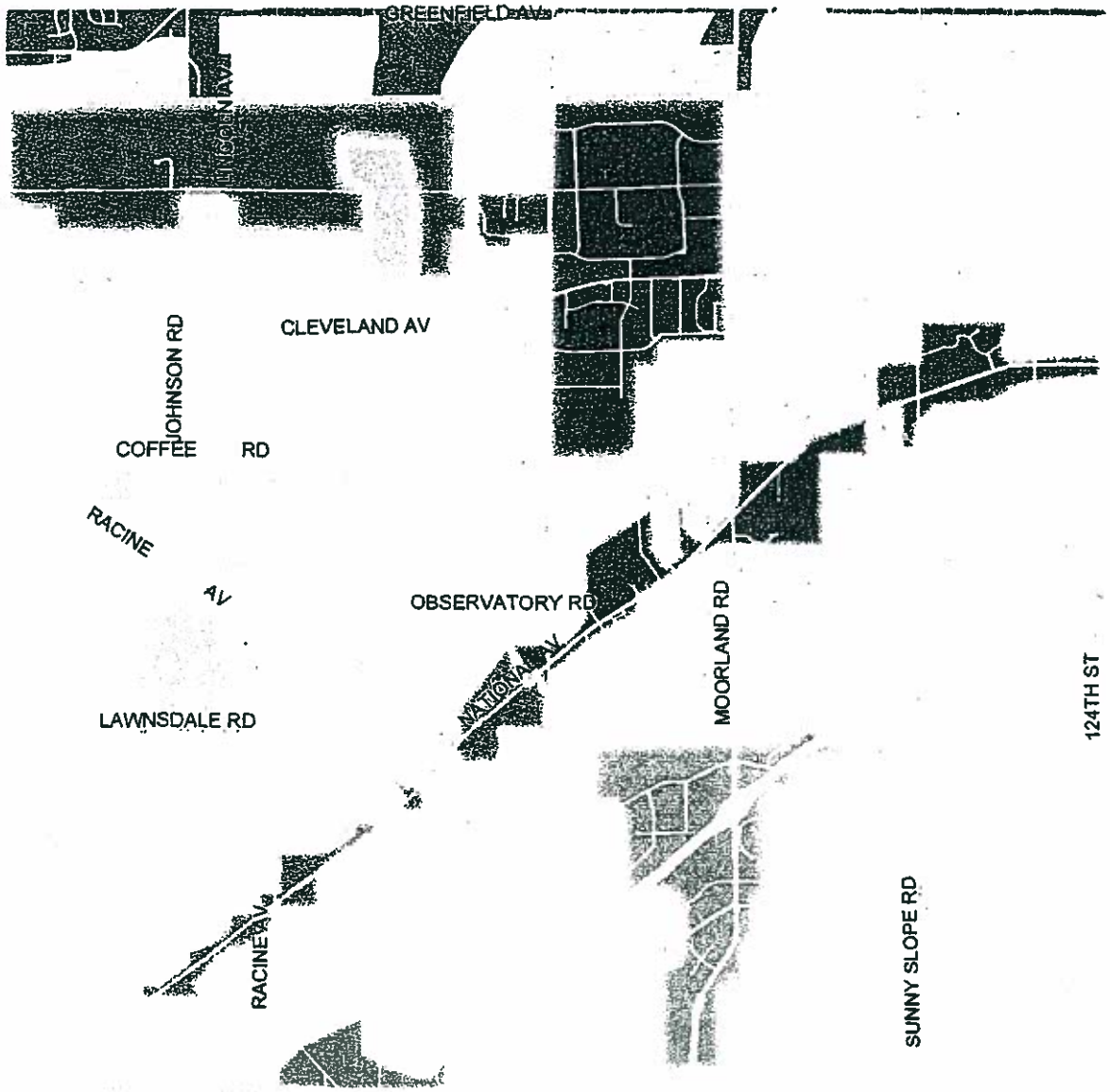
It is anticipated that the process of updating the City's Land Use Regulations will utilize the Growth Policies and the Future Land Use Plan classifications to derive specific standards and regulations needed for the implementation of this Plan Update. However, the zoning map will not necessarily be amended immediately to bring all parcels into conformity with this Plan Update. Rather, this Plan Update will serve as the long-range guide to specific decisions about particular parcels over time. When requests are made for zoning map amendments, the following guidelines will be considered.

1. The map amendment is in agreement with this Plan Update and any specific study designed to further detail the New Berlin Comprehensive Plan for the location in question; or

2. The existing zoning classification does not promote a public health, safety, or welfare purpose, and the proposed zoning classification does promote a public health, safety, or welfare purpose; or

3. There have been major changes of an economic, physical, or social nature not anticipated in the adopted Comprehensive Plan that substantially alters the area's character.

CONCEPT AREAS



Department of Community Development
Land Information Services
3805 S Casper Drive
New Berlin Wisconsin 53151
(262) 797-2445
www.newberlin.org

- Greenfield Avenue
- I-43 & Racine
- Industrial Parks
- National Avenue Corridor (East)
- National Avenue Corridor (West)
- Quarries
- Sections 26 & 35
- Urban Neighborhoods (East)
- West Lincoln Avenue
- West Side - Open Space Areas
- Westridge & Moorland Road Extension

Note: Colors and lines do not depict measurable boundaries. Each area portrays a concept area described in the text of this document.

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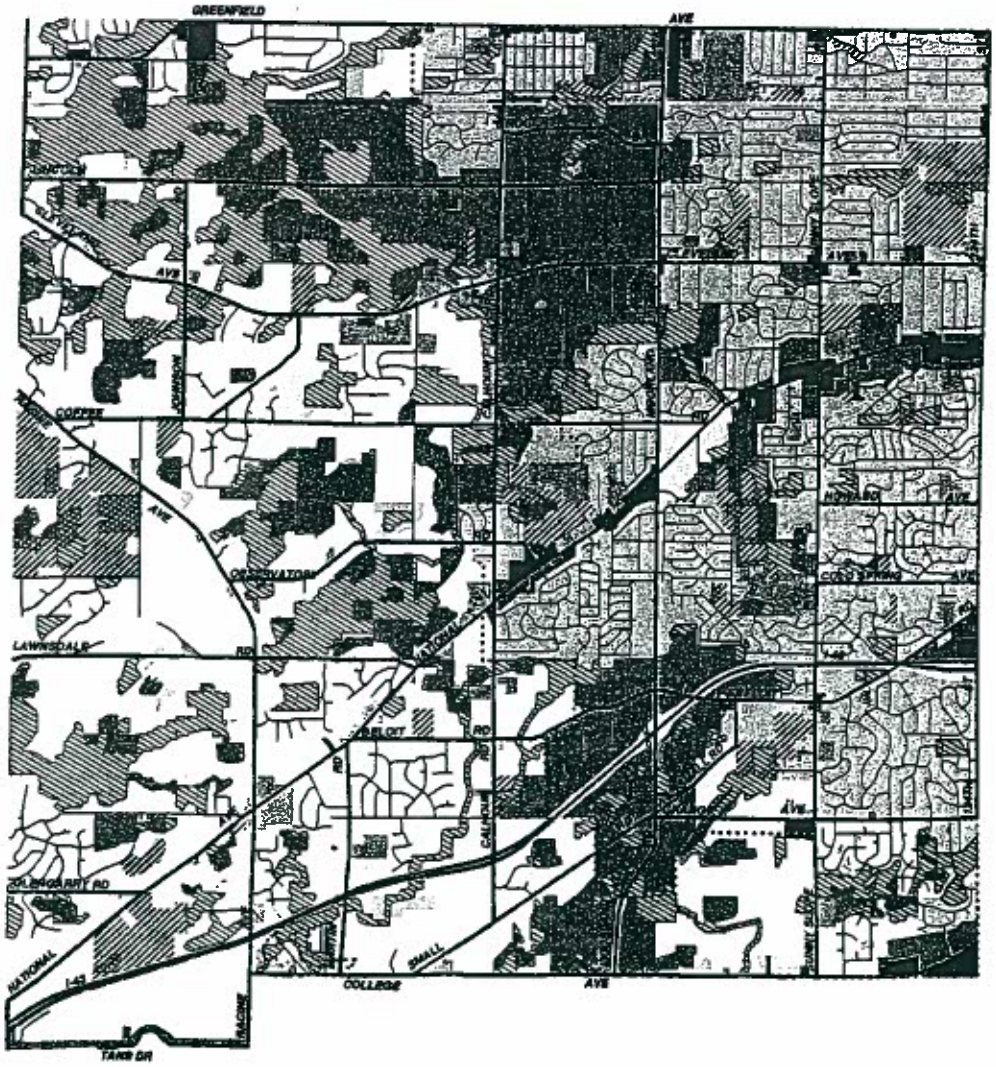
Growth and Development Master Plan Update

Future Land Use Plan



Growth and Development Master Plan Update Land Use Categories

- Urban Residential
- Suburban Residential
- Residential Estate
- Country Residential
- Mixed Use Residential
- Business Park / Industrial
- Commercial Center
- Suburban Commercial
- Rural Commercial
- Institutional
- Park
- Quarry

Note: Colors and lines do not depict measurable boundries. Each area protrays concepts described in the text of the GDMP document.

N

0 0.5 1 Miles

1 inch equals 4,000 feet

Passed and approved by the Plan Commission on 7/11/2000
Revised and approved by the Plan Commission on 9/10/2001

Referenced Land Use Elements

- Environmental Corridor
- Shoreland-Wetland Conservancy
- Upland Conservancy
- Current Sewer Service Area
- Environmental Corridors

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DRAFT TRANSPORTATION ELEMENT

INTRODUCTION

The City of New Berlin has an impressive network of roads and transportation corridors. New Berlin's network of streets, highways, transit routes, rail lines, bicycle trails and pedestrian pathways plays a major role in shaping the City's existing and future land use patterns, growth rate and overall economic health. This network has helped the City become the site of some of the largest concentrations of high quality employment in the metropolitan area. It has also been a major factor in New Berlin's rapid residential and commercial growth and the continued demand for new, high quality development. For the City of New Berlin, in which employees must travel to and from work, children must get to school, retailers must keep their customer base, and manufacturers must ship and receive goods and supplies, maintaining an excellent road network and establishing sound transportation policies are vitally important.

Moreover, land use and transportation, and therefore land use planning and transportation planning, are intertwined. As New Berlin's transportation corridors and road network create opportunities for development the demand for development, in turn, creates the need for new and improved roads, along with other forms of transportation and associated routes. There is a clear synergy.

This Transportation Element, which is a required component of a comprehensive plan under Wisconsin's Smart Growth law, addresses the need to maintain and enhance New Berlin's transportation network and reflects the synergy between land use and transportation. In keeping with the requirements of Wisconsin Statutes 66.1001(2)(c) it contains the following:

- An inventory of the City's existing transportation network and an assessment of its transportation needs
- Brief descriptions of other municipal, state, county and regional plans applicable to transportation planning in New Berlin
- An analysis of the relationship between these other plans and New Berlin's transportation needs
- Transportation goals, objectives, policies and recommended programs for New Berlin

These components, along with associated tables and maps, are presented in the pages that follow.

TRANSPORTATION INVENTORY AND NEEDS ASSESSMENT

INTRODUCTION

This section of the Transportation Element provides an account of the City of New Berlin's transportation system and an assessment of its needs in 2002. It includes brief

discussions of the 2000 Census data on commuting and vehicle ownership and an inventory and assessment of the road network, including the different types of roads, the most recent traffic counts, signalized intersections, street conditions and road right-of-way widths. This is followed by a discussion of public transit systems, bicycle and pedestrian trails and other transportation systems (rail, airports, taxis, and so forth). The section ends with a discussion of the City's land use patterns and the potential impact of these patterns on transportation needs.

COMMUTING MODE AND TRAVEL TIME TO WORK

New Berlin's commuting patterns underscore the need to maintain the network of arterial, collector and local streets in good repair. Indeed, the 2000 Census revealed that almost 89% of all workers 16 years old and older who resided in New Berlin traveled to work alone, by car, truck or van. Less than 7% of those workers carpooled, only 0.5% used public transportation, 0.7% of those workers carpooled, 0.5% used public transportation, 0.7% walked and another 0.4% used other means, such as bicycling, to commute to work. Slightly less than 3% of all workers 16 years and older who resided in New Berlin worked at home. The average travel time to work for all such commuters was 21 minutes.

NUMBER OF VEHICLES PER HOUSEHOLD

The 2000 Census data on the number of vehicles per household in New Berlin further confirms the high reliance on private vehicles for commuting, shopping and trips to schools, entertainment, recreation and religious institutions. Indeed, only 2.6% of all households had no vehicle available for their use. In contrast, fully 50.1% of all households had two vehicles available and 23.1% had three or more vehicles available for their use. The remaining 24.2% of households had one vehicle at their disposal.

INVENTORY DESCRIPTIONS AND ASSESSMENTS

A. Streets and Highways

1. Functional Classification

The streets and highways in New Berlin can be broadly described as urban. The urban designation also applies to the western portion of New Berlin, despite its rural character, since the road network through that portion of the City connects eastward to the urban part of New Berlin and westward to the urbanized Waukesha area. Within this framework, New Berlin classifies its roads under the following functional urban categories: principal arterials, primary arterials, standards arterials, collectors and local roads. New Berlin's classification system parallels that used by WisDOT which only distinguishes between "major" and "minor" arterials. The City's classification system draws a finer distinction within the "major" arterial category in recognition of the fact that what WisDOT would call "major" arterials play a significant role in the community. Differentiation within this category makes it possible to more effectively describe New Berlin's

road network. The correspondence between New Berlin's and WisDOT's classification systems is depicted in Table ___ below:

Table ___: Correspondence between the New Berlin and WisDOT Road Classification Systems

New Berlin	WisDOT
Primary Arterial	Major Arterial
Primary Arterial	Major Arterial
Standard Arterial	Minor Arterial
Collector	Collector
Local	Local

Principal Arterials

Principal arterials accommodate inter-community traffic moving through New Berlin en route to another community or destination outside New Berlin. They tend to be highways or expressways carrying more traffic on more lanes at higher speeds than other roads and streets. Access to and from principal arterials in the Milwaukee area is generally limited to primary arterials at controlled or signalized cloverleaf or diamond intersections.

New Berlin has one principal arterial, which is I-43, the high-speed expressway that connects the City of Milwaukee with the City of Beloit. I-94, which runs east west through the City of Brookfield within a few blocks of New Berlin's northern border, cannot be considered one of New Berlin's principal arterials. However, I-94's intersection with Moorland Road, just north of New Berlin's northern border, provides the City with nearly direct access to this interstate. Moreover, the Wisconsin Department of Transportation (WisDOT) is considering the creation of a new I-94 interchange at Calhoun Road which would provide New Berlin with another nearly direct access point with the interstate.

Primary Arterials

Primary arterials accommodate inter-community and intra-community trips and traffic that funnel onto them from collectors. Design speeds tend to be between 35 and 55 miles per hour. Access is not as limited as in principal arterials. Driveways leading to primary arterials are often the major points of access for such land uses as business parks, large-scale retail complexes, large office complexes, large public schools and governmental facilities. The primary arterials in New Berlin, all of which are either county or state trunk highways, are as follows:

- STH 59 (Greenfield Avenue)
- CTH D (Cleveland Avenue)
- CTH I (Lawnsdale and Beloit Roads)
- CTH L (Janesville Road)

- CTH O (Moorland Road)
- CTH Y (Racine Avenue)
- CTH ES (National Avenue)
- CTH HH (College Avenue)

Standard Arterials

Standard arterials accommodate both inter-community traffic and intra-community traffic. They tend to operate at slightly lower speeds than principal and primary arterials and provide more connections with individual parcels of land, including single-family and multi-family residences and small and medium sized businesses. The standard arterials in New Berlin's are as follows:

- Lincoln Avenue, west of Moorland Road
- Calhoun Road
- Sunnyslope Road
- 124th Street
- Small Road
- Grange Road
- Coffee Road

Collectors

Collectors primarily provide the connection between arterials and local roads and serve both local and through traffic in residential neighborhoods, commercial areas and industrial areas. They distribute trips from the primary and standard arterials to the local streets and they collect traffic from the local streets and channel it onto the arterial system. Collectors have fairly direct access to local residences, businesses and industries.

New Berlin's collectors include:

- Springdale Road
- Johnson Road*
- Wehr Road
- Rogers Drive, between Moorland Road and Calhoun Road
- Ryerson Road
- Lincoln Avenue, east of Moorland Road
- Woelfel Road
- Observatory Road
- Barton Road
- Glengary Road
- Martin Road
- Beres Road
- Cold Spring Road
- Howard Avenue

*The City's five-year transportation improvement plans indicate that Johnson Road will be extended to create a continuous link between Lincoln Avenue and Greenfield Avenue.

Local Streets

Local streets comprise all roads and streets designed to serve local traffic that is not on one of the higher road systems. In New Berlin, this includes residential and commercial grid streets, curvilinear streets serving residential, commercial and industrial areas and cul-de-sac streets. Local streets operate at the lowest posted speed limits and provide the most direct access to individual parcels of land, including residences, small businesses and farms. Since they offer the lowest level of mobility, their use for through traffic is usually discouraged.

2. Traffic Counts

Map ___ shows annual average daily traffic counts on arterials and collectors in the City of New Berlin for the year 1997 and Map ___ shows traffic counts on arterials and collectors in the City of New Berlin for the year 2000. The District 2 Office of the Wisconsin Department of Transportation (WisDOT) prepared these traffic counts. Both maps reveal that, overall, traffic on most of the major roads and major intersections in New Berlin increased between 1997 and 2000. Among the roads and road segments that experienced significant increases in traffic volume were the following:

- CTH ES (National Avenue) between the western City line to the eastern City line at 124th Street
- CTH Y (Racine Avenue) between the western City line and I-43
- CTH I (Lawnsdale Road) between the western City line and CTH ES (National Avenue) and then east to the City's eastern boundary
- CTH O (Moorland Road) between the northern City line and the southern City line
- CTH D (Cleveland Avenue) between the eastern and western City lines
- STH 59 (Greenfield Avenue)
- Coffee Road
- Rogers Road
- Sunnyslope Road

Correspondingly, a number of intersections witnessed significant increases in traffic volume. Among these were:

- CTH O (Moorland Road) and Grange Avenue
- CTH O (Moorland Road) and CTH ES (National Avenue)
- CTH O (Moorland Road) and Rogers Road
- CTH O (Moorland Road) and STH 59 (Greenfield Avenue)
- Calhoun Road and CTH ES (National Avenue)
- Calhoun Road and Coffee Road
- Calhoun Road and CTH D (Cleveland Avenue)
- Calhoun Road and Rogers Road

- CTH ES (National Avenue) and Sunnyslope Road

At the core of the increase in annual average daily traffic is the growth in regional population and employment and associated vitality in residential and commercial development. Specifically, through traffic caused by new development outside the City of New Berlin has an accumulative effect on increasing traffic throughout the City. Although these increases in annual average daily traffic reflect the region's vitality, they must of course be considered in road and intersection planning. As traffic starts to exceed capacity, New Berlin will need to determine what types of improvements are needed to improve traffic flow and safety. These improvements may include, but are not limited to, widening roads, constructing turn lanes and installing traffic signals.

3. Needs Assessment for Streets and Highways

a. Segments Needing Resurfacing and/or Curb and Gutter Improvements

As noted earlier, the large amount of commuter and through traffic in New Berlin, coupled with the City's continued growth, underscore the importance of assessing the condition of streets and highways to determine the need for improvements. Street and highway conditions are assessed on the basis of such factors as paving, drainage, level of service at peak and non-peak hours (which takes into account traffic load and flow at the design speed versus road capacity), lighting and signage. WisDOT uses a road condition rating system known as PASER that reflects the quality of road paving and the need for preventative maintenance or reconstruction. Under the PASER system road segments are assigned numbers between 1 and 10 that provide a measure of their existing condition and paving needs. A rating of 10 is high and a rating of 1 is very poor. The key for PASER ratings is as follows:

Rating	Significance
10	New pavement
9-8	Like new (less then 3 years old)
7-5	Needs preventative maintenance
4-3	Needs rehabilitation and strengthening
2-1	Needs reconstruction

The most recent average rating for New Berlin's roads was 6.17. While this rating is not poor, the City has determined that the average rating would drop to 4.75 by 2007 if funding for road improvements remains at present levels. Over the last several years, prior to 2002, the City budgeted $500,000 to $600,000 annually for roadway maintenance.

The City has determined through the assessment process that a number of major roads and streets need resurfacing and/or curb and gutter improvements. Among these are the following:

- The Internal Road Networks in New Berlin Business Park and Moorland Business Park.

  The internal road systems in New Berlin Business Park and Moorland Business Park, were cited as having poor paving conditions, inadequate width, inadequate turning radii for the large trucks that frequent the Business Parks, lack of curb and gutter and lack of pedestrian and bicycle trails. The City has determined that installing curb and gutter will, in addition to functioning for storm water management, provide greater economic opportunities by improving the ability of the Business Parks to attract high quality tenants.

- Lincoln Avenue from Calhoun west to Springdale

  This segment suffers from cracked surfaces and drainage problems and only received a rating of 3.0. This is significant because the City's Future Land Use Plan indicates that this area will undergo development as infrastructure, including roads, becomes available.

- 124th Street between Howard and Grange

  This segment, which received a rating of 3.0 due to surfacing and drainage problems, serves residential neighborhoods on the City's border with the City of Greenfield.

- Grange Avenue between Moorland and Sunnyslope

  This segment received a rating of only 2.0 because of surfacing and drainage problems. One of the reasons this segment is particularly significant is that it serves Westridge Business Park.

- Calhoun Road from Greenfield Avenue to Cleveland

  This road needs surfacing and drainage improvements in anticipation of its programmed widening from 2 lanes to 4 lanes to accommodate increasing traffic. As well, the City has determined that the frontage road along Calhoun Road that borders the Business Parks also needs to be re-built.

In addition, the City has determined that combining curb and gutter installation with road reconstruction is appropriate east of Calhoun Road because of the urban character of the eastern part of the City. Therefore, the City has recommended that any reconstruction of roads and streets east of Calhoun Road include the installation of curb and gutter. Needed Intersection Improvements

b. Intersections Needing Improvements

That City has determined that, as a result of inadequate road widths and excessive traffic, certain intersections will need major improvements, including protected turn lanes and better signalization. Among these are the following:

- Cleveland Avenue's intersections with Calhoun Road and Moorland Road

  There are serious backups along Calhoun Road at its intersection with Cleveland Avenue because Calhoun is a two-lane road. Fortunately, Calhoun Road is slated for widening from two lanes to four lanes. This should provide the opportunity for protected turn lanes and better signalization. However, Cleveland Avenue may need to be widened to four lanes.

- Moorland Road's intersections with Cleveland Avenue, Coffee Road and National Avenue

  Moorland Road experiences a lot of vehicular accidents, especially at its major intersections with Cleveland Avenue, Coffee Road and National Avenue. The lack of coordinated signalization along Moorland Road and throughout New Berlin compounds traffic problems and increases the accident rate. The area where these roads converge is also the site of New Berlin's Commercial Center, the project that will create a mixed-use "downtown". As development of the Commercial Center moves forward and more trips are generated into that area the need for improvements, including road widening, turn lanes and better signalization, will become more pressing.

  The City has already started to address these signalization issues. Recently, the City received a State Grant for Motor Vehicle Recognition for signalization of intersections along Moorland Road.

4. Needs Assessment for Ultimate Right-of-Way Widths

The City of New Berlin determined that in light of increasing traffic there was a general need to revise the ultimate right-of-way widths for arterial and collector roads. The revised, ultimate right of way widths were carefully designated based on projected road capacity requirements and desired levels of service to ensure safe, adequate traffic flow and circulation. The revised right-of-way widths were published in August 2000. Table ___, below, lists the roads and their ultimate right of ways. For the sake of easier recognition, the roads are listed by their actual names, rather than by their numeric and alphabetic STH or CTH designations. The roads and their ultimate right of way widths are depicted on Map ___.

Table __: Ultimate Right of Ways for Arterial and Collector Roads

Road	Ultimate Right of Way
Greenfield Avenue	130 Feet
Moorland Road (from Small Road north to Greenfield Avenue)	130 Feet

Cleveland Avenue	130 Feet
Janesville Road	120 Feet
National Avenue, from Lawnsdale Road to 124th Street	120 Feet
124th Street	120 Feet
Beloit Road (from National Avenue to the eastern City line)	100 Feet
Small Road (from College Avenue to Moorland Road)	100 Feet
Racine Avenue	100 Feet
Coffee Road	100 Feet
Johnson Road	100 Feet
National Avenue, from western City line to Lawnsdale Road	100 Feet
Grange Avenue	100 Feet
Sunnyslope Road	100 Feet
College Avenue	100 Feet
Lincoln Avenue	80 Feet
Martin Road	80 Feet
Observatory Road	60 Feet
Small Road (from east of Moorland Road to Beloit Road)	60 Feet
Glengarry Road	60 Feet

Source: City of New Berlin Department of Community Development, 2000.

B. Public Transit

1. Bus Systems

The City of New Berlin does not operate or maintain a bus system, but several Milwaukee area commuter bus lines make stops in New Berlin. In addition, there are two commuter bus transit stations in New Berlin that provide shelters, park and ride, overnight parking and bicycle parking facilities in New Berlin. They are Waukesha County Lots 67-05 and 67-10. Lot 67-05 is located at I-43 and Moorland Road, northeast of the interchange. Lot 67-10 is located at Racine Avenue and I-43, northeast of the interchange. The bus lines that directly serve portions of New Berlin include Routes 302, 218 and 6. These routes, which also provide transfers to other bus lines serving the Milwaukee and Waukesha areas, are described below and depicted on Map ___.

Route 302, operated by Waukesha Metro Transit, provides weekly round-trip bus service between Brookfield Square and 108th and Cleveland. In New Berlin, Route 302 serves New Berlin Business Park, New Berlin Plaza and Moorland Square Mall. Transfers can be made at Brookfield Square (Brookfield) to Waukesha Metro Transit Route 1, Milwaukee County Transit Route 10 and Wisconsin Coach Lines Route 901. Transfers can be made at 108th and Cleveland (West Allis) for Milwaukee County Transit Routes 16, 18, 28 and 44. Finally, transfers can also be made in West Allis near 124th Street for Milwaukee County Transit Route 51. In New Berlin, the Route 302 bus line runs along portions of the following roads: Moorland Road, National Avenue, Rogers Drive, 170th Street, Lincoln Avenue, 162nd Street, 166th Street and Ryerson Road.

Route 218 runs between 116th Street and Washington Street and 116th Street and Greenfield Avenue in West Allis and 166th Street and Ryerson Road in New Berlin. It is primarily a shuttle to and from New Berlin Business Park. The bus route, which operates weekdays and Saturdays, runs along the following roads in New Berlin: Greenfield Avenue, Moorland Road, Rogers Drive, 170th Street, Lincoln Avenue, 162nd Street, Glendale Drive, 166th Street and Ryerson Road. In West Allis, Route 218 provides transfers to Routes 1, 18 and 6.

Route 6 provides service seven days a week between Teutonia and Capitol in Milwaukee and 170th Street in New Berlin. Among other points, this route makes stops at four major employers: Quad Graphics in West Allis, Quad Graphics in New Berlin, Schoeneck Containers in New Berlin and New Berlin Business Park. It runs along portions of the following roads in New Berlin: Greenfield Avenue, Moorland Road, Rogers Road, 170th Street and 162nd Street. Since Route 6 runs along 27th Street, National Avenue and Highway 100, it provides connections to the following bus routes in Milwaukee County: 62, 12, 27, 62, 80, 1, 23, 60, 22, 21, 57, 11, 31, 30, 13, 10, 64, 65, 76, 67, 18 and 28.

2. School Busing

School busing is provided by the School Districts that cover New Berlin and by the various private and parochial schools.

3. Systems for Persons with Disabilities

The City of New Berlin does not operate or maintain a transportation system for persons with disabilities although a fee-based taxi service is available for senior citizens and persons with disabilities. It is operated by a not-for-profit agency.

4. Transit System Needs Assessment

The City of New Berlin is in general agreement with the recommendations contained in A Regional Transportation System Plan for Southeastern Wisconsin: 2020. This plan does not predict significant increases in transit ridership in New Berlin. However, it does recognize the need for a continuation of current levels of transit service. Therefore, in assessing its transit needs, the City has determined the following:

- There is a need to continue the fixed route transit service (a combination of the Milwaukee and Waukesha County systems) in the northeastern quadrant of New Berlin because this area contains the highest residential densities, the largest business parks and the redeveloping city center

- New Berlin's two commuter bus park-and-ride stations along I-43 need to remain operational to meet current and anticipated transit demand.

- There is no apparent need to increase the extent and range of the fixed route systems from Milwaukee and Waukesha Counties that currently service New Berlin.

- As New Berlin grows, the need for paratransit facilities and options for the disabled or those with mobility problems will likely increase. At some point, it may benefit the City to contract with public or private providers for more continuous and comprehensive paratransit service, rather than relying more or less exclusively on the current taxi-based system.

C. Bicycle and Pedestrian Routes

1. Local

The major bicycle and pedestrian routes in New Berlin are as follows:

- New Berlin Recreation Trail, on the former railroad bed (this trail is maintained by Waukesha County)

- National Avenue sidepaths from Calhoun Road to 124th Street

- Greenfield Avenue sidepaths from Calhoun Road to 124th Street

- Bicycle route from Regal North Park to Lions Park

New Berlin's bicycle and pedestrian routes connect into a 250-mile network of bicycle and pedestrian routes outside the City limits that serves the Milwaukee metropolitan area.

2. Connections to the Oak Leaf Bike Trail and the Glacial Drumlin State Trail

The Oak Leaf Bike Trail is a 76-miles long and winds through the Milwaukee County park system, portions of the City of Milwaukee, and surrounding suburbs. The Glacial Drumlin State Trail is a bicycle and pedestrian trail that runs from Waukesha County west to Jefferson County and beyond. A six-mile portion of the Waukesha County Bike Trail (also known as the New Berlin Recreation Trail) runs through the northern part of New Berlin parallel to the Chicago and Northwestern/Union Pacific Railroad line and links the Glacial Drumlin Trail at Springdale Road with the Oak Leaf Trail at Greenfield Park in West Allis.

3. Needs Assessment for Bicycle and Pedestrian Routes

New Berlin's existing bicycle and pedestrian network provides good linkages between well-established, larger trails. However, as noted in prior studies and reports, the system could greatly benefit from the provision of better bicycle and pedestrian trail linkages between residential subdivisions and other subdivisions, parks, schools, libraries and commercial nodes. These needs were detailed in the Bicycle and Pedestrian Facility Plan (November 1999) prepared for the New

Berlin Alternative Transportation Committee. This study also noted the need for improved bicycle and pedestrian signage and route information. Also noted were the following needs:

- The need to develop design criteria for bicycle facilities
- The need to establish safe bicycle and pedestrian routes along streets that currently lack such facilities
- The need to develop a bicycle transportation map for short and long-range land use and transportation planning

D. Other Transportation and Transit Systems

1. Taxi Service

There is no licensed taxi service based in the City of New Berlin and the City does not require any taxi licenses. However, New Berlin Senior Taxi, a not for profit agency, provides fee-based taxi service to senior citizens and adults with disabilities who are able to enter and exit taxis with little or no assistance. The agency, which operates weekdays and Saturdays, was founded with the help of local businesses, churches, organizations, interested citizens and a Waukesha County Economic Development Block Grant. Its primary service area is within New Berlin but it also provides trips to Brookfield Square, Mayfair Mall and medical centers west of 84th Street. Reservations are first come – first served. Shared rides can be arranged to accommodate more riders.

2. Rail Service – Union Pacific

The Chicago and Northwestern/Union Pacific freight rail line runs through the northern portion of the City of New Berlin between, and parallel to, Lincoln Avenue and Greenfield Avenue. Spurs from this line serve the New Berlin Business Park.

3. Trucking

<u>Major Truck Routes</u>

There are no designated trucking routes in the City of New Berlin. In fact, a section of Sunnyslope Road actually prohibits truck traffic. Nonetheless, there is significant truck traffic on National Avenue, Moorland Road and the other arterials and collectors in New Berlin. Some of this truck traffic is through traffic and some of it is engendered by the activity in the City's business parks, primarily the New Berlin, Moorland, MSI and Westridge Business Parks. Truck traffic is considerable enough to create problems with traffic flow and conflicts between cars and trucks, especially during peak morning rush hours and peak late afternoon and evening rush hours.

Local Carriers

No local truck carriers are headquartered in the City of New Berlin. However, as noted above, many of the businesses in the New Berlin, Moorland, MSI, Westridge and Lincoln Avenue Business Parks generate significant truck traffic.

4. Airports

New Berlin does not contain any airports but it is well served by air transportation facilities. General Mitchell International Airport is located 14 miles east of New Berlin and is readily accessible via I-43 and I-94. This airport is served by nine major commercial carriers and nine regional carriers and is the primary hub for Midwest Express Airlines. General Mitchell operates two jet runways and three additional runways, 3,500 feet to 5,800 feet in length and 150 feet in width.

Chicago's O'Hare International Airport, one of the busiest airports in the world and a major international gateway, is located 80 miles to the southeast. It is easily accessible via I-94.

Waukesha County's Crites Field is located four miles northwest of New Berlin. It is a commercial airport that accommodates twin-engine propeller airplanes and some corporate jets. Crites Field operates two paved runways and the maximum runway length is 5,850 feet. The airport functions as a reliever airport for General Mitchell International Airport.

Timmerman Field, another commercial airport, is located 11 miles northeast of New Berlin. It is Milwaukee's primary general aviation field. Timmerman Field operates two paved runways with a length of 4,100 feet and three sod runways with a length of 3,200 feet.

Capitol Drive Airport is located 6 miles north of New Berlin. It is a small commercial airport operating one paved runway with a length of 3,500 feet and one turf runway with a length of 3,230 feet.

5. Water Transportation

New Berlin contains a number of small lakes and there are several drainageways and but none serve as water transportation routes. However, the port of Milwaukee is located 19 miles northeast of New Berlin. The port runs over two million tons of commercial freight per year in year round navigation that serves 350 cities in 31 states. The man-made outer harbor covers 1,200 acres and has a channel depth of 27.5 feet.

6. Needs Assessment for the Above Described "Other" Transportation Systems and Modes

A review of the above data suggests the following:

- The regional airport network, which includes General Mitchell International Airport, Crites Field, Timmerman Field and O'Hare International Airport, is more than adequate to meet the needs of New Berlin residents and businesses.
- Water transportation needs are adequately met through the port of Milwaukee.
- Rail transportation needs are adequately met through the existing rail line and its business park spurs.
- Due to the relatively large volume of truck traffic on some of the major roads through New Berlin, the City should investigate whether there is a need to designate these roads, or alternate roads, as truck routes.

RELATIONSHIP BETWEEN GENERAL LAND USE PATTERNS AND TRANSPORTATION IN NEW BERLIN

DEVELOPED EAST SIDE OF NEW BERLIN

The East Side of New Berlin is considered to be that portion of the City east of Calhoun Road. The City of New Berlin Growth and Development Master Plan Update (Master Plan Update) notes that the eastern half of the City consists primarily of single-family neighborhoods but also includes a mixture of condominium rental apartments and a full range of senior housing opportunities. Most of the east side has sewer and water and is largely built out. The majority of the City's residents live on the East Side, which contains some of the oldest and newest neighborhoods.

Despite its largely residential character, the East Side also contains significant commercial and light industrial development. The National Avenue commercial corridor divides the East Side and forms the City's retail and service business spine. In addition, the East Side contains a continuous area of approximately 1.5 square miles consisting of the New Berlin and Moorland Business Parks and their mix of light industrial, warehousing and office facilities.

LESS DEVELOPED WEST SIDE OF NEW BERLIN

As noted in the Master Plan Update, New Berlin's values the largely rural character of its West Side. Indeed, the West Side contains environmentally sensitive woodlands and wetlands and most of the land is either undeveloped or in agricultural use. There is no public water or public sewer and the Master Plan Update and Future Land Use Plan does not anticipate public sewer for the foreseeable future. There are several large-lot residential subdivisions but they use septic fields and mound systems and derive drinking water from wells. In keeping with the West Side's level of infrastructure, and the desire to protect its rural character, the Master Plan Update and the Future Land Use Plan anticipate that new development will be primarily residential with an overall density of one dwelling unit per five acres.

However, it is anticipated that two West Side areas may develop with business park/light industrial uses. One of these areas is the Lincoln Avenue corridor in the City's northwest portion. The other area is the southwest corner of I-43 and Racine Avenue, currently a quarry site. As depicted on the Future Land Use Plan, any development along the Lincoln Avenue corridor will be designed to maintain the integrity of the most environmentally sensitive areas.

LAND USE IMPACTS ON TRANSPORTATION IN NEW BERLIN

From a transportation standpoint, the primary impact of continued growth, infill development and redevelopment on the East Side would be the need for greater pedestrian and vehicular connectivity between residential subdivisions, between residential and non-residential development and between all forms of development and the City's recreational areas. As noted in the Master Plan Update, the overall character of the East Side is not very cohesive; it is really an assemblage of subdivisions. Some subdivisions and developments relate well to each other and have good vehicular and pedestrian interconnections through streets and sidepaths. However, many subdivisions, especially those that are single use residential areas with many cul-de-sacs, lack such connections to the other residential and commercial areas of the City. Popular and attractive though these types of subdivisions may be, they are often too isolated and disconnected to allow for the development of a larger sense of neighborhood and community.

In response to these issues of connectivity, the Master Plan Update recommends the creation of greenway corridors to connect the north and south sections of the East Side together with the developing mixed-use Commercial Center. In line with the Master Plan Update's objectives, the developing Commercial Center includes internal bicycle and pedestrian trails and a landscaped extension of Howard Avenue with sidepaths and a bicycle path that will connect northward to Coffee Road. Significantly, the Howard Avenue extension will also improve vehicular circulation and connectivity at the crucial convergence of National Avenue, Moorland Road and Coffee Road.

The Master Plan Update also notes that improved pedestrian facilities between subdivisions, with or without sidepaths, can help tie subdivisions together to create more of a sense of community and lessen the isolation in already built-out areas. Specifically, the Master Plan Update recommends establishing a system of pedestrian and bicycle trails based on the plan prepared by the Alternative Transportation Plan Committee. It also recommends the creation of more pedestrian-friendly landscaping and lighting along the National Avenue Corridor and better pedestrian connections between the Corridor and the surrounding neighborhoods, particularly the City Center.

Since population growth on the West Side will be modest, the transportation impacts of new residential development on the West Side will be modest, confined primarily to local and collector roads. Traffic impacts on collector roads and major roads such as National Avenue, Racine Avenue, Coffee Road and

Johnson Road could be lessened if efforts are made to extend local roads to create greater connectivity between subdivisions as growth occurs.

On the other hand, the transportation impacts of business park/light industrial development of the Lincoln Avenue corridor will be more significant because increased employment produces an increase in commuter traffic. The proposed northern extension of Johnson Road that would connect Lincoln Avenue to Greenfield Avenue might lessen traffic impacts on other roads by creating connectivity to the corridor. As well, the increase in employment engendered by development of the City's southwest corner with business park/light industrial uses would result in a significant increase in commuter traffic at the I-43/Racine Avenue intersection and along Racine and National Avenues. Development of these employment centers might increase the demand for commuter bus service to New Berlin and create an opportunity to upgrade and expand the existing commuter bus routes.

OTHER TRANSPORTATION PLANS APPLICABLE TO THE CITY OF NEW BERLIN

There are a number of recent state, regional, county and municipal transportation planning documents concerning the City of New Berlin or referring to it. Many of these documents are quite voluminous. Below is a synopsis of these plans and the major goals, objectives, policies and recommendations that most directly refer to, or impact, New Berlin. It is important to note that while the overall goals of these plans are similar, there are some inconsistencies on recommended improvements. This is particularly the case between the Regional Transportation System Plan for Southeastern Wisconsin: 2020 (prepared by SEWRPC in 1997), A Regional Freeway System Reconstruction Study for Southeastern Wisconsin (prepared by SEWRPC in 2002) and A Development Plan for Waukesha County, Wisconsin (prepared by SEWRPC in 1996). The major inconsistencies are about recommended widenings for specific roads and highway (for example, six versus eight lanes) and recommended jurisdictions (for example, designating certain roads as local trunk highways versus county trunk highways). At the same time, it is equally important to note that these inconsistencies likely reflect the revised analyses and determinations that come with changed circumstances and new information. These inconsistencies have been taken into consideration in formulating the transportation goals and objectives and recommended transportation improvements contained in this plan.

STATE LEVEL

Brookfield Interchange Feasibility Study (November 30, 2001):

This study, dated November 30, 2001, was prepared under the auspices of WisDOT. It examined the feasibility of constructing a new interchange along I-94 between the Barker

Road and Moorland Road interchanges. No goals and objectives were provided because the study was really a systematized analysis of alternative interchange scenarios, not a true plan. The study considered several interchange alternatives, including a new I-94 interchange at Calhoun Road and a Brookfield Road/Calhoun Road Split Diamond. Although the study area did not actually extend into New Berlin, its boundaries came very close to the northern sections of the City and Greenfield Avenue. The study did not anticipate that any of the interchange alternatives would significantly increase traffic volumes in New Berlin. However, it is reasonable to assume that some shifts in traffic patterns would occur, especially in the vicinity of Greenfield Avenue and the northern section of Calhoun Road.

Wisconsin State Highway Plan 2020 Draft (2000)

This draft plan focuses on the 11,800-mile State Highway System, comprised of al numbered Interstate, US and State highways. Five subsystems are described: Corridors 2020 Backbone routes, Corridors 2020 Connector Routes, other principal arterials, minor arterials, collectors and local roads. The appended Figure ____ illustrates the locations of these routes. The draft plan addresses three primary issues of concern on the State Highway System: 1) preserving the system by improving or replacing aging pavements and bridges; 2) facilitating movement of people and goods through an efficiently designed system, and with programs that reduce traffic congestion; and 3) improving highways safety through combined strategies of engineering, education and enforcement. It does not address improvement needs on roads under local jurisdiction or for other modes of transportation. Although there are no specific references to New Berlin, there is general commentary throughout that would apply to the City and there are specific pages that focus on Southeastern Wisconsin.

Specifically, for Southeastern Wisconsin, the draft plan discusses the need for an investment of $5.4 billion to address critical system rehabilitation and capacity issues. These include reconstructing the Zoo Interchange, adding lanes and making other capacity improvements to the I-94 East/West Corridor and I-894, and reconstructing and/or repaving a number of other roads and bridges. Indeed, the draft plan anticipates that about 14% of the $5.4 billion investment would be for additional lane capacity.

The draft plan anticipates that even aggressive implementation of non-highway transportation investments will have only a modest effect on highway travel. Nonetheless, the draft plan recommends that the needs of bicyclists be considered when future highway projects are being planned. It also anticipates that the Milwaukee/Madison high-speed rail line, enhanced inter-city bus service, and expanded truck/rail inter-modal freight shipments will be implemented.

Other high points of the draft with potential relevance to New Berlin's transportation planning are as follows:

- The most heavily used highways are in the Southeastern portion of Wisconsin.
- The greatest potential for development is likely to be at freeway and bypass interchanges and along frontage roads.

- Increased capacity may encourage new development to locate near more urban areas instead of locating further out.
- The majority of a state's manufacturing jobs (92%) area located within five miles of a Corridors 2020 route. During the period 1992-2000, 87% of all new and expanded manufacturing facilities chose to locate on or near the Corridors 2020 system.
- In Southeastern Wisconsin, in terms of vehicle miles traveled on the Corridors 2020 Backbone system, 35% of travel between 6:00 AM and 6:00 PM was under congested conditions in 2000. This will increase to 44% by 2020 unless capacity improvements are implemented.

2002-2007 Highway Improvement Plan (prepared by WisDOT in August 2001)

This document is not actually a plan, it is a table that provides a snapshot of the spending that is anticipated in District 2 under the Wisconsin State Highway Improvement Program during the years 2002 through 2007. According to this table, several transportation projects are slated to occur in or near New Berlin during the covered time period. These are as follows:

- I-43/Moorland Road interchange – install traffic signals and widen the westbound off ramp, install traffic metering, add extra lanes, and improve the taper to the southbound on ramp. Replace bridge decks for B67-107, 108. This project is budgeted for $1.59 million in 2002, $13.1 million in 2003 and 12,726 million in 2004.
- STH 59 from STH 164 to Calhoun Road – reconstruct STH 59 from two lanes to four lanes between STH 164 and Calhoun Road. This project is budgeted for $9.421 million in 2004 and $8.836 million from 2005-2007.
- STH 59 west from Waukesha County line to STH 67 – mill and resurface. This project is budgeted for $990,000 in 2003.
- I-94 at Calhoun – reconstruct the I-94 bridges over Calhoun Road to accommodate widening of Calhoun Road. This project is budgeted for $8.0 million from 2005-2007.

WisDOT 2001-2003 Biennial Budget Summary (prepared by WisDOT in December 2001)

This document summarizes WisDOT's 2001-2003 biennial budget as finalized by legislative action and the Governor's vetoes in 2001 Wisconsin Act 16. It focuses on major items originally requested by WisDOT and any new gubernatorial or legislative initiatives adopted. There are no references to specific projects in New Berlin, although the Marquette Interchange reconstruction is likely to have some impact for businesses located in New Berlin. Fortunately, New Berlin lies on I-43 and this should help with alternate routing options when the Marquette Interchange is reconstructed.

The plan lists categories of transportation spending and then assigns base cost and future allocation numbers as well as listing the associated revenue sources. This is done on a

statewide basis, except for a very few identified projects. It is not a policy document, per se, and there are no outlined goals, objectives, policies or standards, other than the implied desire to provide good maintenance and capacity improvements within certain budgetary constraints.

Wisconsin Bicycle Plan 2020 (prepared by WisDOT in 1998)

This report (Bicycle Plan), prepared by WisDOT, contains the following elements:

- Plan vision for bicycle improvements for Wisconsin with goals and objectives
- Assessment of current bicycling conditions in Wisconsin
- Discussion on the benefits and costs of bicycling
- Brief discussion of the level of public involvement during the preparation of the Bicycle Plan
- Urban/suburban element with guidelines for bicycle facilities and recommended improvement actions
- General overview of bicycle safety issues and standards
- Implementation element
- Conclusion
- Appendix with tables, maps and figures

The major issues voiced by the public during the open meetings portion of the preparation of the Bicycle Plan were: 1) the lack of bicycle facilities; 2) the lack of safe road-sharing practices by motorists; and 3) the lack of safe crossings for cyclists over major new roadways. In responding the these concerns, the Bicycle Plan set forth a number of detailed design standards and goals and objectives to improve bicycling in Wisconsin. Although the design standards too lengthy to summarize here, there are a number of goals and objectives and recommended improvements that are pertinent to bicycle facility planning in New Berlin. Among these are certain Translink 21 (TL 21) goals, the Bicycle Plan's overall goals and the recommendations contained in the Bicycle Plan's urban/suburban element. Under the Bicycle Plan, New Berlin falls within this urban/suburban category because it is a city, has a population of at least 5,000 and is located in a metropolitan area. Listed below are the pertinent goals and recommendations.

Pertinent Translink 21 (TL 21) Goals:

- Mobility: Wisconsin's economy and quality of life depend upon the state's ability to move people and goods both within its boundaries and to worldwide destinations. TL 21 focused on improving travel mobility – in terms of timeliness, reliability, accessibility to destinations, and costs.
- Choice: Whenever feasible, practical and economical, shippers and travelers should have more than one transportation mode – highways, transit, air, rail, waterways and bikeways – available to meet a wide range of mobility needs. WisDOT's role is to support, and not limit, transportation choices.
- Safety: every transportation user expects and deserves a system that is safe for personal and freight travel. Wisconsin has one of the safest transportation

systems in the nation – but we can do even better. Improving transportation safety was a top priority of TL 21.

- Connectivity: A seamless transportation system with convenient and reliable opportunities to use more than one mode in a single trip provides a wider range of cost-effective travel options.
- Efficiency: Wisconsin expects its 21st century transportation system to be efficient and economical. Opportunities to reduce the monetary and time costs involved with building, using, improving and maintaining the transportation system will be aggressively pursued.

Primary State Bicycle Plan Goals:

- Increase levels of bicycling throughout Wisconsin, doubling the number of trips made by bicycles by the year 2010 (with additional increases achieved by 2020).
- Reduce crashes involving bicyclists and motor vehicles by at least 10% by the year 2010 (with additional increases achieved by 2020)

Urban/Suburban Element Recommended Actions:

- Bicycle provisions on urban arterial streets (i.e. wide curb lanes, bicycle lanes or paved shoulders) should be made in accordance with MPO and community bicycle plans unless the costs or adverse impacts of such accommodations are excessively disproportionate to expected usage. Communities that do not have bicycle plans should seriously consider bicycle accommodations on arterial streets. Because of the potential for bicycle travel, bicycle accommodations will most likely be needed on the vast majority of urban streets. It is especially important that accommodations facilitate bicycle access to major commercial, recreational and institutional destinations along or near the highway. Most of Wisconsin's metropolitan bicycle plans call for wide curb lanes, bike lanes, or paved shoulders on arterial streets/highways often to augment an established or planned bikeway system.
- On urban collector streets, especially those in Wisconsin's largest metropolitan areas, bicycle provisions for wide curb lanes, bike lanes, or paved shoulders should be made if the costs or adverse impacts are not excessively disproportionate to expected usage. These improvements should be made in a manner consistent with community bicycle plans.
- On urban State Trunk Highways, where suitable accommodations for bicyclists now exist, new highway improvements will be planned to continue an acceptable level of service and safety for bicyclists.
- On urban State Trunk Highway bridges, bicycle accommodations should be provided unless the costs of such accommodations is considered to be excessively disproportionate to the projected bicycle use. Bicycle accommodations on the roadway approaches to the bridges should be continued across the structures.
- WisDOT will cooperate with local jurisdictions to help develop "stand alone" bikeway projects, including bicycle path facilities, when they are consistent with an approved plan and provide important bicycle transportation improvements. These projects are not generally associated with other highway improvements.

They require the participation of local governments in developing, maintaining, and funding the projects.

- Safe crossings should be maintained or created when bikeways and streets intersect highways. Crossing controls or grade separations (overpass or underpass) should be considered where there are inadequate gaps in traffic for safe bicycle path crossing.
- Intersection design should consider the needs of bicyclists. All intersections should be wide enough for safe bicyclist crossing; signalized intersections should include such treatments as appropriate signal timing, bicycle-sensitive traffic detectors, and push-button devices to activate signal changes. An adequate number of bicycle crossings (on-street and grade-separated bicycle underpasses/overpasses) should be considered whenever a limited access highway is built or improved.

REGIONAL LEVEL

A Regional Transportation System Plan for Southeastern Wisconsin: 2020 (prepared by SEWRPC in December 1997)

This large, comprehensive report documents a new regional transportation system plan for the seven-county Southeastern Wisconsin region. This plan is for a design year of 2020. It has bearing on transportation planning in New Berlin to the extent that it provides recommendations for improvements to the interstate highways, state trunk highways, county trunk highways and transit routes and facilities that are located in, or impact, the City. The sum total of all of the plan's objectives, principles and standards are too lengthy and detailed to list here. However, some of the objectives and standards, which stress the need for a multi-modal transportation network that accommodate motorists, pedestrians and bicyclists, are quite pertinent to New Berlin. These are taken from A Regional Transportation System Plan for Southeastern Wisconsin: 2020, prepared by SEWRPC in December 1997, pp. 79-89 and are listed below as follows:

Objective:

- A multi-modal transportation system which, through its location, capacity and design, will effectively serve the existing regional land use pattern and promote the implementation of the regional land use plan, meeting and managing the anticipated travel demand generated by the existing and proposed land uses.

Related Principle:

- An integrated multi-modal regional transportation system connects land use activities within the region, providing the accessibility essential to the support of these activities. Through its effect on accessibility, the regional transportation system can be used to induce development in desirable locations and to discourage development in undesirable locations.

Related Standard:

- The regional transportation plan should be adjusted to the regional land use plan so that a higher relative accessibility is provided to areas in which higher-density development is planned than to areas in which low-density development is planned or to areas that should be protected from development.

Standards for Bicycle and Pedestrian Facilities:

- Appropriate bicycle and pedestrian facilities should be provided on those arterial streets and highways, on which bicyclists and pedestrians are legally permitted to operate, identified in the regional bicycle and pedestrian facilities plan for Southeastern Wisconsin.

- Bicycle paths, lanes, or routes should be provided to connect medium- and high-density residential areas with public transit stations, park and pool lots, and major activity centers – office, retail industrial parks and governmental and institutional located within five miles of such residential areas. Pedestrian ways should be provided to connect medium- and high-density residential areas with public transit stations, park and pool lots, and major activity centers located within one mile of such residential areas. Major activity centers include:

    - Major office and retail centers, including the Kenosha, Milwaukee and Racine central business districts
    - Major industrial centers
    - Major parks and recreational facilities
    - Major governmental and institutional centers - including libraries, government administrative centers, medical centers, universities, and technical and vocational schools.

- All arterial streets and highways in areas of existing or planned urban industrial, commercial, and residential development, except freeways and expressways, should provide accommodation for bicyclists whenever a street or highway is constructed or reconstructed, or – for arterial facilities having a rural cross-section – resurfaced. On two-lane streets and highways having an urban cross section a paved shoulder with a minimum width of eight feet should be provided. On streets and highways having an urban cross section, the outside travel lane should have a minimum useable width of 14 feet. On streets and highways without parking lanes, the useable lane width should be measured from the inside edge of the lane to the edge of the gutter section. Consideration should be given to prohibiting on-street parking where bicycle ways are to be provided.

Transportation Standards Related to Protection of the Environment

- Adverse effects on the natural environment, air pollution, water pollution, and the loss of natural habitat and biological diversity in particular can be minimized through the proper location, design, and operation of the transportation system. The relationship of the residents of the Southeastern Wisconsin Region to the natural environment should be one of stewardship.

    - The location of transportation facilities in or through primary environmental corridors, particularly through the woodland and wetland portions of such corridors, should be minimized.
    - Any damaging effects on the natural resource based caused by the construction of transportation facilities should be minimized.
    - The amount of air pollutants emitted through the operation of the transportation system should be minimized.
    - The loss of prime agricultural farmland to transportation facility construction should be minimized.

This plan also contains some recommended transportation improvements that directly involve New Berlin. Among the highlights are the following:

Jurisdictional Changes to Road Segments:

- Calhoun Road, between CTH ES to STH 59, from Local Trunk Highway (LTH) to County Trunk Highway (CTH)
- Johnson Road, between STH 59 and a point 0.4 miles south of STH 59, from LTH to CTH
- Johnson Road, between Lincoln Avenue and Coffee Road, from LTH to CTH
- Moorland Road, between I-43 and Grange Avenue, from LTH to CTH
- Proposed extension of Johnson Road, between a point 0.4 miles south of STH 59 to Lincoln Avenue, should be a CTH
- Proposed extension of Johnson Road, between Coffee Road and Racine Avenue (CTH Y), should be a CTH

Road Widenings:

- Johnson Road - widen to four lanes, including the proposed extension between Coffee Road and Racine Avenue
- Cleveland Avenue – widen to four lanes between the Waukesha Town line and Johnson Road and between Calhoun Road the West Allis city limits
- Calhoun Road - widen to four lanes between National Avenue and Greenfield Avenue
- Moorland Road – widen to four lanes between College Avenue and I-43
- Racine Avenue - widen to four lanes through New Berlin.

Transit:

- The plan recommends maintaining the existing park and ride stations in New Berlin at the I-43/Racine Avenue and I-43/Moorland Road intersections.
- No new transit (park and ride) stations are recommended for New Berlin.

- The plan recommends development of an east-west travel corridor rapid transit bus route along I-94 in the neighboring City of Brookfield. Rapid transit stations would be developed at I-94 and CTH Y and I-94 at Moorland Road, within one mile of the New Berlin city limits. Given its proximity to New Berlin, this proposed line and the two proposed transit stations could accommodate the needs of a significant number of New Berlin commuters.

A Regional Freeway System Reconstruction Study for Southeastern Wisconsin (prepared by SEWRPC in 2002)

SEWRPC prepared this report at the request of the Secretary of the Wisconsin Department of Transportation (WisDOT) and is funded by WisDOT. The report is an extensive, detailed analysis of the need for improvements to the 270-mile freeway system in the seven-county region, including Milwaukee, Ozaukee, Waukesha, Washington, Walworth, Kenosha and Racine Counties. This freeway system, which includes I-94, I-43, I-894, I-794, US 41, US 12, STH 16, STH 145 and STH 119, is nearing the end of its service life and will begin to require reconstruction before 2010. The condition and lifespan of these roads is of great concern in Southeastern Wisconsin because nearly 90% of average weekday travel in the region is by automobile and nearly 40% of that travel is on the freeway system. Virtually all vehicle traffic traveling through the region on an average weekday is carried by the freeway system. The freeway system is vitally important to the region's economy.

The report contains several chapters that provide the following: an introduction to the study and its timeframe, and overview of the freeway system, a description of the freeway system's function and its components, an assessment of its condition and the need for reconstruction, an assessment of its problems and deficiencies, a consideration of alternatives for reconstruction and other improvements and a recommended freeway system plan and program.

Several alternatives were considered, including expansion of capacity and improvements to increase safety. On a regional level, the study recommends extensive rebuilding and repaving with new on- and off-ramps with 127 miles of additional lanes, where existing four-lane segments will be contain six lanes and existing six lane segments will contain eight lanes. Also recommended are a number of bridge and interchange reconstructions, and some removals. There is an approximate 30-year time frame for all of these improvements, which the study recommends should occur between 2001 and 2030. Total cost is estimated at $6.2 billion.

The following is a list of the most important recommended freeway improvements and related concerns contained in the study that could directly impact New Berlin:

- The portion of I-43 that traverses New Berlin will likely need pavement reconstruction between 2016 and 2020.
- The portion of I-94 in Brookfield to the north of New Berlin will need to be repaved between 2006 and 2010.

- I-94 has design deficiencies over much of its length, including the segment that traverses the City of Brookfield.
- The segment of I-43 that traverses the City of New Berlin has design deficiencies at isolated locations.
- The highest crash rates in New Berlin along the freeway system occur at the intersection of I-43 and CTH Y (Racine Avenue).
- Congestion in 1999 ranged from moderate to severe in the City of Brookfield segment of I-94. The segment of I-43 through New Berlin was not congested in 1999.
- By 2020, unless physical improvements are made, the above segment of I-94 will range from severely to extremely congested and the above segment of I-43 will range from moderately to severely congested.
- I-94 should be improved from six lanes to eight lanes through the City of Brookfield segment.
- I-43 should be improved from four lanes to six lanes between CTH Y (Racine Avenue) and the Hale Interchange.
- A new bridge should be constructed at the CTH Y/I-43 interchange to provide additional vertical clearance.

A Regional Bicycle and Pedestrian Facilities System Plan for Southeastern Wisconsin: 2010 (prepared by SEWRPC in 1994)

This document is a detailed inventory and assessment of the existing bicycle and pedestrian system in the region and future bicycle and pedestrian needs along with a series of objectives and recommendations that culminates in a series of maps of recommended improvements and additions to the system. Listed below are the three main plans contained in the document that are most pertinent to New Berlin along with the relevant highlights of each plan (map).

Figure ___ shows the Final Recommended Bicycle-Way System Plan for the Southeastern Wisconsin Region Outside Kenosha, Milwaukee, and Racine Planning Areas, but Including Major Routes Through Those Areas: 2010. Its highlights, relative to New Berlin are as follows:

- Depicts the existing New Berlin Recreation Trail that runs east-west on an old railroad corridor through the northern portion of the City
- Depicts proposed trail that would roughly parallel Mill Creek (south of CTH I) in the southwestern portion of New Berlin and connect into County parkland in the Town of Waukesha
- Depicts proposed trail that would run through the Town of Waukesha and a portion of New Berlin to connect into Minooka Park
- Depicts proposed trails along CTH Y and Cleveland Avenue

Figure ___ shows the Final Recommended Bicycle-Way System Plan for the Milwaukee Bicycle and Pedestrian Facilities Planning Area: 2010, which includes virtually all of the

City of New Berlin. The highlights of this system plan, relative to New Berlin are as follows:

- Depicts the existing New Berlin Recreation Trail that runs east-west on an old railroad corridor through the northern portion of the City
- Depicts proposed trails along portions of the following roads: Cleveland Avenue, Calhoun Road, National Avenue, Moorland Road, CTH I, Grange Avenue and CTH Y
- Depicts proposed trail that would roughly parallel Mill Creek (south of CTH I) in the southwestern portion of New Berlin and connect into County parkland in the Town of Waukesha

Figure ___ shows Existing and Planned Bicycle Ways in Waukesha County: 1993. The highlights of this map, relative to New Berlin are as follows:

- Depicts the existing New Berlin Recreation Trail that runs east-west on an old railroad corridor through the northern portion of the City
- Depicts proposed trail in the northwestern corner of New Berlin
- Depicts u-shaped trail that would begin and end at the New Berlin Recreation Trail. It would run south from the New Berlin Recreation Trail along a route west of Calhoun Road south to the Moorland Road/I-43 intersection and then north along a route that would carry the trail to the east of Moorland Road back to the New Berlin Recreation Trail.

The document contains a series of general guiding principles for bicycle and pedestrian facility planning and over 25 pages of detailed bicycle and pedestrian trail design standards and principles. The latter are too lengthy to summarize here, however, the general bicycle and pedestrian facility planning principles are listed below.

- Bicycle and pedestrian facilities should be provided to encourage the increased use of bicycle and pedestrian travel modes as an alternative to motor-vehicle travel. As such, the bicycle and pedestrian facilities plan element should seek to remove existing impediments to bicycle and pedestrian travel, rather than to serve the existing or forecast demand for such travel.
- Separate networks of bicycle ways generally should be provided to serve recreational and utilitarian bicycle travel.
- Bicycle ways intended for recreational use should generally be located off-street in scenic areas of natural, cultural, or historical interest, and should maximize the use of environmental corridors.
- Bicycle facilities intended for utilitarian travel should be provide direct and continuous routes which minimize delay and maximize safety, and which facilitate convenient bicycle access to activity centers and to transit stops and stations.
- Pedestrian facilities should provide direct and continuous routes that facilitate safe and convenient pedestrian access to activity centers and to transit stops and stations.

- Planning for bicycle and pedestrian facilities should be conducted concurrently with land use planning, arterial street and highway system planning, and transit system planning.

COUNTY LEVEL

<u>A Development Plan for Waukesha County, Wisconsin</u> (prepared by SEWRPC in 1996)

In addition to a land use plan, housing plan, park and open space plan and facilities plan, the Development Plan for Waukesha County (DPWC) contains a transportation plan for Waukesha county that focuses on arterial streets, highways and public transit intended to serve the County through the year 2010. As such, the DPWC describes additional functional improvements to the arterial street system and additional public transit services that may be required to serve Waukesha County in order to accommodate the County's land use plan. Figure ___ contains the DPWC's recommended arterial and highway system plan and Figure ___ contains the DPWC's recommended transit system plan for Waukesha County and environs. Under the 2010 stage of the DPWC's land use plan, about 59 square miles of the County would be converted from agricultural to urban uses, entailing the construction of about 542 miles or new land-access and collector streets. Through full development of the County land use plan, which is not expected to occur until about 2050, about 47 additional square miles of the County would be converted from agricultural to urban uses and about 26 additional square miles would be converted from agricultural to rural residential uses. This would entail the construction of an additional 654 miles of new land-access and collector streets.

The major physical elements of the DPWC's recommended arterial and highway system plan relative to New Berlin (refer to Figure ___) are as follows:

- I-43 will contain 4 lanes in each direction through New Berlin
- Greenfield Avenue (STH 59) will continue to function as a state trunk highway
- Maintain CTH Y, CTH I, National Avenue, Moorland Road, College Avenue, Johnson Road and Calhoun Road (south to National Avenue) as county trunk highways
- Maintain the following as local trunk highways: Grange Avenue, Coffee Road, Sunnyslope Road, and Calhoun Road (south of National Avenue)

The major physical elements of the DPWC's recommended public transit system plan (refer to Figure ___) relative to New Berlin are as follows:

- Bus service should be maintained on I-43 through New Berlin as well as the two existing park and ride transit stations at the intersections of I-43 and Moorland Road (CTH O) and I-43 and Racine Avenue (CTH Y).

- The northeast quadrant of New Berlin should continue to be served by local transit and the rest of the City should be served by park and ride oriented rapid transit service

- Consider implementing a commuter busway facility along I-94 (between the Marquette interchange and STH 164). The station along I-94 nearest to New Berlin residents would be at the Moorland Road/I-94 intersection in the City of Brookfield.

Below is a summary of the major goals of the DPWC's transportation plan relative pertinent to the City of New Berlin:

- WisDOT, the Waukesha County Board of Supervisors and the municipalities (including New Berlin) should work cooperatively to implement the recommended jurisdictional transfers with respect to state, county and local highways.

- Waukesha County should modify its highway width map in keeping with the DPWC's recommendations and the municipalities (including New Berlin) should adopt official maps consistent with these highway width changes.

- The County and the municipalities (including New Berlin) should exercise their land division control authority to ensure that new land divisions do not encroach into lands needed for rights-of-way for planned arterial improvements.

- Waukesha County should work cooperatively with the municipalities (including New Berlin) to implement the DPWC's local transit service recommendations, including provision of local transit service in the eastern portion of the County and between the economic activity centers along I-94.

Waukesha County Transit System Development Plan: 2002-2006 (prepared by SEWRPC in November 2001)

This document provides a comprehensive analysis and series of recommendations for improving public transportation in Waukesha County between 2001 and 2006. It contains a review of land use and travel patterns in the County, an inventory of the existing public transit system, a series of public transit service objectives and standards, an evaluation of the existing transit system and a series of recommended County-wide transit service improvements. Below is a list of those recommendations most pertinent to New Berlin:

- Extend Route 302 south along Moorland Road to serve the Westridge Business Park.

- Extend Route 218 so that it connects with more businesses in the New Berlin Business Park.

- Implement an employer operated shuttle service along I-43 and CTH Y to connect the Village of Mukwonago and the City of Muskego with the Westridge Business Park and the proposed Moorland Road extension of Route 302.

- Route 906 bus service along I-43 should be continued.

MUNICIPAL LEVEL: OTHER NEW BERLIN PLANS

Land Use and Urban Design Plan for the City of New Berlin: 2010 (prepared by SEWRPC in April 1987)

The 1987 Plan is a large, very detailed comprehensive land use and urban design program for the City of New Berlin that covers the following areas: demographics and demographic forecasts of population and employment for the year 2010, an inventory of New Berlin's natural resource base (including environmental corridors), and inventory and analysis of man-made features, land use objectives and principles and alternative and recommended land use plans. As well, it contains very detailed urban design standards, along with illustrative graphics, for commercial areas that also covers the following transportation related topics: arterial access, parking lot access from arterial streets, pedestrian circulation, land use spatial considerations, internal site circulation, onsite parking and loading, landscaping and streetscaping. Copies of these graphic standards, which continue to be relevant to such major New Berlin commercial corridors as National Avenue and Moorland Road are contained in Appendix ___ as they are simply too detailed to discuss here.

The 1987 Plan's adopted land use plan, contained in Figure ___, provides color-coded recommendations for the arterial and highway system in New Berlin. These recommendations are designed to accommodate the land use plan's propose pattern and density gradient. As such, the transportation recommendations are designed to reflect clustering of commercial uses along National Avenue and Moorland Road, with major nodes at the Moorland Road/NationalAvenue and Moorland Road/I-43 intersections, the location of higher density residential areas east of Calhoun Road, protection of environmental corridors, enhancement of the existing business parks and promotion of new business parks. The 1987 Plan's major components and recommendations for New Berlin's arterial and highway system are as follows:

- Extend Johnson Road as a county trunk highway between Lincoln Avenue and Greenfield Avenue (STH 59)

- I-43 is the major freeway

- Greenfield Avenue is the designated state trunk highway (STH 59)

- County trunk highways should include: Cleveland Avenue, Moorland Road National Avenue, Racine Avenue (CTH Y), and CTH I

- Local trunk highways should include: Sunnyslope Road, Grange Road and 124th Street

- Connect the Chicago and Northwestern recreation corridor (trail) with other park and recreation areas and commercial and residential areas via a series of bicycle and pedestrian trails

City of New Berlin Growth and Development Master Plan Update (May 2000)

As stated on page 3 of the City of New Berlin Growth and Development Master Plan, the plan's focus is on the following key issues: 1) updating the future land use map, based on balancing land capacity with anticipated future growth demands, 2) addressing issues of community character and land use compatibility, particularly in the eastern half of New Berlin, and 3) developing open space, rural and environmental preservation principles, particularly for the western half of New Berlin. The underlying goal, throughout the plan, is to create distinctive neighborhoods and business centers. This goal is buttressed by several guiding principles, or policies. None of these guiding principles specifically mentions roads, streets, paths and transit. However, an awareness of the interrelationship between development and transportation is implicit in the following guiding principles, found on page 10 of the document:

- Managed Growth: Ensure that growth in New Berlin is affirmatively and responsibly managed based on available public services and suitability of the land for development.

- Infrastructure: Utilize the provision of infrastructure in supporting and influencing growth in areas most suitable to accommodate growth.

In addition, the plan contains a number of transportation related observations and policies targeted to specific transportation corridors of the City, listed below.

National Avenue Corridor East:

- Continue public investment in streetscape improvements, including landscaping, street lighting, sidewalks and bicycle trails.
- Retrofit the city center segment of National Avenue East with new sidewalks, crosswalks, lighting and landscaping.
- Encourage more parking to be located to the rear and sides of buildings in the city center area to provide a more pedestrian orientation and lessen the distance between building fronts and entrances and the street.
- Establish the easternmost end of the Corridor as a major gateway to the City with landscaping, signage and other physical elements.

Westridge Business Park segment of Moorland Road:

- As Westridge builds out, establish a traffic management plan for the area.
- Require traffic management studies to be submitted for new construction.

National Avenue Corridor West:

- Work with Waukesha County to ensure that any improvements to the National Avenue/Racine Avenue intersection are consistent with maintaining the semi-rural and historic character of the area.

Greenfield Avenue:

- Implement the 1995 Corridor Plan, which calls for widening of Greenfield Avenue, creation of a parkway profile and sidewalk installation between 2000 and 2005.

West Lincoln Avenue:

- Promote the extension of Johnson Road to provide access from Lincoln Avenue to I-94 to prevent further congestion on Moorland Road.

City of New Berlin Bicycle and Pedestrian Plan (November 1999)

This plan is designed to provide a safe, convenient and pleasant alternative transportation system for bicyclists and pedestrians within the City of New Berlin. The plan provides an overview of basic concepts in bicycle and pedestrian planning, a bicycle and pedestrian facility inventory for New Berlin, recommended additional bicycle and pedestrian facilities, recommended standards for sound design, operation and maintenance and cost estimates for facility improvements and new facilities. Figure ____ details the existing bicycle and pedestrian facilities in New Berlin and Figure ____ details the Bicycle and Pedestrian Plan's recommended bicycle and pedestrian facilities.

Among the plan's more pertinent goals and objectives, here summarized, are the following:

Goal: Identify and develop a system of bicycle facility routes to encourage utilitarian bicycling and walking in New Berlin

Related Objectives:

- Identify appropriate roads and highways to accommodate bicycle facilities
- Locate bicycle facilities based on convenience of access, use and safety
- Link subdivisions where cul-de-sacs exist with bicycle paths
- Use existing streets as routes and facilities when possible
- Link neighborhood schools to surrounding residential developments with bicycle paths

Goal: Identify and develop a system of bicycle and pedestrian facility routes to encourage recreational bicycling

Related Objectives:

- Link routes to residential subdivisions

- Connect routes to destination points such as the library, schools, parks, sanctuaries and commercial nodes
- Provide routes to and from each city park
- Provide route connections to regional recreational facilities

Goal: Provide recommendations for facility types, street improvements, signage marking and route promotion

Related Objectives:
- Develop design criteria for bicycle facilities
- Make recommendations for creating safe routes along streets that are currently not equipped with space for bicycles

Goal: Develop a "Bicycle Transportation Map" for use in short term and long term land use and transportation planning, as well as route information for bicycle users

Goal: Provide a strategy for educating the public on bicycle safety and promoting the bicycle facilities in New Berlin

Goal: Recommend a maintenance and management strategy

National Avenue Corridor Improvements (September 1999):

This plan, which addresses design improvements for National Avenue between Calhoun Road and 124th Street, also reflects a compilation of existing streetscapes along this corridor. As such, the plan contains the following components: an inventory of existing physical elements (including a map of existing conditions), a discussion of preliminary design concepts, phasing strategies, estimated capital improvement costs, and an analysis of potential funding mechanisms. The recommended physical improvements, which are to occur in three phases (western, City Central, and eastern), are also designed to be consistent with New Berlin's City Center Redevelopment Plan. Recommended funding mechanisms centered on the use of statewide multi-modal improvement program, WDNR urban forestry grants and special assessments.

The plan does not really contain objectives and goals but does provide a series of design recommendations for physical improvements to provide better pedestrian access, create more of a "sense of place", improve streetscape aesthetics and increase public safety. The plan's recommended improvements are represented visually in a series of maps and streetscape graphics labeled "Conceptual Site Development". The more pertinent design recommendations are summarized in the bullets below:

- Provide a five-foot wide concrete pedestrian path on the north side of National Avenue to the east and west of the City Center. This path would consist of a mix of pavers and concrete bands with some areas between building facades and street curbs to be entirely paved to create more of a sense of place.

- Provide a ten-foot wide path for both pedestrians and cyclists on the south side of National Avenue that would narrow to eight feet at the City Center.
- Provide striped crosswalks with flashing pedestrian signage at Sunny Slope Road, Acredale Road, Regency, South 159th Street, Observatory and Regal Manor/Casper Road.
- Confine the most intensive planting of street trees (small in stature and upright in form) to the City Center area. Streetscaping in the City Center should be designed to improve way-finding, increase the sense of place and increase pedestrian safety. It should include pedestrian beds of short ornamental grasses and perennials, decorative walls, concrete brick paver crosswalks and decorative lighting.
- Bury the overhead wires.

City Center Redevelopment Plan (June 1999):

This plan provides a series of long-range urban design and development concepts and for New Berlin's city center intended to create more of an identity and sense of place. As the city center is located at the major intersection of Moorland Road, National Avenue, and Coffee Road, and extends south to Howard Avenue, transportation issues were important considerations in developing urban design concepts. This is reflected in the emphasis on design concepts that would provide a safe environment for vehicles and pedestrians and would integrate the movement of pedestrians, bicyclists and motorists. The report is divided into three sections. The first section concerns design and development issues for streets. Design issues related to redevelopment is the subject of the second section and the third section focuses on economic issues.

Summarized below, from the first section of the plan, are general design recommendations applicable to Moorland Road, National Avenue, Coffee Road and Howard Avenue:

Landscaping:

- Use continuous landscaping to define the road's edges.
- As much as possible, keep the landscaping and streetscaping consistent.
- Incorporate proper road drainage into the street landscaping
- Design street landscaping to provide strong visual edges
- Discourage artificial berms or similar topographic changes.
- Save existing trees and incorporate them into landscaping schemes.

Building Design and Placement:

- Reinforce the roadside edge with building placement and design adjacent buildings to form a single sight line with uniform setbacks.
- Design buildings to have a pedestrian-scale focus at street level.

Pedestrian and Bicycle Paths:

- Include pedestrian and bicycle paths and locate them along the public right-of-way with crossings at the main intersections where traffic lights will assists in safe crossing.
- Encourage pedestrian activities along streets, connecting the sidepaths to public spaces within the commercial developments with eventual linkage to the surrounding neighborhoods.
- Encourage pedestrians and bicyclists to use sidepaths by providing street benches, bicycle racks and trash receptacles.

Gateways:
- Establish entries as gateways.

Signage:
- Include roadside signage and make sign structures attractive.
- Combine landmark features with signage to provide identification of shopping areas and businesses and to create more of a sense of place.

The following are some of the plan's more specific transportation related recommendations:

Moorland Road:
- Along Moorland Road including a double row of trees on the east side of Moorland Road and a single row of large canopy trees on the west side of Moorland Road.
- Establish physical and visual gateways to the city center along Moorland Road. Appropriate areas for establishing these gateways includes the intersection or Moorland Road and National Avenue and the major access points into the mixed use retail/office/residential superblock framed by Moorland, National and Howard. Visually augment these gateways areas with roadside and internal signage and lighting.
- Continue the sidepaths (pedestrian paths) along Moorland Road into the adjacent neighborhoods, especially along the east side of the street.
- Remove the berm along Moorland Road and replace it with a double row of trees.

Intersection of Moorland Road and Coffee Road:
- Include a turning lane from Moorland Road to Coffee Road.

National Avenue:
- Install bicycle paths on National Avenue where the street cross-section is able to accommodate a minimum of 4 feet for a striped bicycle lane.
- Waukesha should install a traffic light at the intersection of the shopping center parking entrances and National Avenue.
- Install significant signage on the south side of National Avenue to identify the tenants in the commercial development along the Coffee Road extension.

Intersection of National Avenue and Coffee Road:

- Establish a gateway at the intersection of Coffee Road and National Avenue to create a "sense of arrival" into the area.
- Use paving patterns to emphasize the crosswalks at the intersection of National and Coffee and between the shopping centers. This will increase safety for pedestrians and bicyclists.

City of New Berlin Draft Economic Development Element (2002):

This document is the draft version of one of the nine elements that will be eventually be folded into the City's Smart Growth compliant Comprehensive Plan. The draft element notes that New Berlin's enviable transportation network is one of the City's economic development strengths. At the same time, it identifies transportation needs and issues that impact economic development and provides transportation related goals and objectives designed to help the City begin addressing these needs. Among the transportation needs and issues that are identified as directly bearing on economic development are the following:

- The need for improved vehicular access management, improved signal timing, and improved pedestrian access to commercial areas.
- High traffic volumes on some of New Berlins' transportation corridors that lengthen travel times and create negative visual images.
- Poor conditions on some of the roads
- Need for improved mass transit
- Need for improved pedestrian travel alternatives
- Poor road connectivity between residential and commercial areas

The most transportation-relevant goal contained in the draft is to locate businesses in appropriate sites where the infrastructure can support business uses. Related objectives include the following:

- As necessary, desirable and feasible, redesign major commercial corridors to improve traffic flow, encourage less hodge-podge development, increase aesthetics and provide safe pedestrian access.
- Where physically and financially feasible, increase local and collector road connectivity and bicycle/pedestrian connectivity between residential areas and commercial, institutional and light industrial parks that provide employment, goods and services.

The draft also provides policies and strategies related to the above goal and its objectives. These are focused on access, aesthetics and traffic flow and can be summarized as follows:

- Encourage shared access for large, multi-tenant commercial and retail structures to improve traffic flow along major road corridors.
- Use consistent architecture, landscaping and signage along major road corridors and City gateways to improve aesthetics.
- Provide more publicly and privately operated transit options for business parks and large employment centers to help manage traffic flow.

<u>West National Avenue Redevelopment Plan</u> (September 2000)

This recent plan is a detailed study examining issues related to redevelopment of the area extending along West National Avenue between Moorland Road and Town Road. It includes analyses of physical planning opportunities as well as a market analysis. Among this corridor's major transportation concerns were poorly designed automobile access for some of the existing businesses, inadequate pedestrian access, lack of connectivity with the surrounding residential neighborhoods and lack of landscaping and signage to better define the corridor and create more of a sense of place. As such, the plan involved extensive input, including planning workshops and meetings for information gathering and strategizing, from corridor business owners, neighboring residents and a significant landowner, the Holy Apostles Church. The text of the plan contains no very specific goals or objectives, only the following basic ones:

- Attract commercial and office uses to the area
- Redevelop structurally or economically obsolete
- Enhance the physical appearance of the corridor
- Maintain compatibility with adjoining residential neighborhoods
- Enhance the property tax base
- Protect and preserve property values
- Maintain the efficiency of the corridor with respect to vehicular movement, capacity and safety
- Provide safe and efficient circulation for pedestrians and bicyclists

In addition, the plan recommends a number of transportation facility improvements to reduce collisions, to improve access to businesses, improve traffic flow and improve pedestrian access. These are listed below and the accompanying West National Avenue Corridor Transportation Recommendation Map is appended as Figure ____.

- Extend the existing median, which currently extends west from Moorland Road approximately 700 feet, an additional 1,500 feet westward to South Church Street. It should be constructed within the existing 14-foot center turn lanes and should contain 18-foot curbs with an 11-foot central grassy area. This will help reduce the number of conflict points for the ingress and egress traffic of the abutting properties and provide a midway refuge for pedestrians.
- Install left-hand turn lanes at the South Church Street and 159th Street intersections with West National Avenue.
- Install 28-foot decorative lighting within the median consistent with planned lighting along East National Avenue.
- Revoke easements that permit properties to encroach upon the West National Avenue right-of-way.
- Vacate the frontage road on the north side of West National Avenue and attach it to the adjoining parcels at the time of assemblage and redevelopment. Convert the street right-of-way to a double-loaded parking aisle. Cross easements in the

names of adjoining property owners and the City should be reserved to enable continuous access through a 24-foot parking aisle.

- Keep the median-bread and access for the east end of the frontage road at its present location.
- Relocate and set back the west frontage road access point approximately 100 feet north of the intersection of South 159th Street and West National Avenue.
- Construct the 6-foot sidepath and 6-foot terrace area on both sides of West National Avenue to complement the redevelopment corridor efforts and improve pedestrian access.
- Close the existing median opening within the eastbound left turn lane at South Moorland Road.
- Limit driveway access to West National Avenue and side streets through the site review process (minimum spacing between driveways should be 150 feet).

HOW NEW BERLIN'S TRANSPORTATION PLANNING NEEDS RELATE TO THE OTHER APPLICABLE MUNICIPAL, STATE, COUNTY AND REGIONAL TRANSPORTATION PLANS

As is apparent, planning for improved transportation in New Berlin on a multi-modal level – automobile, bicycle, pedestrian, mass transit - has been the subject of a number of studies that the City has sponsored. In addition, several large-scale state, regional and county plans have been prepared that have considerable applicability to New Berlin's transportation needs. For the most part, these plans and studies provide a more than adequate analysis and assessment of the City's multi-modal transportation needs. Taken together, they also provide a more than adequate series of goals, objectives, policies, design standards and recommendations for establishing a multi-modal transportation system that meets the needs of residents, businesses, public institutions, houses of worship, schools, parks, recreational areas and commuters. As pointed out earlier, any inconsistencies between the plans likely reflect changes in recommended programming as new data became available and circumstances changed.

Given the fact that New Berlin's street network is not arranged in a grid, multi-modal connectivity between residential and non-residential land uses and within residential neighborhoods requires special consideration. The other plans, whether on a state, regional or county level, support local interest in enhancing multi-modal connectivity. However, local planning to ensure the mapping and implementation of bicycle and pedestrian paths and other off-road transportation networks has yet to be completed. The City should make it a priority to address these issues of connectivity.

TRANSPORTATION GOALS, OBJECTIVES AND POLICIES

As has become readily apparent, there are many prior studies applicable to transportation in and around New Berlin. They have set forth detailed goals, objectives, policies, design standards and recommendations. Therefore, the City would be best served by focusing on implementation of these already-established goals, objectives, standards and

recommendations. In the preceding summaries of these various plans and studies emphasis has been placed on the most pertinent of these. Whenever there are inconsistencies between two or more closely related plans and studies, it is recommended that the City most closely follow the goals, objectives, standards and recommendations of the most recent of these documents. For further details, reference should be made to the original documents.

Goal: Provide a safe, efficient and cost-effective multi-modal transportation network through the implementation of already established goals, objectives, policies, standards and recommendations that meets the City's needs and provides greater connectivity between land uses.

Objective: Implement the recommendations contained in the prior applicable plans and studies in a timely, cost-effective manner.

Objective: Add multi-modal transportation routes, including off-road routes, to the City's Official Map to guide the needed connectivity between land uses.

Policy: Refer to the prior applicable plans when making decisions on implementation of recommended transportation improvements.

Policy: Refer to the prior applicable plans and this Transportation Element when reviewing new development proposals as well as redevelopment activities.

Policy: Establish a record of decisions made on a local level whenever an effort is made to obviate the inconsistencies between related plans and studies.

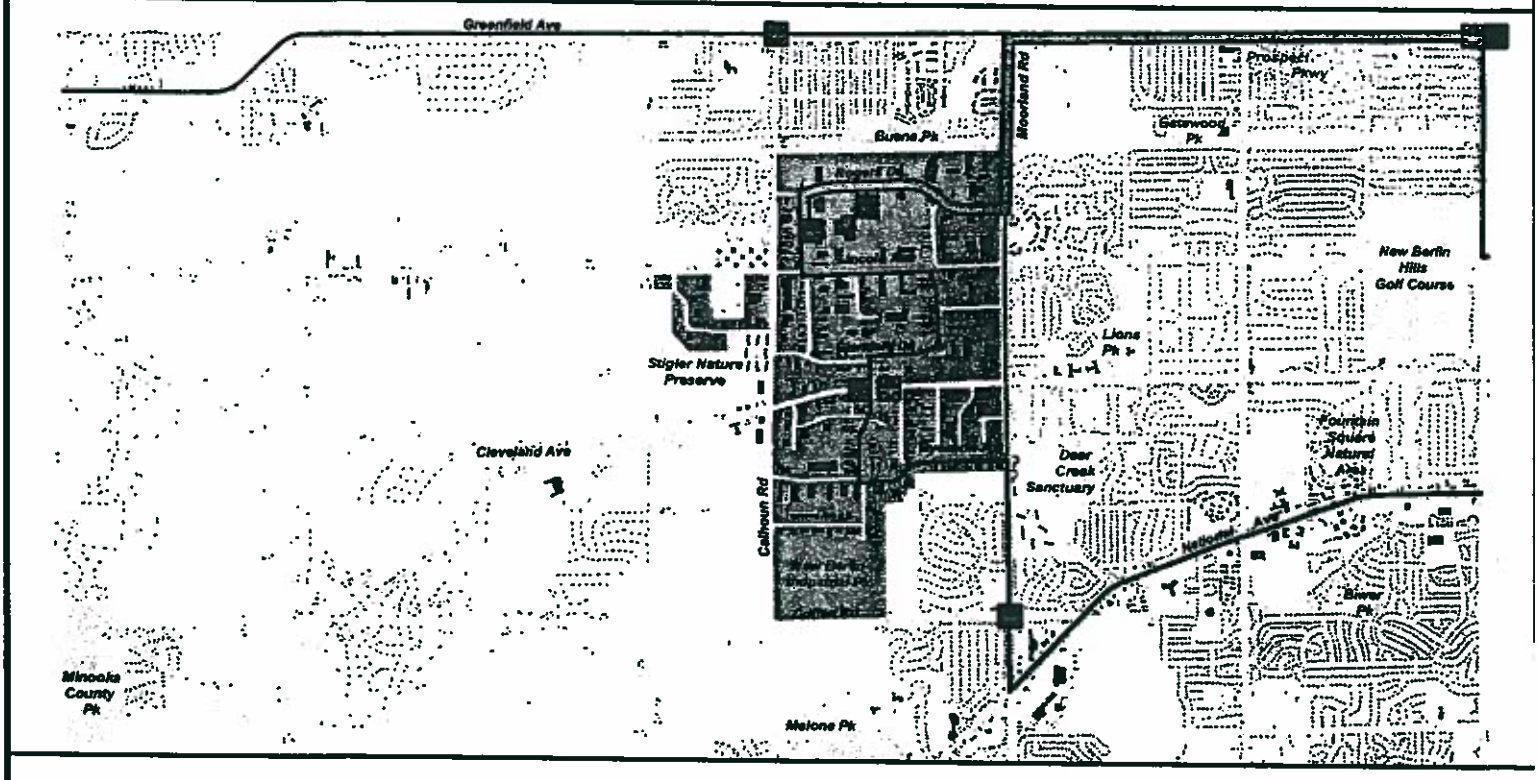
FUTURE TRANSPORTATION PLAN AND MAP

Not completed, but should include the following elements:

- Proposed improvements to, and extensions of, local, collector and arterial roads and highways
- Proposed bicycle trails
- Proposed pedestrian trails
- Proposed mass transit routes

Again, the emphasis should be on developing and enhancing multi-modal connectivity between residential and non-residential land uses as well as within residential neighborhoods.

New Berlin Bus Routes and Bus Stops



Bus Routes

- Milwaukee County Transit System Route 218
- Milwaukee County Transit System Route 6
- Milwaukee County Transit System Route 86
- Wisconsin Coach Express Lines
- Waukesha Metro Transit Route 302

Bus Stop Locations

- Milwaukee County Transit System Route 218, 124th St and Greenfield Ave
- Milwaukee County Transit System Route 218, 166th St and Cleveland Ave
- Milwaukee County Transit System Route 6, Quad Graphics
- Milwaukee County Transit System Route 6, Schoenek Containers, Inc.
- Milwaukee County Transit System Route 86, 124th St and Greenfield Ave
- Wisconsin Coach Express Lines, Calhoun Rd and Greenfield Ave
- Waukesha Metro Transit Route 302, 166th St and Cleveland Ave
- Waukesha Metro Transit Route 302, Coffee Rd and National Ave

For further route, fare, and schedule information please contact:

Milwaukee County Transit System
(262) 344-6711
www.ridemcts.com

Wisconsin Coach Lines
(262) 542-8861 or
(262) 544-6503

Waukesha Metro Transit
(262) 524-3636
www.ci.waukesha.us/dept/transit

New Berlin

Department of Community Development
Land Information Services
3805 S Casper Dr
New Berlin, WI 53151
Phone: 262/797-2445
Fax: 262/780-4805
www.newberlin.org

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