

CITY OF CORCORAN

COMPREHENSIVE PLAN
JUNE 2011



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Comprehensive Plan Contents

Chapter 1.....	12
INTRODUCTION	12
I. METROPOLITAN PLANNING ACT	12
II. 2020 PLAN	12
III. 2030 PLAN VISION AND GUIDING PRINCIPLES.....	12
IV. 2030 PLAN UPDATE PROCESS	13
Chapter 2.....	14
BACKGROUND	14
I. REGIONAL SETTING	14
II. CORCORAN TODAY	14
III. DEMOGRAPHICS.....	15
Chapter 3.....	22
NATURAL RESOURCES	22
I. INTRODUCTION	22
II. NATURAL RESOURCES GOALS AND POLICIES	22
III. EXISTING NATURAL RESOURCES	24
IV. NATURAL RESOURCES PROTECTION	26
Chapter 4.....	36
2030 LAND USE PLAN	36
I. INTRODUCTION	36
II. CURRENT LAND USE.....	37
III. 2030 LAND USE.....	42
IV. RESIDENTIAL LAND USE GOALS AND POLICIES.....	46
V. 2030 RESIDENTIAL LAND USE CATEGORIES	46
VI. MIXED USE, COMMERCIAL, INDUSTRIAL, AND BUSINESS PARK LAND USE GOALS AND POLICIES.....	49
VII. MIXED USE, COMMERCIAL, INDUSTRIAL AND BUSINESS PARK LAND USE CATEGORIES.....	50
VIII. PUBLIC/SEMI-PUBLIC LAND USE CATEGORIES	53
IX. GROWTH MANAGEMENT GOALS AND POLICIES	53
X. STAGING.....	54
XI. GROWTH MANAGEMENT.....	56
XII. RELATIONSHIP TO METROPOLITAN COUNCIL DEVELOPMENT FRAMEWORK	60
XIII. PROTECTING SPECIAL RESOURCES.....	62
Chapter 5.....	64
HOUSING.....	64
I. INTRODUCTION	64
II. CURRENT HOUSING INVENTORY	64
III. AFFORDABLE AND LIFE-CYCLE HOUSING	67
IV. HOUSING GOALS AND ACTION STRATEGIES	69
Chapter 6.....	72
ECONOMIC DEVELOPMENT	72
I. INTRODUCTION	72
II. BACKGROUND AND EMPLOYMENT DATA	72
III. TARGETED ECONOMIC DEVELOPMENT AREAS.....	76
IV. ECONOMIC DEVELOPMENT GOALS AND POLICIES	76

V. ECONOMIC DEVELOPMENT STRATEGIES	78
Chapter 7.....	80
PARKS AND TRAILS	80
I. INTRODUCTION	80
II. PLANNING GOALS AND POLICIES.....	81
III. PARK GOALS AND POLICIES	82
IV. TRAIL SYSTEM GOALS AND POLICIES.....	84
V. DEVELOPMENT GUIDELINES: AREAS OUTSIDE THE 2030 METROPOLITAN URBAN SERVICE AREA (MUSA) BOUNDARY	86
VI. PARK CLASSIFICATION	86
VII. EXISTING PARKS AND PUBLIC SPACES.....	90
VIII. FUTURE PARKS.....	91
IX. FUTURE TRAILS.....	92
X. PARKS AND TRAILS LOCATIONS	93
XI. IMPLEMENTATION.....	96
Chapter 8.....	98
TRANSPORTATION	98
I. INTRODUCTION	98
II. TRANSPORTATION GOALS AND POLICIES.....	98
III. CURRENT TRANSPORTATION SYSTEMS	99
IV. TRANSPORTATION ISSUES	108
V. 2030 TRANSPORTATION SYSTEM.....	110
VI. PUBLIC TRANSIT SYSTEM.....	118
VII. RAIL.....	118
VIII. AVIATION FACILITIES	118
Chapter 9.....	120
SANITARY SEWER	120
I. INTRODUCTION	120
II. MCES INTERCEPTOR CONNECTIONS	120
III. FORECASTS.....	128
IV. TRUNK SANITARY SEWER SYSTEM DESIGN	129
V. INFILTRATION AND INFLOW	133
VI. INDIVIDUAL SEWAGE TREATMENT SYSTEMS	134
VII. INTERCOMMUNITY FLOW CONNECTIONS	135
VIII. CENTRALIZED WASTEWATER TREATMENT SYSTEMS	135
IX. IMPLEMENTATION.....	135
Chapter 10.....	136
WATER SUPPLY	136
I. INTRODUCTION	136
II. WATER SUPPLY SYSTEM	136
III. RESOURCE SUSTAINABILITY	142
IV. EMERGENCY RESPONSE PROCEDURES	144
V. WATER CONSERVATION PLAN	144
VI. WATER SYSTEM GOALS AND POLICIES	145
Chapter 11.....	146
SURFACE WATER MANAGEMENT	146
I. INTRODUCTION	146
II. LOCAL SURFACE WATER MANAGEMENT PLAN CONTENT.....	146
III. GOALS AND POLICIES	149
IV. NPDES PHASE II MS4 PERMIT	151

V. LAKE SARAH TMDL	153
VI. WETLAND MANAGEMENT.....	154
VII. ASSESSMENT OF PROBLEMS AND CORRECTIVE ACTIONS	155
VIII. AMENDMENT PROCEDURES	155
Chapter 12.....	158
IMPLEMENTATION.....	158
I. INTRODUCTION	158
II. IMPLEMENTATION TOOLS	158
III. CAPITAL IMPROVEMENT PLAN	162
IV. ZONING.....	162
APPENDICES	164
APPENDIX A.....	166
Soils Type.....	166
APPENDIX B.....	170
Natural Resource Protection Strategies And Techniques	170
APPENDIX C.....	176
Transportation.....	176
APPENDIX D.....	194
Financial Incentives	194
APPENDIX E	200
Sanitary Sewer Ultimate System Areas (E-1)	200
Sanitary Sewer Ultimate System Average Flows (E-2)	200
Sanitary Sewer Ultimate System Design Flows (E-3)	200
Sanitary Sewer Ultimate Trunk System Design (E-4)	200
APPENDIX F	202
Subdivision Regulations.....	202
APPENDIX G.....	204
Capital Improvement Plan	204
APPENDIX H.....	206
Official Zoning Map	206

APPENDICES

Appendix A	Natural Resources: Soil Types
Appendix B	Natural Resources: Natural Resources Protection Strategies and Techniques
Appendix C	Transportation: Access Management Guidelines Traffic Volumes Traffic Analysis Zones Forecasts by TAZ Existing Planning Level of Service Level of Service Description Generalized Planning Average Daily Traffic Volume Thresholds NW Hennepin Study – Improvement Staging 2030 Planning LOS-Deficient Segments Hennepin County-Base 2030 Roadway Network Improvements Hennepin County- Base 2030 Roadway Network Improvements
Appendix D	Financial Incentives
Appendix E	Sanitary Sewer: Sanitary Sewer Ultimate System Areas, Ultimate System Average Flows, Ultimate System Design Flows, Ultimate Trunk System Design
Appendix F	Sanitary Sewer: Subdivision Regulations
Appendix G	Implementation: Capital Improvement Plan
Appendix H	Implementation: Official Zoning Map

Index of Maps, Figures and Tables

Chapter 1.....	12
INTRODUCTION	12
Chapter 2.....	14
BACKGROUND	14
TABLE 1: POPULATION AND HOUSING UNITS (1970-2000)	15
TABLE 2: POPULATION BY AGE (2000)	16
TABLE 3: FORECASTS	16
FIGURE 1: REGIONAL SETTING	17
FIGURE 2: DEVELOPMENT FRAMEWORK.....	18
FIGURE 3: SCHOOL DISTRICTS	20
Chapter 3.....	22
NATURAL RESOURCES	22
FIGURE 4: NATURAL RESOURCES INVENTORY	30
FIGURE 5- WATER RESOURCES.....	32
FIGURE 6 ECOLOGICALLY SIGNIFICANT NATURAL AREAS	34
Chapter 4.....	36
2030 LAND USE PLAN	36
TABLE 4: EXISTING LAND USE ACRES	38
FIGURE 7: 2008 EXISTING LAND USE	40
TABLE 5: 2030 LAND USE ACREAGES	42
FIGURE 8 FLU	44
TABLE 6: FUTURE LAND USE BY STAGING PHASE.....	56
FIGURE 9: DRAFT 2030 SANITARY SEWER SERVICE STAGING PLAN	58
TABLE 7: FORECASTS	61
TABLE 8: DENSITY	61
Chapter 5.....	64
HOUSING.....	64
TABLE 9: UNITS IN STRUCTURE	65
TABLE 10: BUILDING PERMITS 2001-2009.....	65
TABLE 11: AGE OF HOUSING STOCK.....	66
TABLE 12: HOUSING VALUE (SALE PRICE).....	66
TABLE 13: FUTURE LAND USE PLAN AFFORDABLE HOUSING CAPACITY	68
Chapter 6.....	72
ECONOMIC DEVELOPMENT	72
TABLE 14: DISTRIBUTION OF JOBS BY INDUSTRY.....	73
FIGURE 10: DISTRIBUTION OF JOBS BY INDUSTRY.....	73
TABLE 15: EMPLOYMENT GROWTH TRENDS AND PROJECTIONS.....	74
FIGURE 11: COMMERCIAL/INDUSTRIAL LAND USES IN NW HENNEPIN COUNTY.....	75
Chapter 7.....	80
PARKS AND TRAILS	80
FIGURE 12: PARKS AND TRAILS PLAN.....	94

Chapter 8.....	98
TRANSPORTATION	98
FIGURE 13: EXISTING ROADWAY FUNCTIONAL CLASSIFICATION	102
FIGURE 14: EXISTING AVERAGE DAILY TRAFFIC VOLUMES	106
FIGURE 15: 2030 AVERAGE DAILY TRAFFIC VOLUMES	112
FIGURE 16: 2030 ROADWAY FUNCTIONAL CLASSIFICATION	116
Chapter 9.....	120
SANITARY SEWER	120
FIGURE 17: PROPOSED TRUNK SANITARY SEWER SYSTEM-NORTHEAST	122
FIGURE 18: PROPOSED TRUNK SANITARY SEWER SYSTEM-SOUTHEAST	124
FIGURE 19: PROPOSED TRUNK SANITARY SEWER SYSTEM-SOUTHWEST.....	126
TABLE 16: CITY-WIDE POPULATION, HOUSEHOLD, AND EMPLOYMENT FORECASTS	128
TABLE 17: SEWERED POPULATION, HOUSEHOLD AND EMPLOYMENT FORECASTS	128
TABLE 18: AVERAGE WASTEWATER FLOW PROJECTIONS	129
TABLE 19: AVERAGE WASTEWATER FLOW PROJECTIONS BY MDS CONNECTION	129
TABLE 20: SYSTEM DESIGN WASTEWATER UNIT FLOW RATES	130
TABLE 21: INFILTRATION AND INFLOW GOAL	134
Chapter 10.....	136
WATER SUPPLY	136
TABLE 22: CITY OF CORCORAN POPULATION AND WATER DEMAND PROJECTIONS	137
TABLE 23: CONCEPTUAL 2030 WATER SYSTEM SUPPLY AND STORAGE REQUIREMENTS.....	138
FIGURE 20: DRAFT TRUNK WATER SYSTEM.....	140
Chapter 11.....	146
SURFACE WATER MANAGEMENT	146
TABLE 24: WRMPP STANDARDS COMPARISON	147
TABLE 24 (CONTINUED): WRMPP STANDARDS COMPARISON	148
Chapter 12.....	158
IMPLEMENTATION.....	158
APPENDICES	164
APPENDIX A.....	166
Soils Type	166
APPENDIX B.....	170
Natural Resource Protection Strategies And Techniques	170
APPENDIX C.....	176
Transportation.....	176
FIGURE 21 – EXISTING ROADWAY JURISDICTIONS.....	178
FIGURE 22 – FUNCTIONAL CLASSIFICATION RELATIONSHIP	180
FIGURE 23: TRAFFIC ANALYSIS ZONES	184
TABLE 25: FORECAST OF POPULATION, HOUSEHOLDS AND EMPLOYMENT BY TAZ.....	186
FIGURE 24: EXISTING PLANNING LEVEL OF SERVICE	188
TABLE 26: LEVEL OF SERVICE DESCRIPTION	190
TABLE 27: GENERALIZED PLANNING AVERAGE DAILY TRAFFIC VOLUME THRESHOLDS	190
TABLE 28: NW HENNEPIN STUDY – IMPROVEMENT STAGING.....	191
TABLE 29: 2030 PLANNING LOS – DEFICIENT SEGMENTS	191

TABLE 30: HENNEPIN COUNTY – BASE 2030 ROADWAY NETWORK IMPROVEMENTS	192
TABLE 31: HENNEPIN COUNTY – OPTIONAL 2030 ROADWAY NETWORK IMPROVEMENTS	192
APPENDIX D.....	194
Financial Incentives	194
APPENDIX E.....	200
Sanitary Sewer Ultimate System Areas (E-1)	200
Sanitary Sewer Ultimate System Average Flows (E-2)	200
Sanitary Sewer Ultimate System Design Flows (E-3)	200
Sanitary Sewer Ultimate Trunk System Design (E-4)	200
APPENDIX F.....	202
Subdivision Regulations.....	202
APPENDIX G.....	204
Capital Improvement Plan	204
APPENDIX H.....	206
Official Zoning Map	206

Chapter 1

INTRODUCTION

I. Metropolitan Planning Act

The Metropolitan Planning Act requires every City in the seven-county metropolitan area to create a comprehensive plan and update the plan every 10 years. The Metropolitan Council reviews every City's comprehensive plan to ensure that the plan is compatible with regional system plans for sewer, transportation, and parks and open space. The City of Corcoran has prepared a Comprehensive Plan that achieves the community's own vision and goals for the future while meeting the Metropolitan Council's regional planning requirements.

II. 2020 Plan

The City's third comprehensive plan, the "2020 Plan," was completed in December 2002 and was the first mandated by State law. The most significant aspect of the 2020 Plan was that it anticipated the introduction of municipal sewer service within the 20-year planning horizon. Another key component of the 2020 Plan was the completion of a Natural Resource Inventory and Management Plan.

III. 2030 Plan Vision and Guiding Principles

Corcoran's 2030 Comprehensive Plan, the "2030 Plan," represents a community-generated update to the 2020 Plan. The update process involved a wide range of community volunteers, including Corcoran residents, the City Council, Planning Commission, Parks and Trails Commission, and a Comprehensive Plan Committee. These groups combined open house events, staff support and research, and commission and committee discussions to identify a vision for Corcoran in the year 2030. This vision is supported by and will be achieved through a series of principles, goals and policies related to land use and development.

The City of Corcoran in 2030 will be a vibrant community, defined by its dynamic downtown, strong base of commercial and industrial businesses, variety of housing options, and high-value natural resources. The mixed-use downtown, centered at the junction of Highways 116 and 10, will provide the community with a public gathering space as well as retail and job opportunities for residents. Corcoran's 2030 commercial, industrial, and business park developments will provide both local employment and a stronger, more diverse tax base. Broader housing options in 2030 will ensure a place in our community for first-time homebuyers, growing families, and seniors.

Corcoran is defined by its abundance of high-quality natural resources and open spaces. These resources are intrinsic to our quality of life. The 2030 Plan will enable the residents of 2030 Corcoran to continue to share in this defining experience.

These visions of 2030 Corcoran will be achieved through the community's adherence to the following guiding principles:

1. Protection of the natural resources that define Corcoran's quality of life
2. Creation of opportunities for a thriving downtown area combining a range of retail, public gathering, and residential spaces
3. Creation of opportunities for expanded employment and tax bases combining commercial, industrial, and business park land uses
4. Expansion of residential options to achieve life-cycle housing
5. Support rural residential development in non-urbanized Corcoran in a manner that preserves efficient, future urbanization and protects natural resources while allowing current economic benefit to landowners

IV. 2030 Plan Update Process

The City Council appointed a Comprehensive Plan Committee, composed of Council members, Planning Commission members, Parks and Trails Commission members, and interested citizens in the fall of 2008. The Comp Plan Committee met several times to educate itself on the 2020 Plan, comprehensive plan requirements and planning practices and to develop proposed goals and policies to be incorporated into the 2030 Plan.

The first community-wide public meeting was held in January 2009. Community responses helped further shape the draft 2030 Plan goals, policies, and future land use plan. Based on these inputs, the Comprehensive Plan Committee reviewed a draft future land use plan in January 2009.

Revisions were made based on the Comprehensive Plan Committee comments, and the Draft Future Land Use and Staging Plans were presented to the public at an open house in April 2009. The City then prepared a Draft Comprehensive Plan in April 2009 based on further input received from the community.

The City Council granted preliminary approval to the Comprehensive Plan on May 21, 2009, to submit the Plan to neighboring cities for a legally-required review. Following further review by the Comprehensive Plan Committee and the City Council, the Draft Plan was submitted to adjacent communities and the appropriate government agencies on June 1, 2009, for review and comment.

Corcoran's Planning Commission held a public hearing on November 5, 2009, to review the Comprehensive Plan and to receive formal public comments on the Plan. The Planning Commission also made its recommendation for plan approval to the City Council.

Following the required six-month period of review by adjacent communities and appropriate government agencies, the 2030 Plan was submitted to the Metropolitan Council on December 10, 2009, for its formal review. The Comprehensive Plan was amended as appropriate to incorporate revisions suggested by the Metropolitan Council, adjacent communities and other agencies. The Metropolitan Council approved the 2030 Plan on March 24, 2010.

Chapter 2

BACKGROUND

I. Regional Setting

Corcoran is located on the western edge of Hennepin County, and although it is located 20 miles from downtown Minneapolis, it has remained generally rural. Corcoran comprises just under 36 square miles, and the vast majority is located in the Rush Creek and Elm Creek Watershed systems. A small area in southwest Corcoran drains to the Pioneer/Sarah Creek watershed and eventually to the Crow River. Communities bordering Corcoran include the cities of Maple Grove, Plymouth, Medina, Loretto, Greenfield, Hanover and Hassan Township. See Figure 1-Regional Setting (page 17).

The Metropolitan Council has classified the eastern half of Corcoran a “Developing Community.” Developing communities are communities on the edge of the metropolitan area where substantial new growth is expected to occur. The western half of Corcoran is classified by the Metropolitan Council as a “Diversified Rural” area. Diversified Rural communities are defined by the Metropolitan Council as the sparsely developed parts of the region that host the widest variety of farm and non-farm uses. They include a mix of limited large-lot residential and clustered housing, agriculture, and facilities and services requiring a rural location. Limited growth is forecasted for these areas, and they are not currently planned for urban development. The Metropolitan Council has adopted a Flexible Development Ordinance for Diversified Rural communities to ensure that development patterns are efficient and cost-effective while also providing opportunities for landowners. See Figure 2 - Development Framework (page 18).

II. Corcoran Today

The City is on the verge of urban-style development prompted by the extension of the Metropolitan Utilities Service Area (MUSA) sanitary sewer system into the eastern part of the City. It is critical for the City to have a plan in place to efficiently and economically guide this development while retaining residents’ rural experience and quality of life.

Despite the development over the years of many pockets of residential neighborhoods, Corcoran has generally maintained its rural character. Agriculture, while constantly challenged by land-use and economic pressures, remains a significant and valued part of the community. Open space and other high-quality natural resource areas are abundant, and these amenities are highly valued by residents. A remarkable 22 percent of the City’s total land area consists of wetlands, lakes, and streams (Hennepin County, 2008 Minnesota Land Cover Classification System data).

The City’s 2020 Plan created a Natural Resource Inventory (NRI) that identified all of the significant natural resource areas in the community. The NRI also provided recommendations and priorities for the preservation and enhancement of the natural systems. The Natural Resources Chapter of the 2030 Plan incorporates many of the NRI findings and recommendations.

Large lot, rural residential single-family homes are the predominant form of housing in Corcoran. A smaller number of suburban-sized lots are located near the downtown and in other select areas. A manufactured home park is located in southeast Corcoran. Residents in Corcoran have repeatedly identified the need for life-cycle housing in the community, in particular to address the lack of housing opportunities for first-time home buyers and downsizing seniors.

Commercial and industrial development in the City is limited, primarily due to the lack of municipal water and sewer services and the absence of major transport corridors. The City supports continuation and expansion of commercial enterprises in the downtown area at County Road 116 and County Road 10. Burschville is a commercial area located in northwest Corcoran, at the intersection of County Roads 10 and 19. Commercial and industrial activities also occur in southwestern Corcoran, at the intersection of Highway 55 and County Road 19.

Corcoran is divided among and sends its children to five different school districts – Buffalo, Delano, Osseo, Rockford, and Wayzata. See Figure 3 – School Districts (page 20). There are no public schools located in the City. One private school, St. John’s Lutheran, offers pre-kindergarten through 8th grade education. The Rockford school district owns property in the City. However, it appears unlikely the district will utilize the site for a future school.

III. Demographics

The City’s population was 5,791 as of 2007. Table 1 provides historical population trends, demonstrating a significant period of growth during the 1970s, when many of the City’s “large lot” neighborhoods were developed.

TABLE 1: POPULATION AND HOUSING UNITS (1970-2000)

YEAR	TOTAL POPULATION	TOTAL HOUSING UNITS	PERSONS PER HOUSEHOLD
1970	1,656	416	4.07
1980	4,252	1,281	3.42
1990	5,199	1,545	3.40
2000	5,630	1,784	3.16
2007	5,791	1,894	3.06
Source: U.S. Census, Metropolitan Council			

The City’s 2000 population is broken down by gender and age in Table 2 (page 16).

TABLE 2: POPULATION BY AGE (2000)

AGE	TOTAL NUMBER	PERCENT OF TOTAL
Total Population	5,630	100.0
Male	2,930	52.0
Female	2,700	48.0
Under 5 years	409	7.3
5 to 9 years	538	9.6
10 to 14 years	542	9.6
15 to 19 years	517	9.2
20 to 24 years	218	3.9
25 to 34 years	528	9.4
35 to 44 years	1,252	22.2
45 to 54 years	938	16.7
55 to 59 years	265	4.7
60 to 64 years	168	3.0
65 to 74 years	173	3.1
75 to 84 years	69	1.2
85 years and over	13	0.2
Median Age (Years)	35.6	---
Source: U.S. Census 2000		

The City's median age is 35.6 years, comparable to the median age in Hennepin County. Nearly 35 percent of Corcoran's population was under the age of 18 in 2000, while only 4.5 percent of the population was over age 65. Like many cities in the U.S., the City's median age is expected to increase as the "baby boom" generation enters retirement.

As part of the planning process, the City and the Metropolitan Council have agreed on household, population, and employment forecasts for the City. These forecasts underlie substantially all of the 2030 Plan elements. These forecasts are presented in Table 3.

TABLE 3: FORECASTS

	2007	2010	2020	2030
Population	5,791	5,800	8,600	17,600
Households	1,894	1,900	2,900	6,100
Employment	1,420	1,500	3,500	5,500

The City's future land use and infrastructure plans were developed to accommodate the 2030 forecasts. This ensures that the City has guided enough land and has adequate infrastructure in place to accommodate projected growth.

FIGURE 1: REGIONAL SETTING

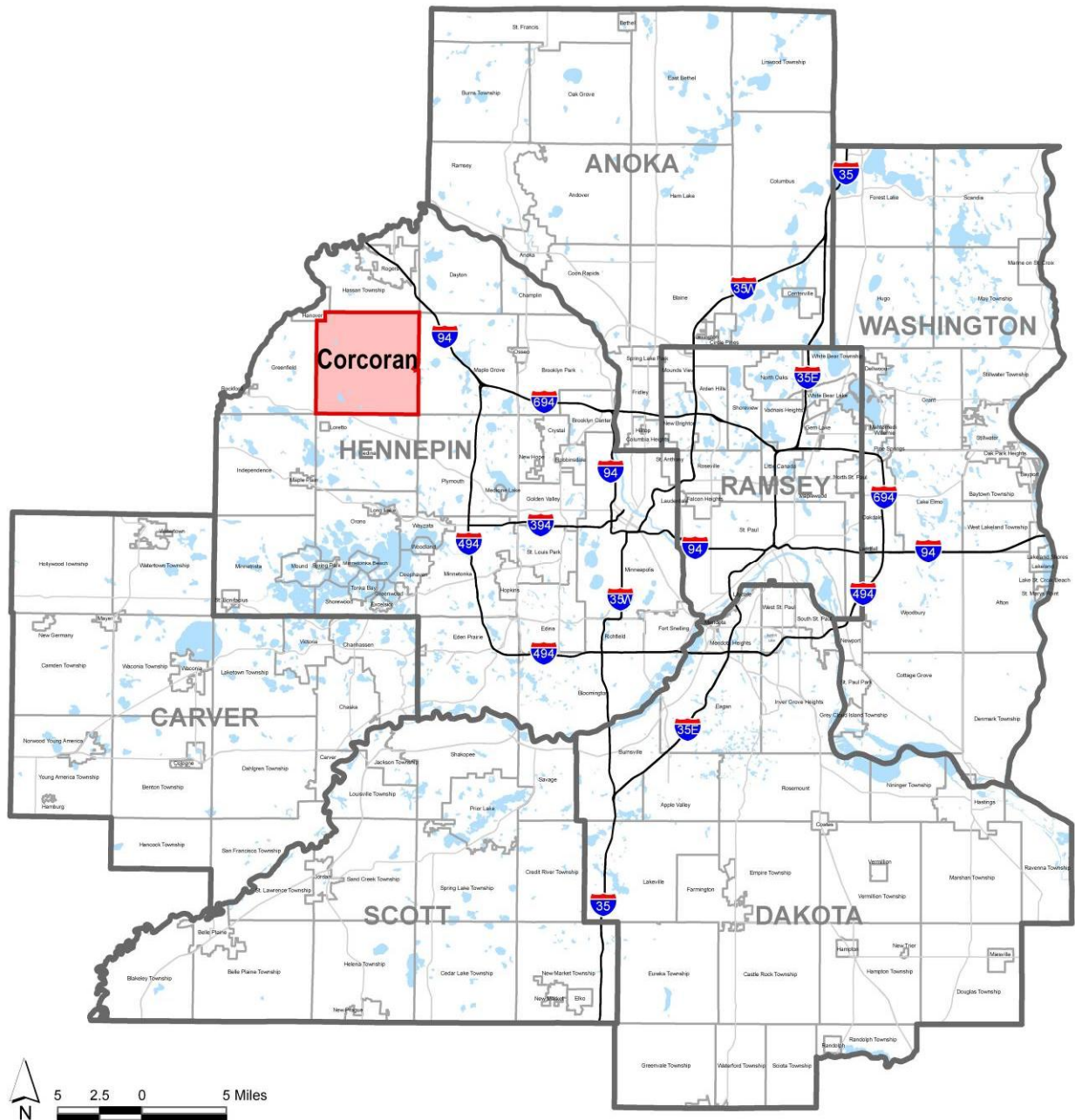
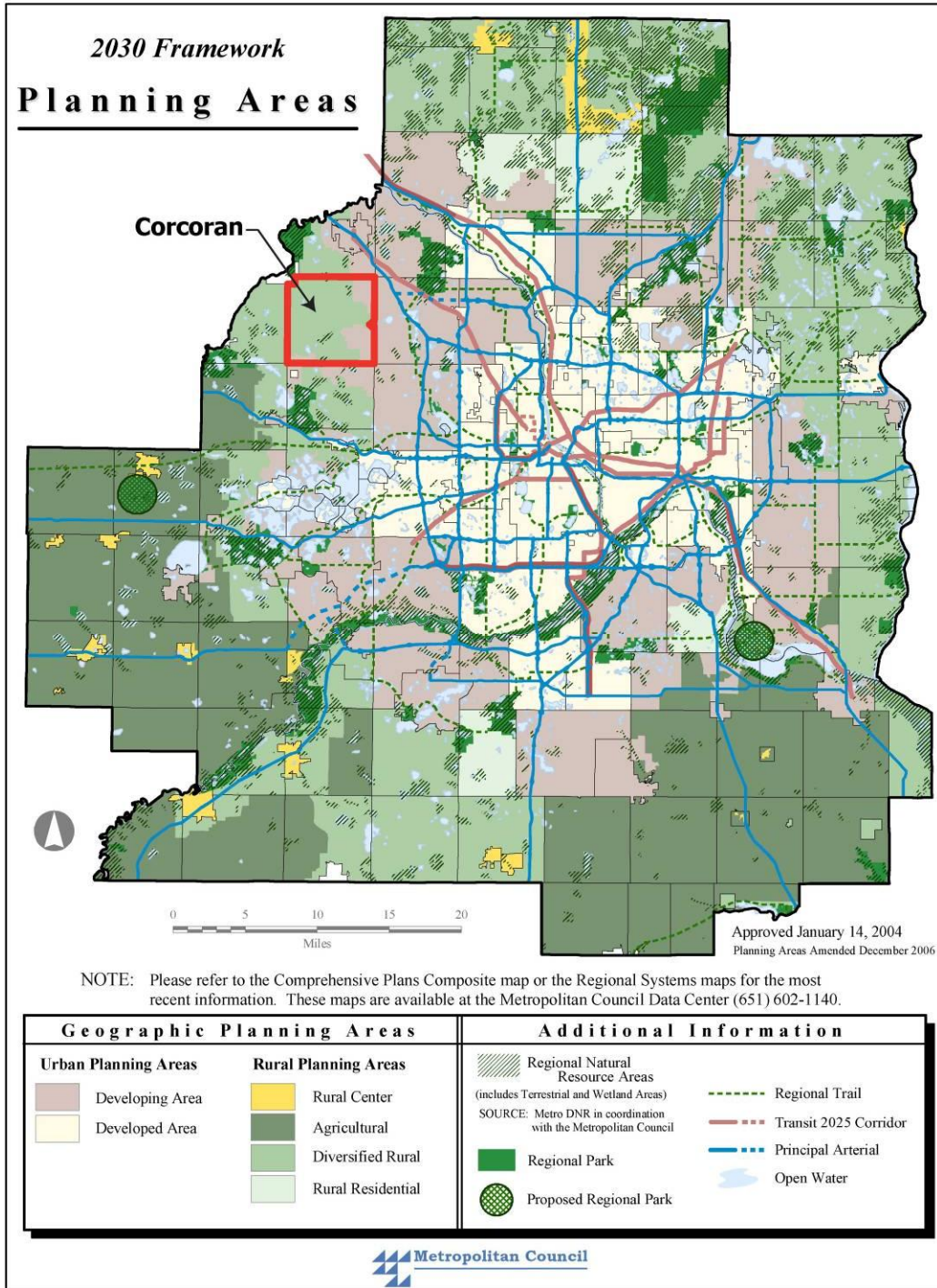


FIGURE 2: DEVELOPMENT FRAMEWORK





School Districts

2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet



City Limit

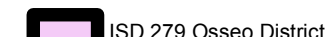


Open Water



Wetlands

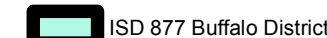
School District Name:



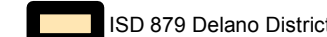
ISD 279 Osseo District



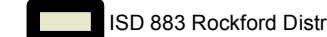
ISD 284 Wayzata District



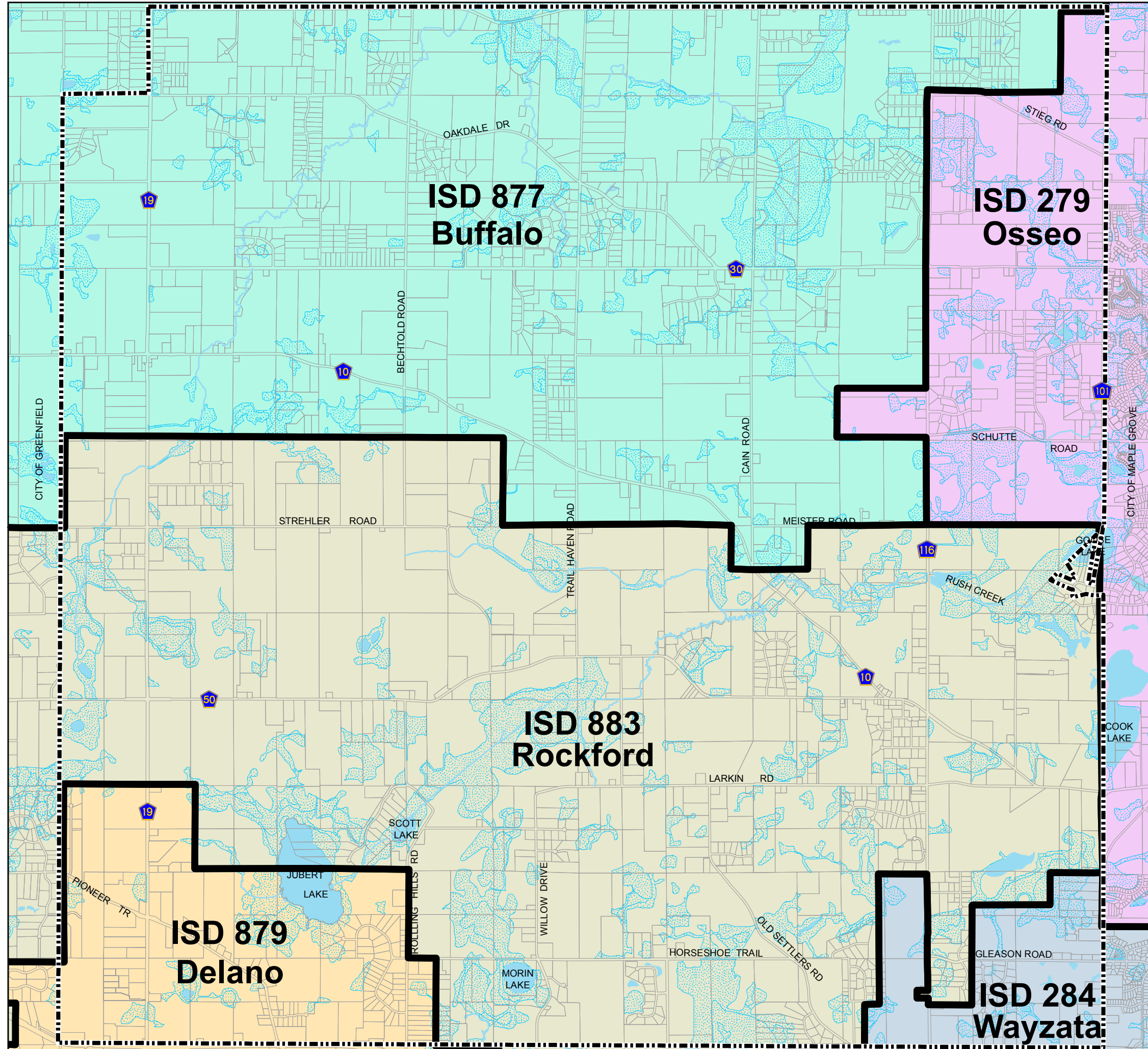
ISD 877 Buffalo District



ISD 879 Delano District



ISD 883 Rockford District



Chapter 3

NATURAL RESOURCES

I. Introduction

Corcoran's abundant, high-quality natural resources and open spaces are the predominant elements of the rural character that define the City. The City's open spaces consist primarily of farmed areas under active cultivation. Significantly, 25 percent of the City's land area consists of relatively undisturbed natural resource communities, including maple-basswood and oak woodlands, mesic savannas and meadows, wetlands, lakes and creeks. Balancing preservation of these features with future growth is a cornerstone of the 2030 Plan.

One of the goals of this Plan is to preserve the highest quality natural resources, as identified by the Natural Resource Inventory. The goal places priority on the natural resources patterns in the community in directing future development. The land use plan for the City is shaped by the existing environment. Sensitive natural areas create boundaries for development planning, affect the location of new services and provide buffers between land uses.

II. Natural Resources Goals and Policies

The community has established the following goals and policies to guide natural resource management, preservation, and development practices in furtherance of the community's vision for its 2030 natural environment.

Goal 1: Assign the highest priority to preserving the natural resources, as identified on the Natural Resource Inventory Area map (Figure 4, page 30), that link unique or ecologically significant natural areas.

Goal 2: Manage future growth and development activities to protect, conserve and enhance natural resource systems.

Policy 1: Preserve important natural resources (wetlands, woodlands, important view corridors and other areas located on the Natural Resource Inventory Area map) as undeveloped open space, to the extent consistent with the reasonable utilization of land and in accordance and cooperation with applicable Federal, State, and local regulations.

Policy 2: Require development, wherever located, to be designed so as to preserve and be compatible with the important natural features of the development site.

Policy 3: Create incentives for developers to preserve or dedicate prime developable areas for parks, trails, and open space.

Goal 3: Preserve, protect and enhance surface water quality in Corcoran.

Policy 1: Establish conservation requirements for new development, including enforced buffer requirements for areas near water, low-impact development, rain gardens, and swale stormwater run-off programs.

Policy 2: Implement Corcoran's Local Surface Water Management Plan in conformance with applicable watershed district standards and rules.

Policy 3: Work with governing watershed districts to jointly review development permits for surface water impacts.

Policy 4: Promote restoration of areas drained by field tiles and seek a reduction in the use of drainage tiling.

Goal 4: To preserve and protect the City's natural resources for the present and future benefit of the community, with emphasis on the significant corridors and natural areas identified in the Natural Resource Inventory.

Goal 5: To use the City's natural resources as a framework for providing an overall open space system, and provide compatible recreational opportunities that help City residents learn about and enjoy these resources.

Goal 6: To conserve a variety of natural resources that were part of the native landscape and history of Corcoran, including wetlands, woodlands, creeks, wildlife, and topography.

Goal 7: To preserve and protect existing wildlife habitat to the extent that it can attract and support resident and migratory wildlife populations.

Goal 8: To preserve and protect elements of the City's natural history for the enjoyment of current and future residents.

Goal 9: To preserve and protect natural resource/open space areas for use as buffers between land use types.

Goal 10: To utilize natural resource/open space areas in and around new development to increase the intrinsic and economic value of the individual properties.

Policy 1: To conserve a variety of natural resources that were part of the native landscape and history of Corcoran, including wetlands, woodlands, creeks, and topography.

Policy 2: The City will seek the assistance of metropolitan, State, and Federal agencies in preserving and managing natural resource areas.

Policy 3: Natural resource corridors should be used as a structuring element that link other park and open space areas whenever possible.

Policy 4: The natural resource/open space areas planned in conjunction with new developments shall be coordinated with and contiguous to the open space areas of the existing adjacent development.

Policy 5: Open space protection should be coordinated to keep wildlife habitat areas intact and/or connected.

Policy 6: Wetlands, natural drainage ways and woodlands should be protected from negative impacts, and restored to a high-quality condition when possible.

Policy 7: If hard surfaces such as parking lots are required, surfaces should be disconnected from storm drain systems where feasible, and strategies such as bioretention, grassed swales, and created wetlands should be used to filter and clean stormwater runoff as close to the source as possible.

Policy 8: Natural resource/open space areas may be used as buffers between land use types.

III. Existing Natural Resources

A. Natural and Semi-Natural Areas.

The areas of Corcoran that are not farmed or have not been developed for residential, public, or commercial uses can be divided into two broad categories – Natural Areas and Semi-Natural Areas. The Natural Areas are defined by the existence of native plant communities and the Semi-Natural Areas are defined by areas where original vegetation has largely been replaced by non-native plant species.

Natural Areas

At the time of European settlement, northwestern Hennepin County was comprised primarily of maple-basswood forest and mesic oak forest (referred to as “Big Woods”), with inclusions of wet prairie, marshes and lakes. Examples of this historic vegetation remain in locations scattered throughout the City, as identified by the Natural Resource Inventory. Some of the best examples of Big Woods remnants are found along both the north and south Rush Creek corridors. Other fragmented native forest remnants can be found in the west central portion of the City.

High-quality wetland areas occur within and adjacent to the Rush Creek corridors and Jubert Lake. The Minnesota County Biological Survey identifies two wetland areas to be of “state-wide interest.” One is a moderate quality wet meadow community in parts of Sections 34 and 35. While the diversity of the wet meadow has been reduced by ditching, the size of the complex and connections to other large wetlands contribute to its ranking. The second is a moderate quality tamarack swamp in Section 33 that is part of a larger upland-wetland complex and includes Morin Lake. Corcoran is within the southwestern range of the tamarack swamp plant community, making this wetland area rare and unique within the City.

Semi-Natural Areas

“Semi-Natural Areas” are areas of land not subject to active use and that are dominated by vegetation not originally found in those locations. Examples include fallow pasture or crop land that has been retired (old field), degraded wetlands dominated by reed canary grass or other invasive species, and secondary growth or disturbed woodlands, typically

dominated by box elder, green ash, and basswood. These areas still offer significant benefits for wildlife and water quality protection. These areas often form important buffers around and connections between higher quality Natural Areas. As seen on Figure 4, Natural Resource Inventory Areas (page 30), these Semi-Natural Areas form much of the open space and undeveloped lands within the City. Sites with proximity to high-quality natural resource areas or that tend to assist in the formation of connected natural resource corridors should be considered high priority for restoration.

B. Soils

The soils of northwestern Hennepin County are predominantly loams, which historically supported mixed hardwood forests, wet prairie, and savanna. These soils are also well-suited for agricultural crops such as corn, soybeans, hays and pasture lands. Non-draining depressions occur frequently in this portion of northwestern Hennepin County and tend to support hydrophilic vegetation (i.e., wetland plants such as sedges, grasses, rushes, and wetland herbs) and organic soil accumulation.

A summary of the specific soil types and associated acreages within the City are identified in Appendix A, Soil Types.

C. Water Resources

Water resources define and affect every aspect of the community's use and enjoyment of the Corcoran natural environment. Surface waters, both protected and non-protected, wetlands and groundwater all dictate how the community lives, works and plays. Water is a resource of common interest and importance throughout the community.

Surface Water

The City has a number of surface water resources, including the North Fork of Rush Creek in northwestern Corcoran and Rush Creek in the central and eastern portion of the City. There are also numerous tributary watercourses and ditches, wetlands and several small named lakes. These resources are identified on Figure 5, Water Resources (page 32).

Certain of the surface water resources are defined as "protected waters." Protected waters include lakes, rivers, wetlands or other bodies of water meeting standards set by State law (Minn. Stat. §103G,005). These sites provide public value for recreation, water quality, water supply or wildlife habitat, or are publicly owned. The Minnesota DNR has regulatory authority over protected waters, including issuance and enforcement of permits controlling activities that impact these areas.

Groundwater

Groundwater wells located in portions of northern and southwestern Corcoran collect water from the Prairie du Chien-Jordan Aquifer. The remaining wells in the City draw water from the Franconia-Ironton-Galesville Aquifer. Hennepin County leads efforts to protect this groundwater supply. The County monitors groundwater elevations and maintains an inventory of contamination sites.

Wetlands

Wetlands are common throughout Corcoran, covering approximately 16% of the City's land area. An even greater percentage of land is unbuildable due to its proximity to these wetlands. Corcoran's wetlands provide a number of valuable services to the community, including natural flood control, cleaning flowing water, recharging groundwater, and creating valuable habitat for wildlife. Wetlands are an aesthetic amenity in many developments and can provide visual and spatial buffers between homes. Nearly all of Corcoran's wetlands are protected by Minnesota's Wetland Conservation Act and certain waterways are also affected by Federal regulations. Appropriate permits are required prior to any activities that fill, drain, or otherwise impact regulated wetlands.

Several resources exist to assist in identifying wetlands. The National Wetlands Inventory (NWI) is a national assessment of wetland resources, conducted by the U.S. Fish and Wildlife Service, between 1988 and 1992 within the State of Minnesota. The NWI is useful in giving an estimate of the extent (i.e. approximate geographic location) and type (i.e. system, hydrologic regime and predominant vegetation types) of wetlands within the City. The NWI survey was based strictly on aerial photography reconnaissance and interpretation and may be less accurate than some of the other sources.

The City's Natural Resource Inventory was completed in 2001 with inventories of both upland and wetland communities. Most areas were field-checked and mapped using current aerial photographs.

Prior to that, the Hennepin Conservation District (HCD) completed a remote assessment of wetland and potential wetland areas within Hennepin County based on a review of then-current aerial photographs, topography, and hydric soils information. This survey includes potential wetland areas not included in the NWI (altered or restorable) and omits wetlands that have been filled since the completion of the NWI.

The City's Natural Resource Inventory was completed in 2001 with inventories of both upland and wetland communities. Most areas were field-checked and mapped using current aerial photographs.

The 2008 Minnesota Land Cover Classification System (MLCCS) Mapping and Natural Resource Inventory included a field check and identified both upland and wetland communities of ecological significance (See Figure 6, Ecologically Significant Natural Areas, page 34).

IV. Natural Resources Protection

A variety of tools and strategies are available to the City to manage and protect its natural resources, as discussed below. In addition to the City ordinances identified below, the Appendices to this 2030 Plan identify numerous strategies and techniques that may be considered for future development within the City.

A. Open Space Preservation (OSP) Plats

An important emphasis of this chapter's goals is to develop a method for preserving open space during development that results in a level of connectedness to natural resources.

However, the City believes that this mission should be approached using incentives rather than regulatory tools. The City believes that more can be accomplished when owners are encouraged and educated to the benefits of preserving natural resources while developing property. The City's natural resource maps include large areas already protected by wetland laws. With that knowledge, the City will work toward modifying the existing Open Space Preservation Plat ordinance (Section 940, see Appendix F) to provide a tool for protection of resources when development occurs, along with a progressive set of incentives based on percentage of permanent preservation or restoration provided. The OSP Plat ordinance provides for a case-by-case approach to site design, clustering, buffering and other methods to be used based on the uniqueness of the site. This approach will also allow planning for those sites where permanent preservation may not be appropriate (future lots, roads, access and infrastructure connections). Education and communication with landowners will be required as part of the successful implementation of this new ordinance.

The City is confident that this ordinance can respect the property rights of residents while promoting protection of natural resources and efficient future land use.

B. Park Dedication Ordinance

Corcoran's park dedication ordinance is contained in Code Section 955. The Park Dedication ordinance is an effective strategy for developing and maintaining a park and trail system within the City. The ordinance acknowledges the value that parks, trails and open spaces provide for area residents and requires that any new development either contain a specified area of park or open space or, in lieu of land dedication, pay a fee based either on the total area of land or the number of housing units to be developed. Collected fees are assigned to a dedicated parks fund and used for the permanent acquisition and development of parks and trails.

C. Shoreland Ordinance

The Shoreland Overlay District found in Code Section 1050.020 is used to protect the quality of the City's lakes and creeks. The ordinance regulates the use of shoreland areas, including the size, shape, and arrangement of lots, the size, type and location of structures on lots, the installation and maintenance of water supply and waste treatment systems, the grading and filling of any shoreland area, and the cutting of shoreland vegetation.

D. Wetland Protection

The City's 2009 Surface Water Management Plan (SWMP) provides guidelines for wetland management and protection from storm water runoff, including standards for phosphorus loads and water level fluctuation or "bounce." City Code Section 1050.010, Wetland Overlay District, also establishes buffer and setback requirements for wetlands according to wetland quality or type.

E. Additional Implementation Tools

In addition to updating the ordinances identified above, the City may consider additional techniques described in Appendix B, Natural Resource Protection Strategies and Techniques. The techniques described below may also be incorporated into the City's development and land use ordinances.

1. Include natural resource data in preliminary plats.
2. Require wetland delineations at time of preliminary plat.
3. Include dedication of natural resource areas as parkland.
4. Use conservation easements to protect appropriate natural resources.
5. Allow transfers of development rights if natural resource areas contained on a site are greater than the parkland dedication requirement.
6. Allow park dedication funds to be used for the purpose of ecological restoration as an element of park development lands available to the public.



City of CORCORAN

Natural Resource Inventory Areas

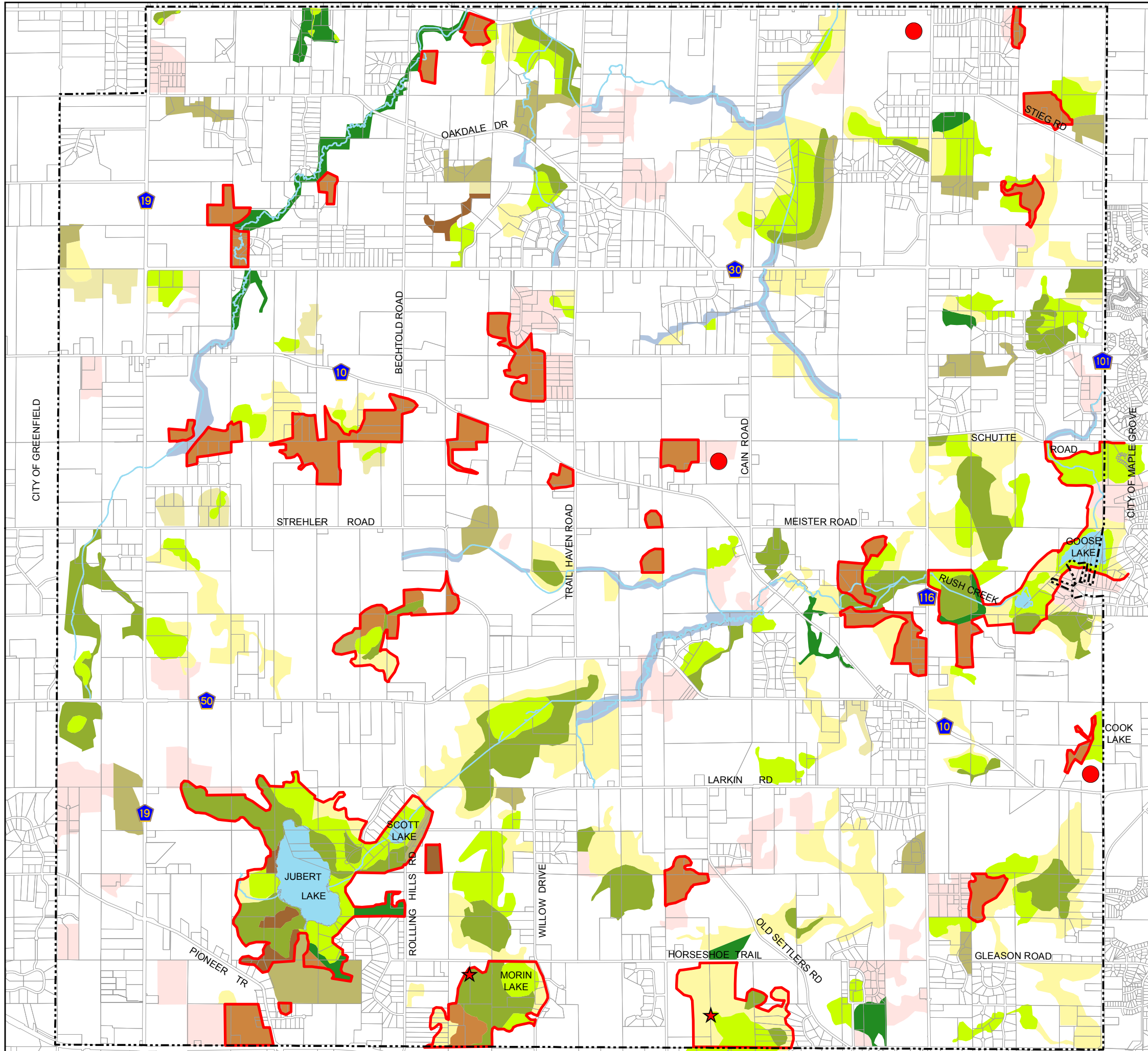
2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

- City Limit
- Natural Community of Statewide Significance
- Rare Species Occurrence
- Potential Connections to Adjacent Resource Areas
- High Quality Natural Community
- Streams
- Natural Plant Communities**
- Wetlands**
- Wet Prairie
- Emergent
- Shrub
- Floodplain Forest
- Open Water
- Floodplain (Reed Canary Dominant)
- Uplands**
- Savanna/Pasture
- Maple/Basswood
- Oak Forest
- Disturbed Woodland
- Old Field

NOTE: Due to limitations of map scale, distribution and proportion of Natural Community types within each colored area are approximate.



October 7, 2009





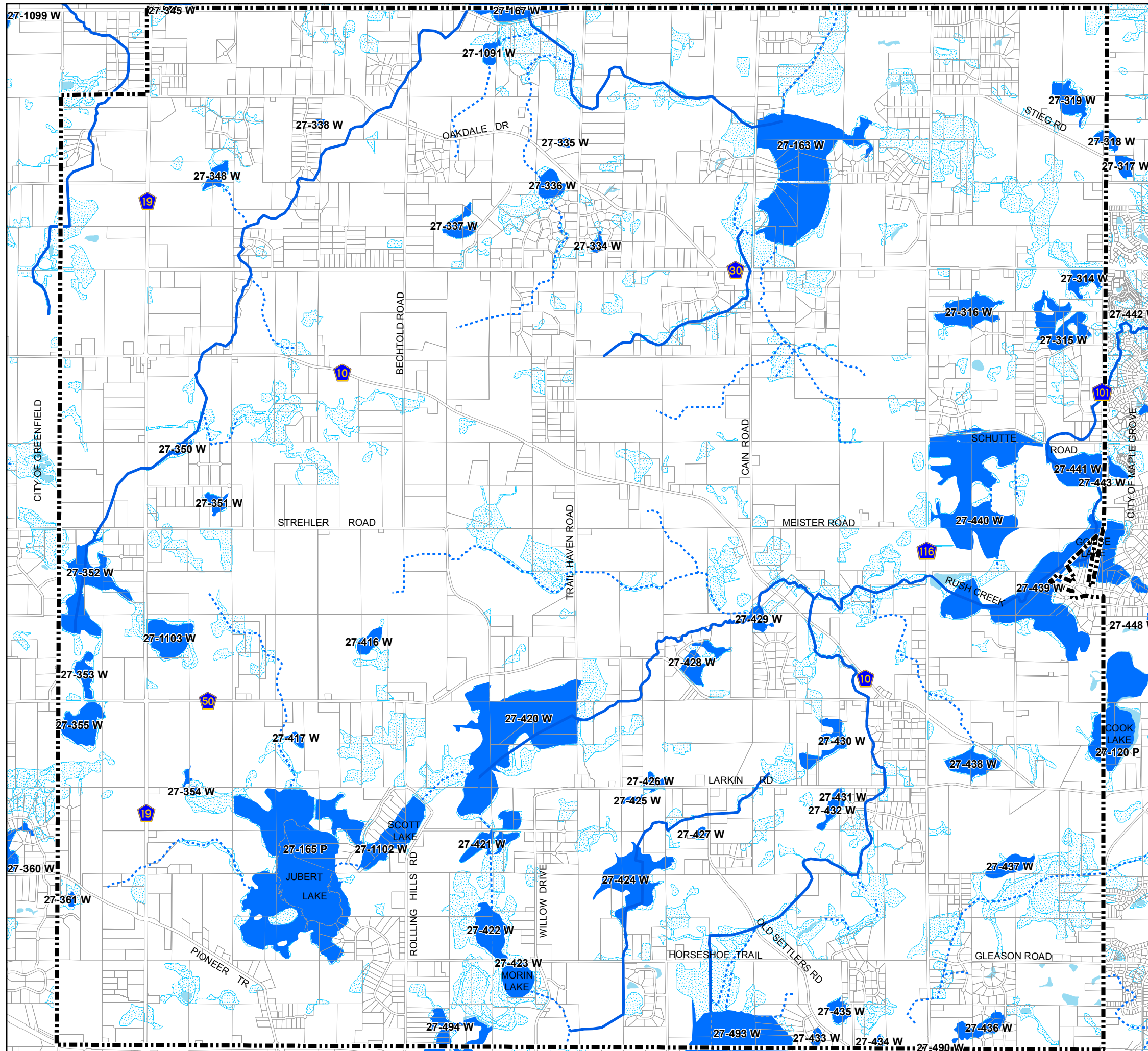
Water Resources

2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

- City Limit
- DNR Public Watercourse
- Other Watercourse
- DNR Protected Waters
- Other Open Water
- Wetlands from Hennepin County MLCCS



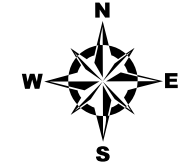
October 7, 2009





City of CORCORAN

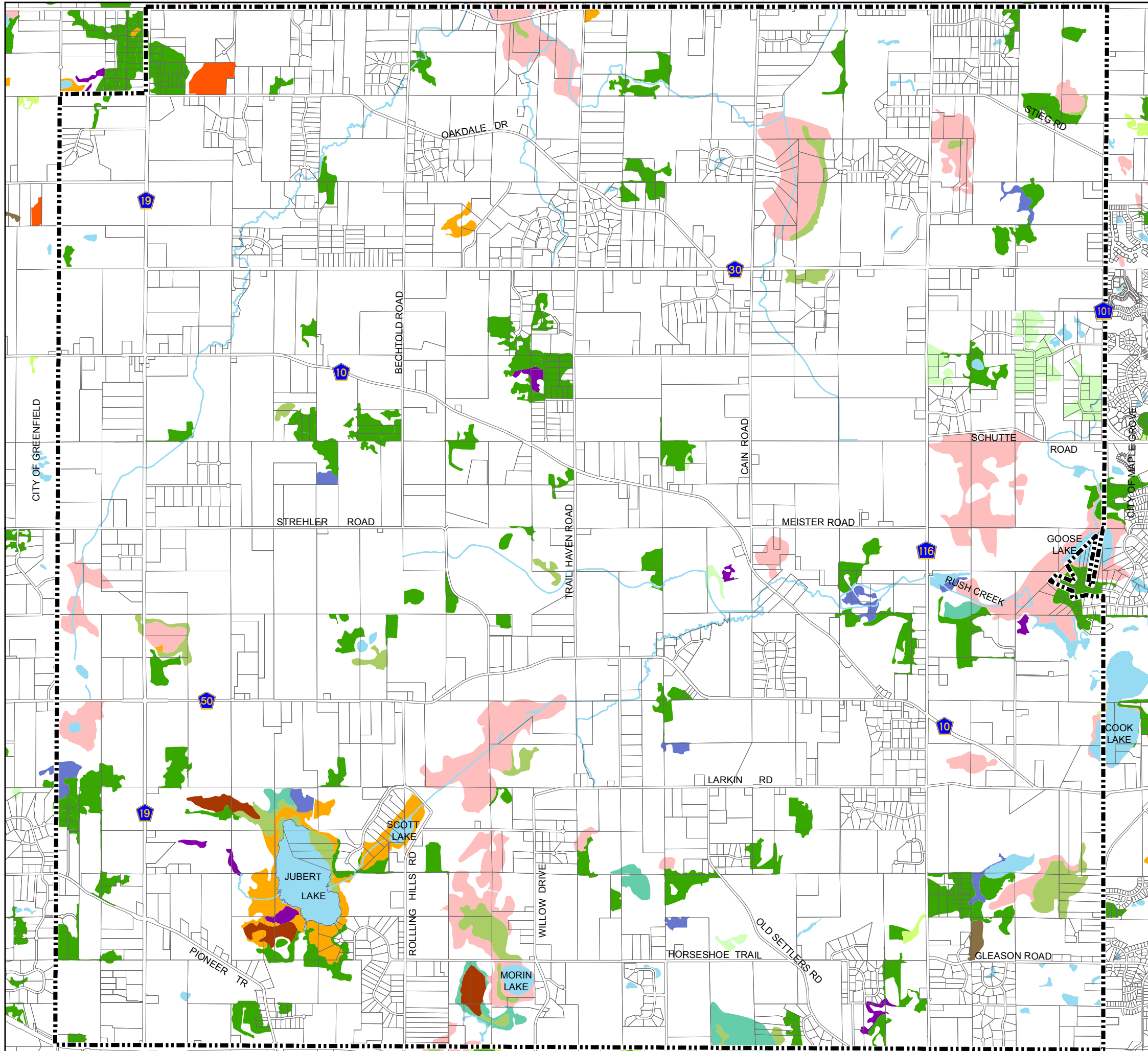
Ecologically Significant Natural Areas 2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

- City Limit
- Open Water
- Ecologically Significant Natural Areas:**
- Aspen forest
- Cattail marsh
- Lowland hardwood forest
- Maple-basswood forest
- Mesic prairie
- Mixed emergent marsh
- Mixed hardwood swamp
- Oak forest
- Oak woodland-brushland
- Tamarack swamp
- Wet meadow
- Willow swamp

*Source: Hennepin County MLCCS 2008



October 7, 2009



Chapter 4

2030 LAND USE PLAN

I. Introduction

The 2030 Land Use Plan identifies the location and intensity of anticipated development within the City and establishes a framework in which that development may occur. The 2030 Land Use Plan was developed to support the community vision and guiding principles discussed in Chapter 1. The community vision and guiding principles are:

1. Protection of the natural resources that define Corcoran's quality of life
2. Creation of opportunities for a thriving downtown area combining a range of retail, public gathering, and residential spaces
3. Creation of opportunities for expanded employment and tax bases combining commercial, industrial, and business park land uses
4. Expansion of residential options to achieve life-cycle housing
5. Support of rural residential development in non-urbanized Corcoran in a manner that preserves efficient, future urbanization and protects natural resources while allowing current economic benefit to landowners

The 2030 Land Use Plan expands on the number of land use categories created under the 2020 Plan. The 2030 Plan expands residential categories from two to four in support of a greater range of housing types and densities, thus increasing the potential for life-cycle housing in Corcoran. The 2030 Plan also designates new areas for commercial, industrial and business park uses, expanding the potential for additional employment and City tax base.

Corcoran will see an increased opportunity for development as the Twin Cities metropolitan area continues to grow. Corcoran's scenic natural resource areas, proximity to rapidly growing neighboring communities, the development of the Highway 55 corridor, and the potential linking of County Road 30 with the future Interstate 610 corridor all represent development assets, influences and pressures.

The 2030 Plan seeks to create the flexibility to respond to market conditions while guiding land uses that adhere to the community's vision and guiding principles. The 2030 Land Use and Staging Plans meet the Metropolitan Council forecasts for potential development and provide methods through land use and density to meet the Metropolitan Council's residential density guidance of 3.0 housing units per net developable acre. As a regional planning organization, the Metropolitan Council's role is to ensure that regional infrastructure can accommodate Corcoran's potential growth and growth within the region. Meeting this minimum density requirement ensures that regional infrastructure is used in a cost-effective and efficient manner.

II. Current Land Use

Land use in Corcoran in 2010 consists primarily of rural residential and agricultural areas. There are limited areas of commercial and light industrial use near the intersections of Highways 10 and 116, Highways 19 and 10, and Highways 55 and 19. In virtually every instance, the actual or potential use of land in Corcoran is defined by the land's natural resources, surface water, and wastewater management capacity.

The City's land use, by total acreage, is more precisely defined by the following categories:

Agriculture Preserve – Those agriculture properties participating in the State of Minnesota Agricultural Preserve Program. Residential density on these parcels is limited to one housing unit per 40 acres.

Agriculture/Rural Residential – Agricultural purposes including cultivation, pasturage, animal husbandry, horticulture, and associated accessory uses including single-family residences.

Single-family Residential – Residential purposes, including single-family residential developments. May include some two-family homes and open space within or adjacent to a residential development.

Manufactured Home Park – This area consists of a cluster of manufactured homes with a common wastewater treatment and discharge permit.

Commercial – Provision of goods or services; may also include office (predominantly administrative, professional, or clerical services).

Industrial – Primarily manufacturing or processing of products, may include light or heavy industrial land use or large warehouse facilities.

Public/Semi-Public – Primarily religious, governmental, educational, social, or healthcare facilities.

Parks and Open Space – A single regional complex for public active recreation activities improved with playfields, exercise equipment and other similar areas.

Golf Course – Self-explanatory. All of two golf courses and part of a third lie within Corcoran.

Open Water – Permanently flooded open water, rivers, and streams, not including wetlands or periodically flooded areas.

Wetlands – Wetlands included in the National Wetlands Inventory (NWI).

Land use acreages corresponding to the above land use categories are presented in Table 4 - 2008 Existing Land Use Acreages (page 38).

TABLE 4: EXISTING LAND USE ACRES

2008 EXISTING LAND USE	GROSS ACRES	PERCENT TOTALGROSS ACRES	PERCENT WETLANDS	NET ACRES	PERCENT TOTAL NET ACRES
Agricultural Preserve	1,796.23	8%	1.3%	1,506.16	7%
Agricultural/Rural	16,264.09	70%	12.2%	13,439.05	58%
Single Family Residential	2,948.28	13%	1.8%	2,539.89	11%
Manufactured Home Park	28.56	0%	0.0%	28.56	0%
Commercial	59.32	0%	0.0%	57.54	0%
Industrial	205.34	1%	0.1%	189.20	1%
Public/Semi-Public	141.87	1%	0.1%	113.96	0%
Parks and Open Space	111.28	0%	0.1%	90.91	0%
Golf Course	417.87	2%	0.2%	377.44	2%
Right-of-Way	871.13	4%	0.1%	842.20	4%
Open Water	236.94	1%	0.0%	236.94	1%
Wetland				3,659.06	16%
Total City	23,080.91	100%	16%	23,080.91	100%

Figure 7, Existing Land Use Map, (page 40) illustrates the data in Table 4.



City of CORCORAN

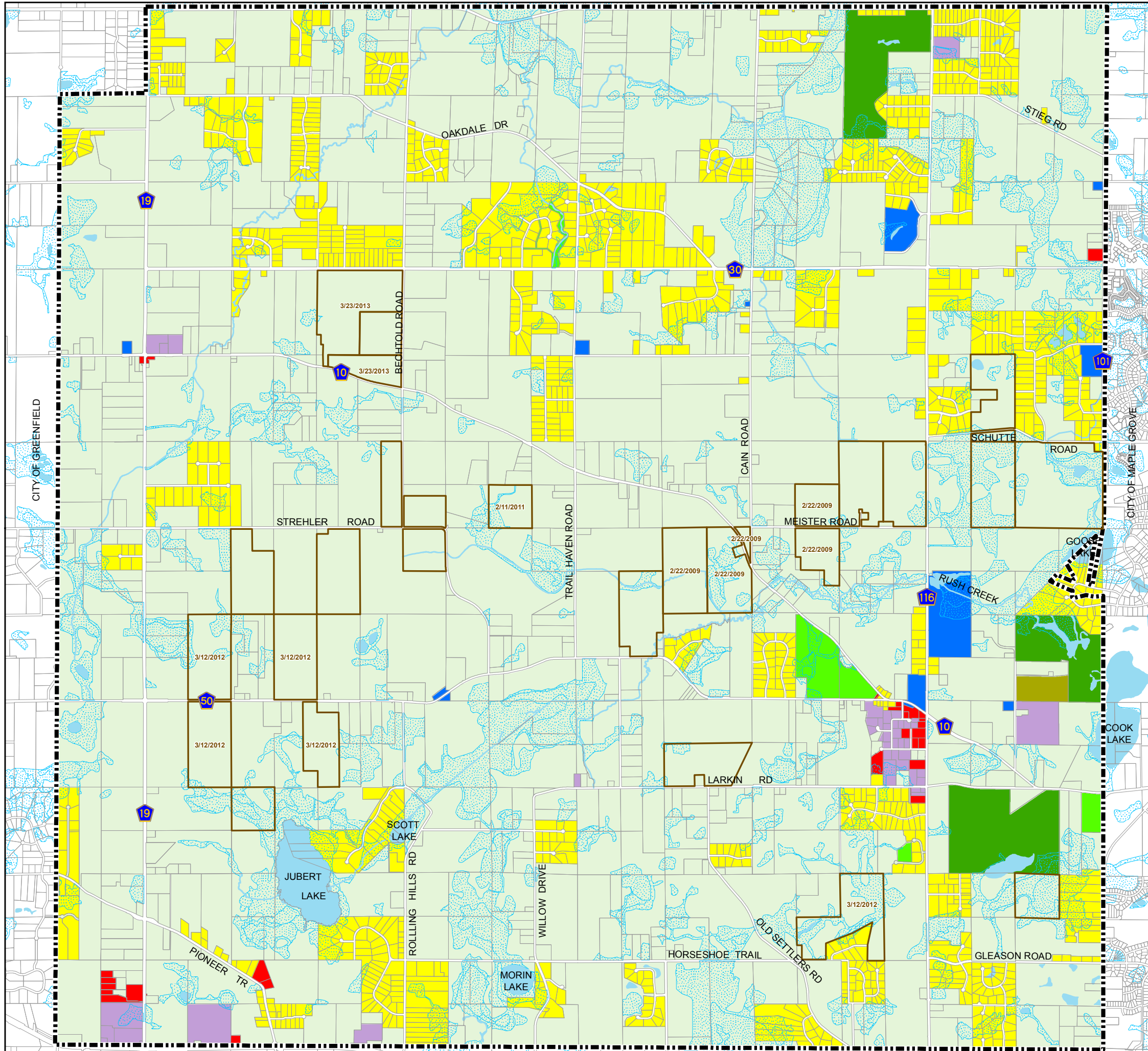
2008 Existing Land Use 2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

- City Limit
- Agricultural Reserve (Date of Expiration)
- Agricultural/Rural
- Single Family Residential
- Manufactured Home Park
- Commercial
- Industrial
- Public/Semi-Public
- Parks and Open Space
- Golf Course
- Open Water
- Wetland

*Source: Metropolitan Council 2005 Existing Land Use, FSA 2008 Aerial Photo.



October 7, 2009



III. 2030 Land Use

It is expected that the Metropolitan Urban Service Area (MUSA) sewer system will be extended into Corcoran within the first few years of the 2030 Plan. The availability of sanitary sewer will increase opportunities for variety of residential densities and mixed residential uses, increasing housing options and life-cycle housing in the community. It will also greatly expand the City's ability to compete for commercial, industrial and employment opportunities.

The 2030 Land Use Plan will guide and manage development pressure and growth by determining future land uses, development intensity, and areas for environmental protection. This Chapter establishes growth management strategies for the City to ensure that adequate infrastructure is in place to accommodate new growth and maintain a balance between residential and non-residential development. Urban uses and densities are focused in three areas of the City. The balance of the community is to remain Rural/Ag Residential, as defined below.

The 2030 Plan land use categories and corresponding acreages are presented in Table 5 - 2030 Land Use Acreages. The 2030 Land Use Plan is illustrated in Figure 8 - Proposed Future Land Use Plan (page 44).

TABLE 5: 2030 LAND USE ACREAGES

2030 Future Land Use	Gross Acres	Percent Total Gross Acres	Percent Wetlands	Net Acres	Percent Total Net Acres
Ag Preserve	1,821.13	8%	1.2%	1,535.79	7%
Business Park	80.40	0%	0.1%	60.53	0%
Commercial	299.60	1%	0.3%	222.88	1%
Existing Residential	1,568.15	7%	1.4%	1,240.06	5%
Golf Course	92.32	0%	0.1%	73.61	0%
High Density Residential	341.87	1%	0.3%	283.99	1%
Light Industrial	506.08	2%	0.2%	457.47	2%
Low Density Residential	3,388.14	15%	2.9%	2,719.59	12%
Medium Density Residential	153.74	1%	0.0%	147.66	1%
Mixed Residential	640.05	3%	0.4%	554.95	2%
Mixed Use	475.05	2%	0.3%	409.29	2%
Parks/Open Space	79.24	0%	0.1%	62.47	0%
Public/Semi-Public	115.10	0%	0.1%	87.36	0%
Rural Service/Commercial	189.82	1%	0.0%	188.77	1%
Rural Ag/Residential	12,222.17	53%	8.3%	10,298.28	45%
Right-of-Way	871.13	4%	0.1%	842.20	4%
Open Water	236.94	1%	0.0%	236.94	1%
Wetland				3,659.06	16%
Total City	23,080.93	100%	16%	23,080.90	100%



City of
CORCORAN

2030 Future Land Use Plan

2030 Comprehensive Plan

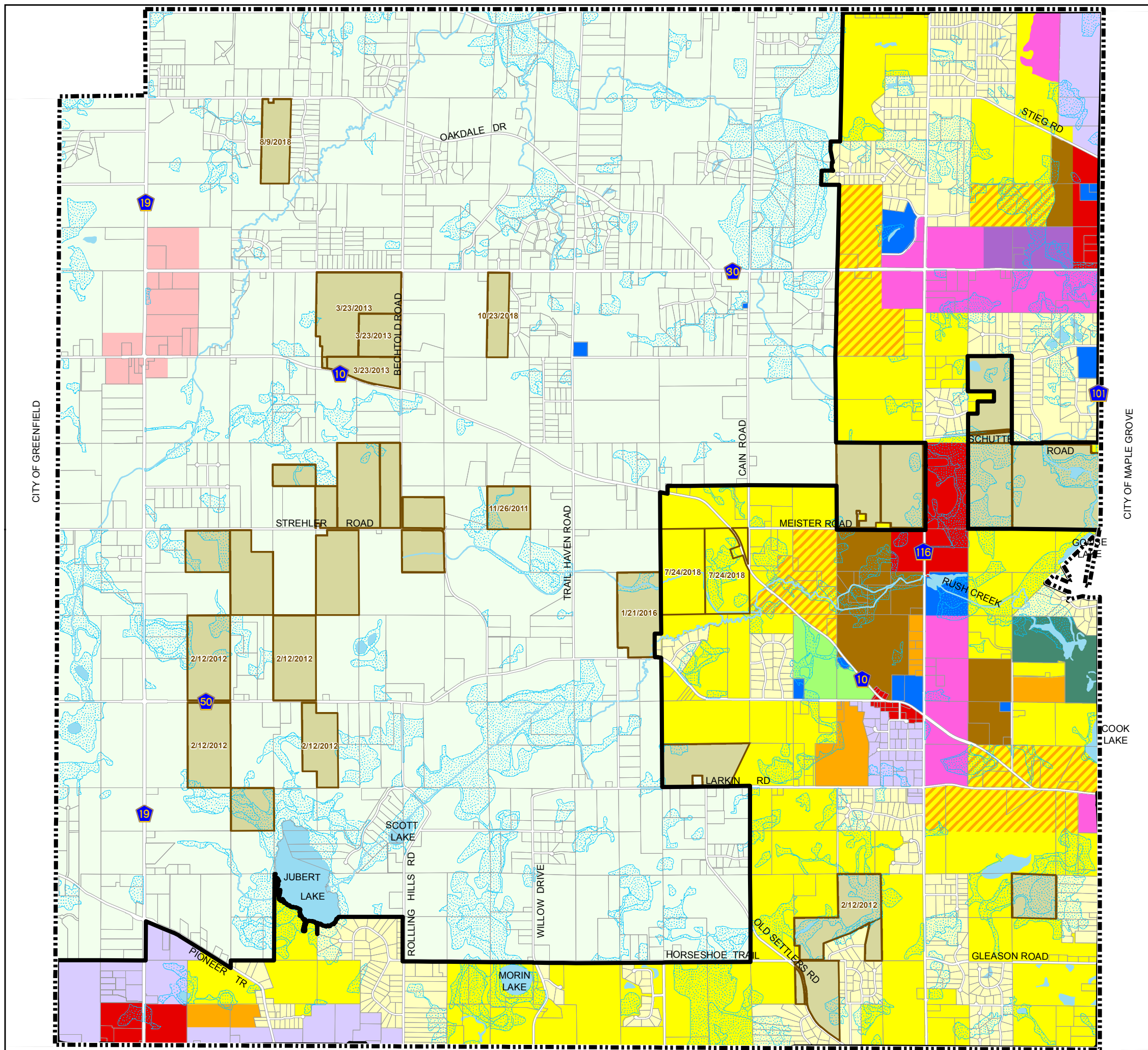


3,000 1,500 0 3,000 Feet

-  City Limit
-  Staging Boundaries
-  Agricultural Reserve (Date of Expiration)
-  Wetlands
-  Rural/Ag Residential
-  Existing Residential
-  Low Density Residential
-  Medium Density Residential
-  Mixed Residential
-  High Density Residential
-  Rural Service/Commercial
-  Commercial
-  Mixed Use
-  Business Park
-  Light Industrial
-  Public/Semi-Public
-  Parks/Open Space
-  Golf Course
-  Agricultural Reserve (Date of Expiration)
-  Open Water

*The Future Land Use plan depicts the location and intensity of future development through a variety of land use types. This plan is intended to guide future development however the City has discretion to amend (with Metropolitan Council approval) the plan in response to landowner/ developer requests or response to other system plans.

October 7, 2010



IV. Residential Land Use Goals and Policies

The community has established the following Goals and Policies to guide residential development in Corcoran.

Goal 1: Ensure housing development is compatible with existing and adjacent land uses and has access to key community features, natural features and views of open spaces.

Policy 1: Establish development guidelines for appropriate amount of green spaces, viewshed analysis, paths, sidewalks, trails and connections throughout the community.

Policy 2: Link residential neighborhoods via trails to City parks, downtown core and other public and commercial areas.

Policy 3: Incorporate preservation of natural resources in residential developments.

Policy 4: Encourage innovation in subdivision design, such as clustering techniques, to preserve open space or natural features.

Policy 5: Undeveloped single-family residential land shall be developed compatibly with surrounding development and in a manner responsive to market needs.

Goal 2: Provide a variety of housing types, styles, densities and choices to meet the life-cycle housing needs of residents.

Policy 1: Provide a mix of housing types to provide life-cycle housing opportunities, including continued single-family growth and new opportunities for multiple family and senior housing developments.

Policy 2: Protect low density and rural residential areas from incompatible or higher density uses or maintain adequate buffering from such uses.

Policy 3: Ensure that all new housing, including high density and rental housing, adheres to the highest standards of planning, design and construction.

V. 2030 Residential Land Use Categories

The variety of housing opportunities available is expected to increase dramatically as Corcoran grows. The 2030 Plan increases the variety and range of residential densities by adding two new land use categories to accommodate residential development. New residential land uses include Medium Density and Mixed Residential as well as a Mixed Use category that will incorporate residential uses. The High Density Residential and Mixed Use areas are concentrated along major transportation routes to maximize the efficiency of these routes and relieve stress on the local road system. Each of the residential land use categories is described below.

A. Rural/Ag Residential



Diversified Rural.

The Rural/Ag Residential area is the community's largest land area (45 percent) and is intended to remain rural. The Metropolitan Council categorizes this area, existing outside the 2020 MUSA boundaries, as Diversified Rural. Diversified Rural areas are not within the Metropolitan Council's Long-Term Sewer Service area. However, the Metropolitan Council is in the preliminary stages of planning a new sanitary sewer treatment facility to serve the northwest metropolitan area, including those parts of Corcoran designated as

The Rural/Ag Residential areas will continue to be defined by natural areas, such as wetlands and floodplains, and areas that are utilized for planted fields, pasture land, hobby farms, and large residential lots. The community must balance the desire all residents have for this rural experience with the needs of individual property owners in this area who may need to realize the value of their property now, rather than waiting for the arrival of urban services.

This effort can be accomplished in part by amending the Open Space Preservation Plat Ordinance, enhancing the requirements for clustering of lots, allowing the use of smaller lots where natural resources are preserved, and structuring the development to allow for future maximization of undeveloped spaces. This will allow a landowner to develop a portion of land while holding the remainder in a tract that is viable for future development. The undeveloped portion will not be held as open space for permanent conservation; rather, it will be held for future sewered densities through a temporary development agreement or deed restriction. The ordinance will also provide incentives for protecting natural resources.

B. Existing Low Density Residential

This land use designation accounts for existing residential development in the City of Corcoran at very low densities in the northeast quadrant of the City. The density for this area is .51, or roughly 1 unit per 2 acres. This category accounts for 5 percent of the total area within the 2030 MUSA boundary.

C. 2030 Low Density Residential

This land use category identifies areas for single-family detached residential development at an average density of 3 to 5 housing units per acre. This land use category will be Corcoran's predominant land use inside the 2030 MUSA boundary, accounting for 12 percent of the total 2030 MUSA service area. Residential development within or adjacent to environmentally sensitive areas will be guided as Low Density Residential to reduce development impacts to these areas. Of the 3,388 gross acres guided for low density development, approximately



669 of these acres consist of wetlands.

Low Density Residential areas will also be located contiguous to Ag/Rural Residential areas to help create a transition from the rural environment to a more urbanized land use pattern.

D. Medium Density Residential and Mixed Residential



The intent of the Medium Density Residential district is to accommodate mid-density clusters of small lots or attached townhomes, ranging from 6 to 8 units per acre. Similarly, the Mixed Residential District will accommodate a range of housing types including small lot detached homes and attached side-by-side (row) or stack townhomes at a density of 8 to 10 units per acre.

These medium-density housing categories are planned in areas that provide transitions to more intensive land uses, are served by higher-functioning roadways and are adjacent to other higher-density or mixed-use areas where a greater concentration of services will be provided. Medium Density Residential land use will account for 2 percent of the total land area in the City, whereas Mixed Residential land use will account for 4 percent of the total area in the City.

E. High Density Residential

The purpose of this land use district is to accommodate the development of multiplex and low- to high-rise apartment buildings and condominiums. Development will occur at a density of 10+ units per acre. Architecture, landscaping, open space, resident recreational areas, and surface water retention features are important in high density residential areas to ensure that development is appropriate and consistent with the community's character and environmental best practices. Ideally, streets and buildings will be designed around pedestrians to accommodate alternative transportation use such as bicycles and transit. High density residential developments in excess of 10 units per acre will require Planned Unit Development approval to ensure necessary standards are achieved.

This High Density Residential category is located in the northern part of the downtown area and will provide a strong residential base to support an expanded downtown. High Density Residential is also located adjacent to the mixed use areas on the east side of County Road 116.



VI. Mixed Use, Commercial, Industrial, and Business Park Land Use Goals and Policies

The community has established the following Goals and Policies to guide and manage commercial, industrial, and business park development.

Goal 1: Create new land use opportunities to expand and diversify the City's tax base by encouraging new commercial development.

Policy 1: Use the Mixed Use Land Use designation to create a long-term plan for development of a downtown core.

Policy 2: Create performance standards for all commercial areas, including building and signage design guidelines, streetscaping, and inclusion of green space, paths, and sidewalks to connect commercial areas to neighborhoods.

Policy 3: Support and promote existing businesses and new businesses that are viable and responsive to the needs of the community.

Goal 2: Attract and encourage new light industrial, office-industrial, high tech and professional services and maintain and expand existing businesses in Corcoran.

Policy 1: Encourage high-end business park development that attracts medical, technology, and similar industries that provide quality employment and wages.

Policy 2: Develop a market plan and strategy aimed at creating an industrial and high-end business park identity that will help recruit business and industry to Corcoran.

Policy 3: Create industrial and business park building, signage and landscaping design guidelines that will result in high-quality building and site development.

Policy 4: Encourage use of "green", environmentally-friendly building and site development techniques in new developments through zoning requirements or incentives.

VII. Mixed Use, Commercial, Industrial and Business Park Land Use Categories

A. Mixed Use

The intent of the Mixed Use district is to allow for developments that combine residential and commercial uses into a coordinated, planned development project. Typically, mixed use developments will include townhomes, low- and high-rise apartments, retail buildings, and offices. Development is often stacked, with office or housing units located above main floor retail space. Residential density is planned at 10 or more units per acre. Not all mixed-use developments will be required to incorporate residential units. Mixed use developments will be oriented around pedestrians rather than automobiles. By providing walkable mixed-use areas, stress on the transportation system is reduced and a "sense of place" is created. The Mixed Use designation will account for 2 percent of the City's total land area.

A portion of the Mixed Use designation is located on the east side of County Highway 116 in what is considered the "City center" area. This area is envisioned to provide a "main street" experience, with retail shops and service businesses mixed with residential and offices on the second floors of buildings. It is anticipated that the area generally will be developed under one master concept plan that outlines specific land uses, preservation of natural resources, site and building designs, pedestrian and vehicle transportation and transition to adjacent uses. City center land uses are expected to include a more urban, higher quality mix of uses with a "town square" focal point connected to a community trail system. Buildings will have two "fronts" to create a main street effect from both sides of the building. Landscaping will be emphasized.

Public spaces will anchor the larger area, bounded by City Hall on the north, park property on the west, and the newly developed City center and town square on the east. An important design element of the district will be the realignment of the County highways currently dividing the area. Highway 116 is proposed to remain in its north-south alignment and Highway 10 could be realigned to follow Meister Road, intersecting Highway 116 north of City Hall. This realignment will allow the City greater opportunities to coordinate residential development with park spaces and natural resource corridors. It will redirect commuter traffic around residential areas and improve safety at the highway intersections.

County Highway 50 is also proposed to be realigned to a more southerly route that will follow Larkin Road, intersect with Highway 116 and then continue east to intersect with a reconfigured Highway 101. This change will also provide safer spacing intervals and creates a more logical collector system flow.

The roadway system changes are intended to make the district a pedestrian-friendly, walkable space. Slower speeds, planted center medians, landscaped boulevard designs, underpasses and crosswalks all can be used to help to create a safer pedestrian environment.

The area located between the intersections of Highway 116 and Highway 30 on the west and Highway 30 and Highway 101 on the east is also guided as Mixed Use. Future connecting improvements to Highway 30 will enhance its role as a major east-west corridor to Highway 610 in Maple Grove. This area will likely include a mix of uses, including commercial and retail services and offices.

The Zoning Ordinance will be amended in order to establish the Mixed Use district(s) to support this land use designation. The Zoning Ordinance will allow two distinct districts to acknowledge the uniqueness of each area. Within the district zoning standards, site and design performance standards will be established to support the vision and concept plans developed for each of the mixed use areas.

B. Commercial

The City has planned for a total 222 net acres (1 percent of total land area) of commercial land by 2030. In addition to this land use category, additional commercial opportunities will be available within Mixed Use and Business Park districts.

Three areas are identified for commercial development in the community. The areas are intended for development only when sanitary sewer and water are available.

The City's primary Commercial area is centered around the intersection of Highways 10



and 116. This area includes existing commercial properties, properties with redevelopment potential, and vacant land. This area, which is considered "downtown" Corcoran today, is anticipated to be a commercial hub within the community. The area is intended to provide compact commercial development that will include all

varieties of retail, service, and office development. It is anticipated that land on the east side of Highway 116 will develop under a mixed or planned use approach and existing land uses on the west side of Highway 116 will evolve as determined by market forces.

The second Commercial area is the northwest corner of Highway 30 and Highway 101. This area has an existing commercial land use and zoning designation which is expanded in the 2030 Plan. This area includes approximately 110 gross acres and is intended to provide services to the traveling public such as gasoline, convenience grocery, personal services, restaurants, and small service offices.

The final area designated for Commercial use is located at Highway 55 and Highway 19. This commercial area is intended to support and complement the Light Industrial district in this area. Restaurants, convenience stores and business support uses are intended for this area.

To the extent possible, the City will avoid strip development or development that consists of small, unrelated commercial buildings in newly developed or redevelopment areas. Development of Commercial areas should include architectural themes and high-quality designs that reflect the rural character of the City. Building designs and materials promoting this aesthetic, and details such as planting beds, ornamental fencing, decorative lighting and sidewalks, will be required in Commercial areas.

C. Rural Service/Commercial

Burschville, located at the intersection of Highway 10 and Highway 19, provides a separate and distinct area for commercial land use. This area is intended to continue as a rural service area with commercial uses that may be maintained utilizing individual septic systems or approved alternative systems. This area is not expected to have public sanitary sewer and water service within the 2030 planning period.



This area will have less strict building and site development standards to allow for contractors' yards and similar uses. As the "downtown" area develops, the Burschville area can provide a relocation opportunity within the City for businesses that would not typically locate in high land-value areas. Zoning regulations will be developed to address the minimum design standards and specific

screening requirements for this unique land use.

D. Business Park

The Business Park category is intended to accommodate large office buildings and corporate campus developments, medical offices, technology centers, or light-industrial and office-warehouse developments that require larger sites. The Business Park district is located on Highway 30 west of Highway 101 and reflects the anticipated, substantial increases in traffic through the Highway 30 corridor to the planned, final stretch of Interstate 610. These traffic levels will increase visibility for a business park and support the vision for this corridor as a major employment center. The Business Park district will consist of 60 net acres, less than 1 percent of the City's land area.

E. Light Industrial

The Light Industrial category is intended to provide areas for manufacturing, warehousing, automotive, trucking, office, and other related industrial uses. These uses typically are not viewed as compatible with residential or some commercial uses.

One area designated for Light Industrial use is the existing industrial area southwest of the Highway 116 and 10 intersection. This area has some higher quality office and warehouse buildings and some areas that will be appropriate for redevelopment as the area urbanizes.



A second Light Industrial area is located at the northeast corner of the City along Highway 101. There is strong support for light industrial job growth in this location due to the anticipated improvements to Highways 30 and 101 as well as possible additional access to Interstate 94.

The City has identified a third Light Industrial area adjacent to Highway 55 and Highway 19. This area contains a combination of existing businesses and vacant land. A planned frontage road will limit access points directly to Highway 55. The frontage road design will require that buildings and sites are designed and located to avoid the “rear view” along the highway. The area is likely to be developed for business uses that have a need for easy access either east or west on Highway 55. Combined, the three Light Industrial areas will comprise 506 acres, or 2 percent of the City’s total land area.

VIII. Public/Semi-Public Land Use Categories

The public/semi-public designation includes all golf courses, the Corcoran Community Park, Lion’s Park, the City Hall site, Public Works site, and land owned by the Rockford School District. As the City evolves from rural to urban there will be a need to preserve additional open space, both active and passive.

IX. Growth Management Goals and Policies

The community’s goals and polices for land use growth management are listed below:

Goal 1: Create a unified vision and future for Corcoran by promoting a well-planned community, preventing fragmented development, and addressing the impacts of expanding services and development on natural features and view corridors while providing a balance of land uses with connectivity to all areas of the community.

Policy 1: Create a land use plan that provides housing development types and locations required to meet the community's projected needs.

Policy 2: Create a staging plan that supports infrastructure expansion and land use growth plans.

Policy 3: Work with neighboring communities to ensure an integrated plan that is consistent with the Metropolitan Council's requirements and compatible with adjacent jurisdictions.

Policy 4: As development proceeds, protect the natural features, slopes and sensitive areas that make Corcoran unique, such as streams, wetlands, lakes, woodlands, natural open space, and local parks.

Policy 5: Prepare long-range transportation and infrastructure plans that will direct and support growth and allow the City to financially plan for such growth.

Policy 6: Expand the level of community services to keep pace with orderly development.

Goal 2: Ensure that zoning and subdivision ordinances are consistent with the intent and specific direction of the land use plan.

Policy 1: Ensure that developers are aware of and perform according to the land use plan and all official controls.

Policy 2: Encourage creative approaches to land development to support preservation of open space and natural resources.

Policy 3: Coordinate plans for housing with plans for Light Industrial, office/industrial and Commercial areas to balance land uses, serve the quality-of-life needs of the residential areas and foster a positive climate for business, jobs and tax base growth.

Policy 4: Ensure compatibility of adjacent land uses.

Policy 5: Routinely update the zoning map to conform to the land use map.

X. Staging

The Metropolitan Council asks developing cities to provide anticipated rates of growth in five-year increments. In its Regional Development Framework, the Metropolitan Council defines strategies for developing communities to implement the Framework's policies. These strategies include the following:

- Stage local infrastructure and development plans to accommodate 20 years' worth of forecasted growth.
- Select and implement local controls and tools for timing and staging of development throughout the community.

- Adopt ordinances or policies to accommodate growth and use land and infrastructure efficiently.
- Identify areas reserved for future urban development and develop strategies to minimize development in those areas that could preclude future urban development.
- Plan for necessary infrastructure improvements.

Development of a staging plan also provides several benefits to the City. A staging plan:

- Creates an orderly, logical growth pattern based on development patterns and availability of infrastructure.
- Allows for a connected transportation network.
- Clearly defines when land is available for development.
- Allows the City greater control over the pace and location of new development and the provision of necessary services.
- Provides greater ability to plan, budget, and set goals for future development.

A 2030 Sanitary Sewer Service Staging Plan has been developed to guide growth based on 2010 assumptions regarding development patterns and infrastructure availability. The Staging Plan reflects anticipated sewer service areas located in the three corners of the City, where regional interceptors will be extended from adjacent communities. The Staging Plan boundaries follow the 2030 Land Use Plan boundaries. Areas outside the Staging Plan boundaries are the Rural/Ag Residential land use category, where development polices will be created to provide flexibility for development while preserving large land areas for future urbanization. The Staging Plan is displayed in Figure 9 - Sanitary Sewer Staging Plan (page 58).

Future land uses are broken down by staging areas and presented below in Table 6 - Future Land Use by Staging Phase (page 56). Density assumptions were included to estimate the potential number of housing units to be accommodated in each staging area. It is important to note that like the 2030 Land Use Plan, the Staging Plan total for each five-year period represents total potential units based solely on the low end of the density range calculated by total net acres. The allowed pace of development will be based on the population and housing forecasts presented in Table 7 – Forecasts (page 61).

TABLE 6: FUTURE LAND USE BY STAGING PHASE

STAGING AREA	2030 FUTURE LAND USE	GROSS ACRES	NET ACRES	DEVELOPABLE ACRES	MINIMUM DENSITY	DENSITY RANGE	UNIT CAPACITY
2010 - 2015	Existing Residential	58.77	32.28	32.28	0.51	0.51	16
2010 - 2015	High Density Residential	213.27	203.14	203.14	10	10+	2031
2010 - 2015	Low Density Residential	593.68	499.96	499.96	3	3-5	1500
2010 - 2015	Medium Density Residential	53.32	52.17	52.17	6	6-8	313
2010 - 2015	Mixed Residential	208.80	150.27	150.27	8	8-10	1202
2010 - 2015	Mixed Use *Assumes 25% Residential	173.33	158.30	39.57	10	10+	396
2010-2015 Total Unit Capacity							5458.643
2015 - 2020	Existing Residential	209.80	166.32	166.32	0.51	0.51	85
2015 - 2020	High Density Residential	29.71	21.43	21.43	10	10+	214
2015 - 2020	Low Density Residential	519.29	428.97	428.97	3	3-5	1287
2015 - 2020	Mixed Residential	145.14	143.58	143.58	8	8-10	1149
2015 - 2020	Mixed Use *Assumes 25% Residential	301.73	250.99	62.75	10	10+	627
2015-2020 Total Unit Capacity							3362.115
2020 - 2025	Existing Residential	207.71	167.51	167.51	0.51	0.51	85
2020 - 2025	High Density Residential	98.89	59.43	59.43	10	10+	594
2020 - 2025	Low Density Residential	279.32	193.84	193.84	3	3-5	582
2020 - 2025	Medium Density Residential	100.42	95.49	95.49	6	6-8	573
2020 - 2025	Mixed Residential	12.46	12.46	12.46	8	8-10	100
2020-2025 Total Unit Capacity							1933.907
2025 - 2030	Existing Residential	1,091.87	873.95	873.95	0.51	0.51	446
2025 - 2030	Low Density Residential	1,988.85	1,593.41	1,593.41	3	3-5	4780
2025 - 2030	Mixed Residential	273.64	248.64	248.64	8	8-10	1989
2025-2030 Total Unit Capacity							7215.071

XI. Growth Management

Managing growth through the orderly expansion of infrastructure will ensure growth is efficient and environmentally sound.

The City will create a Growth Management Policy that will manage development based on the timing and sequence illustrated in the 2030 Sanitary Sewer Service Staging Plan (Figure 9, page 58). The Growth Management Policy will serve as a tool to determine when an area will open for development. A multitude of factors may cause certain areas of the City to develop at a faster rate than others. This Policy is intended to implement the Sanitary Sewer Service Staging Plan while at the same time provide flexibility to address unpredictable market conditions.

Another goal of the Growth Management Policy is to ensure that the City possesses sufficient administrative capacity to conduct the permitting and construction supervision processes. City staff is responsible for assessing adherence to the Comprehensive Plan, enforcing standards and requirements contained in codes and ordinances, determining that all of the necessary public infrastructure and services either are in place or will be built, and ensuring that proposed development will not place a disproportionate economic burden on the community. It is essential that City staff has adequate capability to ensure that these requirements are met, consistent with City, regional and State laws, policies and regulations.

The Growth Management Plan may include the following guidelines:

- A certain percentage of the net developable area in a current staging area must be platted, and a certain percentage of these platted lots must have received Certificates of Occupancy before development will be allowed in subsequent or other staging areas. Staging in different districts will be considered independent of one another.
- A development ratio of non-residential to residential acreage may be required to manage tax base and infrastructure debt the City may incur with new development.
- Feasibility studies will be required to identify utility and transportation improvements necessary to support new development.
- Developer commitments to pay costs associated with development will be obtained.
- The City will evaluate land availability in each staging phase on an annual basis, or more frequently if warranted, to determine remaining development capacity within each staging area.

The Growth Management Policy may allow acceleration in staging if:

- A large scale master planned project is located within both the current and next staging area and adequate infrastructure is in place or will be available to accommodate growth within the next staging area.
- A unique development project is proposed that achieves significant public benefits such as substantial preservation or restoration of natural resource areas, open space, park and/or trail dedication in excess of requirements; unique and desirable life-cycle or affordable housing opportunities; or greater tax base diversification.

Any development in an area prior to the designated staging phase will require a Comprehensive Plan Amendment.



City of CORCORAN

2030 Sanitary Sewer Service Staging Plan 2030 Comprehensive Plan

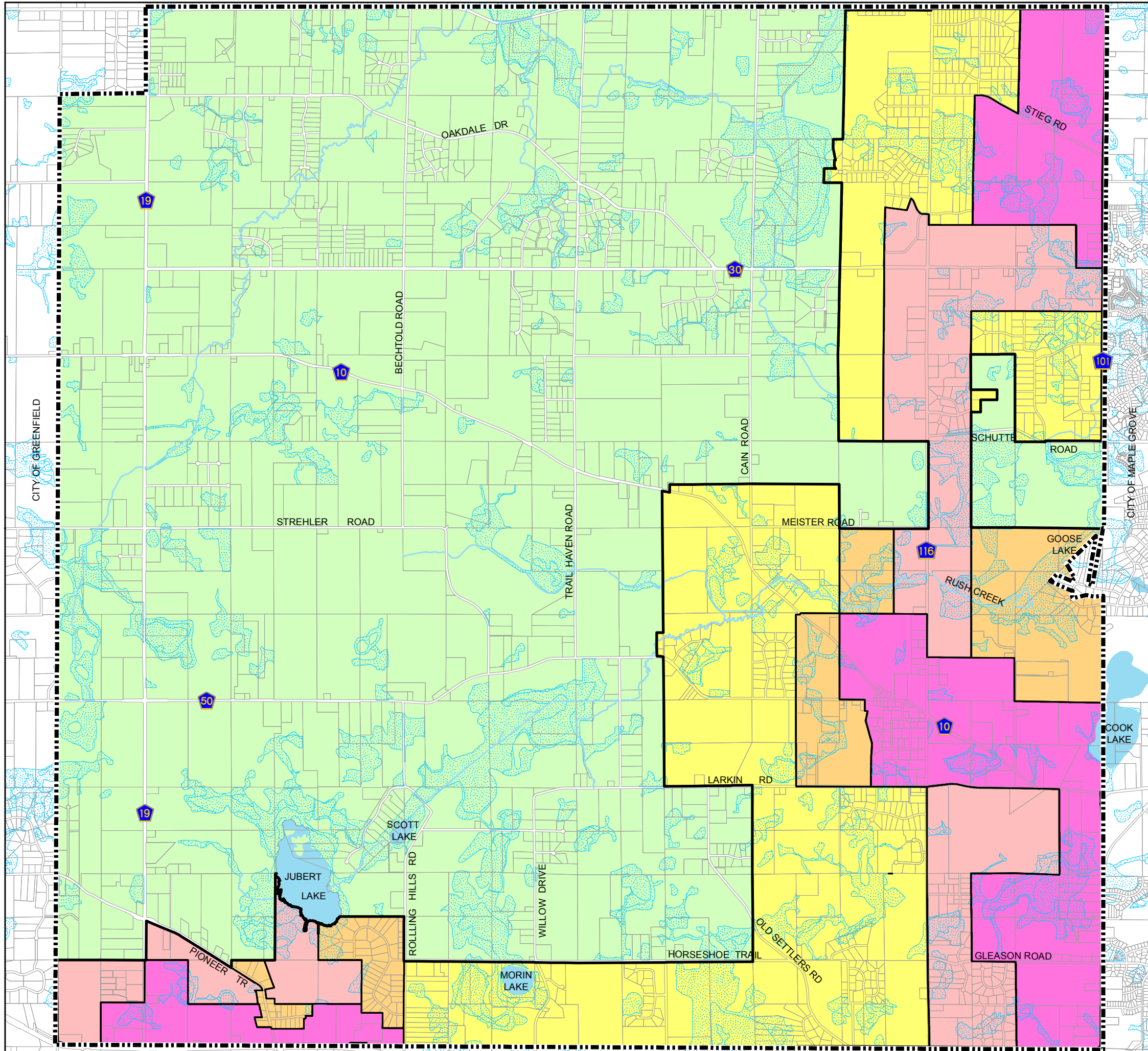


3,000 1,500 0 3,000 Feet

- City Limit
- 2030musa
- Wetlands

Sanitary Sewer Service Staging

- 2010 - 2015
- 2015 - 2020
- 2020 - 2025
- 2025 - 2030



*The staging plan represents a progression of sewer that is based on location of planned Metropolitan Interceptors and where the first sewered growth is anticipated to occur, however the City does not commit to it occurring.

October 7, 2009



XII. Relationship to Metropolitan Council Development Framework

In addition to guiding Corcoran's future growth, the community's 2030 Land Use Plan also relates to growth and development in the region as a whole. As part of the seven-county metropolitan area, Corcoran is expected to absorb its share of the region's growth. The Comprehensive Plan must demonstrate the City's capacity to absorb this growth. The Comprehensive Plan must also demonstrate that this growth will be managed to ensure efficient use of the region's sewer and transportation infrastructure. The Metropolitan Council has developed the following objectives for cities in the metropolitan area to ensure these efficiencies.

- Accommodate growth in a flexible, connected, and efficient manner.
- Slow the growth in traffic congestion and improve mobility.
- Encourage expanded choices in housing locations and types.
- Conserve, protect, and enhance the region's vital natural resources.

The City has prepared a plan that responds to both the community's goals as well as the Metropolitan Council's strategies for developing communities, as outlined in the Regional Development Framework. This Plan adequately addresses community goals and regional strategies for the following reasons:

- The Plan identifies areas of low, medium, mixed and high density residential land use to expand housing densities and create opportunities for life-cycle and affordable housing.
- The Plan designates areas for mixed use development to accommodate retail, commercial, and housing uses to improve access to jobs and other services.
- The Plan protects natural resource areas by identifying sensitive areas and planning development accordingly. The Plan identifies strategies and policies to protect natural resource areas.
- The Plan designates higher density housing opportunities along major transportation corridors to increase efficiency of the region's transportation system and take advantage of future transit opportunities.
- The Plan achieves a minimum net density of 3.56 units/acre to ensure the region's infrastructure is used efficiently.

A. Forecasts

Corcoran is a unique community with a large amount of desirable undeveloped land. Due to its undeveloped nature, imminent availability of municipal services, and economic recession at the time of 2030 Plan preparation, it is a challenge for both the Metropolitan Council and the City to accurately anticipate the City's rate of growth. Therefore, the City and the Metropolitan Council staff have agreed to reduce the Metropolitan Council's 2005 forecast to a projection based on current market conditions and the anticipated timing of sewer construction. That projection is presented in Table 7.

The potential number of housing units that could be accommodated in the 2030 urban service area exceeds the actual population and housing forecasts presented in Table 7. The excess capacity of the 2030 service area will provide greater development flexibility as growth occurs. However, the City will manage development and the pace of growth based on the forecasts provided in Table 7. It must be recognized that these figures present the urban service area only and do not provide projections for housing units and population over the entire City.

TABLE 7: FORECASTS

	2007	2010	2020	2030
Population	5,791	5,800	8,600	17,600
Households	1,894	1,900	2,900	6,100
Employment	1,420	1,500	3,500	5,500

The City used the minimum allowed densities in each residential land use category to calculate the overall average net density of 3.56 units/acre. The following land uses and minimum densities are displayed in Table 8.

TABLE 8: DENSITY

FLU2030	Gross Acres	Net Acres	Minimum Units Per Acre	Total Unit Capacity
Existing Residential	1,568.15	1,240.06	0.52	647.00
High Density Residential	341.87	283.99	10.00	2,839.90
Low Density Residential	3,388.14	2,719.59	3.00	8,158.77
Medium Density Residential	153.74	147.66	6.00	885.96
Mixed Residential	640.05	554.95	8.00	4,439.60
Mixed Use (25% Residential)	118.76	102.32	10.00	1,023.23
Total	6,210.71	5,048.57		17,994.46
Overall Average Net Density			3.56	

XIII. Protecting Special Resources

State law requires that comprehensive plans include strategies for protection of special resources including solar access, historic preservation and aggregate (mined) resources. These strategies are discussed below.

A. Solar Access Protection

The Metropolitan Land Planning Act (Minn. Stat. 473.859 Subd. 2) requires that local comprehensive plans include an element encouraging the protection and development of access to direct sunlight for solar energy systems. The City of Corcoran will protect such access by requiring minimum standards for lot sizes, amounts of open space, yard setbacks, and maximum height of buildings for urban residents that create the opportunity for all building owners to develop solar energy facilities if desired. The City's zoning or other regulations will be written so as to ensure that solar energy systems are an allowable component of any building construction in the City.

B. Historic Preservation

The Metropolitan Land Planning Act (Minn. Stat. 473.859 Subd. 2) requires that local comprehensive plans include a historic preservation element. Historic assets help to promote community pride and create a sense of community. The City of Corcoran values its historic assets and has developed this comprehensive plan to preserve the long-standing pattern of land use that makes Corcoran a unique place to live and work. To support this goal, the City will work toward the creation of an inventory of historically significant buildings, sites, landscape features and other landmarks. This process will include the evaluation of possible tools that can be applied to ensure preservation of these elements, including recognition, public communication and education and, where appropriate, public acquisition.

C. Aggregate Resources

The Metropolitan Council requires cities to identify the location of aggregate resources within the community based on the Minnesota Geological survey within the Comprehensive Plan. No aggregate resources were identified in the City of Corcoran.

D. Agricultural Preserves

The City of Corcoran encourages the continuation of agricultural use within the community. This policy expresses the City's endorsement of the Metropolitan Agricultural Preserves program. All land parcels in the City that meet the requirements for eligibility in the Metropolitan Agricultural Preserves program according to Minn. Stat. Section 473H may apply to the City for enrollment. This policy is not intended to interfere with agricultural status of any lands prior to adoption of the Comprehensive Plan.

Chapter 5

HOUSING

I. Introduction

Housing is an inextricable element of the City's landscape. Corcoran is presented with many opportunities as a developing community to provide housing options that will meet the life-cycle needs of current and future residents. Life-cycle housing meets the housing needs of individuals and families throughout their lives, including single-family detached homes, townhomes, condominiums, apartments, and senior housing. It is important for Corcoran to plan for and manage the development of a variety of housing types to ensure that development occurs in an efficient and cost-effective manner and represents an enhancement to, and not a negative impact on, existing residential neighborhoods.

The 2030 Land Use Plan provides housing opportunities for Corcoran's entire population (singles, families, and senior residents) through a variety of residential land uses and densities, including medium density, mixed residential, high density and mixed use areas. Single-family options will range from entry-level single-family, move-up for growing families, and "executive housing" to meet the needs of a changing population. Senior housing, live-work units, and multi-family housing in a variety of styles including rental, condo and townhomes will be located near future transportation and job corridors. This shift to more diverse housing will support future economic development by retaining existing residents and attracting new residents from all social and economic backgrounds.

The purpose of the Housing Plan is to establish plans and programs to meet the existing and projected housing needs in Corcoran. The Plan will guide the community's integration of housing goals and policies into land use and other infrastructure, community development, transportation, and natural resource decisions.

This Chapter constitutes the City's Housing Plan and satisfies the requirements of the Mandatory Planning Act. The Plan contains background information on current housing supply and related statistics, assessment of need, and strategies to meet future housing demands.

Some of the supporting data used in this Chapter comes from 2000 Census data. While the information is somewhat dated, it is the most up-to-date, available source of useful information. The Metropolitan Council supports the use of 2000 Census in preparation of community forecasts.

II. Current Housing Inventory

Corcoran's current housing stock consists primarily of rural residential and large lot detached single-family homes. As of the 2000 Census, the City contained 1,829 total housing units. Of these units, 189 are manufactured homes located in the City's mobile home park. Due to the absence of municipal utility services, the City does not contain any higher density apartment buildings or condominiums. An inventory of the City's housing stock, by number of dwelling units within a structure, is provided in Table 9 (page 65).

TABLE 9: UNITS IN STRUCTURE

UNITS IN STRUCTURE	NUMBER	PERCENT
1, detached	1,614	89.1
1, attached	19	1
2	0	0
3 or 4	7	0.4
Mobile home	189	9.4

One hundred thirteen building permits were issued between 2000 and 2009. The number of building permits issued per year since 2000 is shown in Table 10. According to the 2000 Census, 96 percent of housing units in Corcoran were owner-occupied and 4 percent were renter-occupied.

TABLE 10: BUILDING PERMITS 2001-2009

YEAR	NUMBER OF PERMITS
2001	27
2002	10
2003	16
2004	17
2005	19
2006	11
2007	6
2008	7
2009	0

Corcoran's housing stock is generally in good condition. Details on the age of Corcoran's housing stock are presented in Table 11 (page 66). A majority of homes (54 percent) in Corcoran were constructed in the 1970s and 1980s. Only 11 percent of the housing stock was constructed prior to 1939. As a result, Corcoran sees fewer housing maintenance issues characteristic of many older communities.

TABLE 11: AGE OF HOUSING STOCK

YEAR STRUCTURE BUILT	NUMBER	PERCENT
2000 to 2009	113	6%
1999 to 2000	46	2%
1995 to 1998	108	6%
1990 to 1994	199	10%
1980 to 1989	335	17%
1970 to 1979	715	37%
1960 to 1969	122	6%
1940 to 1959	71	4%
1939 or earlier	215	11%

The value (sale price) of housing units sold in Corcoran, during the years 2005-2009, is presented in Table 12.

TABLE 12: HOUSING VALUE (SALE PRICE)

VALUE	NUMBER	PERCENT
Less than \$50,000	0	0%
\$50,000 to \$99,999	0	0%
\$100,000 to \$149,999	1	0%
\$150,000 to \$199,999	11	5%
\$200,000 to \$299,999	72	34%
\$300,000 to \$499,999	84	39%
\$500,000 to \$999,999	41	19%
\$1,000,000 or more	4	2%
Median (dollars) price sold	\$325,000	

Source: Mpls Area of Assoc. of Realtors Northstar MLS

III. Affordable and Life-cycle Housing

As part of the 2030 Regional Development Framework, the Metropolitan Council estimated that approximately 50,000 additional affordable housing units will be needed in the region during the planning period of 2011-2020. The Metropolitan Council will be working with communities to adopt new agreements in 2011 for the next ten-year cycle.

To develop these agreements, the Metropolitan Council conducted the study "Determining Affordable Housing Need in the Twin Cities 2011-2020". The study defines affordable housing as housing affordable to those householders earning 60 percent of area median income. According to *Metropolitan Council 2007 Affordability Limits*, the area median income for the seven-county Minneapolis-St. Paul (MSP) area adjusted by HUD to be applicable to a family of four was \$78,500 in 2007. Sixty percent of this figure is \$47,100. Applying an interest rate on a 30-year fixed-rate home loan of 6.2 percent for 2007 and other payment factors to the 60 percent area median income yields an affordable purchase price of \$157,000 in 2008.

Currently there are approximately 40 homesteads in Corcoran valued at or below \$157,000 (Hennepin County assessor's data/GIS). Using the total of 1,640 housing units from 2000 Census data (excluding manufactured homes), these 40 homesteads account for approximately 2 percent of the City's housing stock. However, because of the County's methods for assessing property and land values and available GIS data, this figure does not include any of the housing units located at the manufactured home park. It is likely that all 189 units in the manufactured home park would be considered affordable, since manufactured home values account only for the value of the structure and not the land upon which the structure is located. These units provide an important source of affordable housing in the community.

It is also important to recognize that recent fluctuations in both the housing market and interest rates make it difficult to accurately determine future sales prices. There is uncertainty associated with the extent to which future buyers will view a home as an investment and the amount of any premium they will be willing to pay for the benefits of ownership versus rental. While recent drops in interest rates and lower home prices have increased the availability of affordable housing options, changes in mortgage lending practices create new obstacles for lower income households to obtain financing. It is clear that jobs and income levels are the driving force in demand and sustainability.

The Metropolitan Council has allocated a certain number of affordable housing units to be provided between 2011 and 2020 for each community within the region, based on the following four criteria:

- Household growth potential
- Ratio of local low-wage jobs to low-wage workers
- Current provision of affordable housing
- Transit service

Based on their analysis, the Metropolitan Council's affordable housing goal for Corcoran is to create 302 new affordable housing units between 2011 and 2020. The affordability

limit is 60 percent of area median income for both owner- and renter-occupied housing units.

To provide opportunities for affordable housing in the community, the City is taking the appropriate regulatory measures within the Comprehensive Plan by guiding areas for higher density housing and including policies to promote affordable housing in residential land use areas. The City's 2030 Land Use Plan guides a significant amount of land for residential densities of eight units or greater per net acre. Guiding land at greater densities increases opportunities for affordable housing, as per-unit land and development costs decrease when density rises.

While the City is doing its part in creating a Land Use Plan to guide areas for higher density housing, barriers to development of affordable housing still exist in Corcoran and the region. Some of these barriers are beyond the City's control and include the following:

- Steady increases in land prices and construction costs
- Physical limitations of land due to wetlands, poor access, and poor soils that would increase the cost of development or construction
- State, County and local tax structures
- Lack of transportation and employment infrastructure

Corcoran will promote affordable housing most effectively by adopting and enforcing land use and zoning standards that do not impede or deter affordable housing.

As shown in Table 13, the 2030 Land Use Plan has capacity for more than 3,000 units at a density of 8 units or greater per acre. This plan provides adequate capacity to accommodate the City's affordable housing needs.

TABLE 13: FUTURE LAND USE PLAN AFFORDABLE HOUSING CAPACITY

STAGING AREA	2030 FUTURE LAND USE	RESIDENTIAL ACRES	DENSITY RANGE	UNIT CAPACITY
2010-2015	Mixed Residential	150.27	8-10	1,202
2010 - 2015	High Density Residential	203.14	10+	2,031
2010 - 2015	Mixed Use	39.57	10+	396
2010-2015 Total Unit Capacity				2,427
2015 - 2020	Mixed Residential	143.58	8-10	1,149
2015 - 2020	High Density Residential	21.43	10+	214
2015 - 2020	Mixed Use	62.75	10+	627
2015-2020 Total Unit Capacity				842
Total 2030 Affordable Housing Unit Capacity				3,269

IV. Housing Goals and Action Strategies

The City has identified goals and action strategies to ensure that Corcoran's future housing stock serves the needs of its residents. These goals and strategies are listed below and are considered the City's Housing Action Plan. As future subdivisions are proposed, the City will use these resources and strategies in working with developers to create new affordable housing opportunities. While the City itself is capable of implementing many of these goals and strategies, others will be realized through the creation of partnerships with other public and private entities.

A. Provide a healthy variety of housing types, styles, densities and choices to meet the life-cycle housing needs of residents.

- Provide a mix of housing types to provide life-cycle housing opportunities, including continued single-family growth and new opportunities for multiple family and senior housing developments.
- Protect low density and rural residential areas from incompatible or higher density uses or maintain adequate buffering (use of green corridors) from such uses.
- Ensure that all new housing, including high density and rental housing, adheres to the highest possible standards of planning, design and construction.
- Periodically review land use regulations to determine the effectiveness of current ordinances in encouraging additional affordable units as well as encouraging modifications to keep existing housing stock desirable and livable.
- Allow the creative use of site planning or PUDs that provide flexibility for development containing affordable housing, such as a reduction in lot size, setbacks, street width, floor area and parking requirements.
- Encourage innovative subdivision design, including clustering techniques to preserve open space or natural features.
- Promote development of neighborhood "life-style centers" that incorporate housing in a range of densities and affordability limits in close proximity to shopping, services, daycare, and medical services. Life-style design should include safe access to parks and schools and the ability to walk, bike, or have access to transit.

B. Promote housing rehabilitation

- Support and actively promote first-time homebuyers' programs to assist new homeowners entering the market for existing homes.
- Support and actively promote housing rehabilitation programs for existing owner-occupied homes and rental buildings or units. This includes promotion of all County and State programs and non-profit programs.
- Utilize the City's website, newsletter and other sources for promotion and advertising of housing programs.

- Consider creation of a Housing Maintenance Code to maintain existing housing stock.

C. Improve the availability of affordable housing and senior housing.

- Developers will be required to address the provision of affordable housing within all new residential developments within the 2030 planning boundary.
- Participate in the Livable Communities Act Local Housing Incentives Program.
- Consider designating a portion of Tax Increment Financing to fund activities that increase new affordable housing.
- Utilize techniques such as land trusts to maintain long-term affordability.
- Partner with, support and market programs offered by the County, State, Minnesota Housing Finance Agency , Federal government and non-profits to fund the development of affordable housing.
- Complete an assessment of senior housing needs in the community.

D. Expand Residential Neighborhood Services

- Promote programs that encourage maintenance of existing houses, including a housing remodeling fair, neighborhood watch programs, City beautification programs and City-wide clean-up programs.
- Develop a list of available resources and providers of in-home services to older adults and those with special needs.

Chapter 6

ECONOMIC DEVELOPMENT

I. Introduction

This Chapter identifies strategies to increase commercial and industrial development in the City of Corcoran. Economic health is an important component of a healthy and thriving community. A strong commercial and industrial base provides jobs to community residents, contributes to a community's tax base, and can be a source of psychological strength to a community. Commercial and industrial development will provide additional revenue for the City, which currently relies largely on residential property taxes for revenue. Commercial and industrial tax base will fund increased City services prompted by City growth. The 2030 Comprehensive Plan recognizes the inherent link between commercial development and the availability of skilled and educated workers, affordable housing, developable land and infrastructure.

II. Background and Employment Data

Expansion of the local economy is often tied to existing employers and industries. This section analyzes the existing types of industry concentrated in the City of Corcoran and the competitive environment defined by the presence of industry in surrounding communities.

Corcoran's existing employment base is dominated by small construction-related firms with fewer than 10 employees each (Table 14 and Figure 10, page 73). This is in contrast to the metro area, which is much more diversified in its employment base. For example, approximately 40 percent of all jobs in Corcoran are construction-related, whereas less than 5 percent of all metro area jobs are construction-related. Therefore, as Corcoran looks to expand its commercial and industrial tax base, it will need to consider ways to diversify its existing employment base.

TABLE 14: DISTRIBUTION OF JOBS BY INDUSTRY

Corcoran and Metro Area

2008 (3rd quarter)

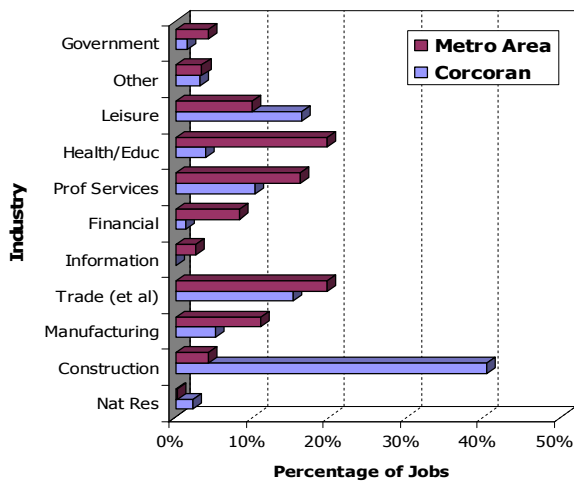
INDUSTRY	CORCORAN				TWIN CITIES 7-COUNTY METRO AREA			
	JOBS		ESTABLISH.		JOBS		ESTABLISH.	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Goods Producing Domains								
Natural Resources & Mining	30	2.3%	4	2.4%	3,807	0.2%	269	0.3%
Construction	525	40.4%	59	34.7%	70,461	4.4%	8,016	9.2%
Manufacturing	68	5.2%	9	5.3%	178,982	11.1%	4,758	5.4%
Service Producing Domains								
Trade, Transportation, & Utilities	199	15.3%	32	18.8%	318,251	19.7%	18,299	20.9%
Information	--	0.0%	--	0.0%	43,839	2.7%	1,665	1.9%
Financial Activities	17	1.3%	6	3.5%	134,708	8.3%	10,914	12.5%
Professional & Business Services	134	10.3%	27	15.9%	261,267	16.2%	17,329	19.8%
Health & Education Services	51	3.9%	6	3.5%	316,839	19.6%	9,483	10.8%
Leisure & Hospitality	213	16.4%	9	5.3%	161,435	10.0%	7,156	8.2%
Other Services	42	3.2%	17	10.0%	55,930	3.5%	8,265	9.5%
Public Administration	19	1.5%	1	0.6%	69,131	4.3%	1,266	1.4%
Total, All Industries	1,298	100%	170	100%	1,614,650	100%	87,420	100%

Source: MN Dept. of Employment and Economic Development (DEED)

FIGURE 10: DISTRIBUTION OF JOBS BY INDUSTRY

Corcoran and Metro Area

2008 (3rd quarter)



Source: Minnesota Department of Employment and Economic Development

Although Corcoran's employment base nearly tripled between 1990 and 2008, it still remains well below neighboring communities, especially Rogers, Maple Grove, and Plymouth (Table 15). Because some of these communities will become fully developed in coming years, Corcoran's employment base has been forecasted to increase by four thousand jobs between 2010 and 2030.

TABLE 15: EMPLOYMENT GROWTH TRENDS AND PROJECTIONS

Corcoran and Surrounding Communities

1990-2030

	----- FORECAST -----					
	<u>1990</u>	<u>2000</u>	<u>2008¹</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>
Corcoran	467	1,792	1,298	1,500	3,500	5,500
Hanover (pt)	50	86	48	60	70	80
Rogers/Hassan	2,025	5,414	8,347	9,050	11,950	15,500
Dayton	498	1,057	657	3,900	5,800	6,900
Maple Grove	7,750	18,309	29,655	32,800	42,900	45,900
Plymouth	38,103	53,491	49,016	59,900	63,400	64,500
Medina	2,155	3,254	3,930	5,500	6,700	7,900
Independence	90	169	487	160	160	170
Greenfield	50	337	602	1,240	2,000	2,700
7-County Metro Area	1,273,000	1,565,100	1,614,650	1,816,000	1,990,000	2,126,000

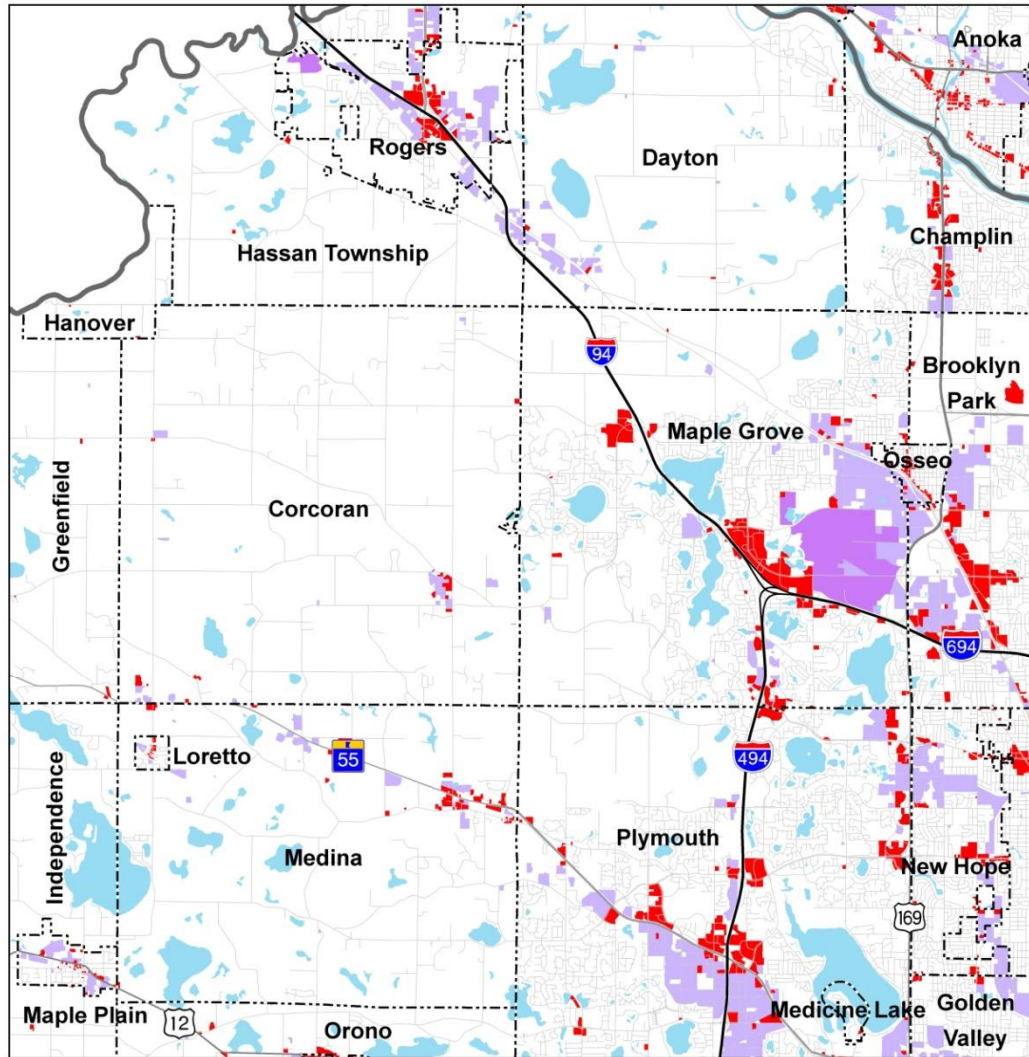
¹ 2008 figures are as of 3rd quarter and considered an estimate.

Sources: MN Dept of Employment and Economic Development; Metropolitan Council

Development in neighboring communities will continue to impact Corcoran for many years. Figure 11 (page 75) displays commercial and industrial land uses in Corcoran and its adjacent communities. As can be seen from the map, there are several significant concentrations of commercial and industrial districts within five miles of Corcoran's boundaries. Most of these districts are situated at the intersection of two or more major highways. Each of these districts will strongly compete with any new commercial or industrial development within Corcoran for many years to come.

Although commercial and industrial development has been limited in Corcoran, the City has begun to more actively pursue economic development opportunities in recent years. The City has supported development of its downtown area located at Highway 10 and County Road 116. Several commercial and industrial users are already located in this district, and the City has already identified its downtown as a key growth area. An industrial district located in the southwest portion of the City along Highway 55 also has been promoted for development.

FIGURE 11: COMMERCIAL/INDUSTRIAL LAND USES IN NW HENNEPIN COUNTY

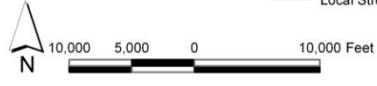


**Commercial/Industrial Land Uses
in Northwestern Hennepin County**

— Interstate Trunk Highway	■ Retail and Other Commercial	 County Boundary
— US Trunk Highway	■ Industrial and Utility	 Municipal Boundary
— State Trunk Highway	■ Extractive	
— Local Streets	■ Open Water	

November 12, 2008

 I:/504/50408144/GIS/ComPlan/maps/comind_luse.mxd
 Source: Metropolitan Council 2005 Land Use



III. Targeted Economic Development Areas

The City anticipates the demand for commercial and industrial development will increase significantly by 2030. Therefore, the City's Land Use Plan identifies large areas of commercial, industrial, business park, and mixed land use that will provide for a mix of jobs, ranging from retail and commercial service jobs to high end technology jobs.

The City's development plan for its downtown area provides an opportunity for additional economic development. The City has guided this area for Mixed Use on the 2030 Land Use Plan, providing flexibility for future development. The development plan is intended to promote investment in Corcoran's downtown, solidifying the area as an important community asset and focal point.

Future I-94 interchanges planned in Dayton and Maple Grove will impact the northeastern portions of Corcoran. These roadway improvements will significantly improve access to the City, making it a more desirable location for commercial and industrial development. To serve this future demand, the City has planned a large Industrial/Business Park area and Commercial/Mixed Use development in the northeastern portion of the City near each interchange.

Additionally, municipal sewer and water services will provide for increased housing opportunities in the City. The increase in housing units will create additional demand for commercial services. The City has planned for these services in its 2030 Land Use Plan by designating several additional areas of general commercial, neighborhood commercial, and mixed land use along major transportation corridors.

IV. Economic Development Goals and Policies

The City of Corcoran recognizes the importance of each component of the economic development cycle in the overall health and economic stability of the community. The City addresses economic development issues through the following goals and policies:

Goal 1: Promote cooperative efforts and utilize existing resources for economic growth in the City.

Policy 1: Continue to identify and tap into local, State and Federal resources to enhance economic development.

Policy 2: Explore County-wide economic development coordination options.

Policy 3: Promote coordination of the educational system and the business community to ensure the availability of qualified workers.

Goal 2: Promote economic stability and diversity to provide job opportunities to residents.

Policy 1: Support efforts to retain existing businesses and facilitate their expansion.

Policy 2: Support efforts to recruit new businesses and industries in appropriate locations and scales.

Policy 3: Recognize the need to expand infrastructure in the City, including but not limited to roadways, parks/trails, utilities and telecommunications infrastructure, to support and promote continued economic development.

Policy 4: Target financial resources and programs to attract businesses that have an emphasis on job creation and businesses that meet or exceed livable wage requirements.

Policy 5: Encourage the availability of a range of housing types and values to accommodate an ample work force.

Goal 3: Promote efficient, planned commercial and industrial development.

Policy 1: Identify key commercial and industrial development opportunities in planned growth areas at locations with access to major transportation systems.

Policy 2: Encourage and facilitate infill development on vacant parcels to ensure maximum efficiency of land use.

Policy 3: Encourage compact commercial developments that will make efficient use of infrastructure and resources.

Policy 4: Encourage industrial and office/business commercial development to locate within master planned industrial parks or business parks or in the downtown area.

Goal 4: Enhance the character of the City's commercial and industrial development.

Policy 1: Develop the use of architectural, design or other development standards such as landscaping, screening and other standards within the City's commercial, business park and industrial developments.

Policy 2: Support the provision of open/green space within commercial and industrial development.

Policy 3: Promote the rehabilitation and redevelopment of older existing commercial facilities by pursuing and making available various financial programs and assistance.

V. Economic Development Strategies

The following strategies may be implemented to guide economic development in the City of Corcoran:

A. Create an Economic Development Authority

To aid in implementing the City's economic development goals, the City may create an economic development authority to oversee strategies, review goals and policies, and otherwise promote the City as a place for development.

B. Guide Land Use for Target Market

The City should continually evaluate market conditions and periodically update the Land Use Plan and Zoning Ordinances to target economic development markets.

C. Marketing the City of Corcoran

Information on infrastructure improvements and the availability of commercial and industrial land will be of interest to potential businesses and should be shared on the City's website. Periodic written reports on economic activity in the City may also be disseminated.

City staff, elected officials and the I-94 Chamber of Commerce should work together to share information and develop additional marketing opportunities. For example, highly visible areas in the City's northeast corner will likely experience development pressure when new interchanges are completed along I-94. These groups should work together to identify and capitalize on this opportunity and identify additional opportunities for the community.

D. Establish Financial Incentives to Attract New Businesses and Support Existing Businesses

A number of financial incentives are available to the City of Corcoran to encourage potential businesses that may locate within the City and to retain existing businesses looking to expand or invest in their property. Several options available to the City are identified in Appendix D.

Chapter 7

PARKS AND TRAILS

I. Introduction

Corcoran's parks, trails and open space system will be an important element of the community's life. The system will offer residents desired recreational opportunities while preserving and making accessible unique natural and historic resources that are part of the City's identity. The parks and trails system can be designed to help to unify the City's neighborhoods and build a sense of common identity and interest among old and new residents.

It is crucial to have a clear framework to develop, maintain and grow the park system so it can best serve current and future residents. Goals become a useful tool in communicating the steps the City will take to achieve its desired park and trail system. By utilizing this Plan's goals and carrying out the implementation strategies, the City can ensure stewardship of financial, natural, and recreational resources and create a park and trail system that is an amenity for the community. Diligent planning will create results that include:

- Opportunities for healthy lifestyles for residents of all ages
- Quality resources and facilities that attract new development, businesses and residents
- Building community by giving residents places to gather and interact
- Protecting key natural resources before development occurs
- Promoting a high quality of life

The City of Corcoran anticipates that urban services, including a sanitary sewer system, will become available beginning in 2013. The City expects that when these services are available, significant growth and development will occur in the eastern and southwestern areas of the City, which are within the Metropolitan Urban Service Area (MUSA). This Plan places emphasis on park and trail development in these areas as new development occurs. The City will work cooperatively with existing landowners to acquire easements and develop trail connections.

Open space and trail locations are also identified in the western portion of the City to promote a unified, City-wide system. Development of these public amenities may occur more slowly than facilities in the eastern part of the community. Proposed park and trail locations outside the 2030 MUSA areas are for guidance purposes and are to be implemented over the long term as development and cooperation with landowners occur.

The Parks and Trails Plan incorporates the Comprehensive Plan and the City's Natural Resource Inventory to describe the park and trail system to be developed in Corcoran

over the next 20 years. The City believes that careful planning, with strategic location of public parks, trails and open space areas, will help to preserve and create the type of community and environment that Corcoran residents desire. The City has the opportunity to acquire quality open space before development occurs. This Plan encourages this progressive approach to preserve and create quality neighborhoods and recreational opportunities for current and future Corcoran residents and make the best possible use of available financial resources.

II. Planning Goals and Policies

The following Goals and Policies will guide the process of planning parks and trails:

Goal 1: To implement this Parks and Trails Plan based on the needs and demands of Corcoran residents and park and trail users.

Goal 2: To work cooperatively with neighboring communities, Hennepin County, the State of Minnesota and others in planning, developing, and financing the local park system.

Policy 1: The Parks and Trails Plan is a responsive and adaptive document. While it has a 20-year planning horizon, the plan will be updated periodically as needed to reflect changes in the community and its needs.

Policy 2: The Parks and Trails Plan will seek to be compatible with adjacent local community plans and metropolitan, State and Federal plans and programs.

Policy 3: Public school facilities and their recreation areas will be considered in the planning of the park and trail system. The City will seek cooperation, coordination and participation with local school districts in planning the development and operation of the park and trail system.

Policy 4: The description and standards established in the park and trail classification system will be the basis for development of the park and trail system.

Policy 5: Community volunteer organizations will be encouraged to participate in park and trail development when appropriate.

Policy 6: The Parks and Trails Commission will review all pertinent information, analyze alternatives and make recommendations to the City Council on park and trail issues, based on this Parks and Trails Plan.

Policy 7: The Parks and Trails Commission will inform and seek input from other City advisory commissions on any major issues or improvements that may be applicable to that commission.

Policy 8: The Parks and Trails Commission will be responsive to the increasing maintenance, planning and recreational demands made by the City and its residents.

III. Park Goals and Policies

The following Goals and Policies will guide the creation of the City's parks system:

Goal 1: To promote park development that will best encourage and support use by the public.

Goal 2: To provide a balanced park system that provides for active recreation, passive recreation, and natural resource protection.

Goal 3: To develop parks that reflect the special character of the City, its history, and landscape and to develop the parks and trails as a connected system.

Policy 1: The City will develop a variety of park and trail types that meet a variety of active and passive recreational interests and conserve the City's important natural resources for the future.

Policy 2: Park land will be acquired in accordance with the City's Parks and Trails Plan.

Policy 3: The City will acquire park land as early as possible, to minimize costs and potential conflicts with existing residents. Parks and trails will be completed early in the development process, so that they are available to new residents.

Policy 4: The City will use the following criteria for the selection of land for parks, trails or open space:

- The area possesses scenic or unique natural features
- The area possesses various desirable wildlife populations
- The area performs important natural or open space functions.
- The area is located within or is connected to the Natural Resource Corridors identified in the Natural Resource Inventory
- The area has qualities conducive to recreational development
- The area is designated as a park or trail search area in the Parks and Trails Plan
- A demonstrated need for additional parkland exists in a particular area

Policy 5: Developers may include private parks as a neighborhood feature based on the provisions of the City's Park Dedication Ordinance.

Policy 6: Special attention will be given to the acquisition or preservation of desired park land that may be developed or changed to an incompatible land use in the near future.

Policy 7: The City will require park dedication from all developers (commercial, industrial and residential) in the form of cash or land, according to the schedule set by the City Council. All cash will be directed to the Park Fund and will be used for park land acquisition and development projects. Land dedications will be accepted by the City if they have been designated as park land on the Parks and Trails Plan, possess significant desirable features or are deemed necessary to meet the needs of residents in the area.

- Wetlands and storm water ponding areas will not be accepted as fulfillment of park dedication requirements.
- The City will establish design standards that create a unity within the park and trail system and that emphasize the special character of the City, its history and landscape.
- Park design should incorporate a general theme, but also allow diversity among parks to adapt to natural features, local history or neighborhood character and needs.

Policy 8: The City will review the park dedication formula on an annual basis to ensure it is current and comparable with area metropolitan communities.

Policy 9: The City will maintain an equitable distribution of parks throughout the community.

Policy 10: A park name shall reflect location by incorporating local historical names or features, a local access road, neighborhood name, benefactors or prominent natural features of the area.

Policy 11: A consistent signage policy shall be developed for all parks and trails, including directional and informational signs.

Policy 12: Joint use of facilities shall be encouraged by incorporating school facilities with park and recreation programs whenever possible.

Policy 13: The City will encourage location and design of park and trail facilities to maximize accessibility.

Policy 14: Park and trail design should enhance outstanding natural areas by discouraging development of prominent or highest quality landscape features and conserving natural resource areas. Wetlands and woodlands should be protected from undesirable impacts and restored to a high-quality condition when possible.

Policy 15: Park and trail design should avoid or minimize undesirable impacts to natural resources. Plans should avoid fragmenting natural communities and habitats. If hard surfaces such as parking lots are required, surfaces should be disconnected from storm drain systems where feasible and strategies such as bioretention, grassed swales, and created wetland cells should be used to filter and clean storm water runoff as close to its source as possible.

Policy 16: The City will develop parks that are safe, enjoyable and accessible and that provide multi-use and multi-seasonal programs and activities.

Policy 17: The City will provide for a balance of active and passive recreation facilities throughout the community.

Policy 18: The City will provide park facilities and equipment in accordance with the guidelines and requirements of the American Disabilities Act (ADA).

Policy 19: The City will provide residents with timely information regarding park and trail facilities and programs.

Policy 20: All existing and proposed parks shall be mapped and annually reviewed and updated.

Policy 21: High priority will be given to acquisition of areas with public access to high-quality lakes and streams.

Policy 22: The City will provide a variety of recreation facilities, including regulation athletic fields, indoor recreation activities, and passive, nature-oriented activities.

Policy 23: The City will consider the impact of the Corcoran Community Park on the downtown area, transportation, and related Comprehensive Planning issues.

IV. Trail System Goals and Policies

The following Goals and Policies will guide the creation of the City's trail system:

Goal 1: To provide safe, convenient, and coordinated trail facilities for a variety of users throughout the City of Corcoran.

Goal 2: To provide trail facilities that are scenic, recreationally satisfying and in harmony with the City's natural resources.

Policy 1: The City will coordinate the park and trail system through the development and implementation of the City-wide Parks and Trails Plan.

Policy 2: The City will work to connect future trails to existing and adjacent community trails.

Policy 3: The City will design and construct bicycle and pedestrian access to parks, open space areas, schools and the downtown area to encourage maximum use of these facilities.

Policy 4: The City will encourage the use of utility easements and transportation rights-of-way for on-road route development.

Policy 5: The City will design and construct off-road trails to connect parks, open space areas, and natural resource corridors.

Policy 6: Trails may include facilities such as benches and exercise stations in appropriate locations.

Policy 7: To respect residents' property rights, trail development and routing should be a cooperative effort between the City and the landowners along the proposed route. Existing neighborhoods are encouraged to request trails and work with the City to identify their routes.

Policy 8: A right-of-way of not less than 20 feet may be required where deemed necessary by the City to provide adequate bicycle and pedestrian circulation or access to schools, parks, downtown, churches, or other facilities. A right-of-way of 30 feet is preferred for off-road trails.

Policy 9: Bicycle and pedestrian trails will be constructed with a paved or gravel surface to a width of 8 to 10 feet with a minimum 4-foot buffer on each side.

Policy 10: Trails will be bituminous pavement where possible to maximize access for all residents. Trails may be constructed of gravel or woodchips in natural areas or in wetland soils where pavement will be difficult to maintain. Also, gravel or woodchips may be used as a temporary trail material on new trails until resources are available to pave the trail.

Policy 11: Trails that are integral to larger scale developments will be installed and paved at the developer's expense. These trails will connect to the existing and proposed extensions of the City's trail system.

Policy 12: The City's trail system will be coordinated with County and regional trails and with trails from neighboring communities.

Policy 13: All existing and proposed trails will be mapped and annually reviewed and updated.

Policy 14: The use of snowmobiles or horses will be limited to designated trails to help maximize the safety of trails for all users.

Policy 15: Bicycle and pedestrian trails in wooded and wetland areas shall be designed and constructed to minimize the removal of trees, shrubs, and other vegetation and to preserve the natural beauty of the area.

Policy 16: The City will develop safe pedestrian crossing facilities on main roadways to ensure pedestrian access to parks.

Policy 17: The City will use the Parks and Trails Plan as a general guide for trail development, working with residents, landowners, and developers in designing and constructing specific trails.

V. Development Guidelines: Areas Outside the 2030 Metropolitan Urban Service Area (MUSA) Boundary

The following guidelines will be applied to development proposals outside the 2030 MUSA boundary:

- Park and trail policies in areas outside the 2030 MUSA boundary will be consistent with the City's Comprehensive Plan and Subdivision Ordinances.
- Development proposals will be presented to the Parks and Trails Commission before Planning Commission approval, thereby allowing for review and recommendations regarding incorporation of trail easements, open space acquisition or park facilities.
- Emphasis should be placed on locating facilities such as athletic fields closer to the 2030 MUSA.
- Park facilities generally should not be planned at this time outside the 2030 MUSA, except for:
 - Trails that have been identified on the Natural Resource Inventory or the Parks and Trails Plan maps
 - Protection of significant natural areas that have been identified on the Natural Resource Inventory
 - Athletic facilities may be considered, but are preferred in areas closest to the 2030 MUSA
- Proposed parks and trails shown on the Parks and Trails System Map outside the 2030 MUSA areas are for guidance purposes and will be implemented over the long term as a part of new development through development dedication or cooperative purchase.

VI. Park Classification

The following park types and standards will be developed in Corcoran:

A. Neighborhood Parks

Neighborhood parks are the most local unit of the park system, providing for the passive and active recreational needs of neighborhood residents. These parks should be accessible to a wide variety of user groups living in the neighborhood. These parks typically do not provide organized athletic programs.

Neighborhood park sites should allow for both active and passive park uses. Sites should contain natural features, such as views and shade trees, which make for a pleasant outdoor experience. Siting neighborhood parks adjacent to trails and natural resource features and corridors is desirable and will expand the function of both types of open space. Siting neighborhood parks adjacent to both new and existing neighborhoods will

encourage community development and ensure that new parks do not function as “private” facilities for new developments.

Neighborhood park development criteria generally include:

- About 1-2 acres of neighborhood parks per 1,000 people
- These parks should be located so that they are within about ½ mile of any residence in the designated neighborhood.
- Neighborhood parks should be about 5-10 acres in size.
- Typical neighborhood park design elements include the following:
 - Play equipment
 - Open turf areas with informal play fields for softball, soccer, and /or football
 - Hard court (half-court basketball or game area)
 - Internal trails and connections to the neighborhood
 - Landscape plantings
 - Limited off-street parking area
 - Site furnishings such as benches, bike racks, drinking fountain, trash containers and signs

B. Community Parks/City Parks

Community parks provide recreational opportunities for people of all ages and serve several neighborhoods. These parks seek to preserve unique landscapes and natural areas. Community parks are intended to be multipurpose parks that provide a broader range of services than neighborhood parks. However, community parks may serve the neighborhood playground needs of immediate residents or may be integrated with community play fields.

Community park sites should include interesting terrain and natural areas, such as woodlands and wetlands, be easily accessible from major transportation routes and may be located near other community facilities. Community parks should be linked to the City trail system to provide optimum access for residents.

Community park development criteria generally include:

- About 5-8 acres of community park space per 1,000 people
- These parks serve a larger area than neighborhood parks—up to a 2-mile radius.
- About 3 acres of this total should be for “active” recreation.

- These parks should each be 25-30 acres or more in size.
- Typical community park design elements include the following:
 - Building/shelter
 - Picnic area
 - Internal trail system
 - Play equipment (may be more extensive than for neighborhood park)
 - Play fields for baseball, soccer, football
 - Hockey rink/skating rink
 - Tennis court(s)
 - Site furnishings such as benches, water fountains, bike rack, trash containers and signs
 - Landscape plantings
 - Specialized play areas, such as Frisbee® golf courses
 - Parking area

C. Community Play Fields

Community play fields are designed for athletic activities, providing facilities for organized sports and games that require more space than is available at neighborhood parks. Play fields may be integrated into community parks or co-located with school athletic facilities.

Community play field sites should be level, with suitable soils and good drainage for athletic field development.

Community play field development criteria generally include:

- 1.5-3 acres of community play fields per 1,000 people
- Play fields may be co-located and developed in cooperation with school play fields.
- Play field facilities may include the following:
 - Baseball, soccer, football or other sport fields
 - Hockey/skating rinks
 - Volleyball court(s)
 - Basketball and/or tennis courts

- Small play equipment area
- Site furnishings such as benches, water fountains, bike rack, trash containers and signs
- Internal trails
- Equipment building
- Concession/multi-purpose building
- Parking area

D. Athletic Complexes

An athletic complex consolidates heavily programmed athletic fields and associated facilities at larger sites strategically located throughout the community. This allows for improved maintenance and scheduling and reduces the number of areas dedicated to sports facilities. These complexes should be located within reasonable driving distances of target populations and adjacent to non-residential land uses. They relieve the negative impacts on smaller parks such as over-use, noise, traffic congestion and parking issues. Adequate spectator seating and parking should be provided. Lighting should also be a priority to ensure user safety.

Athletic complex sites should be level, with suitable soils and good drainage for athletic field development and support a large enough space for multiple types of playing fields or courts.

Athletic complex site development criteria generally include:

- Athletic complex size and location should be driven primarily by projected demand for the specific types of facilities.
- Athletic complexes may include the following:
 - Baseball fields
 - Softball fields
 - Soccer fields
 - Multi-purpose playing fields
 - Hockey rinks
 - Basketball and/or tennis courts
 - Golf/disc golf courses
 - Play structure

- Park shelter
- Concession stand

E. Open Space/Natural Parks

These parks contain high-quality natural resource areas such as lakes, wetlands, or woodlands. Recreational uses are secondary to the preservation of natural open space and the conservation functions of these areas. Compatible recreational uses include hiking, picnicking and nature study.

Open space or natural park sites are typically within the high-quality natural community areas identified in the City's Natural Resource Inventory. Open space parks should be connected by trails to the City's Natural Resource Corridors and to other parks. Conservation parks will be left in a natural or semi-natural state, with a minimum of development.

Open space/natural park development criteria include:

- These parks serve a City-wide audience.
- The size of the parks may vary based on the natural resources or other special features (such as historic sites) in the community.
- Facilities development at these parks should be minimal, but may include the following:
 - Trails
 - Site furnishings such as benches, bike racks, trash containers and signs
 - Parking area
- Locations of these parks (as well as community and neighborhood parks) will reflect recommendations of the City's Natural Resource Inventory and Management Plan.

VII. Existing Parks and Public Spaces

The City of Corcoran owns two parks. Corcoran Community Park is located at the intersection of County Roads 10 and 50. The park is approximately 16 acres. Park facilities include a large play structure, softball fields, ice rinks and a picnic shelter.

The City has also begun developing park land on City Hall property. The site, including the Memorial Garden, is an estimated 8 acres in size. Once fully developed, this park will consist of picnic facilities and trails. The site is open to events and celebrations and may be used in conjunction with the adjacent community center.

The Rockford School District owns approximately 60 acres abutting the west side of Corcoran Community Park. The site is developed with athletic fields and is open to use by

City residents. The City maintains and manages the site under an agreement with the School District. Although the site was originally purchased for development of an elementary school, its future use is somewhat uncertain.

The Corcoran Lions Club owns a multi-use, park-type facility at the intersection of County Roads 10 and 101. This park is the site of the Hennepin County Fair, the Hamel Rodeo and a variety of other public entertainment events.

VIII. Future Parks

A. Demographics/Community Growth

This Plan is based on the population forecasts identified in Table 3 (page 16). The City's population within the future urban service area in 2010 was just under 6,000 and is forecast to reach 17,600.

This Plan uses the population forecasts, 2030 Comprehensive Plan and common standards to recommend the number and distribution of park and trail facilities in the community.

B. Local Trends

In September 2008 the Parks and Trails Commission surveyed City residents regarding their preferences for park and trail facilities. Key findings from 314 responses were used to guide the 2030 Parks and Trails plan, including the following:

- The most popular activities citizens participate in are walking and biking, closely followed by nature observation.
- Other popular activities included hockey/ice skating, cross country skiing, playground use, snowmobiling, tennis, and horseback riding.
- Fifty-three (53) percent of responses indicated a desire for the City to expand the facilities at the existing Corcoran Community Park by purchasing the adjacent Rockford School property and developing facilities there. Twenty-one (21) percent desired to purchase a new site in a rural location to expand facilities.
- More than half of the responses advocated developing trail connections from Corcoran neighborhoods to the existing Corcoran Community Park site. Many responses also recommended connecting trails from Corcoran to Maple Grove and nearby Hennepin County parks.

The 2008 survey (as well as an earlier 2004 survey) supports the conclusion that the City should develop walking and biking trails for its residents.

C. Future Projections by Park Type

Based on extensive review of community park systems, the City has established a goal of developing approximately 21 acres of park land for every 1,000 residents. With this standard in mind, and based on the trends and standards discussed above, the following

are the projected park needs in Corcoran to meet projected population growth to approximately 17,600 people in 2030:

- *Neighborhood Parks:* The City will need 4-5 neighborhood parks, totaling approximately 35 acres, by 2030. These parks should be located within ½ mile walking distance of significant neighborhood developments.
- *Community Parks:* In addition to the two current community parks, the City will need 3 or 4 new community parks by 2030. These additional community parks would require approximately 100 new acres.
- *Community Play Fields:* The City's playfield requirements will be affected in large part by the long-term disposition of the Rockford School District property. If the Rockford property remains available to the City, then the City would need to add approximately 15 additional playfield acres by 2030. If the Rockford property is not available, the City would need to obtain approximately 35 acres of playfield property by 2030.
- *Athletic Complex:* The City will seek to create one athletic complex utilizing approximately 120 acres of land. A 2006 TKDA Needs Analysis and Recommendations offers metro-area guidelines for population-driven facility types and this study will serve as a continuing resource in the search for and design of both an athletic complex and the other identified parks.
- *Open Space Parks:* The City will consider adding approximately 60 acres of public open space, ideally divided among three sites throughout the community.

Recreation trends and community preferences will ultimately affect the number size and location of specific parks and facilities. The City will continue to work closely with the local school districts in future planning of play fields, athletic complexes and additional park facilities.

IX. Future Trails

Corcoran residents have expressed a strong interest in trails, particularly for walking and biking. The community also has a high level of interest in snowmobile and horseback trails.

There are several categories of trails identified on the 2030 Parks and Trails Plan. A fully developed system could ultimately offer up to 120 miles of trails. Trail categories and potential development are described below:

- *Regional Trail* – A regional trail links together multiple communities and destinations within a region. Corcoran has one existing regional trail along County Road 19 that stretches from Baker Regional Park Reserve to Crow-Hassan Regional Park Reserve. The general alignment is shown on the map along County Road 19. The length of this trail through Corcoran is approximately 6 miles.
- *County Bike Trail* – A proposed 3.6-mile County Bike Trail would run along Oakdale Drive and be managed by Hennepin County.

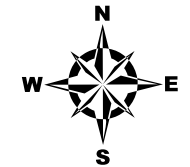
- *On-Road Trail* – This trail type is a striped or signed bikeway on an existing road right-of-way or designated lane. The City has one 4.5-mile on-road trail along County Road 30. The City has plans to add an additional 45 miles of on-road trails.
- *Off-Road Trail* – An off-road-trail is a multi-use trail, paved or gravel that is at least 8 feet wide. These trails are designed for bicycle, pedestrian, and other non-motorized uses. The City is planning for approximately 51 miles of off-road trails, 26 miles inside the 2030 Urban Service Area and 25 miles outside that area. The City is investigating the possibility of co-locating an off-road trail over the natural gas pipeline easement in the southern half of the City.
- *Horseback Trail* –A horseback trail is a natural surface used specifically for riding. One 8-mile horseback trail, connecting western Corcoran with Crow-Hassan Regional Park, is identified on the 2030 Parks and Trails System Map. A trail head location for horse trailer parking could be located along County Road 19 south of Larkin Road.

X. Parks and Trails Locations

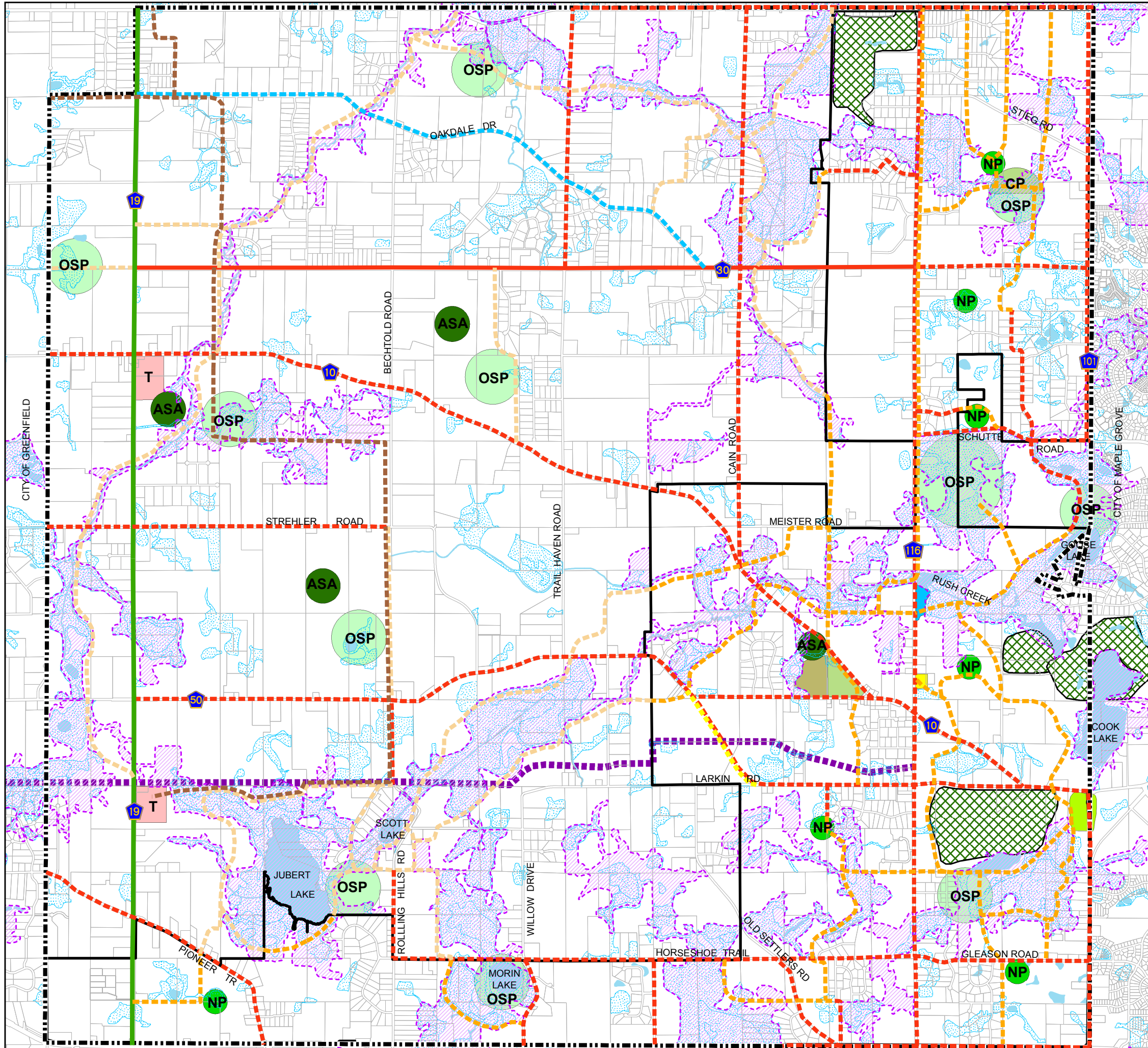
Proposed parks are identified on the 2030 Parks and Trails System Map, Figure 12 (page 94). Athletic complex and open space search areas are shown on this plan to indicate potential site areas, not exact property locations. These search areas are scattered throughout the community as places to further investigate for costs, ease of obtaining land, access and proximity to future growth and development. Many of these parks will be developed as new residential neighborhoods are constructed and can support the planned park system. The City will work with developers and other landowners to identify the exact location and size of parks and trail alignments as development or park acquisition is proposed. The City will seek to co-locate trails with other infrastructure easements where feasible.



City of CORCORAN Parks & Trails Plan 2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet



- City Limit
- 2030 MUSA
- Open Water
- Wetlands
- Existing Parks and Trails**
 - Regional Trail
 - Existing On Road Trail
 - Community Park
 - City Hall/Memorial Park
 - Existing Ball Fields/School Property
 - Existing Park (Private/Lion's Park)
 - Golf Course
- Proposed Parks and Trails**
 - Proposed County Bike Trail
 - Proposed On Road Trail
 - Off Road Trail
 - Off Road Trail outside 2030 Development Area
 - Horseback Trail
 - Proposed County Road 50
 - Natural Gas Pipeline Easement Trail (Potential)
 - City Square
 - OSP/Nature Park
 - ASA - Athletic Search Area
 - Neighborhood Park
 - Trailhead Search Area
 - Greenway Corridor (Bonus Eligible Resource Corridor)

*Proposed park and trails locations represent the general search areas for parks and trails. The City will work with developers and landowners to identify the exact location and size of parks and trail alignments as development or park acquisition is proposed.

June 2, 1011



XI. Implementation

These implementation strategies are a compilation of the 2004 Parks and Trails Plan and the 2030 Plan. The City will implement the 2030 Parks and Trails Plan through Parks and Trails Commission recommendations to the City Council as follows:

A. Park System Costs and Funding

The City has estimated costs for the comprehensive parks and trails system based on extensive research and needs analysis. This cost estimate serves as the basis for the City's park dedication fees charged to all new developments. State law requires that the amount of park dedication fees be clearly tied and proportionate to the need for park facilities generated by the development. The City will annually review its actual and estimated costs and associated fee structure to account for and justify the basis for all fees charged to new development, including park fees.

In addition to park dedication fees, funding or cost offsets may also be sought through public and private partnerships, procurement of open space through land dedication or conservation easements, sales or property taxes, State or Federal grants, park user fees, City program fees and City general funds.

B. Implementation Steps

The following steps represent a non-exclusive list of activities by which the City will realize its parks and trails goals:

1. The City will require dedication of developable land as required in its Park Dedication Ordinance for public parks, trails or natural resource parks when land is platted, subdivided or developed. The City, through the Parks and Trails Commission, will review all preliminary development plats to identify acreage and location of land appropriate for park or trail dedication within the proposed development, or payment of dedication fees in lieu thereof. If it is determined that a cash equivalency payment should be made in lieu of dedication of land, the Parks and Trails Commission will recommend the percentage of the total park dedication requirement to be paid in cash to the City.
2. Parks and Trails system development and management cost estimates will be reviewed on an annual basis to ensure the plan is implemented economically and effectively and updated as needed. System cost reviews will support the park dedication fee structure.
3. The City will develop a policy to establish priorities for use of park dedication funds to achieve its parks and trails goals.
4. The City will develop and routinely review and update standards for design and construction of public parks, trails and open space areas in the City. The City will apply best practices in mapping dedicated properties and researching and designing facilities.

5. The City will work cooperatively with other communities in northwest Hennepin County, Three Rivers Park District, Minnesota DNR, local landowners and others to implement this plan and make the most of available resources. The City will actively seek grant funding for land acquisition.
6. The City will identify and consider land acquisition and protection strategies to supplement the City's capacity to assemble the parks, trails and open space system.

Chapter 8

TRANSPORTATION

I. Introduction

The purpose of the 2030 Comprehensive Plan Transportation chapter is to identify existing and future transportation needs in the City of Corcoran for the horizon year of 2030. The transportation chapter identifies the goals and policies, discusses the existing transportation system and the 2030 transportation network and identifies planned actions to meet those transportation needs.

Transportation system impacts and the responsibility for system improvements are shared State, County, and City issues. While the City of Corcoran must provide the resources to accommodate transportation demands that coincide with its land use decisions and population growth, increased traffic from the growth of neighboring communities are a part of the traffic demand. The County and State share the responsibility of providing safe and efficient transportation through the City of Corcoran.

Roadway management and improvements are an intrinsic element of land use decisions. The issue of the first to occur, development or the transportation systems to support it, will be critical as it relates to transportation needs. Infrastructure coordination will be necessary to create a system that works to support the City's comprehensive development goals and policies.

II. Transportation Goals and Policies

The City has established the following Goals and Policies to guide transportation planning:

Goal 1: Improve the transportation network for local and pass-through traffic flow.

Policy 1: The City will provide a comprehensive transportation system based upon functional classification of roadways that fully promotes connectivity and is coordinated with neighboring cities and counties.

Policy 2: Identify a transportation system that efficiently moves traffic, minimizes traffic conflicts as development occurs and is consistent with MnDOT, Hennepin County, neighboring communities and the City's land-use plan.

Policy 3: Identify long-term planning for transportation corridors to manage access and capital improvements as development occurs.

Policy 4: Study the proposed re-routing of CSAH 10 and CSAH 50 represented on the Transportation Plan to improve the geometric configuration and align with the long-range City land-use plan.

Policy 5: Fund a Capital Improvements Program to ensure long-term street maintenance and reconstruction programs.

Policy 6: Plan and design transportation facilities that preserve natural resources and existing infrastructure where applicable.

Policy 7: Pave appropriate public gravel roads deemed necessary by the City as circumstances such as development, regional improvements, City needs or other circumstances dictate, subject to financial feasibility and funding availability.

Goal 2: Ensure that planned transportation infrastructure, capacity, and access will accommodate proposed land uses and development.

Policy 1: Incorporate the use of innovative traffic management options and technologies. Coordinate transportation planning and system improvements with other government jurisdictions.

Policy 2: Comprehensively coordinate all transportation-related facilities as one system.

Policy 3: Incorporate land uses and access spacing guidelines compatible with the functional classification of the regional highway system.

Policy 4: Develop all additional elements of the street system (sidewalks, lighting, landscaping, etc.) harmoniously with adjacent land uses and transportation objectives.

Goal 3: Incorporate elements in development standards related to bicycle and pedestrian uses.

Policy 1: In all residential and mixed use areas, identify future pedestrian, trail and bicycle facilities to connect neighborhoods with major commercial and park and recreational areas.

Policy 2: Design arterial highways in the City so as to prevent unregulated pedestrian and bicycle crossings and to protect pedestrian and bicycle movement paralleling vehicular traffic. Additional information regarding the trail system in Corcoran is provided in the Parks and Trails chapter.

III. Current Transportation Systems

A. Roadway Jurisdiction

Roadways are categorized according to the agency responsible for their maintenance. The State is responsible for the Federal Interstate, US Highways, Minnesota Trunk Highways (TH) and State Park Roads. The County is responsible for County State-Aid Highways (CSAH) and County Roads (CR). Other roadways, including Municipal State-Aid Streets and Municipal roads, are the responsibility of the City of Corcoran. For a graphic depiction of the roadway jurisdictions within the City of Corcoran, see Appendix C, Figure 21 – Existing Roadway Jurisdiction (page 178).

B. Roadway Functional Classification

The functional classification applied to roadways provides guidelines for the safe and efficient movement of people and goods within the City. Roads are categorized based upon the level of access or mobility provided. The intent of a functional classification system is the creation of a roadway hierarchy that collects and distributes traffic from local roadways and collectors to arterials in a safe and efficient manner. Classification aids in determining appropriate roadway widths, speed limits, intersection control, design features, accessibility and maintenance priorities. The two major considerations in the classification of roadway networks are access and mobility. For a depiction of the relationship of functional classification with regard to traffic mobility and land access, see Appendix C, Figure 22– Functional Classification Relationship (page 180).

1. Principal Arterials.

Principal arterials carry a higher proportion of total urbanized travel on a minimum of mileage. Principal arterials emphasize mobility over land access. Little or no direct land access should be allowed within an urban area. In the Metro area, interstate freeways are classified as principal arterials. There are currently no principal arterials within the City of Corcoran.

2. Minor Arterials.

Minor arterial roadways connect the urban service area to cities and towns inside and outside the region and generally service medium to short trips. Minor arterials connect principal arterials, minor arterials and collectors. In urban areas, direct land access is generally restricted to concentrations of commercial or industrial land uses.

Minor arterials are divided into “A” minor arterials and “B” minor arterials. “A” minor arterials are roadways that are of regional importance because they relieve, expand or complement the principal arterial system. CSAH 101 is an example of an “A” minor arterial expander within Corcoran. CSAH 50, CSAH 30 and CSAH 19 are examples of an “A” minor arterial connector in Corcoran. “B” minor arterials provide a city-wide function, serving medium to long distance trips. There are currently two “B” minor arterials within the, County Road 116 and County Road 117 (109th Avenue North).

A well-planned and adequately designed system of minor arterials will allow the City’s overall street system to function the way it is intended and will discourage through traffic from using residential streets. Volumes on minor arterials are expected to be higher than on collector or local roadways.

3. Collector Streets.

Collector streets provide more land access than and generally connect to arterials and provide connections to arterials. Mobility and land access are equally important and direct land access should predominately be to development concentrations. Collector road spacing ranges from $\frac{1}{4}$ to $\frac{3}{4}$ of a mile in a fully developed area and $\frac{1}{2}$ to 1 mile in a developing area. Collectors can be broken down further into major and minor collectors.

Major collectors generally connect to minor arterials and serve shorter trips within the County or City. An example of a major collector within Corcoran is CSAH 10.

Minor collectors provide the connection between neighborhoods, commercial or industrial areas and the major collector/minor arterial system. Oakdale Drive, Trail Haven Road, Kalk Road, and Willow Drive are examples of minor collectors within the City.

4. Local Streets

The lowest classification of roadways is the local roadway. Local roadways generally have lower speed limits in urban areas and normally serve short trips. Local streets will connect with some minor arterials but generally connect to collectors and other local streets. The development of local streets will be guided by the location of the existing and proposed minor arterials and collectors as well as by development and the expansion of local utilities.

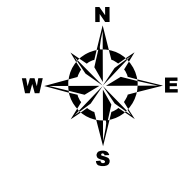
The City's current roadway functional classification system is shown on Figure 13 (page 102).



City of
CORCORAN

Existing Roadway Functional Classification

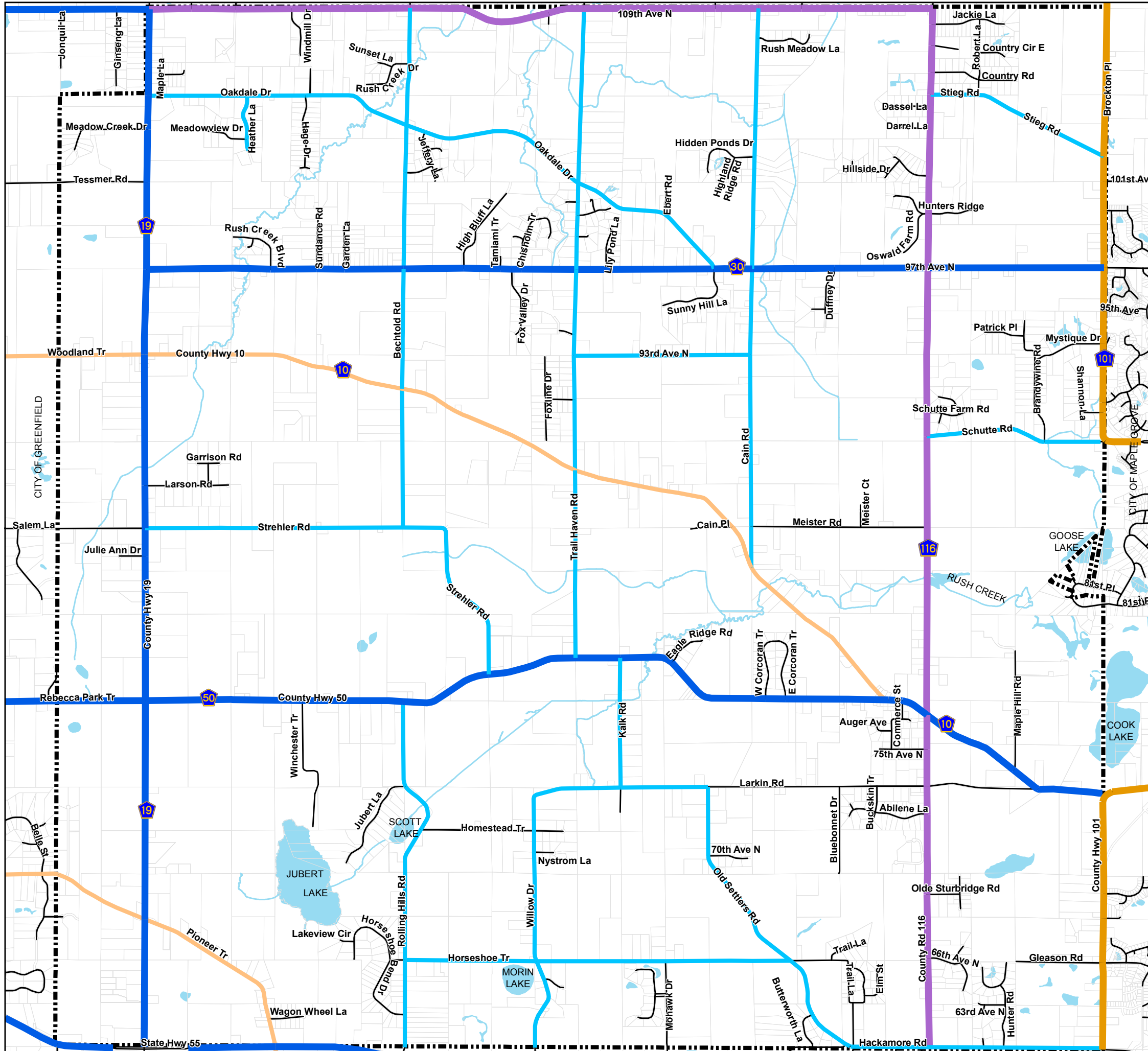
2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

Existing Roadway Functional Classification:

-  A Minor Expander
-  A Minor Connector
-  B Minor Arterial
-  Major Collector
-  Minor Collector
-  Local Street
-  City Limit
-  Open Water



November 18, 2009



C. Access Management

Managing access points along the City's system of local roads, arterials and collectors is fundamental to maximizing roadway capacity while minimizing the potential for accidents. For a thorough discussion of access management guidelines, please see Appendix C.

D. Current Traffic Volumes

Figure 14 (page 106) depicts the current average annual daily traffic volumes within the City. Traffic volumes are used as a planning tool to test the ability of a roadway to accommodate future volumes. In addition to the number of lanes provided, the daily capacity of any individual roadway is based on many additional factors, including the number of access points per mile, number of signalized intersections per mile, percentage of truck traffic and the physical grade of the roadway.

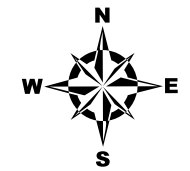
For a further discussion of level-of-service and daily average volume planning thresholds, please see the discussion at Appendix C.



City of CORCORAN

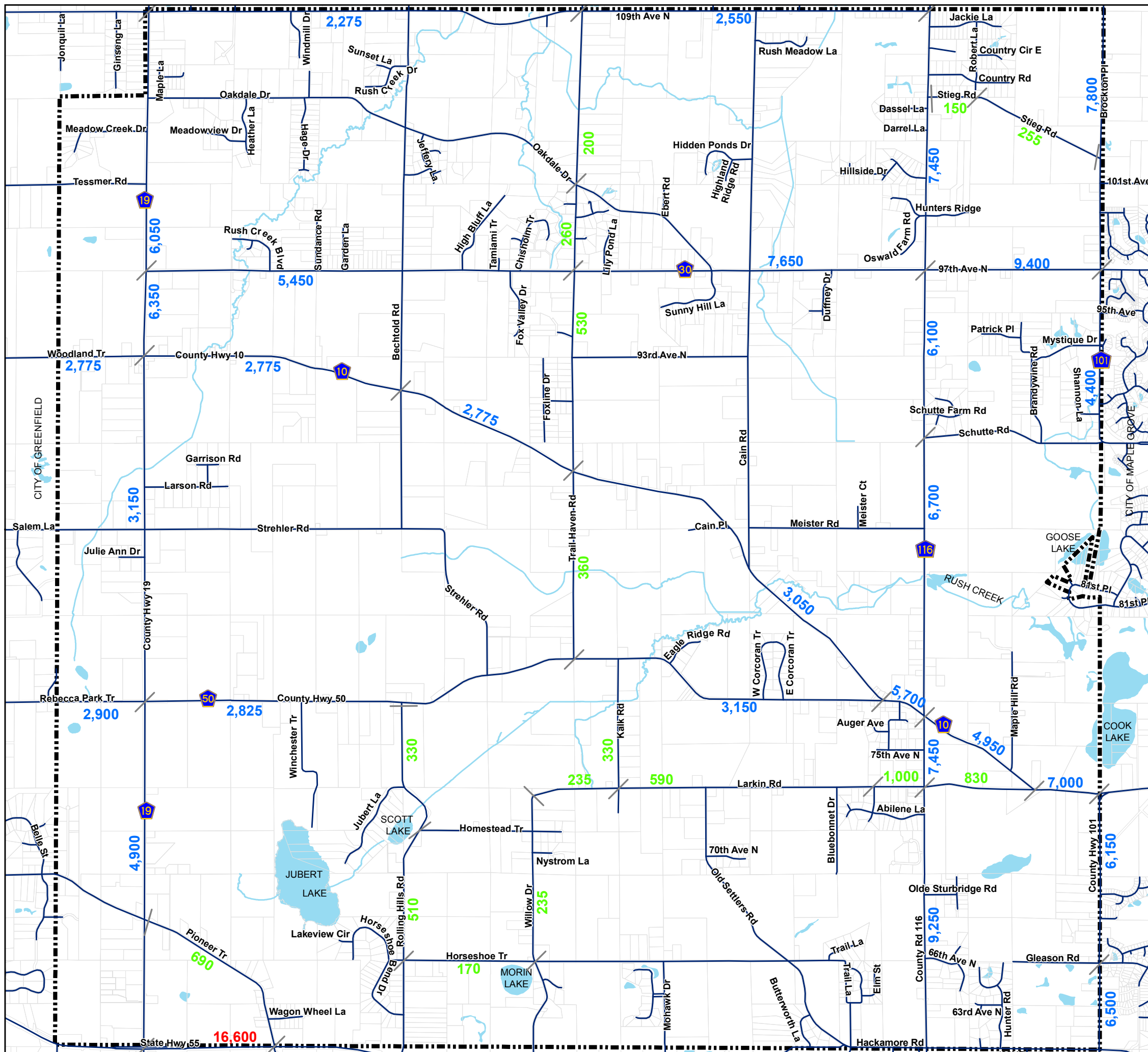
Existing Annual Average Daily Traffic Volumes (AADT)

2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

- 1,230 2006 Trunk Highway AADT Volume
- 1,230 2007 County Road AADT Volumes
- 1,234 2007 Municipal Street AADT Volumes
- Road Centerline
- City Limit
- Open Water



IV. Transportation Issues

This section identifies transportation issues that affect the City's transportation plan.

A. Highway 55

The TH 55 Corridor Coalition was formed in 2001 as a cooperative between Hennepin and Wright Counties. Sixteen cities, including Corcoran, have joined the Coalition through a joint powers agreement. The Coalition has prepared a concept improvement plan for TH 55. This plan proposes an improved facility with the potential of interchanges at CSAH 101 and CSAH 116. The plan proposes TH 55 to be a six-lane divided roadway from the City of Medina to CSAH 116 in Corcoran and then a four-lane divided highway from CSAH 116 to Townline Road in Loretto. The concepts developed within this corridor plan are a guide to help preserve future right-of-way along the corridor. Funding does not exist to construct any of the recommended improvements at this time. The City will continue to work with the Coalition in order to promote its interests in the improvement process.

B. CSAH 10/CSAH 50 Realignment

The existing intersection of CSAH 10/CSAH 50 has poor geometrics due to the angle the roads form as they intersect. The area also contains the City's largest municipal park.

The City has a vision to develop this area as its downtown redevelopment. The roadways would be re-routed to improve geometrics and accommodate the City's vision, and by re-routing the roads, the skew of the existing intersection would be removed. This realignment would aim to by-pass the downtown area as well as create a standard right-angle intersection. The exact location of the realigned roadway will be studied in detail as development plans progress.

C. CSAH 101 Realignment

Hennepin County, in cooperation with the City of Maple Grove, has commenced reconstruction of CSAH 10 from Vicksburg Lane/West Fish Lake Road to CSAH 101. The road will be widened from a two-lane rural roadway to a four-lane divided urban roadway with exclusive turn lanes at key intersections and new traffic signals. CSAH 101 will be realigned farther east to provide a safer intersection with CSAH 10. This realignment project will improve access management along the corridor. Bicycle/pedestrian trails will be constructed along both sides of the roadway that will connect to recreational trails in the area.

D. NW Hennepin County – I-94 Sub-Area Transportation Study

The Northwest Hennepin County – I-94 Sub-Area Transportation Study (NW Hennepin Study) was completed in April 2008. The study focused on the Dayton, Rogers, Hassan Township, Corcoran and Maple Grove areas due to the projected growth in those areas. Over the next 20+ years, those areas will be urbanizing and seeing tremendous growth. Dayton, Rogers and Hassan Township are expected to quadruple in population between 2006 and 2030.

The study was initiated to identify future transportation system needs, to address the changing needs within those communities, and to establish the groundwork for moving forward with requests for additional access to I-94. The study identified several issues, including a lack of an arterial roadway system in the area, physical constraints, congestion and access to I-94. The study identifies an area south of I-94, which includes Corcoran, as an area that lacks an arterial roadway system.

Improvements identified in the study were based on transportation system needs and growth trends with no account for available funding. Implementation priorities were established using the following criteria:

- Improving system connectivity to provide better east-west and north-south flow in immediate growth areas
- Addressing current capacity issues at major intersections/interchanges and overloaded segments
- Addressing I-94 access issues to better balance access to I-94
- Leveraging funding of Federal, State, local, and private funds to the fullest extent

Some of the improvements contained in the staging plan will directly affect the City of Corcoran and are identified in Appendix C, Table 28 – NW Hennepin Study – Improvement Staging (page 191).

E. CR 116 / CSAH 101

MnDOT has turned the jurisdiction of CSAH 101 back to the County, resulting in CR 116 and CSAH 101 being spaced much more closely than would be desired by the spacing guidelines for rural minor arterials. CSAH 101 also lacks much of the continuity desired for minor arterials. This lack of continuity will be mitigated somewhat by the planned realignment and reconstruction of the intersection of CSAH 101 and CSAH 10 discussed previously.

However, many cities that have these two routes within their boundaries are planning around the roadways in different ways. The City of Dayton is guiding the area near CSAH 13/CSAH 81 for industrial development, and Hassan/Rogers has been reviewing a major mixed use development (Stone's Throw) in the southwestern quadrant of I-94/CSAH 101. Dayton, Rogers and Hassan Township would like to see a new interchange at I-94/CSAH 101 as part of the roadway system. Additionally, one of the alignment alternatives for the proposed Mississippi River crossing shows a connection to this proposed interchange. Rogers has examined the feasibility of an overpass of I-94 just north of the proposed CSAH 101 interchange, which would serve as an extension of CR 116.

To the south, the City of Medina strongly opposes any future extension of CSAH 116 through the City.

The Hennepin County Transportation Systems Plan (HC-TSP) has identified CSAH 10 and CSAH 101 as candidates for jurisdictional transfer from the County to the City. Both

Medina and Maple Grove are opposed to the turnback of CSAH 101 to the cities. However, no details regarding these potential transfers were identified in the HC-TSP.

F. CSAH 30

Hennepin County and the City of Maple Grove recently have completed the process of reconstructing CSAH 30 from Dunkirk Lane to CSAH 101 (outside of Corcoran City limits). The new roadway is a four-lane divided roadway with trails on each side of the road. Corcoran plans for CSAH 30 to become a primary east-west corridor through the City. The extension of CSAH 30 east of Corcoran will connect to the future TH 610 interchange at I-94. Eventually, CSAH 30 will be a four-lane facility through Corcoran. The City plans for CSAH 30 to be designed as a parkway through the City. Future development may need to provide larger right-of-way to accommodate a parkway design.

G. Interchange at CSAH 101 (Brockton Lane)/I-94

As the northwest Hennepin County area grows, increased access to I-94 is necessary to relieve current access points and to balance flows on the arterial roadway system. The NW Hennepin Study examined an interchange at the CSAH 101 (Brockton Lane) area due to spacing from other I-94 access points as well as connections to the arterial roadway system. This proposed regional access to I-94 serves to relieve adjacent interchanges, increase system efficiency and safety and relieve overloads on other local system linkages. If access to I-94 in the CSAH 101 (Brockton Lane) area is not provided, then significant capacity enhancements to arterials and interchanges at TH 101 in Rogers and CSAH 30 in Maple Grove would be needed.

H. River Crossings

The potential need for a new Crow River crossing was raised by the Wright County Transportation Plan in 1994, but it was seen as being beyond the study period in the Hennepin County Transportation Systems Plan (HC-TSP). This potential link would extend CSAH 30 in Hennepin County westerly to Wright County Road 144, thus providing an east-west connection between Buffalo to TH 610. The impacts of this river crossing are still being examined. The exact alignment of the CSAH 30 extension and the river crossing has not yet been determined and will require further detailed study.

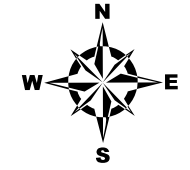
V. 2030 Transportation System

A. 2030 Traffic Projections

Hennepin County, as a part of its 2030 Transportation Systems Plan (2030 HC-TSP), has projected 2030 average daily traffic (ADT) volumes onto some of the roadways in Corcoran. Future ADT for the remaining roadways in Corcoran were projected based on the future land use, traffic analysis zone (TAZ) data, and engineering judgment. The 2030 ADT volumes and forecasts are shown in Figure 15 (page 112).



2030 Average Daily Traffic Volume Forecasts (ADT) 2030 Comprehensive Plan

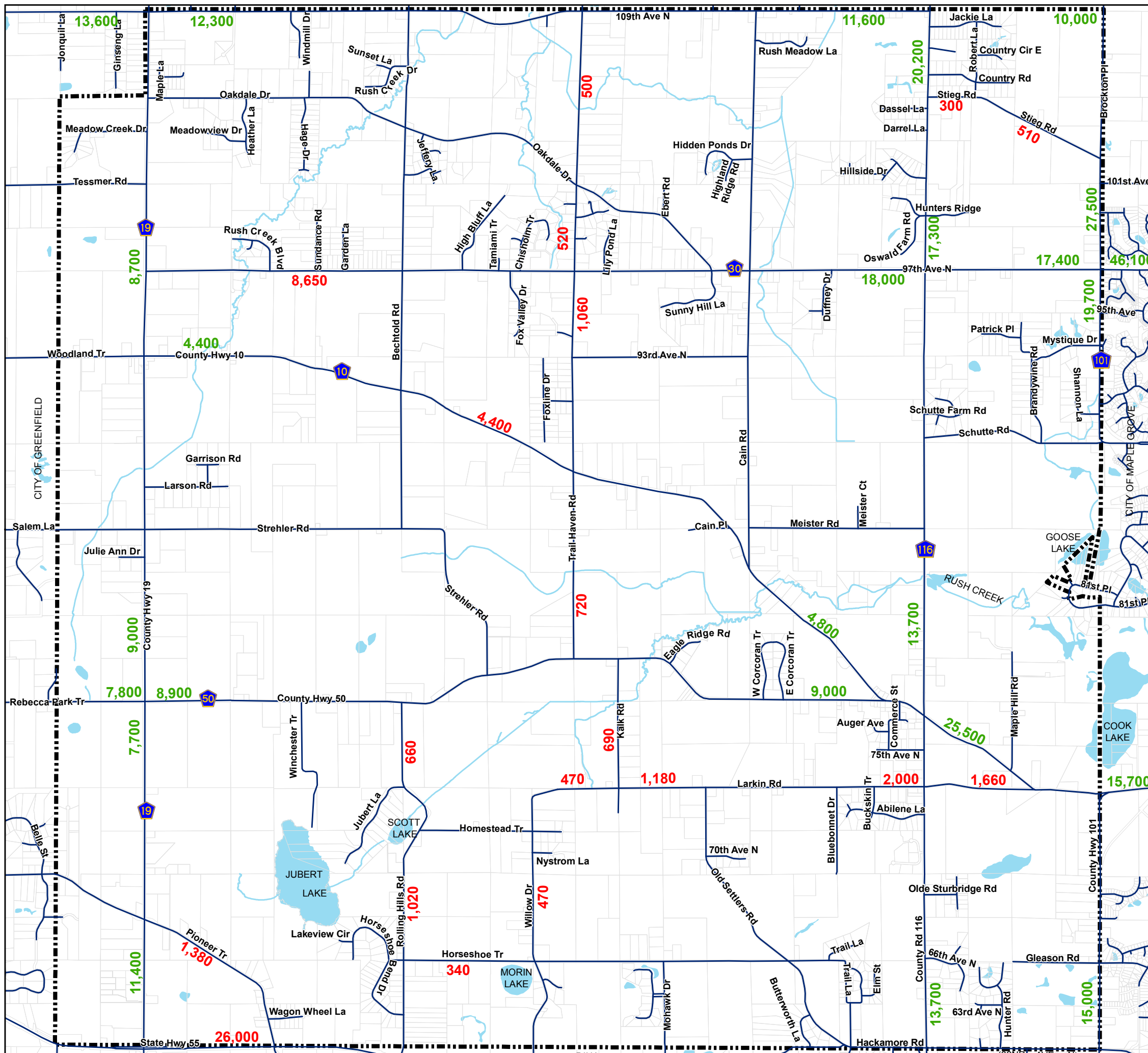


3,000 1,500 0 3,000 Feet

- 12,300 Hennepin County 2030 ADT Forecasts
- 12,300 2030 ADT Forecasts
- Road Centerline
- City Limit
- Open Water

*2030 forecast does not take into consideration proposed realignments the City is considering.

October 7, 2009



B. Jurisdictional Transfers (planned or possible)

The 2030 HC-TSP suggests turning CSAH 10 and CSAH 101 back to the City. The City supports a partial turnback of CSAH 10 but has not studied the County's full proposal. The decision has not been finalized and no timeframe has been designated. The City will investigate with Hennepin County the feasibility of these possible changes.

C. Functional Classification Changes (planned or possible)

According to the 2030 HC-TSP, County Road 116 and County Road 117 through Corcoran could warrant a change in either their functional classification or funding designation. These roadway segments will be monitored and the City will communicate with Hennepin County and the Metropolitan Council regarding these possible changes.

The Metropolitan Council is in the process of changing the functional classification of TH 55 to a Principal Arterial. The City of Corcoran is in support of this change.

The NW Hennepin Study recommends changing the functional classification of additional routes as outlined below.

1. CR 116 (Southern NW Hennepin Study Area Boundary to CR 30)

CR 116 from the southern boundary of the NW Hennepin Study area to CR 116 has been upgraded from a "B" Minor Arterial to an "A" Minor Arterial Reliever. This route provides important north-south continuity within the area to more urbanized metro areas to the south. In addition, CR 116 is proposed to be extended as an overpass from Territorial Road to CSAH 13. This overpass will play a similar role to CR 117 in terms of providing local traffic circulation without congesting the busy interchange areas.

2. CR 117 (CSAH 19 to CR 116)

CR 117 is classified as a "B" Minor Arterial. This route helps provide east-west continuity in the area. This route provides connectivity into Wright County and through an extension to the east across I-94 will provide connectivity to CSAH 81 and industrial/commercial areas along CSAH 81. Therefore, this section of CR 117 is recommended to be classified as an "A" Minor Arterial Connector due to its connectivity, spacing from CSAH 30 and connection to other proposed north-south minor arterials, such as CR 116 and CSAH 101.

3. CSAH 30 Extension (CSAH 19 to the west study area boundary)

CSAH 30 is designated as an "A" Minor Arterial Connector from I-94 to CSAH 19. The future local system plan identified a continuation of this route to the west into Wright County. This route is anticipated to be the main east-west mobility corridor as it serves Corcoran, Hassan Township and traffic from Wright County through a future crossing of the Crow River. At I-94, CSAH 30 is planned to be realigned in the future to connect as the western leg of the I-94/TH 610 interchange. Due to the importance of this route as a mobility corridor, it is recommended by the study to be classified as an "A" Minor Arterial Expander.

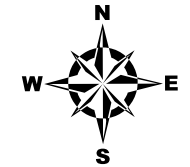
Figure 16 (page 116) shows the future 2030 functional classification of roadways.



City of CORCORAN

2030 Roadway Functional Classification

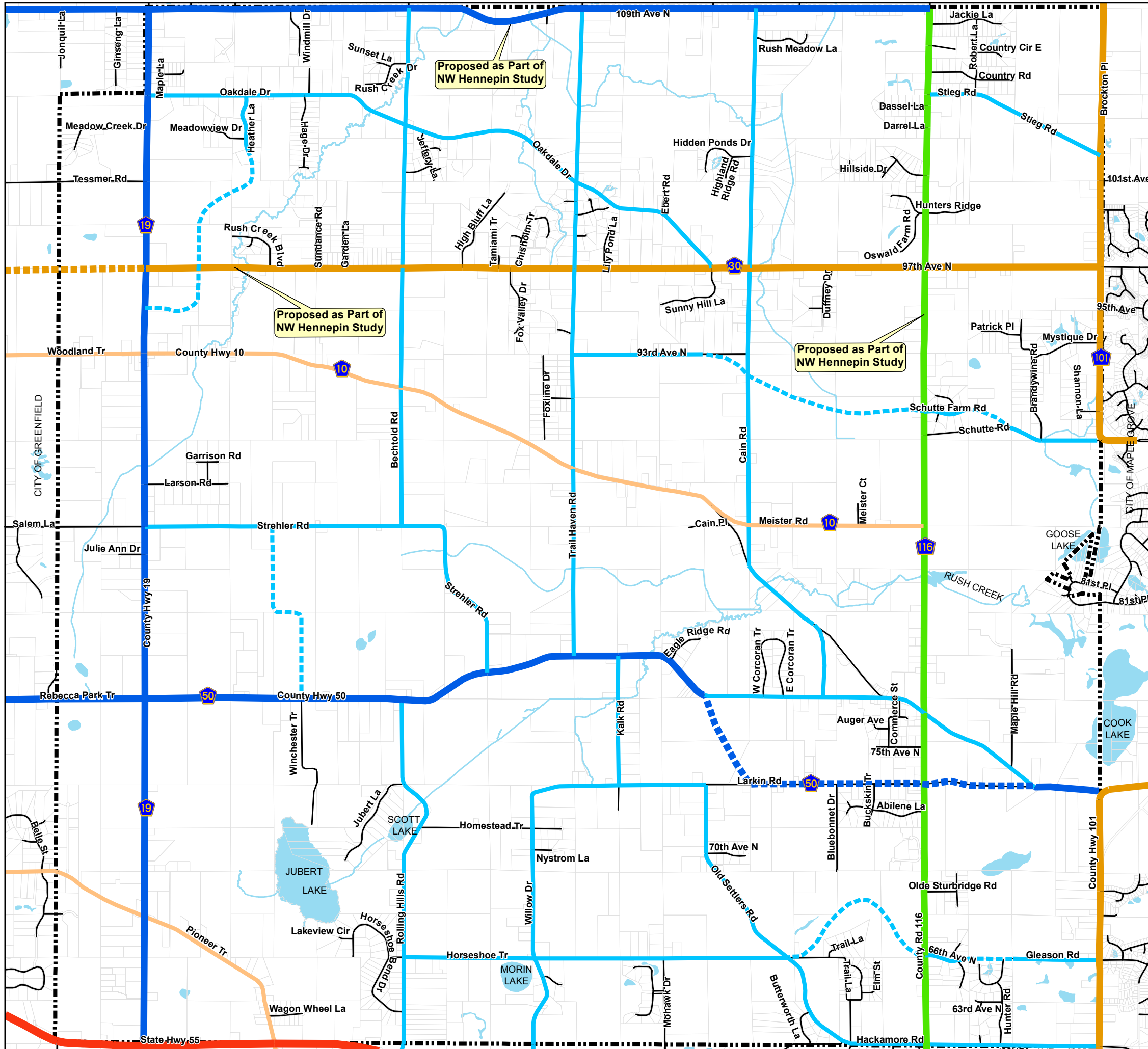
2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

2030 Roadway Functional Classification:

- █ Principal Arterial
- █ A Minor Reliever
- █ A Minor Expander
- █ Proposed A Minor Expander
- █ A Minor Connector
- █ Proposed A Minor Connector
- █ Major Collector
- █ Proposed Major Collector
- █ Minor Collector
- █ Proposed Minor Collector
- Local Street
- City Limit
- █ Open Water



November 18, 2009



D. Roadway Capacity Analysis

The projected future roadway network was again analyzed at a planning level using year 2030 volume projections. Improvements will be necessary to the existing roadway network to avoid future undesirable levels of service. The planning LOS results and roadway capacity deficiencies predicted for 2030 are shown in Appendix C, Figure 24 2030 Planning Level of Service (page 188) and Table 29, 2030 Planning LOS – Deficient Segments (page 191).

The 2030 HC-TSP identifies CSAH 116, CSAH 30, and CSAH 101 as having possible/probable congestion in 2030. As development occurs within the City, area roadways should be monitored to address congestion issues before they become significant.

Hennepin County has identified improvements that were used in their Base 2030 Roadway Network. This itemized list of improvements includes projects that are anticipated to be implemented by 2030 due to their inclusion in CIPs, the Transportation Improvement Plan (TIP) or some action that makes the improvement likely. Improvements identified by the County outside but affecting Corcoran are identified Appendix C, Tables 30 and 31, Hennepin County – Base 2030 Roadway Network Improvements.

VI. Public Transit System

Corcoran is outside of the Metropolitan Transit Taxing District. This means that there is no regular-route public transit service provided by the Metropolitan Council and Suburban Transit Providers. The City is in Metropolitan Transit Market Area IV and is in the area of potential transit service expansion. Service options for Market Area IV include Dial-a-Ride, volunteer driver programs, and ridesharing. There are no public transit facilities in the City of Corcoran. Public transit infrastructure options will be included in the City's land use and transportation planning process.

VII. Rail

There are no rail facilities within the City of Corcoran.

VIII. Aviation Facilities

There are no public aviation facilities in the City of Corcoran. However, the City is within the region's general airspace, which needs to be protected from potential obstructions to air navigation.

Under Minnesota Statutes 360, the State regulates the height of structures as they are defined and enforced under Aeronautics Rules and Regulations 8800.1200 Criteria for Determining Air Navigation Obstructions. Subparagraph 4(B) states:

Objects more than 200 feet above the ground or more than 200 feet above the established airport elevation, whichever gives the higher elevation, within three nautical miles of the nearest runway of an airport, and increasing in the proportion of the 100 feet for each additional nautical mile of distance from the airport but not exceeding 500 feet above ground", is a general obstruction.

Notification to MnDOT Aeronautics is required when any object, as defined, would affect general airspace. The City will include the following requirements with all applications:

Notification: Any applicant or property owner who proposes any construction or alteration that would exceed a height of 200 feet above ground level at the site, or any construction or alteration of greater height than an imaginary surface extending upward and outward at a slope of 100:1 from the nearest point of the nearest runway of a public airport, shall notify the Commissioner at least 30 days in advance. Local reporting is in addition to any Federal permitting/review process (FAA Form 7460-8) involving a sponsor/proposal.

Chapter 9

SANITARY SEWER

I. Introduction

The Metropolitan Land Planning Act (amended 1995) requires local governments to prepare comprehensive plans and submit them to the Metropolitan Council to determine their consistency with Metropolitan Council system plans. The local comprehensive plan is to include a sanitary sewer element covering the collection and disposal of wastewater generated by the community.

In March 2005 the Metropolitan Council adopted a revised 2030 Water Resources Management Policy Plan (WRMPP). The 2030 WRMPP includes the metropolitan wastewater system plan with which local comprehensive plans must conform. This sanitary sewer section will serve as both the sanitary sewer element of Corcoran's Comprehensive Plan and provide an update to the City's March 2005 Comprehensive Sanitary Sewer Plan (CSSP). The intent of this chapter is to demonstrate Corcoran's conformance with Metropolitan Council wastewater system planning, providing specific information needed to meet the 2030 WRMPP requirements.

Metropolitan Council Environmental Services (MCES) operates the Metropolitan Disposal System (MDS) that will ultimately provide wastewater service to the sewered portions of Corcoran. The MDS includes interceptor sewers, lift stations, forcemain, wastewater treatment plants and other features necessary for MCES to operate a regional wastewater collection and treatment system. Corcoran currently has no connections to the MDS. This section provides Corcoran's projections for sanitary sewer flow increases that Metropolitan Council can use for regional wastewater planning purposes, including whether capacity upgrades will be needed at the Metropolitan Wastewater Treatment Plant (WWTP). This update to Corcoran's 2005 CSSP is necessary to reflect land use and sewer service area changes within newly identified urban growth areas that have been identified since the City's 2002 Comprehensive Plan.

II. MCES Interceptor Connections

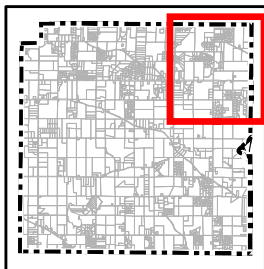
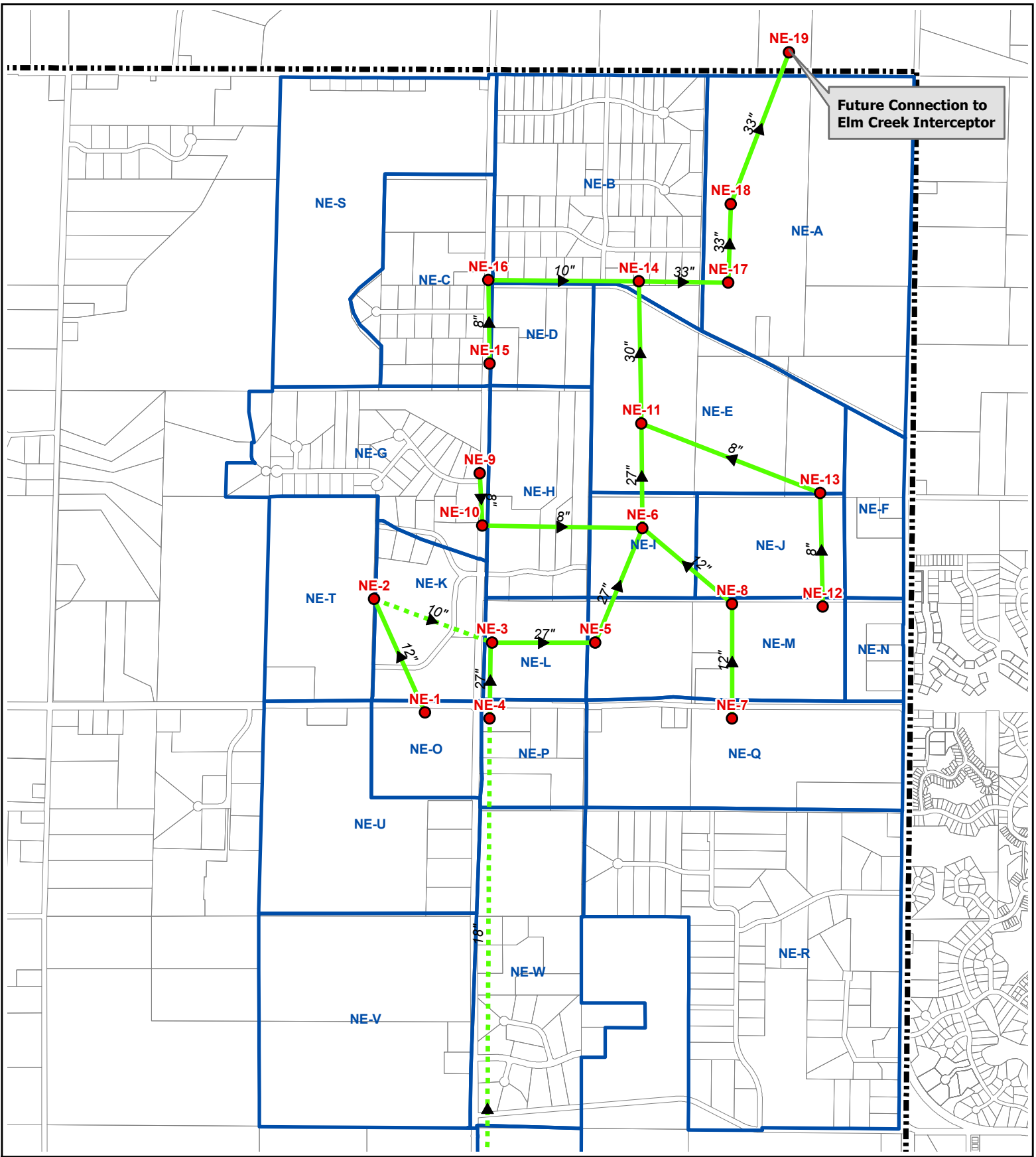
Corcoran does not currently own and operate trunk sanitary sewer facilities and has no existing connections to the MDS. Through 2030, MCES has identified three future connections to the MDS via the Elm Creek Interceptor. Corcoran's proposed service areas to each of the MDS connections are as follows:

- Southwest (SW) Corcoran Connection at Node SW-11 – this connection will serve SW Corcoran via a future lift station and existing trunk sanitary sewer through the City of Medina along Trunk Highway 55. Medina's trunk sanitary sewer system connects to the existing Medina Leg of the Elm Creek Interceptor in the northeast corner of Medina.
- Southeast (SE) Corcoran Connection at Node SE-22 – this connection will serve the east portion of SE Corcoran via a future connection to the South Corcoran

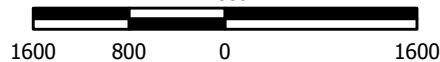
Extension of the Elm Creek Interceptor. The final segment of the South Corcoran Extension through Maple Grove is anticipated to be completed relatively soon.



- Northeast (NE) Corcoran Connection at Node NE-19 – this connection will serve NE Corcoran and the west portion of SE Corcoran via the future Hassan Leg of the Elm Creek Interceptor.

Corcoran's proposed trunk sanitary sewer system and the three proposed connection points to the MDS are identified on Figures 17-19 (pages 122-126). The facilities identified on these figures are designed to serve the City through the 2030 forecasts for growth shown in Table 16 (page 128), with the potential for expansion beyond as the City continues to grow and system capacity availability allows. Actual growth rates will affect only the timing of trunk sewer construction and not the design of the system.




 2030 Comprehensive Plan
Trunk Sanitary Sewer
NE Area
Figure 17
 Feet



- Sewer Node
- - - Forcemain
- Gravity Sewer
- - - MCES Interceptor
- Sewer Subdistricts
-  City Limit
-  Parcel Base Map

Trunk Sanitary Sewer

SE Area
Figure 18

- Sewer Node
- Forcemain
- Gravity Sewer
- MCES Interceptor
- Sewer Subdistricts
- City Limit
- Parcel Base Map

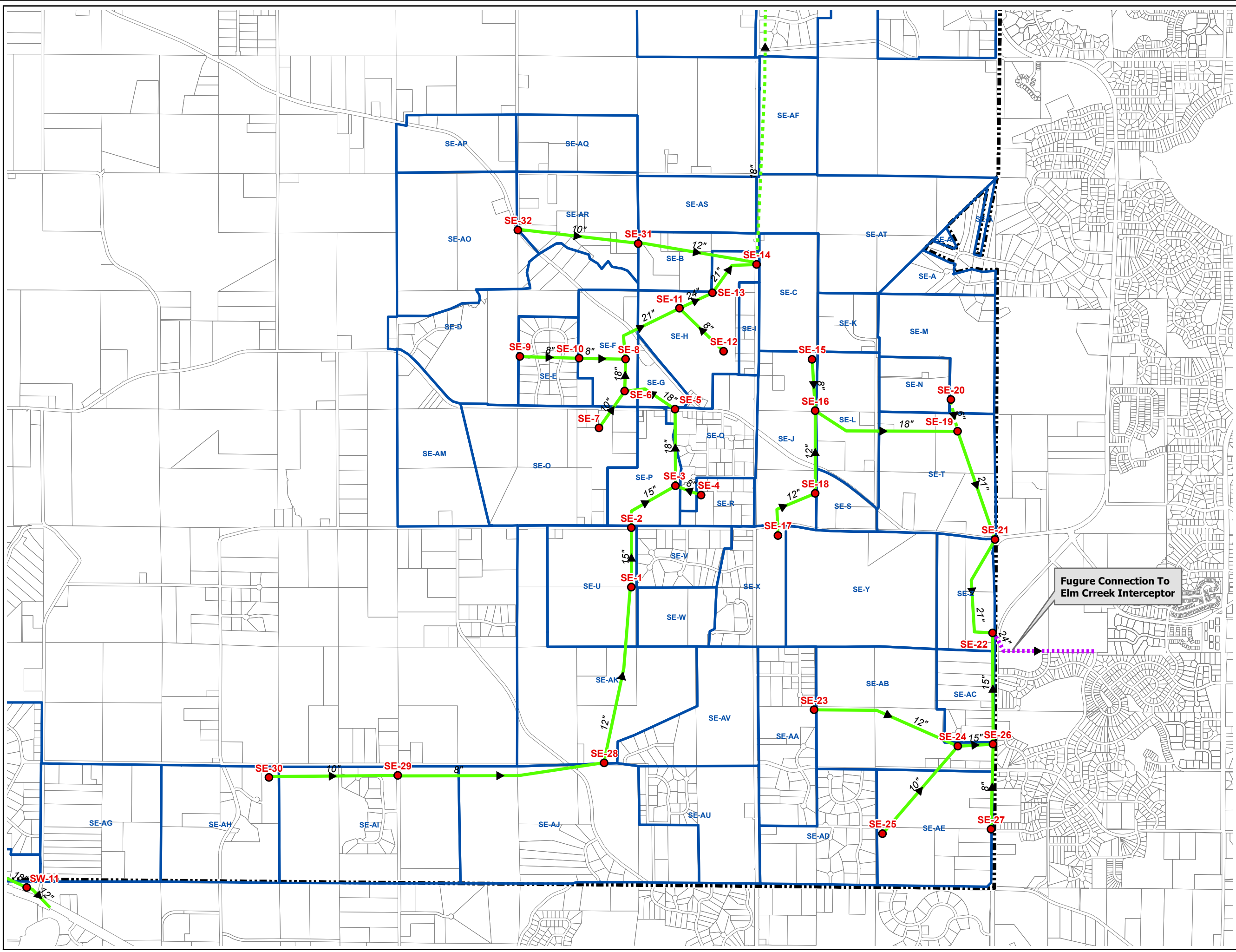
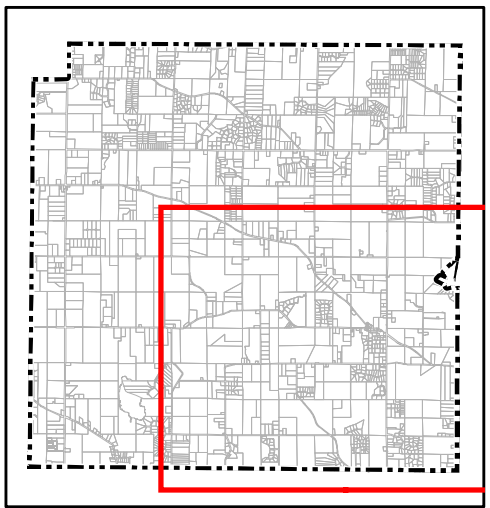
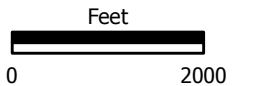
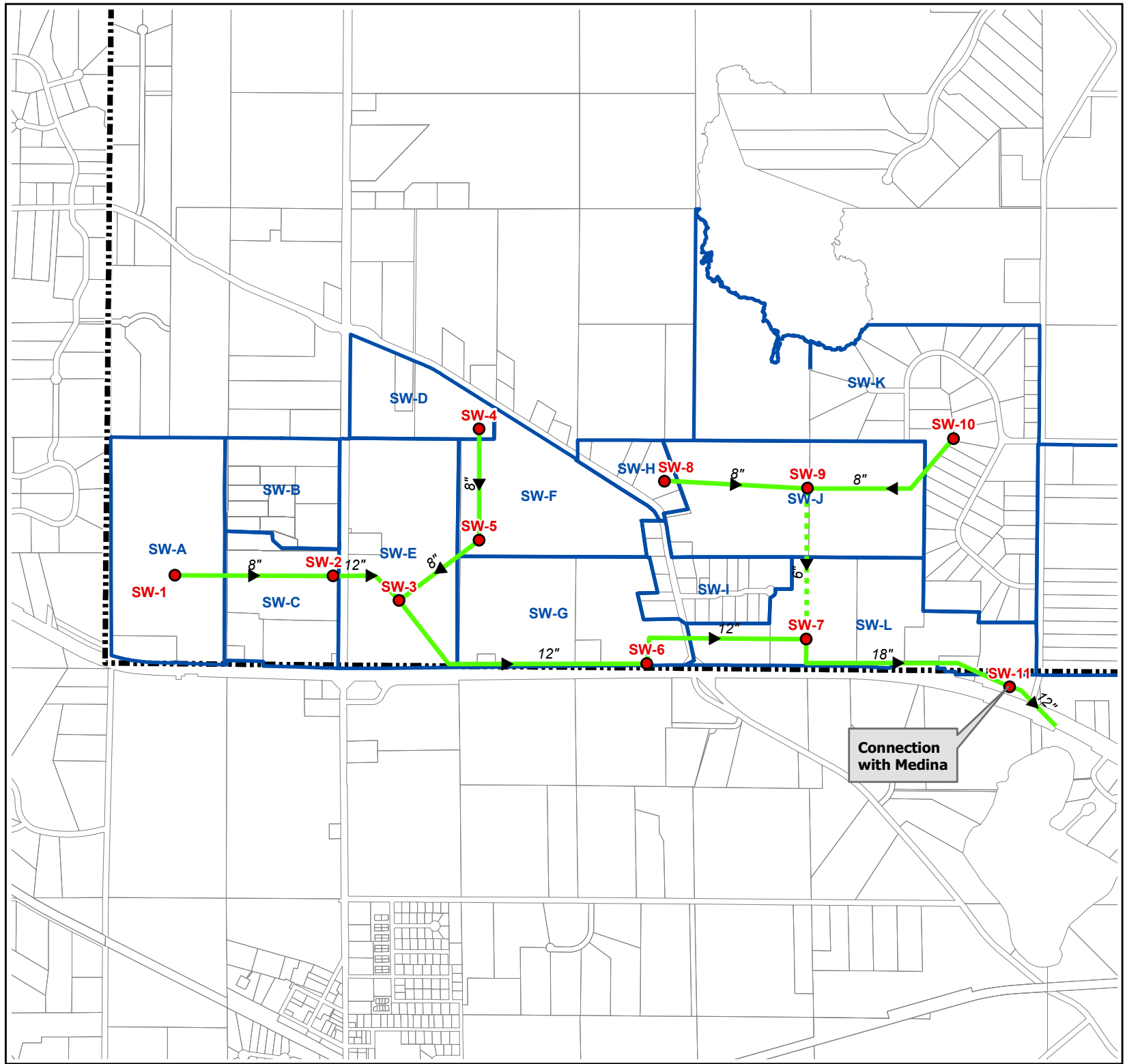


Figure Connection To Elm Creek Interceptor

Trunk Sanitary Sewer SW Area

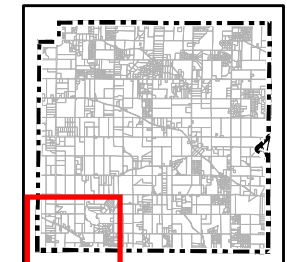
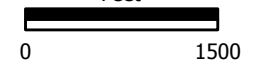
Figure 19



- Sewer Node
- ▶ Forcemain
- ▶ Gravity Sewer
- - -▶ MCES Interceptor
- Sewer Subdistricts
- City Limit
- Parcel Base Map



Feet



III. Forecasts

The Metropolitan Council requires municipalities to include adopted forecasts for population, households and employment in five-year increments to 2030. Table 16 presents the Metropolitan Council's forecasts for Corcoran. The forecasts in Table 17 have been negotiated with the Metropolitan Council (March 25, 2009) and differ from the forecasts provided in Corcoran's System Statement issued by the Metropolitan Council in September 2005.

TABLE 16: CITY-WIDE POPULATION, HOUSEHOLD, AND EMPLOYMENT FORECASTS

YEAR	TOTAL POPULATION	TOTAL HOUSEHOLDS	TOTAL EMPLOYMENT
2008	5,791	1,894	1,420
2010	5,800	1,900	1,500
2015 ¹	6,558	2,150	2,500
2020	8,600	2,900	3,500
2025 ¹	12,984	4,500	4,500
2030	17,600	6,100	5,500

¹Values Interpolated

Table 17 presents forecasts for sewered population, households and employees for the City of Corcoran. As in Table 16, the Corcoran sewered forecasts also differ from the forecasts provided in Corcoran's System Statement. The sewered population and household numbers in Table 17 have also recently been negotiated with the Metropolitan Council (April 14, 2009), while the sewered employment numbers were estimated by assuming all new post-2010 employment will be sewered. The assumed sewered employment numbers will need to be confirmed by the Metropolitan Council.

TABLE 17: SEWERED POPULATION, HOUSEHOLD AND EMPLOYMENT FORECASTS

YEAR	SEWERED POPULATION	SEWERED HOUSEHOLDS	SEWERED EMPLOYMENT
2008	0	0	0
2010	0	0	0
2015 ¹	2,288	750	1,000
2020	4,448	1,500	2,000
2025 ¹	9,666	3,350	3,000
2030	15,003	5,200	4,000

¹Values Interpolated

In addition to the forecasts in the preceding Tables 16 and 17, Metropolitan Council also requires cities to provide projected average wastewater flows in five-year increments through 2030. The Metropolitan Council uses these forecasts to plan all future interceptors and wastewater treatment work needed to provide adequate service.

Table 18 presents average wastewater flow projections for Corcoran, based on the forecasts provided in Table 17. The projected average sewer flows for Corcoran are based on an estimated 75 gallons per day per sewered resident and 25 gallons per day per sewered employee.

TABLE 18: AVERAGE WASTEWATER FLOW PROJECTIONS

YEAR	AVERAGE WASTEWATER FLOW PROJECTIONS (MGD)
2008	0.00
2010	0.00
2015	0.20
2020	0.38
2025	0.80
2030	1.23

Table 19 presents the average wastewater flow projections identified in Table 18, split by connection point to the MDS. The locations of these connection points are identified on Figures 17-19 (pages 122-126). The distribution of the average wastewater flow projections from Table 18 to each connection point in five-year increments is based on average wastewater flow distribution ratios developed from Corcoran's trunk sewer design model included in Appendices E-1 through E-4.

TABLE 19: AVERAGE WASTEWATER FLOW PROJECTIONS BY MDS CONNECTION

YEAR	SW CONNECTION (MGD)	SE CONNECTION (MGD)	NE CONNECTION (MGD)	TOTAL PROJECTED AVERAGE FLOW (MGD)
2008	0.00	0.00	0.00	0.00
2010	0.00	0.00	0.00	0.00
2015	0.03	0.09	0.07	0.20
2020	0.07	0.14	0.18	0.38
2025	0.12	0.26	0.41	0.80
2030	0.12	0.30	0.80	1.23

IV. Trunk Sanitary Sewer System Design

Land Use

Corcoran's 2030 Land Use Plan serves as the basis for the development of the City's trunk sanitary sewer system by estimating volumes of wastewater generated by each land use type. Detailed descriptions of the various land uses, including density ranges, can be found in the land use chapter. Appendix E presents Corcoran's 2030 land use information split by sewer subdistrict within the sewered portions of the City. Corcoran's sewer subdistrict boundaries can be found on Figures 17-19 (pages 122-126).

Estimated Average Wastewater Flows

Municipal wastewater is made up of a mixture of domestic sewage, commercial and industrial wastes, groundwater infiltration and surface water inflows. With proper design and construction, groundwater infiltration and surface water inflows, often called infiltration/inflow (I/I), can be minimized. However, while Corcoran intends to minimize I/I into the trunk system, to be conservative a small amount of I/I (reflecting estimated I/I contributions into a new trunk sanitary sewer system) is included in the analysis and design of Corcoran's trunk sewer system to provide an appropriate level of service to Corcoran.

To estimate average wastewater flows generated within the various sewer subdistricts, unit flow rates (in gallons per acre per day) are multiplied by the acreage for each land use category as identified in Appendix E. The unit flow rates for designing Corcoran's trunk system are presented in Table 20. Wetland, right-of-way and other undevelopable areas are assumed to not generate any sewer flow. The average wastewater flows for each sewer subdistrict are presented in Appendix E.

TABLE 20: SYSTEM DESIGN WASTEWATER UNIT FLOW RATES

Land Use Type	Unit Rate (Gallons/Acre/Day)
Ag Preserve	0
Business Park	1,000
Commercial	1,000
Existing Residential	270
Golf Course	50
High Density Residential	2,000
Light Industrial	1,000
Low Density Residential	750
Medium Density Residential	1,050
Mixed Residential	1,200
Mixed Use	1,500
Parks/Open Space	0
Public/Semi-Public	250
Rural/Ag Residential	0
Undevelopable	0

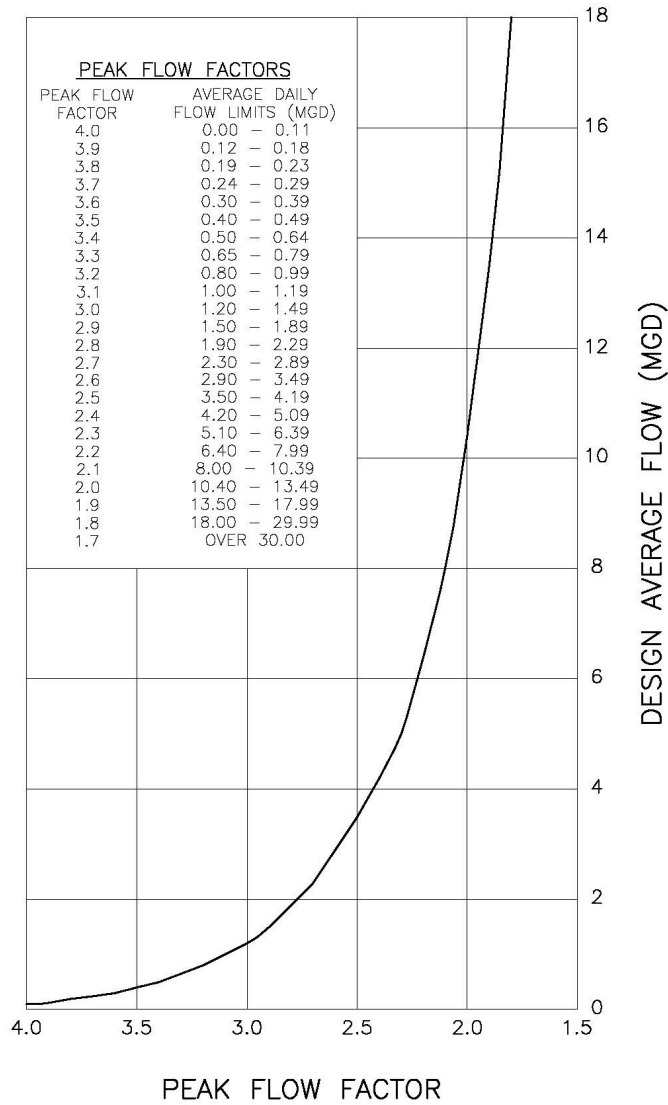
The calculation of average wastewater flow rates for use in Corcoran's trunk sanitary sewer design conservatively estimates wastewater generation at the municipal level so that no City trunk is undersized for its projected sewer subdistrict. The values in Table 20 reflect conservative unit rate assumptions, particularly for commercial and industrial land uses, that allow Corcoran's trunk system to accommodate higher sewage generating land uses, such as manufacturing, without being undersized. The conservative approach to estimating flows

allows the City to remain flexible in planning future development, allowing for localized development of higher intensity use, and protecting against potential sewer backups.

Design Flows

Corcoran's trunk sanitary sewer system must be capable of conveying the anticipated peak wastewater flow rate. The peak wastewater flow rate, or design flow, is calculated by multiplying the average flow rate by a variable peak flow multiplier, called the Peak Flow Factor (PFF). The PFF can generally be described as inversely proportional to the average flow rate.

The PFF values applied in this study are shown in the following graphic as a curve and in tabular form. These values are generally conservative and widely used throughout the State for municipal sewer planning. The PFF values include a standard allowance for I/I, which is typical of new sanitary sewer construction as well as properly operating existing sewers.



The first step in estimating Corcoran’s design flows involves designating each sewer subdistrict to drain to a specific sewer node, generally the nearest down-gradient sewer node, within Corcoran’s proposed trunk sanitary sewer system. To calculate the design flows in the system, the total average flow to each sewer node is multiplied by the appropriate PFF. The calculation of design flows for Corcoran is summarized in Appendix C. Figures 17-19 (pages 122-126) identify the sewer subdistricts and sewer nodes, as part of the larger trunk sewer system. For the purposes of this narrative, a sewer node is identified within trunk sewer system at the following locations:

- Upstream end of a trunk (generally considered 10” pipe and larger) sewer pipe
- Trunk sewer junction points
- Trunk sewer pipe size changes
- Lift stations

Trunk Sanitary Sewer System Sizing

Corcoran's trunk sanitary sewer system layout is identified on Figures 17-19 (pages 122-126). Sizing Corcoran's trunk sewer system is based on a number of parameters, including system design flows, trunk sewer length and trunk sewer grade.

Based on the trunk system layout on Figures 17-19 (pages 122-126), the trunk sewer length between sewer nodes is determined. The trunk sewer grade is determined based on the minimum sewer depth at each sewer node necessary to provide service to the contributing sewer subdistrict(s). The design flows calculated in Appendix E-3 indicate the minimum conveyance capacity that must be provided in the trunk sanitary sewer system between two given sewer nodes. With all these design parameters in place, the trunk sewer pipe diameter between two sewer nodes is calculated. Corcoran's trunk sanitary sewer system design calculations are presented in Appendix E-4. The system design presented in this Comprehensive Plan supersedes the trunk sanitary sewer system design information presented in Corcoran's 2005 CSSP.

The wastewater flow projections in this chapter, when combined with the sewer map (Figure 17, page 122) and modeling information contained in Appendices E-1 through E-4, provide Metropolitan Council with Corcoran's wastewater generation and trunk sewer design information as required in the 2008 WRMP.

V. Infiltration and Inflow

The Metropolitan Council has recently instituted its Inflow/Infiltration (I/I) Surcharge Program. The fundamental policy statement summarizing this program is that Metropolitan Council "will not provide additional capacity within its interceptor system to serve excessive inflow and infiltration." Metropolitan Council establishes inflow and infiltration thresholds for each of the communities that use the MDS. Communities that exceed this threshold are required to eliminate this excess flow within a reasonable timeframe. Corcoran is not currently connected to the MDS; therefore, the Metropolitan Council has not identified Corcoran as a community with observed excess I/I."

As Corcoran looks forward to connecting to the MDS, a primary wastewater system goal of Corcoran and Metropolitan Council is the limitation of clear water inflow into wastewater collection systems. The I/I goal established by Metropolitan Council in Corcoran's System Statement is the allowable peak hourly flow rates derived from the average wastewater flow projections presented in Table 19 (page 129). The allowable peak hourly flow rates include both peak system design flows and a flow contribution due to I/I. Based on the guidance provided by Metropolitan Council, Corcoran's I/I goal is presented in Table 21 (page 134).

TABLE 21: INFILTRATION AND INFLOW GOAL

YEAR	ALLOWABLE PEAK HOURLY FLOW RATE PROJECTIONS¹ (MGD)
2010	0.00
2015	0.76
2020	1.37
2025	2.56
2030	3.69

¹Projections include both system design flow and I/I flow components

The allowable peak hourly flow rate projections presented in Table 21 are not allotments and can be modified by Corcoran through its regular Comprehensive Plan Update or Comprehensive Plan Amendments. It should be noted that the peak flow rates provided in Appendices E-3 and E-4 do not represent actual metered peak flows and therefore should not be confused with the City's I/I goal in Table 21. Metropolitan Council will determine compliance with the City's I/I goal based on actual metered flow data at each connection to the MDS.

To limit the amount of I/I into Corcoran's future trunk sanitary sewer system, the City will identify as an implementation measure the development of an ordinance prohibiting connections, including surface water and sump pump connections, to the trunk sanitary sewer system.

VI. Individual Sewage Treatment Systems

Corcoran's 2005 CSSP includes a section (Section 9) titled "On-site Wastewater Disposal Facilities" that outlines the City's program for Individual Sewage Treatment Systems (ISTS) in Corcoran. Section 9 of the 2005 CSSP is incorporated by reference into this Chapter of Corcoran's Comprehensive Plan. The following items are identified in Section 9 of Corcoran's 2005 CSSP:

- Discussion of the City's policies regarding how ISTS within both the future urban service areas and the unsewered portions of the City will be regulated
- A map of the existing ISTS in Corcoran. There are an estimated total of 1,952 ISTS in Corcoran.
- City Code (Section 50) regulating the installation, inspection, and maintenance of ISTS in Corcoran
- A description of Corcoran's role in managing ISTS for compliance with Minnesota Pollution Control Agency (MPCA) Rule 7080

In 2006 the City transferred the responsibility of tracking the operation, maintenance and enforcement of ISTS in Corcoran to Hennepin County. Section 50 of the City Code, which addressed Individual Sewage Treatment Systems, was repealed in 2007.

Hennepin County addresses non-conforming ISTS or ISTS with known problems through their permitting program, either when an ISTS is being repaired or upon transfer of property ownership. Hennepin County also responds to complaints about the performance of specific ISTS.

VII. Intercommunity Flow Connections

Corcoran currently has no intercommunity flow connections to neighboring municipalities. One future intercommunity flow connection with Medina is anticipated in SW Corcoran. According to the average and peak wastewater flows presented in Appendices E-3 and E-4, Corcoran estimates a 2030 average flow of 0.54 MGD and peak flow of 1.84 MGD into Medina.

Medina and Corcoran began drafting an intercommunity agreement in 2008 related to joint use of sewer and water extensions along TH 55. When development in SW Corcoran requiring trunk sanitary sewer service begins to move forward, Corcoran and Medina will finalize the agreement and submit it to Metropolitan Council.

VIII. Centralized Wastewater Treatment Systems

Corcoran has a current ordinance regulating the siting, maintenance and monitoring of centralized wastewater treatment systems. Section 940 of the Corcoran Code requires that proposed centralized wastewater treatment systems be compliant with MPCA standards, comply with all City requirements, and have no adverse impact on the environment or neighboring properties. Corcoran Code also requires that a management plan identifying an annual schedule for maintenance, inspection and monitoring of the centralized wastewater treatment system be provided to the City for approval. Section 940.040, Subd. 1.D of Corcoran Code regulating centralized wastewater treatment systems is provided in Appendix F for reference. Currently, there is one centralized wastewater treatment system in Corcoran within the manufactured home park, Maple Hill Estates.

IX. Implementation

Corcoran will implement the following measures:

- Within six months of Metropolitan Council approval of this Comprehensive Plan, Corcoran will review and update Section 50 in City Code to be consistent with the City's current ISTS responsibilities.
- Within six months of Metropolitan Council approval of this Comprehensive Plan, Corcoran will develop an ordinance prohibiting connections, including surface water and sump pump connections, to the trunk sanitary sewer system.
- When development in SW Corcoran requiring trunk sanitary sewer service begins to move forward, Corcoran and Medina will finalize an intercommunity flow agreement and submit it to Metropolitan Council.

Chapter 10

WATER SUPPLY

I. Introduction

The Metropolitan Land Planning Act (amended 1995) requires local governments to prepare comprehensive plans and submit them to the Metropolitan Council to determine their consistency with metropolitan system plans. One element of these plans must address municipal water systems. Minnesota Statute 473.859 requires Water Supply Plans (also referred to as Water Emergency and Conservation Plans) to be completed for all local units of government in the seven-county Metropolitan Area as part of the local comprehensive planning process. Additionally, Minnesota Statute 103G.291 requires all public water suppliers that serve more than 1,000 people to have a Water Supply Plan approved by the Minnesota Department of Natural Resources (DNR). An approved Water Supply Plan is also a requirement to obtain a Water Appropriations Permit Amendment from the DNR.

The Water Supply Plan consists of four parts:

- Water supply system description and evaluation
- Emergency response procedures
- Conservation plan
- Metropolitan Land Planning Act requirements

The City of Corcoran does not have a municipal water system at this time, but the City intends to develop a municipal water system as portions of the City develop. In 2005 Corcoran prepared a Concept Utility Report, which provided a conceptual framework for expansion of the City's water system. The purpose of this chapter is to summarize planning efforts and update the 2005 Concept Utility Report to be consistent with the 2030 Comprehensive Plan Update.

II. Water Supply System

The City of Corcoran currently does not operate a water system; therefore, no historical water use data is available. Residents of Corcoran meet water demand through private water wells. As development occurs in the City of Corcoran, a municipal water system will be developed in portions of the City designated for municipal services. The City of Corcoran has begun to develop a conceptual water system plan to guide the creation and expansion of a municipal water supply, storage and distribution system for City residents.

Water Demands

Future water demands are determined based on served population projections and typical per capita water demand. The City of Corcoran's current population of approximately

5,800 meets water demands through private wells and therefore no existing municipal water demand exists. As development occurs between 2010 and 2030, water demand will increase proportionally. It is assumed the portion of sewered households would directly relate to the portion of the population served by the future municipal water system.

To determine future water demand, typical total per capita water use in the metro area is applied to the projected served population. The maximum day total per capita demand (of 350 gpcd is used to determine the size of the conceptual water system. The total per capita water demand includes water uses for residential, commercial, public and industrial water demands. The average day total per capita demand used is 150 gpcd. Projected water demands for the next ten years, 2020 and 2030 is included in Table 22 below.

TABLE 22: CITY OF CORCORAN POPULATION AND WATER DEMAND PROJECTIONS

YEAR	TOTAL POPULATION	SERVED POPULATION	AVERAGE DAY DEMAND	MAXIMUM DAY DEMAND	PROJECTED DEMAND
2008	5,791	0	-	-	-
2009	5,791	0	-	-	-
2010	5,800	0	-	-	-
2011	5,948	458	0.07 MGD	0.16 MGD	25 MGY
2012	6,100	915	0.14 MGD	0.32 MGD	50 MGY
2013	6,253	1,373	0.21 MGD	0.48 MGD	75 MGY
2014	6,405	1,830	0.27 MGD	0.64 MGD	100 MGY
2015	6,558	2,288	0.34 MGD	0.80 MGD	125 MGY
2016	7,015	3,050	0.46 MGD	1.07 MGD	167 MGY
2017	7,473	3,813	0.57 MGD	1.33 MGD	209 MGY
2018	7,930	4,423	0.66 MGD	1.55 MGD	242 MGY
2020	8,600	4,448	0.67 MGD	1.56 MGD	244 MGY
2030	17,600	15,003	2.25 MGD	5.25 MGD	821 MGY

Notes:

- Served population calculated from Metropolitan Council served households projections.
- City of Corcoran water demand calculated based on an average day total per capita demand of 150 gpcd and maximum day total per capita demand of 350 gpcd.

For the vast majority of metro area communities, the ideal combination of supply and storage is found when the supply equals 100 percent of the maximum day demand. The amount of storage required was determined based on a typical time of day demand curve and typical required fire flow storage. A total of approximately 30 percent of maximum day demand is required for storage. This is consistent with the recommendations in both *Recommended Standards for Water Works* by Great Lakes Upper Mississippi River Board,

and American Water Works Manual of Practice M32 - *Distribution Network for Water Utilities*.

Conceptual Future Water Supply System

To serve future development in the City of Corcoran, a municipal water system will be developed to meet projected maximum day water demands of 5.25 MGD by 2030. The conceptual water system must consist of water supply to meet maximum day demands, water storage to meet peak hour demands and emergency storage needs, and a network of trunk and lateral water mains to deliver the water. To meet the City of Corcoran's core principal of providing quality potable water, treatment of groundwater may be required in addition to disinfection but was not detailed in this conceptual water system. Supply and storage requirements are detailed in Table 23 below.

TABLE 23: CONCEPTUAL 2030 WATER SYSTEM SUPPLY AND STORAGE REQUIREMENTS

MAXIMUM DAY DEMAND	TOTAL WATER SUPPLY	TOTAL WATER STORAGE
5.25 MGD	3,650 gpm	1.5 MG

In the initial stages of development, the City of Corcoran will likely supply water from neighboring communities. Supply connections to the cities of Maple Grove and Medina can supply water to residents until such time that Corcoran develops its own water supply. Initial water service to development in the southwest portion of the City of Corcoran is expected to be through connections to the City of Medina. Initial water service to development in the eastern portion of Corcoran should be made through connections to the City of Maple Grove. Water system pressures in the future City water system will be dependent on the neighboring communities' hydraulic grade and may not provide ideal water system pressures to all residents. As the City of Corcoran water system develops, groundwater well pumps and elevated storage will be designed to provide ideal water systems to all customers.

To serve the 2030 population, the City of Corcoran will need to supply 3,650 gpm, which will require 15 groundwater wells (one standby well) with an assumed capacity of 400 gpm. Additional information on well capacity potential is included later in this chapter. Elevated storage of approximately 1.5 MG is required. The draft trunk water system figure (Figure 20 - Draft Trunk Water System, page 140) identifies areas for potential development of groundwater wells and several elevated water storage tank locations. A network of trunk water mains is laid out to serve City growth. The conceptual water system illustrated also identifies potential locations for supply connections. Once the City of Corcoran is able to supply water demand from municipal wells, the supply interconnections will be maintained as emergency interconnections.

The estimated capacity of groundwater wells in the City of Corcoran needs to be verified through geological studies. The City will conduct a well exploration program to identify capacity and location of future wells. Future groundwater wells will require disinfection,

and groundwater testing will be conducted to determine if additional water treatment is needed. The location of wells will help the City to lay out trunk water mains and locate potential elevated water storage tank locations. As the municipal water system develops, decisions will be made that reflect the core principles, sound engineering and fiscal feasibility to serve the residents of the City of Corcoran.

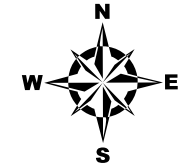
Capital Improvements Plan

The City of Corcoran has not developed a capital improvements plan for the conceptual water system at this time. The City has not established the amount of supply available from neighboring communities. As agreements are reached with the cities of Maple Grove and Medina, the City of Corcoran will begin developing a capital improvements plan to include construction of groundwater wells. Future capital improvements will include groundwater supply wells, elevated storage and trunk water mains.

The City will meet water demands through municipal groundwater wells and cooperation with neighboring communities through interconnections. The City of Corcoran will develop preventive maintenance plans as water system infrastructure is constructed.

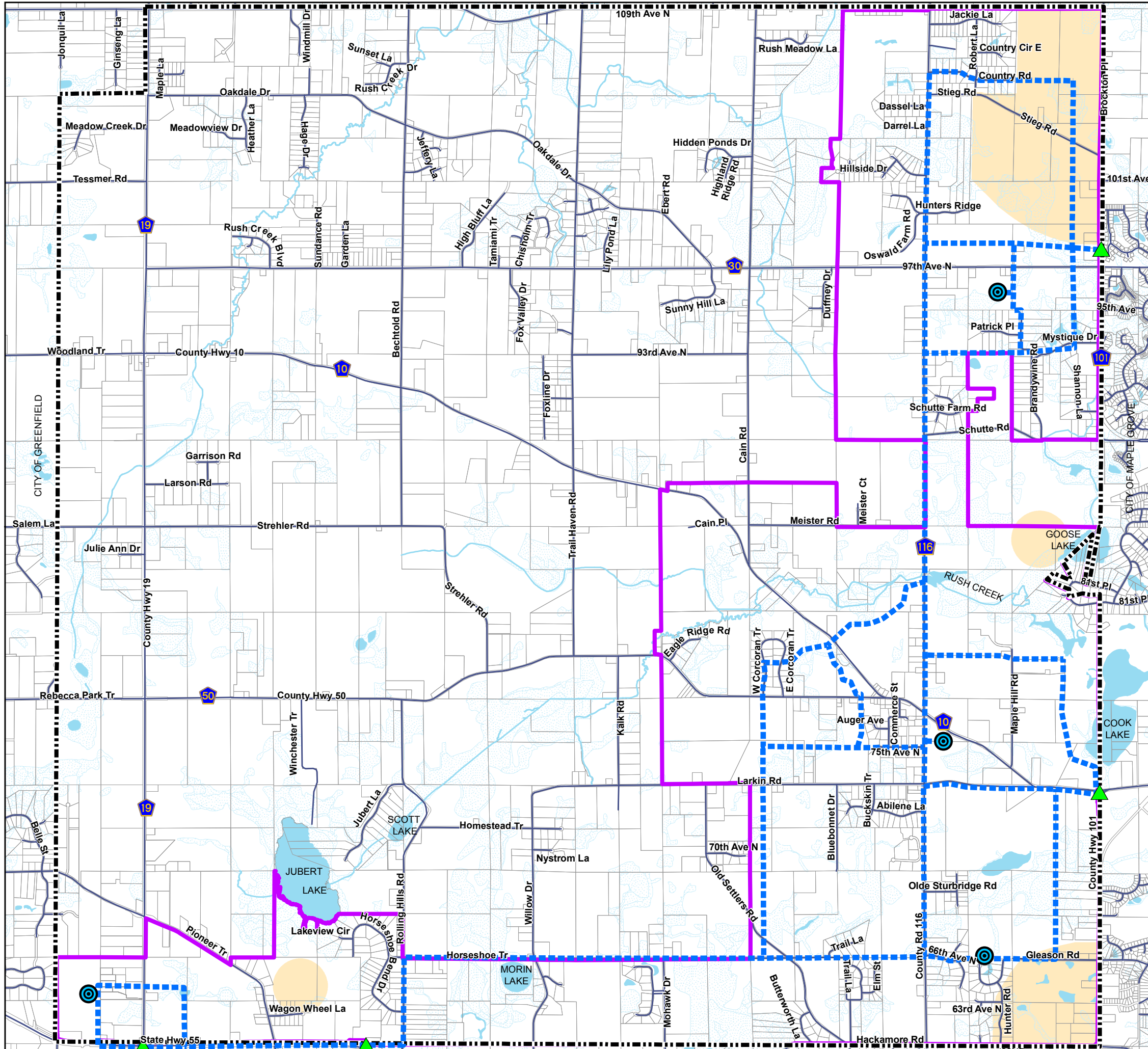


Trunk Water System 2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

- Potential Water Tower Locations
- Potential Supply Connections with Neighboring Communities
- Future Trunk Watermain
- Future Well Exploration Areas
- 2030 Service Boundary
- City Limit
- Open Water
- Wetlands



III. Resource Sustainability

The City of Corcoran is committed to a sustainable water supply meeting the public demand without unacceptable social, economic, or environmental consequences. All municipal groundwater wells will contain continuous monitoring of groundwater levels to allow the City to investigate well interference and potential natural resource impacts. The following sections detail potential natural resource impacts, groundwater sustainability, and source water protection.

Natural Resource Impacts

The Metropolitan Council's draft Master Water Supply Plan (as of March 2009) did not identify any groundwater-dependent trout streams or calcareous fens in Northern Hennepin County. Specifically, the City of Corcoran has very few identified groundwater-dependent natural resources that could possibly be impacted by increased groundwater withdrawals, other than a few lakes in southern Corcoran that are connected with groundwater and areas of wetlands in northern Corcoran. Lakes shown in the Metropolitan Council's report include Jubert Lake, Morin Lake and Scott Lake.

A figure in the Metropolitan Council draft Master Water Supply Plan showing a high potential for groundwater-surface water interaction identified a small area in north-central Corcoran that might be impacted by groundwater withdrawals. The area includes wetlands located in the north-central and northeast area of Corcoran, between CSAH 30 and the northern corporate boundary. A computer groundwater model developed by the Metropolitan Council for their draft metro-wide Water Supply Plan indicated that greater than 8 feet of water level decrease may occur in the water table aquifers connected to these wetlands by the year 2030; assuming municipal well development takes place nearby. However, the report also identified Corcoran as an area where a greater amount of data is needed to quantify surface water quantity and possible impacts from aquifer pumping. Additionally, the likelihood of impacts on these wetlands will depend greatly on the placement of Corcoran's future municipal water supply wells and which aquifer(s) are ultimately utilized. If the aquifer(s) utilized show some hydraulic separation from the water table aquifer, then actual impacts to surface water features may be less than predicted.

Sustainability

Initially, it is expected that Corcoran will receive water through interconnections with Maple Grove and Medina. The greater demand placed on these water supply systems may impact the sustainability of the aquifer resources within these communities. Any such impacts should be addressed in the water supply plans for those communities.

As growth continues, Corcoran expects to develop its own municipal water supply wells to meet projected future demands. Any future municipal water supply wells for the City of Corcoran would likely utilize the Franconia-Ironton-Galesville (FIG) aquifer as the primary source of water supply. Since the FIG aquifer can be highly variable in the Twin Cities area regarding sustainability factors of recharge, storage, transmissivity and specific capacity, an accurate estimate of overall sustainability cannot be determined until the City studies the potential yield of this aquifer in greater detail. Yields from the FIG aquifer can typically range between 200 – 1,000 gpm in the northern metro area.

In addition to the FIG aquifer, it is also possible the overlying drift aquifer may be utilized for large capacity water supply wells if a sufficient thickness of coarse-grained, saturated sediments is located during a well siting study. Excellent drift aquifer deposits can produce yields greater than 1,000 gpm per well, when present. However, drift deposits tend to vary greatly over short distances, so the extent of good deposits can sometimes be limited to a small area.

Underlying the FIG aquifer is the Mt. Simon sandstone aquifer, which is generally capable of supplying wells with yields ranging from 500 – 1,000 gpm. However, since recharge to this aquifer is somewhat limited, and over-pumping the aquifer can create an unsustainable condition where water levels do not stabilize over time, the Minnesota DNR has greatly limited the number of new high-capacity Mt. Simon wells in the seven-county metro area. It is unlikely that Corcoran would be allowed to develop their municipal wells in the Mt. Simon aquifer unless it can be demonstrated that all other viable options for water supply have been exhausted.

Because the yield of the FIG and drift aquifers in the Corcoran area is not well known at this time, the draft Metropolitan Council Water Supply Plan identified Corcoran as having an “uncertain” availability of water supply to meet the projected demands for 2030 and 2050. Further study will be required to better quantify the availability of groundwater for future municipal water supply wells. Studies will likely be a combination of investigation of existing well logs and geologic data in the area, along with a program of test drilling and test pumping at the sites thought to be most suitable for well exploration. A preliminary analysis of available aquifers indicated that the southwest corner of Corcoran offers the highest probability of locating aquifers suitable for a water supply system, both in terms of potential aquifer yield and proximity to a planned distribution system. Further study will likely be needed, however, to better pinpoint suitable locations for test drilling.

The Metropolitan Council’s metro-wide model indicates that drawdown of the FIG aquifer (from present conditions) in the Corcoran area could reach 20 – 30 feet by the year 2030, with even greater drawdown predicted by 2050. However, the model does not predict head loss within the aquifer will exceed 50 percent of the available head by 2050. As a preliminary analysis, this would indicate that pumping from the FIG aquifer can be sustainable if actual conditions are close to the modeled conditions. As Corcoran develops its water supply system, collection of aquifer water levels over time will be the best indicator whether aquifer usage is resulting in a sustainable condition or whether head loss in the aquifer is exceeding the ability of the aquifer to be naturally recharged.

Finally, since existing homes in Corcoran are served by private wells, the drilling and pumping of high capacity municipal wells introduces an uncertainty regarding possible interference between wells. While it is expected that some of the area private wells will be abandoned and existing homes connected to the municipal water supply system, a number of private wells can also be expected to remain in the area as development occurs. Depending on which aquifer these private wells utilize, drawdown impacts from the municipal wells could result in water levels in the private wells dropping below the current pump elevation. If this occurs, the City may be held responsible for lowering the current pump settings of these wells (if conditions will allow), replacing the private wells with deeper wells or supplying the affected residences with an alternative water supply. As potential yields and sustainability of the drift and FIG aquifer are examined in coming years, potential impacts to private wells will need to be studied more closely. Any

pumping tests in these aquifers should include measurement of water levels in nearby private wells, if possible, to quantify the impacts of well interference.

Source Water Protection Plan

Since Corcoran currently does not have municipal water supply wells, the City has not yet been required to complete a wellhead protection plan. When the City begins to receive water supply through interconnections with Maple Grove and Medina, the wellhead protection plans that those communities have developed (or will develop) will cover that source of Corcoran's water supply. Only after Corcoran drills its own municipal water supply wells will the City will be required to develop its own wellhead protection plan. Generally, the City will have a minimum of two years from the date a new well goes online to complete the associated wellhead protection plan. The plan must then be updated a minimum of every 10 years or whenever a new well is added to the water supply system, whichever comes first.

Assuming no sources of surface water will be utilized as a municipal drinking water resource, no surface water protection plan is required for the City of Corcoran.

IV. Emergency Response Procedures

The City of Corcoran will develop emergency response procedures and complete required emergency plans when the water system is developed. The City will prepare a water system vulnerability assessment and emergency response plan in accordance with the Safe Drinking Water Act, as modified by the Bioterrorism Preparedness and Response Act of 2002. These documents will identify contacts for emergency situations, describe emergency response procedures, describe water sources and service areas and provide procedures for augmenting water supplies in the event of an emergency.

Priority water use will need to be established based on Minnesota Statute 103G.261 to allocate water during periods of limited supplies. Water use will be rationed based on water use priorities established by the City of Corcoran in accordance with the State statute. Triggers will be determined for implementing demand reduction procedures in the event of a water system emergency. The triggers and water use priorities will be regularly reviewed and adjusted as development occurs. The City will develop ordinances to provide authority to implement emergency response without delay and notification procedures to inform customers effectively and quickly.

V. Water Conservation Plan

The City of Corcoran understands conserving water can be a cost-effective way to reduce the need to construct and operate additional water supply facilities. The City will implement water conservation programs to reduce demand for water, improve efficiency of use and reduce loss and waste of water. Water conservation goals for the City will include the following:

- Reduce residential and total per capita water use as development continues
- Reduce peak water demands

The City will develop a water conservation plan to detail each of the conservation goals and how the water system compares to “benchmark” metrics for each of the goals. Potential conservation programs the City will review include:

- Metering all water usage and implementing regular meter testing
- Conducting water audits to calculate unaccounted for water use
- Establishing conservation oriented water rates for City customers
- Regulating and enforcing Federal, State, and local water regulations
- Supplying educational materials through various means to inform City residents
- Conducting regular reviews of the effectiveness of developed conservation programs

VI. Water System Goals and Policies

Corcoran is committed to developing a sustainable infrastructure system. A sustainable water supply meets the public demand and requires the responsible use of water now and in the future, without unacceptable social, economic, or environmental consequences. The City of Corcoran’s core principles include:

- Provide quality potable water
- Promote water conservation
- Provide preventive maintenance
- Recognize the value of water
- Plan for land use
- Prevent aquifer depletion
- Prevent drawing contaminants into groundwater wells

Chapter 11

SURFACE WATER MANAGEMENT

I. Introduction

The intent of this Surface Water Management Chapter is to summarize relevant portions of Corcoran's Local Surface Water Management Plan (LSWMP) as part of the City's overall Comprehensive Plan. Corcoran's LSWMP serves as a comprehensive planning document to guide the City of Corcoran in conserving, protecting and managing its surface water resources. Corcoran developed its LSWMP in conjunction with its Comprehensive Plan Update; however, the LSWMP is a separate document. Only the highlights of the LSWMP are summarized in this Comprehensive Plan document.

Corcoran's LSWMP has been prepared to meet the requirements detailed in Minnesota Statutes 103B and Minnesota Rules 8410, administered by the Minnesota Board of Water and Soil Resources. The LSWMP also seeks consistency with the stormwater management standards of the Elm Creek Watershed Management Commission (ECWMC), which is the only watershed management organization having jurisdiction in Corcoran; and with the requirements and guidance provided in the Metropolitan Council's 2030 Water Resources Management Policy Plan (WRMPP).

II. Local Surface Water Management Plan Content

Minnesota Rules Chapter 8410 requires that Local Surface Water Management Plans address specific items. Metropolitan Council expands upon this required content in the 2030 WRMPP. The structure of Corcoran's LSWMP meets the requirements outlined in Chapter 8410 and is consistent with the Metropolitan Council's 2030 WRMPP. To aid in the review of this section of the City's Comprehensive Plan and more specifically the LSWMP from which this section derives, the following table (Table 24) identifies the section of the LSWMP where each of Metropolitan Council requirements found in Appendix B-2 (b) of the 2030 WRMPP are addressed. The WRMPP standards comparison table (Table 24) is displayed on pages 147-148.

TABLE 24: WRMPP STANDARDS COMPARISON

WRMPP Requirements	Location in Corcoran LSWMP
1. Purpose of plan	Section 1.1
2. Water resource management related agreements	Section 5
3. Executive summary	Executive Summary
4. Land and water resources inventory	Section 2
5. Establishment of policies and goals	Section 7
A. All communities need a strong policy statement to show that they are committed to a goal of no adverse impact (nondegradation) for area water resources.	Sections 7.2.3 (Policy 20) and 7.3
B. All communities need goals for their lakes consistent with Watershed Management Organization (WMO) plan goals.	Section 7.3.3 (Policy 38)
C. The Council's 2030 Regional Development Framework...	
i. Adopting erosion and sediment control ordinances that are consistent with NPDES Construction Stormwater permit and MS4 permit requirements.	Section 7.2.5 (Policies 25 and 26)
ii. Preparing wetland management plans.	Section 7.3.2 (Policy 34)
iii. Adopting ordinances that control peak runoff.	Sections 7.2.1 (Policy 1-2) and 8.7 (Table 8.3-Activity #13)
iv. Adopting best management practices for development that will result in TSS and TP reductions of 80% and 50% respectively.	Section 7.2.3 (Policy 15)
v. Adopting best management practices for redevelopment that will result in TSS and TP reductions.	Section 7.2.3 (Policies 14 and 15)
vi. Including funding mechanisms that support implementation and enforcement.	Section 7.5.4 (Policies 62 and 63)
D. Developing and developed communities that are a Phase I or Phase II NPDES MS4 permit community need to integrate their Stormwater Pollution Prevention Plan (SWPPP) policies and goals into their Local Water Management Plan (LWMP), in accordance with MPCA requirements and schedules.	Various Policies in Section 7
E. Developed and developing communities listed as nondegradation...	NA
F. Rural planning area communities...	NA
6. Assessment of problems and corrective actions for problems identified	
A. All communities need to assess the water quality and quantity related problems in their community, prioritize the problems and include actions to adequately solve the problems that were identified.	Section 6
B. All communities must acknowledge and list any impaired waters within their jurisdiction as shown on the current MPCA 303d Impaired Waters list. A community that discharges water to an impaired waterbody within or adjacent to the community, needs to explain how and if it intends to be involved with the development of the TMDL study.	Sections 6.5 and 8.8.1
i. If a TMDL study is not completed, the city should identify the priority it places on addressing impaired waters and how the city intends to participate in the development or implementation of TMDL studies.	Sections 6.5 and 8.8.1
ii. If the city is not directly involved in the TMDL study, the city should show how it intends to implement the study findings once the study is completed by the responsible party.	Sections 6.5 and 8.8.1
iii. If a TMDL study is completed for the impaired...	NA
7. Financial considerations	
A. All communities need to include a 5-year CIP that includes funds to solve the problems identified in number 6 above.	Section 8.7
B. All communities need to include funding in their CIP or operating budget for ongoing maintenance of their stormwater infrastructure.	Section 8.7

TABLE 24 (CONTINUED): WRMP STANDARDS COMPARISON

WRMPP Requirements	Location in Corcoran LSWMP
8. Implementation priorities and program	
A. Developed and developing MS4 communities need...	
i. Include an erosion and sediment control ordinance consistent with NPDES Construction Stormwater permit and MS4 permit requirements.	Sections 6.6, 7.2.5 (Policy 25), and 8.7 (Table 8.3 - Activity #12)
ii. Identify ways to control runoff rates so that land-altering activities do not increase peak stormwater flow from the site for a 24-hour precipitation event with a return frequency of 1or 2, 10, and 100 years.	Section 7.2.1 (Policy 1-2)
iii. Require criteria for wet detention basin minimum pollutant removal efficiency to protect and improve stormwater runoff quality. BMPs for development and redevelopment should result in TSS and TP reductions.	Section 7.2.3 (Policies 15-16)
iv. Require infiltration of the first ½ inch of runoff from the impervious areas created by new projects where there are A and B soils. Use of infiltration techniques is prohibited in some potential stormwater hotspot areas, e.g. vehicle fueling areas.	Section 7.2.4 (Policy 22)
v. Recommend adding a soil amendment and requiring soil ripping 1 ½- 2 feet after mass grading is complete for all soil types.	Section 7.2.4 (Policy 24)
vi. Require infiltration in wellhead protections areas to be based on the community's wellhead protection plan and at the discretion of the LGU.	NA
vii. Require pretreatment of stormwater prior to discharge into all lakes and streams.	Sections 7.3.2 (Policy 35) and 7.3.3 (Policy 40)
B. Rural planning area communities...	NA
C. All communities with designated trout streams...	NA
D. All communities with special waters...	NA
E. All communities need to consider the use of stormwater practices that promote infiltration/filtration and decrease impervious areas, where practical.	Section 7.2.4
F. All communities need to include information on the types of BMPs to be used to improve stormwater quality and quantity and the maintenance schedule for the BMPs.	Sections 7.2.3 (Policy 19) and 8.6
G. All communities need to include a wetland management plan or a process and timeline to prepare a plan. At a minimum, the wetland management plan should incorporate a function and value assessment for wetlands. Other items to address in the plan include the pretreatment of stormwater prior to discharge into all wetland types, and the use of native vegetation as buffers for high quality wetlands. Buffers should be consistent with the functions and values identified in the plan.	Sections 6.4, 7.3.2 (Policies 34-37), and 8.7 (Table 8.3 - Activity #15)
H. Developed and developing communities that are a Phase II...	
i. Public education and outreach	Sections 7.5.2 and 8.7 (Table 8.3 - Activity #9)
ii. Public participation/involvement	Sections 7.5.2 and 8.7 (Table 8.3 - Activity #9)
iii. Illicit discharge detection and elimination	Sections 7.5.1 (Policy 53) and 8.7 (Table 8.3 - Activity #11)
iv. Construction site runoff control	Sections 7.2.5 (Policy 25) and 8.7 (Table 8.3 - Activity #12)
v. Post-construction runoff control	Sections 7.5.1 (Policy 54) and 8.7 (Table 8.3 - Activity #13)
vi. Pollution prevention/good housekeeping.	Sections 7.5.1 and 8.7 (Table 8.3 - Activity #7)
vii. Activities planned to be undertaken along with numerical goals, strategies, and timelines	Sections 8.7 (Table 8.3)
viii. Funding source for the various required activities.	Section 8.9
I. Developed and developing communities which are required...	NA
9. Amendment procedures:	
Each local plan must include year the plan extends to and establishes the process by which amendments may be made.	Sections 9.1 and 9.2

Much of the content from the City's LSWMP is not included in this summary chapter. However, excerpts from the City's LSWMP pertaining to certain critical surface water management topics identified in the WRMP requirements are included below:

III. Goals and Policies

The Corcoran LSWMP includes surface water management goals and policies to address proper management of the City's stormwater system. A selection of the most pertinent City policies is included below:

Policy 1: Require that the proposed discharge rates from development and redevelopment not exceed existing rates of discharge for the 2-, 10-, and 100-year, 24-hour storm events. This Policy is consistent with Section VI.A.15-16 of the Elm Creek Watershed Management Commission (ECWMC) Comprehensive Watershed Management Plan (CWMP).

Policy 2: Review and update City code as necessary to include the rate control standard identified in Policy 1.

Policy 14: Require pretreatment of stormwater runoff from a development or redevelopment site meeting Nationwide Urban Runoff Program (NURP) recommendations or Minnesota Pollution Control Agency guidelines in design and construction of new or modifications to existing surface water conveyance systems. Other BMPs or innovative stormwater management techniques that can be practically implemented will also be considered by the City Engineer on a case-by-case basis. This Policy is consistent with Section VI.A.17 of the ECWMC CWMP.

Policy 15: Under no circumstances shall pollutant removal in a new development or redevelopment project be less than 60 percent for phosphorus and 80 percent for total suspended solids. (Revised from LSWMP.)

Policy 19: The City adopts the Best Management Practice (BMP) recommendations and the maintenance schedules for these BMPs identified in the following reference documents:

- MPCA's Best Management Practices Handbook
- Metropolitan Council's Minnesota Urban Small Sites BMP Manual
- Minnesota Stormwater Manual
- This Policy is consistent with Section VI.A.4 of the ECWMC CWMP.

Policy 20: Strive for the nondegradation of receiving waters in Corcoran by enforcing the water quality requirements in Section 7.2.3 of the City's LSWMP, in cooperation with ECWMC standards.

Policy 22: At a minimum, all new development must provide runoff volume control BMPs that infiltrate 1/2-inch of runoff from impervious surfaces, taking into consideration site limitations including, but not limited to: soil conditions, depth to

groundwater, groundwater protection and safety concerns. Other methods of runoff volume abstraction that achieve a level of benefit equivalent to the ½-inch infiltration standard could also be used, pending City Engineer approval.

Policy 24: Encourage soil amendment procedures following mass grading activities, including deep ripping of soils to a depth of 18-inches, to re-establish the pre-development infiltrative capacity of the soil.

Policy 25: Enforce the Erosion Control Ordinance (City Code Section 950), updating this ordinance as necessary to maintain consistency with State guidance as outlined in the Municipal Separate Storm Sewer Systems (MS4) permit and ECWMC standards. This Policy is consistent with Section VI.A.6 of the ECWMC CWMP.

Policy 26: Require that erosion and sediment control practices are consistent with the standards identified in the current MPCA Construction General Permit and the Minnesota Stormwater Manual.

Policy 34: As discussed in Section 6.4, the City will require that the wetland assessment and management guidance provided by the City's Natural Resource Inventory and evaluation process outlined in the Wetland ordinance (City Code Section 1050.010) be followed. This Policy is consistent with Section VI.A.9 of the ECWMC CWMP.

Policy 35: Require that runoff be pre-treated prior to discharge into wetlands in accordance with water quality requirements. Wetlands may not be considered as treatment areas for the purposes of meeting Corcoran's stormwater management standards.

Policy 36: At the time of development, the developer will be responsible for performing a function and value assessment on all on-site wetlands that were not inventoried in the City's Natural Resource Inventory. The function and value assessment must be done in accordance with the methods outlined in the most current version of Minnesota Routine Assessment Method (MnRAM). The City's Wetland ordinance (City Code Section 1050.010) should be updated to include this Policy to comply with Metropolitan Council requirements.

Policy 37: Encourage existing property owners to establish a 20 foot buffer around wetlands for areas that are currently developed. This Policy is consistent with Section VI.A.23 of the ECWMC CWMP.

Policy 38: Seek assistance from the ECWMC to develop reasonable lake management goals for the lakes in Corcoran. Currently, the ECWMC categorizes both Jubert Lake and Goose Lake as Class II waterbodies. This Policy is consistent with Section VI.A.20 of the ECWMC CWMP.

Policy 40: Require that runoff be pre-treated in accordance with Corcoran's water quality requirements prior to discharge into lakes and creeks.

Policy 50: Continue to enforce the City's Shoreland ordinance (City Code Section 1050.020), updating this ordinance as necessary to maintain consistency with State and ECWMC standards. This Policy is consistent with Section VI.A.5 of the ECWMC CWMP.

Policy 53: Review and update City code as necessary to include language for an Illicit Discharge and Illicit Connection ordinance consistent with current State guidance. This Policy is consistent with BMP 3-5 in the City's SWPPP.

Policy 54: Review and update City code as necessary to include language for a Post Construction Site Runoff Control ordinance consistent with local and State guidance. This Policy is consistent with BMP 5-2 in the City's SWPPP.

Policy 62: The City will explore available funding opportunities (including a stormwater utility) to pay for the implementation of the projects and actions identified in Section 8.

Policy 63: The City will seek grant funds or other resources to assist with special projects or implementation of plan goals.

IV. NPDES Phase II MS4 Permit

The MPCA has designated the City of Corcoran as a National Pollutant Discharge Elimination System (NPDES) Phase II MS4 community (MN Rules 7090). Corcoran received permit coverage in 2003; however, due to a court hearing, the MPCA was required to revise the MS4 permit and cities were required to update their SWPPP to comply with the new permit requirements by June 1, 2006. The City's permit application and SWPPP were submitted to the MPCA and MS4 permit coverage was officially extended on September 18, 2008.

The permit application outlined Corcoran's Stormwater Pollution Prevention Plan (SWPPP) to address six minimum control measures:

1. Public education
2. Public involvement
3. Illicit discharge detection and elimination
4. Construction site runoff control
5. Post-construction runoff control
6. Pollution prevention in municipal operations

The City's SWPPP contains several best management practices within each of the listed control measures. These were identified using a self-evaluation and input process with City staff. A copy of the City's SWPPP can be obtained by contacting City Hall.

Many of the goals and policies discussed in Corcoran's Local Surface Water Management Plan are directly related to requirements listed in the NPDES program. As a result, the Goals and Policies section of the LSWMP repeatedly references items listed in the City's SWPPP. Per the requirements of the MS4 Permit, the City will review their SWPPP and update as necessary on an annual basis.

Each year of the five-year permit cycle, the City must conduct an Annual Public Meeting and submit an Annual Report to the MPCA which summarizes:

1. The status of compliance with Permit conditions
2. Assessment of the appropriateness of the BMPs
3. Progress towards achieving the measurable goals for each of the minimum control measures
4. Stormwater activities planned for the next reporting cycle
5. A change in any BMP or measurable goals for any of the minimum control measures
6. A notice that the City is relying on another entity to satisfy some of the Permit obligations (if applicable)

The primary goal of the MS4 program is to restore the integrity of waters of the State through management and treatment of urban stormwater runoff. As part of the permit, MS4 communities must develop a SWPPP that details the use of appropriate BMPs. The BMPs listed in the SWPPP are a legally enforceable part of the Permit. The City must complete the tasks and milestones to remain authorized to discharge stormwater into waters of the State.

Total Maximum Daily Loads and Impaired Waters

The portion of North Fork Rush Creek that is within Corcoran is identified on the State list of impaired waters. And although not in Corcoran, the City discharges to Elm Creek, Lake Sarah, and the Crow River, which also are identified on the State list of impaired waters. Information for all of these impaired waters is identified in Table 2.5 and on Figure 2.7 in Section 2.7.5 in Corcoran's LSWMP.

The list of impaired waters is known as the 303(d) list from the applicable section of the Federal Clean Water Act. These impaired waters do not currently meet their designated use due to the impact of a particular pollutant or stressor. If monitoring and assessment indicate that a waterbody is impaired by one or more pollutants, it is placed on the list. The absence of a waterbody from the 303(d) list does not necessarily mean the waterbody is meeting its designated uses. It may be that it has either not been sampled or there is not enough data to make an impairment determination.

Responsibility for implementing the requirements of the Federal Clean Water Act falls to the U.S. Environmental Protection Agency. In Minnesota, the EPA delegates much of the program responsibility to the Minnesota Pollution Control Agency (MPCA). Information on the MPCA program can be obtained at the following web address: <http://www.pca.state.mn.us/water/tmdl/index.html>.

At some point a strategy would be developed that would lead to attainment of the applicable water quality standard for these impaired waters. The process of developing this strategy is commonly known as the Total Maximum Daily Load (TMDL) process and involves the following phases:

1. Assessment and listing
2. TMDL study
3. Implementation plan development and implementation
4. Monitoring of the effectiveness of implementation efforts

The TMDL process for the Lake Sarah nutrient impairment TMDL, the Elm Creek dissolved oxygen impairment TMDL, and North Fork Rush Creek biological impairment TMDL are all moving forward. All of these TMDL studies are proposed to be completed between 2012 and 2013. Discussion regarding the directives for impaired waters and ultimately TMDL studies addressing the impairments is presented in the implementation section (Section 8) of the LSWMP. This section will identify how the City intends to be involved in these directives and the City's strategy for implementing these directives.

V. Lake Sarah TMDL

The following information regarding the Lake Sarah TMDL is from the MPCA's website: <http://www.pca.state.mn.us/water/tmdl/project-lakesarah-nutrients.html>.

Lake Sarah is a 552-acre lake located approximately 18 miles west of Minneapolis in west central Hennepin County. The lake has a maximum depth of 60 feet, mean depth of 18.2 feet, and is used extensively for fishing, boating and aesthetic viewing. The majority of the lake's west end is within Lake Sarah Regional Park, operated by Three Rivers Park District. Lake Sarah receives runoff from a 4,608-acre predominantly agricultural watershed which contains portions of five municipalities—Greenfield, Independence, Corcoran, Loretto, and Medina. Portions of the watershed are undergoing rapid urbanization, although the majority of the new residential lots are large.

Lake Sarah receives excess nutrient loading from the watershed and from internal recycling mechanisms. The internal loading factor is especially critical in Lake Sarah because an abundant curly-leaf pondweed population provides a phosphorus pulse to the lake when it undergoes senescence in late June each year. As a result of the excessive phosphorus loading, the lake experiences nuisance algae blooms in the summer, severely restricting recreational use.

"In 2004, Lake Sarah was placed on the Minnesota Pollution Control Agency's 303(d) list of impaired waters because of excess nutrients (phosphorus). Inclusion on the 303(d) list requires completion of a Total Maximum Daily Load (TMDL) study to determine the magnitude of the impairment, identify pollutant sources, and allocate pollutant loading among the permitted and non-permitted sources in the lake's drainage basin.

The Lake Sarah TMDL is currently identified as underway on the MPCA's website. Although the TMDL Report and Implementation Plan have not been completed, initial conversations among the various TMDL stakeholders have begun regarding potential joint participation in phosphorus load reduction projects. As the City is weighing the benefits of participating in joint implementation projects, it should be noted that the portion of Corcoran that drains to Lake Sarah is located entirely within the City's Southwest Area. This area will transition from existing agricultural, large lot residential and rural commercial land uses to light industrial and urban residential land uses by 2030. New development or redevelopment in the Southwest Area will be required to meet the City's water quality and runoff volume control standards, and in doing so will substantially reduce the existing phosphorus loads to Lake Sarah.

As the TMDL process progresses, it is likely that the Implementation Plan will identify specific phosphorus load reduction milestones that Corcoran will be required to meet. The schedule of these reduction milestones versus the timeline for development within the Southwest Area will likely determine how aggressive Corcoran must be in participating with specific phosphorus load reduction projects. The Lake Sarah excess nutrient impairment is identified as an issue in Table 6.5 of Corcoran's LSWMP.

VI. Wetland Management

From the Metropolitan Council's 2030 Water Resources Management Policy Plan and ECWMC CWMP, the City is required to prepare a Wetland Management Plan. The 2030 Water Resources Management Policy Plan provides additional guidance for plan contents, as follows:

All communities need to include a wetland management plan or a process and timeline to prepare a plan. At a minimum, the wetland management plan should incorporate a function and value assessment for wetlands. Other items to address in the plan include the pretreatment of stormwater prior to discharge into all wetland types, and the use of native vegetation as buffers for high quality wetlands. Buffers should be consistent with the functions and values identified in the plan.

The City's 2001 Natural Resource Inventory and Management Plan (NRIMP) provides a baseline evaluation of all significant wetlands within the City. While not all of the wetlands in Corcoran are assessed, the NRIMP identifies wetland areas with plant communities still relatively natural in their species compositions and structure and presents a function and values assessment for each of these wetlands. In addition, the City's Wetland ordinance (City Code Section 1050.010) includes wetland management requirements, including wetland buffer and setback standards based on a high, medium or low Minnesota Routine Assessment Method (MNRAM) classification.

To fully address Metropolitan Council and ECWMC wetland management requirements, the City must establish a procedure for completing a function and value assessment of the wetlands not assessed in the 2001 NRIMP. To address this requirement, Corcoran will adopt a phased approach, completing wetland function and value assessments for all non-assessed wetlands in conjunction with development. This approach to phasing the function and value assessments to coincide with development will be added to the City's wetland ordinance. With this addition to the wetland ordinance, as a development proposal moves forward on a specific parcel, the developer will be required to complete a wetland delineation and unless completed in the NRIMP, a function and values assessment for all wetlands on the parcel.

The LSWMP also includes wetland management standards that correspond to the specific wetland ranking developed by the inventory and assessment. These standards include wetland buffer and setback standards and wetland protection standards, which satisfactorily address the content requirements of the Metropolitan Council's 2030 Water Resources Management Policy Plan.

VII. Assessment of Problems and Corrective Actions

An assessment of specific water resource-related problems is summarized in Table 8.3 in Corcoran's LSWMP. These problems have been included in the documents identified in Section 4 of the LSWMP, primarily from the 2003 ECWMC Comprehensive Watershed Management Plan (CWMP) and the City's 2003 Surface Water Management Issues Report (SWMIR). Possible corrective actions have been listed for each problem. The corrective actions associated with the issues considered by Corcoran to be priority issues are incorporated into the Implementation Activities table in Section 8.3 of the LSWMP.

In addition to these specific problems identified in Table 8.3 in Corcoran's LSWMP, the ECWMP CWMP also identifies general stormwater management issues that apply across the jurisdiction or to a smaller sub-area of their jurisdiction. The City will be incorporating corrective actions to address the applicable general issues into the LSWMP goals and policies (Section 7), which conform to the goals and policies and stormwater management standards of the ECWMC.

VIII. Amendment Procedures

Corcoran's Local Surface Water Management Plan will be applicable until 2019, at which time an updated plan will be required. Periodic amendments may be required to incorporate changes in local practices. In particular, changes in the ECWMC Watershed Management Plan or the approval of TMDL Implementation Plans may require revisions to the LSWMP. Plan amendments will be incorporated by following the review and adoption steps.

Review and adoption of the Surface Water Management Plan will follow the procedure outlined in Minnesota Statutes 103B.235:

After consideration but before adoption by the governing body, each local government unit shall submit its water management plan to the watershed management organization[s] for review for consistency with the watershed plan. The organization[s] shall have 60 days to complete its review.

Concurrently with its submission of its local water management plan to the watershed management organization, each local government unit shall submit its water management plan to the Metropolitan Council for review and comment. The council shall have 45 days to review and comment upon the local plan. The council's 45-day review period shall run concurrently with the 60-day review period by the watershed management organization. The Metropolitan Council shall submit its comments to the watershed management organization and shall send a copy of its comments to the local government unit.

'After approval of the local plan by the watershed management organization[s], the local government unit shall adopt and implement its plan within 120 days, and shall amend its official controls accordingly within 180 days.

Chapter 12

IMPLEMENTATION

I. Introduction

The Comprehensive Plan is a valuable tool to guide the development of land in the City as long as the visions, goals and policies called out in the Plan are implemented. The purpose of this Implementation chapter is to identify the specific strategies and action items that the City will undertake, over the course of several years, to ensure that the programs and policies established in the Plan are reflected in the decisions of the City.

Most chapters of the Comprehensive Plan identify implementation items. These chapter-specific items are the detailed policies and programs that are proposed to carry out the goals and objectives of the individual chapters. The purpose of this Implementation Plan chapter is to consolidate, in a single chapter, the collected implementation statements identified throughout the Plan for ease of future reference.

II. Implementation Tools

A. Official Controls

Official controls, such as zoning regulations, subdivision regulations and the zoning map, are required by State law to be consistent with the Comprehensive Plan. These controls represent the rules and regulations that govern City decisions related to growth and development. Updates to the official controls will include the following items:

1. Amend the official zoning map to be consistent with the land use designations of the 2030 Land Use Map.
2. Prepare a Growth Management Policy.
3. Review, update and create new residential zoning districts and requirements and subdivision regulations to ensure that the densities envisioned in the Plan can be achieved.
4. Review and update site and building design standards to ensure high-quality residential, commercial and industrial development in the community.
5. Update the existing PUD and Cluster Ordinances.
6. Update Open Space Preservation Plat Ordinance to support clustering, future connection to sewer and increased level of natural resource protection with incentives.
7. Create new Mixed Use Zoning Districts and new Business Park Zoning District with associated uses and all site and design requirements.

8. Review and update the zoning and subdivision ordinances to reduce impediments to affordable housing.
9. Review and update as necessary the park and trail dedication requirements to ensure appropriate amount of dedication for developing parks and trails.
10. Develop a buffering plan that identifies the City's various buffering needs and provides examples of the types of buffering that could meet those needs.
11. Require all developers and builders to provide evidence that they satisfy buffering guidelines.
12. Work with future developers to ensure adequate and appropriate park land and trails are developed based upon the Parks and Trails plan. Ensure design guidelines are in place or updated to promote high-quality architecture and site design in all residential, commercial and industrial districts.
13. Encourage use of innovative development concepts where appropriate, such as mixed use development and cluster housing to provide life-cycle housing opportunities, minimize the need for automobiles, protect natural resources and maintain open space.

B. Housing

1. Provide a healthy variety of housing types, styles, densities and choices to meet the life-cycle housing needs of residents.

- i. Provide a mix of housing types to provide life-cycle housing opportunities including continued single-family growth, and new opportunities for multiple family and senior housing developments.
- ii. Protect low density and rural residential areas from incompatible or higher density uses or maintain adequate buffering from such uses.
- iii. Ensure that all new housing, including high density and rental housing, adheres to the highest standards of planning, design and construction.
- iv. Periodically review land use regulations to determine the effectiveness of current ordinances in encouraging additional affordable units as well as encouraging modifications to keep the existing housing stock desirable and livable.
- v. Allow the creative use of site planning or PUDs that provide flexibility for development containing affordable housing, such as a reduction in lot size, setbacks, street width floor area and parking requirements.
- vi. Encourage innovative subdivision design, including clustering techniques to preserve open space or natural features.
- vii. Promote development of neighborhood "life-style centers" that incorporate housing in a range of densities and affordability limits in close proximity to shopping, services,

daycare and medical services. Safe access to parks and schools and the ability to walk, bike or have access to transit should be part of the design.

2. Promote housing rehabilitation

- i. Support and actively promote first-time homebuyers' programs to assist new homeowners entering the market for existing homes.
- ii. Support and actively promote housing rehabilitation programs for existing owner-occupied homes and rental buildings or units. This includes promotion of all County and State programs and non-profit programs.
- iii. Utilize the City's website, newsletter and other sources for promotion and advertising of housing programs.
- iv. Consider creation of a Housing Maintenance Code to maintain existing housing stock.

3. Improve the availability of affordable housing and senior housing.

- i. Seek housing developers to work cooperatively with the City to construct affordable units. All developers will be required to address the provision of affordable housing within all new residential developments within the 2030 planning boundary.
- ii. Participate in the Livable Communities Act Local Housing Incentives Program.
- iii. Consider designating a portion of Tax Increment Financing to facilitate activities that increase new affordable housing.
- iv. Utilize techniques, such as land trusts, to maintain long-term affordability.
- v. Partner with, support and market programs offered by the County, State, MHFA, Federal government and non-profits to fund the development of affordable housing.
- vi. Complete an assessment of senior housing needs in the community.

4. Expand Residential Neighborhood Services

- i. Promote programs that encourage maintenance of existing housing, including a housing remodeling fair, neighborhood watch programs, city beautification programs, city-wide clean-up programs, etc.
- ii. Develop a list of available resources and providers of in-home services to older adults and those with special needs.

C. Parks and Trails

1. The City will require dedication of developable land as required in its Park Dedication Ordinance for public parks, trails or natural resource parks when land is platted, subdivided or developed. The City, through the Parks and Trails Commission, will review all preliminary development plats to identify acreage and location of land appropriate for park or trail dedication within the proposed

development, or payment of dedication fees in lieu of land dedication. If it is determined that a cash equivalency payment should be made in lieu of dedication of land, the Parks and Trails Commission will recommend the percentage of the total park dedication requirement to be paid in cash to the City.

2. Parks and Trails system development and management cost estimates will be reviewed on an annual basis to ensure the plan is implemented economically and effectively and updated as needed. System cost reviews will support the park dedication fee structure.
3. The City will develop a policy to establish priorities for use of park dedication funds to achieve its Parks and Trails Goals.
4. The City will develop and routinely review and update standards for design and construction of public parks, trails and open space areas in the City. The City will apply best practices in mapping dedicated properties and researching and designing facilities.
5. The City will work cooperatively with other communities in Northwest Hennepin County, Three Rivers Park District, Minnesota DNR, local landowners and others to implement this plan and make the most of available resources. The City will actively seek grant funding for land acquisition.
6. The City will identify and consider land acquisition and protection strategies to supplement the City's capacity to assemble the parks, trails and open space system.

D. Sanitary Sewer

1. Within six months of Metropolitan Council approval of this Comprehensive Plan, Corcoran will develop an ordinance prohibiting connections, including surface water and sump pump connections, to the trunk sanitary sewer system.
2. When development in SW Corcoran trunk sanitary sewer service begins to move forward, Corcoran and Medina will finalize an intercommunity flow agreement and submit to the Metropolitan Council.
3. Develop financing methods for sewer, water and transportation infrastructure and develop ordinances and policies accordingly.

E. Transportation

1. Complete transportation study of CSAH 10/50 realignment.
2. Continue to participate and monitor transportation activities by adjacent jurisdictions, Hennepin County and the State.

F. Other Policy Plans

The Comprehensive Plan also refers to other policy documents that the City uses to manage and construct municipal systems such as sanitary sewer, water supply and distribution, and surface water management. These documents include transportation studies, the Comprehensive Sanitary Sewer Plan, the Comprehensive Water Supply and Distribution Plan, the Local Surface Water Management Plan and several water quality studies. These documents are the specific ongoing implementation tools for achieving their respective portions of this Comprehensive Plan.

III. Capital Improvement Plan

A Capital Improvements Program or CIP is a multi-year (typically five-year) capital expenditure plan for a City's infrastructure. It identifies projects but not a commitment by the City to the project.

State law requires that the Implementation Plan chapter for the Comprehensive Plan contain a capital improvement program (CIP) for transportation, sewer, water, park and trail facilities. The primary benefit of a CIP is a financial planning tool to help plan for the impact of capital needs on future budgets and property taxes.

The City's current CIP is incorporated by reference into this Comprehensive Plan (Appendix G). The CIP is a two-year program that identifies budgeting priorities for capital projects. As the City has not benefitted from regional systems, a traditional five-year CIP for capital expenditures for transportation, sewer, water supply and parks and open space facilities has not been prepared. The City annually evaluates and adopts an operating budget to address expected revenues and expenditures and is preparing for planned improvements for the upcoming two years. As part of the budget process, the City evaluates short-term and long-term capital improvement needs.

The current CIP, approved in 2010, includes capital improvement budgets for public works, parks, technology and police.

IV. Zoning

Corcoran's current zoning ordinance establishes 13 zoning districts. Below is a description of the zoning districts in Corcoran. The Zoning Map dated May 5, 2010, is displayed in Appendix H.

Residential

The City has ordinance text for six residential-related zoning districts; however, only four are mapped (due to the lack of sewer development to date) and are discussed below. The Agricultural District areas are within the existing MUSA and designated areas as potential future service areas on the existing Future Land Use Plan. The intent is to preserve areas where urban services are planned but not yet available. The purpose of this district is to provide a holding zone until a landowner/developer makes an application for development, at which time the City may rezone affected property consistent with its designation in the Comprehensive Plan. Additional districts where text is prepared but not

mapped will be used for these rezonings. The lot sizes are limited to 20 acres within the MUSA and 10 acres outside the MUSA.

The Rural Residential district is intended to provide for large lots for single-family homes and hobby farms. Development rights regulate the density by allowing landowners one building right for each 10 acres of land accessing onto a paved road and one building right for each 30 acres of land accessing onto a gravel road. Additional building rights may be granted based on the Open Space Preservation Plat ordinance (this will be updated).

The R-1, Single-family Residential, district is intended to provide large, urban lots for single-family homes. Density is roughly 2.1 units per acre or 20,000 sq. ft. lots.

The MF-1, Multiple Family Residential, district is intended for medium density multiple-family uses with a density range between 6.0-20 units per acre.

Commercial

The C-1, Neighborhood Commercial, district is intended to provide for a variety of retail and service uses. The purpose is also to provide for the establishment of a downtown that is a blend of cultural, recreational, civic entertainment, retail and offices uses.

The C-2, Community Commercial, is a similar retail and service-focused district but one that is intended to serve the region. The CR, Rural Commercial, district is the existing Burschville area and provides for a mix of neighborhood commercial uses and rural industrial.

Industrial

The BP, Business Park, district provides for the establishment of campus developments with a variety of office, low-impact manufacturing or assembly of products.

APPENDICES

APPENDIX A

Soils Type

APPENDIX A

Soil Types

SOIL SYMBOL	SOIL TYPE	ACREAGE	PERCENT OF CITY
GP	Pits, gravel-Udipsamments complex	1	0.00%
L11B	Grays very fine sandy loam, 2 to 8 percent slopes	6	0.02%
L132A	Hamel-Glencoe, depressional, complex, 0 to 3 percent slopes	333	1.44%
L13A	Klossner muck, depressional, 0 to 1 percent slopes	176	0.76%
L14A	Houghton muck, depressional, 0 to 1 percent slopes	259	1.12%
L15A	Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes	45	0.19%
L16A	Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes	409	1.77%
L17B	Angus-Malardi complex, 2 to 6 percent slopes	1	0.01%
L18A	Shields silty clay loam, 0 to 3 percent slopes	34	0.14%
L19B	Moon loamy fine sand, 2 to 5 percent slopes	5	0.02%
L21A	Canisteo loam, 0 to 2 percent slopes	31	0.13%
L22C2	Lester loam, morainic, 6 to 12 percent slopes, eroded	2,944	12.71%
L22D2	Lester loam, morainic, 12 to 18 percent slopes, eroded	767	3.31%
L22E	Lester loam, morainic, 18 to 25 percent slopes	108	0.47%
L22F	Lester loam, morainic, 25 to 35 percent slopes	20	0.08%
L23A	Cordova loam, 0 to 2 percent slopes	3,990	17.23%
L24A	Glencoe loam, depressional, 0 to 1 percent slopes	1,340	5.78%
L25A	Le Sueur loam, 1 to 3 percent slopes	1,493	6.45%
L26A	Shorewood silty clay loam, 0 to 3 percent slopes	17	0.07%
L26B	Shorewood silty clay loam, 3 to 6 percent slopes	88	0.38%
L27A	Sucker creek loam, 0 to 2 percent slopes, frequently flooded	118	0.51%
L2B	Malardi-Hawick complex, 1 to 6 percent slopes	10	0.04%
L35A	Lerdal loam, 1 to 3 percent slopes	194	0.84%
L36A	Hamel, overwash-Hamel complex, 1 to 4 percent slopes	1,978	8.54%
L37B	Angus loam, morainic, 2 to 5 percent slopes	3,405	14.70%
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes	309	1.34%
L41C2	Lester-Kilkenny complex, 6 to 12 percent slopes, eroded	108	0.46%
L41D2	Lester-Kilkenny complex, 12 to 18 percent slopes, eroded	63	0.27%
L41E	Lester-Kilkenny complex, 18 to 25 percent slopes	27	0.12%
L44A	Nessel loam, 1 to 3 percent slopes	1,686	7.28%
L45A	Dundas-Cordova complex, 0 to 3 percent slopes	466	2.01%
L49A	Klossner soils, depressional, 0 to 1 percent slopes	399	1.72%
L50A	Houghton and Muskego soils, depressional, 0 to 1 percent slopes	1,656	7.15%
L60B	Angus-Moon complex, 2 to 5 percent slopes	136	0.59%
L61C2	Lester-Metea complex, 6 to 12 percent slopes, eroded	53	0.23%
L61D2	Lester-Metea complex, 12 to 18 percent slopes, eroded	3	0.01%
L61E	Lester-Metea complex, 18 to 25 percent slopes	0	0.00%
L64A	Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes	75	0.32%
L70C2	Lester-Malardi complex, 6 to 12 percent slopes, eroded	31	0.14%
L70D2	Lester-Malardi complex, 12 to 18 percent slopes, eroded	10	0.04%
L9A	Minnetonka silty clay loam, 0 to 2 percent slopes	218	0.94%
U3B	Udorthents (cut and fill land), 0 to 6 percent slopes	3	0.01%
W	Water	145	0.63%
Total		23,160	100.00%

APPENDIX B

Natural Resource Protection Strategies And Techniques

APPENDIX B

Natural Resource Protection Strategies and Techniques

Low Impact Development (LID) and LID Ordinance

LID is a sustainable stormwater management strategy that focuses on managing stormwater locally. It mimics natural hydrology by 1) minimizing stormwater runoff (volume reduction) and 2) treating stormwater runoff through infiltration. Methods for minimizing stormwater runoff include using permeable pavement, green roofs, rain barrels, and soil amendment. Methods for treating stormwater runoff through infiltration include bioretention strategies such as rain gardens and swales. Collectively these strategies are called Best Management Practices (BMPs).

These approaches can offer significant water quality benefits and can effectively manage small to moderate rainfall events depending on the LID design. Adding a LID ordinance to City code could provide significant benefit for water resources.

Emphasis on volume reduction at the source is important even before runoff gets to a BMP. This is reflected in the fact that some watersheds will give stormwater credit for use of BMPs.

Below are some definitions of typical LID strategies:



Pervious paving is paving material that allows water to penetrate to the ground below. Permeable pavement may consist of any porous surface materials that are installed, laid, or poured.

Rainwater harvesting means the concentrating and collecting of rain falling on roofs and grounds for direct use or storage. Water is collected or harvested from patios, driveways, and other paved areas. Also harvested is the flow of water from the roof and from catchments such as gutters. Buildings can be

designed to maximize the amount of catchment area, thereby increasing rainwater harvesting possibilities. Rain barrels are a familiar form of rainwater harvesting.

Green roofs are roofs constructed of a lightweight soil media, underlain by a drainage layer and a high-quality impermeable membrane that protects the building structure. The soil is planted with a specialized mix of plants that can thrive in the harsh, dry, high temperature conditions of the roof and tolerate short periods of inundation from storm events.

Soil amendment is the addition of organic matter to soil and aerating the soil. Both practices allow soil to soak up more water.

Bioretention is the management and treatment of stormwater runoff within a shallow depression using a conditioned soil bed and plant materials to reduce runoff and to treat and infiltrate it where it originates. The method combines physical filtering and absorption with biological water treatment processes. Rain gardens and swales are forms of bioretention.



Rain gardens are planted depressions designed to absorb rainwater runoff from impervious urban areas such as roofs, driveways, walkways, and compacted lawn areas. This reduces rain runoff by allowing stormwater to soak into the ground, as opposed to flowing into storm drains and surface waters which causes erosion, water pollution, flooding, and diminished groundwater. Rain gardens reduce the amount of pollution reaching creeks and streams.

Swales are open drainage channels or depressions explicitly designed to detain and promote the filtration of stormwater runoff. Vegetated swales use vegetation to slow down the rate of runoff and encourage infiltration.

Parcel Evaluation

Parcel evaluation is a useful strategy for identifying areas where low-impact development design methods such as cluster development or Conservation Design subdivision may be appropriate, as a way of protecting priority natural resources. One potential approach is to identify parcels with development or redevelopment potential above a specified size threshold (for example, 10 acres) and determine which of these parcels intersect with priority natural resource features. An additional level of planning would be to consider these factors and overlay them with DNR and City defined natural resource areas. This may facilitate planning by allowing the City to focus conservation strategies within defined zones of existing natural resource areas.

Conservation Design Subdivisions

Conservation design subdivisions is the practice of designing subdivisions to minimize their impact to the environment by using LID strategies and thoughtful placement of homes and infrastructure to maintain the ecological integrity and function of the landscape. Once a parcel evaluation has been completed to identify areas suitable for low-impact development, subdivisions are designed to allow for more compact development or clustering of homes in smaller areas and retain larger areas of common, open space. If thoughtfully implemented, Conservation Design can foster a sense of neighborhood and community that is sometimes lost in large lot developments and it is an effective choice for maintaining natural resource quality while allowing development. For example, in Conservation Design quality forest areas would be left largely intact, and construction activities would occur in semi-natural areas or former agricultural lands. This strategy is appropriate in areas with remnant natural areas and is especially important for developing and maintaining connections between wetlands and upland areas. When homes are developed in close enough proximity of these natural features to enjoy their

benefits, there is an additional value in the connectedness of the public with nature and the quality of life of residents.

Wellhead Protection Plan

At present, the City of Corcoran does not have its own water supply system. Properties currently within Corcoran are served by private wells. As Corcoran grows and water supply infrastructure is installed to serve the developing areas, interconnections with neighboring cities will most likely serve the initially-developed areas before 2015. The eastern edge of Corcoran will be served through an interconnection with the Maple Grove water supply system. The southwestern edge of Corcoran will be served through an interconnection with Medina. While these areas are served by the interconnections, the water supply system will be covered by the wellhead protection plans for the neighboring cities. Currently, the City of Maple Grove has a completed wellhead protection plan. The City in Medina will likely be required to complete a wellhead protection plan no later than 2015. After 2015, the City of Corcoran will likely begin to develop its own municipal water supply wells to supply the additional growth within the City. When this occurs the City will be required to develop its own wellhead protection plan.

Other Tools for Protection and Management of Natural Areas

In addition to changes in existing ordinances or adoption of new ordinances, the City can consider a variety of education and incentive approaches to encourage City residents to protect the natural resources on their properties, including the following:

- Provide information and education to homeowners about the special features on their properties. Many landowners will take great pride in knowing that they have something special on their land and will be eager to learn about how best to manage it.
- Inform property owners about options to donate their land as parks and open space or protect it with a conservation easement. For some property owners, donation of land or easements provide financial and tax benefits.
- Identify grants or other public programs that provide financial or educational benefits to owners of natural areas
- Work with developers or property owners to encourage design strategies that protect and improve the quality of resources.
- The DNR Website (<http://files.dnr.state.mn.us/assistance/landprot.pdf>) contains the resource Land Protection Options, a Handbook for Minnesota Landowners. This is an outstanding tool to help individual landowners better understand their options and also for City staff as a resource to help positively engage interested property owners.
- Another important resource for private landowners is the publication Beyond the Suburbs: A Landowner's Guide to Conservation Management. This resource can also be found on the MN DNR website at: http://files.dnr.state.mn.us/forestry/beyond_suburbs.pdf

- The City can also continue to set a good example for other landowners by protecting or restoring natural areas on City-owned properties, and by developing interpretive and educational opportunities.
- In addition, there is a variety of funding options available to assist with implementation of these and/or other activities. These include the existing park dedication fee, bond referendums, and grant opportunities. It should also be noted that having a complete NRI and the identification of a natural resource links is an important step that will improve the City's competitiveness when seeking natural resource implementation grants from the Minnesota DNR.

APPENDIX C

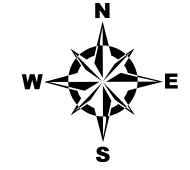
Transportation



City of
CORCORAN

Existing Roadway Jurisdiction

2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

- City Limit
- Open Water
- Existing Roadway Jurisdiction:**
 - State Highway
 - County State Aid Highway (CSAH)
 - County Road
 - Municipal State Aid Street (MSAS)
 - Local Street

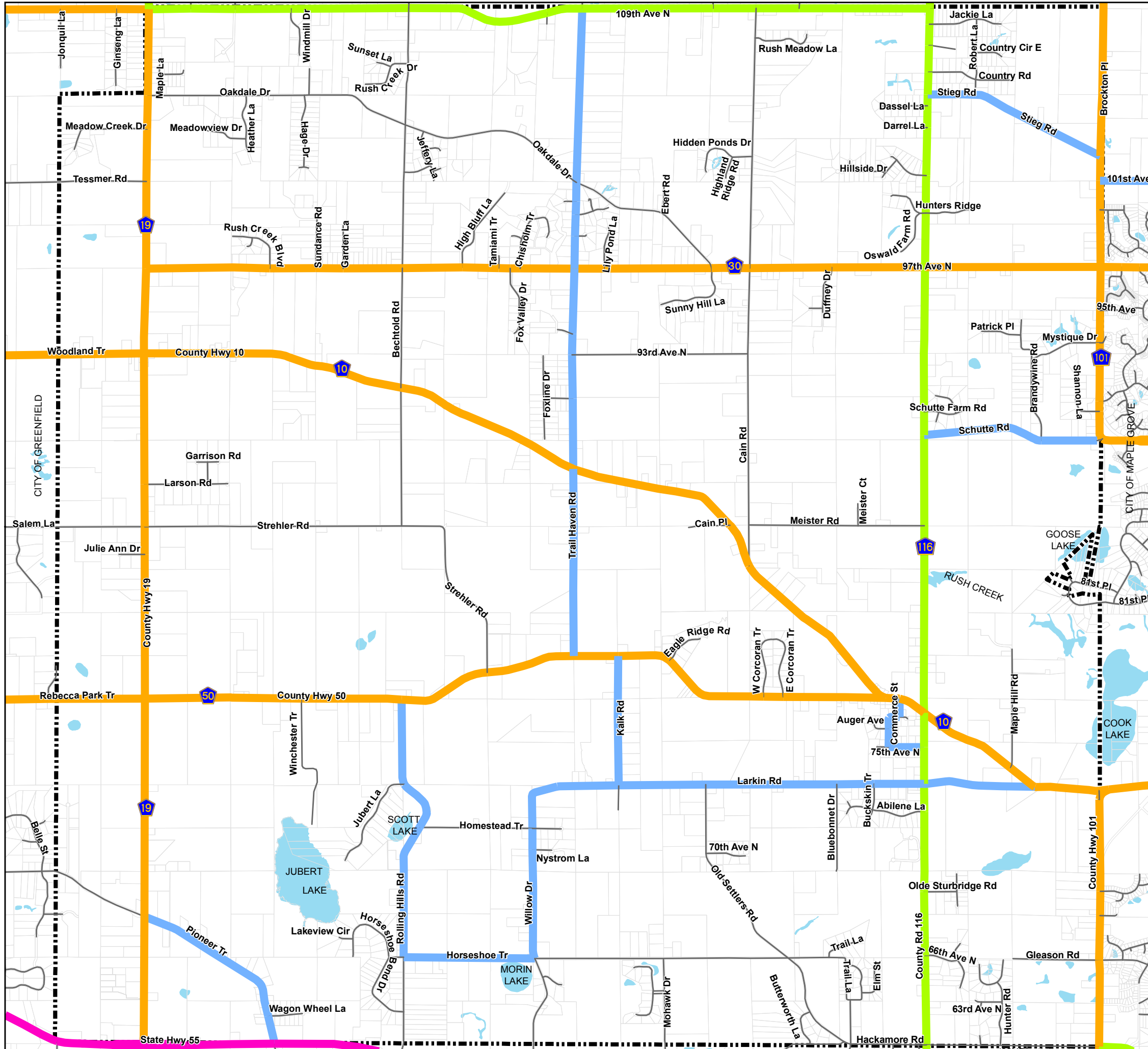
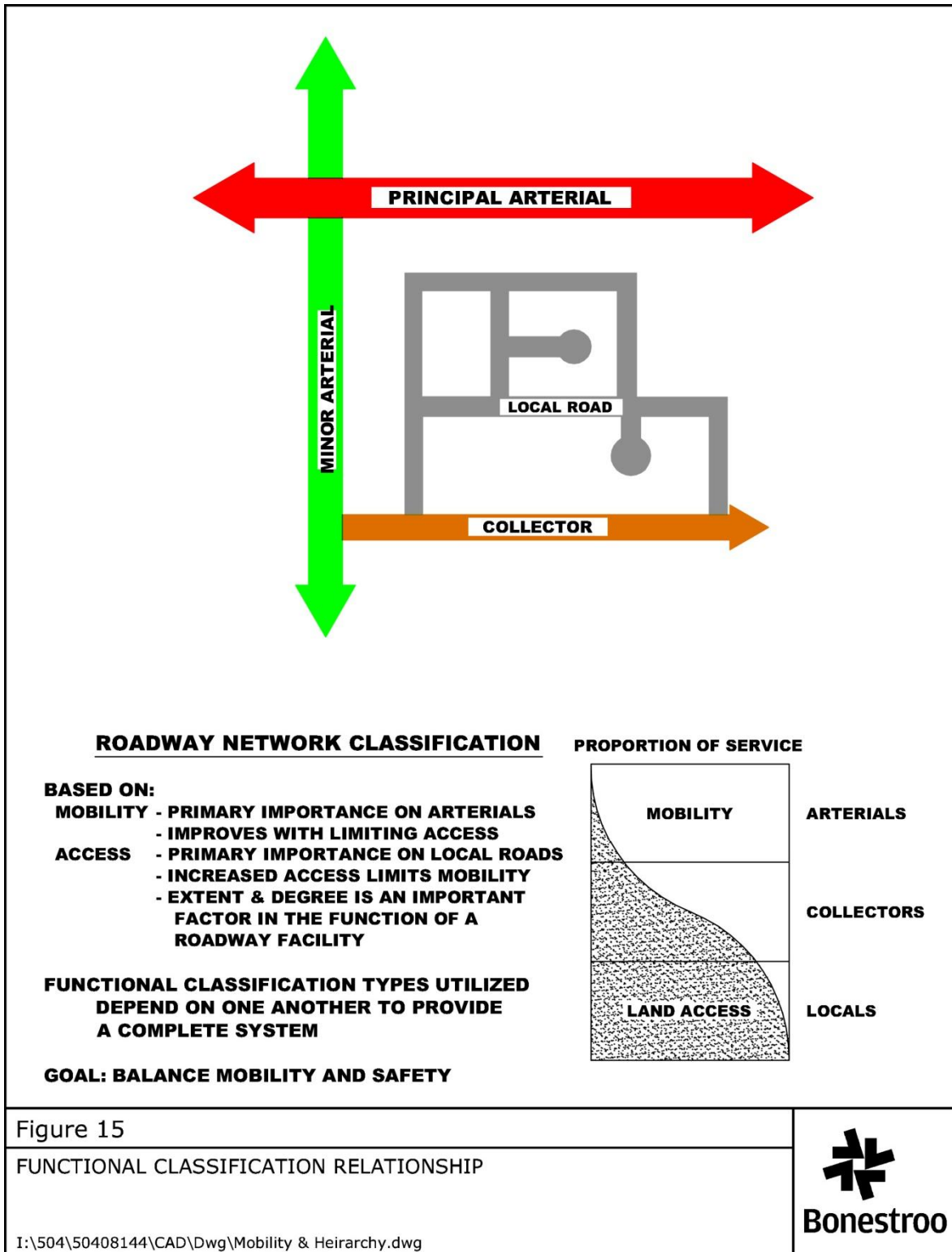


FIGURE 22 – FUNCTIONAL CLASSIFICATION RELATIONSHIP



Access Management Guidelines

The management of thoroughfare access along roadway systems, particularly arterial and collector roadways is a very important component of maximizing the capacity and decreasing the crash potential along those roadway facilities. As mentioned in a previous section, arterial roadways have a function of accommodating larger volumes of traffic and often at higher speeds. Therefore, access to such facilities must be limited in order to protect the integrity of the arterial function. Collector roadways provide a link from local streets to arterial roadways and are designed to provide more access to local land uses since the volumes and speeds are often less than arterial roadways.

MnDOT studies have shown that as the density of access increases, whether public or private, the traffic-carrying capacity of the roadway decreases and the vehicular crash rate increases¹. Businesses suffer financially on roadways with poorly designed access, while well-designed access to commercial properties support long-term economic vitality.

As with many transportation related decisions, land use activity and planning is an integral part of the creation of a safe and efficient roadway system. Every land use plan amendment, subdivision, rezoning, conditional use permit or site plan involves access and creates a potential impact to the efficiency of the transportation system. Properties have access rights and good design will minimize the deleterious effect upon the roadway system. Minnesota State Statutes state that "reasonable, convenient, and suitable" access to property shall be provided. Access management is a combination of good land use planning and effective design of access to property.

The granting of access is shared by the State, County, Cities, and Townships with each having the permitting process responsibility over roadways under their control. The aforementioned authorities may also require the following while examining access:

- Dedication of public rights-of-way
- Construction of public roadways
- Mitigation measures of traffic and/or other impacts
- Change in and/or development of new access points

Using proper access guidelines helps all the agencies involved act in a coordinated manner. However, access spacing is important not just for new developments but for existing developments and accesses as well. Processes should be developed to deal with existing corridors that have allowed improper access spacing in the past. In these cases it is possible that the number of access points exceed the access spacing guidelines. These existing access points must be handled in a different manner than with new access points. It is desired to aggressively minimize any new accesses while consolidating, restricting and/or reducing existing access points as redevelopment occurs. It is important to remember that access spacing guidelines are long term goals and not absolute rules.

¹ "Toward an Access Classification System and Spacing Guidelines", Technical Study No. 4, MnDOT, February 1999.

Maintaining flexibility is important when promoting access consolidation, including consideration of existing conditions, physical barriers, or constraints.

The traveling public benefits from access spacing whether using grade-separated crossings, frontage roads, right-turn-only entrances/exits, etc. Given the number of agencies potentially involved in reviewing plats and access points, access guidelines and corridor management practices should be implemented at the State, County, and city level.

MnDOT has developed guidelines for access management based upon their goals of safety, mobility, and state-wide growth. As a part of their guidelines, four new categories were developed as an addition to the functional classification system:

- High Priority Interregional Corridors (IRC)
- Medium Priority IRC
- Regional Corridors
- State-wide Roads

These types of roadways link the State's primary trade centers and the Twin Cities Metro area to one another. MnDOT has further divided the primary categories into sub-categories based upon the specific facilities and land use patterns surrounding the roadway. TH 55 is recognized as a regional corridor.

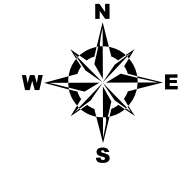
The governmental unit controlling specific roadways also controls access to these roadways. For the most up-to-date access spacing guidelines, contact MnDOT and Hennepin County.

Traffic Volumes

Figure 23 (page 184) shows the location of each traffic analysis zone (TAZ) within the City limits.



Traffic Analysis Zones 2030 Comprehensive Plan



3,000 1,500 0 3,000 Feet

- Traffic Analysis Zone (TAZ) Boundary
- Road Centerline
- City Limit
- Open Water

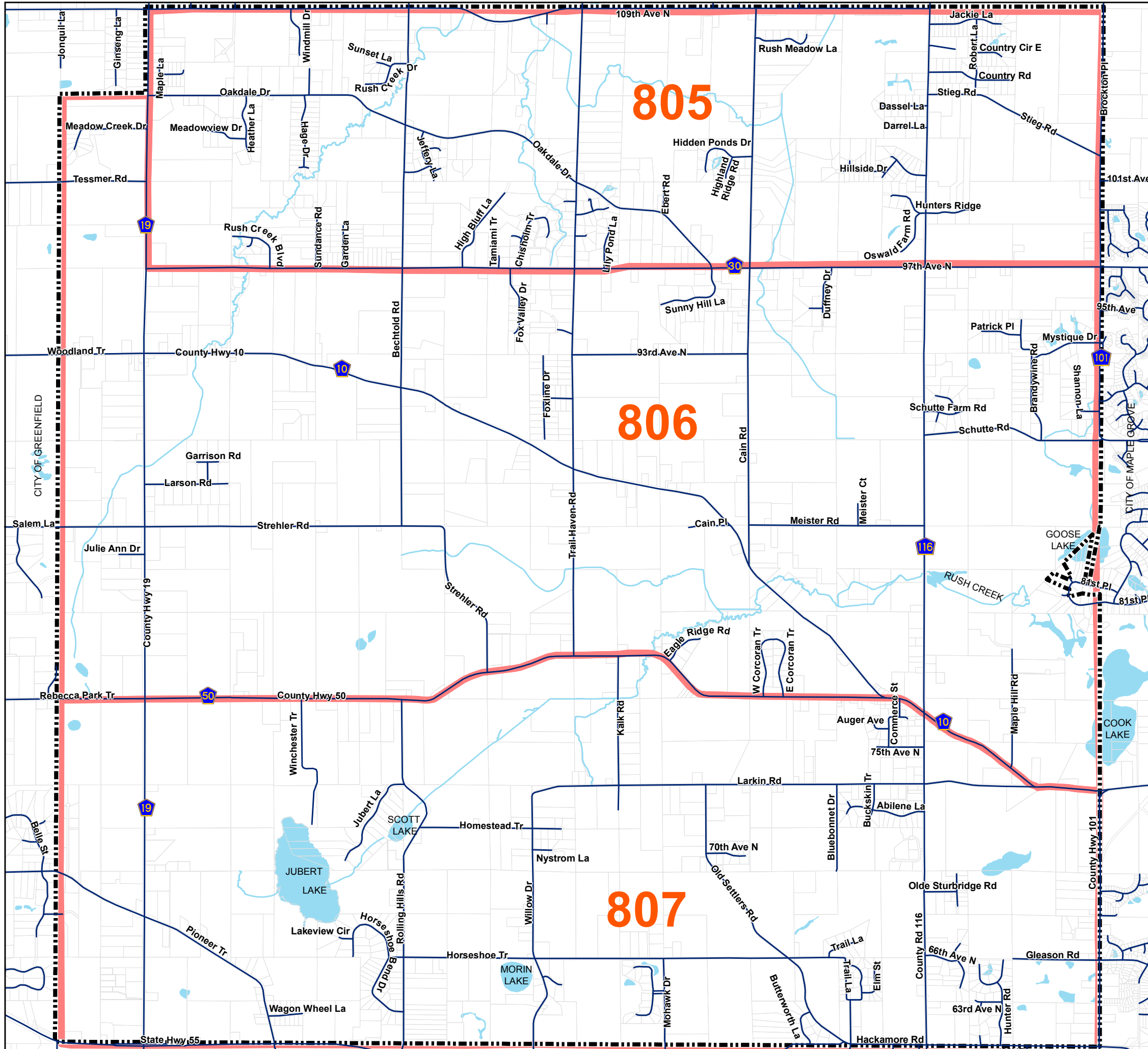


Table 25 shows the Metropolitan Council's projections for City population, households and employment.

TABLE 25: FORECAST OF POPULATION, HOUSEHOLDS AND EMPLOYMENT BY TAZ

	TAZ	2008	REVISED DEVELOPMENT FRAMEWORK		
			2010	2020	2030
Population	805	1,986	1,989	2,000	2,020
	806	2,087	2,090	3,800	8,367
	807	1,718	1,721	2,800	7,213
	Total	5,791	5,800	8,600	17,600
Households	805	627	627	660	700
	806	720	723	1,440	2,900
	807	547	550	800	2,500
	Total	1,894	1,900	2,900	6,100
Employment	805	180	200	800	1,424
	806	378	400	700	1,695
	807	862	900	1,000	2,381
	Total	1,420	1,500	3,500	5,500

Level of service (LOS) is a qualitative measure describing operational conditions within a traffic stream, generally in terms of service measures such as:

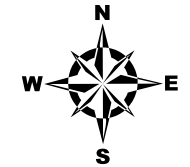
- Speed and travel time
- Freedom to maneuver
- Traffic interruption
- Comfort and convenience

Six levels, LOS A to LOS F, are generally used for traffic analysis. LOS A is the best with free flow conditions and little to no delay. LOS F is the worst with congestion, long delays, and forced flow. Table 26 (page 190) shows how each level of service would look to motorists.



City of CORCORAN

Existing Planning Level of Service 2030 Comprehensive Plan



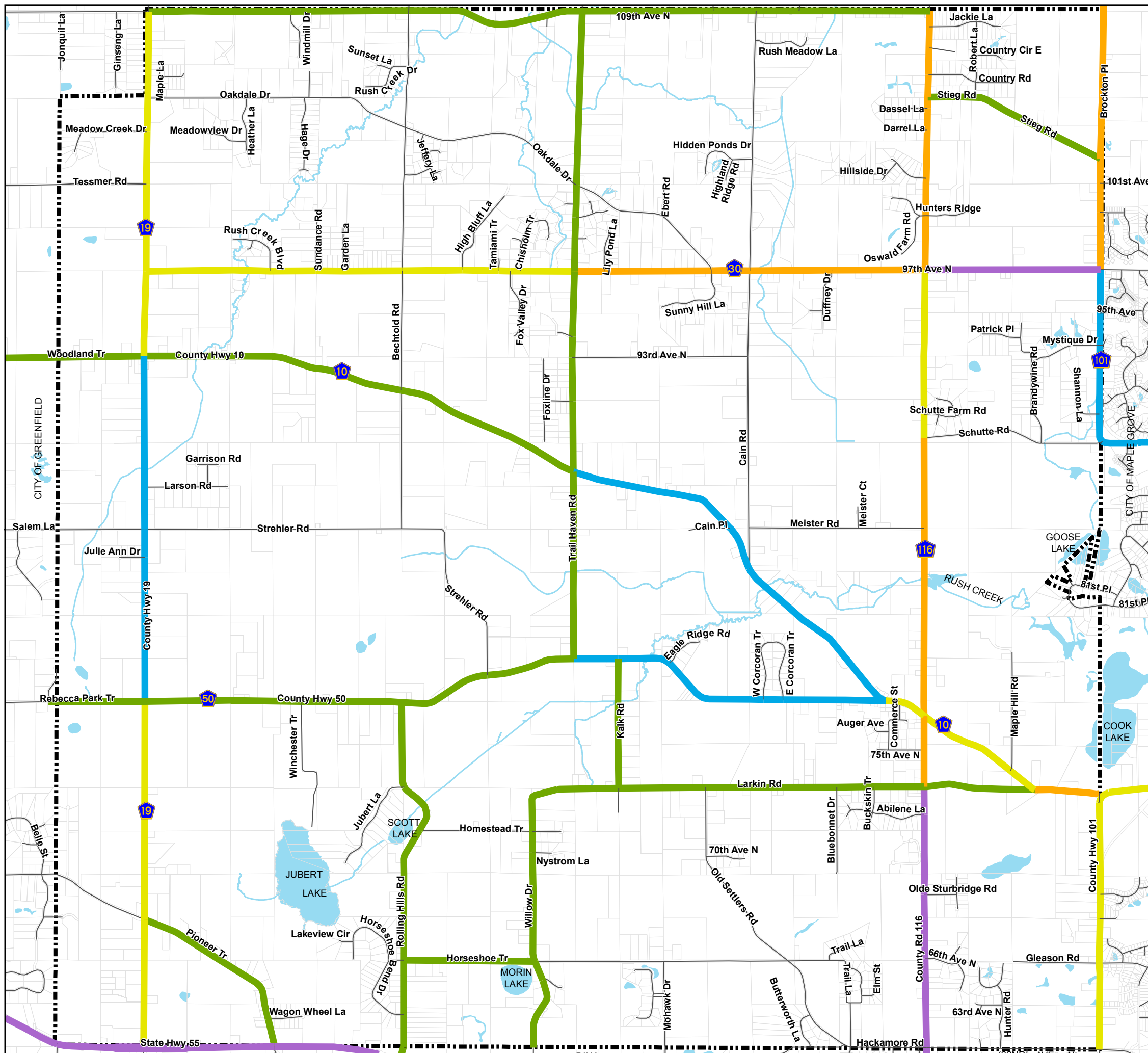
3,000 1,500 0 3,000 Feet

City Limit

Open Water

Existing Level of Service:


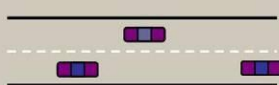
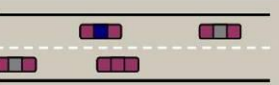
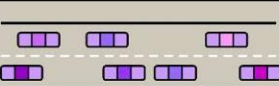


- LOS A
- LOS B
- LOS C
- LOS D
- LOS E



October 7, 2009



TABLE 26: LEVEL OF SERVICE DESCRIPTION

Level of Service	Description	
A	Lower volumes Little to no delay Unimpeded movement	
B	Minor delays Reasonably unimpeded operation Slightly restricted movement	
C	Stable conditions More restricted movements Speeds controlled by higher volumes	
D	Higher density traffic Volumes near capacity Some noticeable congestion	
E	At capacity Major delays are common Lower speeds	
F	Failing condition Significant delays Very low speeds with stop and go traffic	

For planning purposes, a generalized ADT threshold for roadways is used. Table 27 shows the generalized ADT volume thresholds for a roadway type and number of lanes in terms of level of service.

TABLE 27: GENERALIZED PLANNING AVERAGE DAILY TRAFFIC VOLUME THRESHOLDS

FACILITY TYPE	MAXIMUM ADT VOLUME AT LEVEL OF SERVICE ¹				
	A	B	C	D ²	E
2-Lane Roadway - Without Turn Lanes	3,000	4,500	6,500	8,500	10,000
With R Turn Lanes	4,750	7,200	10,300	13,500	15,900
With L Turn Lanes ³	5,250	7,900	11,400	14,900	17,500
With L and R Turn Lanes ³	7,500	11,250	16,250	21,250	25,000
4-Lane Roadway - Without Turn Lanes	7,100	10,700	15,400	20,100	23,700
With R Turn Lanes	9,600	14,400	20,700	27,100	31,900
With L Turn Lanes ⁴	10,100	15,200	21,900	28,600	33,700
With L and R Turn Lanes ⁴	12,600	18,900	27,200	35,600	41,900

¹ ADT Volumes above the LOS E maximum threshold would be considered LOS F.
² LOS D is usually the lowest acceptable LOS allowed by most agencies within the metro area.
³ Also considered the planning capacity for a 3-lane roadway (one through lane in each direction with a center, two-way left turn lane) without or with a right turn lane.
⁴ Also considered the planning capacity for a 5-lane roadway (two through lanes in each direction with a center, two-way left turn lane) without or with a right turn lane.

Note: Approximate values based upon several assumptions:
 Capacity assumptions per lane
 Peak hour percentages
 Directional orientation
 ¼ mile signal spacing

Most of the existing roadway network in Corcoran is composed of two-lane roads without turn lanes. TH 55 through Corcoran is a two-lane roadway with bypass lanes. It is

assumed that TH 55 is a two-lane facility with left-turn lanes to evaluate the planning LOS. The existing roadway network was compared to the values on Table 27 to obtain the existing daily planning LOS estimates.

Figure 24 (page 188) shows the current planning LOS values per road segment. As shown in that figure, most of the road segments analyzed currently are operating at satisfactory conditions. The exceptions are CSAH 30 (97th Avenue N) between CR 116 and CSAH 101, CR 116 south of Larkin Road, and TH 55 through Corcoran, which are all at LOS E.

TABLE 28: NW HENNEPIN STUDY – IMPROVEMENT STAGING

CORRIDOR	TERMINI	TYPE OF IMPROVEMENT	TIMING OF IMPROVEMENT
CSAH 30	CR 116 to Dunkirk Ln	Upgrade to 4-lane Minor Arterial	Short-Term
CSAH 101/Brockton Ln	CSAH 30 to CR 117	Upgrade to 4-lane Minor Arterial	Short-Term
CSAH 101/Brockton Ln/I-94 Interchange	---	Interchange with I-94	Short-Term
CR 116 Overpass	---	Overpass with I-94	Short-Term
CR 117 Overpass	---	Overpass with I-94	Mid-Term
CSAH 101/Brockton Ln	CSAH 30 to South Study Area Limits	Upgrade to 4-lane Minor Arterial	Mid-Term
CR 116	CSAH 30 to South Study Area Limits	Upgrade to 4-lane Minor Arterial	Mid-Term
CSAH 30	CR 116 to CSAH 19	Upgrade to 4-lane Minor Arterial	Mid-Term
CSAH 30 Realignment/Extension	CSAH 19 to Harff Rd	Realignment of 2-lane Minor Arterial	Long-Term
Short-Term timeframe is between 2008 and 2020 Mid-Term timeframe is between 2020 and 2030 Long-Term timeframe is between 2030 and 2040			

TABLE 29: 2030 PLANNING LOS – DEFICIENT SEGMENTS

SEGMENT	FROM - TO	LOS
CR 116	Entire segment in Corcoran	F
CSAH 101	Entire segment bordering Corcoran	F
CSAH 10/CSAH 50	Commerce Street to CSAH 101	F
CSAH 30	Cain Road – CSAH 101	F
CSAH 30	CSAH 19 – Cain Road	E
CR 117	West City Boundary – CR 116	F
CSAH 19	CSAH 50 – CR 117	E
CSAH 50	CSAH 19 – CSAH 10	E

TABLE 30: HENNEPIN COUNTY – BASE 2030 ROADWAY NETWORK IMPROVEMENTS

ROADWAY	TERMINI	CITY
<i>MnDOT</i>		
Trunk Highway 101	Conversion to limited access – north segment	Rogers / Hassan Twp
<i>Hennepin County</i>		
CSAH 101	Reconst. & add lanes with Stone's Throw	Hassan Township
County Road 116	Fletcher Bypass – extension to CSAH 81	Rogers / Hassan Twp

The County also identified Optional 2030 Roadway Network Improvements. This roadway network incorporates some roadway elements that have been proposed by this and other studies and are still under evaluation. Table 31 identifies improvements that may impact Corcoran.

TABLE 31: HENNEPIN COUNTY – OPTIONAL 2030 ROADWAY NETWORK IMPROVEMENTS

ROADWAY	TERMINI	CITY
<i>MnDOT</i>		
I-94 / TH 101	New directional interchange	Rogers
<i>Hennepin County</i>		
CSAH 30	New Crow River Bridge to Wright Co CR 144	Greenfield
TH 610 Extension	Connection from I-94 to CSAH 30	Maple Grove

APPENDIX D

Financial Incentives

APPENDIX D

Financial Incentives

Tax Increment Financing

Tax Increment Financing (TIF) is the primary development finance tool available to Minnesota cities. TIF is simple in concept, but complex in its application. Through Tax Increment Financing, the property taxes created by new development (or redevelopment) are captured and used to finance activities needed to encourage the development. The challenge in using TIF lies with the complex and ever-changing statutory limitations. These complexities make it impractical to provide a thorough explanation of Tax Increment Financing as part of this plan.

Tax Increment Financing can be used to finance all of the important implementation actions facing the City such as land acquisition, site preparation, parking, and public improvements. In addition, TIF creates a means to borrow money needed to pay for redevelopment costs. The City can issue general obligation bonds without an election if 20 percent or more of the debt is supported by tax increment revenues. These bonds are not subject to any debt limit.

Tax Abatement

Tax abatement acts like a simpler and less powerful version of Tax Increment Financing. With TIF, the City controls the entire property tax revenue from new development. Under the abatement statute (Minnesota Statutes, Sections 469.1812 through 469.1815), the City, County, and school district have independent authority to grant abatement.

Abatement in Minnesota works more like a rebate than an abatement. The City (and other units abating taxes) adds a tax levy equal to the amount of taxes to be abated. The revenue from the abatement levy can be returned to the property owner or retained and used to finance development activities. Tax abatement can be used to finance key redevelopment actions, including land acquisition, site preparation and public improvements.

Tax abatement is perhaps best suited as an incentive for reinvestment in existing property. While TIF deals with only the value from new development, abatement can apply to both new and existing value. This power provides the means to encourage rehabilitation of commercial buildings and housing. The City could agree to abate all or part of the municipal share of taxes to encourage reinvestment tied to the plan.

City Growth Fund

The City of Corcoran may consider establishing a Growth Fund to assist potential businesses. This technique has been used in other metro area cities to promote economic development. Some cities have established a revolving loan fund to new and expanding businesses to finance equipment and/or real estate with the purpose of increasing the local tax base and improving the City's overall economy.

Twin Cities Community Capital Fund

The Twin Cities Community Capital Fund (TCCCF) is an economic development financing resource for the seven-county Twin Cities Metropolitan Area. The Fund is designed to leverage millions of dollars in Revolving Loan Funds (RLFs) and other economic development funds owned and managed by metro area local governments and development financing organizations. By pooling resources, TCCCF members have the advantage of offering much larger loans than would be possible with limited local resources, greater gap-lending flexibility for financing local development projects, and significantly lower loan risk. This non-profit organization also provides the services of a professional fund manager and loan officers at no cost to participating fund members. Many member communities in the metro have used TCCCF financing to provide gap financing for funding of building expansion and equipment for new and expanding businesses.

Other Programs

A City Economic Development Authority (EDA) could also pursue opportunities through the Minnesota Department of Employment and Economic Development (DEED) to secure financing for businesses. Possible programs may include the Minnesota Investment Fund or the Minnesota Job Skills Partnership Program.

Ensure Infrastructure is available to meet business needs

The City has developed a staging plan to identify the timing of infrastructure availability in the City. Plans are underway to provide sewer service to the City's economic development target areas. The City has prepared a staging plan to identify the staging of infrastructure provision to the rest of the City. The City has also timed its Staging Plan to coincide with planned transportation improvements to ensure that adequate transportation infrastructure is in place to accommodate new commercial and industrial uses.

Promote Quality Development

After the Comprehensive Plan is finalized, the City should update its Zoning Ordinance to be consistent with the Comprehensive Plan. The revised ordinance should incorporate high design standards for new business development including architectural guidelines for retail development, standards for quality building materials for commercial and industrial development and site planning requirements that incorporate quality landscape features for both commercial and industrial development as well.

Support Existing Businesses

The City recognizes the importance of maintaining its many valuable existing businesses located within the community. These businesses provide important services and jobs to Corcoran residents and the region. The City will work with the I-94 Chamber of Commerce to identify the needs of existing businesses to achieve a healthy business climate. Open communication between the City and business owners is essential to establishing a strong and mutually beneficial relationship between the City and business owners. The City should pursue ongoing communication efforts with Corcoran business

owners including surveys, interviews, and check-in meetings to understand the needs and issues facing business owners. Corcoran will also work with existing businesses that are considering moving or expanding to better understand barriers to business expansion and assist businesses to overcome these barriers. Additionally, financial assistance options discussed above for new businesses will also be made available to existing businesses where appropriate to encourage business investment and expansion in the City. If businesses do leave the City, the City should follow up with these businesses to understand reasons for the departure. This information can be used to develop additional business retention efforts.

APPENDIX E

- Sanitary Sewer Ultimate System Areas (E-1)
- Sanitary Sewer Ultimate System Average Flows (E-2)
- Sanitary Sewer Ultimate System Design Flows (E-3)
- Sanitary Sewer Ultimate Trunk System Design (E-4)

APPENDIX E-1 - ULTIMATE SYSTEM AREAS

Sewer Subdistrict ID	Undevelopable	Rural/Ag Residential	Ag Preserve	Existing Residential	Low Density Residential	Medium Density Residential	High Density Residential	Mixed Residential	Light Industrial	Business Park	Commercial	Mixed Use	Public/Semi-Public	Parks/Open Space	Golf Course	TOTAL
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)

NE DISTRICT

NE-A	36	0	0	0	60	0	0	0	90	0	0	44	0	0	0	230
NE-B	26	0	0	141	0	0	0	0	0	0	0	0	0	0	0	166
NE-C	26	0	0	47	17	0	0	0	0	0	0	0	0	0	0	90
NE-D	20	0	0	18	0	0	0	0	0	0	0	0	0	0	0	38
NE-E	19	0	0	0	106	0	16	0	0	0	0	0	0	0	0	142
NE-F	0	0	0	0	0	0	0	0	0	0	35	0	7	0	0	42
NE-G	40	0	0	76	0	0	0	0	0	0	0	0	0	0	0	116
NE-H	38	0	0	41	0	0	0	0	0	0	0	0	0	0	0	78
NE-I	14	0	0	0	0	0	0	27	0	0	0	0	0	0	0	41
NE-J	25	0	0	0	0	0	20	12	0	0	0	0	0	0	0	56
NE-K	13	0	0	6	0	0	0	0	0	0	0	20	25	0	0	64
NE-L	0	0	0	0	0	0	0	0	0	0	0	38	0	0	0	38
NE-M	82	0	0	0	0	0	0	0	0	0	0	13	0	0	0	95
NE-N	1	0	0	0	0	0	0	0	0	0	21	0	0	0	0	22
NE-O	5	0	0	0	0	0	0	0	0	0	0	34	0	0	0	39
NE-P	11	0	0	0	0	0	0	0	0	0	0	30	0	0	0	41
NE-Q	46	0	0	0	0	0	0	0	0	0	0	79	0	0	0	125
NE-R	72	0	0	201	0	0	0	0	0	0	0	0	14	0	0	286
NE-S	11	0	0	0	142	0	0	0	0	0	0	0	0	0	0	153
NE-T	3	0	0	0	0	0	0	77	0	0	0	0	0	0	0	80
NE-U	5	0	0	0	19	0	0	106	0	0	0	0	0	0	0	129
NE-V	13	0	0	0	153	0	0	0	0	0	0	0	0	0	0	166
NE-W	33	0	0	33	67	0	0	0	0	0	0	0	0	0	0	133
Subtotal	537	0	0	561	564	0	36	221	90	0	56	258	46	0	0	2,369

SW DISTRICT

SW-A	0	0	0	0	0	0	0	0	79	0	0	0	0	0	0	79
SW-B	2	0	0	0	0	0	0	0	34	0	0	0	0	0	0	35
SW-C	6	0	0	0	0	0	0	0	4	0	32	0	0	0	0	42
SW-D	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	31
SW-E	20	0	0	0	0	0	0	0	27	0	35	0	0	0	0	82
SW-F	14	0	0	0	45	0	0	0	0	0	0	0	0	0	0	59
SW-G	2	0	0	0	0	34	0	0	33	0	0	0	0	0	0	69

APPENDIX E-1 - ULTIMATE SYSTEM AREAS

Sewer Subdistrict ID	Undevelopable	Rural/Ag Residential	Ag Preserve	Existing Residential	Low Density Residential	Medium Density Residential	High Density Residential	Mixed Residential	Light Industrial	Business Park	Commercial	Mixed Use	Public/Semi-Public	Parks/Open Space	Golf Course	TOTAL
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)
SW-H	2	0	0	14	0	0	0	0	0	0	0	0	0	0	0	15
SW-I	5	0	0	21	3	0	0	0	0	0	0	0	0	0	0	29
SW-J	6	0	0	1	81	0	0	0	0	0	0	0	0	0	0	88
SW-K	56	0	0	106	18	0	0	0	5	0	0	0	0	0	0	185
SW-L	0	0	0	0	0	0	0	0	76	0	0	0	0	0	0	77
Subtotal	113	0	0	141	148	34	0	0	289	0	67	0	0	0	0	792

SE DISTRICT

SE-A	26	0	0	18	0	0	0	0	0	0	0	0	0	0	0	44
SE-B	32	0	0	0	28	0	0	0	0	0	0	0	0	0	0	60
SE-C	1	0	10	0	0	0	0	0	0	0	32	37	0	0	0	80
SE-D	46	0	0	21	87	0	0	28	0	0	0	0	0	0	0	182
SE-E	11	0	0	52	0	0	0	0	0	0	0	0	4	0	0	66
SE-F	19	0	0	0	0	0	0	12	0	0	0	0	0	44	0	75
SE-G	5	0	0	0	0	0	0	0	0	0	0	0	1	19	0	25
SE-H	13	0	0	0	0	0	106	0	0	0	2	0	0	0	0	121
SE-I	1	0	0	0	0	18	2	0	0	0	0	0	0	0	0	21
SE-J	25	0	0	0	0	0	0	0	0	0	0	98	0	0	0	122
SE-K	7	0	0	0	35	0	0	0	0	0	0	0	0	0	0	41
SE-L	11	0	0	0	0	0	77	7	0	0	0	0	2	0	0	97
SE-M	32	0	0	8	0	0	0	0	0	0	0	0	0	0	74	114
SE-N	0	0	0	0	16	29	0	0	0	0	0	0	0	0	0	45
SE-O	37	0	15	0	153	0	0	0	0	0	0	0	0	0	0	205
SE-P	6	0	0	0	0	67	0	0	1	0	0	0	0	0	0	74
SE-Q	14	0	0	0	0	0	0	0	44	0	13	0	19	0	0	90
SE-R	6	0	0	0	0	0	0	0	29	0	0	0	0	0	0	35
SE-S	14	0	0	0	0	0	0	18	0	0	0	0	0	0	0	32
SE-T	24	0	0	0	71	0	0	68	0	0	0	0	0	0	0	164
SE-U	24	0	0	0	101	0	0	0	0	0	0	0	0	0	0	125
SE-V	22	0	0	41	0	0	0	0	0	0	0	0	0	0	0	63
SE-W	14	0	0	0	38	0	0	0	0	0	0	0	0	0	0	52
SE-X	13	0	0	36	20	0	0	18	5	0	0	0	0	0	0	93
SE-Y	24	0	0	0	77	0	0	101	0	0	0	0	0	0	0	202
SE-Z	26	0	0	0	13	0	0	19	0	0	0	17	0	0	0	75

APPENDIX E-1 - ULTIMATE SYSTEM AREAS

Sewer Subdistrict ID	Undevelopable	Rural/Ag Residential	Ag Preserve	Existing Residential	Low Density Residential	Medium Density Residential	High Density Residential	Mixed Residential	Light Industrial	Business Park	Commercial	Mixed Use	Public/Semi-Public	Parks/Open Space	Golf Course	TOTAL
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)
SE-AA	39	0	0	74	7	0	0	0	0	0	0	0	0	0	0	120
SE-AB	74	0	6	0	112	0	0	0	0	0	0	0	0	0	0	192
SE-AC	26	0	0	32	0	0	0	0	0	0	0	0	0	0	0	58
SE-AD	25	0	0	59	34	0	0	0	0	0	0	0	0	0	0	118
SE-AE	15	0	0	0	138	0	0	0	0	0	0	0	0	0	0	153
SE-AF	49	0	0	0	0	0	0	0	0	0	30	0	0	0	0	79
SE-AG	65	0	0	61	37	0	0	0	0	0	0	0	0	0	0	163
SE-AH	58	0	0	9	91	0	0	0	0	0	0	0	0	0	0	159
SE-AI	61	0	0	24	157	0	0	0	0	0	0	0	0	0	0	243
SE-AJ	122	0	0	50	112	0	0	0	0	0	0	0	0	0	0	284
SE-AK	82	0	42	0	126	0	0	0	0	0	0	0	0	0	0	250
SE-AM	13	2	49	0	65	0	0	0	0	0	0	0	0	0	0	130
SE-AO	32	0	0	0	158	0	0	1	0	0	0	0	0	0	0	191
SE-AP	7	0	0	0	72	0	0	0	0	0	0	0	0	0	0	78
SE-AQ	5	0	0	0	75	0	0	0	0	0	0	0	0	0	0	80
SE-AR	35	0	0	0	21	0	0	60	0	0	0	0	0	0	0	116
SE-AS	19	0	0	0	0	0	34	0	0	0	24	0	0	0	0	77
SE-AT	109	0	0	0	95	0	0	0	0	0	0	0	0	0	0	205
SE-AU	14	0	0	33	76	0	0	0	0	0	0	0	0	0	0	123
SE-AV	24	0	13	19	66	0	0	0	0	0	0	0	0	0	0	122
Subtotal	1,326	2	135	538	2,082	114	220	334	78	0	100	152	26	62	74	5,243
Totals	1,976	2	135	1,240	2,794	148	256	555	457	0	223	409	72	62	74	8,404

APPENDIX E-2 - ULTIMATE SYSTEM AVERAGE FLOWS

Sewer Subdistrict ID	Undevelopable	Rural/Ag Residential	Ag Preserve	Existing Residential	Low Density Residential	Medium Density Residential	High Density Residential	Mixed Residential	Light Industrial	Business Park	Commercial	Mixed Use	Public/Semi-Public	Parks/Open Space	Golf Course	TOTAL
	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)

NE DISTRICT

NE-A	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.09	0.00	0.00	0.07	0.00	0.00	0.00	0.20
NE-B	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
NE-C	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
NE-D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NE-E	0.00	0.00	0.00	0.00	0.08	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
NE-F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.04
NE-G	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
NE-H	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
NE-I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
NE-J	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
NE-K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.04
NE-L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.06
NE-M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
NE-N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02
NE-O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05
NE-P	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05
NE-Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.12
NE-R	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
NE-S	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
NE-T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
NE-U	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
NE-V	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
NE-W	0.00	0.00	0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Subtotal	0.00	0.00	0.00	0.15	0.42	0.00	0.07	0.27	0.09	0.00	0.06	0.39	0.01	0.00	0.00	1.46

SW DISTRICT

SW-A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.08
SW-B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.03
SW-C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.04
SW-D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.03
SW-E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.06
SW-F	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
SW-G	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.07
SW-H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SW-I	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
SW-J	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
SW-K	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05
SW-L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Subtotal	0.00	0.00	0.00	0.04	0.11	0.04	0.00	0.00	0.29	0.00	0.07	0.00	0.00	0.00	0.00	0.54

APPENDIX E-2 - ULTIMATE SYSTEM AVERAGE FLOWS

Sewer Subdistrict ID	Undevelopable	Rural/Ag Residential	Ag Preserve	Existing Residential	Low Density Residential	Medium Density Residential	High Density Residential	Mixed Residential	Light Industrial	Business Park	Commercial	Mixed Use	Public/Semi-Public	Parks/Open Space	Golf Course	TOTAL
	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)	(MGD)
Subtotal	0.00	0.00	0.00	0.15	1.56	0.12	0.44	0.40	0.08	0.00	0.10	0.23	0.01	0.00	0.00	3.08
NE District	0.00	0.00	0.00	0.15	0.42	0.00	0.07	0.27	0.09	0.00	0.06	0.39	0.01	0.00	0.00	1.46
SW District	0.00	0.00	0.00	0.04	0.11	0.04	0.00	0.00	0.29	0.00	0.07	0.00	0.00	0.00	0.00	0.54
SE District	0.00	0.00	0.00	0.15	1.56	0.12	0.44	0.40	0.08	0.00	0.10	0.23	0.01	0.00	0.00	3.08
Totals	0.00	0.00	0.00	0.33	2.10	0.16	0.51	0.67	0.46	0.00	0.22	0.61	0.02	0.00	0.00	5.08

APPENDIX E-3 - ULTIMATE SYSTEM DESIGN FLOWS (MGD)

From Point	To Point	Area Added	Average Flow Added	Total Average Flow	PFF	Design Flow
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NE DISTRICT

NE-1	NE-2 (LS)	NE-K, O, U, V	0.34	0.34	3.6	1.24
NE-2 (LS)	NE-3	NE-T	0.09	0.44	3.5	1.53
NE-4	NE-3	NE-P	0.05	1.94	2.8	5.42
NE-3	NE-5	NE-L	0.06	2.43	2.7	6.56
NE-5	NE-6		0.00	2.43	2.7	6.56
NE-7	NE-8	NE-M, Q, R, W	0.26	0.26	3.7	0.94
NE-8	NE-6	NE-J	0.05	0.31	3.6	1.11
NE-9	NE-10	NE-G	0.02	0.02	4.0	0.08
NE-10	NE-6	NE-H	0.01	0.03	4.0	0.13
NE-6	NE-11	NE-I	0.03	2.80	2.7	7.57
NE-12	NE-13	NE-F, N	0.06	0.06	4.0	0.23
NE-13	NE-11		0.00	0.06	4.0	0.23
NE-11	NE-14	NE-E	0.11	2.97	2.6	7.73
NE-15	NE-16	NE-C, D	0.03	0.03	4.0	0.12
NE-16	NE-14	NE-B, S	0.14	0.17	3.9	0.68
NE-14	NE-17		0.00	3.15	2.6	8.18
NE-17	NE-18	NE-A	0.20	3.35	2.6	8.70
NE-18	NE-19		0.00	3.35	2.6	8.70
NE-19	ECI ¹		0.00	3.35	2.6	8.70

¹ MCES Elm Creek Interceptor

SW DISTRICT

SW-1	SW-2	SW-A	0.08	0.08	4.0	0.32
SW-2	SW-3	SW-B, C, E	0.13	0.21	3.8	0.80
SW-4	SW-5	SW-D, F	0.07	0.07	4.0	0.26
SW-5	SW-3		0.00	0.07	4.0	0.26
SW-3	SW-6		0.00	0.28	3.7	1.02
SW-6	SW-7	SW-G, I	0.08	0.35	3.6	1.27
SW-8	SW-9	SW-H	0.00	0.00	4.0	0.01
SW-10	SW-9	SW-K	0.05	0.05	4.0	0.19
SW-9	SW-7	SW-J	0.06	0.11	4.0	0.45
SW-7	SW-11 (LS)	SW-L	0.08	0.54	3.4	1.84
SW-11 (LS)	Medina ¹		0.00	0.54	3.4	1.84

¹ Intercommunity connection to Medina

APPENDIX E-3 - ULTIMATE SYSTEM DESIGN FLOWS (MGD)

From Point	To Point	Area Added	Average Flow Added	Total Average Flow	PFF	Design Flow
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SE DISTRICT

SE-A	MG ¹	SE-A	0.00	0.00	4.0	0.02
SE-30	SE-29(LS)	SE-AG, AH	0.12	0.12	4.0	0.46
SE-29(LS)	SE-28	SE-AI	0.12	0.24	3.8	0.91
SE-28	SE-1	SE-AJ	0.10	0.34	3.6	1.21
SE-1	SE-2	SE-U, W, AK	0.20	0.54	3.4	1.82
SE-2	SE-3	SE-V	0.01	0.55	3.4	1.86
SE-4	SE-3	SE-R	0.03	0.03	4.0	0.11
SE-3	SE-5	SE-P, Q	0.13	0.71	3.3	2.34
SE-5	SE-6	SE-G	0.00	0.71	3.3	2.34
SE-7	SE-6	SE-O, AM	0.16	0.16	3.9	0.64
SE-6	SE-8		0.00	0.87	3.2	2.79
SE-9	SE-10	SE-D, E	0.12	0.12	4.0	0.48
SE-10	SE-8		0.00	0.12	4.0	0.48
SE-8	SE-11	SE-F	0.01	1.01	3.1	3.12
SE-12	SE-11	SE-H, I	0.24	0.24	3.8	0.90
SE-11	SE-13		0.00	1.25	3.0	3.74
SE-13	SE-14 (LS)	SE-B	0.02	1.27	3.0	3.80
SE-32	SE-31	SE-AP, AO	0.17	0.17	3.9	0.68
SE-31	SE-14 (LS)	SE-AQ, AR	0.14	0.32	3.6	1.14
SE-14 (LS)	NE-4	SE-C,K, AF, AS, AT	0.31	1.89	2.9	5.48
SE-15	SE-16		0.00	0.00	4.0	0.00
SE-17	SE-18	SE-X, Y	0.23	0.23	3.8	0.88
SE-18	SE-16	SE-S	0.02	0.25	3.7	0.93
SE-16	SE-19	SE-J, L	0.31	0.56	3.4	1.91
SE-20 (LS)	SE-19	SE-M, N	0.05	0.05	4.0	0.19
SE-19	SE-21	SE-T	0.14	0.74	3.3	2.46
SE-21	SE-22		0.00	0.74	3.3	2.46
SE-23	SE-24	SE-AA, AB, AV	0.16	0.16	3.9	0.64
SE-25	SE-24	SE-AD, AU	0.11	0.11	4.0	0.43
SE-24	SE-26	SE-AC	0.01	0.28	3.7	1.04
SE-27	SE-26	SE-AE	0.10	0.10	4.0	0.41

APPENDIX E-3 - ULTIMATE SYSTEM DESIGN FLOWS (MGD)

From Point	To Point	Area Added	Average Flow Added	Total Average Flow	PFF	Design Flow
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SE-26	SE-22		0.00	0.38	3.6	1.38
SE-22	ECI²	SE-Z	0.06	1.19	3.1	3.68

¹ Intercommunity connection to Maple Grove

² MCES Elm Creek Interceptor

APPENDIX E-4 - ULTIMATE TRUNK SYSTEM DESIGN

From Node	To Node	Design Flow	Existing/Proposed	Pipe Size (in)	Pipe Material	Length (ft)	Upstream		Downstream Elevation (ft)	Average Slope (%)	Manhole Depth (ft)	CAPACITY					Capacity/Design Flow
		(MGD)					Rim Elev (ft)	Inv Elev (ft)				Inlet Control		Outlet Control		Capacity	
												(cfs)	(MGD)	(cfs)	(MGD)	(MGD)	

NE DISTRICT

NE-1	NE-2 (LS)	1.24	Prop.	12	PVC	1600	950.00	916.00	910.00	0.38	34	2.2	1.42	2.2	1.41	1.41	1.14
NE-2 (LS)	NE-3	1.53	Prop. FM	10	DIP	1600	940.00	910.00	938.00	---	30	---	---	---	---	1.74	1.14
NE-4	NE-3	5.79	Prop.	27	PVC	1000	950.00	938.00	936.90	0.11	12	17.7	11.43	10.3	6.65	6.65	1.15
NE-3	NE-5	6.91	Prop.	27	RCP	1300	950.00	936.90	935.30	0.12	13	17.7	11.43	10.9	7.03	7.03	1.02
NE-5	NE-6	6.91	Prop.	27	RCP	1500	950.00	935.30	897.20	2.54	15	17.7	11.43	49.5	31.95	11.43	1.65
NE-7	NE-8	1.14	Prop.	12	PVC	1400	940.00	928.00	922.40	0.40	12	2.2	1.42	2.3	1.46	1.42	1.25
NE-8	NE-6	1.33	Prop.	12	PVC	1500	940.00	922.40	916.40	0.40	18	2.2	1.42	2.3	1.46	1.42	1.07
NE-9	NE-10	0.08	Prop.	8	PVC	600	920.00	908.00	905.60	0.40	12	1.4	0.90	0.8	0.49	0.49	6.06
NE-10	NE-6	0.13	Prop.	8	PVC	2100	930.00	905.60	897.20	0.40	24	1.4	0.90	0.8	0.49	0.49	3.94
NE-6	NE-11	7.78	Prop.	27	RCP	1300	950.00	897.20	895.00	0.17	53	17.7	11.43	12.8	8.25	8.25	1.06
NE-12	NE-13	0.23	Prop.	8	PVC	1400	940.00	928.00	922.40	0.40	12	1.4	0.90	0.8	0.49	0.49	2.15
NE-13	NE-11	0.23	Prop.	8	PVC	3800	940.00	922.40	906.00	0.43	18	1.4	0.90	0.8	0.51	0.51	2.24
NE-11	NE-14	8.23	Prop.	30	RCP	1800	940.00	895.00	892.80	0.12	45	23.3	15.05	14.4	9.28	9.28	1.13
NE-15	NE-16	0.09	Prop.	8	PVC	1000	930.00	918.00	913.00	0.50	12	1.4	0.90	0.9	0.55	0.55	6.27
NE-16	NE-14	0.87	Prop.	10	PVC	1900	925.00	913.00	905.40	0.40	12	1.7	1.10	1.4	0.90	0.90	1.03
NE-14	NE-17	8.82	Prop.	33	RCP	1200	920.00	892.80	891.60	0.10	27	29.0	18.73	16.8	10.83	10.83	1.23
NE-17	NE-18	8.94	Prop.	33	RCP	1000	940.00	891.60	890.60	0.10	48	29.0	18.73	16.8	10.83	10.83	1.21
NE-18	NE-19	8.94	Prop.	33	RCP	2200	930.00	890.60	888.40	0.10	39	29.0	18.73	16.8	10.83	10.83	1.21
NE-19	ECI ¹	8.94	Prop.	33	RCP	---	925.00	888.40	---	---	37	---	---	---	---	---	---

¹ MCES Elm Creek Interceptor

SW DISTRICT

SW-1	SW-2	0.32	Prop.	8	PVC	3200	1055.00	1043.00	1030.20	0.40	12	1.4	0.90	0.8	0.49	0.49	1.57
SW-2	SW-3	0.80	Prop.	12	PVC	1600	1050.00	1030.20	1025.70	0.28	20	2.2	1.42	1.9	1.22	1.22	1.53
SW-4	SW-5	0.26	Prop.	8	PVC	1400	1050.00	1038.00	1032.40	0.40	12	1.4	0.90	0.8	0.49	0.49	1.89
SW-5	SW-3	0.26	Prop.	8	PVC	1000	1050.00	1032.40	1025.70	0.67	18	1.4	0.90	1.0	0.64	0.64	2.44
SW-3	SW-6	1.02	Prop.	12	PVC	2300	1050.00	1025.70	1020.60	0.22	24	2.2	1.42	1.7	1.09	1.09	1.06
SW-6	SW-7	1.27	Prop.	12	PVC	2600	1050.00	1020.60	983.10	1.44	29	2.2	1.42	4.3	2.77	1.42	1.12
SW-8	SW-9	0.01	Prop.	8	PVC	1200	1040.00	1028.00	988.00	3.33	12	1.4	0.90	2.2	1.43	0.90	61.83
SW-10	SW-9	0.19	Prop.	8	PVC	6700	1034.00	1022.00	988.00	0.51	12	1.4	0.90	0.9	0.56	0.56	2.96

APPENDIX E-4 - ULTIMATE TRUNK SYSTEM DESIGN

From Node	To Node	Design Flow	Existing/Proposed	Pipe Size	Pipe Material	Length	Upstream		Downstream Elevation	Average Slope	Manhole Depth	CAPACITY					Capacity/Design Flow
							Rim Elev	Inv Elev				Inlet Control		Outlet Control		Capacity	
		(MGD)		(ft)		(ft)	(ft)	(cfs)	(MGD)	(cfs)	(MGD)	(MGD)					
SW-9	SW-7	0.45	Prop. FM	6	DIP	2100	1000.00	960.00	---	---	40	---	---	---	---	0.63	1.41
SW-7	SW-11 (LS)	1.84	Prop.	18	PVC	3400	1024.00	983.10	978.00	0.15	41	6.2	4.01	4.1	2.63	2.63	1.43
SW-11 (LS)	Medina ¹	1.84	Prop. FM	12	DIP	4800	---	---	---	---	---	---	---	---	---	---	---

¹ Intercommunity connection to Medina

SE DISTRICT

SE-A	MG ¹	0.02	Prop.	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SE-30	SE-29(LS)	0.64	Prop.	10	PVC	2900	990.00	951.60	940.00	0.40	38	1.7	1.10	1.4	0.90	0.90	1.40
SE-29(LS)	SE-28	1.07	Prop. FM	8	DIP	5100	985.00	940.00	976.00	---	45	---	---	---	---	1.11	1.04
SE-28	SE-1	1.39	Prop.	12	PVC	4000	986.00	976.00	953.20	0.57	10	2.2	1.42	2.7	1.74	1.42	1.02
SE-1	SE-2	1.99	Prop.	15	PVC	1320	966.00	953.20	947.50	0.43	13	4.1	2.65	4.3	2.75	2.65	1.33
SE-2	SE-3	2.03	Prop.	15	PVC	1520	960.00	947.50	942.00	0.36	13	4.1	2.65	3.9	2.52	2.52	1.24
SE-4	SE-3	0.11	Prop.	8	PVC	600	970.00	958.00	942.80	2.53	12	1.4	0.90	1.9	1.25	0.90	7.87
SE-3	SE-5	2.50	Prop.	18	PVC	1700	964.00	942.80	936.90	0.35	21	6.2	4.01	6.2	4.01	4.01	1.60
SE-5	SE-6	2.50	Prop.	18	PVC	1300	954.00	936.90	934.60	0.18	17	6.2	4.01	4.4	2.86	2.86	1.14
SE-7	SE-6	0.69	Prop.	10	PVC	1000	950.00	940.00	934.60	0.54	10	1.7	1.10	1.6	1.04	1.04	1.51
SE-6	SE-8	3.00	Prop.	18	PVC	710	950.00	934.60	931.90	0.38	15	6.2	4.01	6.5	4.19	4.01	1.34
SE-9	SE-10	0.55	Prop.	8	PVC	1270	970.00	958.00	937.90	1.58	12	1.4	0.90	1.5	0.98	0.90	1.64
SE-10	SE-8	0.55	Prop.	8	PVC	1090	952.00	937.90	931.90	0.55	14	1.4	0.90	0.9	0.58	0.58	1.05
SE-8	SE-11	3.42	Prop.	21	PVC	1960	950.00	931.90	927.50	0.22	18	9.1	5.88	7.5	4.86	4.86	1.42
SE-12	SE-11	0.90	Prop.	8	PVC	1370	970.00	958.00	927.50	2.23	12	1.4	0.90	1.8	1.17	0.90	1.00
SE-11	SE-13	4.02	Prop.	24	PVC	790	952.00	927.50	926.70	0.10	25	13.0	8.40	7.2	4.66	4.66	1.16
SE-13	SE-14 (LS)	4.19	Prop.	21	PVC	1310	950.00	926.70	924.40	0.18	23	9.1	5.88	6.7	4.30	4.30	1.03
SE-32	SE-31	0.68	Prop.	10	PVC	2700	950.00	938.80	928.00	0.40	11	1.7	1.10	1.4	0.90	0.90	1.32
SE-31	14	1.20	Prop.	12	PVC	2700	950.00	928.00	903.00	0.93	22	2.2	1.42	3.4	2.22	1.42	1.19
SE-14 (LS)	NE-4	5.66	Prop. FM	18	DIP	10000	940.00	903.00	---	---	37	---	---	---	---	5.65	1.00
SE-15	SE-16	0.00	Prop.	8	PVC	1150	992.00	963.10	958.50	0.40	29	1.4	0.90	0.8	0.49	0.49	#DIV/0!
SE-17	SE-18	1.01	Prop.	12	PVC	1520	1000.00	969.70	963.60	0.40	30	2.2	1.42	2.3	1.46	1.42	1.41
SE-18	SE-16	1.09	Prop.	12	PVC	1850	994.00	963.60	959.00	0.25	30	2.2	1.42	1.8	1.15	1.15	1.06
SE-16	SE-19	2.05	Prop.	18	PVC	3330	982.00	958.50	953.50	0.15	24	6.2	4.01	4.1	2.63	2.63	1.28
SE-20 (LS)	SE-19	0.32	Prop. FM	6	DIP	700	940.00	930.00	953.50	---	10	---	---	---	---	0.63	1.98
SE-19	SE-21	2.66	Prop.	21	PVC	2570	974.00	953.50	949.70	0.15	21	9.1	5.88	6.1	3.94	3.94	1.48
21	22	2.66	Prop.	21	PVC	2620	980.00	949.70	945.78	0.15	30	9.1	5.88	6.1	3.97	3.97	1.49

APPENDIX E-4 - ULTIMATE TRUNK SYSTEM DESIGN

From Node	To Node	Design Flow	Existing/ Proposed	Pipe Size (in)	Pipe Material	Length (ft)	Upstream		Downstream Elevation (ft)	Average Slope (%)	Manhole Depth (ft)	CAPACITY					Capacity/ Design Flow
		(MGD)					Rim Elev	Inv Elev				Inlet Control		Outlet Control		Capacity	
							(ft)	(ft)				(cfs)	(MGD)	(cfs)	(MGD)	(MGD)	
SE-23	SE-24	0.73	Prop.	12	PVC	3390	983.00	960.10	951.50	0.25	23	2.2	1.42	1.8	1.16	1.16	1.60
SE-25	SE-24	0.55	Prop.	10	PVC	2590	986.00	962.00	951.70	0.40	24	1.7	1.10	1.4	0.89	0.89	1.64
SE-24	SE-26	1.21	Prop.	15	PVC	790	978.00	951.30	949.70	0.20	27	4.1	2.65	2.9	1.88	1.88	1.56
27	26	0.41	Prop.	8	PVC	1910	972.00	957.60	950.00	0.40	14	1.4	0.90	0.8	0.49	0.49	1.19
SE-26	SE-22	1.53	Prop.	15	PVC	2490	988.00	949.40	945.78	0.15	39	4.1	2.65	2.5	1.59	1.59	1.04
22	ECI ²	3.98	Prop.	24	PVC	---	976.00	945.78	---	---	30	---	---	---	---	---	---

¹ Intercommunity connection to Maple Grove

² MCES Elm Creek Interceptor

APPENDIX F

Subdivision Regulations

D. Water and sewer systems.

1. Water may be provided by individual on-site wells, or by one or more community wells in open space areas, meeting all State Department of Health requirements.
2. Individual sewage treatment systems are required to be located on each individual lot, except as otherwise approved by the City Council. The developer must identify both primary and secondary locations.
3. The City may approve a centralized wastewater treatment system and smaller individual lots as part of Planned Unit Development (PUD), provided the applicant can show compliance with MPCA standards and the City finds that the proposal would comply with PUD standards, all City requirements and would have no adverse impact on the environment or neighboring properties. Centralized wastewater treatment systems may be located in common open space within an easement. The area of land dedicated for the centralized wastewater treatment system may be located in the common open space, but this area shall not be included in the land area required to be dedicated for preserved open space. A sewage treatment system management plan must be submitted to the city that must be reviewed and approved prior to being recorded with the final plat. The plan shall clearly identify the following:
 - a. The applicant must provide the following information to support the proposed primary and secondary septic sites:
 - i. Hydrologic study prepared by a qualified individual for the proposed septic site.
 - ii. A minimum of 4 soil borings on each primary septic site and 2 soil borings on each secondary site.
 - iii. Percolation tests for the primary septic site.
 - iv. Well locations for the proposed development.
 - b. The applicant must provide a management (replacement and repair) plan for centralized wastewater treatment system as approved by the City. The management plan must be reviewed and approved by the City Council and recorded with the final plat. The plan should clearly identify the following:

- i. The ownership of the centralized wastewater treatment system.
 - ii. An annual schedule for maintenance, inspection and monitoring of the centralized wastewater treatment system.
 - iii. Contingency plan in the event of failure of the centralized wastewater treatment.
 - iv. Provisions describing how the sewage treatment portion of the system will be protected from vehicles, animals, humans and other sources of risk.
 - v. Assignment of responsibility for the management of and payment for the centralized wastewater treatment system.
 - vi. The name and license number of the system's designer.
- E. Dimensional regulations and Development standards. The dimensional regulations for open space preservation plats may be reduced from the underlying zoning district dimensional regulations provided they comply with the following minimums:
1. Minimum lot size. Minimum contiguous developable area is 1.5 acres. (100-foot minimum lot width).
 - a. The applicant must provide information to show that a primary and secondary septic site can fit on the site in compliance with ordinance requirements.
 2. Building setbacks. Building setbacks shall be as follows:
 - a. Front: 50 feet (100 feet from arterial roads).
 - b. Side, internal: 10 feet.
 - c. Side, street: 25 feet.
 - d. Rear: 25 feet.
 3. Maximum impervious surface. Maximum impervious surface within each lot shall be 25 percent.
 4. Variations from the dimensional requirements for lot size, setbacks or impervious surface may be approved by the City Council as part

of a Planned Unit Development (PUD) if the City Council finds that the request is consistent with the PUD standards.

5. Street standards. Street standards shall comply with this article.
 6. Accessory structures (such as gazebos, benches and play equipment) shall be allowed on preserved open space lots without a principal structure as provided for in the developer's agreement and approved by the City Council.
 7. A buffer zone of at least 100 feet shall be provided at the perimeter of the site abutting public streets. The buffer zone shall be thickly planted with native grasses, shrubs and trees to minimize land use conflicts.
- F. Lot design guidelines. Residential lots should be designed to achieve as many of the following objectives as possible:
1. Arrange lots around a central focal point such as:
 - a. A central green or square.
 - b. A physical amenity such as a meadow, a stand of trees, a stream or water body, or some other natural feature.
 - c. A street with a boulevard planted with shade trees and a central parkway or median at least 25 feet wide.
 2. Locate lots to preserve woodlands, farmland or other natural features or character, including places of historic, archeological or cultural value.
 3. Locate lots such that at least 50 percent of the lots within a neighborhood abut open space on at least one side. A local street may separate lots from open space.
 4. Preserve views to the maximum possible.
 5. Locate neighborhood recreational open spaces such that they are an integral part of the neighborhood, are at an elevation appropriate to their intended recreational use, have boundaries that are clearly defined and are accessible to all neighborhood residents from a public street.
 6. Preserve natural resources as identified in the Comprehensive Plan to the maximum extent possible in a contiguous, connected

configuration. Natural open spaces may include, but are not limited to, fields, wetlands, slopes, bluffs, woods, lakes, ponds, streams, shore lands, and other environmentally sensitive areas.

7. Connect individual home sites with pedestrian corridors or sidewalks to larger open spaces and places of destination on-site and off-site. Open spaces should be accessible to pedestrians at roughly 1,200-foot intervals along public roadways. Pedestrian corridors between lots shall be at least 50 feet in width and buffered from view of adjacent properties.
8. A buffer zone of at least 100 feet shall be provided around the perimeter of the site to minimize land use conflicts. The buffer zones shall be thickly planted with native grasses, shrubs and trees. Roads may be included in the buffer that will create an effective barrier separating yards from fields and pastures.
9. Minimize development fronting onto existing arterial roads by establishing buffer zones with existing and native vegetation to protect rural roadside character and to improve public safety and traffic carrying capacity.
10. Locate houses and garages such that the garages do not dominate the streetscape.
11. Locate septic systems on the most suitable soils for subsurface septic disposal.
12. Landscape common areas and street rights-of-way with native vegetation with high wildlife conservation value.

940.050 – Ownership of Common Areas,

Subd. 1. Operation and maintenance requirements for residential subdivision common open space facilities shall be as provided in this division. Where certain land areas or structures are provided within the subdivision for private recreational use or as common service facilities or centralized wastewater treatment systems, the owner of such land and buildings shall provide covenants as approved by the City to ensure their continued operation and maintenance to a predetermined reasonable standard. These common areas may be placed under the ownership of one of the following, depending upon which is more appropriate in the discretion of the city:

- A. Dedicated to the public where a community-wide use would be anticipated;

APPENDIX G

Capital Improvement Plan

City of Corcoran
Proposed Capital Improvement Plan

Police 2010-2014

Year of	Estimated Purchase	Title	2006 ECP Budget	2006 Actual	2008 ECP Budget	2009 ECP Budget	2010 ECP Budget	2011 ECP Budget	2012 ECP Budget	2013 ECP Budget	2014 ECP Budget	2015 ECP Budget
		ECP Carry Over / Available Funds	85,000	57,910	99,450	55,750	142,500	67,500	95,000	72,500		
2006	\$32,500	Squad Car (replace 2000)	32,500	28,905								
2006	\$15,000	Software Upgrade (will be done in 2yrs)	15,000									
2006	\$22,500	Civil Defense Sirens (1 1/2 - share)	22,500	20,613								
2006	\$15,000	Support/Protection Equipment	15,000	11,705								
2007	\$6,000	Mobile Command Post Improvements										
2007	\$15,000	Software Upgrade										
2007	\$33,000	Squad (replace 2003)										
2007	\$4,118	Furniture / Fixtures										
2007		Laser Radar										
2009	\$45,000	New squad -add to fleet - full set-up & equip				\$ 45,000						
2009	\$6,950	Support & Protection Equipment				\$ 5,750						
2009	\$5,000	Office Furniture & Cabinets				\$ 5,000						
2010	\$80,000	2 squads (replace 550 & add 1 to fleet)					\$ 80,000					
2010	\$25,000	Records Management System (RMS)					\$ 25,000					
2010	\$7,500	Support & Protection Equipment					\$ 7,500					
2011	\$25,000	M-4 Rifle Project						\$ 25,000				
2011	\$35,000	1 squad (replace 549)						\$ 35,000				
2011	\$7,500	Support & Protection Equipment						\$ 7,500				
2012	\$70,000	2 squads replacement							\$ 70,000			
2012	\$7,500	Support & Protection Equipment							\$ 25,000			
2013	\$35,000	1 squad replacement								\$ 35,000		
2013	\$7,500	Support & Protection Equipmwnt								\$ 7,500		
2013	\$30,000	Mobile Radio Replacement x8								\$ 30,000		
2014	\$70,000	2 squad replacement									\$ 70,000	
2014	\$7,500	Support & Protection Equipment									\$ 7,500	
2015	\$70,000	2 squad replacement										\$ 70,000
2015	\$7,500	Support & Protection Equipment										\$ 7,500
		Total Budgets / Actual Costs	85,000	63,003	\$ 99,450	\$ 55,750	\$ 112,500	\$ 67,500	\$ 95,000	\$ 72,500	\$ 77,500	\$ 77,500
		CIP Budgets	\$139,000		\$155,200		\$180,000		\$167,500		\$155,000	

City of Corcoran
Proposed Capital Improvement Plan

Public Works & Parks 2010-2015

Year of Purchase	Estimated Purchase Price	Title	2006 ECP Budget	2006 Actual Cost	2007 ECP Budget	2007 Adjusted Budget	2007 Actual Cost	2008 ECP Budget	2009 ECP Budget	2010 ECP Budget	2011 ECP Budget	2012 ECP Budget	2013 ECP Budget	2014 ECP Budget	2015 ECP Budget
		ECP Carry Over/Funds Available	279,000	312,666	30,000	75,333	75,333								
2008	\$120,000	Grader (Replace JD 1997)						120,000							
2008	\$40,000	Tractor & Ditch Mower (JD replace 2003)						40,000							
2008	\$120,000	Paver for patching roads						120,000							
2009	\$35,000	Crew Cab PU (Replace 2004)							35,000						
2009	\$40,000	Chipper							40,000						
2010	\$10,000	Bob Cat Trailer								10,000					
2010	\$35,000	Pickup Truck and Plow (Replaces 2005)								35,000					
2010	\$160,000	Tandem Truck (Has been ordered)								160,000					
2010	\$5,100	Sweeper/Front Mount Mower								5,100					
2011	\$30,000	Pickup Truck (Replaces 2006)									30,000				
2011	\$35,000	Asphalt Roller									35,000				
2012	\$210,000	Tandem Dump Truck (Replaces 2002)										210,000			
2013	\$180,000	Front End Loader (Replaces 1990)											180,000		
2013	\$70,000	1 Ton Dump Truck											70,000		
2014	\$80,000	Tractor (Replaces 6420- purchased in 2005)												80,000	
2014	\$32,000	Pickup Truck												32,000	
2015	\$10,000	Pressure Washer													10,000
2015	\$25,000	Utility Tractor (Replaces 4720 purchased in 2005)													25,000
2015	\$30,000	Front Mount Mower (Replaces 2004)													30,000
2015	\$36,000	Pickup and Plow (Replaces 2010)													36,000
Total Budget/Actual Costs			281,006	314,672	30,000	77,340	77,340	280,000	75,000	210,100	65,000	210,000	250,000	112,000	101,000
			281,006		30,000										
CIP Budgets				\$309,000				\$355,000		\$275,100		\$460,000		\$213,000	

This CIP is layed out using the current equipment the City has for rotation and does not include any possible growth to the city

City of Corcoran
Proposed Capital Improvement Plan

Information Technology 2010-2014

Year of Purchase	Estimated Purchase Price	Title	2006 Actual Cost	2007 ECP Budget	2007 Adjusted Budget	2007 Actual Cost	2008 ECP Budget	2008 Actual	2009 ECP Budget	2009 Actual	2010 ECP Budget	2011 ECP Budget	2012 ECP Budget	2013 ECP Budget	2014 ECP Budget	2015 ECP Budget
ECP Carry Over/ Funds Available			17,789	25,000	37,491	37,941										
2006	\$12,000	CC Chambers Sound System			12,000	8,285										
2007	\$10,000	Server Update		10,000	10,000	7,670										
2007	\$6,000	GIS Software		6,000	0											
2008	\$1,500	Windows server & fax board					1,500									
2008	\$20,000	Council Chambers video equipment					\$20,000									
2008	\$6,500	Computers Upgrades					\$6,500									
2008	\$2,000	Hardware & Software					\$2,000									
2009	\$20,000	Color Copier System							\$20,000	\$13,901						
2009	\$3,000	Computer Upgrades							\$3,000							
2009	\$2,000	Hardware & Software							\$2,000							
2009	\$20,000	Upgrade Phone System							\$20,000							
2009	\$25,000	City Sign							\$25,000							
2010	\$6,500	Client Computer Replacements									\$6,500					
2010	\$25,000	City Hall RMS (Laser Fische)									\$25,000					
2011	\$6,500	Client Computer Replacements										\$6,500				
2011	\$20,000	Server Upgrade (OS 2003 - OS 2010)										\$20,000				
2011	\$25,000	Public Information Technology										\$25,000				
2011	\$2,000	IT Hardware										\$2,000				
2012	\$6,500	Client Computer Replacement											6,500			
2012	\$2,500	IT Hardware Misc											2,500			
2012	\$10,000	Police Replacement Copier											10,000			
2012	\$25,000	City Sign											25,000			
2012	\$2,000	IT Hardware Misc											2,000			
2013	\$6,500	Client Computer Replacement												6,500		
2013	\$2,500	IT Hardware Misc												2,500		
2013	\$15,000	City Council Upgrade AV - Computer												15,000		
2014	\$6,500	Client Computer Replacement													6,500	
2014	\$2,500	IT Hardware Misc													2,500	
2014	\$30,000	City Hall Replacement Copier													30,000	
2015	\$3,000	IT Hardware Misc														3,000
2015	\$20,000	Server Upgrades														20,000
Total Budgets / Actual Costs			5,298	25,000	34,400	27,830	30,000		70,000		31,500	53,500	46,000	24,000	39,000	23,000
CIP BUDGET			43,000					100,000			85,000		70,000			62,000

City of Corcoran
Proposed Capital Improvement Plan

City Hall 2010-2014

Year of Purchase	Estimated Purchase Price	Title	2006 Actual Cost	2007 ECP Budget	2007 Adjusted Budget	2007 Actual Cost	2008 ECP Budget	2009 ECP Budget	2009 Actual	2010 ECP Budget	2010 Actual	2011 ECP Budget	2012 ECP Budget	2013 ECP Budget	2014 ECP Budget	2015 ECP Budget
ECP Carry Over/ Funds Available			17,789	25,000	37,491	37,941										
2009	\$2,000	Office Chairs						2,000	1,631							
2010	\$9,000	Fire Alarm System								9,000	9,249					
2012	\$20,000	Carpet											20,000			
2012	\$5,000	Public Information Improvements											5,000			
		Emergency Mgmt/Training Video Display														
		Presentation Table														
		Staff Desk														
2014	\$5,000	Community Center Improvements													5,000	
		Chairs, tables, kitchen, sound														
Total Budgets / Actual Costs			0	0	0	0	0	2,000		9,000		0	25,000	0	5,000	0
CIP BUDGET			43,000				2,000			9,000			25,000		5,000	

City of Corcoran
Proposed Capital Improvement Plan

TOTAL PROPOSED EQUIPMENT CERTIFICATE FUNDING

Year of Funding	Public Works	City Hall	Police Department	Technology	Total All Depts	Bond Funds Received
2006	\$ 279,000		\$ 85,000	\$ 18,000	\$ 382,000	\$ 250,000
2007	\$ 30,000	\$ 25,000	\$ 54,000	\$ 25,000	\$ 134,000	
2008	\$ 280,000		\$ 99,450	\$ 30,000	\$ 409,450	\$ 622,000
2009	\$ 75,000	\$ 2,000	\$ 55,750	\$ 70,000	\$ 202,750	
2010	\$ 210,100	\$ 9,000	\$ 112,500	\$ 31,500	\$ 363,100	\$ 470,000
2011	\$ 65,000	\$ -	\$ 67,500	\$ 53,500	\$ 186,000	
2012	\$ 210,000	\$ 25,000	\$ 95,000	\$ 46,000	\$ 376,000	
2013	\$ 250,000	\$ -	\$ 72,500	\$ 24,000	\$ 346,500	
2014	\$ 112,000	\$ 5,000	\$ 77,500	\$ 39,000	\$ 233,500	
2015	\$ 101,000	\$ -		\$ 23,000		
Total by Dept	\$ 1,612,100	\$ 66,000	\$ 719,200	\$ 360,000		\$ 1,342,000
Total All					\$ 2,633,300	

TOTAL EQUIPMENT CERTIFICATE FUNDING SPENT (As of April 27, 2011)

Year of Purchase	Public Works	City Hall	Police Department	Technology	Total All Depts
2006	\$ 267,333		\$ 63,003	\$ 5,298	\$ 335,634
2007	\$ 75,444		\$ 37,441	\$ 27,830	\$ 140,715
2008	\$ 335,403		\$ 61,513	\$ 25,135	\$ 422,051
2009	\$ 43,524	\$ 15,532	\$ 62,997	\$ 1,344	\$ 123,397
2010	\$ 194,119	\$ 9,249	\$ 81,383	\$ 32,995	\$ 317,746
2011	\$ 35,316		\$ 13,671		\$ 48,987
2012					\$ -
2013					\$ -
2014					\$ -
2015					\$ -
Total by Dept	\$ 951,139	\$ 24,781	\$ 320,009	\$ 92,602	
Total All					\$ 1,388,531

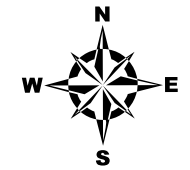
APPENDIX H

Official Zoning Map



City of CORCORAN

Official Zoning Map



3,000 1,500 0 3,000 Feet

- Cemetery
- Church
- Golf Course
- Government Building
- Public Park
- 2030 Metropolitan Urban Service Area
- City Limit
- Open Water
- UR Urban Reserve
- RR Rural Residential
- RSF-1 Single Family Residential 1
- RSF-2 Single Family Residential 2
- RSF-3 Single and Two Family Residential 3
- RMF-1 Medium Density Residential
- RMF-2 Mixed Residential
- RMF-3 High Density Residential
- MP Mobile Home Park
- P-1 Public / Institutional
- TCR Transitional Rural Commercial
- CR Rural Commercial
- C-1 Neighborhood Commercial
- C-2 Community Commercial
- DMU Downtown Mixed Use
- GMU General Mixed Use
- BP Business District
- I-1 Light Industrial
- PUD Planned Unit Development
- Shoreland Overlay District

