



# City of Scandia

## 2040 Comprehensive Plan

December 2018



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## I. INTRODUCTION

A comprehensive plan defines the vision, goals, and aspirations of a community's long-term development. A strong plan can intricately shape land use and transportation patterns, develop ways to conserve natural resources, and identify needs for housing, utilities, parks, and other community facilities. These assessments then help the community make well-informed decisions on both public and private infrastructure/facility investments for years to come.

The City of Scandia's 2040 Comprehensive Plan is the vision of the community in 2040. It provides an overview of the City of Scandia, including historical context, existing and future land use, water and nature features, public facilities, transportation, population, housing, and employment trends and forecasts. The Comprehensive Plan contains goals, objectives and policies to guide public and private land use development, redevelopment and preservation of all lands and waters within the City and proposes an implementation plan extending toward 2040. These elements have been developed in conjunction with the City's tradition of planning.



### A. Purpose of the Plan

This Comprehensive Plan responds to the requirements of the Metropolitan Land Planning Act: Minnesota Statutes, Section 473.859, and the Metropolitan Council's Thrive MSP 2040. The plan is intended to guide future land use development, redevelopment, and other planning and policy concerns for the City of Scandia.

## B. Vision, Goals and Policies

## 1. Vision and Overarching Goals

As a guiding element of this Comprehensive Plan update, the Steering Committee and the Mayor of Scandia develop the following vision statement:

*Scandia is known for its distinctive character and history. The City's overall vision is to maintain its rural character typified by the agricultural heritage and natural resources. In 2040, Scandia has an economically vibrant village center, which is home to a diverse population that is surrounded by mix of natural resource and agricultural areas intermixed with rural residential and lakeshore neighborhoods. As new development is proposed, the emphasis will remain on the protection of rural, agricultural and natural resources.*

The following four overarching goals for the City of Scandia expanded upon the above vision and further guided the preparation of this Comprehensive Plan update:

- **Maintain and promote the City's cultural character and history.**

Scandia includes several historical structures. The Gammelgarden museum in the Village Center attracts people to learn about Minnesota history and Swedish immigration to Minnesota. Rural buildings and sites endowed with Scandia's history and identity are preserved or incorporated into development and redevelopment while protecting their historic integrity, and family farms can still be found within the City.

- **Maintain and promote a variety of land uses and residential densities while maintaining Scandia’s existing agricultural and rural character.**

Scandia has diverse land uses emphasizing its rural nature and natural landscape, including agriculture, large lot and clustered rural residential housing, wooded areas, scenic areas and open spaces, and recreational areas. The village center provides a variety of housing types with community-scale commercial and industrial uses. Agricultural uses in Scandia include traditional commodity production, smaller farms devoted to local markets, and hobby farms. The mix of land uses in different parts of the City changes with the geography, and is preserved and maintained by sound, intentional land use policies.

- **Preserve and protect the City’s natural resources.**

Scandia is home to several high quality natural areas, lakes and the St. Croix River. The City’s parks, trails, open space and recreation system preserves rural character and protects natural beauty while offering opportunities for healthy lifestyles and recognizes the City’s history. Sensitivity to the City’s green infrastructure – trails, green corridors, natural areas and systems, surface and groundwater systems, scenic vistas, and night skies – will continue to be a priority for all development and infrastructure improvements. Periodic review of City ordinances to ensure development occurs with adequate protection of sensitive areas is part of the City’s commitment to preserve and protect valuable natural resources.

- **Provide economic opportunities for residents and businesses.**

Economic opportunities in the City continue to evolve. The City will seek solutions to create economic opportunities for employment in Scandia and to provide needed services for Scandia’s residents. The number of residents who are self-employed or work from home will continue to increase. The nature of agriculture will change with a transition from traditional commodities to smaller, more specialized agricultural operations serving exclusively local markets.

## 2. Specific Goals and Policies

Goals and policies are official statements that provide the basis for development and redevelopment strategies. Goals identify various objectives of the city in managing future growth and protecting natural resources. Policies represent the official position of the city with respect to implementation of goals. The general goals for each of the plan elements are listed below. These goals and the corresponding policies are also included at the beginning of their respective chapters.

### Land Use

- 1) Preserve the rural, agricultural character of Scandia through zoning regulations, ordinances, and site design standards
- 2) Manage land use to prevent the premature demand for extension of urban services and in ways that allow existing service levels to meet service needs.
- 3) Ensure a variety of lot sizes to create affordable development opportunities to best meet the needs of residents and businesses in Scandia.
- 4) Ensure agricultural uses are part of the community as a viable long-term land use.

- 5) Allow for the safe and orderly extraction of aggregate resources now and in the future while protecting sensitive resources on or near those properties and providing for transitions to other uses when resource extraction is complete

#### **Natural Resources**

- 1) Protect natural resources and look for opportunities to connect large areas of open space
- 2) Preserve high quality natural areas
- 3) Eliminate, reduce or mitigate the negative effects of invasive species on natural areas
- 4) Recognize and enhance publicly owned lands and improve public access to such lands where appropriate.
- 5) Work with property owners to protect and preserve native, endangered, threatened and unique plants and animals on privately owned land.

#### **Resilience**

- 1) Encourage the use of renewable, local and diverse forms of energy in order to increase use of local resources, mitigate the local risk from fossil fuel scarcity and price increases, and help meet Minnesota's climate protection goals.
- 2) Encourage energy efficient housing that exceeds the minimum efficiency levels required in the State building codes
- 3) Review the goals of the Minnesota GreenStep Cities Program. Implement GreenStep Cities Best Practices as appropriate

#### **Economic Competitiveness**

- 1) Concentrate on retaining and expanding local businesses in and around the Village Center and existing Rural Commercial districts.
- 2) Actively support the retention and expansion of Scandia community-scale agricultural operations
- 3) Encourage home-based entrepreneurs and businesses
- 4) Expand access to internet services throughout the entire City.

#### **Housing**

- 1) Support a variety of housing types and densities for residential uses in and surrounding the Village Center and other areas where appropriate.
- 2) Expand life-cycle housing opportunities for residents at all points of life.
- 3) Encourage a range of housing choices that fit with the character of the community

#### **Parks and Trails**

- 1) Develop an effective planning approach to developing and maintaining parks and recreation areas and constructing and maintaining trails and routes to meet the needs of City residents.
- 2) Develop a close working relationship with other agencies and groups to enhance the parks and recreation facilities and develop trails and routes in the City.
- 3) Support a network of parks and trails to provide community-wide connections to serve the health and welfare of the City's residents.
- 4) Use park search areas and recreational facilities search areas and other natural

resource information to guide and encourage park acquisition donations and potential site acquisitions when property becomes available.

### **Transportation**

- 1) As new development or redevelopment occurs, provide an integrated, internally-connected, efficient street system connecting village and higher density neighborhoods to the Village Center.
- 2) Establish context-sensitive roadway design standards that will protect the narrow and heavily wooded character of identified low-traffic roadways.
- 3) Maintain Scandia's system of local roadways that is well coordinated with MN DOT and Washington County roadways.
- 4) Encourage the use of non-automotive modes of transportation.
- 5) Support the development of regional and local transit options.
- 6) Preserve the safety of regional air traffic

### **Water Resources**

- 1) Preserve and protect the quantity and quality of surface water and groundwater.
- 2) Improve stormwater management and land stewardship practices.
- 3) Protect the natural and scenic resources of the St. Croix River Corridor, both within and adjacent to the St. Croix National Scenic Riverway.
- 4) Ensure financial and environmental accountability for installation, maintenance, remediation, and management of any permitted private wastewater system.

## **C. Background/History of the Community**

### **1. History of the City**

The City of Scandia is the site of the first Swedish settlement in Minnesota. Swedish settlers Carl A. Fernstrom, Oscar Roos, and August Sandahl, arrived by boat at the Log House Landing on the St Croix River in 1850. They hiked to their homesteads from the St Croix & established a farm near Hay Lake. A monument inscribed with the names of the first settlers stands near the site of the original log house, at Hay Lake Historic Corner, about a mile-and-a-half south of the Scandia Village Center.

Many of the subsequent immigrants, a majority of them Swedish, settled in the area in the 1850's, among them Nels Johan Johnson. Johnson was instrumental in the founding of what is now Scandia. According to Anna Engquist's book, *Scandia Then and Now*, another early settler was Olof Olin who came from the province of Medelpad, Sweden. When Olin arrived, he purchased land that comprised what became the original town of Scandia. Olin would eventually go on to donate the land for Elim Church and cemetery in 1860, as well as other locations spread throughout the city. Scandia would eventually grow to incorporate other neighboring communities such as Copas (originally named Vasa) and Otisville. Now marked only by a cluster of homes and the memories of older citizens.

The communities of Copas and Otisville formed close to the river but did not last as permanent villages. Otisville, the community that grew up around the Log House Landing in the 1850s was named after Henry Otis, a Civil War veteran and the son of Benjamin Otis and a Native American mother. During the summer he lived in a small cabin on the river across from Log House Landing. The log house at Log House Landing served as a public



house during the years of Swedish immigration. From 1912 to the present it has been a private residence.

Copas grew up just southwest of Otisville. The larger of the two settlements, it was the site of more commercial development. It lay alongside the railroad tracks, just west of what is now Highway 95 and once housed a lumberyard, hardware store, mill and elevator, and potato warehouse, as well as the train station.

Elim Lutheran Church, founded May 19, 1854, was the most significant force in the community, to the point that outsiders found it hard to see where the church ended and the community began. As the State of Minnesota grew, it had relatively little impact on Scandia in either a social or a cultural sense. Not until the 1930s did Scandia gradually allow English to take over as the dominant language instead of Swedish.

Starting in 1857 well into the twentieth century, Scandia was home to six schools which were reflective of the small communities that grew up in what is today's Scandia. A number of these communities still identify as unique neighborhoods within the city. In the northwest part of Scandia was Bone Lake School founded in 1860. The Tin Box or Sunnyside School, founded in 1866 was on the border of Washington and Chisago Counties. Goose Lake School, founded in 1858 was in the northern part of today's Village Center. Copas/Vasa School was founded in 1874 in the hamlet of Copas. Hay Lake School, founded in 1857 was just south of where the Swedish monument stands. Big Lake School, founded in 1877 was on the western side of Scandia. The Copas/Vasa School building still stands, now as a retail gift shop. The Hay Lake School is today a Washington County Historical Society museum.

As Scandia moved from strictly rural to semi-rural, the city changed. Due to the Depression, banking moved out of Scandia. Over the years schools were consolidated so countryside schools were closed. Farms increased in size as industrialized farming took over, and better roads and state highways replaced the railroad, which eliminated the need for the station in Copas. As automobiles improved and became common, Scandia residents began to work jobs in the Twin Cities metropolitan area, and metropolitan residents moved to Scandia in search of country living.

The formal government of Scandia was first formed in 1893 when New Scandia Township was organized as a separate entity from Marine Township. Led by an elected town board of supervisors, and eventually commission, the township remained in control until 1972 when Scandia adopted the Washington County zoning code by reference. The County retained final authority in zoning and subdivision matters after review by the Township Planning Commission and Board until 1998 when the County required townships to provide their own building inspections.

As a township, Scandia was vulnerable to annexation by surrounding cities and could not control land use to the extent the town desired. On January 1, 2007, New Scandia Township was incorporated as the City of Scandia. The first meeting of the new City Council was held on January 2, 2007. The City of Scandia adopted its first Comprehensive Plan on March 17, 2009.

## **2. Notable features and character of the community**

Scandia is known for its rural setting and history. The historic village center remains, including Elim Lutheran Church. The Scandia Community Center and the Gammelgarden Museum are the centers of social community activities. Gammelgarden attracts people to learn about Minnesota history and enjoy Swedish immigrant culture. Structures in the

village are recognizable from old photos, and family farms can still be found within the city. Rural commercial centers marking the sites of historic settlements still exist at Copas on Highway 95 and near the Big Lake community on County Road 15.

### **3. Natural resources and geographic features**

Scandia is home to several lakes and high quality wetlands. The St. Croix River runs along the east boundary of the City. Scandia also includes many areas of prime agricultural land.

## **D. Process**

Descriptive data about the City of Scandia was gathered through a variety of sources. These data identified community assets, weaknesses, values, goals, and basic demographics of the City.

- A series of public meetings and open houses was held between January 2017 and June 2018 to review the various issues addressed within the Comprehensive Plan.
- A survey was mailed to each household in the summer of 2017. The survey was also available in online. The survey was partially funded by the Statewide Health Improvement Partnership through a grant that was given to investigate and improve the access to healthy food in the area. Questions in the survey asked basic demographic data of the respondent, community assets and weaknesses, visions for the future, food access, and investment priorities. Approximately 391 responses were collected, accounting for about 20% of households in Scandia. Survey responses are provided in Appendix A.
- An interactive website was developed and remained active from January 2017 to December 2018. Residents could view the previous 2030 land use plan and stay informed about all public meetings and events regarding the comprehensive plan. All material from steering committee meetings, open houses and Planning Commission discussions were provided online.
- A steering committee was formed to inform the overall comprehensive process, engage a full spectrum of the community from youth to seniors, and guide policy goals and recommendations. The committee was comprised of key community leaders from public, private, and government spheres. The committee met three times throughout the comprehensive planning process.
- Three focus groups were held in June 2017 to gain perspectives and gather information and insights from key stakeholders in the community. One group consisted of residents who were 55 years old or older, another group represented businesses and the agricultural community in Scandia, and the third consisted of students from Scandia Elementary School. The format for each of the three groups was the same; the moderator asked questions about the positive aspects of the City of Scandia, what the community is missing, and what you would like to see in the city in 20 years. Focus groups also brainstormed “big ideas” for the city, or what would you do in Scandia if there were no restrictions. These results are summarized in Appendix B.
- Information about the Goals, Policies, and Recommendations section came from previous comprehensive plans, the 2017 survey, Commission/Steering Committee Discussions, public hearings, and review by adjacent communities and the Metropolitan Council.

## **E. Regional Setting**

Scandia is located on roughly 39.7 square miles (25,425 acres) in Washington County. It is

served by four A-minor arterial roads, TH 97, TH 95, CSAH 3, and CSAH 15; one major collector, CSAH 1; and three minor collectors, CR 15A, CR 52, and CR 50/192<sup>nd</sup> Street. The city neighbors Forest Lake, Hugo, May Township, and Marine on St. Croix within Washington County, Chisago Lake Township and Franconia Township to the north in Chisago County, and Farmington Township across the St. Croix River in Wisconsin.

## II. LAND USE

### A. Land Use Goals and Objectives

**Goal:** Preserve the rural, agricultural character of Scandia through zoning regulations, ordinances, and site design standards

**Objectives:**

- Conduct development in a manner that is sensitive to the impact upon natural features and to environmental constraints, including but not limited to scenic views, surface water, wetlands, slopes, woodlands, vegetation, drainage ways, shorelands, and flood plain areas.
- Coordinate with property owners, other governmental units and agencies, and developers to protect high quality natural areas and historic resources
- Encourage low-impact development techniques in new developments.
- Explore programs and development concepts that encourage creative methods to preserve rural character and natural resources.
- Achieve compatible relationships between different types of land uses by utilizing design standards, appropriate buffers, land use transitions and high-quality design

**Goal:** Manage land use to prevent the premature demand for extension of urban services and in ways that allow existing service levels to meet service needs.

**Objectives:**

- Require that land proposed for development is served or will be able to be served with adequate infrastructure, including sewage treatment systems, streets, and storm water management systems.
- Require all new development be consistent with the Comprehensive Plan

**Goal:** Ensure a variety of lot sizes to create affordable development opportunities to best meet the needs of residents and businesses in Scandia.

**Objectives:**

- Encourage greater density where appropriate to preserve natural features and areas.
- Ensure suitable land is available for potential commercial and industrial employment and business opportunities.

**Goal:** Ensure agricultural uses are part of the community as a viable long-term land use.

**Objectives:**

- Encourage a variety of agricultural operations, including small-scale metropolitan orientated agriculture, value-added production, and small scale agricultural-related commercial uses.
- Encourage participation in the Agricultural Preserves Program through compatible zoning districts and educational materials and resources
- Review current development regulations to allow compatible secondary uses such as low density residential, commercial recreation, and agriculture-related commercial in areas where agriculture is the predominant use.

**Goal:** Allow for the safe and orderly extraction of aggregate resources now and in the future while protecting sensitive resources on or near those properties and providing for transitions to other uses when resource extraction is complete.

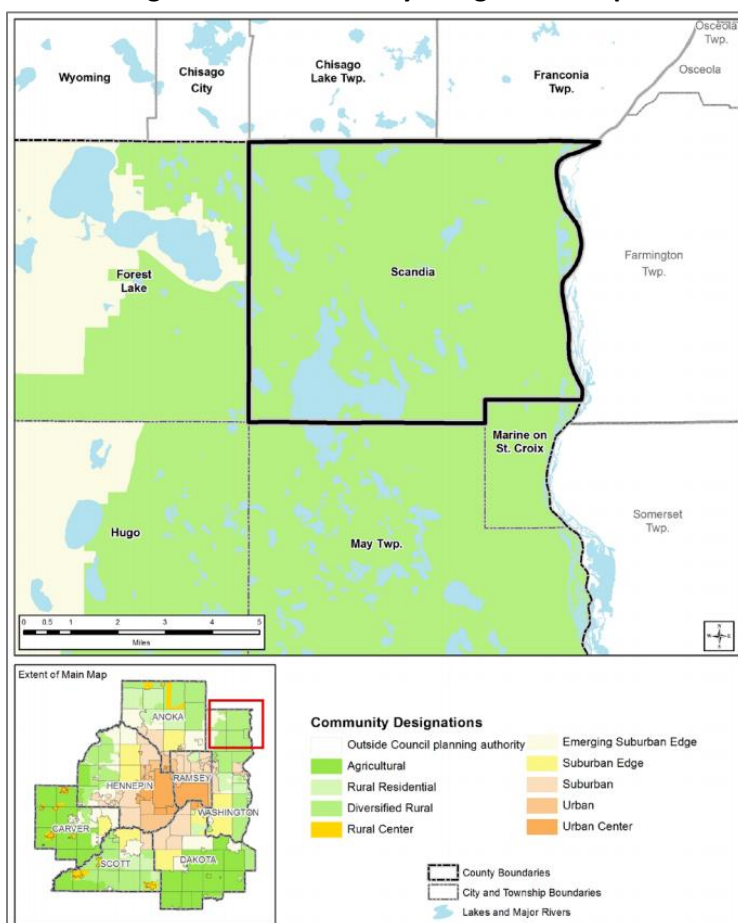
### Objectives:

- Implement performance standards for the management of existing mining operations in order to minimize or prevent negative impacts to resources and nearby land uses.

## **B. Community Designation**

According to the Metropolitan Council, Scandia is designated as Diversified Rural in the Metropolitan Area. Communities that are part of this designation contain a variety of agricultural and non-agricultural land uses. These areas both protect rural, agricultural lands while offering potential for future development. On average, development density in Diversified Rural areas average to 4 units/40 acres. In the future, Diversified Rural communities could face land use incompatibilities should future development occur and urbanization expand. Some communities with the Diversified Rural designation are included in the long-term service area expiation of the wastewater system from the Metropolitan Council, but Scandia is not within that extension.

**Figure II-A - Community Designation Map**



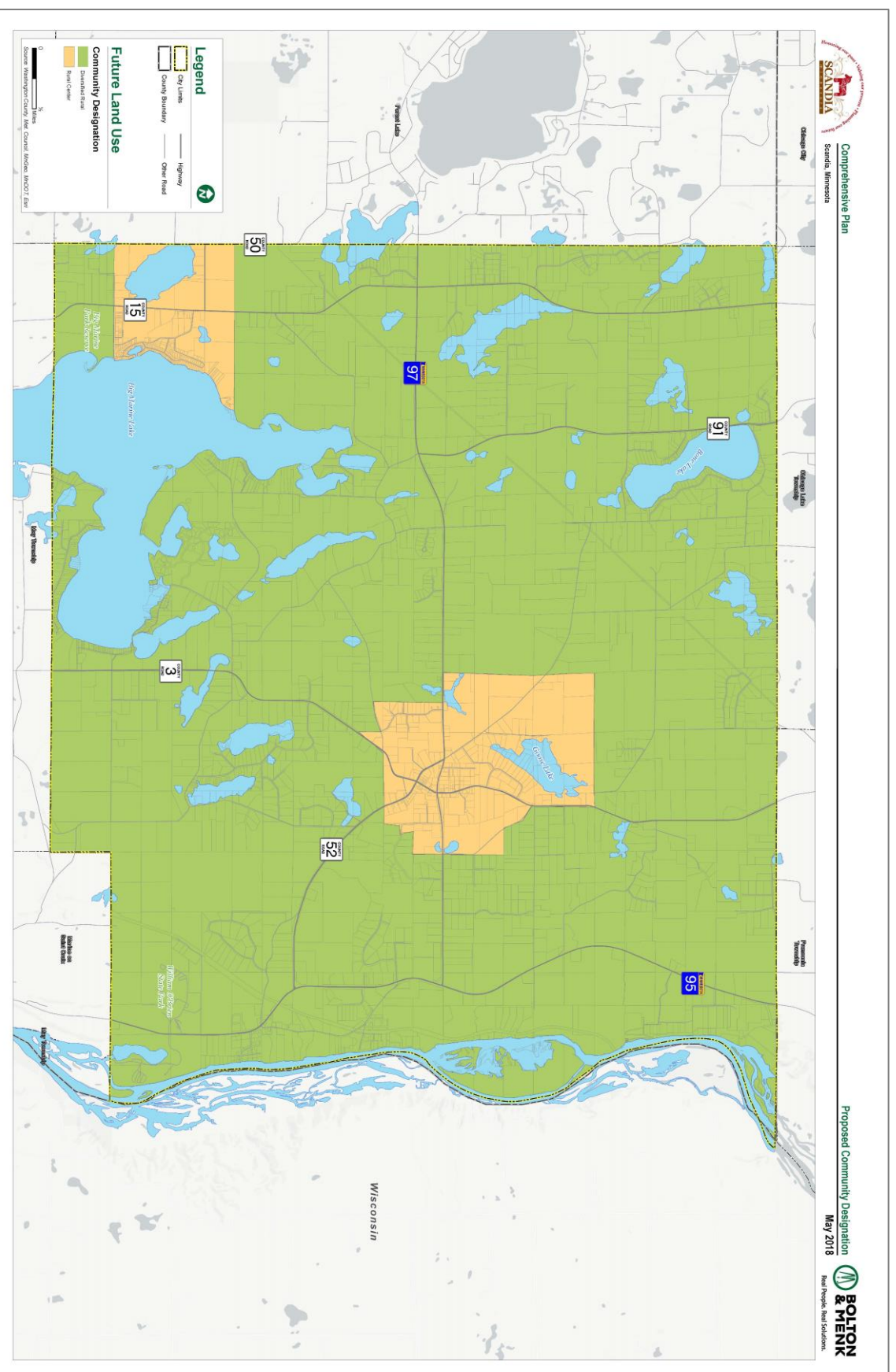
*Source: Metropolitan Council*

While the Diversified Rural designation accurately describes the character and future vision for much of the city, it does not meet all of Scandia's needs or goals. Since the adoption of the last Comprehensive Plan, it has become evident there is a need and desire to focus development in specific areas of the city to both preserve agricultural and open spaces while fostering a sense of community and supporting both residential and commercial/economic development. To

achieve this, two areas of the City of Scandia have been proposed to be designated as Rural Centers. These locations are shown in Figure II-B.



### Figure II-B – Proposed Rural Centers



Rural Centers are local commercial, employment, and residential activity centers serving rural areas in the region. Proposed Rural Centers in Scandia are surrounded by agricultural lands and serve as centers of commerce to surrounding farmlands and the accompanying population. Rural Centers are expected to plan for forecasted population and household growth at average densities of at least 3-5 units per acre for new development and redevelopment. In addition, Rural Centers should strive for higher-density commercial uses and compatible higher-density residential land uses in the commercial core of the community to ensure efficient uses of existing infrastructure investments.

The proposed Rural Center areas already serve as residential and commercial hubs for the City of Scandia and the region. Changing the Community Designation of these areas to Rural Centers acknowledges the role these areas already serve. These areas will be guided for higher density development and redevelopment, including residential, commercial, and retail, making use of existing infrastructure and services in these locations. This creates more opportunities for connected neighborhoods and commercial centers while preserving large, contiguous areas of Scandia for open space, agriculture, and outdoor recreational uses. This change is contingent upon sewer system expansions or upgrades to support the 3 unit per acre minimum density expected of Rural Centers. Changing this classification also potentially allows this area to be included in the long-term service area expansion of the Metropolitan Council wastewater system.

Extension of municipal sewer, or improvements to the existing community system, is necessary to permit more density in the proposed Rural Center on the west side of Big Marine Lake. This is discussed in more detail in the Water Resources chapter.

### C. Forecasts

As of 2015, approximately 3,896 people lived in Scandia in roughly 1,518 households. Projected populations, households, and employment are detailed in Table II-A, and historical populations, households and employment are provided in Table II-B.

<b>Table II-A – Forecasted Population, Housing, &amp; Employment</b>					
	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>
Population	3,934	3,896	4,260	4,630	4,950
Households	1,498	1,518	1,700	1,910	2,100
Employment	519	540	620	690	730

*Source: Metropolitan Council and American Community Survey*

<b>Table II-B – Historical Population, Housing, &amp; Employment</b>						
	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>	<b>2015</b>
Population	1,513	2,858	3,197	3,692	3,934	3,896
Households	408	851	1,060	1,294	1,498	1,518
Employment	40	50	387	272	519	540

*Source: US Census*

Scandia experienced rapid population growth throughout the 1970s, increasing the city's total population 89% in 10 years, providing an average of 8-9% annual growth. Many factors contributed to Scandia's growth between 1970 and 1980, including the completion of Interstate 35, improvement of county and state highways, inexpensive land, conversion of seasonal cabins to year-round homes, and an influx of urbanites in search of a rural lifestyle. This also fueled residential development, increasing the number of households in Scandia at similar rates. From

1980 to 1990, Scandia saw continued growth, averaging about 3% annual population growth. Previous to this period of growth, Scandia's population was relatively stable if not declining, shifting from 941 in 1930 to 899 in 1950 as farm residents moved to more urban areas.

Population growth in Scandia has gradually slowed in more recent decades. From 1990 to 2000, the population in Scandia grew 15% and only grew 6.5% from 2000 to 2010. Population projections continue growth into 2040; the City of Scandia is anticipated to add about 1,000 more residents by 2040. Likewise, the number of anticipated households is anticipated to grow, but at a much lower rate than previously experienced. However, this will be influenced by the average number of persons per household, which has been decreasing region wide.

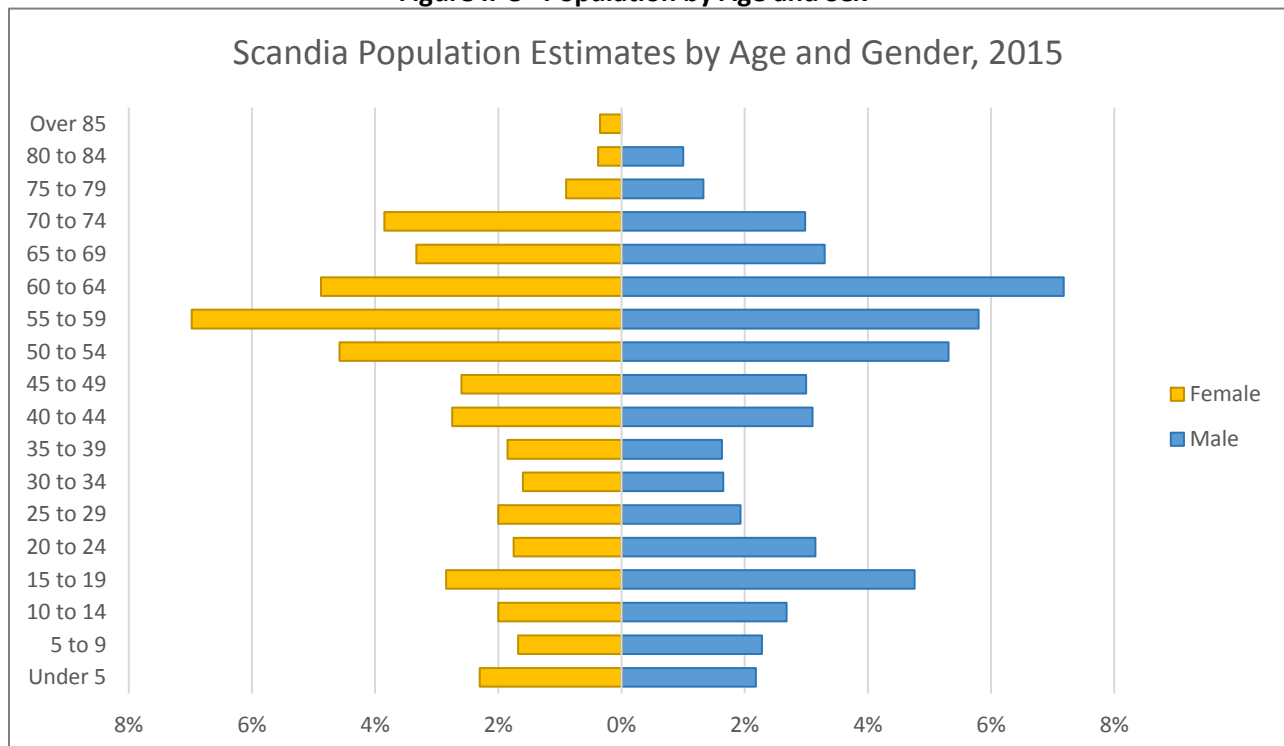
While population and household saw the most growth between 1970 and 1980, employment in Scandia saw major growth between 1980 and 1990. Employment projections through 2040 show an average growth rate of 11% per decade, keeping pace with modest population projections. The ability of the City of Scandia to accommodate more employment will depend on the availability of services, expansion of mixed uses and commercial zoning areas, and flexible use of agricultural land to meet future market demands.

## D. Demographics

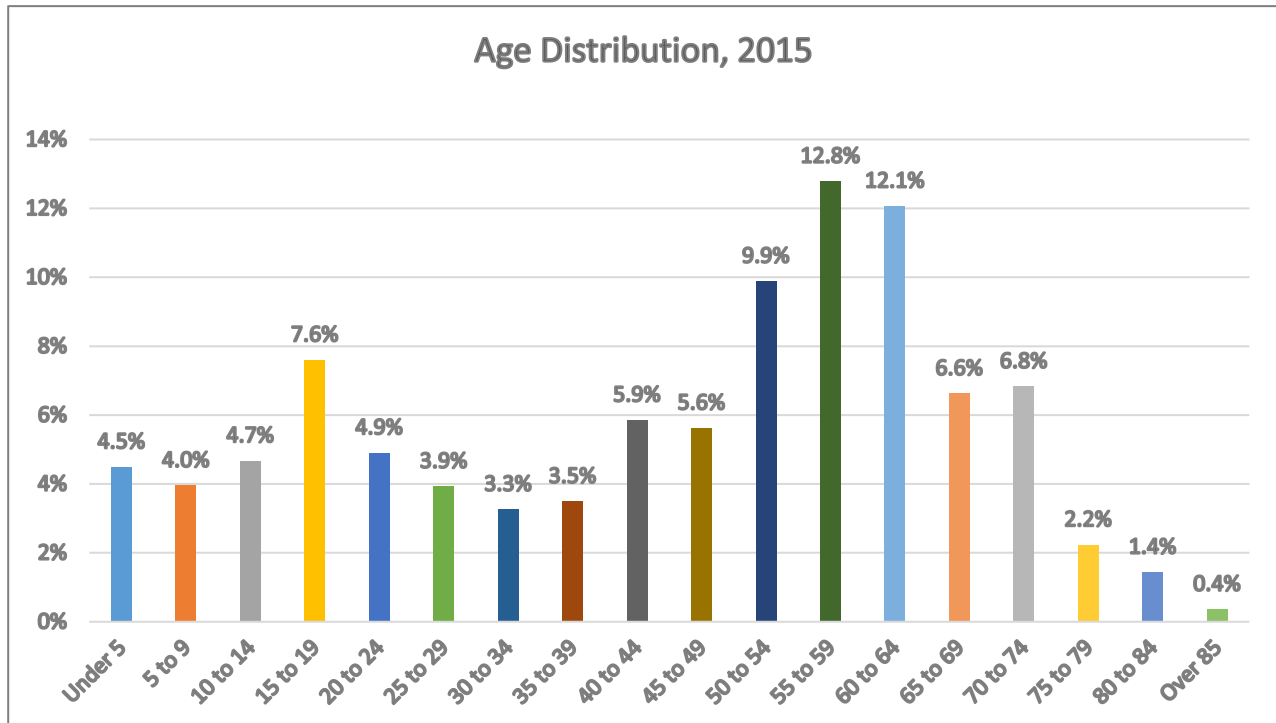
### 1. Age

Figure II-C shows the population of Scandia in 2015 separated by sex and age cohorts. The population of Scandia trends to be considerably older than the region. The dominant age groups within Scandia are 55 to 59 years old at roughly 13% of the population and 60 to 64 years old at 12% of the population. The number of youth in Scandia (under 20 years old) is also low, representing about 21% of the total population. Figure II-D details the age distribution of Scandia residents in 2015.

**Figure II-C - Population by Age and Sex**



**Figure II-D - Age Distribution**



*Source: 2011-2015 American Community Survey*

Comparing the median age in Scandia to surrounding municipalities and the State, Scandia is considerably older with a median age of 51.7 years. Median ages of nearby municipalities can be seen in Table II-C. The only community near Scandia with a similar age distribution and median age is Marine on St. Croix. Stillwater has a median age 11.2 years younger and Forest Lake 14.5 years younger. Washington County as well has a younger median average by 12.8 years and Minnesota as a whole is lower by 14 years.

Table II-C – Median Age Comparison		
Municipality	Median Age	Difference from Scandia
Scandia	51.7	-
Marine on St. Croix	51.5	0.2
Stillwater	40.5	11.2
Forest Lake	37.2	14.5
Washington County	38.9	12.8
Minnesota	37.7	14.0

*Source: 2011-2015 American Community Survey*

## 2. Housing Tenure

Scandia residents have a history of living in the community for several years. In 2015, over 62% of residents lived in their homes for more than 15 years. The largest group of householders had lived in their house for 6 to 15 years (about 32% of all householders). Scandia has higher proportions of residents living in their home for over 15 years, compared to the average for Washington County, shown in Table II-D.

Table II-D – Years Householder Has Lived in Unit, Percent of Total Households		
Years in Unit	Scandia	Washington County
1-5 years	6.3%	16.3%
6-15 years	31.8%	43.1%
16-25 years	25.3%	21.5%
26-35 years	19.2%	9.4%
36 years +	17.5%	9.7%

Source: 2011-2015 American Community Survey

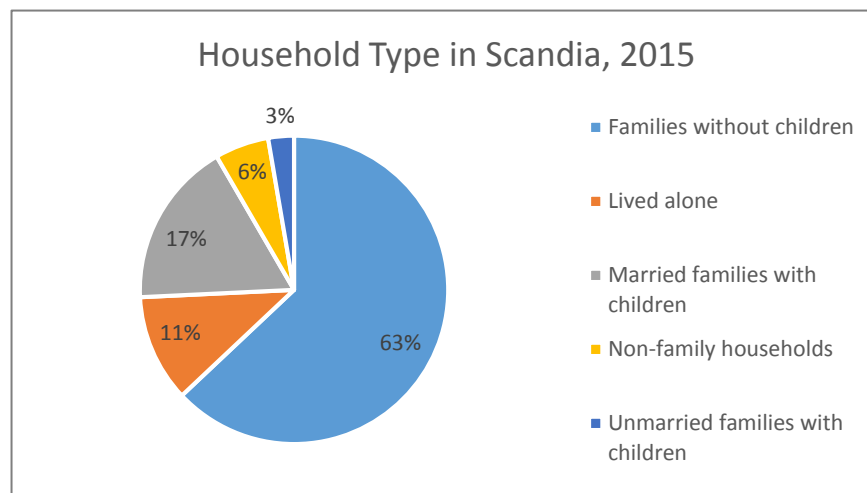
### 3. Household Size and Number

As shown in **Table II-A – Forecasted Population, Housing, & Employment**, there were approximately 1,476 households in Scandia in 2015. The number of household is projected to increase into 2040. The number of households in Scandia has increased at a rate greater than the population for the last 45 years. This is due in part to the gradual decrease in the average number of persons per household, which is noted in Table II-E. The average number of persons per household is also influenced by age and general socio-economic status of Scandia residents.

Table II-E – Household Size and Number						
Year	1970	1980	1990	2000	2010	2015
Number of Households	408	851	1,060	1,294	1,498	1,476
Persons per Household	3.87	3.36	3.02	2.84	2.61	2.61

Household type also influences the average number of persons per household. In 2015, the majority of households in Scandia consisted of families without children, shown in Figure II-E. Approximately 20% of all households in Scandia have children, which aligns with Community Survey responses (See Appendix A). The large percentage of families without children is atypical; about 36% of households in Washington County are families without children.

**Figure II-E – Household Types in Scandia**



Source: Metropolitan Council Tabulation of 2011-2015 American Community Survey

#### 4. Race/Ethnicity of Population

Table II-F shows the racial composition of Scandia residents in 2015. About 97% of Scandia's population identified as "White alone," with all other racial groups made up the remaining 3% of the population. About 8% of the city's population identified as Hispanic or Latino. American Community Survey data for 2011-2015 are estimates, meaning the margin of error, especially for small sample sizes, is high. As a comparison, only 1% of the city's population identified as Hispanic or Latino in the 2010 census.

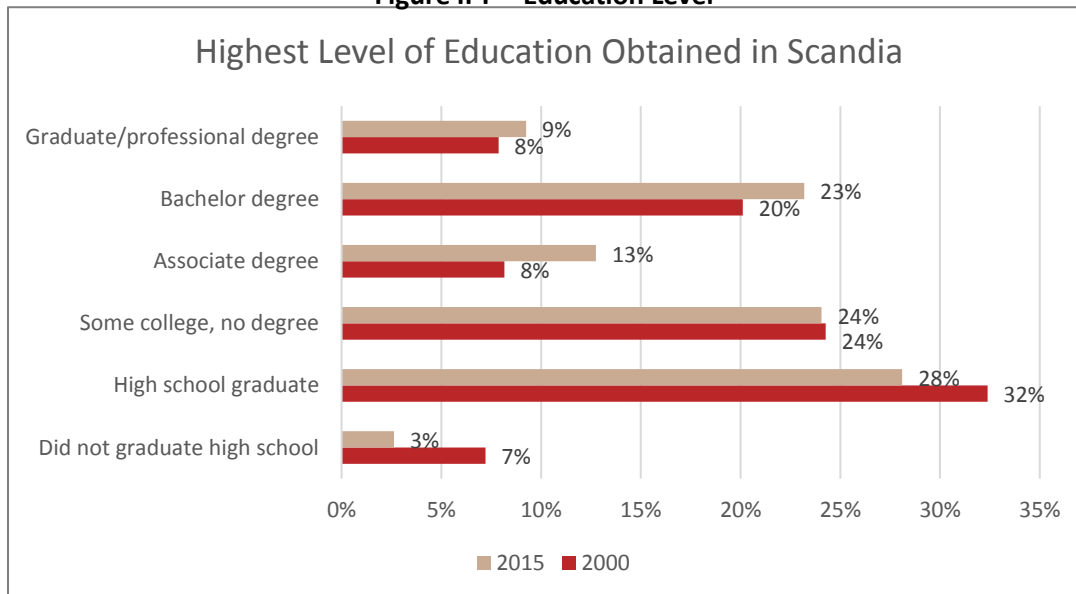
Table II-F– Race of Scandia Residents in 2015	
Race	Percent of Population
White	97.2%
Black	0.7%
American Indian/Alaskan Native	0.9%
Asian	0%
Native Hawaiian/Pacific Islander	0%
Some Other Race	0.4%
Two or More Races	0.8%

*Source: American Community Survey, 2011-2015*

#### 5. Education

Scandia residents are becoming increasingly educated. Since 2000, the number of Scandia residents age 25 and older with some level of college education has increased while the number of residents with a high school education or less has decreased.

**Figure II-F – Education Level**



#### Summary

- Scandia has an older population than the rest of Washington County. The ability of the city and the County to provide services will impact the ability of residents to age in place.



- Scandia has a large number of two-person households, which is likely attributed to the large number of older residents. Only 1 in 5 homes in Scandia has children, which will impact schools, services, and future population growth of the city.
- Scandia's population remains fairly homogenous, though the number of residents identifying as Hispanic/Latino has increased.
- Residents are becoming increasingly educated, which may influence the desired types of employment and median household incomes.

## E. Existing Land Use

A large portion of land in the City of Scandia is currently undeveloped, about 41% of total acreage in the city. The most prominent land use in the city is agriculture, making up about a quarter of land in Scandia. Open water makes up 13% of land in Scandia, and residential uses make up about 10% of the city's total land. Figure II G shows the existing land uses in the City. Table II-G further details current land use in Scandia.

<b>Table II-G – Existing Land Use</b>		
<b>Land Use</b>	<b>Gross Acres</b>	<b>Percent of Total</b>
Agricultural	6,425.5	25%
Extractive <sup>1</sup>	197	1%
Farmstead	218.7	1%
Golf Course	17	0.07%
Industrial and Utility	11	0.04%
Institutional	46.6	0.2%
Mixed Use Residential	13	0.05%
Multifamily	3	0.01%
Open Water	3,252	12.8%
Park, Recreational, or Preserve	2,147	8%
Railway	73	0.3%
Retail and Other Commercial	34.8	0.1%
Seasonal/Vacation	70.7	0.3%
Single Family Attached	9.5	0.04%
Single Family Detached	2,610	10.3%
Undeveloped	10,347	41%
<b>Total</b>	<b>25,475</b>	<b>100%</b>

*Source: Metropolitan Council Data, 2016*

<sup>1</sup> Extractive includes areas that identified on an aerial photo as currently mined or mined in the past.

Figure II-G – Existing Land Use

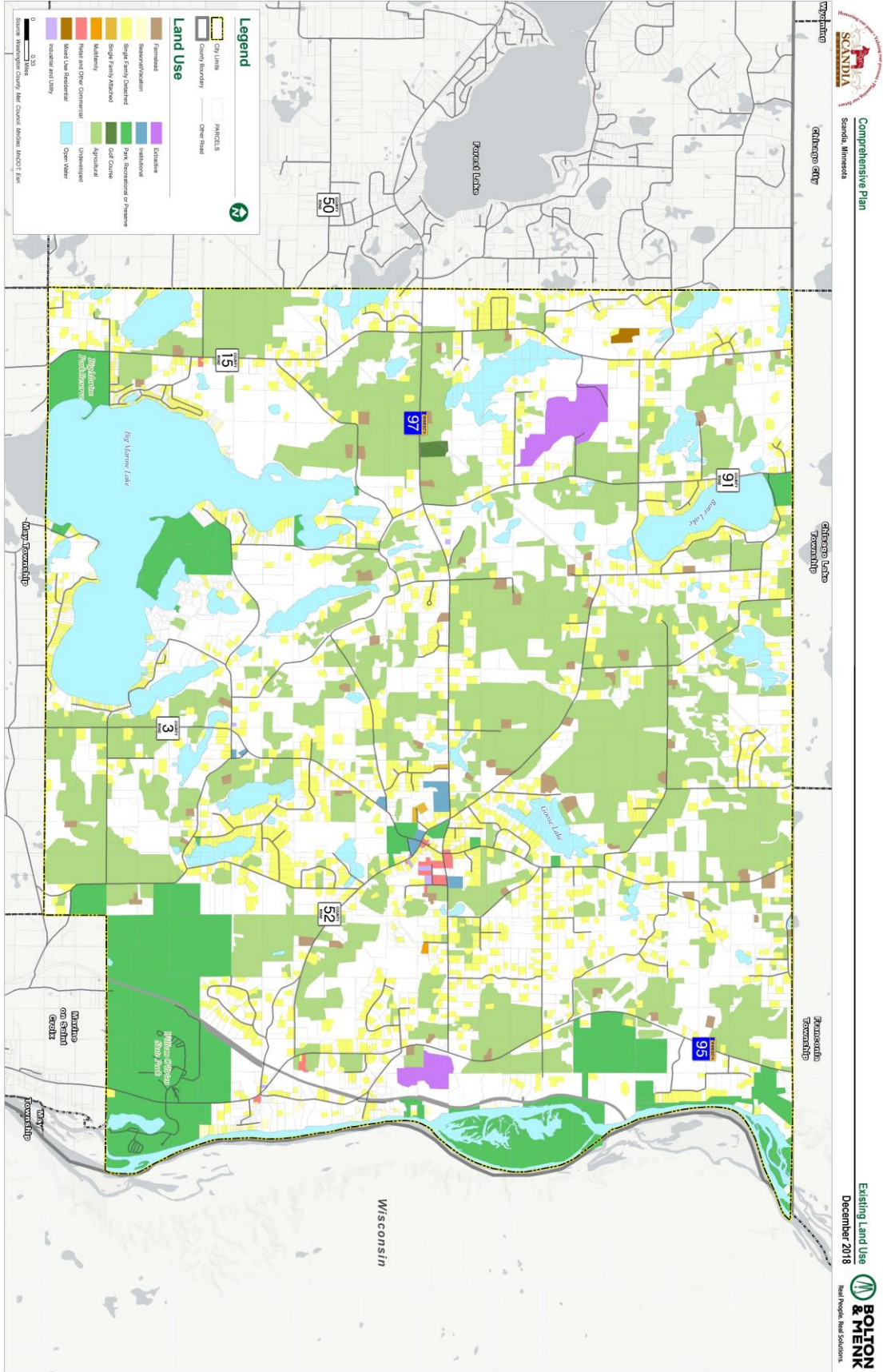


Table II-H identifies the number of existing housing units in each land use category.

<b>Table II-H – Existing Net Residential Density (in Planned Land Use Categories)</b>						
Planned Land Use Category	Single Family Number of Units	Multi-Family Number of Units	Acres Gross Residential	Acres Development Constraints (wetlands, parks, ROW, etc.)	Net Residential Acres	Net Density Units/Acre
	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E=C-D</i>	<i>(A+B)/E</i>
Agricultural Core	229	0	6,953	731	6,221	0.04
General Rural	881	30	9,679	1,232	8,447	0.11
Rural Mixed Use	110	0	419	150	269	0.41
St. Croix River District	60	0	681	114	567	0.11
Village Neighborhood	133	0	1,480	150	1,330	0.10
Village Mixed Use	65	0	287	18	269	0.24
Recreation Area Protected	10	0	2,132	1,566	567	0.02
<b>Total</b>	<b>1,488</b>	<b>30</b>	<b>21,632</b>	<b>3,962</b>	<b>17,671</b>	<b>0.09</b>

*Source: Washington County Parcel Data*

Scandia's zoning code specifies maximum density for various residential development. Based on these requirements, Table II-I shows the number of housing units per acre that can be developed under current zoning regulations. Most large lot residential zoning districts require lots to be a minimum of two acres, and all zoning districts have a maximum lot coverage of 25%. Bonus densities in the Village Neighborhood District allow up to one dwelling unit per acre. This is done to make efficient use of existing resources in Village Neighborhood and to guide residential development to these areas to help preserve agricultural lands and open spaces from development.

<b>Table II-I – Residential Allowed Density Ranges</b>	
<b>Land Use Category</b>	<b>Units/Acres (Ordinance Standards)</b>
St. Croix River District	4/40
Agriculture Core District	4/40
General Rural District	4/40
Village Neighborhood District	1/2.5
Village Mixed Use A District	1/2.5
Village Mixed Use B District (Rural Mixed Use)	1/2.5

The zoning code for the City of Scandia provides a maximum lot coverage for commercial and industrial development. The Metropolitan Council has provided estimates for the number of employees per square feet in various employment types; rates range from 556 square feet per job at the low end (medical clinics) to 2,500 square feet per job at the high end (hotels). Using the city's lot coverage allowance as guidance, an estimate of jobs/square foot can be estimated to project future employment based on future land use designations and planned development. The Village Mixed Use A District allows a maximum lot coverage of 80 percent. The Rural Commercial District, Village Mixed Use B District, and Industrial Park District all allow a maximum lot coverage of 65 percent.

## F. Future Land Use

The 2040 Land Use Map (Figure II-H) shows the desired land use for all property in Scandia. Table II-J summarizes the planned land uses by category shown on the map. The planned future land uses shown on this map reflect previous community planning efforts as well as desired updates identified as part of the 2040 Comprehensive Plan Update process.

Table II-J – Planned Land Use		
Land Use	Gross Acres	Percent of Total Area
Agricultural Core	6,953	27%
General Rural	9,679	38%
Mining	443	1.7%
Rural Commercial	75	0.3%
Rural Mixed Use	419	1.6%
St. Croix River District	681	2.7%
Village Neighborhood	1,480	5.8%
Village Mixed Use	287	1.1%
Recreation Area Protected	2,132	8.4%
Open Water	3,252	12.8%
Railway	73	0.3%
<b>Total</b>	<b>25,475</b>	<b>100%</b>





Future land use designations were determined by a variety of factors, including an analysis of existing land use, the current land use plan, and development constraints. Factors impacting development include:

- Existing regional parks, Wildlife Management Areas, and Scenic and Natural Areas;
- Steep slopes;
- Wetlands and waterbodies;
- Roads, railroads, and the Regional Bike Trail Network;
- Shoreland and flood plain;
- Agricultural Preserves; and
- Prime farmland.

Figure II-I maps development constraints in the City of Scandia.



Figure II-1 – Development Constraints

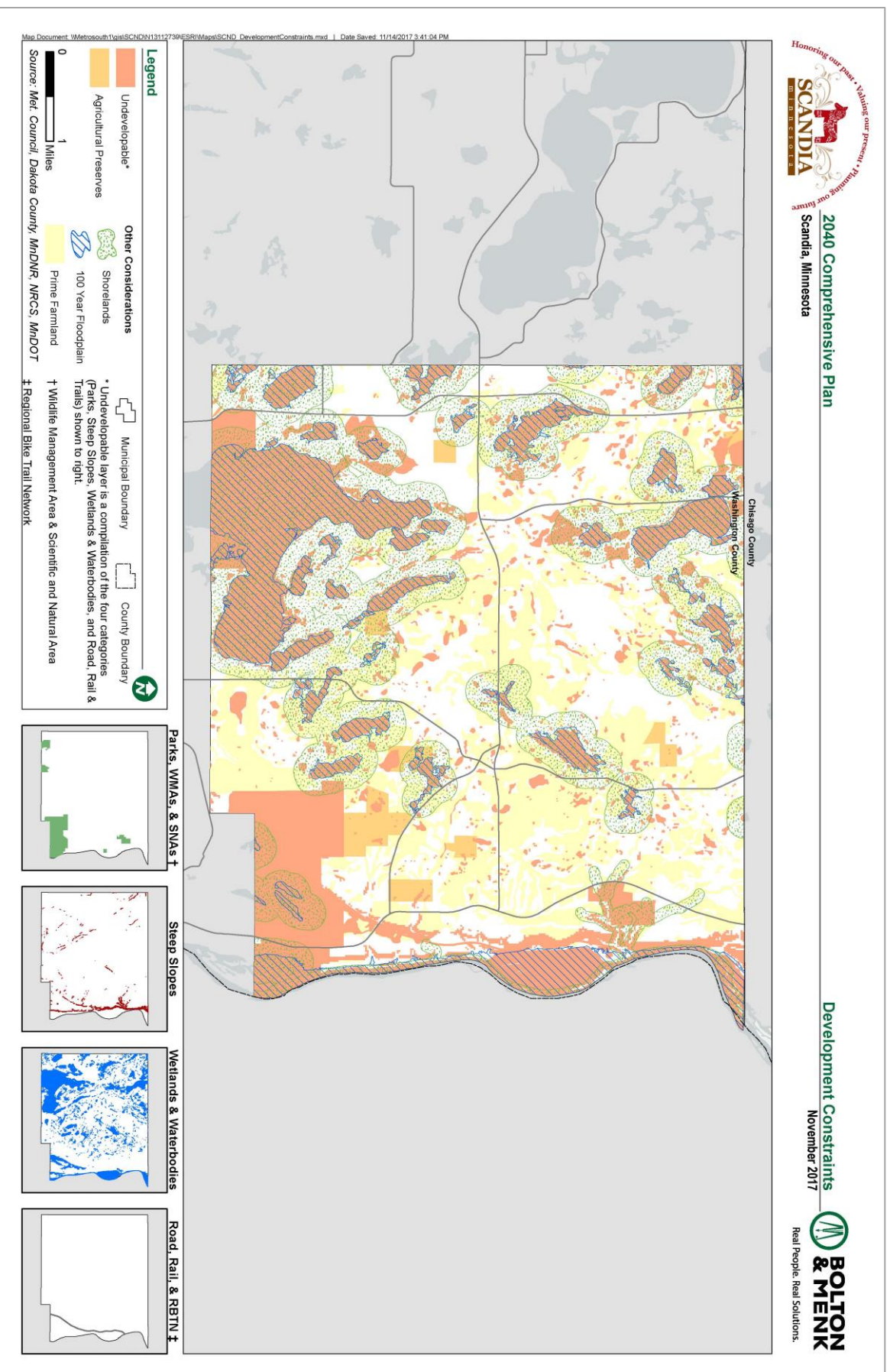


Table II-K summarizes the developable land available by decade in future land uses classifications. Non-developable land includes areas that cannot be developed, such as wetlands, steep slopes, and the road right-of-way, as well as existing development. Development is forecasted for each decade at existing land use densities, adding to the amount of non-developable land in each land use. Forecasted development is based on projected housing and employment needs (as projected in Table II-B, *Forecasted Population, Households and Employment*), minimum lot sizes by each land use district and an anticipated allocation of the projected housing development between each of the land use districts. The planned future land uses shown on this map reflect previous community planning efforts as well as desired updates identified as part of the 2040 Comprehensive Plan Update process.

Table II-K – Planned Land Use Net Acres								
Planned Land Use Category	2015 (Current)		2020		2030		2040	
	Developable	Non-Developable	Developable	Non-Developable	Developable	Non-Developable	Developable	Non-Developable
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Agricultural Core	5688	1265	5598	1355	5498	1455	5398	1555
General Rural	6121	3559	5733	3947	5333	4347	4945	4735
Mining	262	181	262	181	262	181	262	181
St. Croix River District	296	385	206	475	106	575	6	675
Rural Commercial	45	30	44	32	42	33	41	34
Rural Mixed Use	269	150	269	150	268	151	195	224
Village Mixed Use	125	162	109	179	75	212	44	244
Village Neighborhood	1,080	400	780	700	435	1,045	210	1,270
Open Water	0	3,252	0	3,252	0	3,252	0	3,252
Recreation Area Protected	0	2132	0	2132	0	2132	0	2132
Railway	0	73	0	73	0	73	0	73
<b>Total</b>	<b>13,887</b>	<b>11,589</b>	<b>13,000</b>	<b>12,475</b>	<b>12,020</b>	<b>13,455</b>	<b>11,099</b>	<b>14,377</b>

To meet projected housing needs, it is anticipated homes will be developed in the following percentages in each respective land use district.

Table II-L – Planned Land Use Development Characteristics	
Land Use	Percent of Anticipated Housing Units
Agricultural Core	5%
General Rural	20%
Rural Mixed Use	5%
St. Croix River District	5%
Village Neighborhood	60%
Village Mixed Use	5%

The following land use descriptions will be used for planning purposes and correspond to the planned land use designations on the Planned Land Use Map.

**a) Agricultural Core**

The Agricultural Core district is established to protect and preserve land for long-term agricultural production. Over time, the nature of agricultural production in Scandia will most likely change from traditional dairy farms to specialty agriculture and agriculture production for local/metropolitan markets. Residential development compatible with agriculture uses (4 per 40 density) and parks will be a secondary land use in this district. This designation corresponds with the Agricultural Core Area zoning district in the current zoning ordinance.

**b) General Rural**

The General Rural area land use category is a residential area of mixed lot sizes. It recognizes areas of Scandia that have been developed in the past at densities of ten acre or less and areas that have larger parcels still used for agriculture. The area includes 10-acre parcels, but also a number of existing smaller parcels and some parcels enrolled in the Agricultural Preserves Program. Single-family residential dwellings are the primary land use for the General Rural area. Secondary land uses include agricultural production, including small-scale production, parks and recreation, and public and private institutions. Recreational commercial uses are allowed as a conditional use. This designation corresponds with the General Rural District in the current zoning ordinance.

**c) Village Mixed Use**

This land use category recognizes the significant contribution of the existing village center to the overall character of the community. New commercial, retail, and residential activity will be encouraged in order to develop and redevelop areas in the village center while maintaining the historic nature of the village center. Primary land uses in the Village Mixed Use area include commercial, office, retail, public and private institutions, civic buildings, light industrial, and parks and recreation. Residential uses, including single family homes, townhouses and multi-family buildings, will be a secondary use. Multi-family buildings in the village center will achieve the goal of diversifying the housing options for younger families, seniors, and singles. Future lot sizes will be similar to the existing mix of lot sizes in the village center. In order to support these relatively small lot sizes, community sewer systems or connection to the regional sewer system, is anticipated. This designation corresponds with the Village Mixed Use A and B Districts, and the Planned Industrial District in the current zoning ordinance.

**d) Village Neighborhood**

The Village Neighborhood area is a planned extension of the existing Village Center, located adjacent to and north and west of the Village Center. This land use category designates a growth area surrounding the village and is intended to support single and multi-family residential uses on lot sizes reflective of the existing village lot sizes. This corresponds with the Village Neighborhood District in the current zoning ordinance.

The primary land use for the Village Neighborhood area will be small-lot, single-family residential uses. Public and private institutions, civic buildings, and parks and

recreation uses will also be allowed. Townhomes and multi-family units will be allowed as an incentive for providing community value through agricultural land protection, life-cycle housing, or natural resource protection. A community sewer system or connection to the regional sewer system may be necessary in order to allow for lot sizes similar to existing village lots. By concentrating development in the Village Neighborhood area, the City of Scandia hopes to protect agricultural and natural resource areas from development pressure.

**e) St. Croix River District**

The St. Croix River District recognizes the unique historical and natural resource aspects of the floodplain and bluffs of the shoreland area of the St. Croix River. This area includes historic crossroad and seasonal home communities, parkland, river access, and areas protected under scenic easements held by the National Park Service. The mapped area east of State Highway 95 corresponds to land areas protected under federal wild and scenic river designation. The future of this area includes limited residential development that protects the natural and scenic shoreland areas, and public and private protected lands. This corresponds with the Lower St. Croix River Corridor Overlay District in the current zoning ordinance.

New development in the St. Croix River District will be at a density of 4 units per 40 acres. Smaller lots may be permitted through the use of open space conservation subdivisions but may not exceed maximum densities. Viewsheds should be considered and protected in the siting of structures and driveways.

**f) Rural Commercial**

The Rural Commercial future land use area is intended to support commercial development in places of historic commercial activity. These areas are the only commercial areas anticipated outside of the Village Center and are intended to complement Village Center commercial uses. Rural Commercial areas are designated at the historic commercial nodes of the Big Marine Store, Copas/Abrahamson Nurseries, and the intersection of Highways 95 and 97. Commercial uses reflecting the historic nature of the community and compatible with the surrounding rural character will be allowed on lot sizes of at least 2 acres. Because this future land use area builds upon historic character, commercial building design standards shall reflect the historic nature of the community. This corresponds with the Rural Commercial District in the current zoning ordinance.

**g) Rural Mixed Use**

The Rural Mixed Use area is located to the west of Big Marine Lake. This is a new land use category and is intended to allow for residential development connected to the Big Marine Store rural commercial area. Extension of municipal sewer, or improvements to the existing community system, is necessary to permit more density in this area. Until that occurs, new development will be limited in this area.

After municipal sewer is extended, or the existing community system is updated and expanded, new development in the Rural Mixed Use area will allow small-lot, single-family residential uses. Some civic buildings, small commercial, and parks and recreation uses will also be allowed. Townhomes and multi-family units will be allowed as an incentive for providing community value through agricultural land protection, life-cycle housing or natural resource protection. This designation

corresponds with the Village Mixed Use A and B Districts. The Rural Mixed Use District will also follow some Rural Commercial District and Village Mixed Use B District standards, which allow a maximum lot coverage of 65 percent.

**h) Recreation Area Protected**

The Recreation Area Protected land use category includes publicly owned lands permanently protected from development. This designation recognizes that these areas will continue to be used for recreation or open space only and not developed. If recreation facilities are developed within these areas, priority natural resource areas shall be protected. In addition, priority natural resources should be restored and enhanced wherever possible within protected recreation areas. This designation corresponds with the Agricultural Core Area, Agricultural Preserves, and General Rural Districts in the zoning ordinance.

**i) Mining**

The Mining area includes areas in the City of Scandia with active, permitted mining operations. Mining activity is anticipated to continue in these areas in the future. Mining uses must comply with local and state extractive use regulations and reclamation shall restore the topography and natural resources of the site to a level such that the land is suitable for the planned future land uses such as agriculture or residential. This corresponds with the Aggregate Mining Overlay District in the current zoning ordinance.

The following overlay district will also guide land uses in specific, sensitive areas:

- **Agriculture Preserves Overlay District (AP)**

The Agricultural Preserves Overlay plans for the continuation of the Agricultural Preserves Program in Scandia. This overlay is intended to encourage the continuation of agriculture through ensuring the availability of the Program to qualifying agricultural landowners.

The Agricultural Preserves Overlay lies over the primary agricultural future land use area, the Agricultural Core Area. The Agricultural Preserves Overlay allows individual property owners within Scandia to continue to participate in the Agricultural Preserves Program. This voluntary program for landowners within the seven-county metropolitan area allows individuals to place their properties under a restrictive covenant committing their property to agricultural use in exchange for certain benefits. These benefits include a special tax rate calculated based on agricultural value rather than market value, a property tax credit, protection of normal farm practices, and protection against special assessments for public improvement projects.

While the underlying zoning district (Agricultural Core Area) allows four dwellings per 40 acres, parcels enrolled in the Agricultural Preserves Program and located within the Agricultural Preserves Overlay shall be allowed only 1 unit per 40 acres per program requirements.

Additional details on the corresponding zoning districts are included on Table X-A in the Implementation chapter.

## 1. Density Calculations

Based on the above future land use plan and land use calculations, residential and commercial land use requirements have been calculated to help Scandia plan for and meet Metropolitan Council projections for population, households, and employment. Residential calculations are detailed in Table II-M and commercial calculations are detailed in Table II-N.

### Residential

To meet forecasted 2040 population and household projections, the City of Scandia will need to add 582 housing units by 2040. These calculations show the number of acres needed to accommodate all needed housing units in each zoning district. Residential development is anticipated to take place in all residential zoning districts in an orderly manner consistent with the staging plan, discussed below. These calculations do not include the density bonuses. Actual acreage needed to accommodate future households and their locations will be influenced by market forces.

Table II-M – Residential Density Increase Calculations					
Zoning Districts Permitting Residential Use	Density (Units/Acre)	Desired Distribution	Number of Households	Acres Needed	Current (2015) Developable Acres
Agricultural Core	4/40	5%	29	290	5,688
General Rural	4/40	20%	118	1,176	6,121
St. Croix River Corridor	4/40	5%	29	290	296
Rural Mixed Use	1/2.5	5%	29	73	269
Village Neighborhood	1/2.5	60%	348	870	1,080
Village Mixed Use	1/2.5	5%	29	73	125
<b>Total</b>		100%	582	2,774	13,889

### Commercial

To meet forecasted 2040 employment projections, the City of Scandia will need to add 190 jobs by 2040. These calculations show the number of acres needed to accommodate all needed new jobs in each zoning district. Based on guided land use and available developable acres, Scandia has sufficient available vacant land to meet employment projections based on development in the Village Mixed Use (commercial/industrial) Rural Commercial, and Rural Mixed Use (both commercial) districts. Actual acreage needed to accommodate jobs will greatly depend on the types of businesses starting or expanding in Scandia. These calculations also do not include remote telecommuting, home occupations, or permitted employment opportunities in agricultural zoning districts, all of which will influence the number of acres needed to accommodate employment in Scandia.

Table II-N – Commercial/Industrial Increased Density Calculations							
Zoning Districts	Density Range (Jobs/Acre)		Desired Distribution	Number of Jobs	Minimum Acres	Maximum Acres	Current (2015) Developable Acres
	Minimum	Maximum					
Village Mixed Use	14	62.4	68%	130	2.3	10.2	125
Rural Commercial	11.4	50.7	25%	47	0.9	4.2	46
Rural Mixed Use	11.4	50.7	7%	13	0.26	1.14	269
<b>Total</b>	-	-	100%	190	3.3	14.5	440

## 2. Staged Development or Redevelopment

The goal of a Staging Plan is to manage growth and guide the orderly and cost-effective provision of infrastructure at a rate that is consistent with forecasted growth, at the same time responding appropriately to market conditions. Table II-O identifies the staging of future growth in Scandia. This table indicates the anticipated timing and sequence of growth. It identifies the developable acres, number of housing units and jobs that may be developed in each 10-year planning period. The table is not intended to limit or to compel growth in any specific area within the planning period. Rather, it is an estimation of where growth may logically occur.

A staging plan cannot force development to occur, but can be used as a tool to guide development appropriately. In many cases, cities choose to stage and time growth in an orderly and contiguous manner; however, there is nothing about adopting a staged growth plan that forces any private property owner to sell or develop their land before they wish to do so. The City of Scandia will make development decisions based on existing and development of new infrastructure, land capacity and market conditions.

Table II-O – Staging of Future Land Use Units/Jobs/Acres									
Outside Urban Service Area	Average Density Range Housing		Existing Developable (2015)	2020		2030		2040	
Residential	Units/Acre		Acres	Units	Acres	Units	Acres	Units	Acres
Agricultural Core	0.1		5,688	9	90	10	100	10	100
General Rural	0.1		6,121	39	388	40	400	39	388
Rural Mixed Use	0.4		269	0	0	0	0	29	73
St. Croix River District	0.1		296	9	90	10	100	10	100
Village Mixed Use	0.4		125	5	13	12	30	12	30
Village Neighborhood	0.4		1,080	120	300	138	345	90	225
Average Density for New Development				582 units/2,771 = 0.21 units/acre					
Non-Residential	Estimated Employment/Acre		Developable Acres	Jobs	Acres	Jobs	Acres	Jobs	Acres
Village Mixed Use	14	62.4	125	60	4.3	50	3.6	20	1.4
Rural Commercial	11.4	50.7	46	20	1.8	17	1.5	10	0.9
Rural Mixed Use	11.4	50.7	296	0	0	3	0.3	10	0.88
Average Density for New Development				190 jobs/14.5 acres = 13 jobs/acre					



One of the main desires of this comprehensive plan is to preserve and augment the community character and history in Scandia. To support the Village Center, the social and economic heart of the city, infill development will be encouraged in vacant or underutilized lots. This will help encourage a vibrant Village Center and surrounding residential neighborhoods while utilizing existing infrastructure, guiding development and redevelopment in an orderly manner. The expansion of Village Neighborhoods and Village Mixed Use zoning districts will occur as market conditions allow.

The creation of the Village Neighborhood zoning district west of Big Marine Lake will be contingent upon infrastructure repairs or upgrades. Most homes in this area are currently served by community sewer, which is aging and to the point of needing repairs. The City of Scandia is currently assessing options to best provide wastewater services to this portion of the city, discussed more in Chapter VI. Development in this area of the city should be aligned with future wastewater plans and investments.

### III. NATURAL RESOURCES

Scandia's original vegetation was the result of glacial processes that created the topographic landscape features and soil types. As the landscape was modified during settlement and development, most areas with soils suitable for crop production were cleared for planting. Natural areas on steep slopes, hydric soils, and poor soils were left alone or used as pasture. This has led to Scandia's current landscape - a mosaic of agricultural lands, residential and commercial development, and areas of natural vegetated cover.

As development continues, plans to manage future growth should be based on a thorough understanding of the natural resources within the city's boundaries. The purpose of this section is to summarize available information regarding natural resources in the City of Scandia and to discuss the relationship between natural resources and land use planning. Water resources, such as lakes, rivers, and streams, are discussed in detail in the Water Resources Chapter.

#### A. Natural Resources Goals and Objectives

**Goal:** Protect natural resources and look for opportunities to connect large areas of open space.

**Objectives:**

- Coordinate with the Minnesota Department of Natural Resources and Washington County on plans for the long-term acquisition and development of William O'Brien State Park and Big Marine Park Reserve.
- Prioritize the preservation and treatment of open space in planning and review of all types of development within the City.

**Goal:** Preserve high quality natural areas

**Objectives:**

- Work with property owners seeking to utilize Transfer of Development Rights and Purchase of Development Rights, as appropriate, to obtain and protect high quality natural areas while compensating landowners who give up development rights to meet community land use and natural resource goals.

**Goal:** Eliminate, reduce or mitigate the negative effects of invasive species on natural areas

**Objectives:**

- Provide educational resources and materials to residents and businesses regarding invasive species.

**Goal:** Recognize and enhance publicly owned lands and improve public access to such lands where appropriate.

**Objectives:**

- Promote preservation and restoration of publicly owned and other lands permanently protected from development through education and cooperation with other governmental agencies and community groups.
- Improve designated physical access to the St. Croix River corridor and other important or high quality natural areas where public lands may provide access opportunities while preserving natural and historical integrity.
- Encourage for the preservation and establishment of scenic views throughout the City.

**Goal:** Work with property owners to protect and preserve native, endangered, threatened and unique plants and animals on privately owned land.

**Objectives:**

- Provide educational resources and materials to residents and businesses regarding invasive species.
- Encourage connections to high quality natural areas through natural corridors on private land in order to allow for wildlife movement among habitats as part of development.

**B. Aggregate Resources**

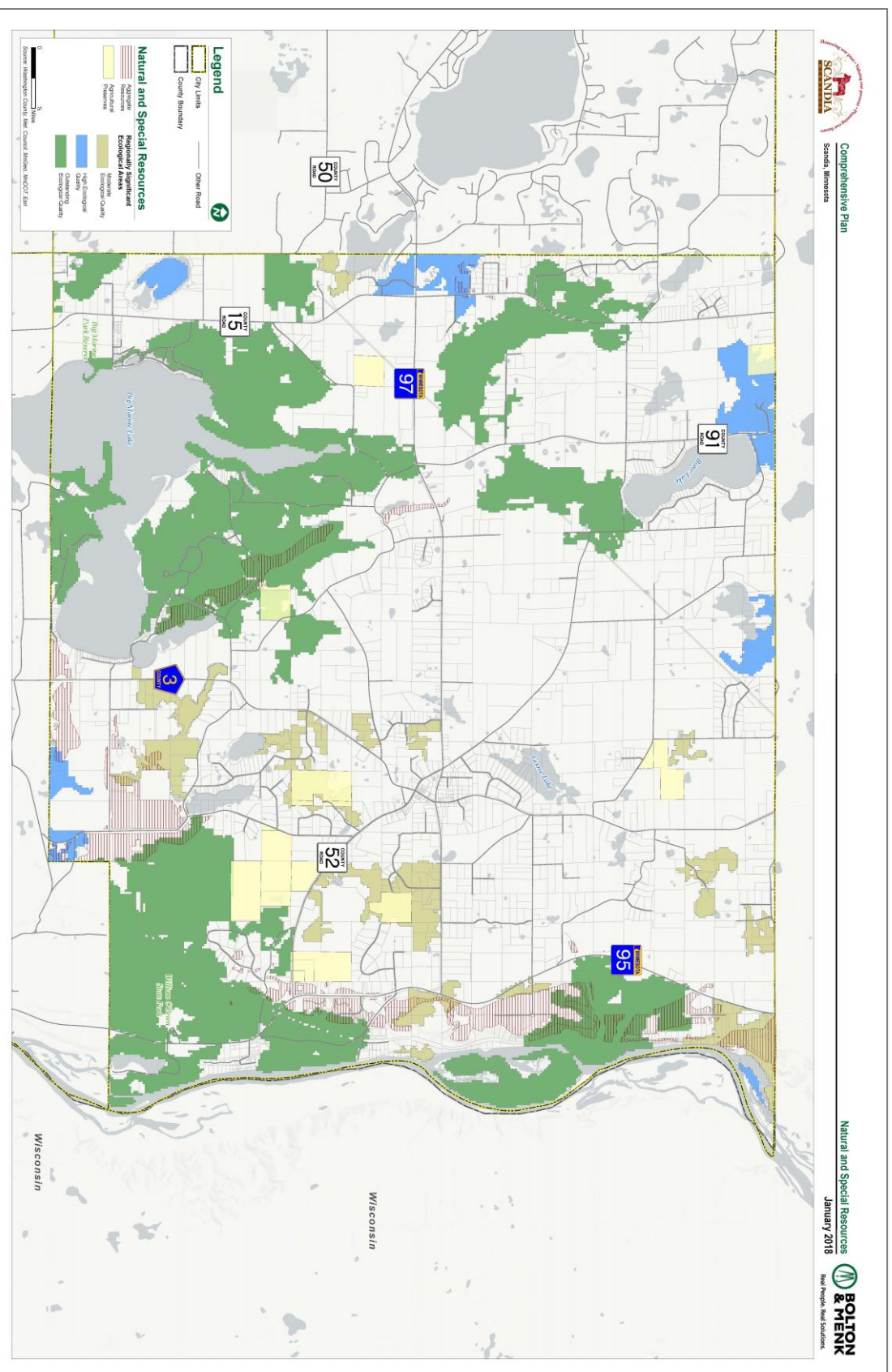
In 2000, the Metropolitan Council, the Department of Natural Resources, and the Minnesota Geological Survey collaborated on an aggregate resource inventory of the seven-county metropolitan area. The inventory identified and categorized likely areas of dolostone deposits, and sand and gravel deposits. Areas identified as “dolostone” represent significant potential deposits of Prairie du Chien dolostone suitable for crushed aggregate with less than 10 feet of overburden. The sand and gravel deposits are classified into three categories according to type and quality (based on percent of gravel content), thickness of deposit, amount of overlying material, relationship to water table, and reliability of the mapping. Table III-A summarizes the estimated areas of the dolostone deposits and the categories of sand and gravel deposits found in the City of Scandia. Aggregate resource deposits are shown on Figure III-A – Natural and Special Resources.

Table III-A – Acreage of Known Deposits	
Deposit Type	Size (in acres)
Dolostone	62
Sand & Gravel Deposit, good to excellent quality	649
Sand & Gravel Deposit, moderate to good quality	254

**C. Regionally Significant Natural Areas**

The MN DNR completed an analysis of regionally significant Terrestrial and Wetland Ecological Areas in the seven-county metropolitan area in 2004. The analysis assessed remaining forest, grassland, and wetland areas. The scores were determined by examining important ecological attributes of the natural areas, including size, shape, cover type diversity, and adjacent land use. This analysis was included in the previous comprehensive plan and is maintained here to inform and guide the city’s land use, as protecting natural resources is one of the city’s four overarching goals for the future. These areas are shown in Figure III-A.

### Figure III-A - Natural and Special Resources



## D. Special Resource Protection

### 1. Agriculture Preserve

The Agriculture Preserves District (AP) plans for the continuation of the Agricultural Preserves Program in Scandia. This land use district is intended to encourage the continuation of agriculture through ensuring the availability of the program to qualifying agricultural landowners. While Scandia plans for long-term agriculture through the use of the Agricultural Preserve Program, it is the choice of a landowner to enroll in the Agricultural Preserves Program. The Agricultural Preserves Program has set requirements, including maximum housing densities, that determine the eligibility of parcels to enroll in the program. Parcels zoned as Agricultural Core in the Future Land Use (see **Figure II-F - Future Land Use**) meet the density requirements to qualify to enroll in the Agricultural Preserve Program. Participating parcels as of 2014 are shown in **Figure II-G**.

### 2. Historic Protections

#### a) *National Register of Historic Places*

**John Copas House:** The John Copas House was built in 1880 on the site of an 1857 homestead. It was the home of John Copas, an early settler, merchant, and farmer. John was also a founding member of the Copas community. The home is currently used as a single family dwelling. It is located in the southeast corner of Scandia on Highway 95.

**Johannes Erickson House:** The Johannes Erickson House is a log dwelling with a gambrel style roof. The house was built in 1868 by Swedish immigrant Erickson. The house is part of the Gammelgarden Museum.

**Hay Lake School:** The Hay Lake School is a brick school with bell tower. The school was built in 1895 by Scandia residents and was Scandia's first school. Hay Lake School served as the community's school until services were moved to Elim Church. The building is currently run by the Washington County Historical Society as a museum and is located on County Road 3 and Old Maine Trail.

#### b) *Historic Settlements*

**Scandia Village Center:** The Village Center is literally and figuratively the heart of the community. The street pattern is characterized by triangles formed by converging major roads at a high point between valleys, interconnected by a grid of local streets. Local landmarks include historic commercial buildings, Elim Lutheran Church and cemetery, and the Gammelgarden Museum. Cultural and civic activities focus on the same buildings as well as the Community Center and park. The Village Center is architecturally diverse with a variety of early 20<sup>th</sup>-century commercial building types, the 1850's Swedish Farmhouse style museum and its outbuildings, and the Gothic Revival style of the church, built in 1931. The formal gardens of the Elim Cemetery offer an attractive site for community events.

**Copas:** Once a free-standing village centered on a Soo Line railroad depot (the railroad between the Twin Cities and Duluth located west of Highway 95), Copas is now a largely residential hamlet with a few historic and commercial buildings fronting State Highway 95. The majority of the remaining buildings are located on a number of tree-lined residential streets that parallel the St. Croix River.

**Former Hamlets and Historical Localities:** Otisville, Big Lake, and Panola (a post office located just north of the city boundary) were all rural settlements of the region, but few traces of these communities remain. The Log House Landing site near the

former hamlet of Otisville remains as a public water access. The Big Lake School and Goose Lake School sites also remain, harkening to Scandia's and the region's history.

## IV. RESILIENCE

Resiliency in planning and development helps to ensure the prosperity, livability, equity, and sustainability of a community for future generations. Resilience planning focuses on all aspects of community, ensuring the economy, the environment, and social/living conditions are vibrant and upheld through adversity.

### A. Resilience Goals and Policies

**Goal:** Encourage the use of renewable, local and diverse forms of energy in order to increase use of local resources, mitigate the local risk from fossil fuel scarcity and price increases, and help meet Minnesota's climate protection goals.

**Objectives:**

- Encourage the use of alternative renewable heating fuels as biomass while establishing standards to limit nuisances associated with such systems.
- Encourage the use of alternative fuels and alternative means of transportation for City residents and businesses.

**Goal:** Encourage energy efficient housing that exceeds the minimum efficiency levels required in the State building codes.

**Objectives:**

- Protect solar access for homes and businesses.
- Promote the use of renewable energy systems on housing and in areas where such systems can be safely operated and produce a minimum level of visual impact.

**Goal:** Review the goals of the Minnesota GreenStep Cities Program. Implement GreenStep Cities Best Practices as appropriate.

### B. Solar

The Metropolitan Land Planning Act (Minnesota Statutes 473.859, Subd. 2) requires local comprehensive plans to include for the protection and development of access to direct sunlight for solar energy systems.

Within Scandia's development code, the administration chapter details the allowance of variances in regards to solar access. § 6.4.7 reads, "Practical difficulties include, but are not limited to, inadequate access to direct sunlight for solar energy systems."

Also, the subdivision regulations, in § 13.2.7, states "All new subdivisions, where appropriate, should be designed to accommodate use of passive and active solar energy systems with special attention given to street, lot and building orientation."

According to the Metropolitan Council, Scandia has the following solar potential, detailed in Table 17. These calculations assume a 10% conversion efficiency and current (2016/17) solar technologies. The average home in Minnesota consumes between 9 and 10 Mwh/year (Solar Energy Industries Association; US Energy Information Administration). Using only Scandia's rooftop generation potential, between 2,778 and 3,086 homes could be powered by solar energy annually.



Table IV-A – Solar Resource Calculations			
Gross Potential (Mwh/yr)	Rooftop Potential (Mwh/yr)	Gross Generation Potential (Mwh/yr <sup>2</sup> )	Rooftop Generation Potential (Mwh/yr <sup>2</sup> )
51,157,938	277,765	5,115,793	27,776

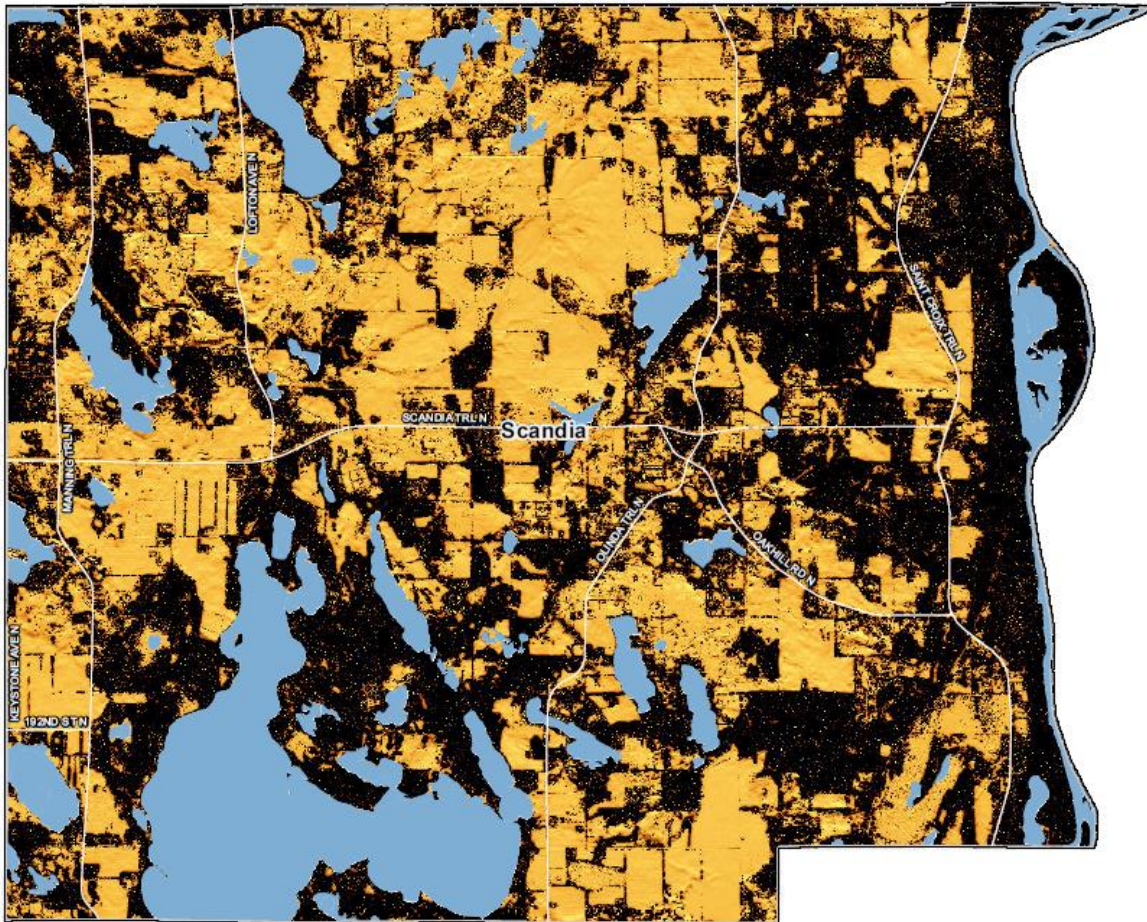
*Source: Metropolitan Council*

These calculations done by the Metropolitan Council are not necessarily an absolute number. Due to limitations in data and maps, some areas may be left out from gross and rooftop potential.

These numbers should be interpreted as a baseline; if more accurate numbers are desired, the Metropolitan Council advice a more extensive, community-specific analysis of solar development potential for both solar gardens and rooftop or accessory use installations. On average, communities would be able to expect between 30% and 60% of total energy used to be able to be generated by solar rooftops. The rooftop potential estimated here does not consider ownership, financial barriers, or building-specific structural limitations. Solar potential in the City of Scandia is displayed in Figure IV-A.

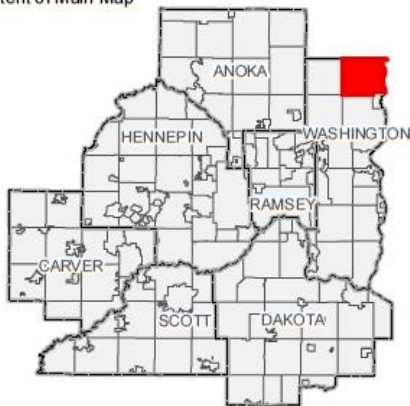
Figure IV-A - Solar Potential Map

# Gross Solar Potential City of Scandia, Washington County

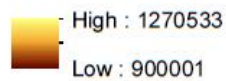


1/6/2017

Extent of Main Map



Gross Solar Potential  
(Watt-hours per Year)



Solar Potential under 900,000 watt-hours per year

County Boundaries

City and Township Boundaries

Wetlands and Open Water Features

Source: University of Minnesota U-Spatial Statewide Solar Raster.

### C. Minnesota GreenStep Cities

In May 2014, the City Council approved a resolution to make Scandia a GreenStep City through the MPCA and League of Minnesota Cities' program. As of 2017, the city has implemented 11 actions for four best management practices: buildings and lighting, land use, environmental management, and economic and community development. Scandia is currently a Step 1 City, but is anticipated to achieve Step 2 in June 2018.

- **Buildings and Lighting** – Scandia has implemented two actions in efficiency in building operations and lighting. The city has earned two stars for entering building information in the Minnesota B3 Benchmarking database, allowing the city to track their monthly energy and water use in all city-owned buildings. Scandia has also earned one star for the use of a solar-powered light on the flagpole of the Veterans Memorial in Lilleskogen Park.
- **Land Use** – The city has implemented three actions regarding comprehensive plans and two practices for natural resource conservation design.

In comprehensive planning, Scandia has earned one star for adopting a comprehensive, long-range land use plan and another star for updating its zoning code and ordinances with the comprehensive plan. The city has also earned two stars for adopting the Carnelian-Marine St. Croix's watershed plan and for entering agreements with May Township and Osceola, WI. Scandia provides fire services to a portion of May Township, and Scandia entered a mutual aid agreement with Osceola in 2009.

In natural resource conservation design, the city has earned two stars for implementing an Open Space Subdivision process that allows development to occur while preserving woodlands, natural corridors, agricultural land, open space, and significant natural resources. Scandia has also earned two stars for adopting a Woodland and Tree Preservation Plan requirement in the City Code. A Woodland Preservation Plan is required whenever significant trees or woodlands exist in a proposed construction zone.

- **Environmental Management** – Scandia has implemented two actions for this best management practice. The city earned two stars for adopting a shoreland overlay district with shoreland management regulations. Scandia also earned one star for contracting with a service provider to provide single-sort curbside recycling for all Scandia households.
- **Economic and Community Development** – The city has implemented two actions for this best management practice area. Scandia has earned two stars for adopting a solar farm and community solar garden ordinance, which has resulted in four solar farms being approved for construction. The city has also earned two stars for partnering with the Gammelgarden to bring a Farmer's Market to Scandia. This effort helped bring fresh, locally grown produce to residents while creating an enjoyable, safe community event in the cultural/social heart of Scandia.

As Scandia plans for the future, it will continue to consider GreenStep City Best Management Practices as they relate to the goals and objectives of this comprehensive plan.

## **V. ECONOMIC COMPETITIVENESS**

Minnesota Statutes §473.859 Subd. 1 states local comprehensive plans “shall contain objectives, policies, standards, and programs to guide...redevelopment and preservation for all lands and waters within the jurisdiction of the local governmental unit.” This comprehensive plan will address this requirement through the implementation chapter at the end of the plan. The following sections detail basic background information on employment and income to provide current conditions for the community and to summarize public comments from the community survey, focus groups, and open houses relating to economic development.

### **A. Economic Competitiveness Goals and Objectives**

**Goal:** Concentrate on retaining and expanding local businesses in and around the Village Center and existing Rural Commercial districts.

#### **Objectives:**

- Strengthen public services to attract and retain businesses and workforce.
- Identify and allow in-fill development opportunities for business expansion.
- Promote appropriately-sized new businesses that create synergy with existing businesses and overarching goals.
- Use outreach/branding initiatives to retain businesses and employment in Scandia.
- Cooperate with businesses, educational institutions, community organizations, and government to provide information to local businesses.
- Create development and land use standards to guide development into the Village Center and away from a linear pattern along the highways or undeveloped rural intersections.
- Encourage businesses providing local services, as well as tourism and recreation businesses in the Village Center.
- Work with building owners to maintain and upgrade building facades and properties consistent with the Village Center’s small town image and historic character.
- Encourage public and private investment in community-oriented institutions including the community center and city hall, church, cemeteries, and Gammelgarden.

**Goal:** Actively support the retention and expansion of Scandia community-scale agricultural operations.

#### **Objectives:**

- Work cooperatively with other governmental agencies and community groups to develop programs to help keep agricultural land affordable in Scandia.
- Update ordinances and regulations to facilitate growth of small-scale agricultural uses.

**Goal:** Encourage home-based entrepreneurs and businesses.

#### **Objectives:**

- Identify opportunities to encourage home-based businesses to transition to a storefront when its market is adequately developed.
- Review standards to support home occupations while ensuring compatibility with surrounding land uses.

**Goal:** Expand access to internet services throughout the entire City.

#### **Objectives:**

- Encourage internet providers to expand service areas and bandwidth throughout the

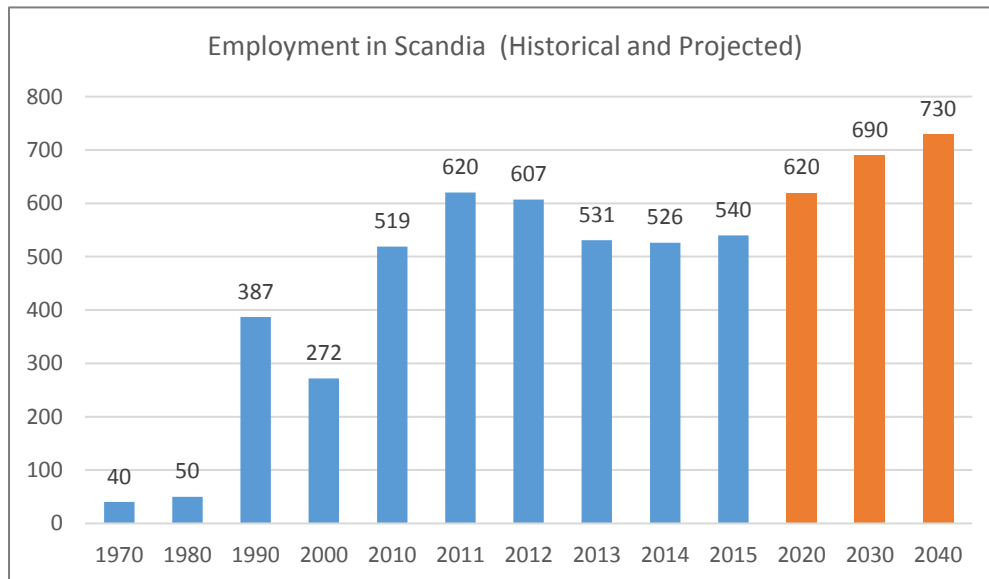
City.

- Explore potential opportunities for public investment or grants to expand internet capabilities.
- As development or redevelopment occurs, support the addition of infrastructure that will enable expansion of internet technology.

## B. Employment in Scandia

Figure V-A shows the historical employment in Scandia from 1970 through 2016 and projected employment to 2040. Employment in Scandia peaked in 2011 with 620 employees. Projections show employment increasing in Scandia considerably in the next 20 years, projecting to add 190 jobs by 2040. However, this is contingent on the ability of businesses and industries in the city to support employment growth as well as the ability of the city to support new and growing businesses.

**Figure V-A - Historical and Projected Employment in Scandia**

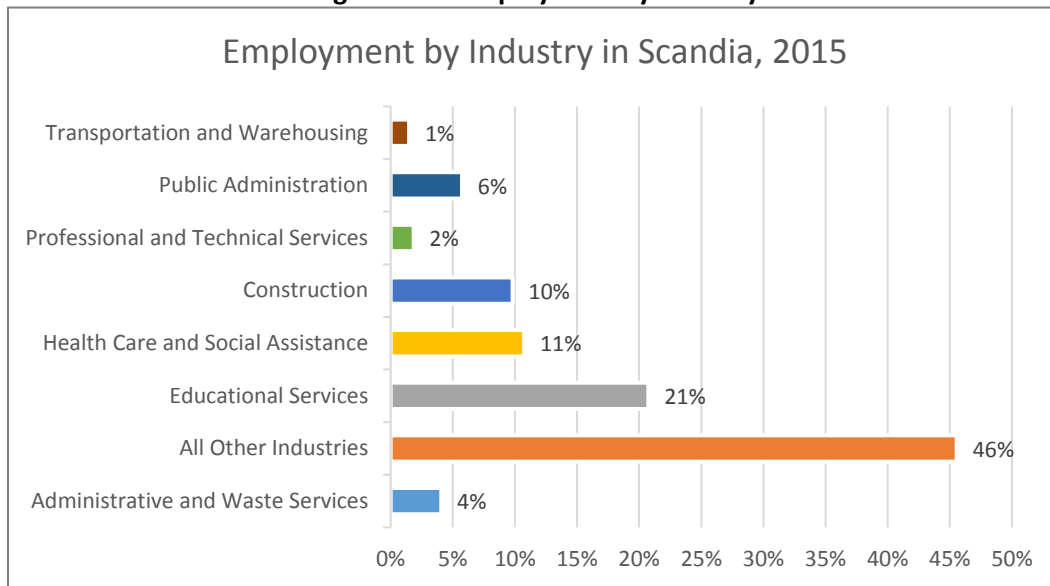


*Source: Metropolitan Council Tabulation of US Census and American Community Survey Data*

Figure V-B shows employment in Scandia by industry in 2015. Of Scandia's total 540 jobs, 46% fall into "All Other Industries," suggesting a diversity of jobs within the city. The largest single industry is Educational Services, which provides 21% of jobs located in Scandia. Health care and social assistance and construction make up the second and third largest single industries in the city, respectively.



**Figure V-B - Employment by Industry**

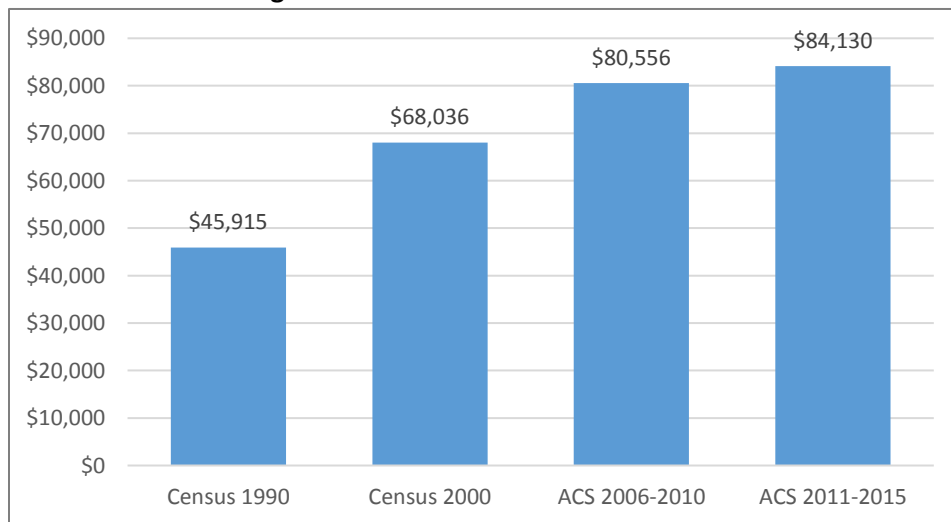


*Source: Metropolitan Council*

## C. Income

Figure V-C shows median household income in Scandia over the last 25 years. Median household income has increased in Scandia, with the largest increase between 1990 and 2000. These medians are nearly identical to Washington County median household incomes.

**Figure V-C - Median Household Income**



*Source: US Census and American Community Survey (Not Adjusted for Inflation)*

### 1. Public Comments

Appendices D and E provide detailed responses regarding community and economic development. In brief, Community Survey respondents identified businesses struggling in the low-density city as one of the top three challenges facing the city and commercial growth as the number one priority for the city for the next 20 years. Residents of Scandia

want growth to match existing community character, supporting existing small businesses and the history of the community. There is interest in a range of community businesses and attractions, many of which can cater to both local and tourist markets, such as coffee shops, restaurants, and recreation. There is also interest in exploring alternative agricultural opportunities, like co-ops, and tourism as key elements of the city's economy, as traditional agriculture will become increasingly difficult to maintain. Focus groups also noted slow and sporadic internet speed as a limiting factor in business operations.



## VI. HOUSING

As part of the 2040 Comprehensive Plan update, the Metropolitan Council provides housing estimates for each community in the seven-county metropolitan area, based on the 2010 Census and the number of permitted units between 2010 and 2015. However, this level of analysis is only meant to provide a framework, and typically works best in larger communities. Given the small size of the City of Scandia, it can be difficult to obtain accurate data for housing units.

To provide a more accurate picture of current housing conditions in Scandia, data for occupied housing units from the 2011-2015 American Community Survey (ACS) was used to provide a baseline for current housing conditions in Scandia. This was determined to be the most appropriate data to use, as it most closely aligned with Washington County property assessments in Scandia and focused solely on occupied units. There are a number of seasonal dwelling units in Scandia (i.e. cabins), but there is no consensus between data sources (US Census/ACS, Washington County, and the Metropolitan Council) as to how many seasonal “vacant” units there are in Scandia. This can be misleading, as seasonal units are counted as “vacant” even though they are owned and occupied for varying lengths throughout the year. Based on community experiences, the City of Scandia has very low to no vacancy rates for permanently occupied units.

To help guide effective, community focused policies pertaining to housing in the City of Scandia, the city presumes there to be low/no vacancies within city limits. Seasonal housing units may or may not become permanently occupied in the future; this is the decision of the property owner, not the city. The City of Scandia will plan for and consider policies that do not assume any conversion of seasonal units into permanent residences, meaning development or redevelopment is assumed to be needed to accommodate all future households. This will ensure that enough land is reserved for residential uses in areas that are close to or are connected to existing residential areas and service, supporting orderly residential growth. Any conversion of seasonal units to permanent housing would ultimately decrease the number of new housing units and amount of land needed in Scandia to accommodate projected population growth.

### A. Housing Goals and Objectives

**Goal:** Support a variety of housing types and densities for residential uses in and surrounding the Village Center and other areas where appropriate.

**Objectives:**

- Encourage residential development in areas where sufficient infrastructure capacity can be provided.
- Offer density bonuses for development providing senior housing, lifecycle housing, or work with property owners on the transfer of development rights.

**Goal:** Expand life-cycle housing opportunities for residents at all points of life.

**Objectives:**

- Encourage residential buildings to be designed for accessibility in order to meet the needs of current and future owners.
- Continue to work with the Washington County Community Development Agency to identify opportunities for providing additional affordable senior housing in the Village Center.

**Goal:** Encourage a range of housing choices that fit with the character of the community

**Objectives:**

- Review current development ordinance for districts to allow smaller lot sizes or

- higher densities while respecting the rural character and land uses.
- Encourage Open-Space Cluster housing development and Lot Averaging development.
- Continue to monitor the general condition of the housing stock, with a special focus on the physical condition of the older housing.

## B. Existing Housing

As of 2015, Scandia contained approximately 1,518 occupied-housing units, 98% of which are single family and 2% or which are multi-family. About 90% of the households (1,367 units) in Scandia are owner-occupied, compared to 10% renter-occupied units (151 units). About 37% of homes in Scandia are affordable to households with incomes at or below 80% Area Median Income (AMI). However, about 30% of households in Scandia experience cost burden. There are 40 subsidized units in Scandia, all of which are designated as senior housing. These and other housing conditions are outlined in Tables VI-A and VI-B.

Table VI-A – Housing Conditions		
Housing Units	Number of Units	Percent of Total
Total Occupied Housing Units	1,518	100%
– Owner Occupied	1,367	90%
– Rental	151	10%
Single Family Homes	1,488	98%
Multi-family Homes	30	2%
<b>Publicly Subsidized</b>		
– Senior Housing	40	3%
– Housing for People with Disabilities	0	0%
– All Other Publicly Subsidized Units	0	0%
<b>Affordable Housing</b>		
Housing Units affordable to households with incomes at or below 30% Area Median Income (AMI)	16	1%
Housing Units affordable to households with incomes between 31 and 50% Area Median Income (AMI)	137	9%
Housing Units affordable to households with incomes between 51 and 80% Area Median Income (AMI)	416	27%

Source: Metropolitan Council Tabulation of American Community Survey Data, 2011-2015

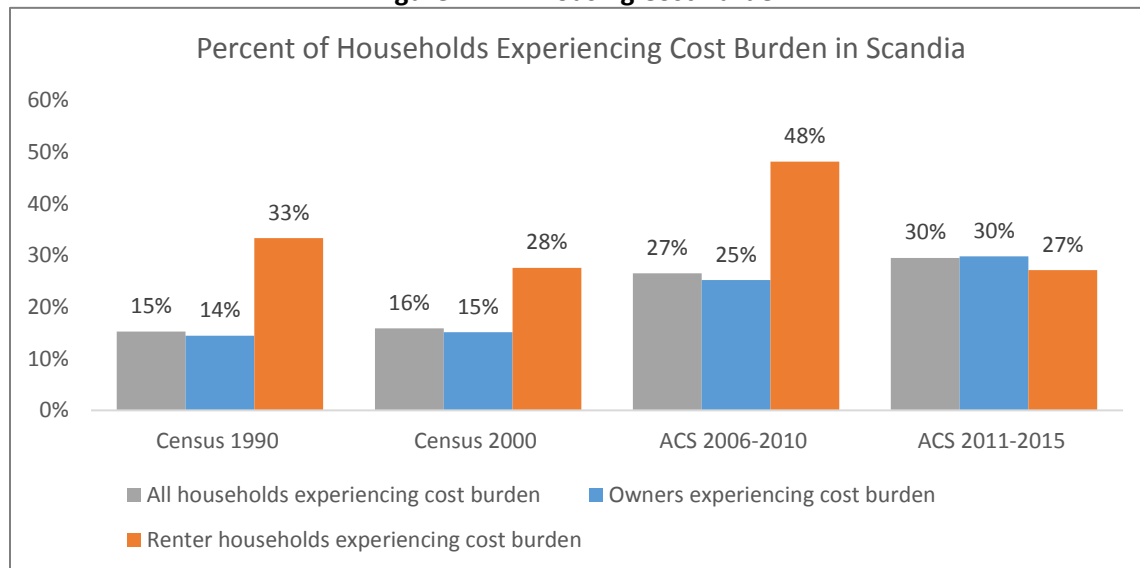
Table VI-B - Households Experiencing Cost Burden		
Existing households experiencing housing cost burden with incomes below 30% AMI	83	5%
Existing households experiencing housing cost burden with incomes between 31 and 50% AMI	114	8%
Existing households experiencing housing cost burden with incomes between 51 and 80% AMI	22	1%

Source: Metropolitan Council Tabulation of American Community Survey Data, 2011-2015

Housing affordability is an issue every community needs to address. In Scandia, about 30% of all households spend 30% or more of the household income on housing, and are considered to experience housing cost burden (shown in Figure VI-A). About half of all cost-burdened households have incomes at or below 80% AMI; the other half have incomes higher than 80% AMI.

Housing affordability has become a growing concern in Scandia, detailed in Appendices D and E. Only 15% of all households experienced housing cost burden in 1990; in 2015, that percentage doubled to 30%. High housing costs can make it difficult for young families to move into the community or for older residents on fixed-incomes to age in their community.

**Figure VI-A – Housing Cost Burden**



Source: US Census and American Community Survey

## 1. Housing Units

Housing in Scandia is predominantly single family detached, which is characteristic of rural communities. Approximately 94% of the occupied housing stock in Scandia are detached single family, compared to 4% attached single family residences. There is a limited amount of multifamily housing in Scandia. Multifamily units make up roughly 2% of the city's housing stock with 0.6% of being duplexes, triplexes, and quads and 1.4% being larger, five units or more buildings. These data are noted in Table VI-C.

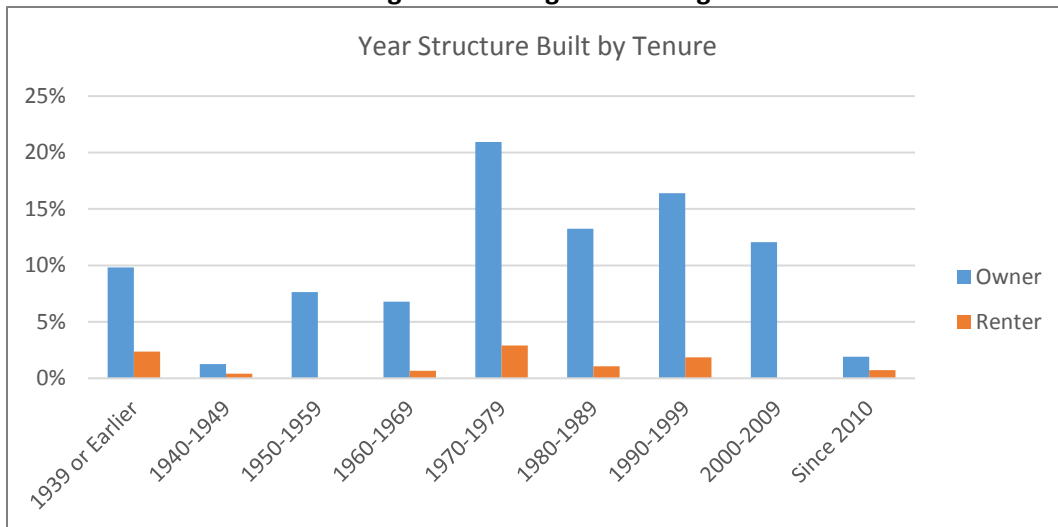
Table VI-C – Household Type		
Household Type	Units	Percentage
Single-Family Detached	1,428	94%
Townhomes (single-family attached)	59	4%
Duplex, triplex and quad	9	0.6%
Multifamily (5 units or more)	21	1.4%
<b>Total Households</b>	<b>1,518</b>	

Source: American Community Survey, 2011-2015

As shown in Figure VI-B, over 70% of the city's housing stock has been built since 1970 with almost a quarter of all units built between 1970 and 1979. About a third of Scandia's housing units were built in the last 25 years (1990-2015). The proportion of the city's

oldest housing units built in 1939 or earlier, has decreased from 19% of the city's total stock in 2000 to 12% in 2015.

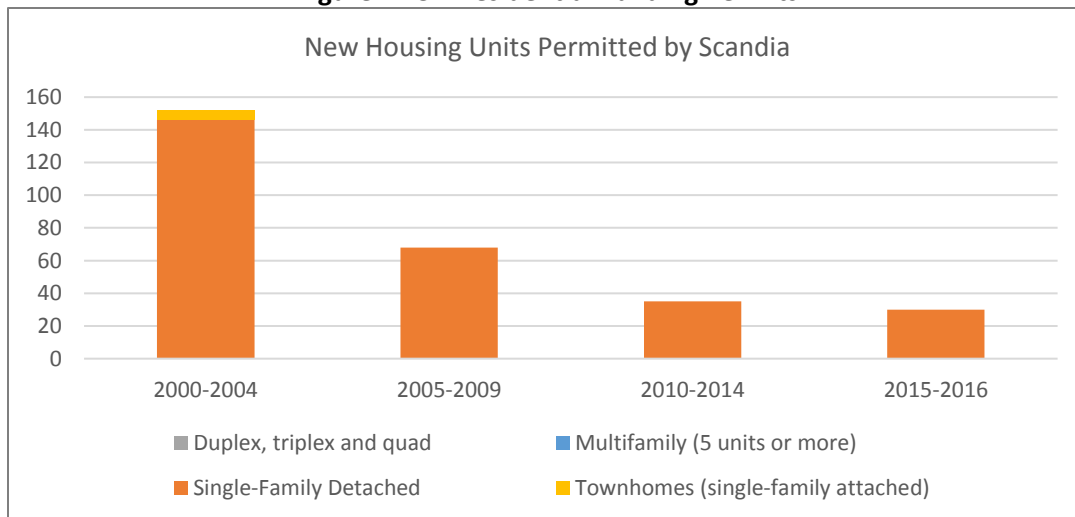
**Figure VI-B – Age of Housing**



Source: American Community Survey, 2011-2015

There has been little housing development in Scandia since 2010, though the pace of development has increased in 2015 and 2016, shown in Figure III-C. Most development since 2000 has been in single family, detached homes.

**Figure VI-C – Residential Building Permits**



Source: Metropolitan Council

## 2. Housing Demographics

Table VI-D illustrates the distribution of owner-occupied and renter-occupied households in Scandia by age. The largest cohort of owners is the 55 to 64-year old range, making up about 34% of all homeowners in Scandia. This cohort also makes up the largest share of renter households, representing 42% of all renters. About 60% of all households in Scandia are owned or rented by residents age 55 or older. In contrast, approximately 6% of all

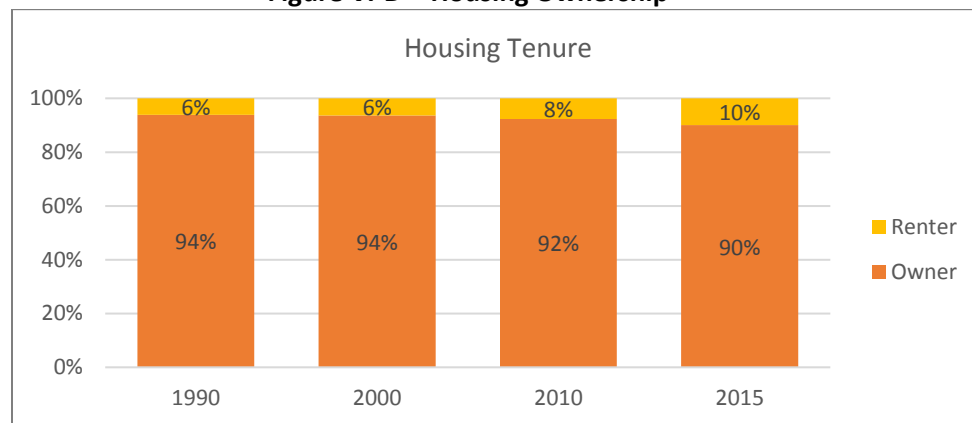
households are headed by persons under the age of 35, and about 20% of all household are headed by persons under the age of 45.

<b>Table VI-D – Age Distribution of Owners and Renters</b>		
<b>Householder Age</b>	<b>Owners</b>	<b>Renters</b>
15-24	10	0
25-34	53	28
35-44	132	23
45-54	342	20
55-64	448	63
65-74	311	17
75 or Older	71	0
<b>Total Households</b>	<b>1,367</b>	<b>151</b>

*Source: American Community Survey, 2011-2015*

Scandia has a high rate of homeownership; 90% of all housing units are owner occupied. Figure VI-D shows historical homeownership rates in the city; the current homeownership rate in Scandia is estimated to be the lowest rate the city has seen in 25 years.

**Figure VI-D – Housing Ownership**

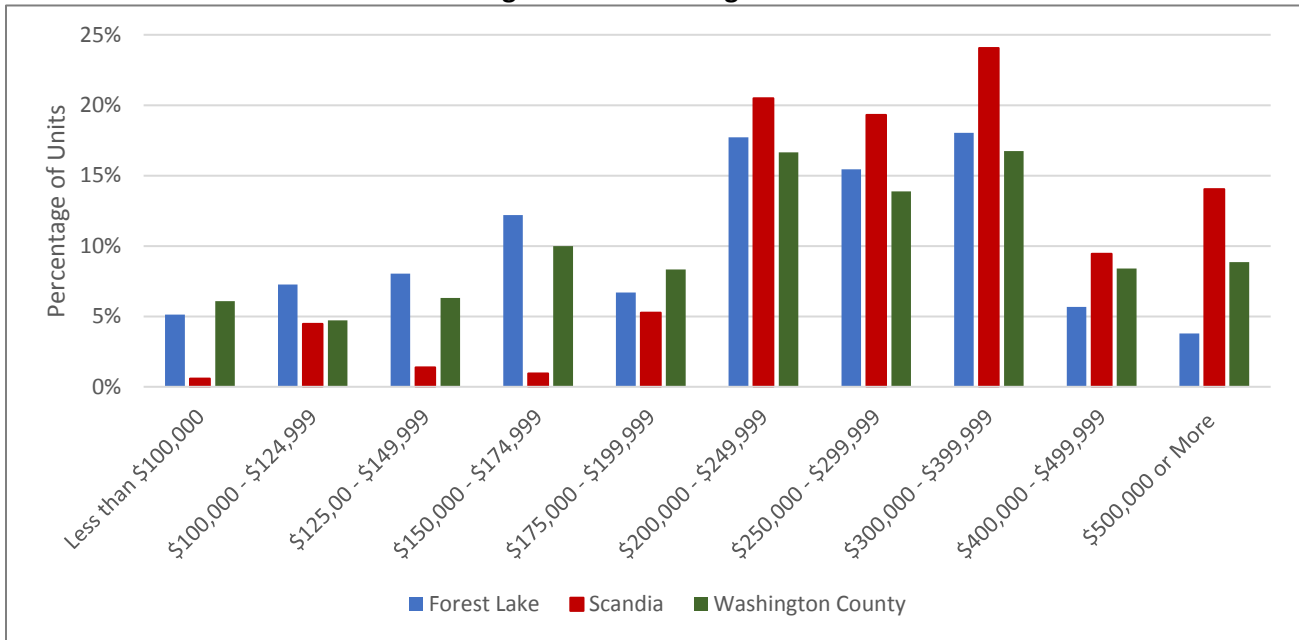


*Source: US Census, American Community Survey*

### 3. Housing Values

Housing values in Scandia are higher compared to other areas in the region. Scandia has higher values than both Forest Lake and Washington County, as shown in Figure III-E. Scandia's median housing value is \$293,700, compared to \$230,100 in Forest Lake and the County average of \$243,600. About 13% of the city's housing market is valued below \$200,000 while about 23% are valued above \$400,000. While high home values can be beneficial to homeowners and the city, they can price out young families, lower-wage workers like teachers and health care assistants, and seniors on fixed-incomes.

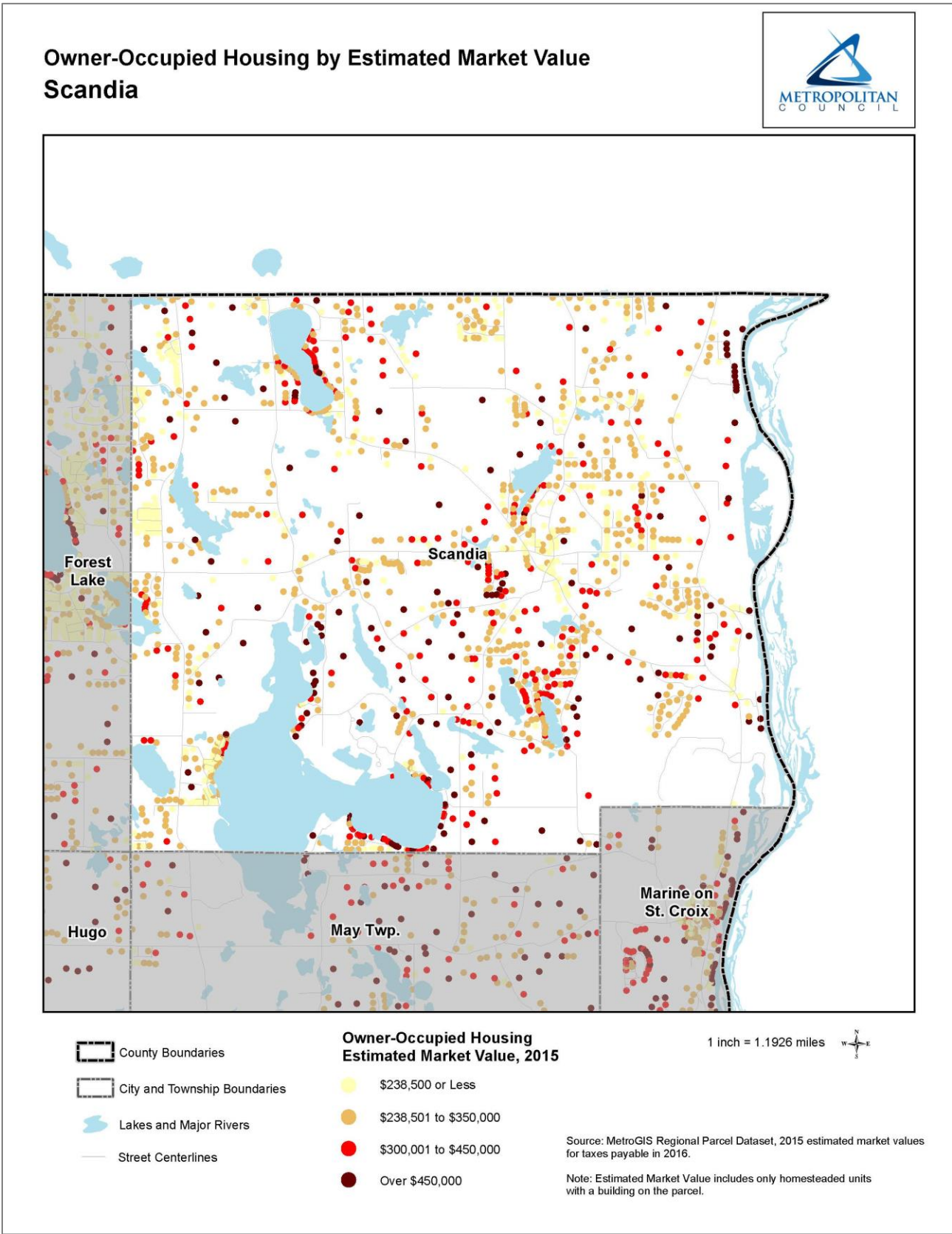
**Figure VI-E – Housing Values**



*Source: Metropolitan Council Tabulation of American Community Survey Data.*



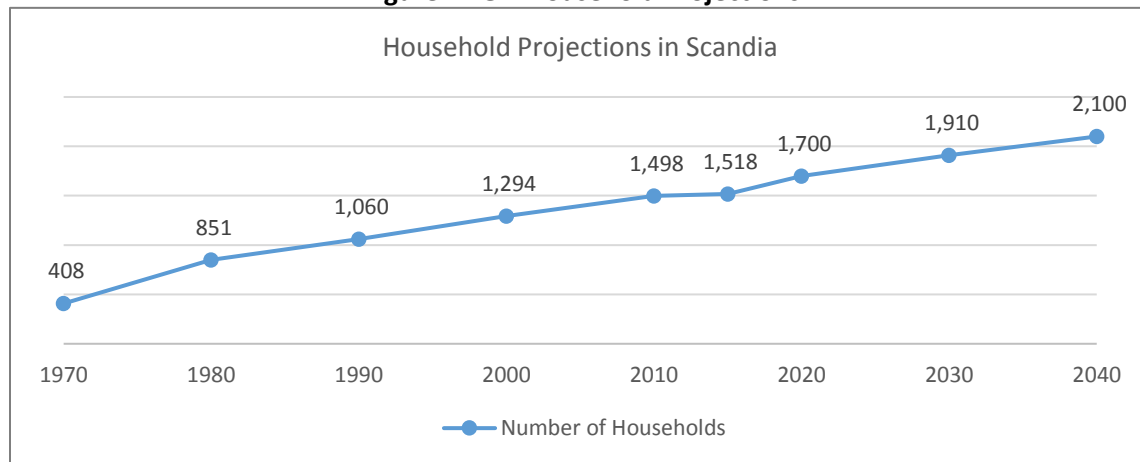
Figure VI-F - Owner Occupied Units by Value



### C. Projected Housing Needs

The City of Scandia is anticipated to see modest population and household growth by 2040. Exact housing needs and demand for new housing development will be influenced by the actual population growth and average household size. The amount of land needed to accommodate new housing units will be influenced by several factors, including the desire for accessory dwelling units and the location of new units. Most of the city's housing growth is anticipated to take place in the Village Neighborhood designation, which permits higher density residential development than General Rural or Agricultural. Accessory dwelling units on existing lots can also accommodate the city's projected population growth without greatly increasing the demand for developable land.

**Figure VI-G – Household Projections**



Appendix A details the housing needs and gaps identified by respondents to the 2017 Community Survey. Residential development was noted as one of the top priorities for the city for the next 20 years. Most survey respondents expressed a desire for mid-range, single-family homes on larger lots. When asked to identify gaps, the most common response was about the lack of senior or assisted living (45% of survey responses).

As noted in Appendix B, focus group participants also expressed a desire for housing north of Highway 97, north/west of the current village center and around Big Marine Lake. There was interest in senior housing options, which ranged from care facilities to varying house sizes (smaller single family, townhomes) and lot configurations, such as accessory dwelling units.

To accommodate projected housing needs, the Future Land Use plan expands the Village Neighborhood designation north and west, a reflection of both public comments and orderly, contiguous residential expansion. This designation accommodates smaller homes and smaller lot sizes, blending into the historical character of the Village Center. The zoning ordinance also includes density bonuses for the development of life-cycle housing, where the housing units are designated for residents age 55 or older or are affordable to households with incomes less than 120% of AMI. Large lot, single family homes are the primary housing type permitted in General Rural, Agricultural Core, and the St. Croix River zoning districts to preserve the city's rural character.

#### **D. Affordable Housing Allocation**

The Affordable Housing Allocation reflects the region's forecasted population that will need affordable housing. According to the Metropolitan Council's affordable housing allocation, Scandia's share of affordable housing need is zero units, noted in Table VI-E.

<b>Table VI-E – Affordable Housing Allocation</b>	
At or below 30 AMI	0
From 31 to 50 AMI	0
From 51 to 80 AMI	0
Total Number	0

While the City of Scandia does not have an affordable housing allocation, residents have expressed a concern about the lack of affordable housing in the city. High housing costs were identified in the Community Survey as one of the top three challenges facing Scandia. About 37% of existing housing units are affordable to households with incomes at or below 80% AMI. As mentioned in the previous section, Scandia offers a density bonus for the development of affordable housing (up to 120% AMI) in the Village Neighborhood zoning district. The City will work with developers and Washington County to inform residents of available programs and identify opportunities for implementation.

#### **E. Housing Implementation Plan**

There are a variety of tools that aid the development of affordable housing. Table VI-F lists several of the tools available to the City of Scandia.

**Table VI-F – Housing Implementation**

<b>Housing Goal/Need</b>	<b>Available Tool</b>	<b>Opportunity and Sequence of Use</b>	<b>Potential Partners</b>
Multi-Generational Community Living	Start-Up Loan Program	Assist first-time homebuyers with financing a home purchase and down payment assistance through a dedicated loan program	Minnesota Housing
	Home Improvement Loans	Assist homeowners in financing home maintenance projects to accommodating a physical disability	Washington County CDA, Minnesota Housing
	ADU Ordinance	The City will continue to support ordinances permitting the construction of accessory dwelling units or guest homes in specific zoning districts	Planning Commission and City Council
	Planned Unit Development (PUD)	The City would consider a PUD application for senior housing in the Village Mixed Use district.	Planning Commission and City Council
	Program or Framework	The City will work with groups and stakeholders to develop guiding principles, frameworks, and action plans to consider and incorporate the needs of older residents into development decisions	Senior advocacy groups or networks, residents
Maintaining Existing Housing Units	Home Improvement Loans	Assist homeowners in financing home maintenance projects like roof repair, plumbing and electrical work, accommodating a physical disability, or select energy efficiency improvement projects	Washington County CDA, Minnesota Housing
	Subsurface Sewage Treatment System Repair Grant/Loan	Assist homeowners with noncompliant subsurface sewage treatment systems	Washington County
New Housing Construction	Tax Increment Financing	The City would consider the creation of a TIF district to encourage development of new housing units, redevelopment and/or infrastructure improvements	Washington County CDA
	Site Assembly	The City would consider assembling a site for senior housing. This may include acquiring and holding land as well as sub-allocating such monies to a qualified developer approved by the City Council.	City Council/Developer
	Housing Bonds	The City would consider housing bonds to support the new construction of affordable and/or senior housing.	Washington County CDA
	Tax Abatement	The City would consider tax abatement to support the new construction of affordable and/or senior housing.	Washington County CDA

	MN Housing Consolidated RFP	The City would consider supporting an application to support the new construction of senior housing.	Washington County CDA, Minnesota Housing
	GROW Fund	Provide gap financing for new or redevelopment projects affordable to owner or renter households at or below 60% AMI	Washington County CDA
Maintaining Homeownership	Home Buyer Education	The City will consider partnering with the CDA and other agencies to offer resources to homeowners pre- and post-purchase.	Washington County CDA
	Homeowner Counseling	The City will consider partnering with the CDA and other agencies to offer counseling and foreclosure prevention to homeowners.	Washington County CDA
	Community Land Trust	The City will consider supporting the addition of appropriate single-family homes into the Two Rivers Community Land Trust to increase affordable housing options.	Washington County CDA
Other	City Ordinances	The City will review zoning and subdivision ordinances to identify the potential opportunities for cluster development and flexible development that will encourage affordable housing.	Planning Commission and City Council
		The City will review its zoning and subdivision ordinances to identify any regulations that inhibit the housing priorities in this document. This effort is slated for completion by 2020.	
	Local Fair Housing Policy	The City will consider developing a Fair Housing Policy.	

## VII. PARKS AND TRAILS

Future land use and development decisions need to consider the necessary infrastructure that will enable growth, protect community character and natural systems, and sustain Scandia as a community over time. Parks and recreation amenities and programs are a critical element to sustaining the community. Park, recreation, and open space goals need to be integrated with Scandia's land use, transportation, and economic goals. This section summarizes the findings and recommendations of the Parks, Trails, Open Space, and Recreation Plan, the Comprehensive Trails Master Plan Report, and the Regional Park and Trail needs identified by the Metropolitan Council.

### A. Parks and Trails Goals and Objectives

The City established four goals for Parks and Trails in Scandia. These goals were developed from and are in support of the goals, policies, and strategies as identified in the 2006 Parks, Trails, Recreation, and Open Space Plan.

**Goal:** Develop an effective planning approach to developing and maintaining parks and recreation areas and constructing and maintaining trails and routes to meet the needs of City residents.

**Objectives:**

- Design and locate parks, recreation facilities, trails, and routes in a manner that best meet their purpose and the needs of City residents.

**Goal:** Develop a close working relationship with other agencies and groups to enhance the parks and recreation facilities and develop trails and routes in the City.

**Objectives:**

- Continue to work closely with Washington County, the Metropolitan Council, and the Minnesota Department of Natural Resources on more detailed planning efforts to insure the regional green infrastructure system is designed in a manner compatible with existing and planned development in the City.
- Coordinate with local park and trail interest groups in development, implementation, operation, and maintenance of projects.
- Promote volunteerism to enhance community ownership and stewardship of parks, trails, recreation programs, and services
- Promote Scandia's rural and recreational assets to encourage tourism.

**Goal:** Support a network of parks and trails to provide community-wide connections to serve the health and welfare of the City's residents.

**Objectives:**

- Emphasize the importance of making connections to regional trails, including the Gateway Trail, the Immigrant Trail, and the Hardwood Trail.
- Promote trail connection between Big Marine Park Reserve and William O'Brien State Park. (*Glacial Hills Regional Trail*)

**Goal:** Use park search areas and recreational facilities search areas and other natural resource information to guide and encourage park acquisition donations and potential site acquisitions when property becomes available.

### **Objectives:**

- Evaluate property located in park and/or recreational facility search areas for purchase, lease, or easement to augment the existing Park System, if and when it becomes available.

## **B. Existing Guiding Documents**

**The 2006 Parks, Trails, Open Space, and Recreation Plan:** In 2006, New Scandia Township completed and adopted the Parks, Trails, Open Space and Recreation Plan. This document describes the current state of, and recommended improvements for, the City's existing "green infrastructure." Green infrastructure refers generally to those systems that allow for and sustain growth within the community, and improve the quality of life for existing and future residents. Green infrastructure is typically based on natural systems rather than the constructed systems that comprise "grey infrastructure" – roads, water and wastewater, energy and telecommunications, and other engineered systems. Green infrastructure includes some constructed infrastructure that is based on or works with natural systems, such as active recreation parks, trails, and works in conjunction with some built systems, such as stormwater management and conveyance systems that supplement the natural stormwater system.

The Plan includes a detailed inventory of existing green infrastructure, summaries of public and stakeholder priorities that affect the City's investments in and maintenance of its green infrastructure, planning priorities for meeting current and future park and recreation needs, and recommendations for specific parks, trails, and land acquisition to address existing needs or shortfalls. The plan included five park goals and seven trails goals, with multiple policies or strategies for each goal. The policies identified both general principles for creating and managing parks and trails and specific recommendations for tools to achieve park and trail goals. In addition to the goals, policies and strategies, the Park Plan identified specific improvements to existing parks, search area priorities for new parks, and a general prioritization of the local needs for different types of parks. This plan also addresses Scandia's regional park assets and recommend steps to enhance their functional use by managing land use, further developing City and regional trail systems, and adding new recreational amenities in or near these regional parks.

**Comprehensive Trails Master Plan Report:** The Scandia City Council adopted the new Comprehensive Trail Plan in June of 2011. The plan was developed with the help of many Scandia residents, the Park and Recreation Committee, and the Friends of Scandia Parks and Trails. Developing connections to and among Scandia parks and to regional trails are goals of the trail planning project, as well as identifying safe walking and biking routes to school and other key locations. The plan was funded by a grant from the Statewide Health Improvement Program (SHIP) through the Washington County Department of Public Health and Environment. Two of the Trails Planning Maps are included as Figures at the end of this section.

## **C. Metropolitan Council System Statement**

The Metropolitan Council created a Regional Parks System Statement Scandia 2015. The System Statement identifies which regional park issues need to be addressed in the City of Scandia's comprehensive plan. No new regional parks are planned in Washington County by 2040, and no recent changes to the existing regional park system (which could require adjustment of the City's land use maps) are noted in the System Statement.



The System Statement identifies one existing regional park - Big Marine Park Reserve - as well as two state lands - the Rustrum Wildlife Management Area (WMA) and the Falls Creek Scientific and Natural Area (SNA) - as Regional Parks Components in Scandia. Since the publication of the System Statement, Crystal Springs SNA was created and is now open to the public as part of the DNR's natural area system. Crystal Springs is within the St. Croix National Scenic Riverway.

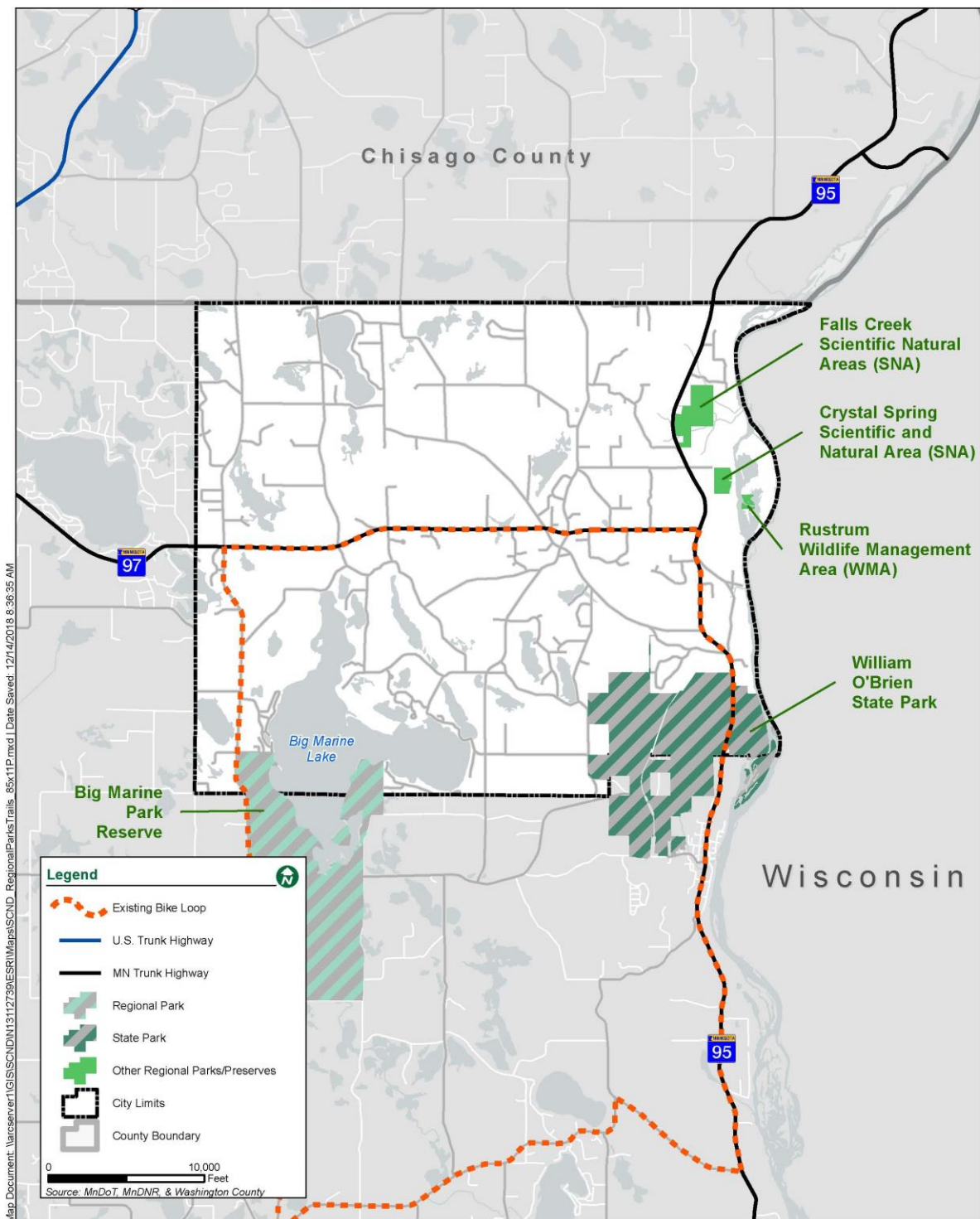
Washington County has additionally called out William O'Brien State Park and the Glacial Hills Regional Trail search corridor in their 2040 comprehensive planning documents. Both of these facilities are located on the southeastern border of Scandia along Marine on St. Croix and May Township.

***Thrive MSP 2040 Regional Parks Policy Plan*** calls out the Glacial Hills Regional Trail search corridor running 12 miles, east-west between William O'Brien State Park and the Hardwood Creek Regional Trail. The Plan also calls out the St. Croix National Scenic Riverway, a portion of which is located in the region (along the eastern border of Scandia). The St. Croix National Scenic Riverway is a unit of the National Park System located on the St. Croix River and the Namekagon River in Wisconsin. The National Riverway includes the two rivers and their riparian areas and occupies the boundary between Wisconsin and Minnesota. The St. Croix National Scenic Riverway is maintained and managed by the National Park Service and the Minnesota and Wisconsin Departments of Natural Resources.

The Metropolitan Council's 2005 Regional Parks Capital Improvement Program identified several priority acquisitions in 2006-7 to expand Big Marine Park Reserve and a project scheduled for 2010-11 to develop a campground and related facilities in Big Marine Park Reserve. These investments will likely result in increased use of Big Marine Park Reserve and will enhance the recreational value of trail connections or other local park and open space efforts connecting to the Reserve.

The Regional Parks and Trail System in Scandia is shown in Figure VII-A.

Figure VII-A - Regional Parks and Trails



## **D. Stakeholder Perceptions and Recommendations**

The resident survey showed an extremely strong interest in protecting the City's open space amenities, which include both the natural systems portrayed on the Open Space Plan map and the rural character associated with agriculture. Residents reported greater participation in individual recreation activities (jogging, biking, and fishing) than team or organized activities. The Plan did not report, however, any distinction between adult and youth preferences.

The visioning discussion addressed how the different components of Scandia's green infrastructure interrelate. The visioning process included an identification of issues, listing of opportunities, and a number of recommendations. The recommendations for the Parks and Trails portion of the 2040 Comprehensive Plan update, as developed by the Parks and Recreation Committee are listed in the following section. The recommendations have been separated into four categories: Parks, Trails, Open Space and Recreation Recommendations.

The 2040 Comprehensive Plan Update Community Survey (conducted in 2017) identified the following priorities with regards to parks and trails:

- Walking/Biking/Horse Trails - 13% of survey respondents identified this as one of their top three development priorities for the City of Scandia (this is the second highest ranking after Commercial growth)
- Outdoor Recreation - 9% of survey respondents identified this as one of their top three development priorities
- Parks - 6% of survey respondents identified this as one of their top three development priorities

Forty-one percent (41%) of survey respondents enjoy walking and do so daily within their neighborhoods. Approximately 22% of respondents stated that they would walk/bike more if there were more sidewalks/trails and approximately 24% said they would walk/bike more if local roads were improved for this use.

Focus groups also expressed a desire for sidewalks and bike paths in the city. There was also an interest in dog parks and public beach access on Bone or Big Marine Lake.

The Scandia Parks and Recreation Committee reviewed the Parks and Recreation portion of the 2008 Comprehensive Plan and updated recommendations for the 2040 vision for the City. These recommendations are summarized in the following list, divided by park, trail, open space and recreational facilities recommendations.

### **Park System Plan**

- a) Focal point of Scandia Community Center Park as central hub of parks network throughout township
- b) Increase active recreation at Scandia Elementary School area
- c) Identify where and what kind of park acquisition is desirable
- d) Identify appropriate use of existing parks

### **Trail System Plan**

- a) Support development of Gateway trail and identify connections
- b) Identify opportunities for new trail systems, trailheads, and rest stops within the community

### **Open Space System Plan**

- a) Protect stream corridors; link to promote preservation of open space
- b) Promote public awareness of value of open space and conservation easements

### **Recreational Facilities System Plan**

- a) Develop partnerships with local and regional recreation facilities (e.g. adjacent school districts, neighboring communities, and government agencies).

## **E. Existing Parks and Trails**

### **1. Regional Parks**

Regional parks generally serve populations within a one-half hour to one-hour travel time. They are usually in areas that exhibit highly valued scenic or natural qualities. In the Scandia area, many regional parks and open space relate to the Lower St. Croix River, lakes or natural communities. This section describes and maps the regional facilities in Scandia. Scandia has a state park, a county park reserve, two scientific and natural areas and a wildlife management area located within the city. Figure VII-A shows regional parks located in Scandia.

#### **William O'Brien State Park**

William O'Brien State Park is on the St. Croix River and it offers many recreation opportunities including biking, swimming, and nature interpretation. The park is located in the southeast and includes 16 miles of hiking trails. The park located 5 minutes from Scandia Village.

#### **Big Marine Lake Park Reserve**

Big Marine Park Reserve is owned and operated by Washington County and is partially located within the City of Scandia. The park was selected as a regional facility because of its excellent natural resource features, including the St. Croix Valley/northeast ground moraine and high-quality upland and wetland wildlife habitat. When completed, the park will be 1,800 acres, with 80 percent of its acreage set aside for preservation and protection. This 80 percent will eventually resemble the land as it was prior to the arrival of the settlers in the mid-1800s.

#### **Falls Creek Scientific Natural Areas (SNA)**

Falls Creek is a MN DNR owned 136-acre scientific and natural area in Scandia. It represents one of the most diverse natural areas in Washington County. It is home to a myriad of Paleozoic rocks, steep ravines, pine and oak forests, and protection for wildlife. Many areas that have been destroyed are undergoing reforestation with seedlings grown from acorns collected at the site. Unique aspects of the park include a stand of virgin hardwood and white pine forest as well as numerous wildflowers like trilliums, rue anemone, and bellwort.

#### **Crystal Spring Scientific and Natural Area (SNA)**

Crystal Spring is a 38-acre MN DNR site offering high quality scenic views, impressive steep cliffs, hiking, wildlife watching, photography opportunities, snowshoeing and cross-country skiing. High quality native plant communities including red oak – basswood forest, exhibiting old-growth characteristics, carpet the rugged terrain. This site is included in an Audubon Important Bird Area within the Lower St. Croix National Scenic Riverway providing bird watching opportunities. This SNA is located between the St. Croix River and County Rd. 95 (St. Croix Trail),

approximately 3 miles east of central Scandia. There are no maintained trails or other recreational facilities.

**Rustring Wildlife Management Area (WMA)**

Rustring WMA is 24 acres, owned by the MN DNR, and located approximately three miles east of central Scandia on the St. Croix River. The WMA is accessible by water only with the nearest carry-in access located at Otisville, one mile downstream. The site is 83% open water and emergent vegetation marsh and 17% flood plain forest. This site offers unique boat access, hunting opportunities, and flood plain forest wildlife viewing.

**2. Regional Trails**

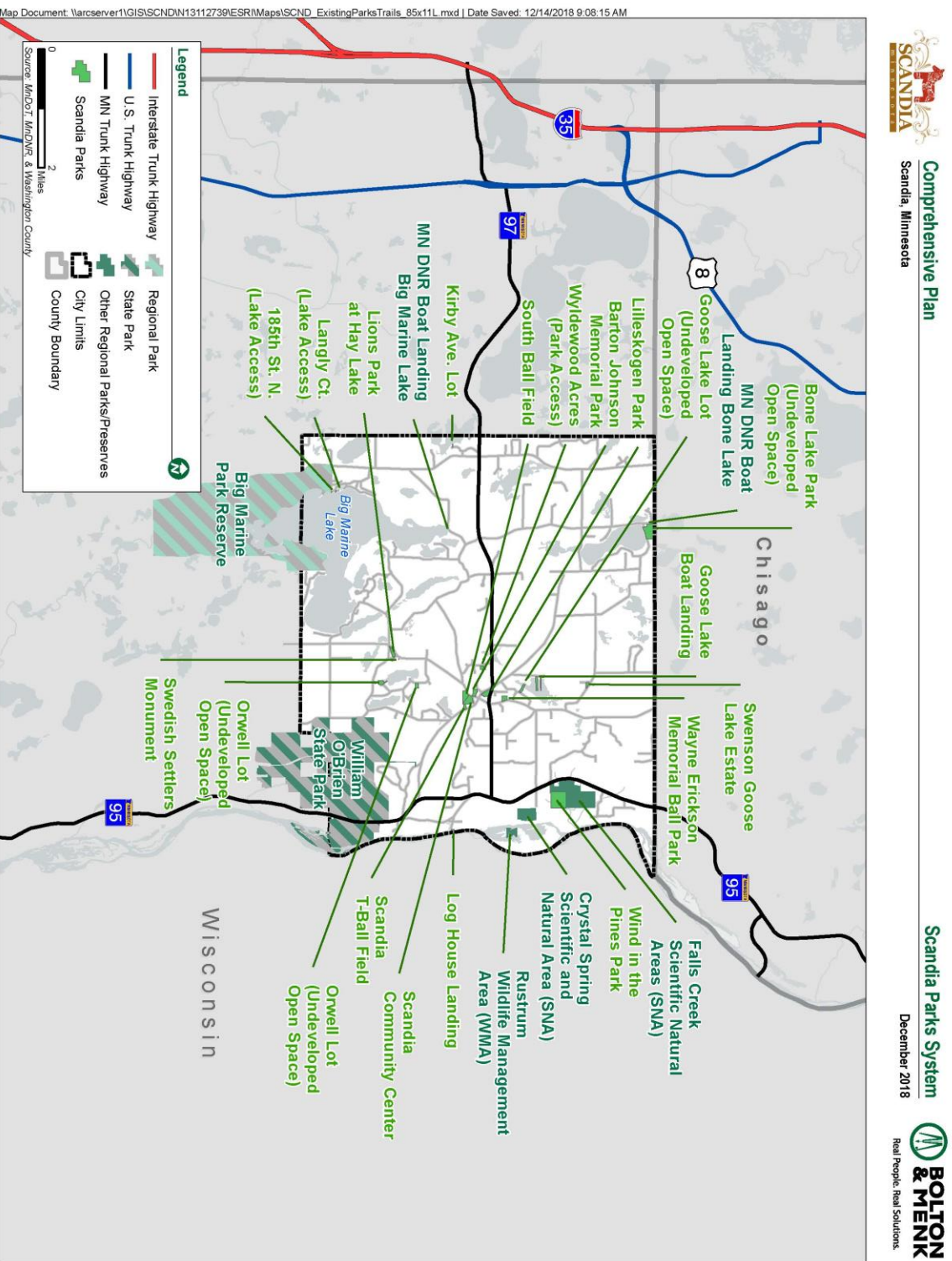
Washington County has a 29.7 mile on-road bike loop identified through Scandia, Marine on St. Croix, and May Township. This loop runs along County Highway 15, Trunk Highways 97 and 95. This loop intersects another bike loop that connects to the Gateway State Trail at Pine Point Regional Park (Stillwater Township).

There are no other regional trails currently identified through Scandia.

**3. Local Parks**

This section describes and maps the existing local parks, trails, and recreation facilities in Scandia. Table VII-A highlights the available amenities provided by each park, shown in Figure VII-B.

Figure VII-B - Local Parks and Trails



**Scandia Community Center**, 14727 209th St N.

Located in Olinda Trail North, just south of the Village Center, the Scandia Community Center is a well-used facility with a community building that houses the township offices, banquet hall with kitchen facilities, meeting rooms, restrooms and outdoor recreational facilities on an 18-acre site. The Community Center shares a parking lot of approximately 120 parking spaces with the Leonard Wojtowicz Skating Park. There is a public works maintenance building on site.

**Wind in the Pines Reserve**, 22199 St. Croix Trail

Wind in the Pines Park is thought to be one of the most diverse ecological areas left in Washington County by the Minnesota DNR. This 44-acre site is located in the northeast corner of the Township along State Highway 95 across from Pilar Road. Bounded by the Falls Creek SNA to the north and the Lower St. Croix National Scenic Riverway to the east, this parcel offers diversity of old growth forest and pristine prairies, providing invaluable wildlife habitat and unparalleled scenic value. There is a small grave lot off Highway 95. Trails are marked and maintained by volunteers for non-motorized pedestrian use.

**Lilleskogen Park**, 14600 Oakhill Road

This 8-acre park is located near the Village Center, with approximately half its area in wetlands. Parking and access are problematic off of Oakhill Road. A few old footpaths remain. Existing facilities include a parking lot, a Veteran's Memorial, and a butterfly garden. This park is currently undergoing restoration of the wetlands, in preparation for future development. This park was formerly known as Old Lion's Park.

**Lion's Park** at Hay Lake, 14001 Old Marine Trail

Located at the intersection of Old Marine Trail and Olinda Trail North in the south-central part of the city, this 7-acre site has been updated with a park shelter, picnic tables, grills, lighting, and electrical hook-ups. Parking is available on the street. This site is adjacent to the Hay Lake School Museum and across the road from the Swedish Settler's Monument.

**Barton Johnson Memorial Park**, 20880 Olinda Trail

Barton Johnson is a private neighborhood park located adjacent to the Gammelgarden Museum and across Olinda Trail from the Scandia Community Center.

**Wayne Erickson Memorial Ball Park**, 21398 Olinda Trail

Formerly known as Scandia Lighted Ball Field, Wayne Erickson Memorial Ball Park is located on the west side of Olinda Trail/County Road 3, north of Scandia Trail/Highway 97. The site includes a concession stand and children's play structure.

**South Ball Field**, 20835 Olinda Trail

The ball field is located just south of the Community Center, on the east side of Olinda Trail/County Road 3.

**Scandia T-Ball Field**, 14849 Oakhill Road North

This ball field is located on the south side of Oakhill (County Road 52), east of Olinda Trail.

**Swenson Goose Lake Estate**

This 1.7-acre parcel is part of the Swenson Estate Subdivision off of Oren Road North near the north central part of the city. There are no existing facilities on site. In 2016, the Soaring Eagles 4-H Club led a pollinator planting project on the parcel.



**Log House Landing**, Off 205th Street North- North of William O'Brien State Park

Log House Landing is located off 205th Street North just east of Quinnell Ave in Scandia, and provides access to the St. Croix National Scenic Riverway.

**Bone Lake Park** (undeveloped open space)

Located in the northwest corner of the city near Lofton Ave., this 26-acre park is under approximately 60% wetland cover and supports the inlet to Bone Lake. It contains a DNR boat launch on the north side of Bone Lake with associated parking. Area Boy Scouts have been given permission to establish trails in this park, but Bone Lake is currently undeveloped.

**Goose Lake Lot** (undeveloped open space)

This 5-acre parcel with lake frontage is located on Goose Lake across from boat launch, and is surrounded by single-family homes. The lot is not maintained and is currently undeveloped due to steep terrain.

**Orwell Lot** (undeveloped open space)

Approximately 50% of this 2.5-acre lot is covered in wetlands. There are no existing facilities on site.

**Table VII-A – Park Amenities by Location**

<b>Parks</b>	<b>Park Size (Acres)</b>	<b>Recreation Area</b>	<b>Walking/Hiking Trails</b>	<b>Picnic Area/Shelter</b>	<b>Playground</b>	<b>Skating</b>	<b>Nature Preserve</b>	<b>Kitchen Services</b>	<b>Restroom</b>	<b>Banquet Room</b>	<b>Ballfield</b>	<b>Boat Launch</b>	<b>Parking Lot</b>	<b>No Existing Facilities</b>
Scandia Community Center	18	X			X	X		X	X	X			X	
Wind in the Pines Preserve	44		X				X						X	
Lilleskogen Park (Old Lion's Park)	8		X										X	
Lion's Park at Hay Lake	7		X	X									X	
Barton Johnson Memorial Park		X											X	
Wayne Erickson Memorial Ball Park		X			X						X		X	
South Ball Field											X		X	
Scandia T-Ball Field											X		X	
Swenson Goose Lake Estate	1.7													X
Log House Landing												X		
Bone Lake Park (undeveloped)	26		X									X	X	
Goose Lake Lot (undeveloped)	5													X
Orwell Lot (undeveloped)	2.5													X

#### 4. Local Trails

There are few local trail systems in Scandia. There is an existing sidewalk along Oakhill Road N and Olinda Trail N in the Old Village Area. The City also maintains the easement from Oxboro Avenue North to William O'Brien State Park, shown in Figure VII-C, below. This mowed grass trail provides access to the state park.

**Figure VII-C – Maintained Easement to State Park**



*Maintained (mowed) easement to William O'Brien State Park*

#### F. Proposed Parks and Trails

##### 1. Regional Parks

There are no new regional parks currently proposed within the City of Scandia.

##### 2. Regional Trails

The *Scandia Comprehensive Trails Master Plan Report* outlines three citywide trail loops, a County trail, a rails-to-trails possible conversion, and connections to the proposed Gateway Trail. Applicable maps from the plan have been included at the end of this section. The following trail descriptions are excerpts from the Trails Master Plan:

##### Three Major Trail Routes

The major routes identified on the plan include the **Big Marine Trail**, **Scandia/Marine Trail**, and **Scandia North or Bone Lake Trail**. These trails are proposed to be on-road trails, designated by signage that will be developed by the Friends of Scandia Parks. The City will need to approve trail signage on their respective roadways. The major trail loops are assumed to be on-road trails that will primarily be used by bicyclists, but may also be used by pedestrians.

##### Trunk Highway 97 Trail

The planning group identified a goal to explore creation of an off-road trail along portions of Trunk Highway 97, from Odell Avenue to TH 95. The proposed off-road trail and TH 97 crossings are particularly needed near Scandia Elementary School. The City would need to work with MN DOT to develop and fund this trail and the proposed crossings.

### **Soo Line Trail**

The Master Plan includes a proposed Soo Line Trail route near the St. Croix River. This loop would follow the existing Soo Line railroad tracks. This is currently an active rail line. The route will be developed if the rail route is abandoned in the future. The trail surface should accommodate biking and walking. The route would connect Scandia with Marine on St. Croix and communities to the south, and could connect with communities in Wisconsin. The proposed trail would be an off-road route parallel to the St. Croix River and TH 95.

### **Gateway Trail (Connection to Swedish Immigrant Regional Trail)**

Minnesota Department of Natural Resources (DNR) has acquired portions of the proposed route of the Gateway Trail in Scandia. The proposed route travels from William O'Brien State Park to the Village Area. The DNR has also identified a large search area for extension of the trail north from the Village Area. The City of Lindstrom received a grant to help complete this extension, connecting the segments of the Gateway Trail in Scandia to the Swedish Immigrant Regional Trail in Lindstrom. The search area is shown on the County trail map in Appendix C.

Figures VII-D and VII-E identify proposed Scandia connections to the Gateway Trail from the Scandia/Marine Trail and from sub-loops within the Village area.

### **Glacial Hill Regional Trail Search Corridor**

While not in Scandia's System Statement, the Glacial Hills Trail in Marine on St. Croix is identified as running close to Scandia's southeast border. This proposed regional trail will connect the Hardwood Creek Regional Trail to the west with Big Marine Park Reserve to east. This proposed trail does not have an approved master plan yet. The county will conduct a master planning process for this trail in the future.

Figure VII-F shows proposed trail extensions and connections.

Figure VII-D – Trails Planning Map

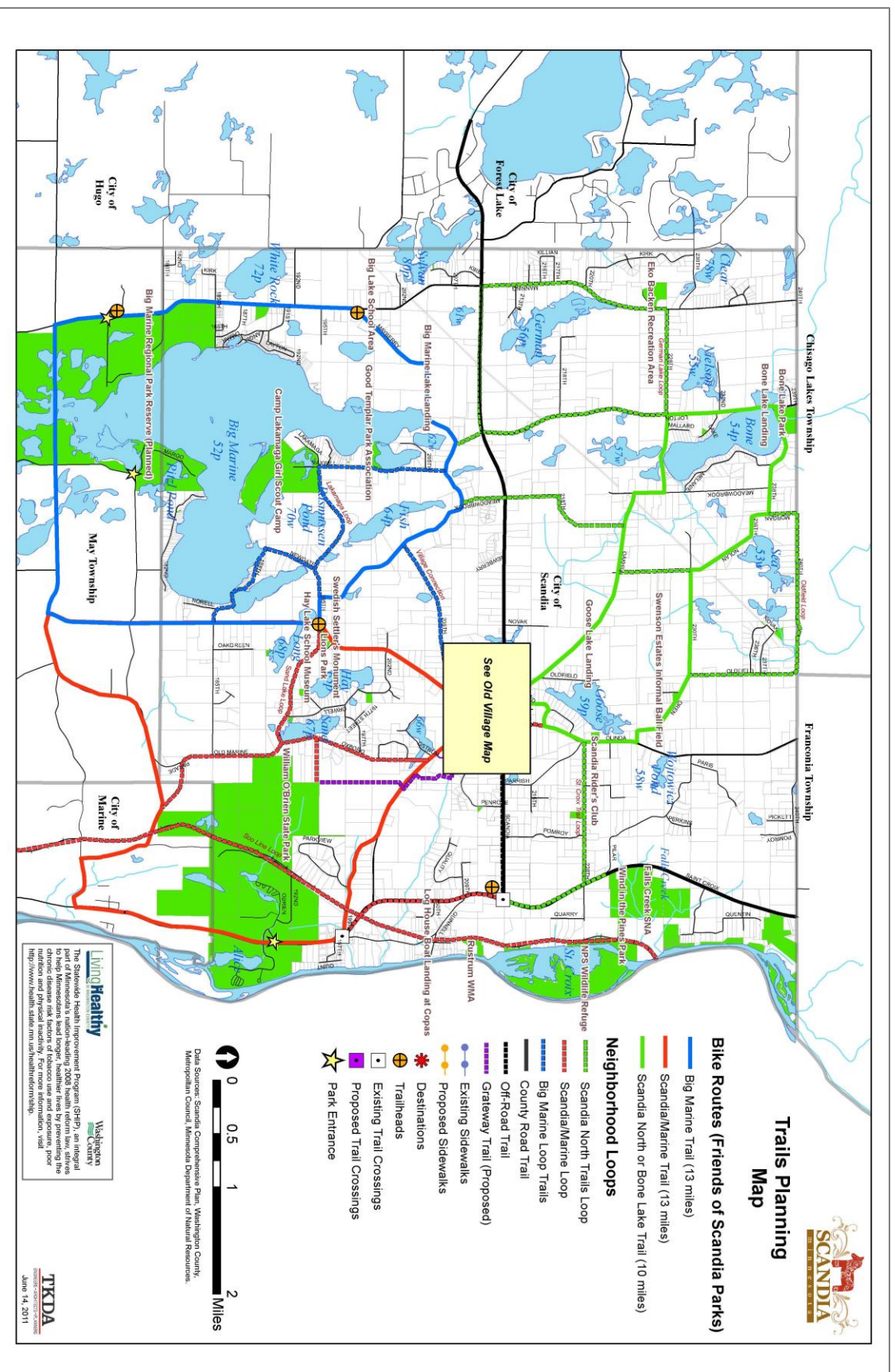




Figure VII-E – Trails Planning Map, Old Village

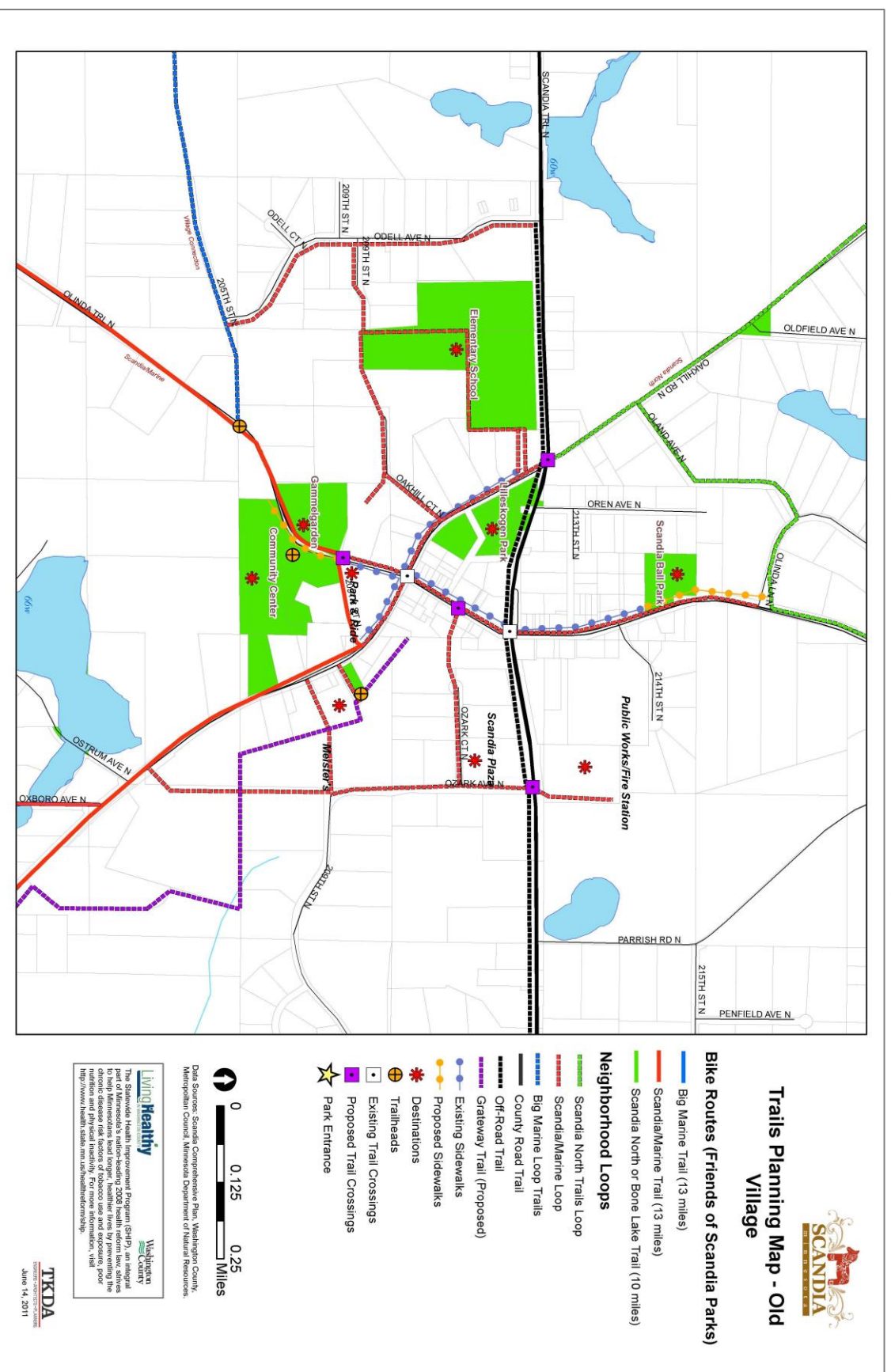
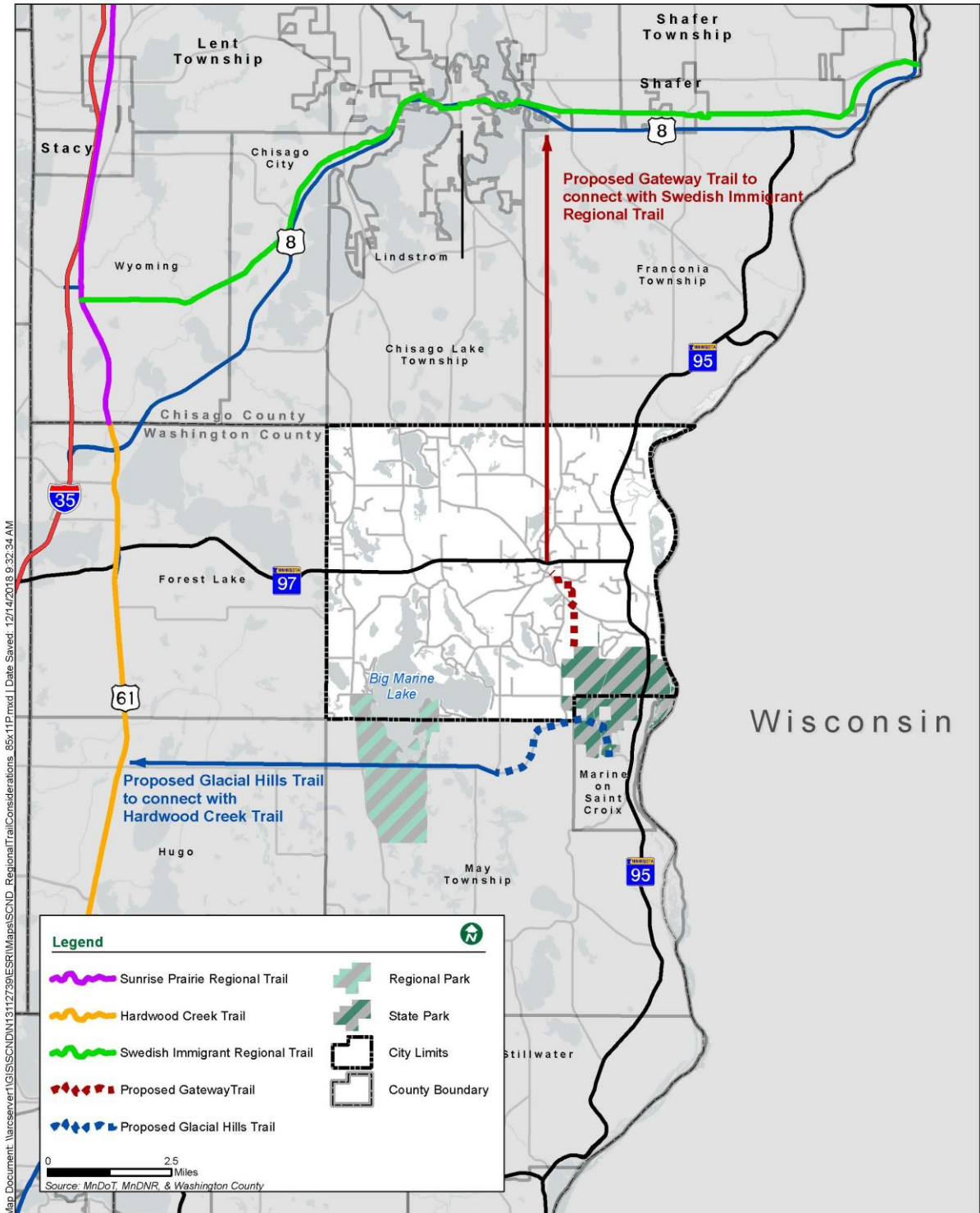


Figure VII-F - Proposed Local Parks and Trails



### **3. Local Trails**

The *Scandia Comprehensive Trails Master Plan Report* outlines Village area sub loops to the identified citywide loops as described here. Applicable maps from the plan have been included at the end of this section.

### **G. Implementation**

The Parks, Trails, Recreation and Open Space Plan (2006) identified the following actions as high priorities for implementation:

- Develop existing undeveloped parcels as an integral part of Scandia's Park System for the benefit of residents and visitors.
- Evaluate property located in park and/or recreational facility search areas for purchase, lease, or easement to augment the existing Park System, if and when it becomes available.
- Continue to identify the Gateway Trail Extension Search Areas. The trail right-of-way has now been acquired from William O'Brien State Park to the village center as shown on Map 20, Park and Recreation Search Areas.
- Promote trail connection between Big Marine Park Reserve and William O'Brien State Park.
- Develop and install uniform park system signage (to include park, trail, open space and recreational facility components).
- Provide pedestrian crosswalk on Olinda Trail North between the Scandia Community Center and the Gammelgarden/ Barton Johnson Memorial Park.
- Continue development of master plans for all existing parks.
- Implement the German Lake Management Plan, as per Carnelian-Marine St. Croix Watershed District (CMSCWD) recommendations.
- Develop a Landowner Outreach and Stewardship Program, as per CMSCWD recommendations.

### **H. Appendices**

The Scandia Comprehensive Trails Master Plan Report is included in Appendix C.  
The Official Map for Big Marine Park Reserve is included in Appendix D.



## VIII. TRANSPORTATION

### A. Overview

The primary purpose of this Transportation chapter is to provide guidance to City staff and elected officials regarding the implementation of effective, integrated transportation facilities and programs through the 2040 planning timeframe. This chapter is consistent with regional requirements for transportation as captured in the Metropolitan Council's 2040 *Local Planning Handbook*.

This section is organized into the following sections:

- Existing Roadway Conditions
- Roadway System Plan
- Transit Plan
- Non-Motorized Transportation Plan
- Freight Plan
- Aviation Plan

### B. Transportation Goals and Objectives

**Goal:** As new development or redevelopment occurs, provide an integrated, internally-connected, efficient street system connecting village and higher density neighborhoods to the Village Center.

**Objectives:**

- Discourage the creation of permanently long streets with only a single access point (i.e., dead-end streets, looping streets and elongated cul-de-sacs).
- Encourage design and land uses that support a range of transportation choices
- Guide future development to roadways capable of accommodating resulting traffic.
- Develop roadways and street systems with consideration for safety, speeds, congestion, impact and noise pollution

**Goal:** Establish context-sensitive roadway design standards that will protect the narrow and heavily wooded character of identified low-traffic roadways. (Please refer to further information on Context Sensitive Solutions in the Roadway System Plan portion of this Transportation section.)

**Objectives:**

- Protect scenic rural roads, viewpoints and vistas identified through the planning process from visually intrusive or incompatible development.

**Goal:** Maintain Scandia's system of local roadways that is well coordinated with MN DOT and Washington County Roadways.

**Objectives:**

- Develop a capital improvement program to ensure adequate funding for priority roadway concerns.
- Cooperate with County and State jurisdictions to keep through-traffic on arterials at minimum disruption of local circulation and residents.
- Through the subdivision review process for new developments, require that MN DOT and Washington County access management guidelines be met for roadways under the jurisdiction of those agencies, respectively.

**Goal:** Encourage the use of non-automotive modes of transportation.

**Objectives:**

- Use roadway design to establish bike and pedestrian friendly streets and compliment recreational trails.

**Goal:** Support the development of regional and local transit options.

**Objectives:**

- Support efforts to provide more efficient delivery of dial-a-ride services for Scandia residents, including but not limited to efforts to utilize the Village Center as a focus of service.

**Goal:** Preserve the safety of regional air traffic.

**Objectives:**

- Notify MN DOT Aeronautics of any structure of a height of 200 feet above the ground.
- Address federal and state safety standards when planning the design of any object related to or affecting navigable airspace.

## **C. Existing Roadway Conditions**

### **1. Existing Traffic Volumes and Crash Data**

The most basic characteristic of a given roadway is the volume of traffic that it carries. Existing traffic volumes on roadways within Scandia are presented on Figure VII-A. This is the most current MN DOT data.

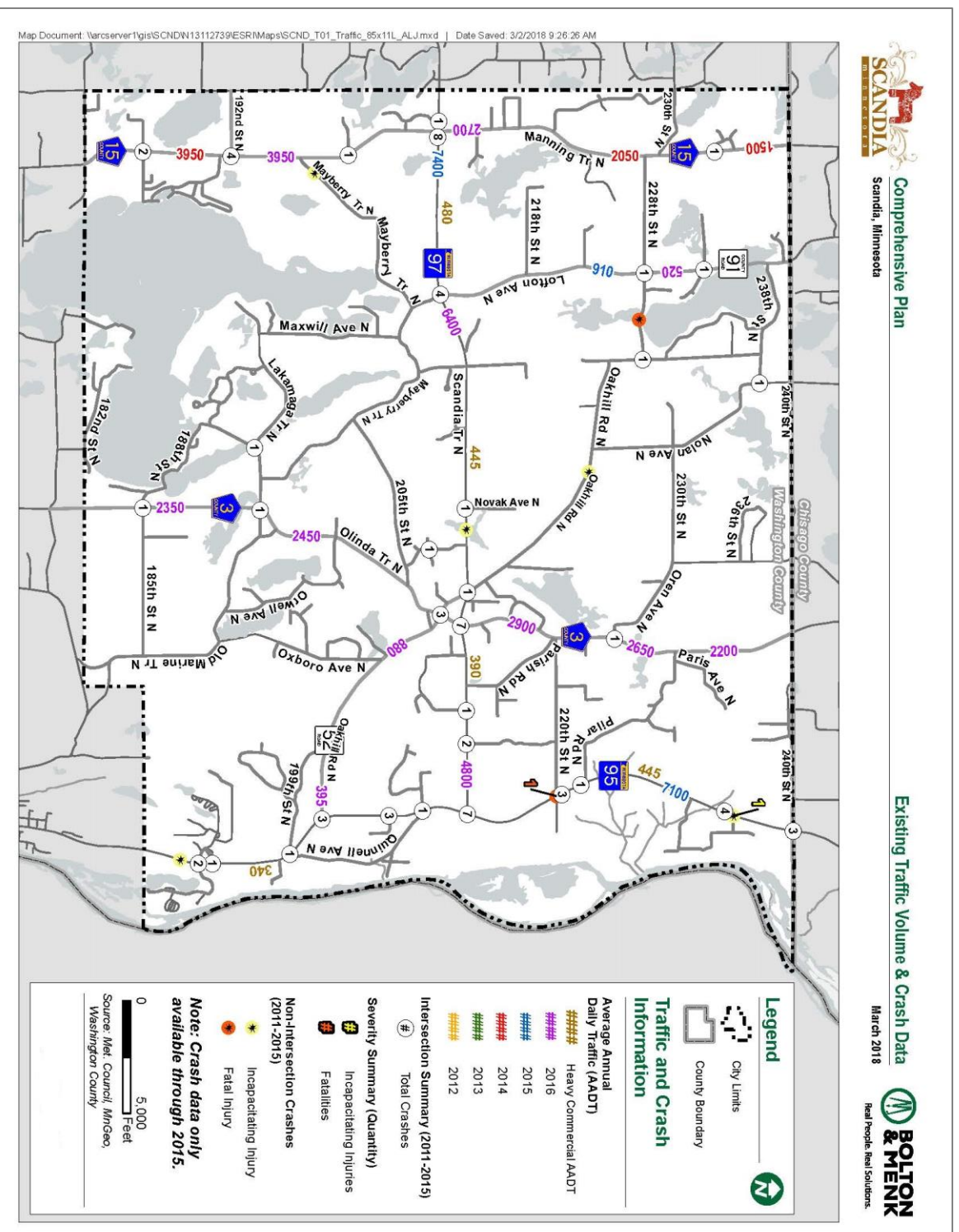
A preliminary safety review of a roadway network includes a crash review. The most recent crash data for roadways in Scandia are also summarized on Figure VII-A. This shows all intersection crashes over the last five years of record, plus any crashes involving fatalities and/or incapacitating injuries regardless of location. Please note that system-wide crash data is not available beyond 2015. While it is beyond the scope of this 2040 Comprehensive Plan to provide a detailed safety analysis, the highest volumes of crashes are at the following intersections:

- TH 97/CSAH 15 (Manning Avenue N) – eight crashes
- TH 97/CSAH 3 (Olinda Trail) – seven crashes
- TH 97/TH 95 – seven crashes

This is not surprising, given that that these are the three intersections in Scandia involving two minor arterial roadways. In addition, there were two fatal crashes during this timeframe:

- 228<sup>th</sup> St east of County Road 91
- TH 95/220<sup>th</sup> Street

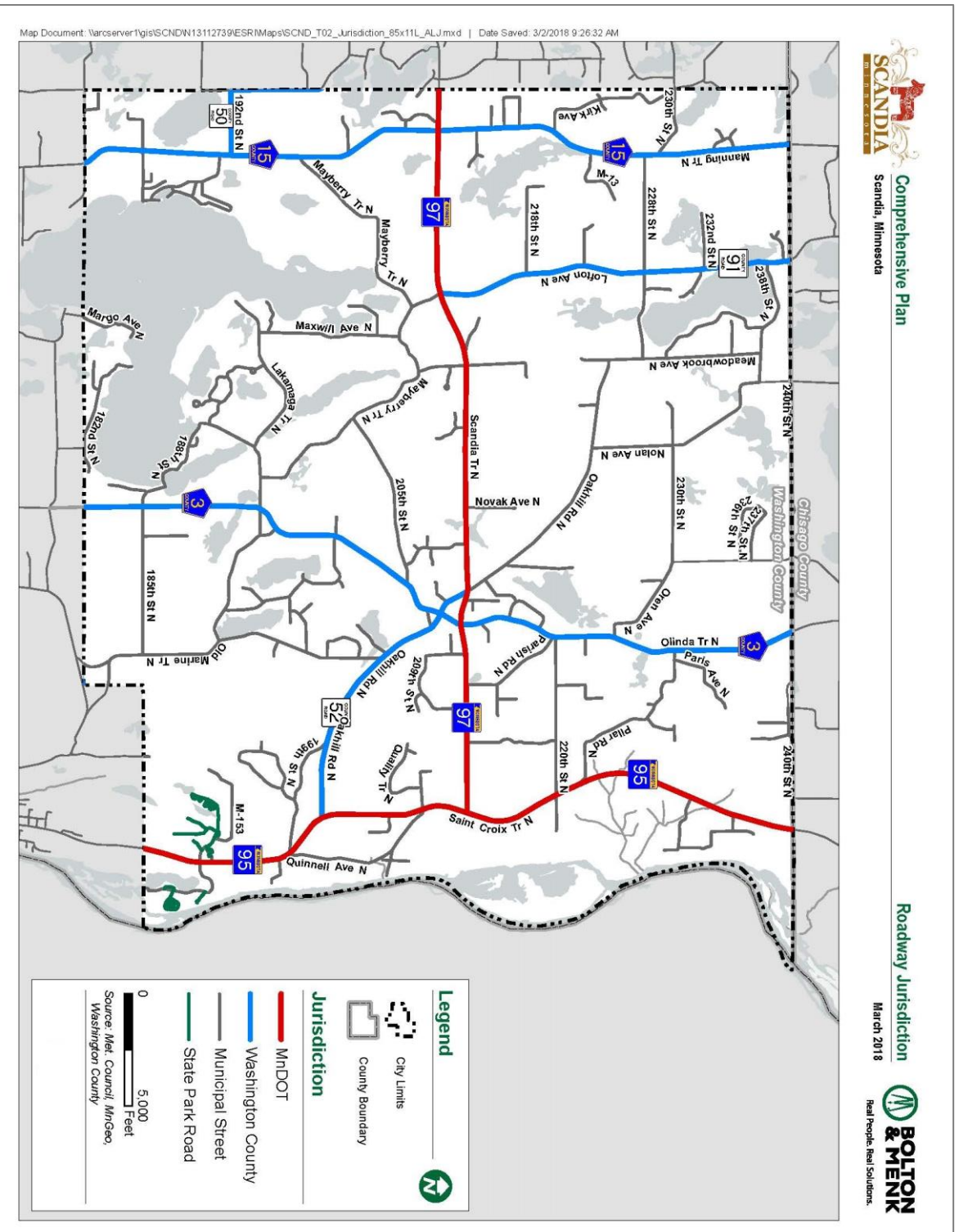
Figure VIII-A - Existing Traffic and Crash Data



## **2. Jurisdictional Classification**

Roadways are classified based on which level of government owns and has jurisdiction over them. In the case of Scandia, roadways are under the jurisdiction of MN DOT, Washington County, or the City of Scandia. Figure VII-B depicts the existing roadway jurisdictional classification system in Scandia.

Figure VIII-B – Roadway Jurisdiction



### 3. Functional Classification

The functional classification system is a roadway network that distributes traffic from neighborhood streets to collector roadways, then to minor arterials, and ultimately the Metropolitan Highway System. Roads are placed into categories based on the degree to which they provide **access** to adjacent land uses and lower level roadways versus providing higher-speed **mobility** for “through” traffic. Functional classification is a cornerstone of transportation planning. Within this approach, roads are located and designed to perform their designated function.

Within the seven-county metropolitan area, there are six overall classifications of roadway as defined by the Metropolitan Council:

- Principal arterial
- “A” minor arterial
- Other arterial
- Major collector
- Minor collector
- Local street

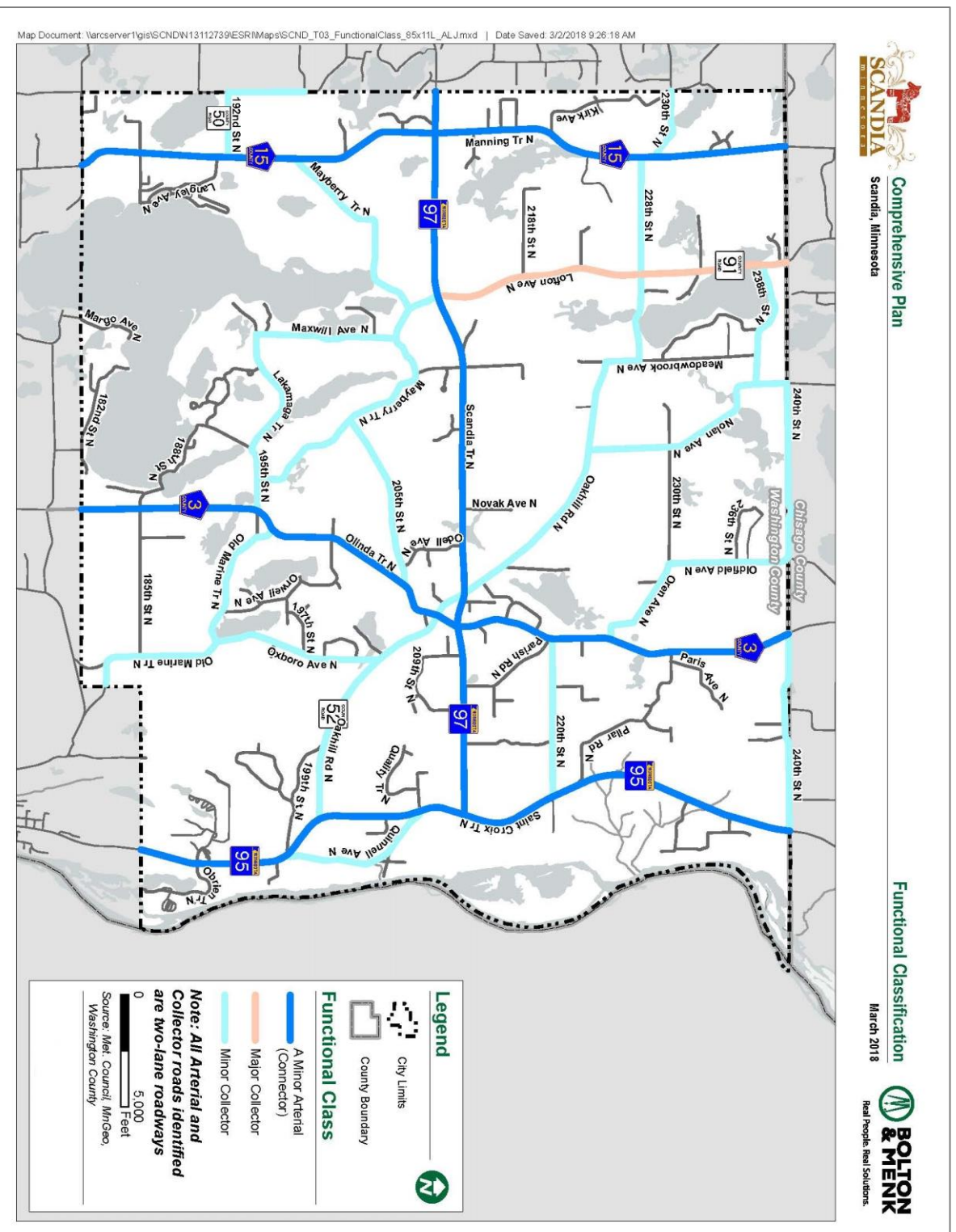
The Metropolitan Council has defined four sub-categories of “A” minor arterials: reliever, expander, connector, and augments. These sub-categories have to do primarily with Metropolitan Council’s allocation of federal funding roadway improvements, but do not translate into specific design characteristics or requirements.

For arterial roadways, the Metropolitan Council has designation authority. Local agencies may request that their roadways become arterials (or are downgraded from arterial to collector), but such designations or re-designations must be approved by the Metropolitan Council. The agency that has jurisdiction over a given roadway (e.g. Washington County or the City of Scandia) has the authority to designate collector status.

The current roadway functional classification map for Scandia as identified by the Metropolitan Council is presented on Figure VIII-C. A summary of Scandia roadways by functional classification follows.



Figure VIII-C – Functional Classification





### Principal Arterials

Principal arterials are the highest roadway classification and make up the Metropolitan Highway System. The primary function of these roadways is to provide mobility for regional trips, and they do not provide a direct land access function. Principal arterials are generally constructed as limited access freeways, but may also be multiple-lane divided highways. There are no principal arterials within the City of Scandia.

### “A” Minor Arterials

These roads connect important locations within the City of Scandia with access points of the Metropolitan Highway System and with important locations outside the City. These arterials are also intended to carry short to medium trips that would otherwise use principal arterials. While “A” minor arterial roadways provide more access than principal arterials, their primary function is still to provide mobility rather than access to lower level roadways or adjacent land uses. The “A” minor arterial roadways within Scandia are identified in Table VIII-A, below:

Table VIII-A – “A” Minor Arterial Roadways			
Roadway	From	To	Number of Travel Lanes (Total)
TH 97/Scandia Trl N	West City Limit	TH 95	2
TH 95/St. Croix Trl N	South City Limit	North City Limit	2
CSAH 3/Olinda Trl N	South City Limit	North City Limit	2
CSAH 15/Manning Trl N	South City Limit	North City Limit	2

### Other Arterials

Like “A” minor arterials, these roadways also serve more of a mobility function than access function. However, they may not have as much regional importance as “A” minor arterials and are not eligible for federal roadway improvement funding. There are no other arterials within the City of Scandia.

### Major and Minor Collectors

Collector roadways provide a balance of the mobility and land-use access functions discussed above. They generally serve trips that are entirely within the City and connect neighborhoods and smaller commercial areas to the arterial network. Minor collectors generally are shorter in length, with lower volumes and lower speeds than major collectors. Current collector roadways are identified in Table VIII-B, below.

**Table VIII-B – Major and Minor Collector Roadways**

Roadway	From	To	Number Travel Lanes (total)
<b>Major Collectors</b>			
CR91 (Lofton Ave N)	TH 97	North City Limit	2
<b>Minor Collectors</b>			
CR 50 (192 <sup>nd</sup> St N)	West City Limit	CSAH 15	2
CR 52 (Oakhill Rd N)	TH 97	TH 95	2
220 <sup>th</sup> St N	CSAH 3	TH 95	2
Nolan Ave N/238 <sup>th</sup> St N	Oakhill Rd	CR 91	2
230 <sup>th</sup> St N	West City Limit	CSAH 15	
228 <sup>th</sup> St N/Meadow Brook Ave N/Oakhill Rd N	CSAH 15	TH 97	2
240 <sup>th</sup> St N	CSAH 3	TH 95	2
Oxboro Ave N	Old Marine Trl	CR 52	2
Old Marine Trl N	CSAH 3	South City Limit	2
205 <sup>th</sup> St N	Mayberry Trl	CSAH 3	2
Maxwill Ave N/Lakamaga Trl N/195 <sup>th</sup> St N	Mayberry Trl	CSAH 3	2
Mayberry Trl N	CSAH 15	Lofton Ave	2
Lofton Ave N/Mayberry Trl N	TH 97	195 <sup>th</sup> St	2

#### 4. Summary of Relevant Transportation Studies

The only transportation corridor study involving roadways in Scandia since the 2030 Comprehensive Plan the *TH 97 Access Study*. MN DOT is currently leading this study with Washington County, the City of Forest Lake, and the Metropolitan Council as project partners. The study limits extend from TH 61 in Forest Lake to TH 15 (Manning Avenue) in Scandia. The primary measures under review include:

- Conversion of existing bypass lanes to dedicated turn lanes
- Dedicated left and right turn lanes
- Access closure/consolidation
- Roadway widening for continuous shoulder

The primary benefit resulting from the measures being studied would be an enhanced of safety conditions. It is estimated that the study will be completed at some point in 2018.

### D. Roadway System Plan

#### 1. Local Roadway Considerations

##### Local Roadway Extensions

Given the primarily low-density, rural nature of Scandia, the existing network of minor arterial and collector roadways should be sufficient. However, as the community experiences moderate growth, it will be important to identify potential new links. Land subdivision and site plan reviewers should ensure that these missing links between local roadway segments are eventually dedicated to form an interconnected rural street system.

Factors to consider in identifying new roadway segments include the following:

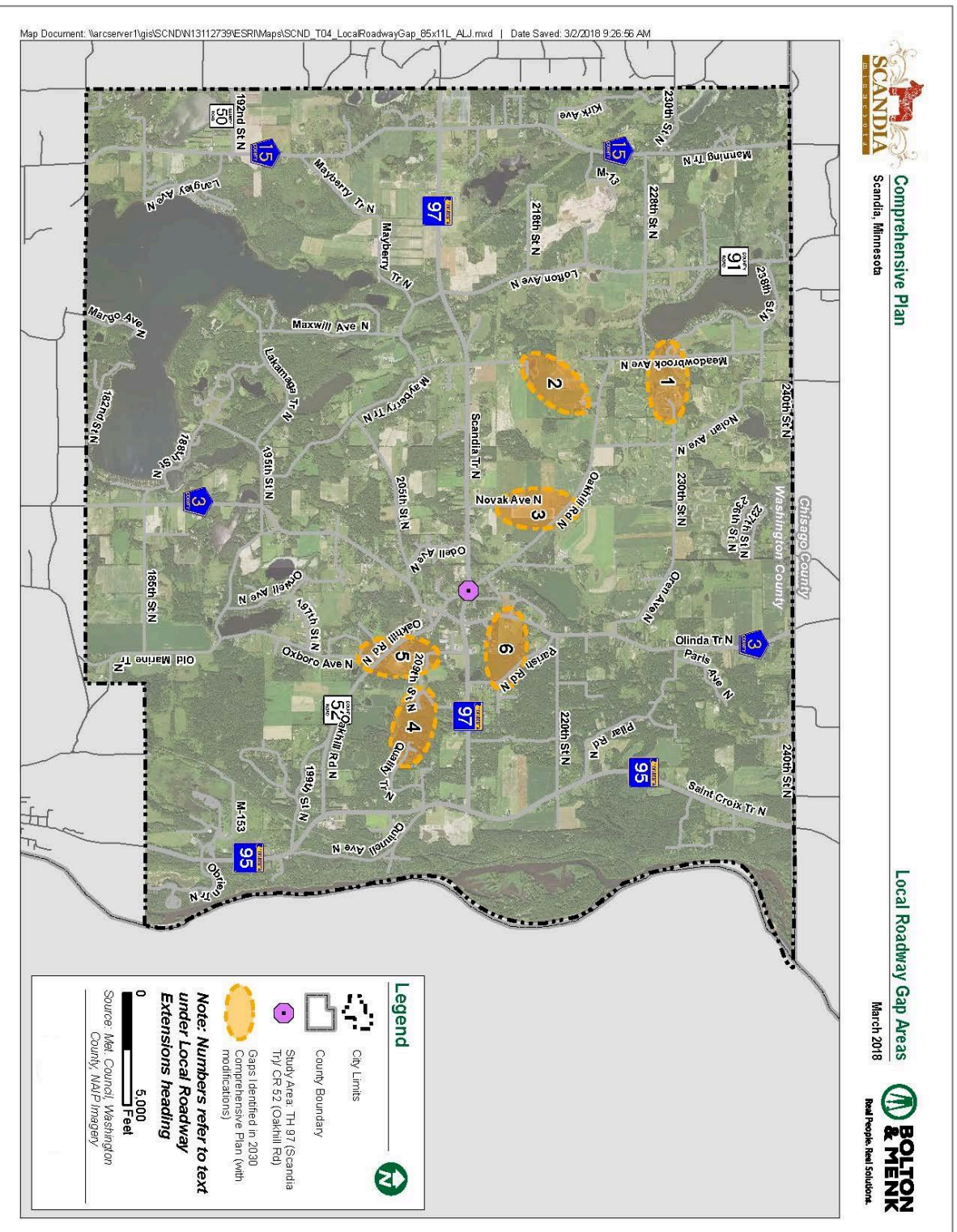
- Existing gaps and continuity of roadway alignments

- Rural topography, wetlands, and other features
- Land use and zoning
- Market interest, parcel configuration, and anticipated build-out condition

Existing gaps in the local roadway network are identified on Figure VIII-D and include those identified below:

- Location 1 – 230<sup>th</sup> Street N, between Meadowbrook Avenue N and existing 230<sup>th</sup> Street N approximately 2,000 feet to the east.
- Location 2 – Meadowbrook Road N between Oakhill Road N and Meadowbrook Road N at the 218<sup>th</sup> Street N alignment, approximately ½ mile north of TH 97
- Location 3 – Novak Avenue N between current northerly terminus and Oakhill Road N approximately 2,000 feet to the north.
- Location 4 – 209<sup>th</sup> Street N from Penrose Avenue N to Quality Trail N (wetlands would likely preclude a direct connection to 209<sup>th</sup> Street west of TH 95).
- Location 5 – Between Ozark Avenue N at 209<sup>th</sup> St N and Oxboro Avenue N at Oakhill Road N (north-south continuous roadway)
- Location 6 – Between Olinda Lane N at Olinda Trail N and 215<sup>th</sup> Street N at Parrish Road N

Figure VIII-D – Local Roadway Gaps



A common problem in developing rural areas is how to address the development of local streets in the absence of a more detailed local street plan. The risks of a poorly planned and developed street system include landlocked parcels, increased needs for direct access onto arterial roads, parcels that require circuitous access, and/or parcels that have only one ingress/egress points (e.g. long dead-end streets). Like other communities, Scandia requires that subdivisions consider the interconnection of new local streets with future subdivisions and with applicable state and county access management guidelines.

One concern among communities is the creation of long dead-end streets that become de facto cul-de-sacs. While many communities identify maximum dead-end street length, Scandia currently does not. Scandia should consider including this type of requirement through ordinance restrictions.

### **Context Sensitive Solutions**

Historically, roadway design was geared heavily towards providing large roads and systems that could move vehicles as quickly and efficiently as possible. More recently, however, this has changed and continues to change, based on the understanding that flexibility in roadway design is needed to limit impacts to the local environment wherever possible. “Environment” is not only used ecological sense, but the social and community character sense as well. This overall trend is captured in the term and design practice “Context Sensitive Solutions.” The Federal Highway Administration (FHWA) uses the following definition:

*“Context sensitive solutions (CSS) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist.”*

The FHWA references *A Guide to Best Practices for Achieving Context Sensitive Solutions* (National Cooperative Highway Research Program) as being an authoritative resource. Numerous other guidance documents are available.

As reflected in the City’s Transportation Goals at the beginning of this chapter, the City of Scandia embraces this concept, particularly as it pertains to maintaining the relatively narrow and wooded/natural context of many roadways within the City.

## **2. Trunk Highway 97 at County Road 52 (Oakhill Road N) Study Area**

This intersection is a key Highway 97 crossing location for vehicles as well as pedestrians and bicyclists. It warrants safety study due to the following characteristics:

- Pronounced skew, combined with being on a curve
- Topography (rise/fall) affecting sight lines
- Proximity of adjacent access points (Oren Avenue N 390 feet to the east, private driveway 300 feet to the west)

Scandia Elementary School in the southwest quadrant of this intersection, Lilleskogen Park is in the southeast quadrant, and the intersection provides important access point into the Village Center. Development north of TH 97 in this general portion of Scandia would increase traffic coming down Oakhill Road N, adding to safety considerations.

For the reasons summarized above, the City of Scandia will work with MN DOT and Washington County to perform safety analysis as appropriate.

### **3. 2040 Traffic Projections and Capacity Deficiency Analysis**

#### **a) Assumed 2040 Collector/Arterial Roadway Network**

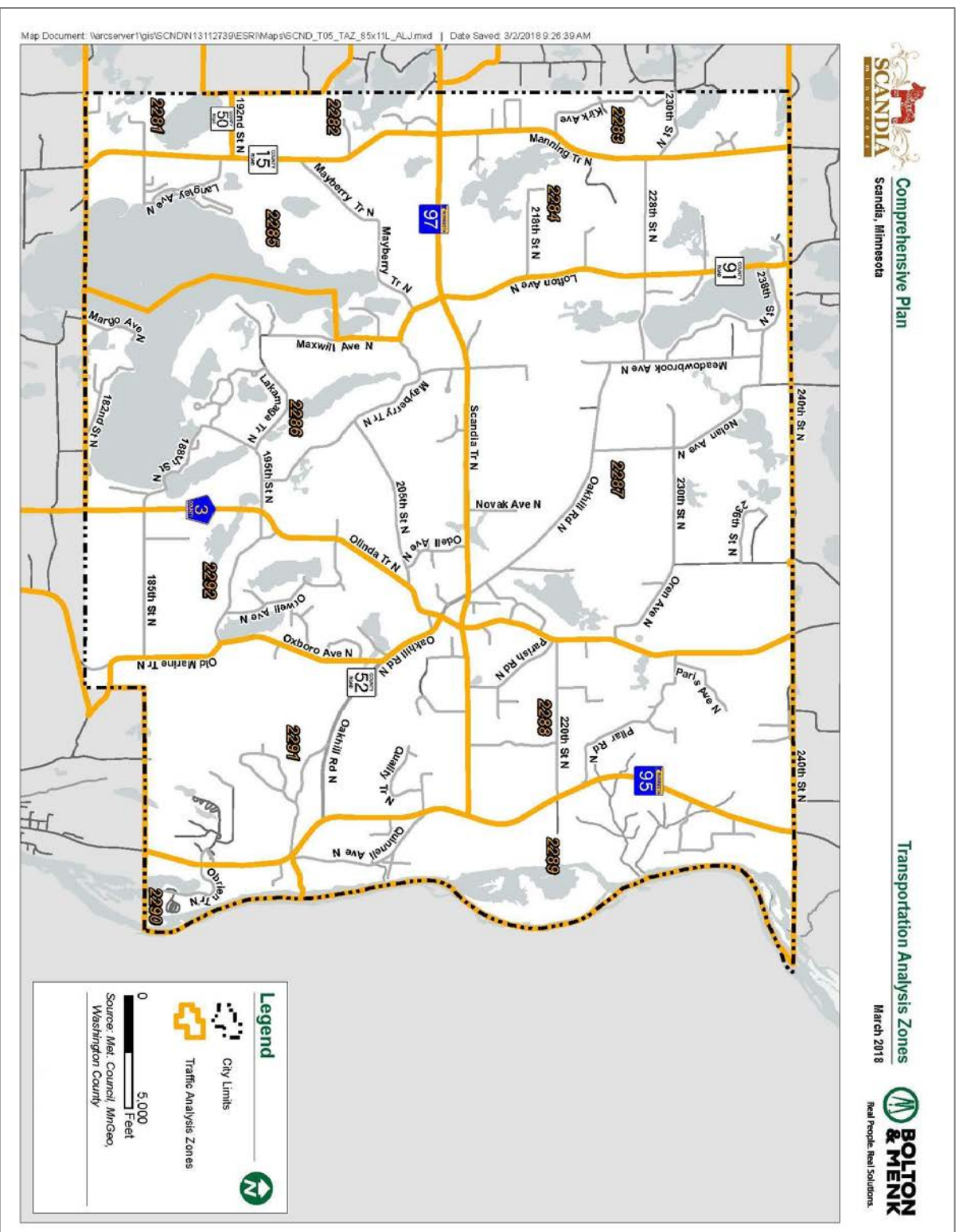
Because no new collector/arterial roadways or expansions are programmed or planned over the 2040 timeframe, the assumed 2040 roadway network is the same as the current network for traffic forecasting purposes.

#### **b) Assumed 2040 Land Use and Transportation Analysis Zone Information**

Transportation Analysis Zones (TAZs) are used to project future traffic volumes. Each TAZ has demographic and employment information that translates to vehicular trip origins and destinations. A map of Scandia TAZs is provided in Figure VIII-E. The anticipated future land use patterns discussed in the Land Use chapter of this Comprehensive Plan were assumed for the 2040 TAZ allocations identified in Table VIII-C, below.



Figure VIII-E – Transportation Analysis Zones





**Table VIII-C – 2040 Scandia TAZ Data**

TAZ	Year	Population	Households	Retail Jobs	Non-Retail Jobs	Total Jobs
<b>2281*</b>	<b>2020</b>	94	38	0	14	14
	<b>2030</b>	110	49	0	14	14
	<b>2040</b>	130	55	0	14	14
<b>2282*</b>	<b>2020</b>	113	48	0	0	0
	<b>2030</b>	113	48	0	0	0
	<b>2040</b>	113	48	0	0	0
<b>2283*</b>	<b>2020</b>	310	130	0	0	0
	<b>2030</b>	323	137	0	0	0
	<b>2040</b>	339	144	0	0	0
<b>2284</b>	<b>2020</b>	220	80	0	12	12
	<b>2030</b>	235	90	0	23	23
	<b>2040</b>	250	100	10	25	35
<b>2285</b>	<b>2020</b>	450	180	10	22	32
	<b>2030</b>	470	196	10	30	40
	<b>2040</b>	490	210	10	30	40
<b>2286</b>	<b>2020</b>	710	280	10	65	75
	<b>2030</b>	770	310	10	77	87
	<b>2040</b>	801	340	10	79	89
<b>2287</b>	<b>2020</b>	910	356	30	90	120
	<b>2030</b>	1,006	413	30	93	123
	<b>2040</b>	1,081	460	30	95	127
<b>2288</b>	<b>2020</b>	510	198	10	42	52
	<b>2030</b>	550	230	13	50	63
	<b>2040</b>	581	250	15	50	65
<b>2289</b>	<b>2020</b>	190	80	0	20	20
	<b>2030</b>	220	90	0	20	20
	<b>2040</b>	241	99	10	20	30
<b>2290</b>	<b>2020</b>	0	0	0	20	20
	<b>2030</b>	10	0	10	20	30
	<b>2040</b>	21	9	10	20	30
<b>2291</b>	<b>2020</b>	400	160	50	170	220
	<b>2030</b>	430	180	55	180	235
	<b>2040</b>	461	199	60	185	245
<b>2292*</b>	<b>2020</b>	353	150	5	50	55
	<b>2030</b>	393	167	5	50	55
	<b>2040</b>	442	186	8	50	55
<b>TOTALS</b>	<b>2020</b>	4,260	1,700	115	505	620
	<b>2030</b>	4,630	1,910	133	557	690
	<b>2040</b>	4,950	2,100	163	568	730

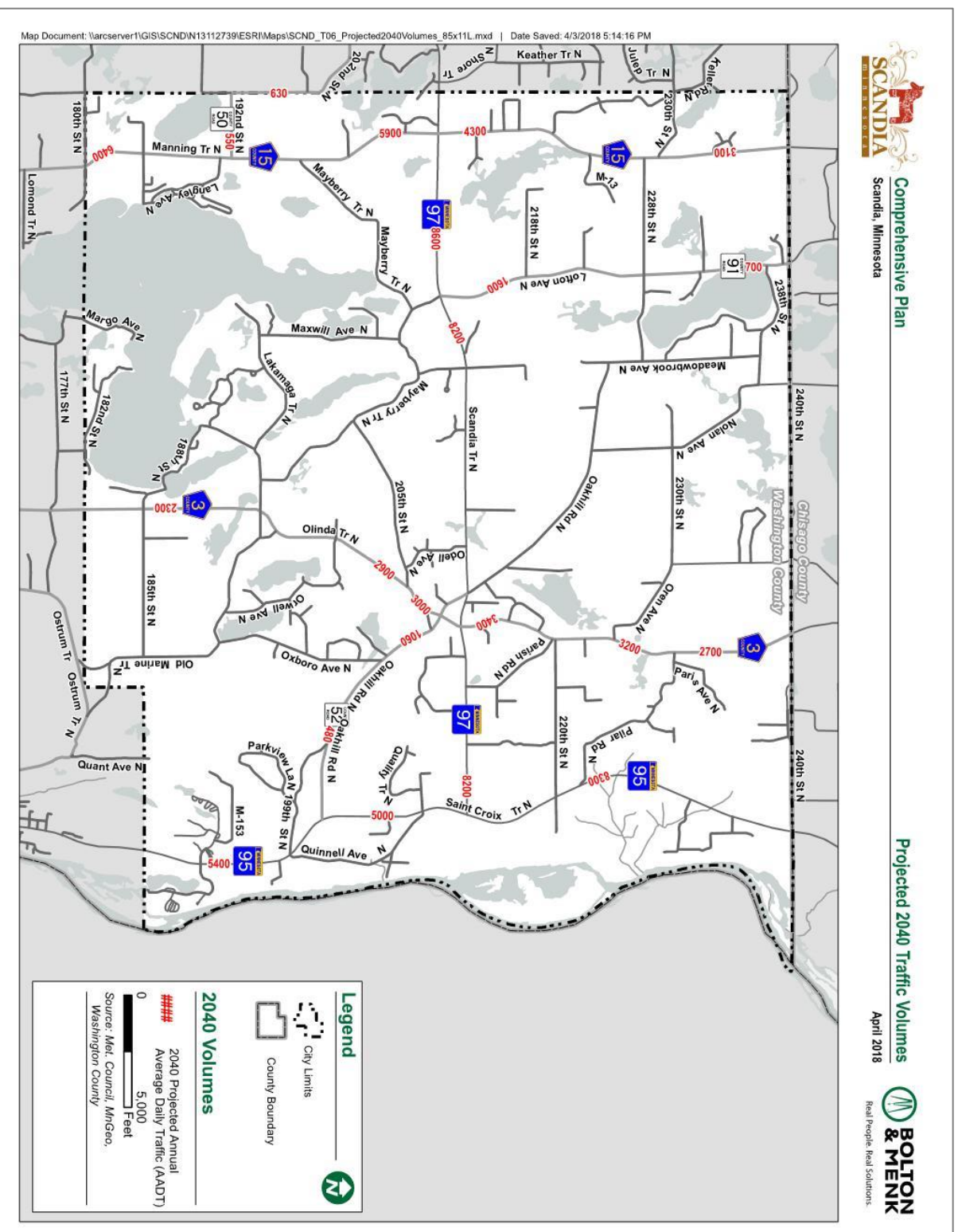
*\*Please note: the information for these TAZs is only for the portion of the TAZ within Scandia.*

**c) 2040 Traffic Projections**

Estimated 2040 traffic volumes for roadways in Forest Lake are presented in Figure VIII-F. These projections are based on the following methodology:

- Review of forecasts from the 2030 Scandia Comprehensive Plan
- Historic trend analysis for volumes on individual roadway segments
- Consideration of local context and anticipated development patterns
- Comparison with the results of Washington County's 2040 forecasts

Figure VIII-F – 2040 Traffic Volumes



#### d) Future Capacity Needs Evaluation

A planning level analysis of potential roadway capacity needs was performed, based on comparing the projected 2040 traffic volumes referenced above against the expected traffic capacity for the applicable roadway types that are present in Scandia. The roadway capacity levels were estimated based on *Highway Capacity Manual* (HCM) guidance and methods. The HCM, published by the Transportation Research Board,<sup>2</sup> provides transportation practitioners and researchers with a consistent and widely accepted system of techniques for assessing roadway capacity and operational performance characteristics.

Table VIII-D – Typical Traffic Capacity by Roadway Type/Configuration – Roadways in Scandia	
Roadway Design	Planning Level Capacity (vehicles per day)
2-lane local/residential road	1,000
Rural 2-lane minor collector	7,700
Rural 2-lane highway (major collector/minor arterial)	13,000

*Source: Bolton & Menk, Inc., Sixth Edition HCM methods*

The resulting analysis shows that none of the roadways within Scandia are projected to be at or approaching capacity by 2040. Therefore, no capacity expansion projects are identified in this transportation plan.

#### 4. Future Functional Classification

Re-designations of roadways involving the A-minor arterial functional classification (e.g. from collector to arterial, from arterial to collector, or changing designations within arterial) is under the authority of the Metropolitan Council. For collector roadways, the functional class designation is under the authority of the agency that owns the given road.

The City of Scandia does not feel that any roadways within its borders need to be re-classified from a functional classification perspective. The City is not aware that MN DOT or Washington County wish to advance any such re-classifications. Therefore, Figure VIII-C is the functional classification map for current and 2040 conditions.

#### 5. Future Jurisdictional Classification

The City of Scandia does not anticipate a request for jurisdictional transfers regarding roadways within its borders through the 2040 timeframe. Moreover, the City is not aware that Washington County or MN DOT desire any such transfers. Therefore, Figure VIII-B identifies both current and future jurisdictional classification information.

#### 6. Access Management

Access management refers to balancing the need for connections to local land uses (access) with the need for network-level movement (mobility) on the overall roadway system. By functional classification, this may be summarized as follows:

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<sup>2</sup> The Transportation Research Board is a unit of the National Academy of Sciences, Engineering and Medicine.

- Arterials generally have limited access in the form of driveways and low volume side streets because their role in the network is to support relatively long, high speed traffic movements
- Collectors allow a greater degree of access given their combined mobility/access function
- Local streets have relatively few limits on access because their primary function is to provide access to adjacent land uses

Appropriate access control preserves the capacity on arterial and collector streets, and improves safety by separating local turning movements from higher-speed “through” traffic. Moreover, it concentrates higher volume traffic linkages at intersections controlled with traffic signals, roundabouts, or other measures.

MN DOT and Washington County Roadways in Scandia are identified on Figure VIII-B. For MN DOT roadways, MN DOT access management guidelines apply. Similarly, for County roadways, Washington County’s access management guidelines apply. MN DOT’s access management guidelines are described in detail in their Access Management Manual.<sup>3</sup> When reviewing MN DOT’s access guidelines, TH 97 in Scandia is classified as 5B (minor arterial, urban/urbanizing), and TH 95 is classified as 5A (minor arterial, rural). Relevant MN DOT and Washington County guidelines, respectively, are provided in Appendix E.

Land use planning and subdivision regulation are the responsibility of the City. In conjunction with local land planning, Scandia will require that new land development complies with MN DOT and County access management guidelines as applicable. The City will work with MN DOT and Washington County to consolidate driveway and street access to collector and arterial roadways where applicable and feasible.

## **7. Future Right-of-Way Preservation**

The City has not defined specific corridors for roadway development where right-of-way can be defined and preserved at this point.

## **E. Transit Plan**

### **1. Transit Market Area**

The Metropolitan Council has defined Transit Market Areas based on the following primary factors:

- Density of population and jobs
- Interconnectedness of the local street system
- Number of autos owned by residents

In general, areas with high density of population and jobs, highly interconnected local streets, and relatively low auto ownership rates will have the greatest demand for transit services and facilities. Transit Market Areas are a tool used to guide transit planning decisions. They help ensure that the types and levels of transit service provided, in particular fixed-route bus service, match the anticipated demand for a given community or area.

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<sup>3</sup> <http://www.dot.state.mn.us/accessmanagement/resources.html>

Based on this analysis, the Metropolitan Council categorizes the City of Scandia as Transit Market Area V. As identified in Appendix G of the Metropolitan Council's 2040 Transportation Policy Plan (TPP), the characteristics of this category area are as follows:

*Transit Market Area V has very low population and employment densities and tends to be primarily Rural communities and Agricultural uses. General public dial-a-ride service may be appropriate here, but due to the very low-intensity land uses these areas are not well-suited for fixed-route transit service.*

Also from Appendix G of the 2040 TPP (Table G-2), the typical transit service within this Market Area consists of:

*Not well-suited for fixed-route service. Primary emphasis is on general public dial-a-ride services.*

## **2. Current and Planned Service Facilities**

### **a) Scheduled Transit Service**

Consistent with the Metropolitan Council classifying Scandia as Transit Area V, there is no scheduled transit service serving Scandia due to lack of demand. This includes no service or facilities in the following categories:

- Scheduled local bus service
- High-frequency routes
- Peak hour commuter bus service
- Rapid Bus Service
- Light Rail Transit (LRT) or Bus Rapid Transit (BRT)
- Transit facilities
- Transit advantages

The City of Scandia is not aware of any planned scheduled transit service within the City.

### **b) Dial-a-Ride Service**

- Demand responsive transit service for all communities in Washington County is provided by Metropolitan Council Metropolitan Transportation Services (MTS) and consists of complementary services that are compliant with Americans with Disabilities Act (ADA), as well as general public dial-a-ride services. Transit Link is the Twin Cities dial-a-ride minibus or van service for the general public where regular route service is not available. Fares are based on time of day and distance traveled.

These services are anticipated to continue in their current form into the foreseeable future.

## **F. Non-Motorized Transportation Plan**

Existing and planned non-motorized transportation features in Scandia are discussed and mapped in the Parks and Trails element of this 2040 Comprehensive Plan.

Metropolitan Council has designated the Regional Bicycle Transportation Network (RBTN). This consists of prioritized alignments and corridors (where alignments have not yet been established) that were adopted in the Council's 2040 Transportation Policy Plan. There are no

RBTN alignments or corridors within or close to Scandia.

The largely rural nature of Scandia is not conducive to extensive pedestrian travel. The most significant barrier to non-motorized movement would be TH 97, an east-west highway that passes through central portion of Scandia and the northern portion of the Village Center area. There is currently an all-way stop at the TH 97/Olinda Trail intersection that provides protection for pedestrians using the sidewalk along Olinda Trail. Any future north-south trail development would require appropriate crossing treatments at TH 97. Any safety study of the TH 97 County Road 52 (Oakhill Road N) intersection as referenced above will include a non-motorized transportation component.

### **G. Freight Plan**

One railroad passes through the eastern fringes of Scandia from south to north. The railroad tracks are owned by the Canadian National Railway and approximately two trains per week utilize the railroad tracks, based on MN DOT information. There are no manufacturing or distribution centers in Scandia. Freight movement is not a major factor for the City. Existing HCAADT information is depicted in Figure VIII-A.

### **H. Aviation Plan**

There are no aviation facilities or navigational aids located in Scandia. At present, the only suggested air facilities considered in Scandia would be a seaplane base on Big Marine Lake. The city is not in an influence area of a regional airport. The closest public-use airport to Scandia is the Osceola Municipal Airport (FAA Identifier OEO) located approximately 2.5 miles to the east-northeast. OEO is categorized as a Medium General Aviation Airport in Wisconsin's 2030 State Airport System Plan. As such, it is primarily used for recreational flying with some business use and is not anticipated to increase operations significantly over the next 20 years. Scandia is outside all federal airspace restrictions and state zoning controls for OEO. Scandia is not in a primary flight path of OEO.

There are no structures within Scandia that exceed 500 feet in height. Any applicant who proposes to construct a structure 200 feet above the ground that could affect navigable airspace level must get appropriate approvals. The Federal Aviation Administration and the Minnesota Department of Transportation must be notified at least 30 days in advance in advance of construction, as required by law per MCAR 8800.1200, Subpart 3 and FAA Form 7460-8. It is unlikely such a structure would be proposed in Scandia.



## IX. WATER RESOURCES

### A. Water Resource Goals and Policies

**Goal:** Preserve and protect the quantity and quality of surface water and groundwater.

**Objectives:**

- Work cooperatively with all State and Federal agencies to comply with and enforce regulations and standards such as Shoreland Management Regulations, Erosion and Sediment Control Standards, Floodplain Regulations, and Stormwater management.
- Identify sensitive groundwater recharge areas and groundwater dependent natural resources to guide development and land use to minimize potential contamination and incompatible uses.
- Require developers to restore the ability of soils to absorb, retain, and infiltrate water following site development.

**Goal:** Improve stormwater management and land stewardship practices.

**Objectives:**

- Provide educational resources and materials to residents and businesses regarding water quality, stormwater runoff, best management practices, and impaired waters.
- Incorporate low-impact techniques and best management practices on City owned property.

**Goal:** Protect the natural and scenic resources of the St. Croix River Corridor, both within and adjacent to the St. Croix National Scenic Riverway.

**Objectives:**

- Work cooperatively with the National Park Service, Department of Natural Resources, and Carnelian Marine St. Croix Watershed District and adopt their Local Water Management Plans.

**Goal:** Ensure financial and environmental accountability for installation, maintenance, remediation, and management of any permitted private wastewater system.

**Objectives:**

- In cooperation with Washington County, enforce strict conformance with regulations for the design, installation, and maintenance of on-site treatment systems including minimum design, licensing, and installation requirements of the Minnesota Rules Chapter 7080.

### B. Wastewater

#### 1. Forecasts

According the Metropolitan Council population, household, and employment forecasts, the City of Scandia will have the following sewer demands, as detailed in Table IX-A.

Table IX-A – Population, Housing, & Employment Sewer Allocation Forecasts					
	Forecast Component	2010	2020	2030	2040
Population	Unsewered	3,934	4,260	4,630	4,950
Households	Unsewered	1,498	1,700	1,910	2,100
Employment	Unsewered	519	620	690	730

## 2. Existing System

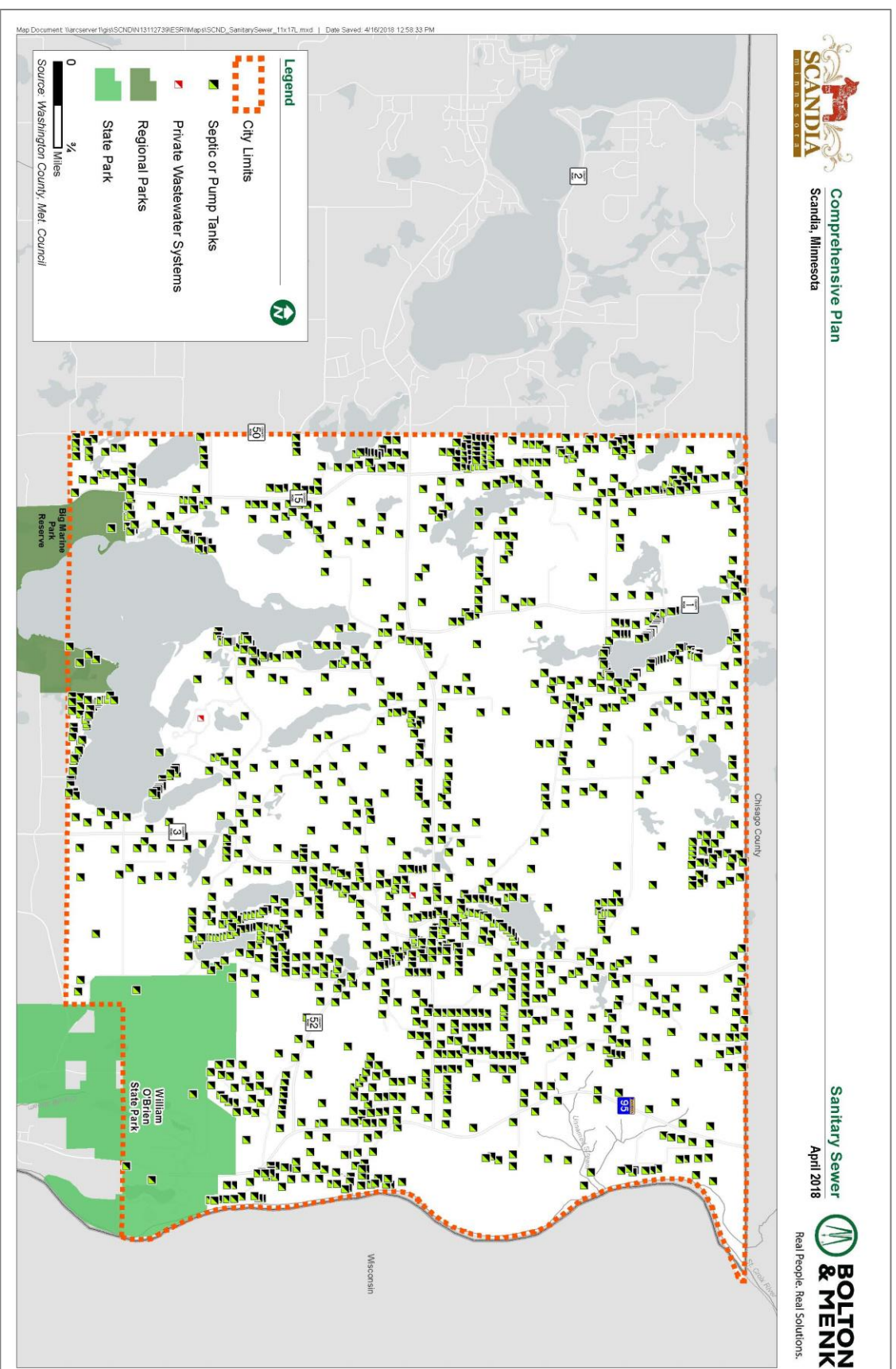
The existing wastewater treatment system is comprised of several on-site septic systems, two private wastewater treatment systems, and three small public wastewater systems.

### a) *Private On-site Septic Systems*

Wastewater treatment for residents of Scandia consists primarily of on-site septic systems, shown in Figure IX-A. The city engineer has record of 1,426 on-site septic systems in Scandia. Responsibility for installation and maintenance of on-site septic systems lies with the property owner. All systems must be installed and maintained to meet the standards of the Washington County Subsurface Sewage Treatment System Ordinance, which is consistent with *Minnesota Rules Chapter 7080*. The County's SSTS Ordinance is codified in the Development Code in Chapter 4, Ordinance #206. This ordinance provides the basis for the County's SSTS program, including requirements for compliance inspections of existing systems, permitting and inspection of new systems, site review, maintenance requirements, and operating permits for advanced treatment systems (Type IV).

The City of Scandia has delegated responsibility for septic inspections to Washington County. Washington County Ordinance 206, Section 22, requires owners of septic systems to have tanks pumped at least once every three years. Washington County also requires inspections at the point of sale for systems older than five years or for systems that do not have a current compliance inspection, and these inspections are recorded with the County. If Washington County becomes aware of non-compliant systems, the County requires replacement of those systems.

Figure IX-A – Existing Subsurface Sewage Systems



**b) Private Wastewater Systems**

- (1) The Tii Gavo (Permit MN0068217, expires 1/31/2028)

The Tii Gavo on Big Marine Lake WWTP facility is located at 2108 Olinda Trail N, Scandia, Minnesota 55073, Washington County.

The application and plans indicate that the Tii Gavo on Big Marine Lake development is a 37-residential family home development and community center located in Washington County. The development will include three-bedroom and four-bedroom units. The facility has a total wet weather design flow of 13,065 gallons per day. The facility is designed based on a CBOD<sub>5</sub> loading of 21.1 lbs. per day (0.18 lb. per capita per day), a TSS loading of 23.4 lbs. per day (0.02 lb. per capita per day), a total nitrogen loading of 3.2 lbs. per day (0.027 lbs. per capita per day), and a total phosphorus loading of 0.9 lbs. per day (0.008 lbs. per capita/day).

The facility consists of two 26,250 gallon compartmentalized septic tanks with effluent filters in the last tank, one 8,438-gallon denitrification tank with carbon source addition, one 7,500-gallon recirculation tank, one 3,300 square foot recirculating gravel filter, one 10,000 gallon dosing tank, and six drip dispersal zones totaling 33,120 square feet of infiltrative surface with an additional 11,040 square feet for reserve drainfield area. This is a Class C facility.

There are no designated bypass points in the treatment system. The permit authorizes no discharge to surface waters. The facility is further described in plans and specification on file with the MPCA.

- (2) The Wyldewood Acres (Permit MN 0066567, expired 5/31/2018 but can continue operations until issued a new permit by MPCA)

The Wyldewood Acres Wastewater Treatment Facility is located at SE ¼ of SE ¼ of section 15, Township 32 North, Range 20 West, Scandia, Washington County, Minnesota. This is a Class D facility.

Major components of the Facility include:

- 27 Individual Grinder Pumps
- 1 Septic Tank (7,500 gal)
- 1 Septic Tank (7,500 gal) -compartmentalized
- 1 Constructed Wetland -subsurface flow (9,000 sq. ft.)
- 3 Subsurface Mounds (19,718 sq. ft.)

The application and plans indicate that the Facility is designed for 23 three and a half -bedroom homes and four three-bedroom homes in Scandia.

Each house has an individual grinder pump, which pumps the sewage through a two-inch high-density polyethylene low pressure force main, approximately 4,000 feet in length. Wastewater flows through magnetic influent flow meters prior to two septic tanks operated in series. Both are 7,500 gallons; the first is un-compartmentalized and the second has two compartments. The second tank contains effluent filters. Next, wastewater is processed by one 9,000 square foot constructed wetland treatment system. A 5,000 gallon dosing tank doses a 19,718 square foot drainfield system (pressurized infiltration chambers), which consists of three zones with dedicated pumps to alternate usage of the zones.

The Average Wet Weather (AWW) design flow is 8,925 gallons per day (gpd). The influent five-day Biochemical Oxygen Demand concentration is approximately 250 milligrams per liter (mg/L), and the Total Suspended Solids concentration is approximately 250 mg/L.

There are no designated bypass points in the treatment system. The SDS Permit authorizes no discharge to surface waters.

**c) *Public Wastewater Treatment Systems***

There are three public wastewater treatment systems in Scandia serving multiple lots and structures, shown in Figure IX-B. The operation, maintenance, and user charges for these public systems are governed by City of Scandia Ordinance No. 189, included in Appendix F of this comprehensive plan.

**(1) Bliss Sewage Treatment Facility**

The Bliss Sewage Treatment Facility's treatment area is located on the western side of Big Marine Lake, off of Manning Trail North. The facility serves homes along Manning Trail North from the treatment area north to 191<sup>st</sup> Street North to the homes along Langley Avenue North, Layton Avenue North, Lamar Avenue North, and 185<sup>th</sup> Street North. It consists of three septic tanks totaling 7,500 gallons, three 15,000 square foot sand filters that are dosed by a lift station, and three drainfield trench cells (1,200 feet per cell) which are dosed by a second lift station. Based on drawdown tests performed in the spring of 2017, the two pumps in LS #3 (dosing the sand filters) have capacities of approximately 300 and 250 gallons per minute, while the pumps in LS #4 (dosing the trench cells) have capacities of about 110 and 190 gallons per minute. It processes an average of around 7,000 gallons per day during the winter months and 11,000 during the wettest summer months but has a permitted capacity of 19,800 gallons per day. This system has had some issues with high nitrate levels in one of the monitoring wells surrounding the facility. Currently, treatment options are being considered to mitigate this issue.

**(2) Anderson/Erikson Sewage Treatment Facility**

The Anderson/Erikson Sewage Treatment Facility's treatment area is located on the eastern side of Big Marine Lake at the southern end of Norell Avenue North. The system serves the homes along Norell Avenue North and those along 188<sup>th</sup> Street North to the intersection with Newgate Avenue North. The Anderson/Erikson Lift Station, which doses the drainfields, had pump capacities of roughly 65 and 70 gallons per minute based on the 2017 drawdown tests. The drainfield system itself was originally designed to treat 6,700 gallons per day. Recent flows indicate that the system is treating slightly less than this amount, on average, but regularly exceeds this capacity during peak days and months of the year. Based on this information, the system is at capacity, and any other additions to it would require further examination to assess the system's capacity and potential for expansion.

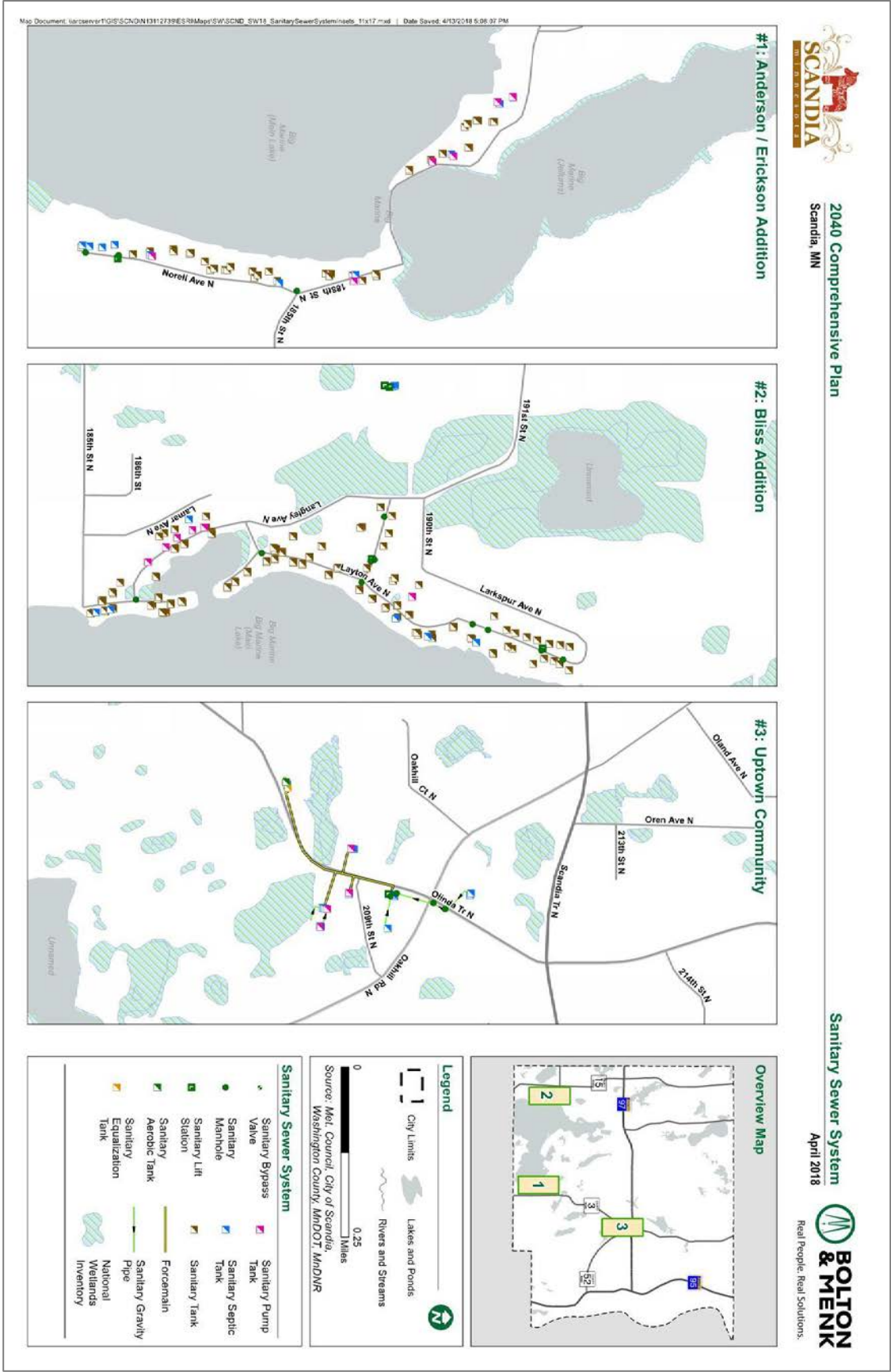
**(3) Uptown Wastewater Community Collector System**

The Uptown Wastewater Community Collector System's Treatment area is located on Olinda Trail North, southeast of the village. The system serves Elim Lutheran Church and the parsonage, the Scandia Café, the Scandia Store, the Scandia Veterinary Clinic, the Country Messenger, the bank building, Schmitt Mall, the Community and Senior Center, and the Gammelgarden. The system was expanded in 1999 for the Community Center and again in 2001 for the Gammelgarden. In 2012, an equalization tank and an aerobic treatment tank, complete with blower and air diffuser, were added to the system to treat nitrogen and phosphorus in the wastewater, and to mitigate peak flows which are higher than the system's design capacity. The trench drain laterals comprise 2,250 feet and 6,750 square feet of adsorption area. With the increased treatment provided by the aeration, the design capacity of the system is approximately 4,050 gallons per day. The average flow entering the system is 2,025 gallons per day and the peak flow is about 7,500 gallons per day. Because this system serves venues that frequently have highly-trafficked events that create high flows (e.g., the church and community center), it has been determined that the system is essentially at capacity. While the equalization basin functions to smooth out flow peaks, addition of another institutional or commercial customer to the system could prove too much for it and undermine treatment effectiveness. There is room on the property to double the size of the drainfield. However, if the system is expanded in the near future, then at some possible point further in the future, if the drainfield fails due to solids loading of the ground, an entirely new site may have to be found for construction of a new treatment system. This scenario should be considered before adding additional customers to the Uptown system.

(4) Extension of Municipal Sewer

This plan identifies a new Rural Center Designation and an expansion of the Village Neighborhood land use on the west side of Big Marine Lake. These designations potentially allow greater density of development. In order to accommodate this, extension of municipal sewer, or improvements to the existing community system, is necessary. The City and Metropolitan Council staff have discussed the possibility of extending service from the existing Metropolitan Council interceptor located in Forest Lake to the west to serve this area of Scandia. This extension would essentially serve as an "express sewer line" to Scandia, with few connections within Forest Lake. This option requires collaboration and an agreement with the City of Forest Lake to identify a route, and necessary upgrades and future connections. Scandia will work with Forest Lake to develop the necessary agreements. Until service is extended, development in the new Rural Mixed Use will be limited by capacity of the existing Bliss system.

Figure IX-B - Existing Public Wastewater System





### 3. Capacity and Maintenance

The Bliss treatment system could still accept some additional flow before it reaches capacity, around 6,000 gallons per day. However, the high nitrate level issues must be addressed, either by expanding the system or adding a focused treatment process to remove nitrate.

The Anderson/Erikson system is essentially at its design capacity, and it should be evaluated before the addition of any more flow is considered. In general, it operates nominally under capacity during average flow but above it during peak flows.

The Uptown Wastewater Community Collector System is also essentially at its capacity of about 4,000 gallons per day. As with the Anderson/Erikson system, during normal flows it operates below capacity, while during peak flows capacity is surpassed. The city's future land use plan expands the Village Center area to accommodate residential and commercial growth. The City of Scandia owns land suitable for mound system expansion, adjacent to the existing Uptown drainfield system. However, before considering adding more properties to the collector system or expanding the drainfield, it should be considered that if the drainfield is expanded, an entirely new location will need to be found for treatment in the future when the current system reaches the end of its life (via solids loading of the soil).

For all systems discussed above, regular maintenance is key. Each of the systems has numerous of inspection pipes, which allow water levels to be monitored and blockages cleared in the drainfields. The tops of many of these inspection pipes have been damaged and/or the caps lost, either by accidental collision while mowing or other causes. This has the potential to allow dirt and debris into the system, causing blockages and issues, and these pipes require maintenance and replacement as needed. Additionally, animal encroachment, specifically gophers, have been noted in the vicinity of the systems. These should be dealt with regularly, as in their burrowing they can do a great deal of damage to this type of treatment system.

In general, new development will need to provide for their own wastewater systems. The reliance on individual systems for future growth and development in the City will influence development densities and lot sizes. Since new development will need to provide their own wastewater, the City will consider allowing private community treatment systems on a case-by-case basis. Installation and management requirements must follow all City and County ordinances. Private community systems may be developed and overseen by the county, provided they meet the conditions of the county's ordinance for midsize sewage treatment systems. Systems larger than 10,000 gallons per day are permitted by the MPCA.

### 4. Community and Subsurface Treatment Systems

The City of Scandia's Development Code 13.14.2 states,  
*"Where lots cannot be connected with a public sewer system, provision must be made for sanitary sewer facilities consisting of an individual disposal device for each lot. Such provision shall be in accordance with Chapter Four of the Washington County Development Code, Subsurface Sewage Treatment Systems Regulations."*

Installation of individual sewage treatment systems into low swampy areas, drainage swales, floodplains or other areas subject to recurrent flooding is prohibited. Notwithstanding the foregoing, individual sewage treatment systems in existence may

continue in use if they are repaired and maintained in conformity with the requirements of existing City and County Ordinances and maybe replaced if normal repairs and maintenance to the existing system would not reasonably be expected to permit such system to operate in conformity with the requirements of existing ordinances. Individual Sewage Treatments Systems shall not be located within utility or drainage easements nor within dedicated public or private rights-of-way without proper approvals.

The construction of community sewage treatment systems may be provided for all lots within a subdivision, providing they meet applicable MPCA and Washington County Health Department requirements and an entity other than lot owners or the City of Scandia can demonstrate capability of operating and maintaining the system. This may be done as an alternative to either individual sewage treatment systems or a public sewer system.

Subsurface sewage treatment systems in the City of Scandia are also subject to regulations in Chapter Four of Washington County's Development Code, adopted in 2015.

## **C. Surface Water**

### **1. Background**

The City completed its Local Water Management Plan (LWMP), and it is currently under final review by relevant watershed districts. The plan serves as a comprehensive planning document to guide the City in conserving, protecting and managing its surface water resources. The plan was developed to meet the requirements of Minnesota Statutes 103B and Minnesota Rules 8410, to be consistent with the goals and policies of the Metropolitan Council's Water Resources Management Policy Plan, and the goals and policies of the three watershed management organizations that have jurisdiction within the City. The plan and its amendments will be adopted by the City as an element of this Comprehensive Plan.

The LWMP includes a detailed description of the City's natural resources, including water resources, past studies and inventories, and current surface water management. An assessment of the existing and potential water resource and stormwater related concerns within the City and associated corrective actions are provided. The LWMP also includes goals and policies to address the long-term surface water management needs in the City, and outlines the regulations, standards, practices, projects and funding that will be needed to implement the goals and policies.

The lakes and other critical environmental features in Scandia are one of the reasons the City is an attractive place to live. However, residential development on and near these lakes can impact the water quality and wildlife habitat if not properly managed. One of the primary concerns is the impact of impervious surfaces on water quality. In order to protect lakes from the negative impacts of development, federal, state and local authorities have established rules that protect natural resources against the impacts of development. The City of Scandia is generally subject to the following regulatory authority and strategic plans.

- City of Scandia 2040 Comprehensive Plan
- City of Scandia Ordinances
- Carnelian Marine-St. Croix Watershed District, Watershed Management Plan, amended 2015
- Comfort Lake-Forest Lake Watershed District, Watershed Management Plan, 2012-2021
- Rice Creek Watershed District, 2010 Watershed Management Plan, updates in 2020
- City of Scandia Comprehensive Plan Update, 2018

- City of Scandia Development Code, 2011
- City of Scandia, Shoreland Management Regulations, 2007
- Washington County Groundwater Plan, 2014
- Washington County Model Groundwater Rules, 2004
- North and East Metro Groundwater Management Area Plan, 2015
- Minnesota Department of Natural Resources North & East Metro Groundwater, 2015 Management Area Plan

## 2. Watershed Management Organizations

Scandia is located in three watershed districts: Carnelian Marine-St. Croix, Comfort Lake-Forest Lake, and Rice Creek. This section briefly describes the most recent local water management plan for each of the three watershed districts within the City of Scandia, followed by a comparison of the goals, objectives and policies of each plan. Management districts and subwatersheds are also noted. Subwatershed plans provide more geographic and issue specific management within the larger watershed. Figure IX-C shows the watershed management organization boundaries within Scandia.

### **Carnelian Marine-St. Croix Watershed District, Watershed Management Plan, 2015**

About 78% of the City of Scandia falls within the CMSCWD, encompassing the eastern and southern halves of the city. The Carnelian Marine-St. Croix Watershed District's (CMSCWD) most recent watershed management plan was created in 2011 and was amended in 2015 to better address invasive species and groundwater quality. The plan contains the goals, policies and management plans of the CMSCWD and guides the watershed's activities until 2020. CMSCWD also developed individual lake and stream plans for all waterbodies in the District.

The plan includes a Focused Watershed Management process based on three levels of activity:

- *Routine Watershed Management* for the non-impaired water resources of the District—these are the basic, day-to-day programs implemented throughout the District.
- *Impaired Watershed Management* for water resources that are classified as impaired waters—includes completion of TMDL studies for impaired waters and implementation of the recommendations from these studies
- *Focused Watershed Management* for non-impaired waters—includes efforts to protect non-impaired waters so they do not become impaired, by enhancing routine management activities on identified water bodies.

CMSCWD completed a district-wide Wetland Management Plan in July 2010 and amended the plan in September of 2015. An electronic version of the plan is available on the District's website. The plan includes a wetland function and value assessment, wetland management goals, management standards, buffer standards, and identification of Wetland Preservation Areas within the District.

Based on the functions and values assessment, the plan includes a wetland classification system with four categories. The categories include:

- High Quality/Highest Priority
- Stream Corridor and Shoreland Wetlands

- Isolated Wetlands
- Utilized Wetlands

### **Comfort Lake-Forest Lake Watershed District, Watershed Management Plan, 2011**

The northwest quadrant of the city falls within the Comfort Lake-Forest Lake Watershed District (CLFLWD). Drainage from the watershed enters the Sunrise River, a tributary of the St. Croix River. The CLFLWD's most recent watershed management plan was created in 2011 with revisions adopted and approved by the BWSR in August 2015. The plan contains the goals, objectives, and actions of the CLFLWD and guides the watershed's activities until 2021.

The CLFLWD plan has eight core goals areas:

- |               |                            |
|---------------|----------------------------|
| • Floodplains | • Uplands Resources        |
| • Lakes       | • Groundwater              |
| • Streams     | • Public Education         |
| • Wetlands    | • Interagency Coordination |

Most of Scandia within the CLFLWD falls within the Bone Lake Management District. A small portion of the city (northwestern most corner) belongs in the Little Comfort Lake Management District. CLFLWD developed a Total Maximum Daily Load (TMDL) plan for Bone Lake, discussed below in the section on Impaired Waters. The District completed a Partially Drained Wetland Assessment in 2014.

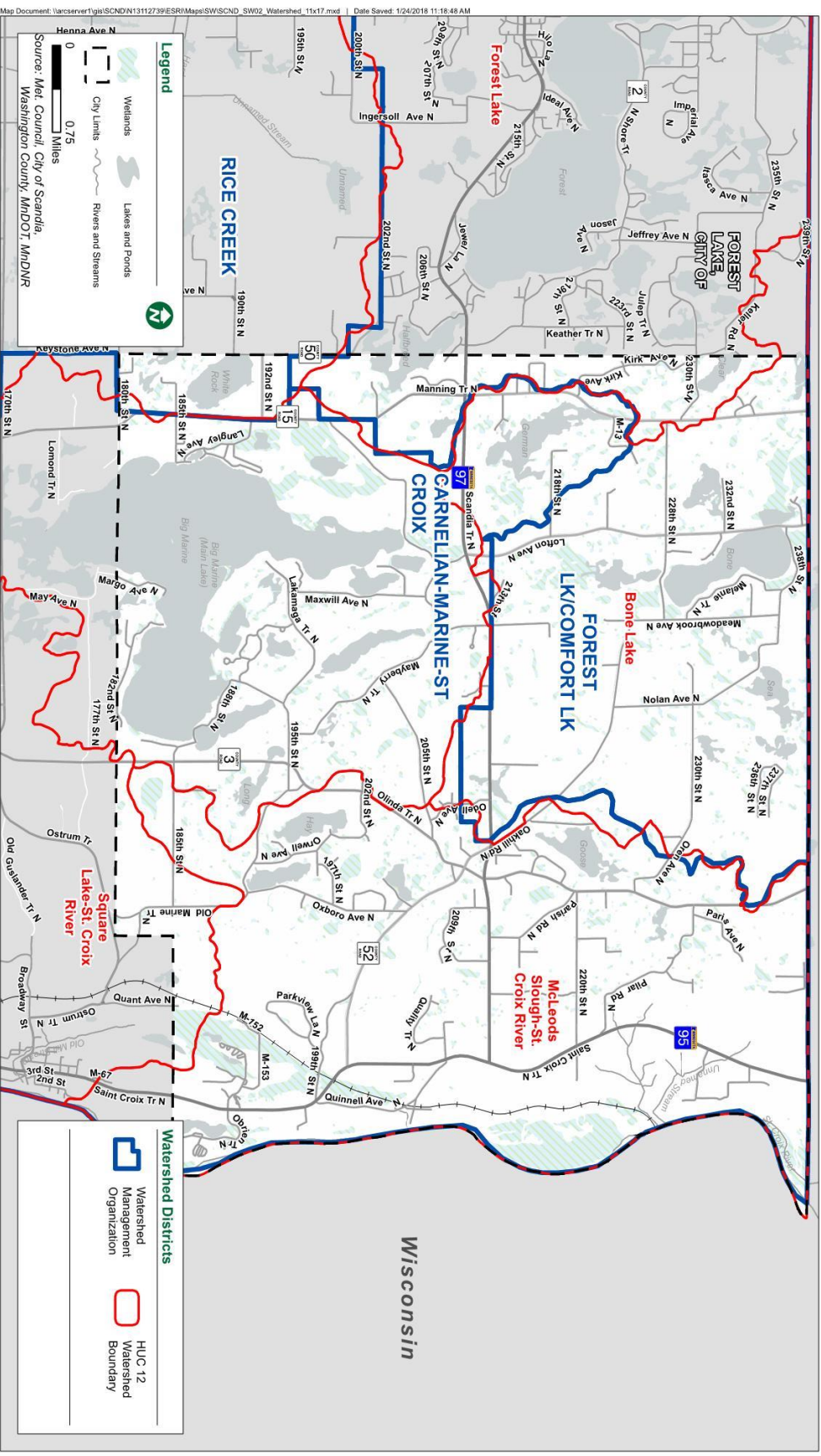
### **Rice Creek Watershed District, Watershed Management Plan, 2010 (amended 2016)**

The Rice Creek Watershed District's (RCWD) most recent watershed management plan was created in 2010. The plan contains the objectives, policies, and management strategies of the RCWD and guides the watershed's activities until 2020. Only 0.2% of the City of Scandia falls within the RCWD. This area encompasses all of White Rock Lake and is part of the Hardwood Creek Planning Region. The primary issues within the Hardwood Creek Planning Region are related to water levels within Rice Lake, the lack of a well-defined regulatory floodplain along the Hardwood Creek, and appropriate management methods for Hardwood Creek and its riparian corridor.

The RCWD's 2010 Watershed Management Plan has eight objectives:

- Increase knowledge, awareness, and capacity for decision-making among District constituents
- Manage water systems for their ecological and community value
- Recognize the origin and interconnectedness of water systems while planning for current and future needs
- Improve diversity and ecological integrity of wetlands
- Minimize damage to infrastructure and property caused by flooding and excessive runoff
- Capitalize on open space opportunities to enhance water quality, reduce runoff volume, and enhance ecological resources
- Incorporate groundwater into the decision-making process
- Manage District property and resources responsibly

### Figure IX-C - Watershed Drainage Area



### **3. Physical Environment and Land Use**

Public waters are all water basins and watercourses that meet the criteria set forth in Minnesota Statutes, § 103.005, subd. 15. Of the many wetlands and water bodies within the city's boundaries, 40 of them have been classified as public waters in accordance with the guidelines of the Minnesota Department of Natural Resources.

Public waters within Scandia range in size from 2 acres to nearly 2,000 acres of water surface and include several water bodies of regional significance. Table IX-B provides information on all public waters and their acreage. The St. Croix River, a federally designated National Scenic Riverway, forms the eastern border of the city. Big Marine Lake, in the southwestern portion of the city, is the second largest lake in Washington County. Existing and future development in areas surrounding public waters should be carefully managed and planned to prevent adverse impact on water resources.



**Table IX-B – Waterbodies within Scandia**

<b>Water Body Name</b>	<b>Public Water Inventory ID</b>	<b>Shoreland Management Classification</b>	<b>Acres</b>
Alice	82-287 P	Natural Environment	26.03
Big Marine	82-052 P	Recreational Development	1902.59
Bone	82-054 P	Recreational Development	218.47
Clear	82-078 W	Natural Environment	35.28
Elwell	82-079 W	Natural Environment	18.86
Falls Creek (Section 1.6.7.12)		Wild and Scenic	-
Fish	82-064 P	Natural Environment	64.99
German	82-056 P	Natural Environment	151.20
Goose	82-059 P	Natural Environment	84.04
Hay	82-065 P	Natural Environment	59.32
Keewahtin	82-080 P	Recreational Development	108.25
Long	82-068 P	Natural Environment	46.12
Nielson	82-055 W	Natural Environment	49.65
Pitzl Pond	82-282 W	Natural Environment	36.19
Rasmussen Pond	82-070 W	Natural Environment	18.24
Sand	82-067 P	Natural Environment	47.41
Sea	82-053 W	Natural Environment	51.67
St. Croix River	82-001 P	Wild and Scenic River	-
Washington	82-169 W	Natural Environment	22.34
White Rock	82-072 P	Natural Environment	80.88
Wojtowicz Pond	82-058 W	Natural Environment	16.8
Unnamed	82-057 W	Natural Environment	27.52
Unnamed	82-060 W	Natural Environment	26.26
Unnamed	82-061 W	Natural Environment	14.37
Unnamed	82-062 W	Natural Environment	17.44
Unnamed	82-066 W	Natural Environment	33.75
Unnamed	82-081 W	Natural Environment	41.29
Unnamed	82-171 W	Natural Environment	14.54
Unnamed	82-172 W	Natural Environment	26.95
Unnamed	82-173 W	Natural Environment	10.49
Unnamed	82-174 W	Natural Environment	26.49
Unnamed	82-210 W	Natural Environment	25.12
Unnamed	82-211 W	Natural Environment	10.84
Unnamed	82-212 W	Natural Environment	17.46
Unnamed	82-213 W	Natural Environment	10.88
Unnamed	82-280 W	Natural Environment	19.48
Unnamed	82-281 W	Natural Environment	7.46
Unnamed	82-283 P	Natural Environment	8.46
Unnamed	82-284 P	Natural Environment	2.08
Unnamed	82-285 P	Natural Environment	14.73
Unnamed	82-286 P	Natural Environment	5.17

a) *National Wetland Inventory*

The National Wetlands Inventory (NWI) is a national program sponsored by the US Fish and Wildlife Service (USFWS). Based on the NWI data, the City of Scandia has approximately 2,900 acres of wetlands based on the NWI data. Additional wetland information is summarized in the City's Local Water Management Plan and the CMSCWD Wetland Management Plan (2015).

- b) *Existing and Future Land Use:* While Scandia allows for a variety of land uses, development densities are low to maintain the rural character of the community and to be compatible with agricultural uses. Residential development densities range from 0.1 to 0.4 units per acre. Commercial, retail, and industrial land uses are guided to be near existing infrastructure, including water and wastewater services. Likewise, the city anticipates a majority of residential growth to occur in and around the Village Neighborhood Zoning District, which is primarily centered around the historical city center. The Village Neighborhood Zoning District encompasses Goose Lake and borders the western shore of Big Marine Lake. The expansion of the Village Neighborhood Zoning District will reduce the amount of land zoned for agriculture or rural densities (4 units/40 acres). Low densities will be maintained to accommodate agriculture. Comprehensive land use descriptions can be found in the Land Use section of the Comprehensive Plan.

#### **4. Existing and Potential Water Resource Related Problems**

In 2015, 12 lakes in or partially located in Scandia were monitored as part of the Metropolitan Council's Citizen-Assisted Monitoring Program (CAMP). In this program, lakes are sampled every two weeks from mid-April through mid-October. During each sampling, temperature, dissolved oxygen, and Secchi depth transparency were measured and recorded. A surface water sample was also collected and analyzed for total phosphorus, total Kjeldahl nitrogen, and chlorophyll-a. Total phosphorus is a key measure of lake nutrients, chlorophyll-a is a measure of algae abundance, and Secchi depth transparency is a measure of water clarity.

The Metropolitan Council uses the monitoring data to assign each lake a water quality grade using an A through F grading system. The grading system uses percentile ranges for three water quality indicators-summertime average values for total phosphorous, chlorophyll-a, and Secchi depth transparency. An overall grade is calculated as the average grade for the three individual grades. The individual grades given to the lakes can be seen in Table IX-C. Five of the monitored lakes yielded insufficient information, five were given a "C" grade, none were given a "B" grade, and two lakes received an "A".

Table IX-C – CAMP Ratings for Lakes Within Scandia	
Lake	Rating
Alice	Insufficient Data
Big Marine	A
Bone	C
Fish	Insufficient Data
German	Insufficient Data
Goose	C
Hay	Insufficient Data
Jellum's Bay	C
Long	B
Sand	C
Keewahtin	A
White Rock	C

Under the federal Clean Water Act (33 U.S.C.) the Minnesota Pollution Control Agency (MPCA) is required to set standards and assess Minnesota waters for impairments. The standards are set on a wide range of pollutants, including bacteria, nutrients, turbidity, and mercury. A water body is listed as impaired by the MPCA if it fails to meet one or more water quality standards. If a water body is listed as impaired, a Total Maximum Daily Load (TMDL) must be established for the pollutant, and plans must be created to reduce TMDLs. Scandia will be required to participate in TMDL plans for impaired water bodies within its borders. Figure IX-D shows the locations of impaired water bodies in Scandia while Tables IX-D and IX-E provide detail on specific impairments.

Figure IX-D - Impaired Waters

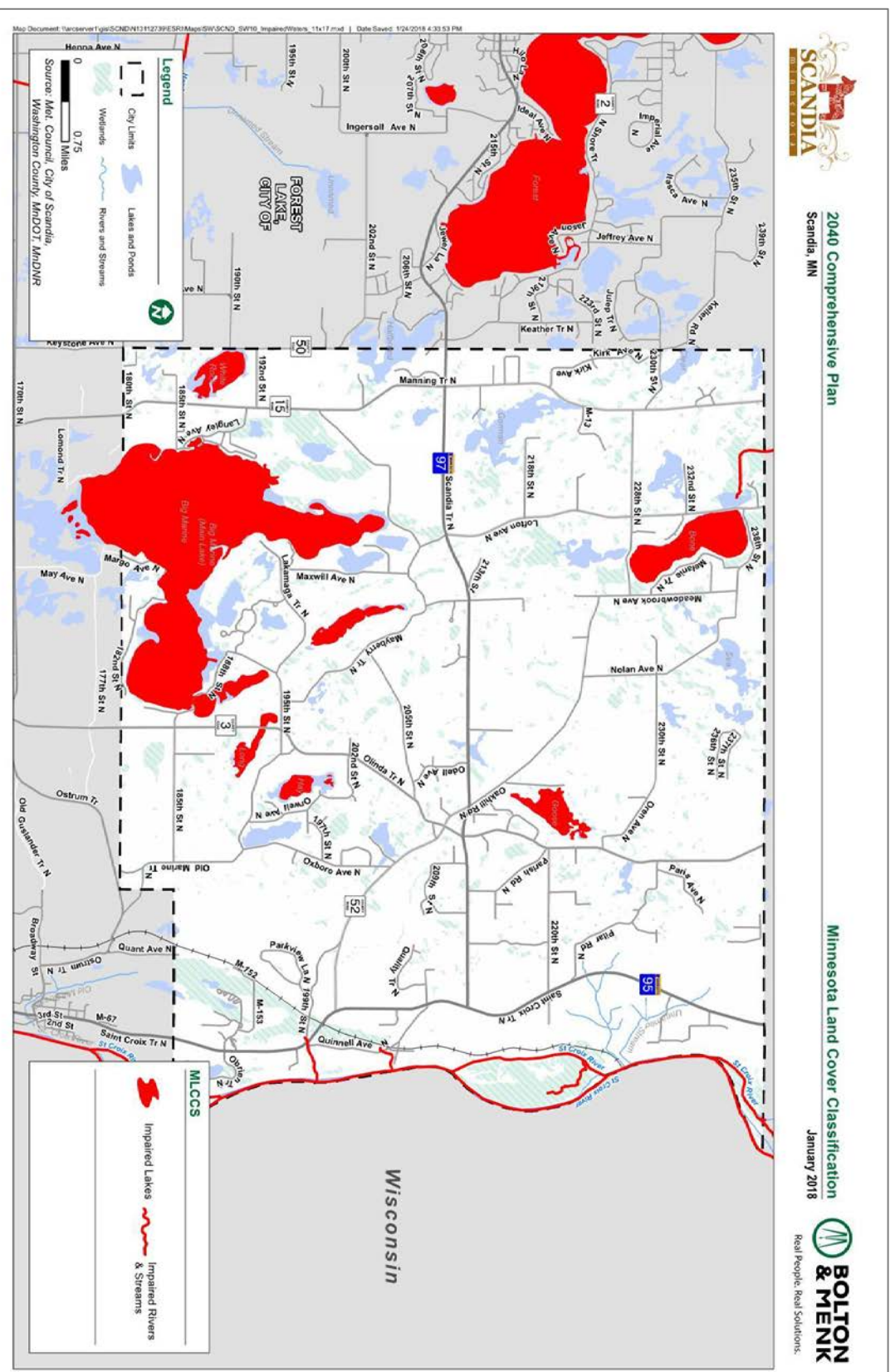


Table IX-D – Impaired Water Bodies in Scandia				
Water Body	Nutrients	Invasive Species	PCBs	Mercury
Big Marine Lake	X	Eurasian watermilfoil		X
Bone Lake	X	Eurasian watermilfoil; Curly-leaf pondweed		
Fish Lake	X			
Goose Lake	X			
Hay Lake	X			
Long Lake	X			
Sea Lake		Eurasian watermilfoil; Curly-leaf pondweed		
St. Croix River			X	X
White Rock Lake	X			

Table IX-E – Water Bodies Listed on Minnesota’s 303 List				
Water Body	Concerns			Other Considerations
	Total Phosphorus	Chlorophyll-a	Secchi Transparency	
Fish Lake	X	X	X	Walleye Rearing
Goose Lake	X	X		Bluegill; northern pike
Hay Lake	X	X		
Jellum’s Bay (Bay in Big Marine Lake)	X	X		Walleye Rearing
Long Lake	X	X	X	Walleye Rearing

*Source: Carnelian-Marine Watershed District TMDL Plan, 2011*

## 5. Local Implementation Plan/Program

Implementation of the Scandia Local Water Management Plan will require cooperation with local Watershed Districts to implement projects within the City that are identified in the District Plans. The City supports the projects identified in the District Plans and Capital Improvement Plans that are within Scandia, including the projects listed in Table IX-F.

The CMSCWD plan describes three categories of activities that are included in the District’s Implementation Program: routine watershed management, focused watershed management, and impaired watershed management. Most of the activities included in these efforts are implemented by the District. Some are implemented in cooperation with local landowners and volunteers. Cost-share Program, and identifies several existing or potential water quality and environmental issues that will be addressed by the program. The District has ranked the proposed projects on a watershed basis. Many of the projects will be carried out in cooperation with private landowners.

The CLFLWD’s Management Plan includes three categories of implementation activities: Administration, Programs and Projects. Administration activities are carried out by the CLFLWD. Programs include development of District rules and permitting activities, education and outreach. As noted above, the City concurs with and adopts the District’s Water Management Plan, standards and rules. The CLFLWD Districts will continue to enforce surface water regulations and permitting within the City, within its geographic area.

A small portion of Scandia is included within the Rice Creek Watershed District—the area around White Rock Lake. The District’s Plan includes no implementation projects for the White Rock Lake area. The City supports the District’s efforts to study this lake and identify potential issues related to water quality and lake management.

Table IX-F – Future Surface Water Improvement Projects			
Watershed District	Project	Improvement Cost Estimate <sup>1</sup>	
		Low	High
CMSCWD	205th Street – St. Croix River Bluff Erosion Control and Stormwater Quality Project	\$15,000	\$25,000
	Neighborhood Small Lot Stormwater Management Incentive Program in Downtown Scandia and Lake Neighborhoods	\$30,000	\$50,000
	TMDL Study Implementation Projects	TBD – As Constructed	
	Ravine Reconstruction	\$60,000	\$85,000
	Non-Specific Project in its Focused Watersheds, including Sand Lake	\$40,000/Year for 10 Years	
CLFLWD	Bone Lake TMDL Implementation Plan – Numerous Projects	TBD – As Constructed	
	Water Quality Studies and Develop Management Plans for Sea Lake, Nielsen Lake and Clear Lake	TBD – As Constructed	
	Stream Assessment of the Bone-Birch-School-Little Comfort Lake Tributary	TBD – As Constructed	
RCWD	White Rock Lake (RCWD)	No Projects Planned	

<sup>1</sup> Cost estimates include only stormwater related improvements.

## D. Water Supply

### 1. Local Water Supply Plan

As with wastewater treatment, most residences and businesses in Scandia are served by on-site drinking water wells installed and maintained by the landowner. There are three community drinking water wells in the Village Center serving multiple residences and businesses. In addition, there is a public well serving the Fire Department and Public Works building. The public well locations are show on Figure IX-E.

Minnesota Rules Chapter 4720 requires the development of Wellhead Protection Plans (WHPP). Scandia Elementary has worked with the Minnesota Department of Health and completed Phase I of the WHPP. The City of Scandia may be required to complete WHPPs for all public water supply systems if required by the Minnesota Department of Health.





## 2040 Comprehensive Plan Scandia, MN

Water Distribution  
January 2018

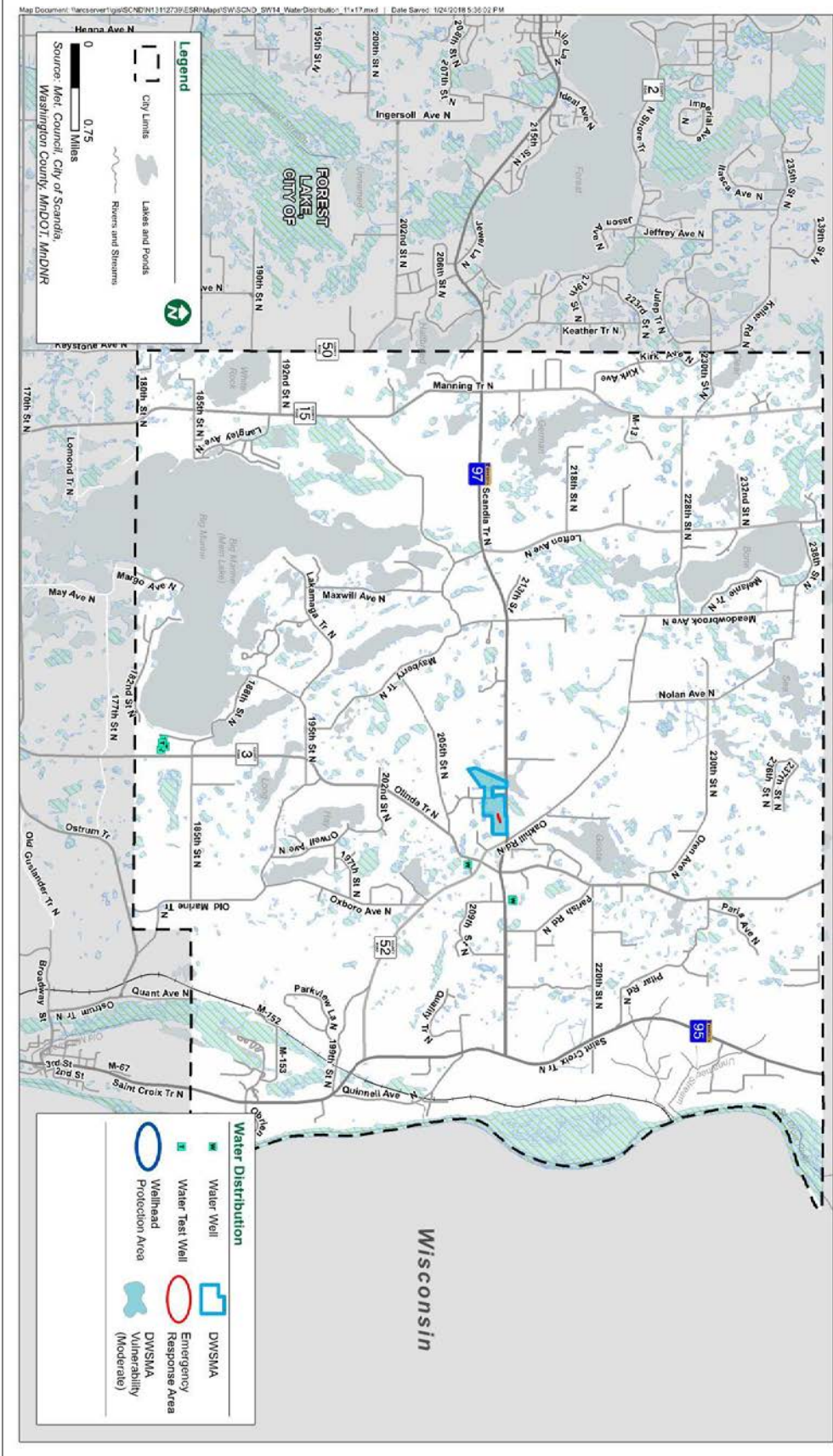


Figure IX-E - Water Distribution



**a) *Hilltop Water Company***

The Hilltop Water Company is a private water system that serves 25 homes and businesses in the Village Center. The company's service area extends along Olinda Trail North from Highway 97 to Oakhill Road and along Oakhill Road. The well was drilled in 1980, and approximately 275 feet deep. The well pump is assumed to have a design capacity of approximately 50 gpm and two 82-gallon pressure tanks provide water storage. Ground elevations in the Hilltop water system are approximately 40 feet above the City of Scandia facilities. The water system is set to maintain water pressures between 40-60 psi.

**b) *Scandia Water Company***

The Scandia Water Company is a private water system serving 19 properties along Olinda Trail North to the North of Highway 97.

**c) *Uptown Well/Scandia Community Center Well***

The Uptown Well is located at the Scandia Senior/Community Center, 14727 209<sup>th</sup> Street North. It serves the Senior/Community Center/City Hall and a number of properties within the village including Elim Church and parsonage, the Gammelgarden, and the ice rink-warming house. The well was completed in June 1996 and is 463 feet deep with 70 gallons per minute (gpm) well pump. Four 119-gallon tanks provide pressure to the water system when the well is off and provide water storage. The water system provides water system pressures of approximately 45-70 pounds per square inch (psi) to the water system as measured at the warming house mechanical room.

In 2011, the City completed a study on a water system connection between the Uptown Well and Hilltop Water Company system. The recommendation emergency interconnection between the City and Hilltop water systems includes an approximately 4-inch water main directly between the two wells. This would provide sufficient backup water supply for both water systems and the interconnection would meet the MDH recommendation for backup water supply for the Hilltop Water Company and would not change existing systems requirements of either water system.

**d) *New Scandia Fire Hall Well***

The New Scandia Fire Hall Well is located to the north of Highway 97 at the intersection of Ozark Avenue North. The well was completed in May 2000 and is 790 feet deep. The well serves the Fire Department and Public Works, which are both located in the Fire Hall.

**e) *Wyldeewood Acres***

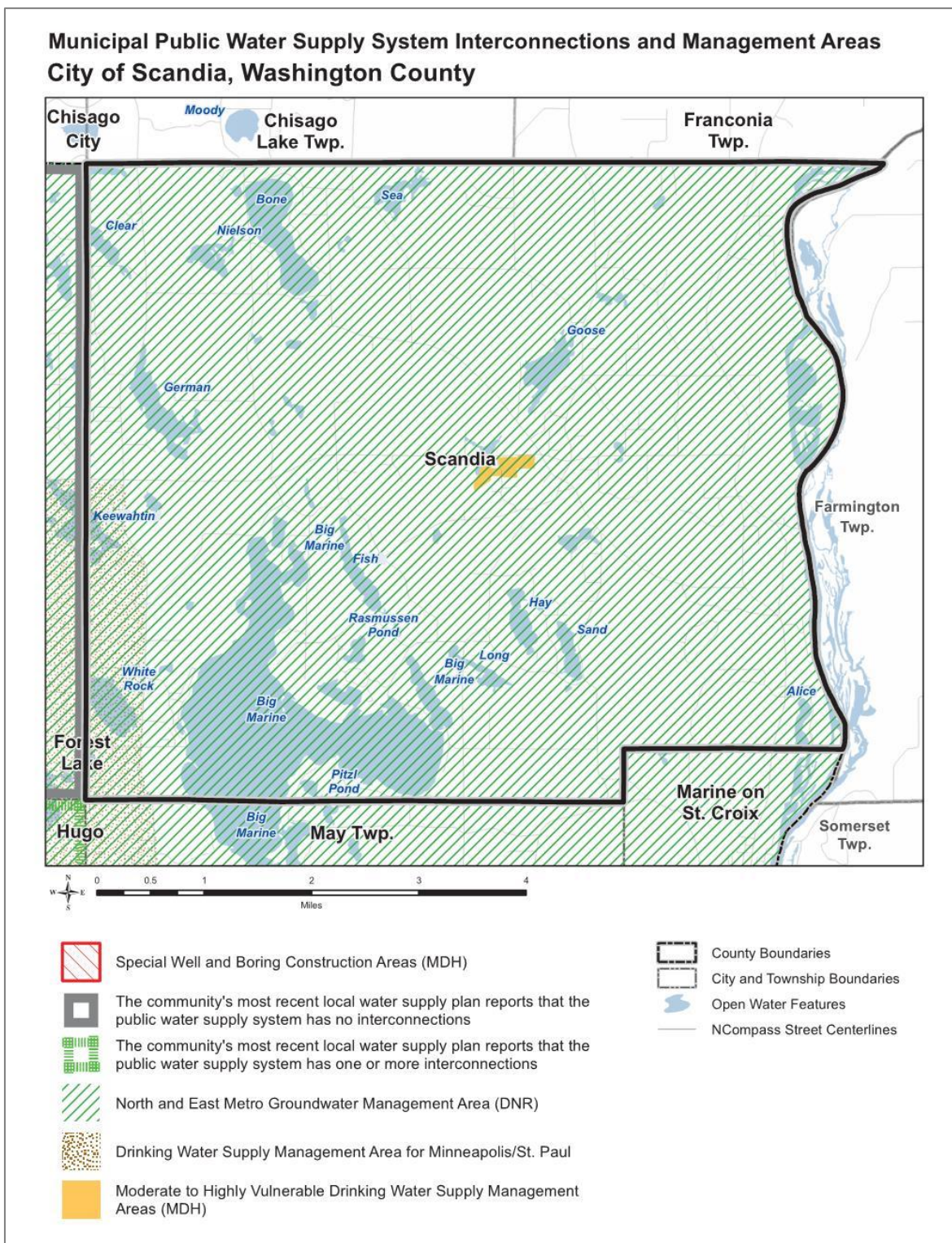
Wyldeewood Acres is a private water system designed to serve 23 three-and-a-half bedroom homes and four three-bedroom homes. The system is owned and operated by the Wyldeewood Acres HOA

**2. Assessing and Protecting the Water Source**

Scandia is part of the DNR's North and East Metro Groundwater Management Area, shown in Figure IX-F. A small segment of the city located south of Highway 97 and west of Manning Ave is also in the Drinking Water Supply Management Area for Minneapolis/St. Paul. The Minnesota Department of Health has identified a portion of the city for a

Moderate to Highly Vulnerable Drinking Water Supply Management Plan; this area is located south of Highway 97, west of Olinda Trail, and east of Meadowbrook Avenue N. The city will work with the DNR, Department of Health, and other relevant agencies as necessary to ensure groundwater within these management areas is protected.

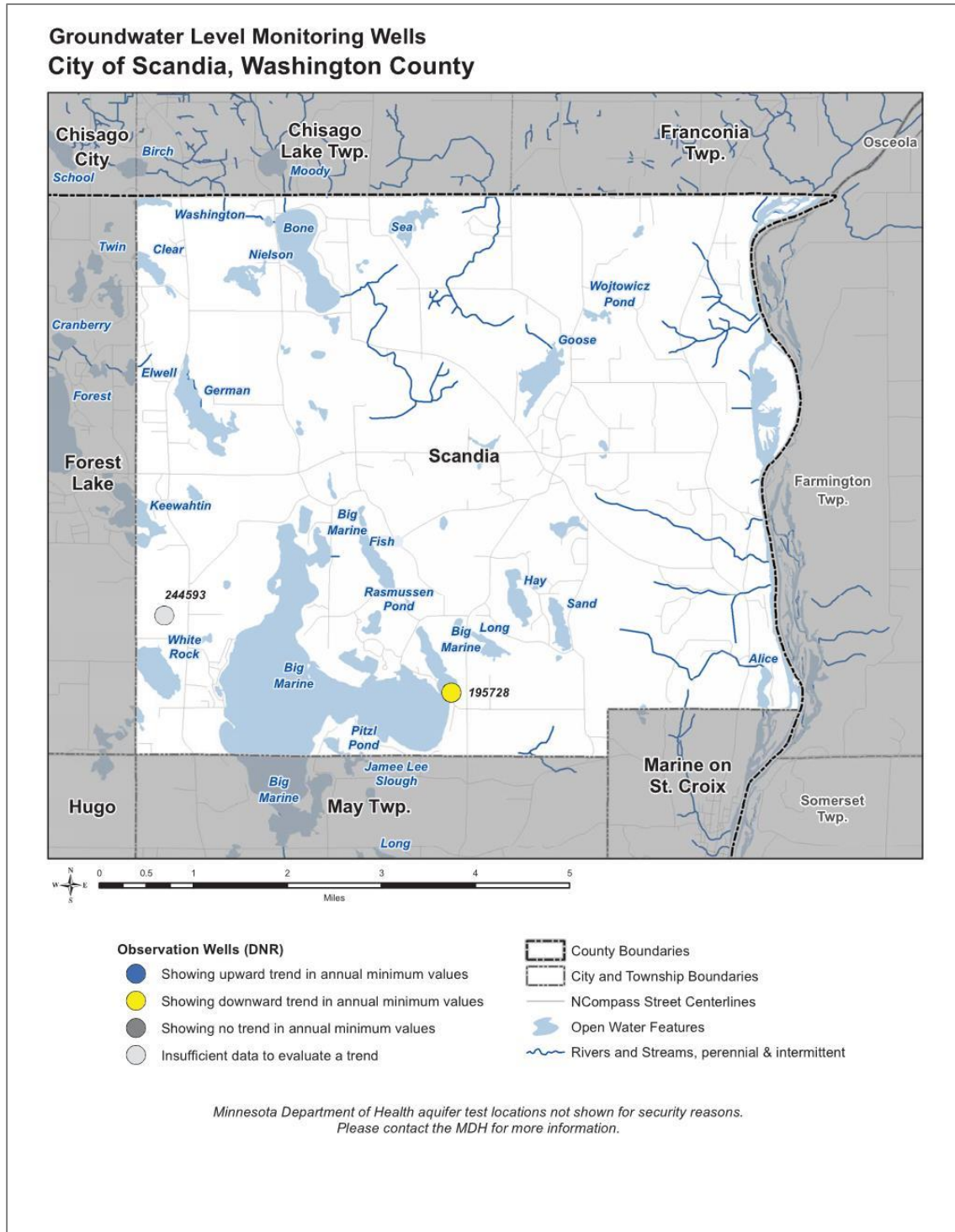
**Figure IX-F - Water Supply System Interconnections and Management Areas**



There are two DNR observation wells located in Scandia, shown in Figure IX-G. Well 195728 is located near the eastern side of Big Marine Lake. This well is showing a

downward trend in annual minimum values, meaning water is being used faster than it is being replenished. Well 244593 is located north of White Rock Lake. There is insufficient data at this well to determine a trend in annual minimum values.

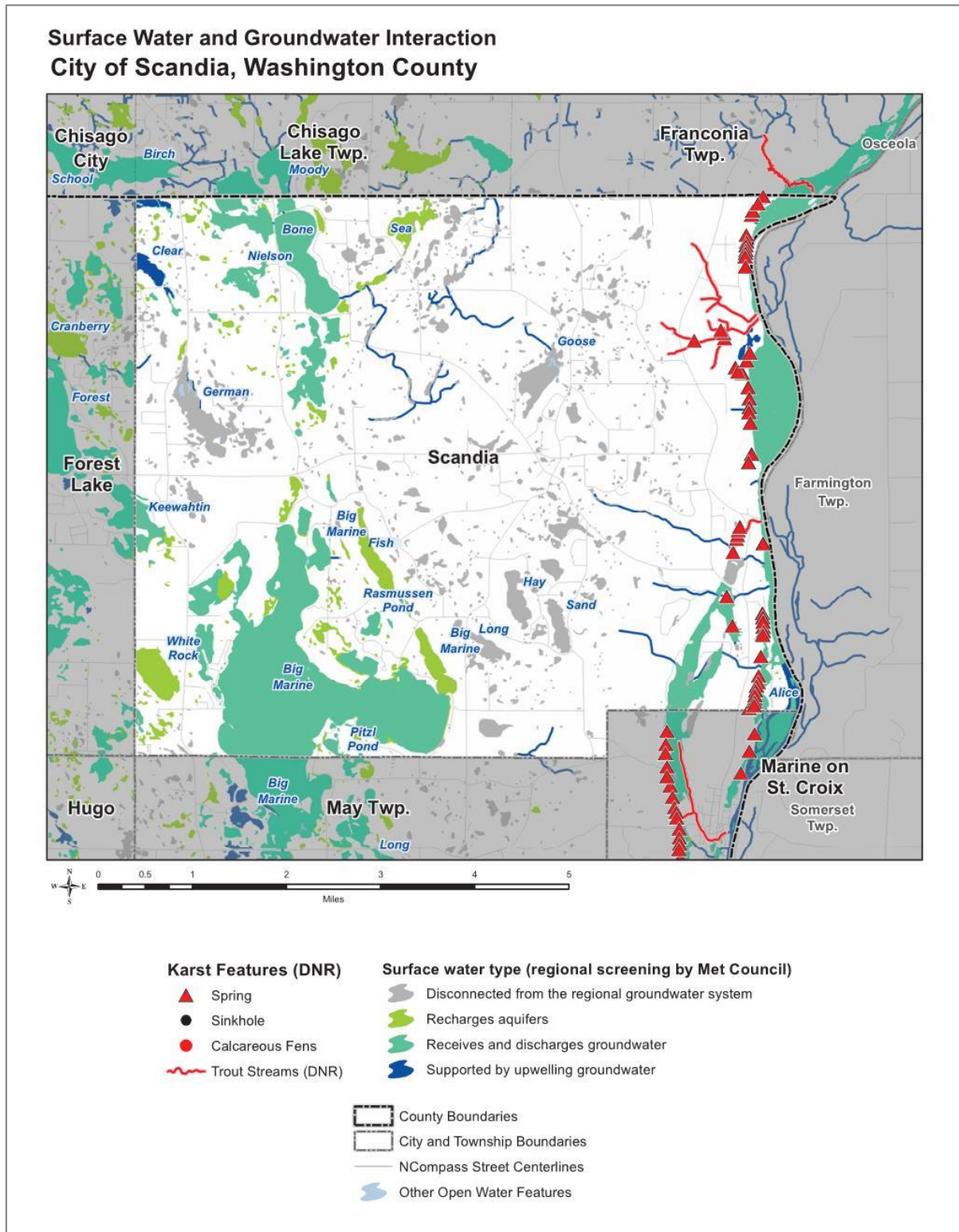
**Figure IX-G – Ground Level Monitoring Wells**





The city will also take special consideration of wetlands that receive and discharge groundwater or recharge aquifers to prevent potential contamination of groundwater drinking sources, shown in Figure IX-H.

**Figure IX-H – Surface Water and Groundwater Interaction**



### **Sub-Regional Collaboration**

The Washington County Groundwater Plan provides a countywide framework for the protection and conservation of groundwater resources. The current plan was approved in 2014 and guides the protection of groundwater resources in the county until 2024.

The overall goal of the Washington County Groundwater Plan is to protect the economic and environmental values groundwater provides through coordinated, intergovernmental efforts in research and assessment, policies, political influence, regulation, education, and consultation, and technical assistance. The plan has six main goals:

- Concisely outline the physical nature of groundwater resources, discuss the issues that threaten groundwater, and provide direction and strategies on how to protect groundwater for future generations
- Provide context and organization for stakeholders and residents to better understand the complex water governance structure
- Serve as a framework to develop annual work plans for the county and its stakeholders that give specific implementation actions to address the groundwater issues in this plan
- Compliment and coordinate with other state, regional, county, and local planning efforts
- Guide collaboration on groundwater initiatives with state, regional, and local partners more efficiently and effectively
- Be a resource for stakeholders and residents regarding groundwater information pertinent to the county.

## **X. IMPLEMENTATION**

### **A. Implementation Plan**

The Comprehensive plan creates a vision for the City of Scandia and guides land use and infrastructure improvements so that the City can meet the needs of the community in the future. The vision of the plan can only be realized if the plan is used. Tools to implement the plan will vary in that some will be reactive, such as zoning and subdivision ordinances that guide private developments, and others will be proactive, such as the City's Capital Improvement Program (CIP) for undertaking public improvement projects.

#### **1. Official Controls**

To achieve the goals and objectives of this Comprehensive Plan, the City of Scandia has adopted a Development Code to establish regulations for zoning, subdivision of land, and shoreland and floodplain areas. The Development Code was originally adopted in November of 2010, with ongoing amendments as needed. Scandia's Development Code incorporates all land development regulations into a single code.

##### **Zoning**

City zoning codes regulate land use to promote the health, safety, order, convenience, and general welfare of all citizens. They regulate location, size, use and height of buildings, the arrangement of buildings on lots, and the density of population within the City. The City's zoning districts effectively guide development in Scandia.

The City of Scandia is divided into eight zoning districts, detailed below and shown in Figure X-A. There are permitted and accessory uses in most districts, as well as the other allowed uses under conditional use permit, interim use permits, or administrative permits. Table X-A provides a high-level summary of each zoning district, and Table X-B provides a summary of each overlay district.

To ensure compliance with this 2040 Comprehensive Plan, the following zoning ordinance changes will need to be implemented:

- Update zoning map based on future land use plan
- Reconcile inconsistencies between current zoning ordinance and intended future land uses





**Table X-A – Zoning Districts**

<b>Zoning Classifications</b>			
<b>Agricultural Core Area (AG C)</b>	General Description	The AG C District is established to protect and preserve land for long-term agricultural production. Residential development compatible with agriculture is permitted.	
	Primary and Secondary Uses	Primary uses: <ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Agricultural businesses and services</li> <li>• Single family residential</li> <li>• Essential Services</li> <li>• Feedlots and livestock operations</li> <li>• Parks and recreation facilities</li> </ul> Secondary land uses: <ul style="list-style-type: none"> <li>• Accessory structures</li> <li>• Limited professional services</li> <li>• General farming services</li> </ul>	
	Density/Intensity	4 buildable lots per 40 acres. Lots shall be 2 to 5 acres in size or 20 acres or greater. Maximum lot coverage is 25%.  An open space conservation subdivision providing the minimum required open space shall receive a 25% density bonus. The number of additional bonus lots allowed is directly tied to the quantity and quality of preservation and protection afforded natural landscapes, agricultural land, open space, and cultural features. The maximum bonus permitted is 75%.	
	Special Natural Resource Standards & Design Standards	<ul style="list-style-type: none"> <li>• Continued viability of agricultural uses considered in siting of structures and drives</li> <li>• Open space conservation subdivisions are encouraged</li> <li>• Bonus density incentives may be offered in open space conservation subdivisions only if agricultural protection is the focal point of the subdivision design</li> </ul>	
<b>Agricultural Preserves District (AP)</b>	General Description	This district plans for the continuation of the Agricultural Preserves Program in Scandia. Regulations fulfill standards to make land eligible for the Metropolitan Agricultural Preserves according to Minnesota Statute 473H, as amended, to remain in long-term agricultural production.	

**Table X-A – Zoning Districts**

		<b>Primary uses:</b> <ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Agricultural businesses and services</li> <li>• Single family residential</li> <li>• Essential Services</li> <li>• Feedlots and livestock operations</li> <li>• Parks and recreation facilities</li> </ul> <b>Secondary land uses:</b> <ul style="list-style-type: none"> <li>• Accessory structures</li> <li>• Limited professional services</li> <li>• General farming services</li> </ul>
	Primary and Secondary Uses	
	Density /Intensity	1 unit per 40 acres. Maximum lot coverage is 25%.
	Special Natural Resource Standards & Design Standards	<ul style="list-style-type: none"> <li>• Continued viability of agricultural uses considered in siting of structures and drives</li> </ul>
<b>General Rural District (GR)</b>	General Description	Provide for a rural residential area of mixed lot sizes.
	Primary and Secondary Uses	<b>Primary uses:</b> <ul style="list-style-type: none"> <li>• Agricultural production</li> <li>• Agricultural businesses and services</li> <li>• Single family residential</li> <li>• Essential Services</li> <li>• Feedlots and livestock operations</li> <li>• Parks and recreation facilities</li> </ul> <b>Secondary land uses:</b> <ul style="list-style-type: none"> <li>• Accessory structures</li> <li>• Limited professional services</li> <li>• General farming services</li> </ul>



**Table X-A – Zoning Districts**

	Density/Intensity	<p>4 buildable lots per 40 acres; minimum lot size of 2 acres. Maximum lot coverage is 25%.</p> <p>An open space conservation subdivision providing the minimum required open space shall receive a 25% density bonus. The number of additional bonus lots allowed is directly tied to the quantity and quality of preservation and protection afforded natural landscapes, agricultural land, open space, and cultural features. The maximum bonus permitted is 75%.</p>	
	Special Natural Resource Standards & Design Standards	<ul style="list-style-type: none"> <li>Continued viability of agricultural uses considered in siting of structures and drives</li> <li>Open space conservation subdivisions are encouraged for subdivisions</li> </ul>	
	General Description	<p>The VN District is established to designate growth areas surrounding the village center, to support primarily single-family residential uses on lot sizes reflective of the existing village lot sizes.</p>	
Village Neighborhood District (VN)	Primary and Secondary Uses	<p>Primary uses:</p> <ul style="list-style-type: none"> <li>Single family residential</li> <li>Public parks and recreation</li> <li>Agriculture</li> <li>Essential Services</li> </ul> <p>Secondary land uses:</p> <ul style="list-style-type: none"> <li>Accessory structures</li> <li>Limited professional services</li> <li>Recreation facilities and equipment</li> </ul>	
	Density/Intensity	<p>Single family: 1 dwelling unit per 2.5 acres.</p> <p>Multifamily (with conditional use permit): 1 dwelling unit per acre. Bonus densities up to 1 dwelling unit per acre may be earned as an incentive for providing life-cycle housing (age 55+).</p> <p>Lots sizes in the Goose Lake shoreland area shall remain consistent with those allowed under the current shoreland ordinance.</p>	
	Special Natural Resource Standards & Design Standards	<ul style="list-style-type: none"> <li>Design standards shall ensure that new development is visually compatible with existing village development patterns.</li> <li>Street and sidewalk standards ensure new development is well-connected to the Village Center</li> </ul>	

**Table X-A – Zoning Districts**

Village Mixed Use A District (VMU A)	General Description	The VMU A District is established to sustain the historic village center by preserving and protecting the long-term viability of historic properties and structures, and by allowing a mixture of mutually supportive land uses. The mixture of commercial, office, institutional, recreational, and residential land uses are made compatible through the enforcement of design guidelines.
	Primary and Secondary Uses	Primary uses: <ul style="list-style-type: none"> <li>• Commercial, office, retail</li> <li>• Public and private institutions</li> <li>• Civic buildings</li> <li>• Light industrial</li> <li>• Parks and recreation</li> </ul> Secondary land uses: <ul style="list-style-type: none"> <li>• Accessory Structures</li> <li>• Recreation facilities and equipment</li> </ul>
	Density /Intensity	2,500 square feet minimum lot size. No new subdivisions of land permitted. Maximum lot coverage of 80%. Maximum building height is 45 feet.
	Special Natural Resource Standards & Design Standards	<ul style="list-style-type: none"> <li>• In the core of the Village, buildings shall be of a size and have setbacks that reflect the “downtown” character</li> <li>• Scandia Architectural Design Guidelines should be used as an example to protect the historic elements and further development should match these styles</li> </ul>
Village Mixed Use B District (VMU B)	General Description	The VMU B District is established to provide a growth area around the Village Center. The District provides for a mixture of commercial, office, institutional, recreational, and residential land uses. The District provides an area for larger scale businesses, for businesses that benefit from visibility from MN Hwy 97, and for business and mixed-use development that utilize on-site wastewater treatment systems.

Table X-A – Zoning Districts			
		Primary and Secondary Uses	<p>The primary uses in the VMU B are the same as those in the VMU A including the following:</p> <ul style="list-style-type: none"> <li>• Department, discount, and warehouse stores</li> <li>• Garden supply stores</li> <li>• Laundromats</li> <li>• Sports and fitness clubs, less than 4,000 square feet in area</li> </ul> <p>Secondary land uses:</p> <ul style="list-style-type: none"> <li>• Accessory Structures</li> <li>• Recreation facilities and equipment</li> </ul>
		Density /Intensity	2.5 acres minimum lot size, 1 acre minimum buildable area. Maximum lot coverage 65%. Maximum building height 45 feet
		Special Natural Resource Standards & Design Standards	None
	Industrial Park District	General Description	The IP District is established to allow for light industrial businesses. IP District areas are designated Village Mixed Use in the Comprehensive Plan. Industrial park uses include a variety of light manufacturing, fabrication, assembly, warehouse, wholesaling or storage businesses that are non-threatening to the environment. The IP District does not abut major roadways, and property access is via a local street which does not also serve residential districts.

**Table X-A – Zoning Districts**

	Primary and Secondary Uses	<p>Permitted uses:</p> <ul style="list-style-type: none"> <li>• Building Supplies</li> <li>• Contractor Operations</li> <li>• Light Manufacturing and Assembly</li> <li>• Essential services</li> <li>• Government Buildings</li> <li>• Recreational Uses</li> </ul> <p>Secondary uses:</p> <ul style="list-style-type: none"> <li>• Accessory Structures</li> <li>• Off-Street Parking</li> <li>• Temporary Produce Stands</li> </ul>
	Density /Intensity	2.5 acres minimum lot size, 1 acre minimum buildable area. Maximum lot coverage 65%. Maximum building height 45 feet
	Special Natural Resource Standards & Design Standards	None



**Table X-B – Overlay Districts**

Overlay Districts			
Aggregate Mining Overlay District	General Description	The Aggregate Mining Overlay District provides areas where mineral deposits, primarily gravel, may be made available for general use under the conditions and regulations of Chapter 4 of the Scandia Development Code, Mining and Related Activities Regulations. The Aggregate Mining Overlay District areas are designated Mining Area in the Comprehensive Plan.	
	Primary and Secondary Uses	Permitted uses: <ul style="list-style-type: none"> <li>• Mining</li> <li>• Essential services</li> </ul> Secondary uses: <ul style="list-style-type: none"> <li>• Accessory Structures</li> </ul>	
	Density /Intensity	1 parcel with at least 40 contiguous acres in size	
	Special Natural Resource Standards & Design Standards	Mining uses must comply with local and state extractive use regulations. Reclamation plan must restore the natural resource of the site to a level such that the land is suitable for he planned future land uses such as agriculture or residential.	
	General Description	The Shoreland Ordinance was adopted to protect the public resource that is shoreland around lakes, ponds, and rivers.	
Shoreland Ordinance	Primary and Secondary Uses	Primary uses: <ul style="list-style-type: none"> <li>• Single family residential</li> <li>• Parks and historic sites</li> <li>• Agriculture</li> </ul>	
	Density /Intensity	Density limitations are dependent on the underlying zoning. Some exceptions to this will apply and requirements for those can be found in Chapter Five of the Development Code.	
	Special Natural Resource Standards & Design Standards		

**Table X-B – Overlay Districts**

Saint Croix River Overlay District	General Description	The city adopts by reference the Washington County Lower St. Croix River Bluffland and Shoreland Management Ordinance, as amended, until such time that the City Council adopts a City of Scandia Lower St. Croix River corridor ordinance for this zone. Until then, properties within the Lower St. Croix River Corridor Overlay District are regulated according to the Washington County Lower St. Croix River Bluffland and Shoreland Management Ordinance with the exception that lots shall meet the density and lot requirements of the Agriculture District – Core (AG C).
	Primary and Secondary Uses	Primary uses: <ul style="list-style-type: none"> <li>• Conservancy</li> <li>• Agriculture</li> <li>• Single Family Residential</li> </ul> Secondary uses: <ul style="list-style-type: none"> <li>• Accessory uses which are incidental to the permitted primary uses of the property</li> </ul>
	Density /Intensity	Density limitations are dependent on the underlying zoning.
	Special Natural Resource Standards & Design Standards	Both aesthetic elements and uses have regulations within the code adopted by Washington County.
Floodplain Overlay District	General Description	Promote the public health, safety, and general welfare and to minimize accidental losses.
	Primary and Secondary Uses	Primary uses: <ul style="list-style-type: none"> <li>• General open spaces used for uses such as boat launching ramps, swimming areas, parks, wildlife and nature preserve, fish hatcheries and hunting and fishing areas.</li> <li>• Residential units</li> </ul>
	Density /Intensity	Density limitations are dependent on the underlying zoning.
	Special Natural Resource Standards & Design Standards	Only uses that have a low flood damage potential will be allowed. The use will be allowed by the underlying zoning district. The use shall not obstruct flows or increase flood elevation.

### Subdivision of Land

The Subdivision Ordinance regulates the subdivision and platting of land within the City providing for the orderly, economic and safe development of land and facilitating the adequate provision for transportation, water, sewage, storm drainage, electric utilities, streets, parks and other public services and facilities essential to any development. City controls to regulate subdivision of land include an application process, legal notice and public hearings by the Planning Commission, and approval by the City Council. The process includes imposing applicable fees, a development agreement prescribing the standards for the development and imposing penalties for the violation of its provisions. The subdivision of land promotes the public health, safety and general welfare of the people and helps achieve the vision of this comprehensive plan by providing for standards in the development of land.

The City also prohibits premature subdivisions. The Development Code defines a premature subdivision as any development inconsistent with the Comprehensive Plan, inconsistent with the City's CIP, inconsistent with environmental regulations, and lacking adequate infrastructure, including sewage treatment systems, streets and drainage.

## 2. CIP

Capital improvement projects are major projects that benefit the City, including the construction or reconstruction of roads and sidewalks, sewer and water utilities, trails, and park and recreation facilities, as well the purchase of new or replacement equipment and buildings. A capital improvement program (CIP) is a budgeting plan, which lists five years of needed capital improvements, their order of priority, and the means of financing.

The City of Scandia's 2018-2022 CIP lists a wide variety of projects totaling more than \$10 million. These projects are intended to meet the City's goals. The CIP is reviewed and updated annually by the City Council to ensure the proper priorities and funding.

Table X-C – 2018 – 2022 Capital Improvement Plan						
Project/Program	2018	2019	2020	2021	2022	Funding
Community Facilities	\$139,300	\$127,000	\$41,000	\$75,000	\$30,000	Capital Improvement Fund
Equipment (Vehicles and Operating)	\$43,500	\$118,000	\$267,000	\$25,500	\$240,000	Equipment Replacement Fund
Parks and Trails	\$15,000	\$-	\$20,000	\$-	\$45,000	Park Improvement Fund
Streets	\$6,425,650	\$-	\$620,000	\$450,000	\$320,000	Local Road Improvement Fund
201 Sewer System	\$-	\$62,000	\$-	\$36,000	\$1,160,000	User Fees
Uptown Sewer System	\$3,000	\$-	\$-	\$-	\$23,200	User Fees
<b>TOTAL</b>	<b>\$6,626,450</b>	<b>\$307,000</b>	<b>\$948,000</b>	<b>\$586,500</b>	<b>\$1,818,200</b>	

## 3. Action Plan

To ensure the goals of the 2040 Comprehensive Plan Update are met in a timely fashion, the Action Plan outlines the overarching community goals for Scandia and identifies implementation tools to help the city obtain its goals. Also detailed is a proposed timeline

for tool and program implementation. The timing of activities reflects community priorities identified through public participation and review of the comprehensive plan, compliance needs from the Metropolitan Council, and capacity needed to ensure successful implementation. This timeline also incorporates programs and policies from the Housing Implementation Plan outlined in Chapter III. This timeline is subject to change due to unexpected natural and sociocultural events, shifting community needs, and political priorities at the County, State, and Federal levels.

### **Amending the Plan**

To keep the Comprehensive Plan current, it will be necessary to make amendments from time to time. However, as the foundational document guiding development, most amendments should occur through a comprehensive effort to address changes to the community overtime. The Action Plan, described below, should be amended more frequently.

### **Action Plan Worksheets**

Implementing the vision and goals of the Comprehensive Plan requires an action plan, and the coordination and investments of many stakeholders. The Action Plan worksheets present a concise summary of the goals along with specific action steps, organized by chapter. The table includes:

- **Schedule:** The schedule indicates when the action item might begin and is advisory in nature.
- **Lead:** This represents the leader for the action item. The Lead will likely be a City staff person, but include coordination with other City departments, public, private, or non-profit entities.
- **Status:** This section provides an update on the status of each action item.
- **Comments:** This column is intended to allow further explanation of the action item.

All action plan worksheets are included in Appendix G.

## Appendix A: Community Survey Results

## Appendix B: Focus Group Notes



## Appendix C: Comprehensive Trails Master Plan Report

## Appendix D: Big Marine Park Reserve Official Map

## Appendix E: Access Guidelines

## Appendix F: City Ordinance 189 – Governance of Community Sewage Treatment System

## Appendix G: Action Plan Worksheets

## Appendix H: Full Surface Water Management Plan



## Appendix I: Adjacent and Affected Jurisdiction Comments and Responses

## Appendix J: Reports and Resolutions