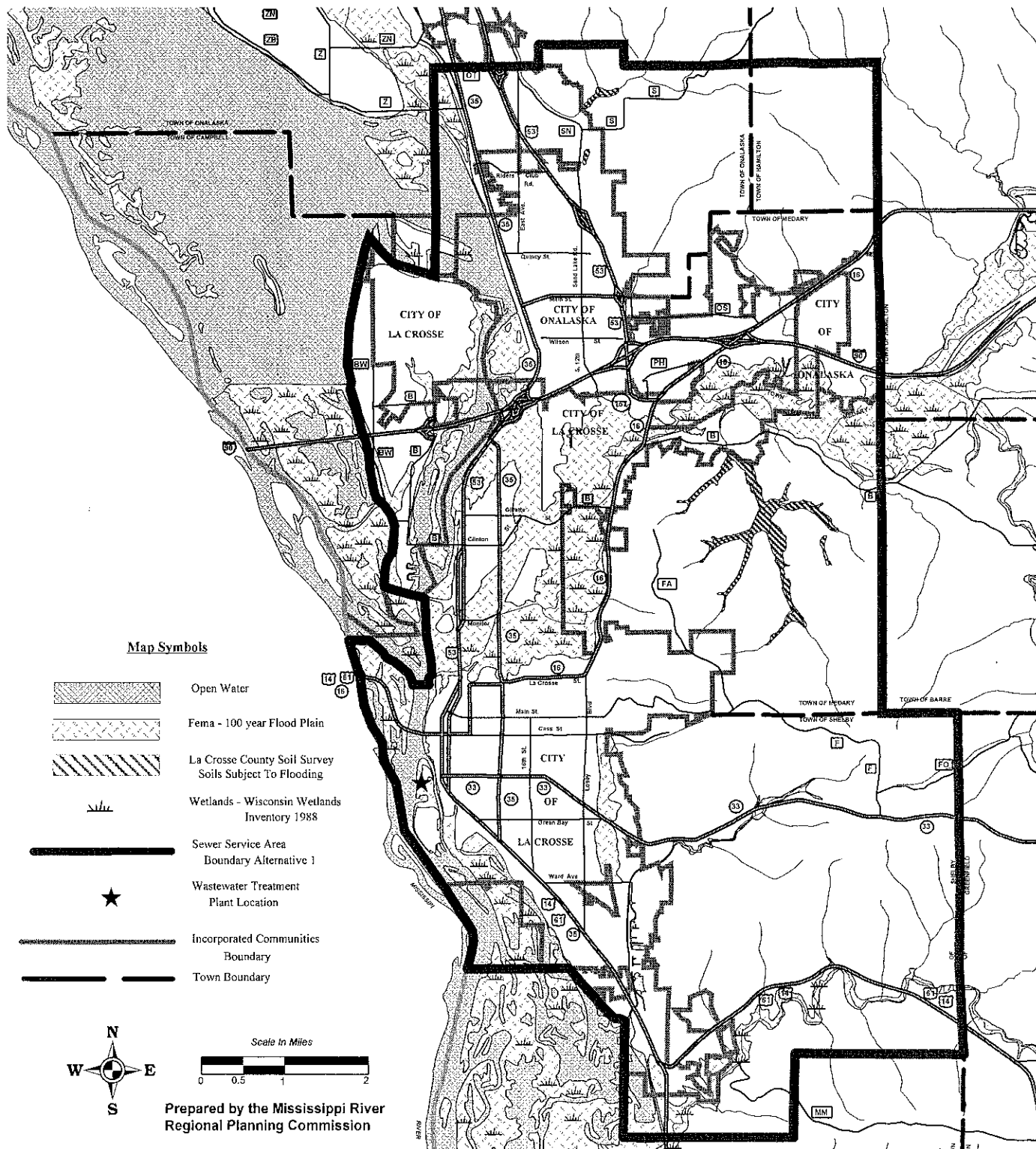


LA CROSSE SEWER SERVICE AREA WATER QUALITY MANAGEMENT PLAN 1999 -2020



This plan serves as the Municipal Point Source Element of the *Bad Axe - La Crosse (River Basin) Water Quality Management Plan* and is prepared for the purpose of meeting requirements of "Section 208" of the Federal Water Pollution Control Act as amended.

ABSTRACT

Title: La Crosse Sewer Service Area Water Quality Management Plan 1999-2020

Plan Purpose And Contents: To plan for sewer line extensions in an environmentally sound manner to protect surface and groundwater from point and nonpoint sources of pollution and to meet the requirements of the Federal Clean Water Act and State Administrative Code N.R. 121. Identification and mapping of environmentally sensitive areas, preparation and enforcement of erosion control plans, planning for sewer growth and development within a sewer service area boundary, and identifying administrative responsibilities for implementing policies are the major components of the plan.

Plan Background And Funding: This plan is an update to the La Crosse Sewer Service Area Plan originally completed in 1985 and was funded through a planning grant from the Wisconsin Department of Natural Resources.

Approved By: La Crosse Area Planning Committee _____ May 19, 1999
Wisconsin Department of Natural Resources September 20, 1999

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La Crosse Area Planning Committee

Planning Organization Serving the La Crosse and La Crescent Urbanized Area

Lawrence Kirch, Director - David Truckenbrod, Senior Planner

Resolution Wherein the La Crosse Area Planning Committee Adopts the La Crosse Sewer Service Area Water Quality Management Plan, 1999-2020.

WHEREAS, Federal Clean Water Act legislation and State Administrative Code N.R. 121 requires sewer service area planning to protect water quality; and

WHEREAS, in order to comply with these regulations the La Crosse Area Planning Committee, LAPC, with assistance from the Mississippi River Regional Planning Commission and Wisconsin Department of Natural Resources have undertake the necessary planning process to prepare an update to the 1985 La Crosse Sewer Service Area Plan; and

WHEREAS, through technical advisory committee meetings, LAPC meetings and a public hearing, information was provided, analyzed and considered for inclusion into the Plan; and


WHEREAS, the Plan identifies environmentally sensitive areas and proposes environmentally sound sewer service extension goals, policies and procedures that will protect water quality within a sewer service area boundary; and

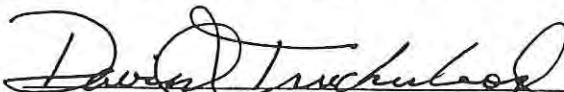
WHEREAS, the Plan also identifies policies and procedures to make future amendments to this Plan;

NOW THEREFORE BE IT RESOLVED, that the La Crosse Area Planning Committee having considered the input provided by the Sewer Service Area Plan Technical Advisory Committee and comments heard at the public hearing hereby adopts the **La Crosse Sewer Service Area Water Quality Management Plan, 1999-2020**.

Dated this 19th day of May, 1999.

This is to certify that the foregoing is a true and correct copy of the Resolution duly and legally adopted by the La Crosse Area Planning Committee on the 19th day of May, 1999.


James Ehram, Chairman
La Crosse Area Planning Committee


Attest: David Truckenbrod, Recording Secretary, LAPC

LA CROSSE SEWER SERVICE AREA WATER QUALITY MANAGEMENT PLAN 1999-2020 ACKNOWLEDGEMENTS

The following committees and individuals were instrumental in the development of this plan and are acknowledged here for their time and work spent in preparing, reviewing and acting on the various drafts of this plan.

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**LA CROSSE SEWER SERVICE AREA WATER QUALITY MANAGEMENT PLAN
1999-2020**

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1. INTRODUCTION

SEWER SERVICE AREA PLANNING

This document is an update to the *La Crosse Sewer Service Area Plan* which was originally completed in 1985 by the Department of Natural Resources, the University of Wisconsin-Extension and a consultant with input from local governments and the La Crosse Area Planning Committee. This plan was certified as meeting Federal Water Pollution Regulatory Laws by Governor Earl in a letter submitted to the Environmental Protection Agency in September 1985. Since that time this plan has been used for regulating sewer service within the La Crosse Sewer Service Area.

Federal and State regulations require this Plan to indicate the most cost effective and environmentally sound wastewater treatment configuration for the planning area. The significance of this Area-Wide Water Quality Management Plan is that once the Plan is approved by the State, Federal and State Statutes require that permits for wastewater treatment facilities, facility plans for wastewater treatment facilities, interceptors and sewer extensions are to be in conformance with the plan.

Federal and State requirements call for the components of an Area Wide Water Quality Management Plan to consist of the following four elements: (1) A regional treatment configuration. This is an analysis of the geographic contributory area for an urban area's treatment plant; (2) The delineation of a 20-year sewer service area. This is the land area which is projected to be served by public sewer over the next 20 years. This service area is determined using population projections, density standards and is influenced by environmental sensitive areas such as steep slopes, floodways, and wetlands. (3) The establishment or use of an existing policy committee to make recommendations, revise or amend the plan and to establish plan conformance review procedures; and (4) A public participation element which documents the process that will be used for informing and involving the public in the area-wide planning process.

FEDERAL AND STATE REGULATIONS

Sections 201, 208, and 209 of the Federal Water Pollution Control Act (Public Law 92-500) as amended by Public Law 95-2171 and State Administrative Code NR 121 are the major regulations that influence sewer service area planning.

Section 201 deals with the construction specifications that sewerage systems must meet in order to be in conformance with Clean Water Act standards and to be eligible for construction grants and loans.

Section 208 requires the preparation of area-wide water quality management plans-208 Plans - The 1985 *La Crosse Sewer Service Area Plan* is a 208 Plan as is this plan. The Governors of each state are to designate areas needing area-wide plans to deal with water quality concerns. In Wisconsin municipalities with a population of 10,000 or more are required to prepare 208 area-wide water quality plans. It is this requirement that led to

the completion of the *La Crosse Sewer Service Area Plan* in 1985 and numerous other plans across the state.

Section 209 of the Water Pollution Control Act calls for the preparation of plans for the Nation's river basins that will lead to the reduction of water pollution from "point sources" such as pipe, ditch or other specific discharge points and from "nonpoint sources" such as stream pollution which cannot be traced back to a pipe or ditch, for example, stormwater runoff. The River Basin Plan that covers the La Crosse Sewer Service Area is titled *The Bad Axe-La Crosse Rivers Water Quality Management Plan*. This plan was first completed in 1980 and then was updated in 1994. This plan identifies pollution sources and links them to water quality problems and makes recommendations for reducing point and nonpoint source pollution. One of the recommendations in the 1994 Basin Plan is to "revise the *La Crosse Sewer Service Area Plan* to include all official changes since the August 1985 publication, review all area erosion control policies, ordinances, and implementation schemes and include as appendices." *The Bad Axe-La Crosse Rivers Water Quality Management Plan* is just one of the twenty-one major river basin plans that together cover the entire state.

State Administrative Code NR 121 along with State Statutes 144.025 (1), (2) and 147.25 outlines how water quality planning and implementation is to be carried out in Wisconsin in accordance with Federal and State water quality regulations.

PURPOSE AND BENEFITS OF AREA-WIDE WATER QUALITY PLANNING

The purpose of these regulations that call for water quality planning is to prevent further degradation of the Nation's coastal waters and inland waters and to achieve a national goal of fishable and swimmable waters that is to be accomplished through a national comprehensive program of water quality planning, construction financing for municipal wastewater treatment facilities and a national discharge permit program for municipal and industrial discharges. The *La Crosse Sewer Service Area Water Quality Management Plan* is this area's response to the water quality planning requirements of this Federal Act. Benefits derived from this planning are: Protection of our resources, cost effective methods in providing sewer service, protection of environmentally sensitive areas, and reduction of urban sprawl through planned growth.

HOW DOES THE LA CROSSE SEWER SERVICE AREA PLAN ACCOMPLISH ITS PURPOSE OF MEETING FEDERAL AND STATE WATER QUALITY PLANNING REQUIREMENTS?

The plan identifies environmental sensitive areas where sewered development should be prohibited or more carefully planned for. Steep slopes of 20% or more, wetlands, and floodplains are examples of environmentally sensitive areas. Development of these areas result in a higher degree of surface and ground water contamination caused mostly through runoff. Increased chances of flooding also can occur when these areas are developed since water is not absorbed naturally into the earth but instead runs off of the rooftops and pavement and into streams.

The plan also establishes a sewer service area boundary line that is based on the location of environmentally sensitive areas and on land development needs over a 20 year period. Keeping sewer development within this boundary and prohibiting or mitigating impacts on environmentally sensitive areas results in both an environmentally sound and a cost effective sewer system.

All sewer extension requests are reviewed locally for their conformance with these standards in the plan. Extensions are denied if they violate any of the standards. Sewer extension requests that are approved are also subject to adherence to an erosion control plan to further ensure water quality protection. Further information on the conformance review process and the standards sewer extensions are to conform with are described in detail in Chapter 6.

MUNICIPALITIES IMPACTED

The municipalities most directly impacted by the Sewer Service Area Plan are those that contribute sewage to the La Crosse Wastewater Treatment Plant. Those communities are: Cities of La Crosse and Onalaska and parts of the Town of Shelby and Town of Campbell that are part of sanitary sewer districts. The Towns of Onalaska, Medary and Hamilton are also impacted by this plan since parts of these towns are included within the La Crosse Sewer Service Area Boundary.

PLAN CONTENTS

This plan is comprised of eight sections which include (1) Introduction, (2) Regional Wastewater Treatment Facility and Sewer System, (3) Environmentally Sensitive Areas, (4) Population and Dwelling Unit Projections, (5) Sewer Service Area Boundary Alternatives, (6) Sewer Service Conformance Review Process, 7) Sewer Service Area Plan Amendment Procedures, and 8) Sewer Service Area Policies and Goals

2. REGIONAL WASTEWATER TREATMENT FACILITY AND SEWER SYSTEM

SEWER SERVICE AREA AND OPERATING CHARACTERISTICS

The City of La Crosse owns and operates the La Crosse municipal wastewater treatment system that serves a combined population of approximately 80,000 residents. The City of Onalaska, Town of Shelby and the Town of Campbell through local ordinances and intermunicipal agreements with the City of La Crosse also discharge to this treatment system. Septage and holding tank wastes are also accepted by the treatment facility.

The sewer service area established in 1985 covers a total geographic area of 48 square miles. The wastewater treatment facility that accepts this waste from this service area is located on Isle La Plume in the City of La Crosse. The facility is currently permitted by the state to discharge effluent into the Mississippi River and land spread digested biosolids onto agricultural fields. A smaller wastewater treatment facility serves Barron Island and is owned by the City of La Crosse.

These treatment facilities are governed by the La Crosse Common Council through the Board of Public Works. The Board of Public Works is staffed by the Mayor and various department heads. The day to day management of the treatment plant is conducted by a certified operator, who reports to the Director of Public Works.

LA CROSSE MUNICIPAL WASTEWATER TREATMENT FACILITY HISTORY

The original Isle La Plume wastewater treatment facility was constructed in 1936 and provided primary treatment for the City of La Crosse. Alterations completed in the early 1970's upgraded the facility to secondary treatment standards and significantly increased plant capacity. These improvements were a direct result of the need to meet the new Federal Water Pollution Control Standards and eligibility requirements for federal funding that was made available to assist communities in meeting these standards. The following is a list of improvements and changes occurring since the facility was first constructed.

- 1937 - The Isle La Plume plant became operational and provided primary treatment for the City of La Crosse.
- Early 1970's - The facility was upgraded to secondary treatment standards and plant capacity was significantly increased.
- 1981 - Installation of new sludge heater and related equipment.
- 1982-1985 - The *La Crosse Sewer Service Area Plan* was prepared, accepted by Governor Earl and certified to the Environmental Protection Agency as being in conformance with the Clean Water Act. This plan also established this facility to serve a regional area.

- 1983 - The City of La Crosse implemented an industrial pretreatment program to monitor significant industrial users.
- Mid 1980's - G. Heileman Brewing Company-Stroh Brewery commissioned a private pretreatment system to handle flows from their brewery. This pretreatment system alone effectively reduced organic loading to the Isle La Plume facility by more than one-half.
- 1983-1985 - Several permitted industrial users installed pretreatment systems which had a combined effect of reducing organic and heavy metals loading to the Isle La Plume facility.
- 1986 - A fine bubble aeration system was installed.
- 1987 - Centrifuges were installed.
- 1988 - A second new sludge heater was installed.
- 1988 - The sewer service conformance review policies were amended to improve and clarify plan implementation procedures and the sewer service conformance review function authority was delegated from the DNR-Eau Claire District Water Resources Planner to the La Crosse Office of City Engineer. The Mississippi River Regional Planning Commission also prepared a more detailed Sewer Service Area Map to assist in conformance reviews.
- 1991 - The city implemented a wastewater utility. Revenues generated by the new user fees as opposed to the general property tax caused many industrial and commercial businesses to reduce the volume of water discharged to the sanitary sewer.
- 1993 - An ultraviolet disinfection system was installed.
- 1994 - Cooperative agreements between the La Crosse County Department of Land Conservation and the Cities of La Crosse and Onalaska were signed to improve construction erosion control practices where slopes of 20% or greater are present.
- 1996-1997 - New agreements for sewer service conveyance and treatment were approved and signed between the City of La Crosse and the City of Onalaska, and Towns of Shelby and Campbell.
- 1997 - A biological nutrient removal system was installed.
- 1998 - A new sludge gravity belt thickener, facility-wide SCADA system, pretreatment office, restrooms, two tanks that total 180-day liquid sludge storage units, polymer sludge conditioning system, and a gravity belt filter press were constructed or installed.
- 1997-1999 - The La Crosse Area Planning Committee with assistance from the Mississippi River Regional Planning Commission and the Department of Natural Resources prepared an update to the 1985 La Crosse Sewer Service Area Plan which was adopted by the LAPC on May 19, 1999.

WASTEWATER TREATMENT FACILITY COMPONENTS

The following components make up the treatment facility on Isle La Plume:

- Five flow monitoring devices - three are used to determine flow
- Septage/holding tank waste receiving station
- Four comminutors

- Grit chamber
- Five primary clarifiers
- A 20 million gallon per day biological nutrient removal system with two trains each consisting of a anaerobic, anoxic, and aeration basin
- Backup chemical phosphorus removal system using ferric chloride
- Four secondary clarifiers
- Two gravity sludge thickeners
- Four anaerobic digesters
- Two sludge centrifuges
- Sludge gravity belt thickener
- Facility-wide Supervisory Control and Data Acquisition (SCADA) System
- Two liquid sludge 180-day liquid storage units
- Polymer sludge conditioning system
- Gravity belt filter press
- Several land spreading vehicles
- A state authorized pretreatment program - established in 1983,
- A certified lab, and
- Two stationary generators for emergency operations

TREATMENT FACILITY DESIGN FLOW CAPACITY VERSUS ACTUAL FLOW

The treatment facility has excess capacity that can almost handle twice the loading and approximately twice the population that it presently serves. This excess capacity is attributed to industries pretreating their wastes, the transition to a wastewater utility that collects fees based on load generated, and the planned oversizing of the plant to accommodate a growing urban area. Flow figures for 1997 show that the facility was operating at 52% of design flow and 50% of design Biological Oxygen Demand (BOD) capacity in 1997.

The table below compares the design flow of the facility with actual flow in million gallons per day (MGD) and pounds of Biological Oxygen Demand per day (#/BOD/D).

Table 2.1		
La Crosse Municipal Treatment Facility		
	Million Gallons Per Day (MGD)	# Biological Oxygen Demand Per Day (#/BOD/D)
Design Flow:	20.0	29,773
1997 Daily Flow:	10.5	14,888
Excess Capacity:	9.5	14,885
Percent of Design Capacity:	52%	50%

Source: La Crosse Public Works Department

The average daily flow of 10.5 million gallons to this facility in 1997 results in a per capita contribution rate of 130 gallons for each of the approximately 80,000 residents of the sewer service area, Map 2.1. This figure is in line with other communities like La Crosse that serve as a regional trade center with a higher concentration of commercial, industrial, and institutional wastewater generators. The large excess capacity of this facility also serves as an economic development asset for the area.

SEWER COLLECTION SYSTEM

The sewer piping network, lift stations, and flow monitoring stations are located across four local government jurisdictions, Map 2.1. The sewer system within each local government is managed, operated and maintained by that particular unit of government. The breakdown of the infrastructure in each of these governmental units is provided in the following table.

Jurisdiction	Inch-Miles ⁽¹⁾ of Collection Lines	Total Number of Lift Stations	Location of Monitoring Station
City of La Crosse	2,314	28	Treatment facility on Isle La Plume
City of Onalaska	687	5	W. George Meter Pit
Shelby Sanitary District	⁽²⁾ 94	4	None
Campbell Sanitary District	⁽²⁾ 210	10	Nakomis Avenue
TOTAL	3,305	47	

(1) *Inch miles are units of surface area. Two miles of a 16-inch collection line is 32-inch miles.*

(2) *Estimates*

Collection of Septage and Holding Tank Wastes. The treatment facility also serves as a receiving station for hauled wastes. The station is open during business hours and is locked during non-business hours. A manifest system is used to track this waste stream. The character of this waste is tested annually.

SEWER SERVICE AGREEMENT AND POLICIES

The City of La Crosse has entered into separate sewer service agreements with the City of Onalaska, Town of Campbell and the Town of Shelby. These separate agreements describe the operating requirements and responsibilities of each party. In some situations, particularly when delineating areas that can be served by sewer, the requirements within these agreements are more restrictive than the requirements and regulations of this Sewer Service Area Plan. The following is a summary of these sewer service area agreements and policies that each municipality is following.

City of La Crosse. The City of La Crosse in most circumstances requires annexation of property prior to public sewer being provided. The City funds their sewer facility and system through a user charge system that started in 1991. The City has funded recent sewer projects through local bonding. Debt service is then paid off through the user charge system. Different rates are established for residential, high strength users and hauled wastes. The City has entered into agreements for sanitary sewer

conveyance and treatment with the City of Onalaska, Town of Campbell and Town of Shelby.

City of Onalaska. The City of Onalaska in most circumstances requires annexation of property prior to public sewer being provided. The City administers their sewer system through a user charge. The City's *Agreement for Sewer Conveyance and Treatment* with the City of La Crosse - executed in March 1997 calls for the City to pay La Crosse a user fee based on flow. This agreement also identifies areas that each of these cities are to serve near their boundaries when development in these areas is deemed practical.

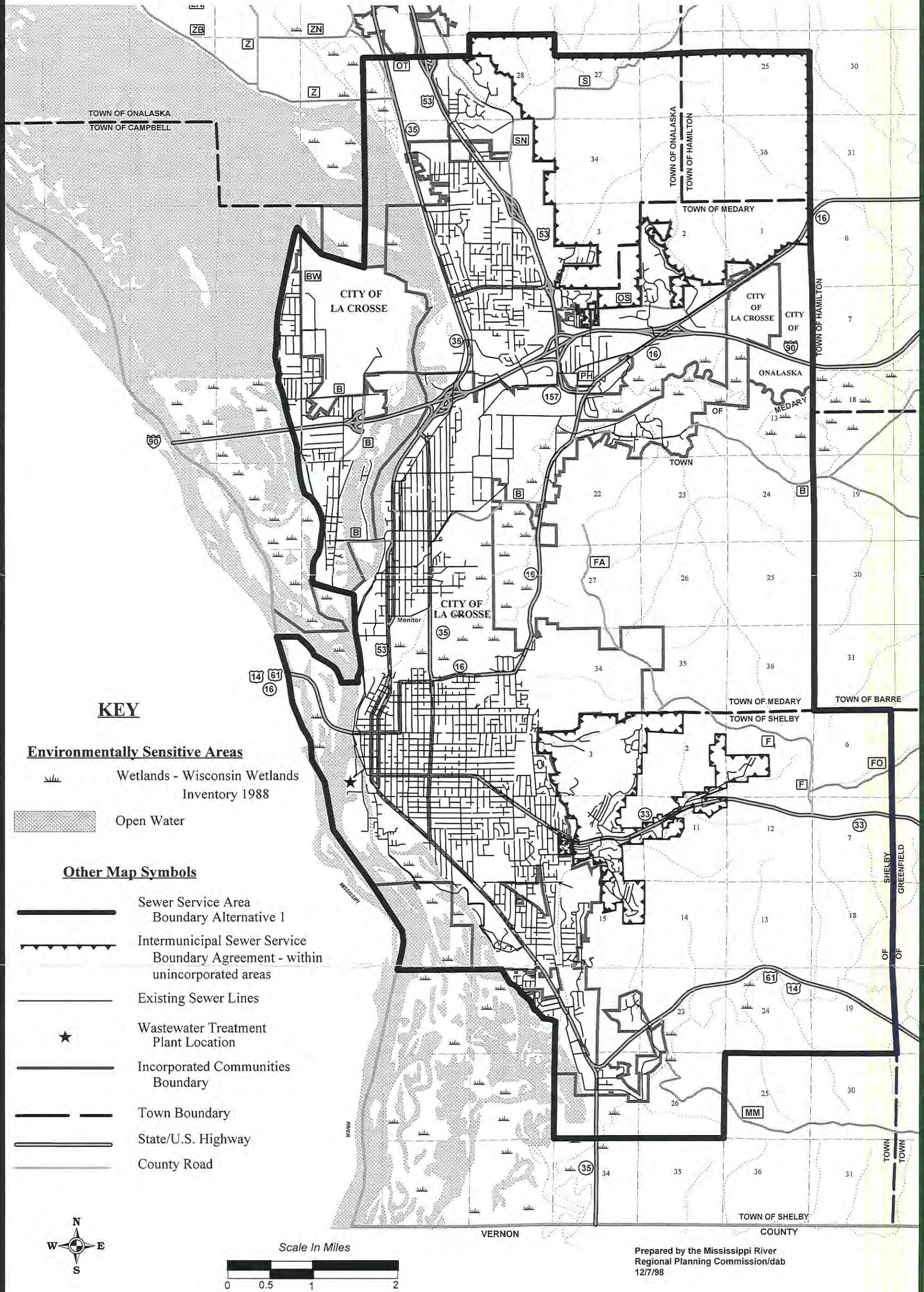
Town of Campbell. The entire Town of Campbell is included within the Town of Campbell Utility District One. The *Agreement for Sanitary Sewer Conveyance and Treatment*, executed in January 1996 between the Town utility district and City of La Crosse, allows the Town to decide the practicality of providing sewer service to a given property. The Town utility district pays a user fee based on flow to the City of La Crosse.

Town of Shelby. Sewer Service is provided within Sanitary District One and within portions of Sanitary District Two within the Town of Shelby. Over 80% of Sanitary District One has been annexed to the City of La Crosse since that District's creation. The remaining 20% is currently served with sewer. The administration, maintenance, including billing service for District One has been transferred to the City of La Crosse. Future sewer service expansion is limited within this District due to the already built-up character which includes two town islands surrounded by the City of La Crosse and property along Cliffside Drive.

Sewer service within Sanitary District Two is limited to the "Sanitary Sewer Service Area" as described in the *Agreement for Sanitary Sewer Conveyance, Treatment and Disposal* executed between the Town Sanitary District Two and the City of La Crosse in January 1996. Flow conveyance limitations and providing service in a cost effective manner are reasons for limiting sewer service to the "Sanitary Sewer Service Area".

Map 2.1 also identifies the Intermunicipal Sewer Service Area Boundary Agreements and the La Crosse Sewer Service Area Boundary.

MAP 2.1 LA CROSSE SEWER SERVICE AREA SEWER LINES AND INTERMUNICIPAL SEWER SERVICE BOUNDARY AGREEMENTS



3. ENVIRONMENTALLY SENSITIVE AREAS

Protecting water resources for ourselves and future generations is the primary reason for the preparation of the Sewer Service Area Plan and thousands of others like it across the Nation. To accomplish this, identification of "environmentally sensitive areas" or areas where development would have a more adverse impact on water are identified.

Unchecked development within these environmentally sensitive areas would lead to serious degradation of coastal and inland waters. By limiting development within these areas the quality of our water resources can be maintained. Providing sewer service to or through any of the following environmentally sensitive areas is either prohibited or requires mitigation measures to protect water quality. Map 5.1 identifies the location of these environmentally sensitive areas.

Floodplains. Floodplains are environmentally sensitive from a water quality perspective because nature has always been able to extract a price for the use of floodplains. This price is in the form of damaged buildings and structures, sewer backups, exposing hazardous materials and increased stormwater runoff, all of which contribute to degradation of water quality. The Nation's annual flood recovery costs are excessive and the human hardship beyond this is immeasurable. It is for this reason that the federal, state, and local governments encourage hazard mitigation planning that discourage floodplain development. Counties, cities and villages are responsible for administering floodplain zoning in accordance with regulatory standards of Chapter NR 116 of the Wisconsin Administrative Code and the standards of the National Flood Insurance Program. Areas regulated by floodplain zoning include all areas that would be covered by the regional flood and include floodplain islands designated on the official map where emergency rescue and relief routes would be inundated by the regional flood. The purpose for regulating floodplains is to protect life, health, and property from flooding. The following are key terms that are used in regulating floodplains.

Floodplains are land areas which have been or may be covered by floodwater during the "regional flood". The regional flood is a flood determined to be representative of large floods known to have occurred in Wisconsin or which may be expected to occur on a particular lake, river or stream. The regional flood is based upon a statistical analysis of lake level or stream flow records available for the watershed or an analysis of rainfall and runoff characteristics in the watershed or both. In any given year, there is a 1% chance that the regional flood may occur or be exceeded. During a typical 30-year mortgage period, the regional flood has a 26% chance of occurring.

The floodplain is made up of the floodway and flood fringe areas. The floodway is the channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge. The flood fringe is that portion of the floodplain outside of the floodway, which is covered by floodwater during the regional flood. The term flood fringe is generally associated with standing water rather than flowing water. Prohibiting further development in the floodway, buyouts and relocation, and using flood-proofing techniques in conjunction with flood insurance for buildings in the flood fringe are typical ways of mitigating flood damages.

Steep Slopes. Steep slopes are environmentally sensitive from a water quality perspective due to increased amounts of erosion and stormwater runoff that occurs when steep slopes are developed. The detrimental effect of stormwater runoff from impervious surfaces such as rooftops and driveways increases greatly when such surfaces are constructed on steep slopes. This causes increased runoff volume, and debris and sediment deposits in streams and rivers. Sand Lake Creek, Ebner Coulee Creek, the Mississippi River, the La Crosse River, Black River, Mormon Coulee Creek, Pammel Creek, and Smith Coulee Creek all are waterways that are recipients of this runoff from development on steep slopes. The water quality of these rivers and creeks provide both recreational and aesthetic benefits that are an integral part of our quality of life. Smith (Valley) Coulee Creek and Mormon Coulee Creek are in fact classified trout streams, which makes handling of runoff from development in these valleys especially critical if these sensitive aquatic environments are to be maintained.

To protect the area's rivers, lakes and streams from excessive stormwater runoff local ordinances and cooperative agreements call for the County Land Conservation Committee to review and approve erosion and sedimentation control plans for an entire developing site and/or plat when slopes of 20% or greater exist. In addition, no land disturbance activities are allowed within the La Crosse Sewer Service Area on slopes of 30% or greater except for access roads or installation of utilities to building sites of less than 30% slope or where slopes 30% and greater are less than 4,000 noncontiguous square feet. The County Land Conservation Committee is also responsible for enforcing these plans in the towns or unincorporated areas within the Sewer Service Area. The City of La Crosse and the City of Onalaska are responsible for enforcing the erosion control plans that have been approved by the County Land Conservation Committee within their municipal boundaries. Cooperative agreements have been executed that identify the roles and responsibilities on preparing, approving and enforcing erosion and sedimentation control plans between the County Land Conservation Committee and the City of La Crosse and City of Onalaska.

For clarification purposes, a slope of 20% has a vertical rise of 2 units for every 10 units of horizontal distance. The use of a tangent table shows that an angle or slope of 11.31 degrees is equal to the angle of the tangent of a 20% slope. This correlation results in a 100% slope equaling a 45° slope.

Wetlands. Wetlands are environmentally sensitive due to the many values and functions they provide. Wetlands filter and replenish groundwater that is used for drinking and bathing, wetlands provide flood protection; they act like sponges, storing and slowly releasing rainfall and runoff which reduces flood peaks and flood recovery costs. Wetlands act as filters for certain kinds of wastes and soluble contaminants generated from runoff which protects lakes and streams. Wetlands provide food and habitat for all sorts of plant and animal wildlife which benefits hunting, fishing, sightseeing and other recreational or tourism interests. Wetlands also protect shorelines from erosive wave action and enhance the quality of life by providing spacious and scenic open spaces.

The development of wetlands destroys the life giving productive capacity of the ecosystem. Additionally, development costs are much higher in wetlands or areas with wet soils. Maintenance costs for sewer collection systems in wet areas can lead to increased treatment and cleanup costs to system customers.

Wetlands are defined in Wisconsin Statutes 23.32 as areas where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

Two regulatory authorities are most often involved in wetland protection. With the loss of one-half of our State's wetlands totaling approximately 5 million wetland acres, the State legislature directed the DNR to create rules to protect wetlands located near lakes and streams. State Administrative Codes NR 115 and 117 were the end result of this directive. These codes set the minimum wetland protection standards that have been delegated by the State legislature for counties, cities and villages to administer.

Shoreland-wetlands are defined as wetlands of five acres or larger in size identified on the Wisconsin Wetland Inventory Map and in the shoreland zone. The shoreland zone is defined as that area located within 1,000 feet of the ordinary high water mark of a navigable lake, pond or flowage or within 300 feet of the ordinary high water mark of a navigable stream or river or to the landward side of the floodplain whichever distance is greater. These regulations are unique in that they regulate additional uses detrimental to shoreland-wetland areas and preserve the shore cover and natural beauty by restricting the removal of natural shoreland cover and controlling shoreland-wetland excavation, filling and other earth moving activity.

The second major wetland regulatory authority is Section 404 of the Clean Water Act. The primary goal of the Federal Clean Water Act is to "restore and maintain the chemical, physical and biological integrity of the Nation's waters". Section 404 of the Clean Water Act regulates the disposal of dredged or fill material into U.S. waters, including wetlands. This is the primary Federal law that regulates the filling and draining of wetlands. Section 404 is administered by the U.S. Army Corps of Engineers with guidance and oversight by the U.S. Environmental Protection Agency. In Wisconsin the Department of Natural Resources has developed water quality standards for wetlands identified in NR103, Wisconsin Administrative Code. The Department is responsible for determining if the Section 404 permit application complies with these standards. The U.S. Army Corps of Engineers cannot make a decision on these wetland alteration permits until the Department grants, denies, or waives water quality certification.

In conclusion it should be pointed out that it is a violation to physically alter any wetland no matter its size without regulatory approval and that at least a 404 permit is needed to do so. An additional shoreland-wetland permit may also be required from the local government if the activity being proposed is impacting a wetland within the shoreland boundary.

4. POPULATION AND DWELLING UNIT PROJECTIONS FOR THE YEAR 2020

Population and dwelling unit projections for the year 2020 have been prepared for two La Crosse Sewer Service Area Boundary Alternatives. These projections are based off of the *Population, Employment, and Dwelling Unit Projections* report prepared for the La Crosse Metropolitan Planning Organization (MPO) in 1995. These projections were prepared to develop a long-range intermodal transportation plan for the La Crosse area to meet the federal requirements of the Intermodal Surface Transportation Efficiency Act of 1991. The projections used a modeling technique that used traffic analysis zones that covered a 186 square mile transportation planning area.

To prepare these projections, the La Crosse metropolitan area was divided into a series of small geographic areas called Traffic Analysis Zones (TAZs), Map 4.1. TAZs are defined by their geographic, transportation, social, and economic patterns or activities. The activities within each TAZ are reasonably homogeneous and at a similar level. This means that TAZs are smaller in higher population density areas and larger in areas of lower population density. The geographic boundaries for the TAZs were determined by the Census Bureau.

The projections were prepared by Geography and Business professors at UW-La Crosse. The La Crosse City Planning Department, the Wisconsin Department of Administration, and the Mississippi River Regional Planning Commission also provided technical assistance to the professors. These projections were adopted by the La Crosse Area Planning Committee and accepted by the Wisconsin Department of Transportation and the Federal Highway Administration for use in transportation planning in the La Crosse area.

The following is a listing of the steps involved to develop these projections.

- 1) Initial population projections were generated for five-year intervals through the year 2020, using the 1995 baseline figures and Wisconsin Department of Administration (DOA) growth rate projections.
- 2) Initial dwelling unit projections were generated by dividing the projected population levels by the 1990 density.
- 3) The projected dwelling units were then modified by the Metropolitan Planning Organization's (MPO) staff. Developable land within TAZs and development patterns were critical considerations in the revisions of the Dwelling Unit (DU) projections.
- 4) The revised DU forecasts were multiplied by the 1990 density factors to generate population forecasts sensitive to land use patterns and amounts of developable land.
- 5) The development-based forecasts for the entire planning area were compared to DOA projections.

- 6) Minor adjustments were made to the 1990 density factors to bring the TAZ specific forecasts in line with the DOA forecasts for the planning area.
- 7) The final population estimates were calculated by multiplying the adjusted density factors times the adjusted dwelling units.

In summary, the forecasting methodology was fundamentally a top-down approach. Population forecasts from the Wisconsin Department of Administration for each Minor Civil Division (MCD) were disaggregated to the TAZs. The disaggregation was supported with the GIS modeling system.

Modifying the La Crosse Transportation Planning Area Projections to Fit the Two La Crosse Sewer Service Area (SSA) Boundary Alternatives. The La Crosse Sewer Service Area boundary alternatives cover areas that lie within the 186 square mile La Crosse Transportation Planning Area. Sewer Service Area Population and Dwelling Unit projections utilized only the TAZs that lie within or partially within these two SSA boundaries. Of the 171 TAZ's, 25 are outside the SSA boundary and another 10 to 13 are partially within one of the SSA boundary alternatives. The 25 TAZs outside the SSA were eliminated for projection purposes and the 10 to 13 partially in a given SSA boundary alternative were modified by reducing the 1995 dwelling unit base number to account for only those dwelling units that lie within the SSA. The final forecasts for the SSA boundary are based off of the eliminated or reduced dwelling unit figures in 1995. The same rate of growth used in the original TAZ was then applied to an adjusted TAZ to come up with a 2020 projection for the two Sewer Service Area boundary alternatives.

The Sewer Service Area Boundary Alternative One, Map 5.2, is the recommended boundary in this plan and is to be used for sewer service technical conformance review purposes. Sewer Service Area Boundary Alternative Two, Map 5.3, follows for the most part the Sewer Service Area Boundary established in the original 1985 La Crosse Sewer Service Area Plan with some adjustments on the western border to include areas that are in fact served by sewer but were not included within the 1985 boundary. Boundary Alternative Two is included for comparison purposes to assist in documenting development trends and to maintain a point of reference from the 1985 plan to this one.

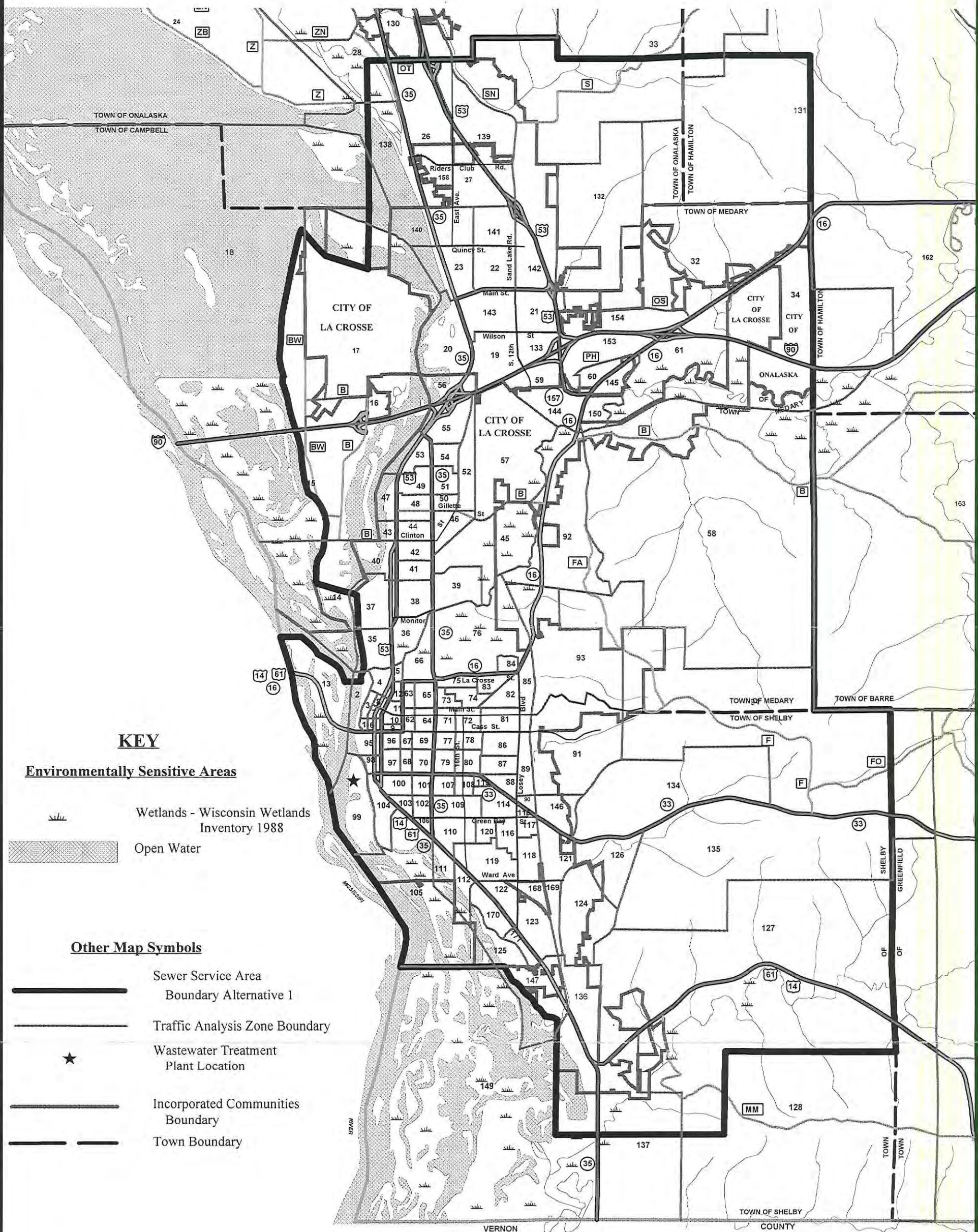
In summary the area within Boundary Alternative One - the La Crosse Sewer Service Area is projected to grow in dwelling units from 34,022 in 1995 to 38,541 by the year 2020, an increase of 4,519. This amounts to 63% of the dwelling units projected for the entire La Crosse Transportation Planning Area, which is expected to increase by 7,120 by the year 2020. Population is projected to grow from 77,874 in 1995 to 90,093 by the year 2020, an increase of 12,219. This amounts to 62% of the projected population for the entire La Crosse Transportation Planning Area which is expected to increase by 19,730 people by the year 2020. The 70 square mile area in Boundary Alternative One includes 38% of the La Crosse Transportation Planning Area and is the primary receiving area for 63% dwelling unit growth and 62% population growth. Table 4.1 below provides a projection comparison between the La Crosse Area Transportation Planning Area and boundary alternatives one and two. A detailed comparison between the Transportation Planning Area and the La Crosse Sewer Service Area by each traffic analysis zone is

shown in Tables 4.2, 4.3 and 4.4. Map 4.1 identifies the location of each traffic analysis zone. Maps 5.2 and 5.3 show the location of boundary alternatives one and two.

Table 4.1
La Crosse Transportation and Sewer Service Planning Area Comparison

Planning Area	Geographic Area	1995 Est. Population	2020 Population Forecast	1995 Est. Dwelling Units	2020 Dwelling Units Forecast
La Crosse Transportation Planning Area	186 sq. miles 118,892 acres	97,617	117,356	41,505	48,625
La Crosse Sewer Service Planning Area Boundary One	70 sq. miles 44,680 acres	77,874	90,093	34,022	38,541
La Crosse Sewer Service Planning Area Boundary Two	52 sq. miles 33,220 acres	76,962	88,774	33,651	38,042

MAP 4.1
LA CROSSE SEWER SERVICE AREA
TRAFFIC ANALYSIS ZONES



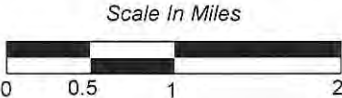
KEY

Environmentally Sensitive Areas

- Wetlands - Wisconsin Wetlands Inventory 1988
- Open Water

Other Map Symbols

- Sewer Service Area Boundary Alternative 1
- Traffic Analysis Zone Boundary
- Wastewater Treatment Plant Location
- Incorporated Communities Boundary
- Town Boundary



Prepared by the Mississippi River Regional Planning Commission/dab 12/7/98

TABLE 4.2											
LA CROSSE TRANSPORTATION PLANNING AREA											
GROWTH TRENDS BY TRAFFIC ANALYSIS ZONE (TAZ)											
		Estimated Population	Estimated Dwelling Units	Projected Population	Projected Dwelling Units			Estimated Population	Estimated Dwelling Units	Projected Population	Projected Dwelling Units
GROUP	TAZ	1995	1995	2020	2020	GROUP	TAZ	1995	1995	2020	2020
LACROSSE	1	2	1	2	1	LACROSSE	87	858	401	866	401
LACROSSE	2	0	0	414	256	LACROSSE	88	224	106	226	106
LACROSSE	3	3	2	66	41	LACROSSE	89	384	177	387	177
LACROSSE	4	3	2	421	75	LACROSSE	90	129	55	130	55
LACROSSE	5	0	0	0	0	LACROSSE	91	730	262	737	262
LACROSSE	6	49	39	54	43	MEDARY	92	308	113	391	142
LACROSSE	7	69	55	77	60	MEDARY	93	177	68	182	69
LACROSSE	8	71	78	79	85	SHELBY	94	769	283	936	341
LACROSSE	9	157	129	159	129	LACROSSE	95	101	46	51	23
LACROSSE	10	63	41	176	114	LACROSSE	96	459	294	675	428
LACROSSE	11	31	23	34	25	LACROSSE	97	804	371	889	406
LACROSSE	12	138	1	94	0	LACROSSE	98	37	22	37	22
LACROSSE	13	0	0	0	0	LACROSSE	99	5	3	0	0
CAMPBELL	14	263	109	328	135	LACROSSE	100	994	449	1,099	492
CAMPBELL	15	2,002	897	2,360	1047	LACROSSE	101	596	275	660	301
CAMPBELL	16	599	214	808	286	LACROSSE	102	652	328	721	359
LACROSSE	17	119	42	0	0	LACROSSE	103	369	168	506	228
CAMPBELL	18	1,619	610	1,756	655	LACROSSE	104	727	406	783	433
ONACITY	19	783	440	875	487	LACROSSE	105	506	194	548	208
ONACITY	20	202	98	204	98	LACROSSE	106	4	3	0	0
ONACITY	21	799	273	807	273	LACROSSE	107	540	235	545	235
ONACITY	22	1,195	456	1,586	599	LACROSSE	108	402	193	406	193
ONACITY	23	1,031	494	1,846	876	LACROSSE	109	906	458	915	458
ONATWN	24	1,250	437	1,841	637	LACROSSE	110	947	459	956	459
ONATWN	25	211	80	267	100	LACROSSE	111	395	193	437	211
ONATWN	26	457	147	503	160	LACROSSE	112	299	82	703	191
ONACITY	27	1,539	556	1,692	605	LACROSSE	113	90	42	91	42
ONATWN	28	442	191	516	221	LACROSSE	114	789	374	797	374
ONATWN	29	840	270	1,240	395	LACROSSE	115	3	2	0	0
ONATWN	30	562	195	640	220	LACROSSE	116	503	231	508	231
HOLMEN	31	800	310	1,339	514	LACROSSE	117	132	51	134	51
ONACITY	32	852	296	1,355	466	LACROSSE	118	713	302	720	302
ONATWN	33	724	236	1,196	386	LACROSSE	119	306	145	309	145
ONACITY	34	75	32	75	32	LACROSSE	120	484	225	488	225
LACROSSE	35	81	62	90	68	LACROSSE	121	1,279	600	1,334	620
LACROSSE	36	4	2	4	2	LACROSSE	122	519	257	574	281
LACROSSE	37	578	307	639	336	LACROSSE	123	1,132	461	1,143	461
LACROSSE	38	1,241	616	1,372	675	LACROSSE	124	1,370	552	1,647	657
LACROSSE	39	258	118	260	118	LACROSSE	125	651	263	720	288
LACROSSE	40	221	132	245	145	SHELBY	126	996	337	1,036	347
LACROSSE	41	598	265	661	290	SHELBY	127	199	81	1,068	431
LACROSSE	42	801	395	809	395	SHELBY	128	1,126	437	1,528	587
LACROSSE	43	0	0	0	0	MIN	129	2,769	1,098	3,060	1,201
LACROSSE	44	886	361	895	361	ONATWN	130	534	204	804	304
LACROSSE	45	457	135	462	135	HAMILTON	131	569	200	730	254
LACROSSE	46	458	193	463	193	ONACITY	132	243	79	928	299
LACROSSE	47	378	297	418	325	ONACITY	133	457	145	741	233
LACROSSE	48	750	363	757	363	SHELBY	134	638	226	645	226
LACROSSE	49	719	306	726	306	SHELBY	135	422	195	505	231
LACROSSE	50	474	204	479	204	LACROSSE	136	752	420	759	420
LACROSSE	51	781	367	789	367	LACROSSE	137	397	147	482	177
LACROSSE	52	0	0	0	0	ONATWN	138	348	172	352	172
LACROSSE	53	212	96	235	105	ONACITY	139	823	257	1,696	524
LACROSSE	54	451	199	456	199	ONACITY	140	982	411	991	411
LACROSSE	55	666	309	672	309	ONACITY	141	731	314	738	314
LACROSSE	56	65	28	93	40	ONACITY	142	1,249	470	1,262	470
LACROSSE	57	37	19	0	0	ONACITY	143	1,560	644	1,675	685
MEDARY	58	931	321	1,893	646	LACROSSE	144	22	7	0	0
ONACITY	59	60	30	0	0	LACROSSE	145	0	0	0	0
ONACITY	60	104	38	188	68	LACROSSE	146	607	263	613	263
MEDARY	61	121	36	259	76	LACROSSE	147	1,505	714	1,665	782
LACROSSE	62	341	221	345	221	HOLMEN	148	375	117	1,349	417
LACROSSE	63	245	111	147	66	LACROSSE	149	382	156	448	181
LACROSSE	64	660	395	700	415	ONACITY	150	175	64	300	109
LACROSSE	65	1,393	506	1,685	606	MIN	151	2,041	807	2,255	883
LACROSSE	66	654	293	848	376	MIN	152	429	214	474	234
LACROSSE	67	511	391	566	428	ONACITY	153	701	282	1,029	410
LACROSSE	68	547	231	606	253	ONACITY	154	287	126	388	169
LACROSSE	69	372	206	411	226	WESTSALE	155	1,321	534	1,334	534
LACROSSE	70	506	62	470	57	WESTSALE	156	1,320	399	2,299	688
LACROSSE	71	414	200	419	200	WESTSALE	157	1,223	548	1,778	789
LACROSSE	72	589	210	595	210	ONACITY	158	529	202	685	259
LACROSSE	73	935	460	992	483	HOLLAND	159	457	168	636	232
LACROSSE	74	1,401	704	1,407	700	HOLMEN	160	183	68	254	93
LACROSSE	75	756	460	764	460	HOLLAND	161	721	230	1,004	317
LACROSSE	76	1,963	704	1,982	704	HAMILTON	162	59	21	403	142
LACROSSE	77	799	314	807	314	BARRE	163	812	324	1,063	420
LACROSSE	78	125	55	127	55	HOLMEN	164	622	242	693	267
LACROSSE	79	302	132	306	132	HOLMEN	165	198	84	200	84
LACROSSE	80	465	213	470	213	HOLMEN	166	572	233	793	320
LACROSSE	81	660	282	666	282	HOLMEN	167	846	287	1,173	394
LACROSSE	82	823	308	831	308	LACROSSE	168	57	27	58	27
LACROSSE	83	901	447	910	447	LACROSSE	169	584	233	590	233
LACROSSE	84	609	275	615	275	LACROSSE	170	253	187	256	187
LACROSSE	85	1,048	447	1,059	447	LACROSSE	171	0	0	0	0
LACROSSE	86	953	402	962	402	TOTALS		97,617	41,505	117,356	48,625

The above table provides population and dwelling unit trends by Traffic Analysis Zones (TAZ) for the LA Crosse Transportation Planning Area and delineates which TAZ's are within the existing sewer service area boundary.

Shaded lines indentify TAZ's outside the sewer service area boundary.
Bolded lines identify TAZ's partially in the sewer service area boundary.
All other lines identify TAZ's inside the sewer service area boundary.

Source: Population, Employment, and Dwelling Unit Projections 1995-2020, by UW-L, December 1995 and MRRPC

TABLE 4.3 LA CROSSE SEWER SERVICE AREA BOUNDARY ALTERNATIVE ONE GROWTH TRENDS BY TRAFFIC ANALYSIS ZONE (TAZ)											
		Estimated Population	Estimated Dwelling Units	Projected Population	Projected Dwelling Units			Estimated Population	Estimated Dwelling Units	Projected Population	Projected Dwelling Units
GROUP	TAZ	1995	1995	2020	2020	GROUP	TAZ	1995	1995	2020	2020
LACROSSE	1	2	1	2	1	LACROSSE	80	465	213	470	213
LACROSSE	2	0	0	414	256	LACROSSE	81	660	282	666	282
LACROSSE	3	3	2	66	41	LACROSSE	82	823	308	831	308
LACROSSE	4	3	2	421	75	LACROSSE	83	901	447	910	447
LACROSSE	5	0	0	0	0	LACROSSE	84	609	275	615	275
LACROSSE	6	49	39	54	43	LACROSSE	85	1,048	447	1,059	447
LACROSSE	7	69	55	77	60	LACROSSE	86	953	402	962	402
LACROSSE	8	71	78	79	85	LACROSSE	87	858	401	866	401
LACROSSE	9	157	129	159	129	LACROSSE	88	224	106	226	106
LACROSSE	10	63	41	176	114	LACROSSE	89	384	177	387	177
LACROSSE	11	31	23	34	25	LACROSSE	90	129	55	130	55
LACROSSE	12	138	1	94	0	LACROSSE	91	730	262	737	262
LACROSSE	13	0	0	0	0	MEDARY	92	308	113	391	142
CAMPBELL	14	263	109	328	135	MEDARY	93	177	68	182	69
CAMPBELL	15	2,002	897	2,360	1047	SHELBY	94	704	259	857	312
CAMPBELL	16	599	214	808	286	LACROSSE	95	101	46	51	23
LACROSSE	17	119	42	0	0	LACROSSE	96	459	294	675	428
CAMPBELL	18	1,619	610	1,756	655	LACROSSE	97	804	371	889	406
ONACITY	19	783	440	875	487	LACROSSE	98	37	22	37	22
ONACITY	20	202	98	204	98	LACROSSE	99	5	3	0	0
ONACITY	21	799	273	807	273	LACROSSE	100	994	449	1,099	492
ONACITY	22	1,195	456	1,586	599	LACROSSE	101	596	275	660	301
ONACITY	23	1,031	494	1,846	876	LACROSSE	102	652	328	721	359
ONATWN	26	457	147	503	160	LACROSSE	103	369	168	506	228
ONACITY	27	1,539	556	1,692	605	LACROSSE	104	727	406	783	433
ONACITY	28	9	4	11	5	LACROSSE	105	506	194	548	208
ONACITY	32	852	296	1,355	466	LACROSSE	106	4	3	0	0
ONATWN	33	617	201	1,019	329	LACROSSE	107	540	235	545	235
ONACITY	34	59	25	59	25	LACROSSE	108	402	193	406	193
LACROSSE	35	81	62	90	68	LACROSSE	109	906	458	915	458
LACROSSE	36	4	2	4	2	LACROSSE	110	947	459	956	459
LACROSSE	37	578	307	639	336	LACROSSE	111	395	193	437	211
LACROSSE	38	1,241	616	1,372	675	LACROSSE	112	299	82	703	191
LACROSSE	39	258	118	260	118	LACROSSE	113	90	42	91	42
LACROSSE	40	221	132	245	145	LACROSSE	114	789	374	797	374
LACROSSE	41	598	265	661	290	LACROSSE	115	3	2	0	0
LACROSSE	42	801	395	809	395	LACROSSE	116	503	231	508	231
LACROSSE	43	0	0	0	0	LACROSSE	117	132	51	134	51
LACROSSE	44	886	361	895	361	LACROSSE	118	713	302	720	302
LACROSSE	45	457	135	462	135	LACROSSE	119	306	145	309	145
LACROSSE	46	458	193	463	193	LACROSSE	120	484	225	488	225
LACROSSE	47	378	297	418	325	LACROSSE	121	1,279	600	1,334	620
LACROSSE	48	750	363	757	363	LACROSSE	122	519	257	574	281
LACROSSE	49	719	306	726	306	LACROSSE	123	1,132	461	1,143	461
LACROSSE	50	474	204	479	204	LACROSSE	124	1,370	552	1,647	657
LACROSSE	51	781	367	789	367	LACROSSE	125	651	263	720	288
LACROSSE	52	0	0	0	0	SHELBY	126	996	337	1,036	347
LACROSSE	53	212	96	235	105	SHELBY	127	118	48	631	256
LACROSSE	54	451	199	456	199	SHELBY	128	942	365	1,278	490
LACROSSE	55	666	309	672	309	HAMILTON	131	71	25	91	32
LACROSSE	56	65	28	93	40	ONACITY	132	243	79	928	299
LACROSSE	57	37	19	0	0	ONACITY	133	457	145	741	233
MEDARY	58	931	321	1,893	646	SHELBY	134	638	226	645	226
ONACITY	59	60	30	0	0	SHELBY	135	422	195	505	231
ONACITY	60	104	38	188	68	LACROSSE	136	752	420	759	420
MEDARY	61	121	36	259	76	LACROSSE	137	181	67	223	81
LACROSSE	62	341	221	345	221	ONATOWN	138	348	172	352	172
LACROSSE	63	245	111	147	66	ONACITY	139	823	257	1,696	524
LACROSSE	64	660	395	700	415	ONACITY	140	982	411	991	411
LACROSSE	65	1,393	506	1,685	606	ONACITY	141	731	314	738	314
LACROSSE	66	654	293	848	376	ONACITY	142	1,249	470	1,262	470
LACROSSE	67	511	391	566	428	ONACITY	143	1,560	644	1,675	685
LACROSSE	68	547	231	606	253	LACROSSE	144	22	7	0	0
LACROSSE	69	372	206	411	226	LACROSSE	145	0	0	0	0
LACROSSE	70	506	62	470	57	LACROSSE	146	607	263	613	263
LACROSSE	71	414	200	419	200	LACROSSE	147	1,505	714	1,665	782
LACROSSE	72	589	210	595	210	LACROSSE	149	382	156	448	181
LACROSSE	73	935	460	992	483	ONACITY	150	175	64	300	109
LACROSSE	74	1,401	704	1,407	700	ONACITY	153	701	282	1,029	410
LACROSSE	75	756	460	764	460	ONACITY	154	287	126	388	169
LACROSSE	76	1,963	704	1,982	704	ONACITY	158	529	202	685	259
LACROSSE	77	799	314	807	314	LACROSSE	168	57	27	58	27
LACROSSE	78	125	55	127	55	LACROSSE	169	584	233	590	233
LACROSSE	79	302	132	306	132	LACROSSE	170	253	187	256	187
						LACROSSE	171	0	0	0	0
						TOTALS		77,874	34,022	90,093	38,541

The above table identifies growth trends for Traffic Analysis Zones (TAZ's) that are either totally in or partially in the La Crosse sewer service area boundary.

Bold Type indicates TAZ's that are partially in the sewer service area boundary. The dwelling unit figures in these TAZ's have been reduced to account for only those dwelling units that are within the sewer service area boundary. Projections are based off of the reduced dwelling unit figures and use the same rate of growth as original projections used for transportation area planning shown in Table 4.2

Source: Population, Employment, and Dwelling Unit Projections 1995-2020 by UW-L, December 1995 and Mississippi River Regional Planning Commission, 1997.

TABLE 4.4											
LA CROSSE SEWER SERVICE AREA BOUNDARY ALTERNATIVE TWO											
GROWTH TRENDS BY TRAFFIC ANALYSIS ZONE (TAZ)											
		Estimated Population	Estimated Dwelling Units	Projected Population	Projected Dwelling Units			Estimated Population	Estimated Dwelling Units	Projected Population	Projected Dwelling Units
GROUP	TAZ	1995	1995	2020	2020	GROUP	TAZ	1995	1995	2020	2020
LACROSSE	1	2	1	2	1	LACROSSE	80	465	213	470	213
LACROSSE	2	0	0	414	256	LACROSSE	81	660	282	666	282
LACROSSE	3	3	2	66	41	LACROSSE	82	823	308	831	308
LACROSSE	4	3	2	421	75	LACROSSE	83	901	447	910	447
LACROSSE	5	0	0	0	0	LACROSSE	84	609	275	615	275
LACROSSE	6	49	39	54	43	LACROSSE	85	1,048	447	1,059	447
LACROSSE	7	69	55	77	60	LACROSSE	86	953	402	962	402
LACROSSE	8	71	78	79	85	LACROSSE	87	858	401	866	401
LACROSSE	9	157	129	159	129	LACROSSE	88	224	106	226	106
LACROSSE	10	63	41	176	114	LACROSSE	89	384	177	387	177
LACROSSE	11	31	23	34	25	LACROSSE	90	129	55	130	55
LACROSSE	12	138	1	94	0	LACROSSE	91	730	262	737	262
LACROSSE	13	0	0	0	0	MEDARY	92	300	110	380	138
CAMPBELL	14	263	109	328	135	MEDARY	93	177	68	182	69
CAMPBELL	15	2,002	897	2,360	1047	SHELBY	94	650	239	791	288
CAMPBELL	16	599	214	808	286	LACROSSE	95	101	46	51	23
LACROSSE	17	119	42	0	0	LACROSSE	96	459	294	675	428
CAMPBELL	18	1,619	610	1,756	655	LACROSSE	97	804	371	889	406
ONACITY	19	783	440	875	487	LACROSSE	98	37	22	37	22
ONACITY	20	202	98	204	98	LACROSSE	99	5	3	0	0
ONACITY	21	799	273	807	273	LACROSSE	100	994	449	1,099	492
ONACITY	22	1,195	456	1,586	599	LACROSSE	101	596	275	660	301
ONACITY	23	1,031	494	1,846	876	LACROSSE	102	652	328	721	359
ONATWN	26	457	147	503	160	LACROSSE	103	369	168	506	228
ONACITY	27	1,539	556	1,692	605	LACROSSE	104	727	406	783	433
ONACITY	32	852	296	1,355	466	LACROSSE	105	506	194	548	208
ONATWN	33	445	145	735	237	LACROSSE	106	4	3	0	0
ONACITY	34	59	25	59	25	LACROSSE	107	540	235	545	235
LACROSSE	35	81	62	90	68	LACROSSE	108	402	193	406	193
LACROSSE	36	4	2	4	2	LACROSSE	109	906	458	915	458
LACROSSE	37	578	307	639	336	LACROSSE	110	947	459	956	459
LACROSSE	38	1,241	616	1,372	675	LACROSSE	111	395	193	437	211
LACROSSE	39	258	118	260	118	LACROSSE	112	299	82	703	191
LACROSSE	40	221	132	245	145	LACROSSE	113	90	42	91	42
LACROSSE	41	598	265	661	290	LACROSSE	114	789	374	797	374
LACROSSE	42	801	395	809	395	LACROSSE	115	3	2	0	0
LACROSSE	43	0	0	0	0	LACROSSE	116	503	231	508	231
LACROSSE	44	886	361	895	361	LACROSSE	117	132	51	134	51
LACROSSE	45	457	135	462	135	LACROSSE	118	713	302	720	302
LACROSSE	46	458	193	463	193	LACROSSE	119	306	145	309	145
LACROSSE	47	378	297	418	325	LACROSSE	120	484	225	488	225
LACROSSE	48	750	363	757	363	LACROSSE	121	1,279	600	1,334	620
LACROSSE	49	719	306	726	306	LACROSSE	122	519	257	574	281
LACROSSE	50	474	204	479	204	LACROSSE	123	1,132	461	1,143	461
LACROSSE	51	781	367	789	367	LACROSSE	124	1,370	552	1,647	657
LACROSSE	52	0	0	0	0	LACROSSE	125	651	263	720	288
LACROSSE	53	212	96	235	105	SHELBY	126	996	337	1,036	347
LACROSSE	54	451	199	456	199	SHELBY	127	136	55	727	293
LACROSSE	55	666	309	672	309	SHELBY	128	897	348	1,219	468
LACROSSE	56	65	28	93	40	ONACITY	132	170	55	649	209
LACROSSE	57	37	19	0	0	ONACITY	133	457	145	741	233
MEDARY	58	830	286	1,688	576	SHELBY	134	638	226	645	226
ONACITY	59	60	30	0	0	SHELBY	135	379	175	455	208
ONACITY	60	104	38	188	68	LACROSSE	136	752	420	759	420
MEDARY	61	121	36	259	76	LACROSSE	137	175	65	216	79
LACROSSE	62	341	221	345	221	ONACITY	139	823	257	1,696	524
LACROSSE	63	245	111	147	66	ONACITY	140	982	411	991	411
LACROSSE	64	660	395	700	415	ONACITY	141	731	314	738	314
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LACROSSE	67	511	391	566	428	LACROSSE	144	22	7	0	0
LACROSSE	68	547	231	606	253	LACROSSE	145	0	0	0	0
LACROSSE	69	372	206	411	226	LACROSSE	146	607	263	613	263
LACROSSE	70	506	62	470	57	LACROSSE	147	1,505	714	1,665	782
LACROSSE	71	414	200	419	200	LACROSSE	149	382	156	448	181
LACROSSE	72	589	210	595	210	ONACITY	150	175	64	300	109
LACROSSE	73	935	460	992	483	ONACITY	153	701	282	1,029	410
LACROSSE	74	1,401	704	1,407	700	ONACITY	154	287	126	388	169
LACROSSE	75	756	460	764	460	ONACITY	158	529	202	685	259
LACROSSE	76	1,963	704	1,982	704	LACROSSE	168	57	27	58	27
LACROSSE	77	799	314	807	314	LACROSSE	169	584	233	590	233
LACROSSE	78	125	55	127	55	LACROSSE	170	253	187	256	187
LACROSSE	79	302	132	306	132	LACROSSE	171	0	0	0	0
						TOTALS		76,962	33,651	88,774	38,042

The above table identifies growth trends for Traffic Analysis Zones (TAZ's) that are either totally in or partially in the La Crosse sewer service area boundary.

Bold Type indicates TAZ's that are partially in the sewer service area boundary. The dwelling unit figures in these TAZ's have been reduced to account for only those dwelling units that are within the sewer service area boundary. Projections are based off of the reduced dwelling unit figures and use the same rate of growth as original projections used for transportation area planning shown in Table 4.2

Source: Population, Employment, and Dwelling Unit Projections 1995-2020 by UW-L, December 1995 and Mississippi River Regional Planning Commission, 1997.

5. SEWER SERVICE AREA BOUNDARY ALTERNATIVES

Due to the La Crosse Municipal Wastewater Treatment Facility's capacity to accommodate up to approximately twice its existing flow, the area the plant can serve is influenced more by environmental features and sewer extension economics. Projected flow from within both of the boundaries discussed below are therefore well within the existing wastewater treatment plant's capacity.

Sewer Service Area Boundary Alternative One, Map 5.2 is the recommended boundary in this plan and is to be used for sewer service technical conformance review purposes. This alternative covers a larger geographic area than boundary alternative two and yet still can easily be served from a capacity perspective by the La Crosse Wastewater Treatment Plant. This alternative also provides greater opportunity to provide sewer in a north-south direction in the eastern area of this sewer service area. Sewer Service Boundary Alternative Two, Map 5.3, follows for the most part the sewer service area boundary established in the original 1985 La Crosse Sewer Service Area Plan with some adjustments on the western border to include areas that are in fact sewered but were not included within the 1985 boundary. Boundary Alternative Two is included for comparison purposes to assist in documenting development trends and to maintain a point of reference from the 1985 plan to this one.

Boundary Alternative One - Map 5.2

There is enough vacant developable land within the 70 square mile Sewer Service Boundary Alternative One to accommodate the projected increase of 12,219 residents and 4,519 dwelling units by the year 2020.

Air photo and in the field analysis coupled with Geographic Information System measuring techniques indicate that there are approximately 6,620 acres or 10 square miles of vacant developable land in 1995 within the La Crosse Sewer Service Area - Boundary Alternative One. Vacant and developable means: the land was vacant of buildings or structures in 1995; the land areas are appropriately zoned; land areas are not in a floodplain or wetland; the land is not on slopes greater than 30%; and not on lands zoned exclusively for agriculture. These 6,620 acres of vacant developable land is enough land area to accommodate the 12,219 additional residents and the 4,519 additional dwelling units projected to occur by the year 2020. Table 5.1 on the next page illustrates the existing land use in the sewer service area and Map 5.4 shows the location of where these vacant developable lands are located.

Table 5.1		
Boundary Alternative One - La Crosse Sewer Service Area Land Use Profile		
Land Use	Acres	Percent
Water	2,349	5%
Flood Plain - excluding water	6,999	16%
Lands With Soils Subject to Flooding	367	1%
Land Area With Slopes Greater Than 30%	9,899	22%
Exclusive Agricultural Zoned Lands With Slopes Less Than 30%	2,555	6%
Developed Lands	15,891	35%
Vacant Developable Lands	6,620	15%
Total Land Area in Sewer Service Area	44,680	100%

Park and Recreation land areas totaling 2,395 acres are included in floodplain, land areas with slopes greater than 30% and developed lands.

This projection of an adequate supply of land is based on an overall average density factor of .68 dwelling units per acre (4,519 dwelling units/6,620 acres = .68 dwelling units per acre) or 1.85 persons per acre (12,219 additional residents/6,620 = 1.85 persons per acre). This then translates to an overall average density of 2.72 persons per dwelling unit (1.85 persons per acre/.68 dwelling units per acre = 2.72 persons per dwelling unit). Based on past growth patterns a higher density of four dwelling units or more per acre will occur near the areas that can be efficiently served by public sewer while the further outlying areas where sewer cannot be efficiently provided, will be required by State Administrative Code, to have no less than 20,000 square foot lots or approximately one-half acre.

If only 993 acres or 15 percent of the 6,620 acres of vacant developable land is served by public sewer with four dwelling units or more per acre - this will accommodate at least 3,972 dwelling units (993 x 4 = 3,972). The remaining 5,627 acres of vacant developable land would need to accommodate only 547 dwelling units (4,519 dwelling units - 3,972 dwelling units = 547 dwelling units). The average lot size for these 547 dwelling units would be over 10.29 acres or 448,232 square feet [5,627 acres/547 dwelling units = 10.29 acres (43,560 x 10.29 = 448,232 square feet)]. This average lot size of over 10 acres greatly exceeds minimum State Administrative Code requirements of 20,000-30,000 square feet for on site sewer systems. This land consumption scenario coupled with the four factors listed on page 5-4 makes it very reasonable to project that there is sufficient vacant developable land within the La Crosse Sewer Service Area - Boundary Alternative One to accommodate projected growth out to the year 2020.

Map 5.2 identifies the boundary of the La Crosse Sewer Service Area - Boundary Alternative One.

Boundary Alternative Two - Map 5.3

Is there enough vacant developable land within the 52 square mile Sewer Service Boundary Alternative Two to accommodate the projected increase of 11,812 residents and 4,391 dwelling units by the 2020?

Air photo and in the field analysis coupled with Geographic Information System measuring techniques indicate that there are approximately 3,007 acres or 4.7 square miles of vacant developable land in 1995 within the La Crosse Sewer Service Area - Boundary Alternative Two. Vacant and developable means: the land was vacant of buildings or structures in 1995; the land areas are appropriately zoned; land areas are not in a floodplain or wetland; the land is not on slopes greater than 30%; and not on lands zoned exclusively for agriculture. These 3,007 acres of vacant developable land will likely be enough land area to accommodate the 11,812 additional residents and the 4,391 additional dwelling units projected to occur by the year 2020. Table 5.2 below illustrates the existing land use in the La Crosse Sewer Service Area - Boundary Alternative Two and Map 5.4 shows the location of where these vacant developable lands are located.

Table 5.2		
Boundary Alternative Two - La Crosse Sewer Service Area Land Use Profile		
Land Use	Acres	Percent
Water	2,349	7%
Flood Plain - excluding water	6,916	21%
Land Areas With Soils Subject to Flooding	255	1%
Land Area With Slopes Greater Than 30%	4,087	12%
Exclusive Agricultural Zoned Lands With Slopes Less Than 30%	1,670	5%
Developed Lands	14,936	45%
Vacant Developable Lands	3,007	9%
Total Land Area in Sewer Service Area	33,220	100.00%

Park and Recreation land areas totaling 2,395 acres are included in floodplain, land areas with slopes greater than 30% and developed lands.

This projection of an adequate supply of land is based on an overall average density factor of 1.46 dwelling units per acre (4,391 dwelling units/3,007 acres = 1.46 dwelling units per acre) or 3.93 persons per acre (11,812 additional residents/3,007 acres = 3.93 persons per acre). This then translates to an overall average density of 2.69 persons per dwelling unit (3.93 persons per acre/1.46 dwelling units per acre = 2.69 persons per dwelling unit). Based on past growth patterns a higher density of four dwelling units or more per acre will occur near the areas that can be efficiently served by public sewer while the further outlying areas where sewer cannot be efficiently provided, will be required by State Administrative Code, to have no less than 20,000 square foot lots or approximately one-half acre.

If only 451 acres or 15 percent of the 3,007 acres of vacant developable land is served by public sewer with four dwelling units or more per acre - this will accommodate at least 1,804 dwelling units (451 x 4 = 1,804). The remaining 2,556 acres of vacant developable land would need to accommodate 2,587 units (4,391 dwelling units - 1,804 dwelling units = 2,587 dwelling units). The average lot size for these 2,587 dwelling units would be just under one acre or 43,124 square feet [2,556 acres/2,587 dwelling units = .99 acres (43,560 x .99 = 43,124 square feet)]. This average lot size exceeds the minimum State Administrative Code requirements of 20,000-30,000 square feet for on site sewer systems. This land consumption scenario coupled with the factors listed below makes it reasonable to project that there likely in enough vacant developable land within the

La Crosse Sewer Service Area - Boundary Area Two to accommodate projected growth out to the year 2020.

Map 5.3 identifies the boundary of the La Crosse Sewer Service Area - Boundary Alternative Two.

Other factors which support the projections of an adequate supply of land for both Boundary Alternative One and Boundary Alternative Two to accommodate their respective projected dwelling unit growth projections within their respective sewer service area boundaries include:

- 1) A vacant lot "infilling" inventory was not taken, therefore these lots were not added to the amount of vacant developable land. These lots are mostly located in built up areas or near the built environment of a community.
- 2) Redevelopment activity was not taken into consideration, such as conversion of single family home or commercial areas to residential high-density areas.
- 3) A shift in the housing market starting in 1995 from the cities of La Crosse and Onalaska and the Town of Onalaska to the villages of Holmen and West Salem and Town of Holland will lessen the demand for land in the La Crosse Sewer Service Area. For the first time these smaller populated municipalities for the three year period of 1995-1997 reported more single family homes constructed (436 homes) than their larger neighboring communities (420 homes).
- 4) The amount of developable land does not include Exclusive Agricultural zoned lands on slopes of less than 30%. Exclusive Agricultural zoned lands can become developable land either through rezoning by the County or annexation to the cities of La Crosse or Onalaska. Approximately 2,555 acres of land in Boundary Alternative One and 1,670 acres of land in Boundary Alternative Two is zoned Exclusive Agriculture.

Table 5.3 provides a statistical comparison of Boundary Alternative One and Boundary Alternative Two.

Table 5.3							
Sewer Service Area Boundary Alternatives							
Boundary Alternative	Geographic Area	1995 Population 2020 Population Difference	1995 Dwelling Units 2020 Dwelling Units Difference	Vacant Developable Land	Dwelling Units per acre on Vacant Developable Land	Persons per Acre on Vacant Developable Land	Persons per Dwelling Unit on Vacant Developable Land
Boundary Alternative One, Map 5.2.	44,680 acres 70 sq. miles	77,874 90,093 12,219	34,022 38,541 4,519	6,620	$\frac{4,519}{6,620} = .68$	$\frac{12,219}{6,620} = 1.85$	$\frac{1.85}{.68} = 2.72$
Boundary Alternative Two, Map 5.3.	33,220 acres 52 sq. miles	76,962 88,774 11,812	33,651 38,042 4,391	3,007	$\frac{4,391}{3,007} = 1.46$	$\frac{11,812}{3,007} = 3.93$	$\frac{3.93}{1.46} = 2.69$

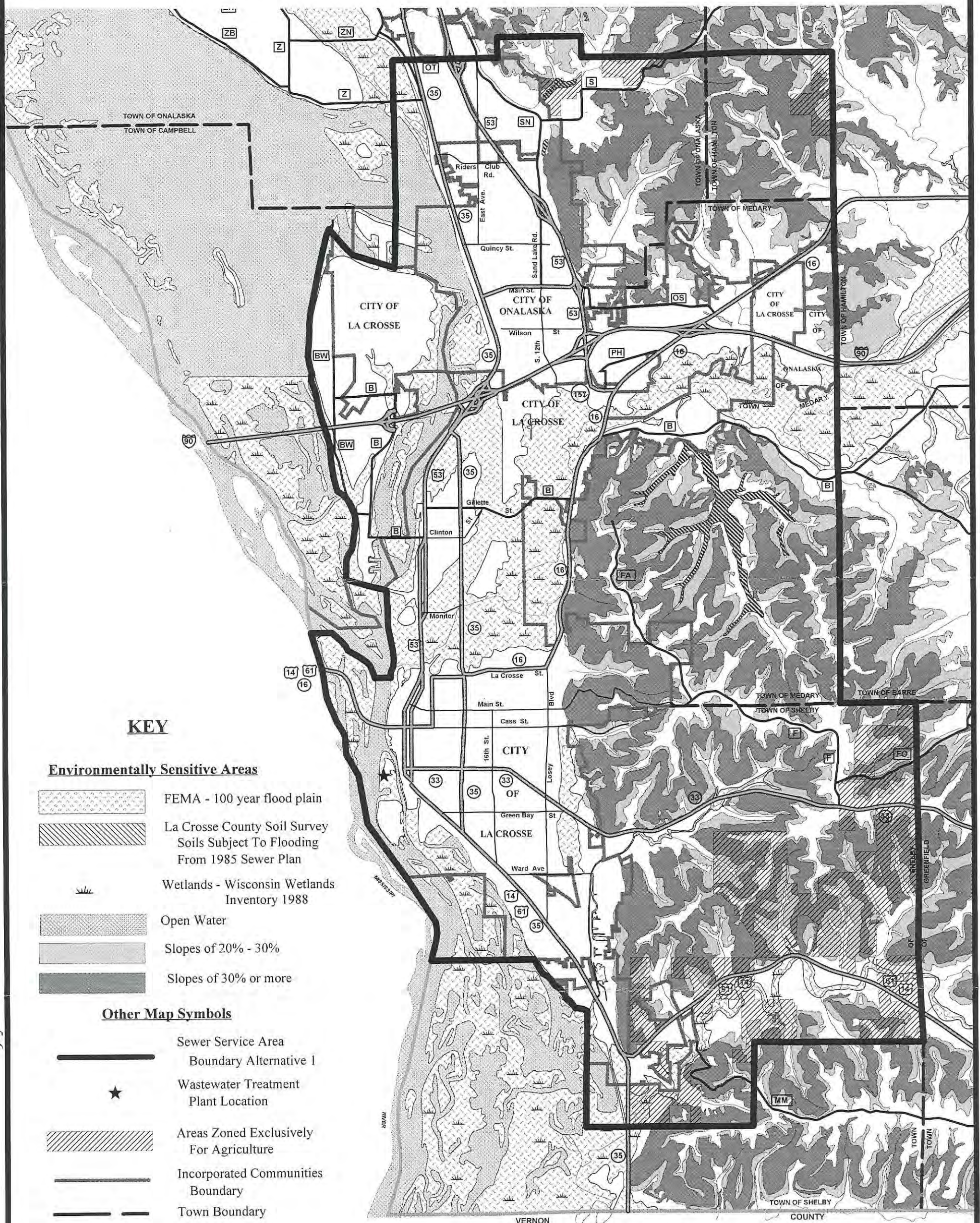
Public Sewer Service in the Rugged Ridge and Valley Landscape of the Coulee Region Can Be a Mixed Blessing for Water Quality

Vacant developable land within the boundary of the City of La Crosse is essentially nonexistent and this will likely become the case too in the City of Onalaska in the near future. Annexation therefore is the only practical way for these communities to grow. One of the problems with growth through annexation is its unpredictability. The communities don't know if a given annexation is the beginning of many more annexations to come in the next several years or their last chance to grow in many years to come. This uncertainty about future tax base growth or "a last chance to grow perspective" calls for the need to maximize return on private and public expenditures on road, water, and sewer service on each incremental annexation. For residential annexations this often results in a development density of four dwelling units per acre or more. This development density coupled with service roads and driveways on valley walls and on sloping valley floors can create excessive stormwater runoff and sometimes flooding, both which cause serious water quality and public infrastructure problems.

The first residential subdivision within a valley may not cause stormwater problems but subsequent compact subdivision development moving incrementally up or down a valley may compound the stormwater problem until it becomes harmful. Ironically while the public sewer is protecting ground and surface water through efficient removal of sewage it is also causing a higher density form of development which if not managed correctly through adequate green space areas will result in harmful affects to surface waters from excessive stormwater runoff and can lead to increased public expenditures on flood control structures. To deal with this, the entire sewer service area should be looked at from a big picture perspective involving establishing development thresholds and intergovernmental and private cost sharing arrangements so development within these valleys and ridgetops can be done in a cost efficient, equitable, and environmentally sound manner. To accomplish this a sustainable development plan for the La Crosse Sewer Service Area should be investigated, see Goals 4 and 5 on Page 8-2.

MAP 5.1

LA CROSSE SEWER SERVICE AREA AND ENVIRONMENTALLY SENSITIVE AREAS



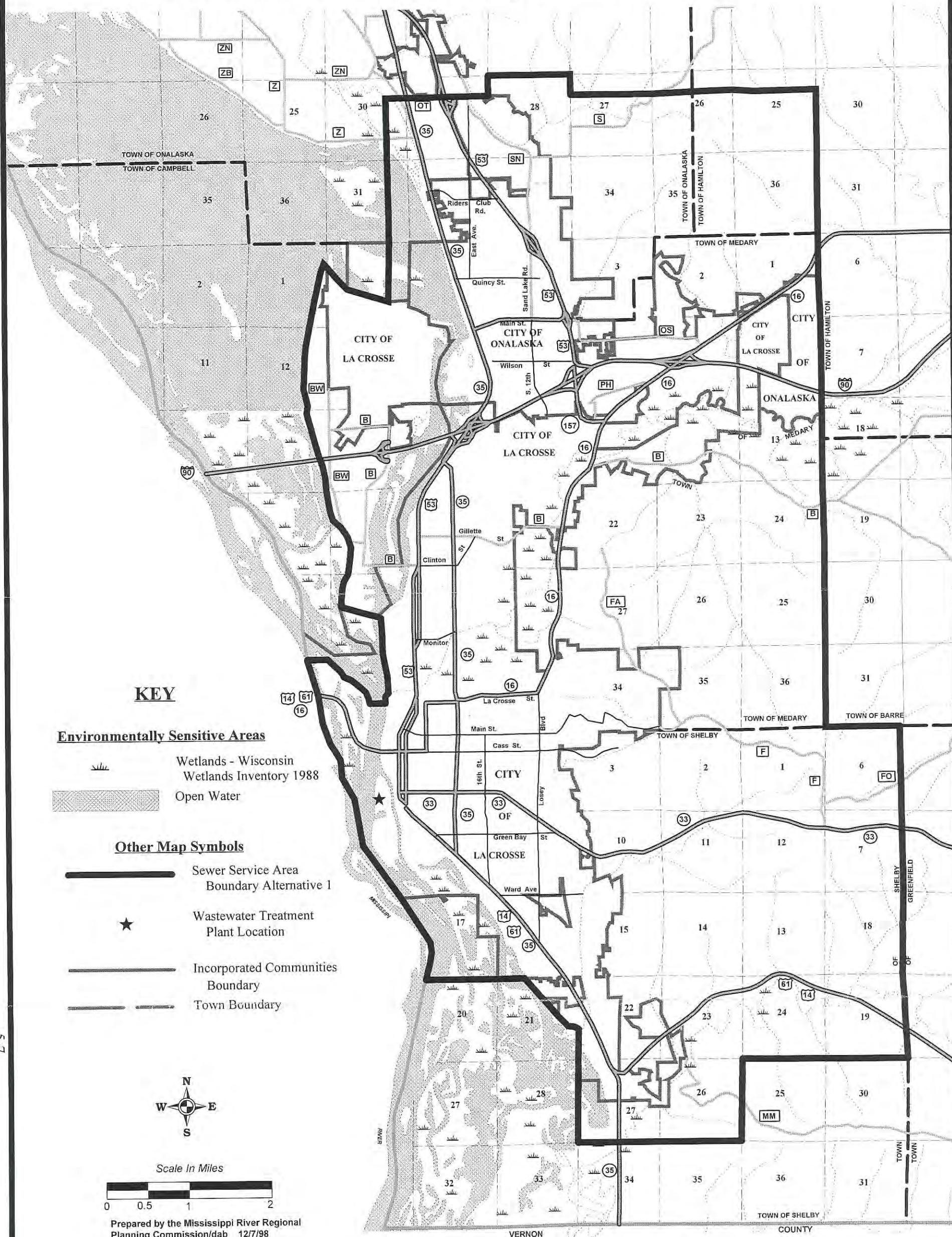
Sewer Service Area Land Use Profile

Open Water	2,349 acres	5%	Exclusive Agricultural Zoned Lands with Slopes Less Than 30%	2,555 acres	6%
Flood Plain - excluding open water	6,999 acres	16%	Developed Lands	15,891 acres	35%
Soils Subject to Flooding- La Crosse Soil Survey 1960	367 acres	1%	Vacant Developable Lands	6,620 acres	15%
Land Area with Slopes Greater Than 30%	9,899 acres	22%	Total Sewer Service Area	44,680 acres	

MAP 5.2

LA CROSSE SEWER SERVICE AREA BOUNDARY ALTERNATIVE 1

(Boundary Alternative 1 was approved as the new La Crosse Sewer Service Area Boundary by the La Crosse Area Planning Committee on May 19, 1999)



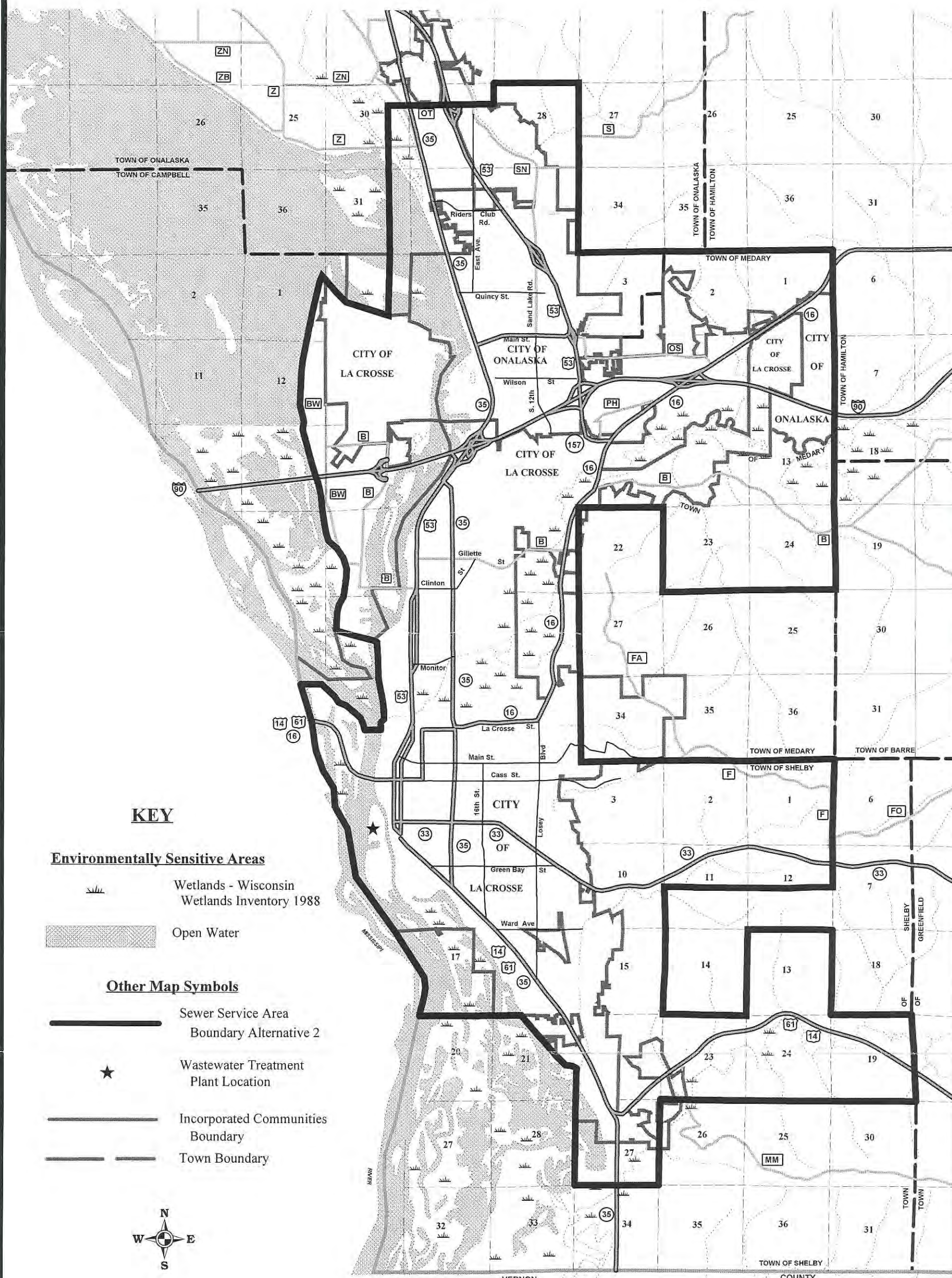
Sewer Service Area Boundary Profile

1995 Population: 77,874	2020 Population: 90,093
1995 Dwelling Units: 34,022	2020 Dwelling Units: 38,541
Total Service Area: 44,680 acres or 69.81 square miles	
Boundary Perimeter: 41.63 miles	

MAP 5.3

LA CROSSE SEWER SERVICE AREA

BOUNDARY ALTERNATIVE 2



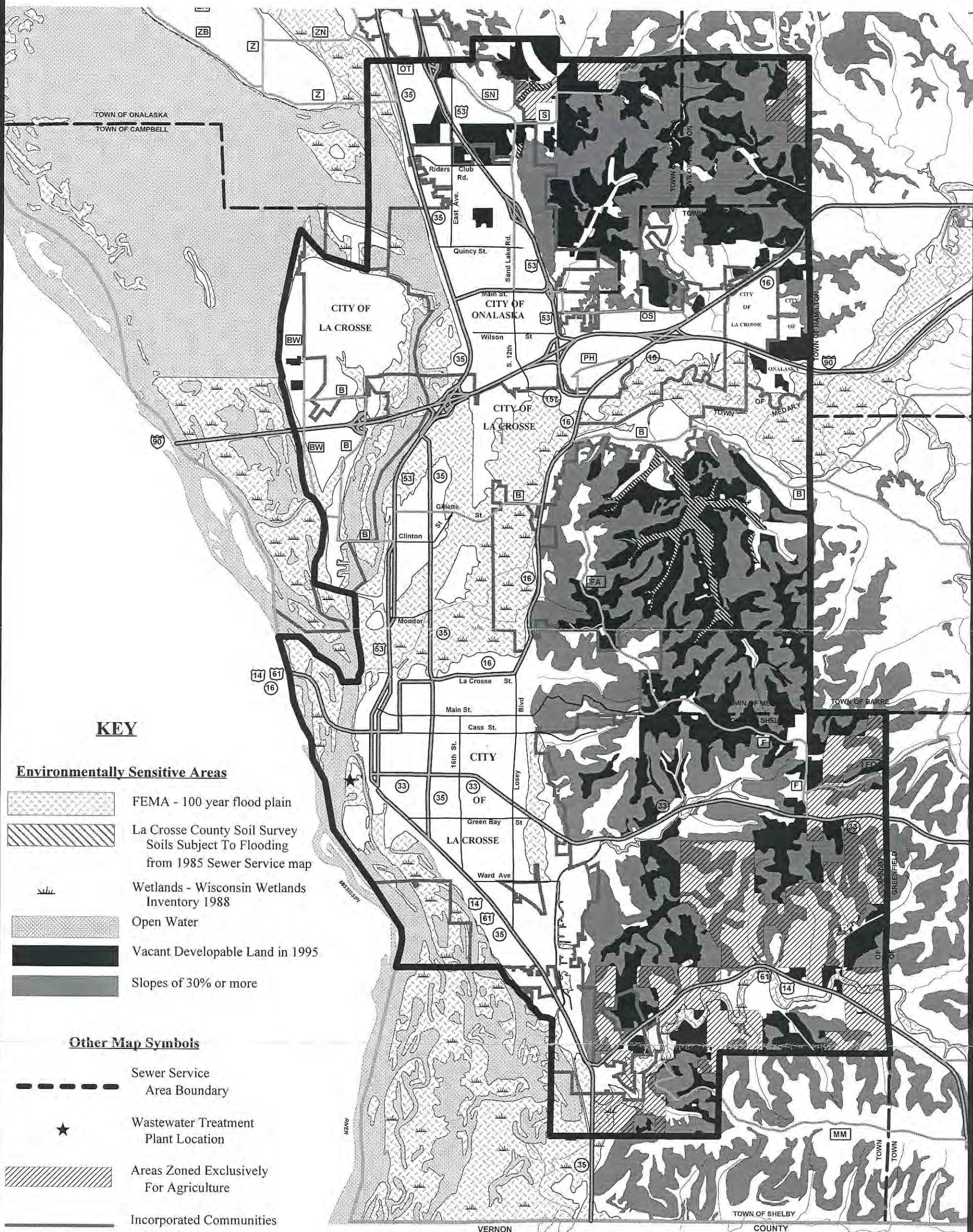
Sewer Service Area Boundary Profile

1995 Population: 76,962	2020 Population: 88,774
1995 Dwelling Units: 33,651	2020 Dwelling Units: 38,042
Total Service Area: 33,220 acres or 51.91 square miles	
Boundary Perimeter: 55.6 miles	

MAP 5.4

LA CROSSE SEWER SERVICE AREA

1995 VACANT DEVELOPABLE LAND



6. SEWER SERVICE CONFORMANCE REVIEW PROCESS

This *Sewer Service Area Plan* is a regulatory document prepared to ensure cost-effective and environmentally sound wastewater treatment to protect water quality. The plan is therefore to be used in reviewing sewer extensions and hookups in the La Crosse Sewer Service Area. The City of La Crosse has been delegated the responsibility by the Wisconsin Department of Natural Resources (DNR) to conduct technical sewer extension and hookup conformance reviews. For a proposed sewer extension to be in conformance with the plan, the sewer extension or hookup technical conformance review conducted by the Office of the City Engineer must confirm that it is: 1) Within the Sewer Service Area, 2) Not in conflict with any regulations pertaining to the protection of environmental sensitive areas i.e. slopes, wetlands and floodplains, 3) Not in conflict with any intermunicipal agreements.

Developments Requiring Technical Conformance Reviews. Prior to any developer submitting any plans to the Wisconsin Department of Natural Resources or Commerce for state needed approvals, the following types of development need a sewer service technical conformance review approval:

- 1) All municipal "sewer extensions" as defined in NR110.05 (2) e
- 2) All commercial and industrial buildings which will discharge to the La Crosse wastewater treatment facility
- 3) All residential buildings containing three or more dwelling units that discharge to the La Crosse wastewater treatment facility.

Technical Conformance Review Criteria. Proposed sewer extensions or hookups must conform to the Sewer Service Area Plan by not violating development regulations pertaining to any of the following.

- 1) Intermunicipal Agreements - The City of La Crosse has entered into sewer service contracts with the City of Onalaska and the Towns of Campbell and Shelby. These agreements identify areas where sewer is to be provided.
- 2) Wetlands - It is a violation of Section 404 of the Federal Clean Water Act to physically alter any wetland no matter its size without regulatory approval from the U.S. Army Corps of Engineers. Permits are also required from the local unit of government to alter wetlands within the shoreland zone of a lake or stream.
- 3) Floodplains- Prohibiting most forms of development in the floodway and using flood proofing techniques in conjunction with flood insurance for building in the flood fringe are common regulatory practices in floodplains.
- 4) Slopes - Erosion and sedimentation control plans are to be submitted and approved by the La Crosse County Land Conservation Committee when sewered development is proposed in areas containing slopes of 20% to less than 30%. In the Sewer Service

Area no land disturbance activities shall occur on slopes of 30% or greater except for access roads or installation of utilities to building sites of less than 30% slope, or where slopes 30% and greater are less than 4,000 noncontiguous square feet. In addition, development on slopes shall conform to the regulatory provisions of any local government ordinance.

- 5) Within Sewer Service Area Boundary - The proposed development must be within the La Crosse Sewer Service Area boundary.

Site Visit Evidence Takes Precedence When Conducting Technical Conformance Review. Flood Insurance Rate Maps, Wisconsin Wetland Inventory Maps, and the maps within this Sewer Service Area Plan are to be used as guides in conducting a sewer service technical conformance review but are not always to be considered the final determining factor of whether a sewer extension is or is not disturbing an environmentally sensitive area. If information gained from a site visit shows conclusive evidence that is contrary to the information shown on these maps, the site visit evidence shall take precedence and serve as the determining factor of whether environmentally sensitive areas are being disturbed.

Information Required to Conduct a Sewer Service Technical Conformance Review. The following information is to be provided in order to initiate a sewer service technical conformance review by the La Crosse City Engineer Office.

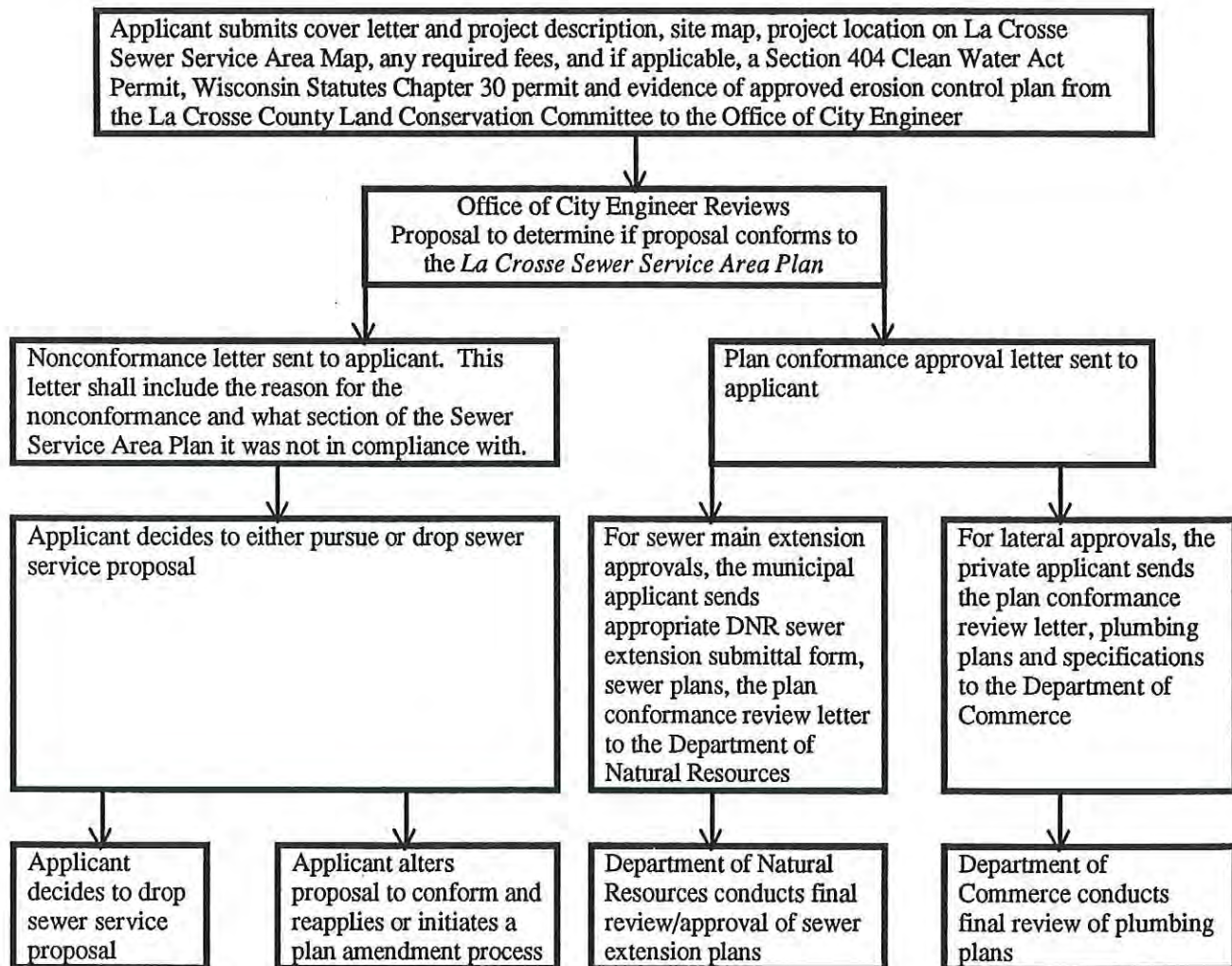
- 1) Cover Letter and Project Description - The name, address, and telephone number of the applicant and a general description of the project is to be provided including type of land use to be serviced and construction activities needed to be undertaken.
- 2) Site Map - A site location map is to be provided indicating location and length of sewers and the entire area to be serviced.
- 3) Curb Height Elevation If In Or Near A Floodplain -The site map shall provide curb height elevations if the site is within 50 feet of a floodplain.
- 4) Letter of Evidence of an Approved Erosion Control Plan and Contour Site Map - Development on 20 to less than 30 percent slopes require a two foot contour site map and an erosion control plan. A letter of evidence of an approved erosion control plan by the La Crosse County Land Conservation Committee shall also be provided.
- 5) Permits - For sewer extensions that alter a wetland a Section 404 Clean Water Act Permit is required. This permit is administered by the Wisconsin DNR in accordance with NR103 of the Wisconsin Administrative Code. Sewer extensions into navigable waters also require a permit under Chapter 30 of Wisconsin Statutes.
- 6) Sewer Service Area Map - A copy of the La Crosse Sewer Service Area Map is to be provided showing the proposed location of the sewer extension or lateral.
- 7) Any required fees to conduct Sewer Service Technical Conformance Review

Where Technical Conformance Review Information should be submitted? The above information is to be submitted to the Office of City Engineer, City Hall, 400 La Crosse Street, La Crosse, WI 54601-9988.

Technical Conformance Review Turn Around Time. The City of La Crosse Office of City Engineer shall complete the Sewer Service Technical Conformance Review within seven days of receiving a complete application. If circumstances arise where an accurate decision on an application cannot be made within this time frame the applicant shall be notified by the Office of the City Engineer within the above mentioned time period. This letter shall also include actions that need to be taken to resolve circumstances causing the delay in making an accurate sewer service conformance review decision.

Table 6.1 outlines the Sewer Service Technical Conformance Review procedure.

TABLE 6.1
Sewer Service Technical Conformance Review Procedure Flow Chart



EROSION CONTROL REQUIREMENTS FOR EXTENDING SEWER LINES INTO AREAS WITH SLOPES OF 20% TO LESS THAN 30% OR WHEN LAND AREAS OF 5 ACRES OR MORE ARE DISTURBED

The need to extend sewer lines indicates impending development of land. Naturally, the exposure of soils during the excavation and building process soon follows. The potential for these exposed soils to reach either a surface water or storm sewers leading to surface waters increases without adequate construction site erosion controls. Soil loss rates increase exponentially as slope increases, therefore greater damage to surface waters may result from development on steeper slopes without properly installed and maintained construction site erosion controls. Lack of proper erosion controls can cause harmful sedimentation of surface waters which can be a serious problem in developing areas and can result in reduced habitat for fish, aquatic insects and other wildlife as well as reduce recreational use of the streams and rivers.

Dealing with steep slopes is a common occurrence in the La Crosse Sewer Service Area due to its location within a unique geologic region of the United States called the Driftless Area. This area is characterized by rugged ridges and valleys that were created by glacial melt-water from retreating continental glaciers that surrounded Southwestern Wisconsin and Southeast Minnesota approximately 11,000 years ago. This geologic event, while creating an attractive scenic landscape has also created unique urban growth constraints. Current land use inventory statistics shown in table 5.1 illustrate this. This table shows that 21% of the La Crosse Sewer Service Area is exempt from development due to it being located on slopes of 30% or greater and another 58% of the land is also for most practical purposes exempt from development due to it being waterway, wetland, floodplain, parkland or already developed. Much of the remaining vacant lands that can be developed are on slopes of 20% to less than 30%. To allow for environmentally sound development on these slopes construction site erosion control measures and agreements have been developed and are summarized below.

Enforcement of the Erosion Control Provisions of the Uniform Dwelling Code.

The Wisconsin Department of Commerce currently requires municipalities of 2,500 or greater to conduct inspections in order to determine compliance with the Wisconsin Uniform Dwelling Code (ILHR 20-25). The Uniform Dwelling Code (UDC) applies to all 1 and 2 family homes, manufactured buildings for dwellings or newly constructed community-based residential facilities providing care, treatment and services for 3 to 8 unrelated adults constructed after June 1, 1980. The UDC contains many provisions, one being containment of soils on the developing site with erosion control measures.

The City of LaCrosse and the City of Onalaska have staff that inspect new development for compliance with this code and have enforcement authority to correct problems. The Towns within the La Crosse Sewer Service Area have erosion control agreements with the La Crosse County Land Conservation Department to carry out UDC inspections and enforcement.

As determined by the Department of Commerce, if enforcement of the construction site erosion control provisions of the UDC is inadequate on individual developing sites in any

of the municipalities where sewer service is provided, all sewer extensions into areas from 20% to less than 30% slope will not be approved in the respective municipality. Once adequate enforcement is achieved, as determined by the Department of Commerce, sewer extensions can then be approved in areas of 20% to less than 30% slope. The procedure for the actions outlined above begin with the Department of Commerce informing the Department of Natural Resources that inadequate enforcement exists. The Department of Natural Resources will send a letter to the affected municipality and the sewer service area plan conformance reviewer to inform them that extensions into areas of 20% to less than 30% slope will not be approved until further notice. The municipality will then work with the Department of Commerce to improve their enforcement. When the Department of Commerce is satisfied with the level of UDC compliance regarding erosion control, they will notify the Department of Natural Resources. A letter will be sent to the affected municipality and the sewer service area plan conformance reviewer to approve extensions into areas of 20% to less than 30% slope, if all other conditions of the sewer service area plan are satisfied.

Enforcement of Local Erosion Control Ordinances. Beyond the scope of the UDC erosion control requirements, La Crosse County, City of LaCrosse and the City of Onalaska have their own erosion control ordinances which require an erosion control plan for land disturbance activity and contains enforcement authority. These ordinances require that an erosion control plan be approved before land disturbance activities can occur.

Proper enforcement of these ordinances will reduce movement of soils off-site during construction activities. If these ordinances are not adequately implemented or enforced, as determined by the Department of Natural Resources, all sewer extensions into areas with 20% to less than 30% slopes will not be approved in the respective municipality. Once adequate enforcement is achieved, as determined by the Department of Natural Resources, sewer extensions will be approved in areas of 20% to less than 30% slope. Review of enforcement of these erosion control ordinances will be conducted by the Department of Natural Resources. If inadequate enforcement is documented, a letter will be sent to the affected municipality and the sewer service area plan compliance reviewer stating that extensions into areas of 20% to less than 30% slope will not be approved. The Department of Natural Resources will work with the municipality to improve enforcement of their ordinance. Once satisfactory compliance is reached, the municipality and sewer service area plan compliance reviewer will be notified that extensions into areas of 20% to less than 30% slope can be approved, if all other conditions of the sewer service area plan are satisfied.

Each municipality is responsible for proper implementation and enforcement of the UDC and their respective erosion control ordinances. Failure to do so will impact sewer extensions only within the municipality where enforcement improvements must be achieved.

Local Excavation and Grading Ordinances. The Towns of Shelby, Onalaska and Medary have each adopted excavation and grading ordinances which also assist in managing erosion and protecting water quality.

Cooperative Agreement between the City of La Crosse and the City of Onalaska and the La Crosse County Land Conservation Department for Erosion Control on 20% to less than 30% Slopes. A cooperative agreement between the Cities of Onalaska and La Crosse and the LaCrosse County Land Conservation Department establishes a working relationship between the two cities and the county regarding the disturbance of 20% or greater slopes. This agreement was enacted to coordinate shared facets of erosion control plan development and to enhance the technical capabilities of each unit of government. Erosion control plans and amendments must be approved by the County Land Conservation Committee if disturbance on lands where 20% to less than 30% slopes are present. Enforcement of these plans and amendments is the responsibility of the cities.

Land Disturbance of 5 Acres or More Involves Application and Approval of a Construction Site Storm Water Discharge Permit as Required by NR 216. Any land disturbance including disturbance from sewer extensions of 5 or more acres throughout all phases of construction require a DNR permit as required by NR 216. Prior to commencing land disturbing activities on a 5 acre or greater site, a Notice of Intent (NOI) and the permit fee must be submitted via certified or registered mail to Department of Natural Resources, Stormwater Permits, 1300 West Clairemont Avenue, Eau Claire, WI 54702. NOI forms can be obtained from the same address. The permittee shall develop a construction site erosion control plan and shall maintain compliance with that plan. The plan must address pollution caused by soil erosion and sedimentation during construction up to final stabilization of the site. Specific permit application requirements are outlined in NR 216.46.

Local Sewer Service Agreements, Erosion Control Agreements and Ordinances and Excavation and Grading Ordinances. The following is a listing of the various local agreements and ordinances that come into use when sewer lines are extended and/or when land disturbance from construction activity occurs.

- City of La Crosse and City of Onalaska's "Agreement for Sewer Conveyance and Treatment, La Crosse-Onalaska 1997-2016" made March 28, 1997
- City of La Crosse and Town of Campbell's "Agreement for Sanitary Sewer Conveyance and Treatment, Town of Campbell Utility District" made January 11, 1996
- City of La Crosse and Town of Shelby's "Agreement for Sanitary Sewer Conveyance, treatment and disposal, City of La Crosse - Sanitary District 2 - Town of Shelby" made January 11, 1996
- La Crosse County and City of La Crosse's "Cooperative Agreement between La Crosse County Department of Land Conservation and City of La Crosse" pertaining to coordinating the La Crosse Sewer Service Area Plan, Erosion and Sedimentation Control Requirements, signed in August 1994

- La Crosse County and City of Onalaska's Cooperative Agreement between La Crosse County Department of Land Conservation and City of Onalaska pertaining to coordinating the La Crosse Sewer Service Area Plan Erosion and Sedimentation Control Requirements, signed August, 1994
- La Crosse County's Construction Site Control Ordinance, adopted April 14, 1995 and amended July 11, 1995
- City of La Crosse's Construction Site Erosion Control, Section 15-2-1 through 15-2-11 of the City Code of Ordinances, adopted April 18, 1995, amended July 11, 1995
- City of Onalaska's "Construction Site Erosion Control" Ordinance adopted February 14, 1995
- Town of Onalaska's Excavation and Grading Ordinance, amended in 1990
- Town of Shelby's Excavation and Grading Ordinance, adopted June 28, 1990
- Town of Medary's Excavation and Grading Ordinance, adopted June 11, 1987

7. SEWER SERVICE AREA PLAN AMENDMENT PROCEDURES

Unanticipated factors such as a robust economy, economic stagnation, new environmental concerns, new on site sewer construction technology, new technical data, changes in land use plans and regulations, or unforeseen community needs, make it imperative that amendments to the *La Crosse Sewer Service Area Plan* can be made. To accomplish this the following amendment procedures have been established.

- 1) **Municipality Prepares Required Information.** The municipality requesting the amendment shall prepare the following required information prior to proceeding with an amendment request.
 - A. Narrative description and reason for the amendment request. If a change of wording to the Sewer Service Area Plan is being proposed, the exact wording shall be provided as part of the description.
 - B. Legal description and exact acreage of land area(s) proposed to add and/or subtract from the sewer service area if applicable.
 - C. Description of the proposed land uses (*i.e. residential, commercial, industrial, open space, parks*) and public services (*i.e. water, sewer, roads*) to be provided to areas identified in "B" above.
 - D. A detailed map showing topography and buildings and the proposed areas being added to and/or subtracted from the sewer service area.
 - E. The net change in the amount of developable land in any areas being proposed to add to and/or subtract from the sewer service area and the net change in the development density (*persons per acre*) of the sewer service area as a result of the proposed amendment.
 - F. Identify any water quality impacts to the extent possible from the proposed amendment.
 - G. Verification that there is capacity for the sewer system and treatment facility to serve proposed new areas and their projected flows.
- 2) **Municipality Reviews Required Information, Endorses and Forwards Amendment Request.** After reviewing the required information above, the standards set forth in the Sewer Service Area Plan and NR 121 of the Wisconsin Administrative Code, the governing body of the municipality shall formally vote to endorse the amendment. If approved, that municipality shall forward the required information in "1" above to the offices of the chief elected officials that make up the La Crosse Area

Planning Committee (LAPC), and the La Crosse-Department of Natural Resources office.

- 3) **Hold Public Meeting.** Within 60 days of receipt of an amendment request the Chairman of the LAPC shall call and hold a public meeting of the LAPC for the purpose of the municipality to formally present their amendment request and to answer questions and hear comments from the members of the LAPC and general public.
- 4) **La Crosse Area Sewer Committee (LASC) Action.** After consideration of comments made during the public meetings, the standards and procedures in the *La Crosse Sewer Service Area Plan* and NR 121 of the Wisconsin Administrative Code, the LASC shall act on the amendment request by voting.
- 5) **Opportunity For Filing Written Comments On Actions Taken By LASC.** Written comments in favor of, objecting to, or providing information on actions taken by the LASC by any person, organization or government body are to be submitted to the La Crosse-Department of Natural Resources office within 30 days after the public meeting.
- 6) **Provide Documentation Of Public Meeting Comments And Actions Taken By The La Crosse Area Sewer Committee.** Within 30 days after the public meeting, the recording secretary of the public meeting shall prepare and provide a copy of the unofficial minutes of the public meeting - recording public comments made and the results of any votes taken to the La Crosse-Department of Natural Resources office and to the offices of the chief elected officials that make up the LAPC.
- 7) **Final Decision On Amendment Request.** The Wisconsin Department of Natural Resources will make the final and official determination on all plan amendments based on consideration of public comments, written comments, official actions taken by the La Crosse Area Sewer Committee, standards and procedures of the *La Crosse Sewer Service Area Plan* and NR 121 of the Wisconsin Administrative Code. The Department of Natural Resources will inform all municipalities of the LAPC of its decision on amendment requests within 60 days of the public meeting.

The Wisconsin Department of Natural Resources desires to make as an informed sewer service amendment decision as practical and therefore recommends and values the local public input process provided by the local municipalities and the LAPC as described in steps one through seven above. The Wisconsin Department of Natural Resources has the authority to affirm, reverse, amend or refer any amendment vote or action taken by the LASC.

THE LA CROSSE AREA PLANNING COMMITTEE (LAPC) AND THE LA CROSSE AREA SEWER COMMITTEE (LASC)

The plan amendment procedures outlined above call for the LAPC to hold the public meeting and be the official body to organize and coordinate sewer service area

planning as it does for transportation planning in the La Crosse metropolitan area. However, when official action is to be taken on La Crosse Sewer Service Area planning issues, only the City of La Crosse and municipalities that have sewer service conveyance and treatment contracts with the City of La Crosse are to vote. It is this contractual relationship that determines the make up of the LASC. The other chief elected officials of the LAPC that are not members of the LASC will have an interest in the sewer service area planning process since growth and development and sewer service area boundary changes may eventually impact them and they can provide important planning information on local and regional development concepts from their own community perspective. This inclusion of all members of the LAPC in the information loop involving sewer service area planning will facilitate better understanding, coordination and cooperation for all planning activity.

Table 7.1 compares the make up of the LAPC and the LASC and their respective voting structure based on 1996 Wisconsin Department of Administration population estimates. The total municipal population of the LAPC in 1996 was 97,226. The total population of the four municipalities that make up the LASC was 75,858.

TABLE 7.1
LA CROSSE AREA PLANNING COMMITTEE, LAPC
AND LA CROSSE AREA SEWER COMMITTEE, LASC
WEIGHTED VOTE STRUCTURE COMPARISON

Jurisdiction	1996 Population	Percent of LAPC 1996 Total Municipal Population	LAPC Weighted Vote for Transportation Area Planning	Percent of LASC 1996 Total Municipal Population	LASC Weighted Vote for Sewer Service Area Planning
City of La Crosse	51,942	53.4	27	68	7
City of Onalaska	14,257	14.7	14	19	2
Town of Onalaska	5,176	5.3	9	-	-
Town of Shelby	4,977	5.1	9	7	1
Town of Campbell	4,682	4.8	9	6	1
City of La Crescent	4,500	4.6	9	-	-
Village of West Salem	4,409	4.5	9	-	-
Village of Holmen	3,975	4.1	9	-	-
Town of Medary	1,531	1.6	5	-	-
Town of Hamilton	1,777	1.8	-	-	-
TOTAL	97,226	100%	100	100%	11

WEIGHTED VOTING AND ITS REPERCUSSIONS

The concept of weighted voting is based on the premise that the heavier users and investors in a given enterprise should have a greater say in its operation. Transferring this concept to sewer service area planning it is readily apparent who the local users and investors are, namely, the City of La Crosse, City of Onalaska, and the town sanitary districts of Campbell and Shelby. The Environmental Protection Agency and the Wisconsin Department of Natural Resources are also investors in this sewer system.

The weighted voting structure shown in the table above awards votes based on population of the municipalities that use and invest in the La Crosse Sewer Service Area system. This implies that the higher the population the greater the usage and the amount a given municipality will pay towards maintaining the sewer system. The disadvantage to this concept is that it doesn't truly reflect sewer usage. If a voting structure was based on actual loading the voting would be even more heavily weighted in the City of La Crosse's favor, due to industrial and commercial loadings and the fact that not all of the Town of Shelby's population is served by public sewer.

The repercussion from this form of weighted voting results in the City of La Crosse carrying over a two-thirds majority on any vote. If you take into consideration that in 1997 the City of La Crosse provided 83 % of the loading and generated 80% of the total revenue their proportion of the weighted vote becomes more understandable.

The context for which a vote is taken also needs to be considered. A voting action by the LASC is conducted to advise the Wisconsin Department of Natural Resources on what the chief elected officials of the LASC believe to be in their and the sewer service area best interest. In making their decision the Department of Natural Resources will know of the weighted voting situation and the results that can occur. This vote will be just one of the important factors that they will consider prior to making their decision. Other factors will be the policies, standards and procedures in the *La Crosse Sewer Service Area Plan*, N.R. 121 of the Wisconsin Administrative Code, citizen comments made at public meetings and written comments provided to them regarding voting actions taken by the LASC.

SEWER SERVICE AREA PLAN, AMENDMENT EVALUATION STANDARDS

The following Sewer Service Area Plan, evaluation standards have been established for analyzing the merits of proposed plan amendments.

- a) Such sewerage service can be provided in a cost-effective manner.
- b) There will be no significant adverse water quality and/or environmental impacts associated with providing sewer service to the area.
- c) The proposed amendment is in compliance with the other policies and goals of this plan not under amendment consideration.
- d) Existing or planned sewerage systems have sufficient capacity to treat projected flows.
- e) Land is needed to accommodate unanticipated population growth and/or a change in local densities has been approved by the local municipality.

If population projections and locally approved densities remain unchanged, acreage can only be added to the service area if a corresponding number of acres is subtracted, keeping the population density stable. The exception to this swap requirement is a case

where a density range has been established for the service area and the addition of land to the service area does not violate either the upper or lower limit of the range.

Requests for inclusion of existing developments where on-site systems are failing, outside of the sewer service area, will be approved by the Department provided the failure of the system(s) is documented by the County Environmental Health Manager and provided it can be shown that:

- a) Sewer service can be provided in a cost effective manner compared with alternative solutions, including replacement or upgrading of the existing failing septic systems. The cost-effective determination shall be made by the applicant using EPA and DNR guidelines for cost-effective analysis.
- b) There will be no significant adverse water quality impacts associated with providing sewer service to the area.

Existing or planned sewerage facilities have sufficient capacity to treat projected flows.

8. SEWER SERVICE AREA PLAN POLICIES AND GOALS

In addition to the water quality policies and goals of regulating sewer development within environmentally sensitive areas and within a defined sewer service growth boundary, the following policies and goals will further assist in protecting the water resource of the La Crosse area.

GOAL 1 - Continue Nonproliferation Policy of Treatment Facilities

Based on recommendations of the La Crosse Treatment Facility Plan and the 1985 *La Crosse Sewer Service Area Plan*, continue to maintain the nonproliferation of additional treatment facilities policy as defined by Chapter 281 of the Wisconsin Statutes with the exception of certain circumstances. Those circumstances recognize that connection to an existing treatment facility is not always cost-effective or environmentally sound and that there may be instances where a small sewage treatment facility is the most effective solution. To accommodate this possibility the following is a summary of the special alternatives that are possible so long as they meet the requirements defined by Chapter 281 of Wisconsin Statutes, and Natural Resource Administrative Code 110.

- A. Treatment Facilities To Serve Existing Residential Developments
- B. Interim Treatment Facilities
- C. Treatment Facilities Serving Isolated Nonresidential Development
- D. Treatment Facilities To Serve New Residential Development
- E. Treatment Facilities To Serve Existing Mobile Home Parks and Condominium Developments

GOAL 2 - Practice Pollution Prevention (P2)

The U.S. Environmental Protection Agency, in the last few years, has endorsed and is now encouraging States to take the lead in implementing pollution prevention (commonly referred to as P2) practices. The Department of Natural Resources recognizes the value of P2 and encourages P2 activities at the local and facility level. P2 initiatives at the State level are primarily through partnerships with local municipalities, and industrial and commercial establishments. The Department of Natural Resources has also made an effort to incorporate P2 practices while implementing its programs.

At the local level, each community and discharger has an unspoken and inherent responsibility to examine the process and sources of each discharge on a periodic basis to determine whether the discharge can be eliminated, reduced, or converted to a more environmentally inert material prior to being discharged to the treatment facility. This is called pollution prevention. The practice of pollution prevention would also apply to construction and developing property. The objective of pollution prevention is to eliminate pollution at its source (or to lessen its impact on the environment). It is much easier and sometimes more economical to eliminate/recycle/reduce pollution at its source

through good pollution prevention practices, than it is to unravel and treat it once it is mixed with other contaminants. A side benefit of P2 is the reduction in the cost to treat and dispose of the material. This may mean a reduction in user fees.

P2 practices can easily be implemented at any governmental/facility level by routinely asking the following questions.

1. Can this waste-stream (or the possibility of a waste stream) be eliminated?
2. Can this waste-stream be recycled?
3. Can this waste-stream be reduced in quantity and pollution strength/toxics?

Implementing a quality P2 program at the local facility and governmental level can best be accomplished by incorporating P2 measures into current workflow, approval, operation practices. By asking the three pollution prevention questions above and by eliminating/recycling/reducing pollution at its source, all facilities discharging to the cities treatment facility can experience the benefits of this good environmental and business practice.

GOAL 3 - Encourage Development to Recognize the Importance of Protecting Groundwater - Our primary source of drinking water by proposing land uses and activities that will not contaminate wells or well recharge areas and will adhere to well head protection plans and ordinances.

GOAL 4 - Prior to Approval of Municipal Sewer Extensions for a Given Residential Subdivision Development, Require a Site Plan and Density Threshold (dwelling units per acre) for that development and for possible future subdivision additions that show evidence that the development is sustainable and major water quality, stormwater runoff, and public infrastructure problems and costs will not be passed on to future generations due to development in a wrong place or too much development in a given area. Adequate open space with pervious surface areas should be provided in order to handle storm water in an environmentally sound and natural manner to avoid future costs associated with manmade structural solutions.

GOAL 5 - Investigate the Feasibility of Preparing a Sustainable Development Plan For the Land Areas Within or Adjacent To the Existing Sewer Service Area Boundary. Some of the issues this sustainable development plan (*see description of a sustainable development plan below*) could address are:

- Recommendations on how the 4,519 additional dwelling units projected by the year 2020 should be distributed or clustered throughout the sewer service area. These recommendations should be based on handling of stormwater runoff in the most natural way practical by minimizing man made structural solutions but still allowing for economical sewered development. Minimizing changes to the natural landscape, road capacities, employment centers, and park and recreation needs should also be taken into consideration in determining the distribution pattern for dwelling units.

- Recommendations on how to make sewer urban areas as affordable and economical to develop as agricultural and rural land areas. To assist in abating urban sprawl and keeping our urban centers vibrant and rural areas productive for farming and wildlife habitat.
- Recommendations on how to assist farmers and large landowners in getting relief or compensated for not developing their land so they can afford to keep it undeveloped or to keep farming and not have to sell it for development to make a living.
- Recommendations and maps showing sewer line locations on how to serve the dwelling unit distribution pattern.
- A three dimensional birds eye view sketch or altered photo showing how the dwelling distribution pattern would look on the landscape.
- Estimates in phases on the costs involved in providing sewer service to the dwelling unit distribution pattern.
- Financing plan on how all local governments with assistance from state and federal grants can equitably pay for the sewer lines and related infrastructure.
- A sewer service revenue sharing plan that equitably compensates all cities and towns in the sewer service area for their past, present and future investments in the sewer system.

Sustainable Development

Sustainable development is a concept based on a long standing ethic involving people's relationship with the environment and the current generation's responsibilities to future generations. For a community to be truly sustainable, it must adopt a three pronged approach that considers economic, environmental, and cultural resources. Communities must consider these needs not only in the short term but also in the long term.

Carrying the sustainable development concept to sewer service area planning would involve innovative approaches to urban settlement patterns and waste treatment servicing systems. These approaches would involve developments that can be economically and environmentally sustained for both today's and future generations. These development patterns and systems would respect the natural environment and not treat it as an inconvenient obstacle to be ignored or controlled. These patterns and systems would also not burden future generations with high maintenance costs based on short sighted cost-benefit analysis of each incremental development. Instead, the entire sewer service area would be looked at from a big picture perspective with human settlement patterns and their accompanying sewer systems located in the most environmentally sound and economical places based on their ability to sustain themselves over the long term.

Sustainable Development Resources

Several federal agencies, the National Association of Counties and numerous other organizations are presently promoting and providing assistance to communities interested in pursuing sustainable development. The Environmental Protection Agency has established a challenge grant program and numerous other funding programs to assist businesses and communities with sustainable development initiatives.

The Department of Energy (DOE) has established a Center of Excellence for Sustainable Development that provides funding and technical assistance. This center is established to assist DOE in its core mission to make sure the Nation has ample supplies of clean, affordable energy. Each neighborhood that is designed across the country that utilizes sustainable development concepts will help in the attendant impacts on transportation, building efficiency, industrial productivity and so on - which affects national energy security and the Nation's economic and environmental health.

The National Association of Counties (NACO) is also championing sustainable development. NACO has worked with the U.S. Conference of Mayors to form the joint center for sustainable communities. The mission of the center is to provide a forum for cities and counties to work together to develop long-term policies and programs that lead to sustainable communities. The center will help local officials build sustainable communities by promoting community leadership initiatives, providing technical assistance and training and conducting policy and educational forums.

The Department of Energy, Environmental Protection Agency and the National Association of Counties each have very informative web sites on their sustainable development programs and grant opportunities. The addresses for these sites are: www.sustainable.doe.gov, www.epa.gov/ecocommunity, www.naco.org/ncgw.