PLANNING CONTEXT

The planning context of this 2040 Comprehensive Plan Update (Plan) is also an important consideration to understand how and why the subsequent Chapters of this planning document were created. While the City's location in the region and current market dynamics provide context to where and why certain characteristics are emphasized within this Plan; the Planning Context establishes the requirements of this planning effort that must be addressed and also describes who was involved at the local level in the creation of this Plan. The following sections will define the planning context of the following:

1. Regional context and requirements (Metropolitan Council)

2. Local context and objectives guiding Plan development

Regional Context and Requirements – Metropolitan Council

Communities often wonder when, and why, they should prepare an update to their Comprehensive Plan. The Metropolitan Land Planning Act requires all cities and counties in the Twin Cities 7-County metropolitan area to adopt a Comprehensive Plan, and to update and amend those plans on a decennial basis for consistency with the regional systems. The Plan update may address a broad spectrum of issues important to the community, but at a minimum the Plan must be updated for conformance with the Metropolitan Council's regional system plans that include transportation (highways and transit), water resources (wastewater services), airports, parks and open space.

To clearly define how a City must establish conformance with the Metropolitan Council's requirements the Metropolitan Council issues a System Statement to each community in advance of the decennial plan update period. Within the System Statement, the Metropolitan Council outlines and details the key areas of the City of Lake Elmo's Plan update that must be addressed for compliance with regional systems. The following information provides a summary of the System Statement requirements that were considered and planned for within subsequent sections of this Plan update.

INTRODUCTION

The purpose of this Chapter of the Lake Elmo 2040 Comprehensive Plan and the Lake Elmo Local Surface Water Management Plan (LSWMP) is to guide the City of Lake Elmo in conserving, protecting, and maintaining the quality of its surface waters, ground water, and natural resources. The City is generally positioned to follow water management strategies and regulations set forth by the governing watershed districts. According to the Metropolitan Surface Water Management Act of 1982, local units of government in the seven-county metro area prepare and implement comprehensive surface water management plans through membership in a watershed management organization (WMO) or a watershed district (WD). The primary goals of the Metropolitan Surface Water Management Act are to:

- Protect, preserve, and use natural surface and groundwater storage and retention systems;
- Minimize public capital expenditures needed to correct flooding and water quality problems;
- Identify and plan for means to effectively protect and improve surface and groundwater quality;
- Establish more uniform local policies and official controls for surface and groundwater management;
- Prevent erosion of soil into surface water systems;
- Promote groundwater recharge;
- Protect and enhance fish and wildlife habitat and water recreational facilities; and
- Secure the other benefits associated with the proper management of surface and groundwater.

Source: MN Board of Water and Soil Resources, www.bwsr.mn.us

This Chapter therefore recognizes that the responsibility of water resource management is in the hands of numerous agencies and organizations each tasked with monitoring and planning for water resource management and environmental protection. It intends to meet the provisions of Minnesota Statutes §473.157 and §103B.235, Minnesota Rules 8410, and standards and requirements of the three watershed districts intersecting Lake Elmo municipal boundaries: Valley Branch, South Washington, and Brown's Creek Watershed Districts.

Lake Elmo's LSWMP avoids duplicating efforts of others by adopting or referencing the standards and policies of the Brown's Creek Watershed District (BCWD), Valley Branch Watershed District (VBWD), South Washington Watershed District (SWWD), Washington County, the Metropolitan Council, State of Minnesota Agencies such as the Minnesota Pollution Control Agency (MPCA), the Minnesota Department of Natural Resources (MnDNR), the Minnesota Department of Health (MDH), and the Board of Soil and Water Resources (BWSR), plus Federal Agencies, most notably the Environmental Protection Agency (EPA) where applicable.

2040 Surface Water – What's to Come

- **The City primarily partners with the local watershed management organizations to regulate and manage surface water resources in Lake Elmo.**
- **Surface water management best practices will continue to be critical for maintaining and improving water quality for city residents.**

CITY OF LAKE ELMO LOCAL SURFACE WATER MANAGEMENT PLAN

Plan Summary

The City of Lake Elmo's LSWMP together through its MS4 Permit implementation helps guide the protection and management of surface waters, ground water, and related natural resources in the City. The existing LSWMP was adopted in 2009 for a ten-year period and developed as a part of the City's 2030 Comprehensive Plan to meet the requirements of the applicable State Statutes, the Metropolitan Council, and local Watershed Districts. The LSWMP will be updated as part of the implementation of the Lake Elmo 2040 Comprehensive Plan Update and to comply with current regulations and requirements of these organizations. While the City's fully adopted LSWMP will be updated as an implementation step to this planning effort, where available, the relevant sections of this Chapter have been updated to reflect revised data and information available from the applicable agencies.

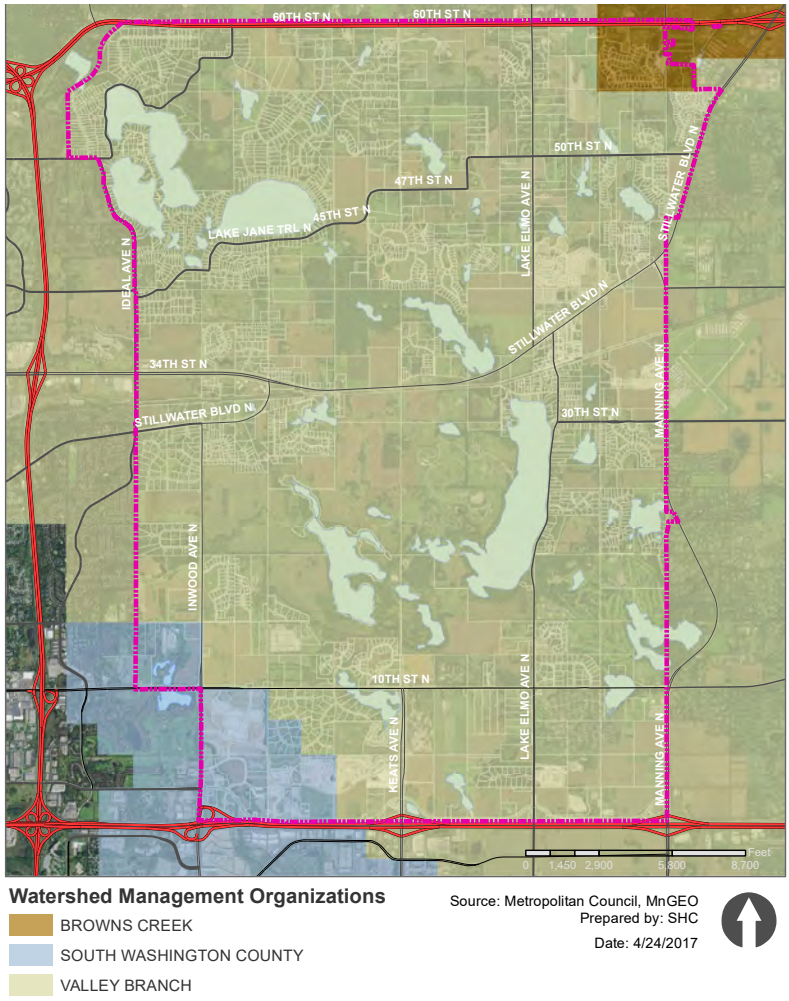
Lake Elmo's adopted LSWMP is divided into eight sections:

1. Purpose and Scope
2. Physical Setting
3. Regulatory Setting
4. Related Studies, Plans and Reports
5. Goals and Policies
6. Assessment of Problems and Corrective Actions
7. Implementation
8. Administration

The City has land area that falls within three Watershed Districts - the Valley Branch Watershed District, South Washington Watershed District, and Brown's Creek Watershed District. (See Map 8-1. Lake Elmo Watershed Districts.) The City concurs with the watershed management plans and standards adopted by these Districts. The current plans of these organizations were used to develop several sections of this Chapter, and updated information will be incorporated into the City's revised LSWMP to include goals, policies, and implementation actions that address issues identified by the City and others.

Approximately 10 percent of the City is covered by lakes and wetlands, and the City also possesses several creeks. Goals and policies indicate the Watershed Districts will continue to take the primary regulatory role in surface water management of these water features within Lake Elmo. Lake Elmo works collaboratively with the watershed districts for permitting development and redevelopment projects. The Watersheds will review project applications to ensure district storm water management requirements are being met with regards to rate control and volume control rules. Lake Elmo reviews the development and redevelopment projects to ensure quality infrastructure and that the storm water BMPs constructed to meet permit requirements, are

Map 8-1. Watershed Boundary Map



constructed in accordance with the City Engineering Design Standards. Both the City and Watersheds oversee development and redevelopment projects as they relate to erosion control site management. In addition, the City will continue to implement its adopted MS4 Permit and SWPPP to manage and maintain the surface waters and infrastructure in the City and educate its residents about the importance of protecting surface and ground water resources.

The goals, policies, and implementation of the LSWMP note that the City will enforce its zoning and subdivision ordinances to assist in maintaining or improving the quality of surface and ground waters within Lake Elmo. More detail of the goals and policies are included later in this Chapter. The City will update its applicable codes to ensure they meet the requirements of the Metropolitan Council, are consistent with the Watershed Management Plans and standards, and conform with the Washington County Groundwater Plan. The City will continue to cooperate with local Watershed Districts, the Washington Conservation District, Washington County, its residents, and others to protect and enhance surface water, ground water, and related natural resources for current and future generations.

Local Water Management Responsibilities and Related Agreements

Each of the three watershed districts that intersect the city boundaries of Lake Elmo regulates potential development impacts to water resources within their respective district by managing permitting and providing comments on development proposals and other permit applications. The City of Lake Elmo also adopts the water management plans, rules, and standards of all three watershed districts by reference within its LSWMP and reaffirms it within this Chapter.

The majority of the City is contained within the Valley Branch Watershed District (VBWD), and the VBWD serves as the local governmental unit (LGU) for the Wetland Conservation Act (WCA) for the City of Lake Elmo. The City is the LGU for the WCA within the Brown's Creek Watershed District (BCWD) and the South Washington Watershed District (SWWD) areas, and portions of the City within the BCWD and SWWD are mostly developed. The City utilizes the services of the Washington Conservation District (WCD) in carrying out its responsibilities under WCA in BCWD and SWWD. The WCD provides services to administer WCA, including wetland determinations, review of wetland delineations and impact applications, recommendations to the City, preparation of notices of application or decisions, and other administrative tasks.

The City of Lake Elmo also has an approved Municipal Stormwater (MS4) Permit from MPCA and storm water pollution preparation plan (SWPPP), for which it implements SWPPP requirements. Copies of these documents are included in the Appendix of the LSWMP. The City is otherwise responsible for construction and maintenance of all municipal storm water management infrastructure associated with City roads and rights-of-way.

The City of Oakdale, the City of Lake Elmo, and the VBWD entered into a joint powers agreement for storm water management for the 3M property on the east and west sides of Ideal Avenue (in Lake Elmo and Oakdale, respectively). Discharge rates must be compliant with this agreement for any future development of this area. A copy of the agreement is included in the Appendix of the LSWMP.

Plan Revisions and Amendment Procedures

To keep current with local practices and policies and address unintended issues, the City may need to revise and update the adopted LSWMP. Written petitions from residents or business owners for LSWMP amendments must be submitted to the City Administrator stating the reason for the requested amendment and providing supporting information for the request.

The City may reject the petition, delay action on the petition until the next full LSWMP revision/update, or accept the petition as an urgent issue that requires immediate LSWMP amendment. The City of Lake Elmo may also amend the LSWMP in response to city-identified needs. Any amendments made to the LSWMP must be submitted to the three Watershed Districts for review and approval before adoption by the City.

The current LSWMP was adopted in 2009 and is intended to be in effect for 10 years. The City's LSWMP was scheduled to be updated in 2019 as stated within the adopted LSWMP, and therefore is identified as an implementation step in this 2040 Comprehensive Plan. Much of the information contained within the adopted 2009 LSWMP will continue to be relevant and accurate since the City has adopted and incorporated by reference all three Watershed District's rules and regulations, and the updates to the LSWMP are generally anticipated to include any additional information available from the Watershed Districts that was not available in the last planning period.

PHYSICAL ENVIRONMENT & LAND USE

Existing Land Use and Physical Environment

The City of Lake Elmo was established in 1969. Located in central Washington County on the east side of the seven-county metro area, land use in Lake Elmo reflects the City's past commitment to the rural landscape and investment in development of primarily single-family detached housing. It now possesses a mix of low-density residential, parks and open space, pockets of agriculture, and scattered commercial uses. (See Map 3-1. Existing Land Use Map 2018).

Between 1970 and 1980, Lake Elmo experienced a significant increase in the number of households (84%). Development slowed during the 1980s and 1990s (17 - 19% increases in households). Population was expected to grow significantly between 2010 and 2020, however, the great recession slowed the rate of development, and the expected population growth was less than forecasted in the City's 2030 Comprehensive Plan.

The physical environment of Lake Elmo is primarily a scenic rural landscape and the recreational lifestyle makes the community highly desirable to residents. Gently rolling land, wooded lots, and a series of lakes offer an appealing setting to residents. The City is home to four "priority lakes", varying in size from 87 to 257 acres. Expanses of the natural landscape are protected in park lands, and pockets of property are protected for agricultural use through the agricultural preserve program. Many areas developed for residential land use are lower density or utilize conservation easements to protect the natural features that provide value to the area. Much of the City's high quality natural areas and rare species are found within the Lake Elmo Regional Park Reserve.

Topography and Geology

Topography influences the direction and rate of runoff as it flows over land. Like most of Washington County, the topography of Lake Elmo was established during the late Wisconsinan glaciation when the glacier retreated leaving behind topographic lows and bedrock surface. The melting glacier ice left many depressions that became lakes and wetlands visible today, as well as hills and steep slopes. Some steep slopes can be found throughout the City's landscape as well. The City's topography and topographical features are illustrated in Map 8-3. Topography to follow. In addition, the Valley Branch Watershed District has compiled topographic mapping to determine the steepness of land and the elevations of features throughout the watershed. More information can be found in the VBWD watershed management plan.

Climate and Precipitation

The climate in the seven-county metro area is described as a humid continental climate with moderate precipitation, wide daily temperature variations, warm humid summers and cold winters. The diverse nature of the air masses impacting Minnesota's climate also leads to seasonal temperature extremes. The total average annual precipitation in this area is approximately 31 inches, and annual snowfall averages around 54 inches (equivalent to approximately 5.4 inches of water). The amount, rate, and type of precipitation a watershed receives have a direct effect on its water resources. Average precipitation amounts can vary locally across the region, and precipitation amounts can vary widely across a watershed during individual storm events.

Despite wide variations in climate conditions, climatologists are studying four significant climate trends in the recently determined in the Upper Midwest (Minnesota Weather Almanac, Seeley, 2006):

1. Warmer winters
2. Higher minimum temperatures
3. Higher dew points
4. Changes in precipitation trends – more rainfall is coming from heavy thunderstorm events and increased snowfall

According to the Soil and Water Conservation Society's (SWCS) 2003 report, total precipitation amounts in the United States (and in the Great Lakes region) are trending upward, as are storm intensities.

More information about climate and its impacts on water resources can be found in the Valley Branch Watershed District's Watershed Management Plan, 2015.

Soils

The Soil Conservation Service (SCS), now the Natural Resources Conservation Service (NRCS), published the Soil Survey of Washington and Ramsey Counties in 1980. The publication provides soil location maps and information on the physical properties of soils found in Washington County.

Within the City of Lake Elmo, the NRCS has identified three soil associations (soil patterns), as generally described on the following page:

1. **Antigo-Chetek-Mahtomedi Association** – These soils are formed dominantly in outwash. They are described as nearly level to steep, well drained to excessively drained, medium textured to coarse textured soils; mostly on outwash plains. These soil types are located in the north central and south eastern areas of the City as well as a small portion in the southwestern area of the City.

2. **Santiago Kingsley Association** – These soils formed dominantly in glacial till. They are described as undulating to steep, well drained, medium textured and moderately course textured soils, and are found on uplands. These soils are found generally in the south western portion of the City reaching north easterly through the central area of the City.

3. **Antigo-Comstock Association** – These soils are formed dominantly in silty mantle and the underlying sandy outwash and in silty lacustrine sediments. They are described as level to moderately sloping, well drained and somewhat poorly drained, medium textured soils on outwash plains and glacial lake plains. These soils are found in the south eastern corner of the City as well as the east central border of the City. A small area in the north central area also has these soil characteristics.

The nature of soils comprising the top layer of unconsolidated material in a watershed is important because soil properties are a primary factor in determining the volume of runoff associated with a given rainfall event. The NRCS *Soil Survey* assigns soil types to a hydrologic group depending on the soils ability to infiltrate water during long-duration storms. The four hydrologic soil group classifications are described below.

Hydrologic soil group types indicate the level of infiltration and compatibility with development for each type of soil. More information about the location of these soil groups in Lake Elmo can be found in the Appendix of the LSWMP.

- **Group A** soils have low runoff potential and high infiltration rates even when thoroughly wetted. These consist of deep, well-drained sands or gravels.
- **Group B** soils have moderate infiltration rates and the potential for runoff. They consist of moderately-deep to deep, and moderate to well-drained soils.
- **Group C** soils have low infiltration rates and generally impede the downward movement of water. These soils have more moderately-fine to fine textures and provide greater amounts of runoff volumes when thoroughly wetted.
- **Group D** soils have very low infiltration rates and very high runoff potential. These soils are associated with clays with high swelling potential and soils with a high permanent water table.

NATURAL RESOURCES

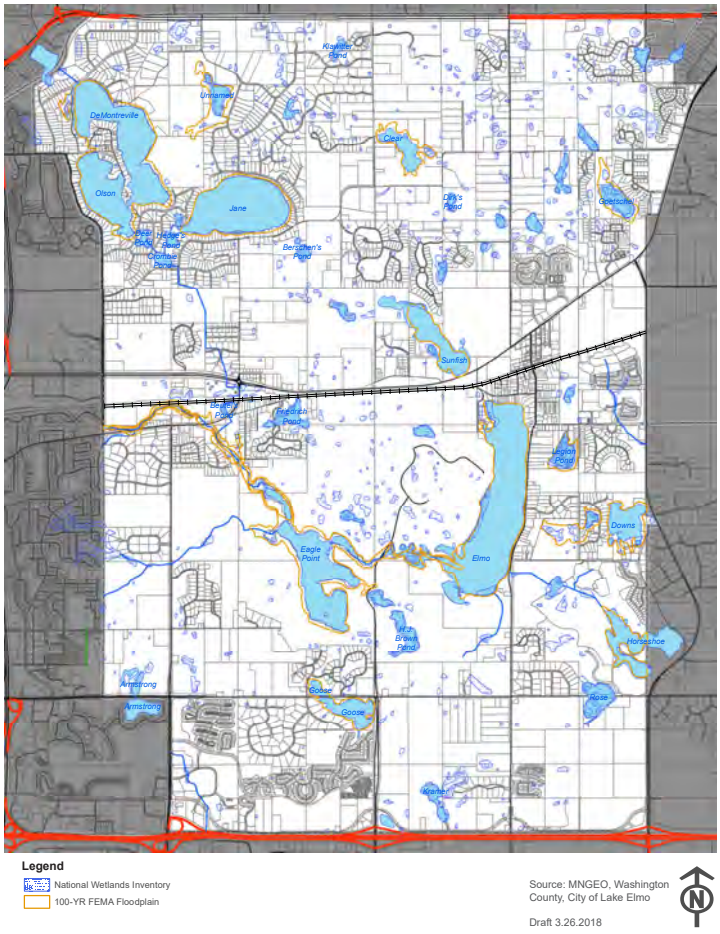
The landscape of Lake Elmo comprises a wealth of natural resources, including many lakes and intermittent wetlands. The location of these features, and efforts to preserve and protect them, should contribute to decisions about the development of new parks, trails, and other recreational facilities.

In past planning efforts, the Parks Commission utilized natural resource mapping resources to identify features to include in future park sites. For example, bodies of water and wetlands were characterized with high importance and informed recommendations on future park locations. Locations included forested shoreland on Lake Elmo, shoreland on Goose Lake, shoreland on Clear Lake, shoreland on Kramer Lake, and steep shoreland north of 50th Street. A forested area off of the northern portion of Lake Elmo Avenue was also highlighted.
Other land features and prioritized for different purposes. For instance, relatively flat parcels of land were identified as possible locations for athletic fields. Maps 8-2 through 8-4 identify Lake Elmo's natural resources including wetlands, topography, and significant natural features according to the Minnesota Department of Natural Resources. This mapping will inform decisions when refining locations of future park, trail, and open space uses.

Wetlands

Wetlands provide a rich habitat for wildlife, including birds, mammals, fish, and amphibians, and contribute as well to maintaining the quality of the City's water. Wetlands within parks can be a focal point for nature observation and wildlife watching. Map 6-7 includes wetlands indexed by the National Wetlands Inventory which categorizes wetlands based on quality and significance for habitat, as well as outlines the 100 year floodplain.

Map 8-2. Wetlands and Floodplain



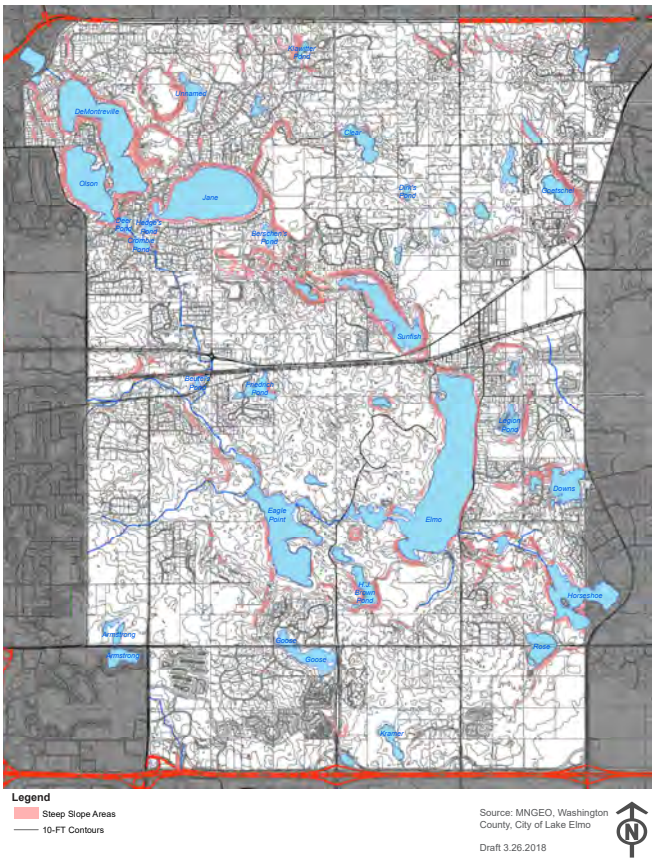
Topography

Contour lines describe slopes and flat lands, indicating views and drainage ways. Naturally flat areas are conducive to formal or informal play fields and gardens. High points within parks are opportunities for benches or picnic tables overlooking views below. Slopes may provide opportunities for sledding or natural amphitheaters. Undulating terrain or drainage ways create interest for trails. Playgrounds nestled into a lower area create a sense of safety and separation from nearby streets or homes. Map 8-3 includes contour lines at ten-foot intervals to illustrate topography.

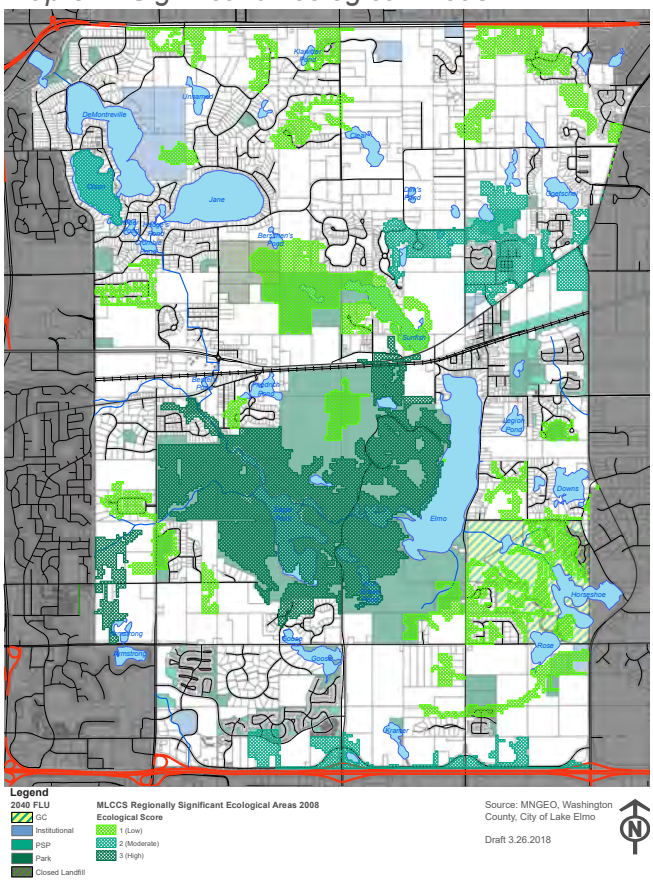
Biologically Significant Ecological Areas

Land cover refers to vegetation, water, rock, and human-made surfaces on the land. Examples of common land cover in Lake Elmo are agricultural crops, short grass (lawns), forests, woods, and water. Some land cover is identified to special and unique values that make it regionally significant to the quality of natural resources and ecological healthy of the landscape. These lands are important for inclusion in a high-quality PTOS system. Map 8-4 describes significant ecological areas in Lake Elmo.

Map 8-3. Topography



Map 8-4. Significant Ecological Areas



Proposed Physical Environment and Future Land Use

Land use data is an important factor for estimating surface water runoff. The hard or impervious surface areas associated with each land use greatly affect the amount of runoff generated from an area. Future land use projections indicate those areas that may be available for water resource enhancement and where improvements should be a priority. Significant changes or intensification of land use can increase runoff due to added impervious surfaces. The City of Lake Elmo is designated as both an Emerging Suburban Community and a Rural Residential Community meaning that future land use will maintain a mix of rural uses and rural residential densities, as well as suburban-style development. All of the areas potentially available for suburban development are located within the identified MUSA boundaries described as the Village Planning Area and the South Planning Area in this Plan.

Forecasts contained within Chapter 3 of this Plan, indicate that approximately 3,346 additional households will be added to the MUSA planning area in addition to the 2,444 households already planned for between 2010 and 2020. In addition the additional households within the MUSA, there will likely be some growth within the Rural Residential areas with conventional subdivisions and open space developments.

Utilities

Portions of Lake Elmo are within the Metropolitan Urban Service Area (MUSA), providing sanitary sewer and water service to included properties. A large portion of the City remains outside these boundaries through 2040 and is generally served by private well and septic systems (individual and community). Due to groundwater contamination in the Lake Elmo area, the municipal water system extends beyond the designated MUSA boundaries.

The sanitary sewer system in Lake Elmo is of relatively new construction, most of which has been constructed only since 2013. The sanitary sewer system consists of approximately 23 miles of sewer mains managed by 6 lift stations. The portions of the City's wastewater handled by the public sewer is managed on a metropolitan level and is split between Metro Wastewater Treatment Plant located in Saint Paul, Minnesota and the Cottage Grove Metropolitan Wastewater Treatment Plant. Other parts of Lake Elmo utilize Subsurface Sewage Treatment Systems (SSTS) for wastewater management including eight community treatment systems owned and operated by the City.

The City storm water conveyance system consists largely of rural ditches and swales and the runoff is typically treated and retained near the point of rainfall through a series or lowlands or storm water basins. In the urbanized areas curb and gutter, along with storm sewers are

utilized to convey runoff to the storm water treatment basins consisting of pretreatment basins, retention basins and infiltration basins. The City's storm sewer and subwatersheds are mapped and included in the City's MS4 Permit attached in the LSWMP Appendix. Future street maintenance and redevelopment will likely dictate the extension or reconstruction of the storm drainage system. Mapping of stormwater utilities will be updated as improvements of the system are completed to stay in compliance with MS4 inventory and mapping requirements.

SURFACE WATERS & DRAINAGE

Watersheds and Subwatersheds

As mentioned, three watersheds districts are located within the City of Lake Elmo, however, the Valley Branch Watershed District covers the majority (approximately 90-95%) of the City's waterways and drainage areas. A small portion in the northeast falls within the Brown's Creek Watershed District, and a small portion in the southwest of the City falls within the South Washington Watershed District as shown on Map 8-1.

Subwatersheds within the broader Watersheds District areas identify the more localized drainage and flows with the City of Lake Elmo. The Valley Branch Watershed District developed a management plan for each of the subwatersheds which illustrates boundaries, drainage flows, and elevations within the subwatershed mapping. This Chapter refers to these subwatershed management plans for drainage flow and runoff details, which can be found online at http://www.vbwd.org/watershed_management_plan_2015-2025/index.php.

There are 21 total subwatersheds of the Valley Branch Watershed District in Lake Elmo:

Lake DeMontreville	Lake Olson	Friedrich's Pond
Long Lake	Beutel Pond	Raleigh Creek
Klawitter Pond	Sunfish Lake	Eagle Point Lake
Goetchel Pond	Cloverdale	Goose Lake
Clear Lake	Legion Pond	Rose Lake
Lake Jane	Lake Elmo	Horseshoe Lake
Kramer Pond	Rest Area Pond	

Public Waters

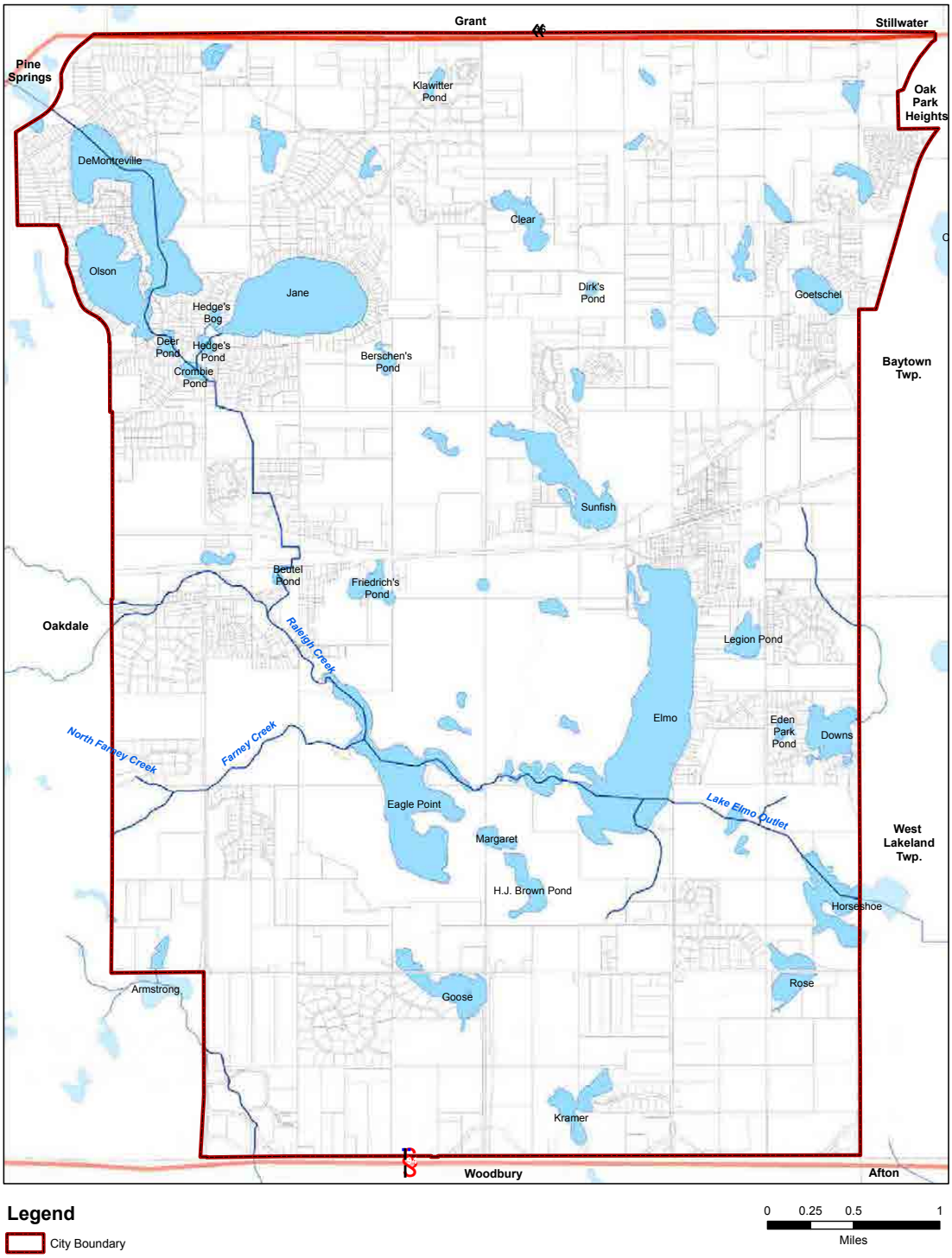
Approximately ten percent (10%) of the City of Lake Elmo is occupied by wetlands and open water features. These water features and watercourses defined as public waters are under regulatory control by the MnDNR. Map 8-5 and the table below identify the major public waters located in the City of Lake Elmo.

Table 8-1. Public Waters, Lakes, and Wetlands

Name	DNR Public Waters No.	Surface Area (Acres)	Maximum Depth (ft)
DeMontreville (Lake)	82-101 P	158	24
Eagle Point (Lake)	82-109 P	154	6
Elmo (Lake)	82-106 P	297	140
Horseshoe (Lake)	82-74 P	76	11
Jane (Lake)	82-104 P	154	39
Olson (Lake)	82-103 P	87	15
Sunfish (Lake)	82-107 P	73	Not determined
Armstrong	82-116 W	6	-
Berschen's Pond	82-105 W	6	-
Beutel's Pond	82-399 W	3	Not determined
Clear	82-99 W	25	10
Crombie Pond	82-386 W	7	-
Deer Pond	82-385 W	6	-
Dirk's Pond	82-389 W	3	-
Downs	82-110 W	38	7
Friedrich Pond	82-108 W	17	Not determined
Goetschel	82-313 W	22	14
Goose	82-113 W	42	5-7
H.J. Brown Pond	82-111 W	21	-
Hedge's Pond	82-387 W	5	-
Klawitter Pond	82-368 W	5	Not determined
Kramer	82-117 W	28	Not determined
Legion Pond	82-462 W	18	Not determined
Rose	82-112 W	26	Not determined
Unnamed Wetlands	82-316; 82-366; 82-367; 82-369; 82-370; 82-371; 82-384; 82-388; 82-390; 82-100; 82-314; 82-315;	198	

Sources: MnDNR, VBWD, City of Lake Elmo

Map 8-5. Lake Elmo Public Waters



Source: City of Lake Elmo, MnDNR

Lakes

There are seven lakes included in the inventory of public waters in Lake Elmo. Size and depth of these water bodies is also included in Table 8.1 where available from the MnDNR.

Lake Information Reports for the seven named lakes in the City are included within the LSWMP. These reports are a summary of MnDNR data and describe available public access information, lake characteristics, water level histories, and water quality information.

Additional information on these lakes is available from the VBWD Watershed Management Plan. The Metropolitan Council has identified four priority lakes in Lake Elmo: DeMontreville, Olson, Jane, and Elmo. The "priority lake" designation is used to focus the Council's limited resources and to identify lakes that will require completion of a nutrient budget analysis during environmental review processes.

Wetlands

The relatively flat topography and wet soil conditions in Lake Elmo result in extensive wetland areas. Wetland community types within the City include a full range of wetlands, from emergent wetland habitats, to scrub and shrub wetland habitats, as well as forested wetland habitats. However, the primary wetland features in the City include deep water and shallow water habitats due to the extensive lake network within the City. The wetland areas within the City are illustrated in Map 8-2. Wetlands and Floodplain.

Wetland areas are valuable resources that provide many benefits to the City and surrounding areas. Some of these benefits include ground water recharge, filtration of sediments and nutrients, flood control, wildlife habitat, and scenic value. The three Watershed Districts have adopted standards for wetland management in each of their Watershed Management Plans.

Rivers & Streams

Raleigh Creek is the dominant stream that flows through the City of Lake Elmo and is a major subwatershed within the VBWD. Its course as an intermittent stream begins in the City of Oakdale, west of I-694 and south of TH 5. Water flows easterly as it enters the City of Lake Elmo and crosses Stillwater Boulevard near its intersection with 31st Street North east of Tablyn Park. A tributary enters Raleigh Creek from south of Stillwater Boulevard and east of the Ideal Avenue intersection. In addition, the discharge from Beutel Pond also enters Raleigh Creek near Stillwater Boulevard. From near Tablyn Park and Stillwater Boulevard, Raleigh Creek flows southerly to Lake Elmo Park Reserve and the northernmost bay of Eagle Point Lake. VBWD has completed a Watershed Management Plan for Raleigh Creek and extensive information about this subwatershed can be found in the VBWD's Watershed Management Plan.

Farney Creek and North Farney Creek are located within the Eagle Point Lake subwatershed within the VBWD. These creeks are located south of Raleigh Creek in the City of Lake Elmo and drain into Eagle Point Lake. Farney Creek is an intermittent stream that enters the lake's west side. Additional details can also be found in the VBWD's Watershed Management Plan for Eagle Point Lake.

Groundwater

The City of Lake Elmo follows regulations and standards for groundwater protection, preservation, and use from various state and local agencies charged with monitoring and regulating water quality and consumption. These agencies include:

- **MPCA:** monitors water quality and enforces laws relating to water pollution.
- **Minnesota Geological Survey:** complies a state inventory of groundwater resources.
- **MnDNR:** regulates the usage rate and volume of drinking water. Domestic water use is regulated with permits. Use in excess of 25 people or use that exceeds 10,000 gallons per day or 1,000,000 gallons per year must obtain a water appropriation permit from the MnDNR.
- **Minnesota Department of Health (MDH):** responsible for environmental groundwater quality protection and facilitates well abandonment and installation of new wells.
- **Local Watershed Districts:** generally responsible for groundwater protection and use, but their role is limited to cooperating and assisting state agencies in their groundwater protection efforts.

Washington County developed the Washington County Groundwater Plan that provides a county-wide structure for preserving and protecting the county's groundwater supply. The groundwater plan can be found online at https://www.co.washington.mn.us/DocumentCenter/View/794.

EXISTING & POTENTIAL WATER RESOURCE-RELATED PROBLEMS

Existing Water Resource Problems

The City of Lake Elmo's existing LSWMP contains a list of known water resource problems within the City. They are listed by the Watershed where the issue is located. Corrective actions are identified in the current LSWMP and have been updated in the following section.

Valley Branch Watershed District Area

The VBWD Watershed Management Plan identifies the following problems in the City of Lake Elmo that is within the Watershed District. The City and VBWD have discussed these problems, and the City proposes the following actions to address the problems:

Village Area Flooding

Potential flooding in the Lake Elmo Village Area and the potential water quality and quantity impacts of storm water runoff from proposed future development, particularly on Down's Lake.

Assessment of Problem: The Lake Elmo Old Village Area was urbanized decades ago within areas of very flat terrain and with the lack of adequate stormwater management or conveyance systems in place to either store or infiltrate the water or to convey the water efficiently through the downtown area. Persistent and regular flooding has caused problems ranging from nuisance flooding of properties and roadways to more significant flooding of homes and commercial structures. In addition, Downs Lake is relatively small, with a large tributary area. The lake has a history of wide fluctuations in water levels, from potential for flooding in some years to very low water levels during drought years. Two homes are within the 100-year floodplain of Down's Lake and connecting waterbodies.

- The Watershed District and the City have studied conditions on the lake and in its watershed several times. A proposal by VBWD for a more detailed study and flood-relief project were opposed by Washington County, the DNR, Washington SWCD, MPCA, the City and some residents.
- The Lake Elmo Old Village Area AUAR analyzed the proposed development scenarios for this area, which drains to Down's Lake. The AUAR analyzed the potential impacts to the lake and other water bodies, and recommended strategies to avoid, minimize or mitigate for impacts.

Proposed Corrective Actions: A Regional Stormwater Management Study was completed by SEH, in May 2015, to develop a regional drainage strategy and approach for managing stormwater to reduce the flooding in the Village Center Area and to identify opportunities for water quality treatment in the Downs Lake subwatershed. An important aspect of this approach was to consider future development/redevelopment in the watershed and to explore the potential for amenities such as water features or the potential for green infrastructure.
The study identified a regional strategy that includes the following recommendations, with the first two recommendations already completed:

- A regional infiltration basin was constructed in 2015 directly downstream from the Old Village Center together with the construction of a new large diameter storm sewer system along Lake Elmo Avenue, Laverne Avenue, 36th Street, and Upper 33rd Street.
- Goetschel Pond Stormwater Diversion. As part of multiple development projects, storm water was diverted from 2 large new subdivisions from draining to the Down's Lake subwatershed to the Goetschel Pond subwatershed, effectively diverting 50+ acres of drainage area from entering the Old Village center, and ultimately Down's Lake.
- Continue to construct stormwater retention ponds upstream of the Village Center as new development occurs. By enforcing VBWD and City storm water management practices, the rate and volume of storm water runoff will be reduced with any development project.
- Complete further evaluation and consider implementation of the Sunfish Lake Diversion plan.
- Continue to improve storm water conveyance through the Village Center to further reduce flooding and incorporate small scale green infrastructure with future Village Center projects as opportunities become available.
- Complete the ongoing maintenance of proposed and existing storm water facilities

Flooding near Friedrich's Pond

Assessment of the Problem: The VBWD noted from the late 1970s to the mid 1980s Friedrich's Pond experienced high water levels resulting from above average precipitation and decreased ground water seepage from Friedrich's Pond, which resulted in basement flooding to the adjacent homes. There have been no further reports of high water levels until recently in 2016 and 2017 from one property owner having a driveway inundated and reporting high groundwater levels near the home. Land uses are proposed to remain the same in the area in the City's 2040 Comprehensive Plan.

Proposed Corrective Actions: The VBWD has identified the following mitigation options to address the high water level in Friedrich's Pond: Installation of a controlled gravity outlet and drainage routes, utilizing a pumped outlet structure, flood proofing the affected homes, flood insurance, and a do nothing approach. The City and VBWD have not proposed any specific

solution and have not yet identified a public purpose for making improvements since the potential high water risks are very limited and exist on private property. Any permit applications for this area will be reviewed per the City of Lake Elmo Flood Plain Ordinance.

Flooding near Legion Pond

Assessment of Problem: In the 1980's the VBWD reported high water levels in the Legion Pond/ Eden Park area which threatened the nearby homes. Several proposals were developed to mitigate the flooding, including overflow pumping to Lake Elmo. The residents located in the floodplain rejected the pumping proposals, objecting to the high cost and lack of a permanent solution to the problem as reasons. The high water levels were later relieved by a onetime overflow pumping of the pond to Lake Elmo, and later by the drought of 1987-1988. Residents have bermed around their homes to help protect against future high water levels.

Proposed Corrective Action: The VBWD proposed three feasible mitigation plans to the Legion Pond's high water problem: the first option involves constructing a pumped outlet to Lake Elmo. This option would incur annual operation and maintenance costs. The second option is to construct a gravity outlet from Legion Pond to Lake Elmo. The third option is to provide only emergency pumping relief.

- Beginning in 1984, the City constructed a community wastewater facility as part of the 201 System and hooked up 2764, 2778, 2790, and 2814 Legion Avenue North. This addressed the location of the individual septic systems on these lots. If future flood mitigation is pursued, it could focus on the remaining septic systems not connected to the 201 System and the walk out elevations of all homes in the affected area.
- The second option (constructing a gravity outlet to Lake Elmo) now becomes a more feasible option with the availability of the 201 System. The City would consider all options provided in the VBWD Plan - the preferred corrective action will depend on the timing, urgency, public comment, agency comment, and available funding. However, due to the current trend of low water levels and the Project 1007 flood-relief improvements, the City does not find any immediate need to address flooding issues in this area.
- The City will work directly with the VBWD to continue to monitor the situation. Any permit applications for this area will be reviewed per the City of Lake Elmo Flood Plain Ordinance. This Ordinance is included in the LSWMP Appendix.

Low Water Levels on Sunfish Lake

Assessment of Problem: Residents have expressed concerns related to low water levels on Sunfish Lake.

Proposed Corrective Actions: The City and VBWD have discussed the problem and agreed that there is little that the City can do to address this issue.

Minimum Building Elevations to prevent flooding

The City will continue to enforce the VBWD standard that minimum floor elevations of buildings be 2' or more above the 100- year flood plain and will continue to enforce the standard on development that is not reviewed by the Watershed District. The District requires the minimum floor elevations of structures to be at least two feet higher than the adjacent water body's critical 100-year flood level. The VBWD rule applies to all water bodies, whether they are mapped as floodplains on FEMA flood insurance rate maps or not.
Proposed Corrective Action: The City has adopted the Watershed District standard in its Engineering Standards and reviews development plans and building permits accordingly.

South Washington Watershed District Area

The SWWD Water Management Plan has identified the following problems in the area of Lake Elmo that is within the Watershed District. The City and SWWD discussed these problems, and the City is proposing the following actions to address the problems:

Wilmes Lake Flooding Issues

Assessment of Problem: The SWWD has completed studies of Wilmes Lake and potential flooding issues. Areas in the Wilmes Lake sub watershed within Lake Elmo contribute to the lake's drainage area but are not the cause of the flooding concern. No structures are currently below the 100-year flood elevation. The Watershed District and City of Woodbury have established and funded a program to provide protection to homes on the east side of the lake.

Proposed Corrective Action:. The City concurs with and adopts the SWWD volume control standard in this LSWMP and will continue to implement its ordinances requiring volume control.

Wilmes Lake Water Quality Issue

Assessment of Problem: Wilmes Lake has been classified as an impaired water for nutrients. The SWWD has not completed a TMDL study for the lake but is likely to complete a study and develop recommendations to address the nutrient problems in the future.

Proposed Corrective Action: The City will support the District's TMDL study for Wilmes Lake, and work with the District to implement its recommendations. The City has, and will continue to enforce volume control requirements for new development within the subwatershed to benefit water quality in Wilmes Lake. The City adopts the District's standards for volume control and allowable phosphorus loading to Wilmes Lake, and will address these requirements as it manages land use and development within the Wilmes Lake Subwatershed area.

Brown's Creek Watershed District

Impaired Waters Issues

Assessment of Problem: The BCWD area within Lake Elmo includes wetland areas and some areas that may still be developed. The area drains to Long Lake, Brown's Creek, and the St. Croix River. All of these water bodies are impaired waters. The BCWD is currently completing TMDL studies for Long Lake and Brown Creek. The St. Croix Basin Team has set a goal to reduce nutrient loading to the St. Croix basin by 20 percent.

Proposed Corrective Action: The City will participate in the District's TMDL studies of Long Lake and Brown's Creek and will work with the District to implement the recommendations of these studies. The City will implement its land use plan and ordinances to assist with the protection of surface waters in this area.

Groundwater Resource Problems

Sustainable Water Supply for Drinking Water

Assessment of Problem: Groundwater contamination has been present within the Lake Elmo area since discovery of PFCs in early 2004. Ongoing investigation, mitigation, and management of the contamination continues to take place and is primarily managed through the Minnesota Department of Health, Minnesota Pollution Control Agency and Minnesota Department of Natural Resources. The City has contamination in Well #3, which was never placed into service, and more recently has discontinued use of Well #1 after receiving a well advisory from the MDH in April 2018. These wells will require the construction and implementation of high cost treatment facilities if these wells are ever placed into service again.

The City's two remaining water supply wells (Well #2 and Well #4) are located in the northeast part of the City, located in areas free from groundwater contamination. However, these wells are Jordan Aquifer Wells and are located near or within the jurisdiction of the White Bear Lake Court Order (5 mile radius) and have become subjected to appropriation restrictions and limitations.

As the City continues to grow, the City will require 2 to 3 additional water supply wells, however there is a severe limitation on groundwater use. A moratorium has been placed on appropriation permits impacting White Bear Lake. Currently, no new drinking wells can be located within 5 miles of White Bear Lake, which affects approximately the northern half of the City of Lake Elmo. The southern parts of Lake Elmo overlay the PFC groundwater contamination plume.

Proposed Corrective Action: The City will work with the MDH, MPCAs, MnDNR, and neighboring municipalities to identify appropriate water supply sources and water supply well locations.

Drinking Lake Elmo Water Quality

Assessment of Problem: Lake Elmo is a ground water discharge waterbody. Impacts to ground water resources may impact lake quality.

Proposed Action: City will implement its land use plan and ordinances to protect ground water recharge areas.

Jordan Aquifer Impacts

Assessment of Problem: The City of Lake Elmo has two municipal wells located in the northeast quadrant of Lake Elmo. These wells are cased to the Jordan aquifer, which is the same aquifer that feeds Lake Elmo. The City, the DNR, Washington County, and the VBWD have not performed any calculations to determine the long-term sustainability of the Jordan aquifer in this area and if the pumping is or will impact the water levels of the lake. Nor has any agency determined if there will be conflict between the drinking water well and the Lake.

More recently, court action has prevented new wells from being located within 5 miles of White Bear Lake.

Proposed Action: The City will work cooperatively with the VBWD, the MnDNR, Washington County, and other entities as this issue is further studied.

Special Well Construction Areas (SWCA)

Assessment of Problem: Portions of the City in both VBWD and SWWD were designated by the Minnesota Department of Health as a Special Well Construction Area (SWCA) in 1988 and 2007. This designation applies to the construction repair, modification, and sealing of wells and borings. The primary purpose of SWCAs is to protect public health and ground water quality by ensuring wells and borings are constructed to obtain ground water from a protected aquifer(s) and to help prevent spread of contamination. Stormwater related activities in these areas, such as geotechnical evaluations for a pond or infiltration feature, should reflect appropriate compliance with requirements set forth by the Department of Health given the criteria for environmental bore holes. Nonstructural methods for controlling stormwater runoff volumes should generally be given priority over structural methods.

Proposed Action: The City will cooperate with the MPCA, MDH, and the Watershed Districts to address ground water quality issues and enforce its Zoning and Subdivision ordinances to protect ground water quality.

The SWWD Groundwater Management

Assessment of Problem: The SWWD's ground water management initiative consists of monitoring and data analysis. The objective is to compile baseline data to characterize dynamics between stormwater and ground water. Outcomes of the ground water management include setting or adjusting thresholds or standards to best address stormwater management and ground water protection and identifying potential ground water resources trends in the context of storm water management efforts.

Proposed Action: The City will support these efforts as they relate to the area within the SWWD in Lake Elmo.

Washington County Groundwater Management

Assessment of Problems: Reduced ground water recharge resulting from urbanization. Degraded quality of ground water as a result of increased non-point source pollution. Reduced ground water flows to surface waters, lowered lake levels, and well interference resulting from overuse of ground water. Need for citizens and public officials to understand ground water-related issues.

Proposed Actions: The County Groundwater Plan identifies the following actions to implement: Provide education to citizens and public officials on the interaction of surface and ground water quality and quantity; the value of and need to protect ground water recharge areas.

Impaired Waters

The Minnesota Pollution Control Agency (MPCA) compiles water quality data for water bodies in the state. The impaired waters within Lake Elmo's drainage are listed in Table 8-1, and Map 8-6 shows locations of impaired waters in Lake Elmo. More information about water quality data and monitoring can be found at https://www.pca.state.mn.us/water/water-quality-data.

Table 8-1. 2018 Impaired Waters List

Water body name	Water body type	Year added to List	Affected designated use	Pollutant or stressor	TMDL target completion year	EPA category	Mercury TMDL region	Year TMDL plan approved	Approved TMDL EPA ID#
Downs	Lake	2012	Aquatic Recreation	Nutrient/ eutrophication biological indicators	2024	5			
Elmo	Lake	1998	Aquatic Consumption	Mercury in fish tissue		4A	SW	2007	32414
Elmo	Lake	2008	Aquatic Consumption	Perfluorooctane Sulfonate (PFOS) in fish tissue	2025	5			
Goose (South)	Lake	2012	Aquatic Recreation	Nutrient/ eutrophication biological indicators	2024	5			
Jane	Lake	2006	Aquatic Consumption	Mercury in fish tissue	2021	5	SW		
Sunfish	Lake	2008	Aquatic Recreation	Nutrient/ eutrophication biological indicators		4A		2016	66249

Source: MPCA

Total Maximum Daily Load (TMDL) Studies

As with nearly all of the east metro communities, Lake Elmo is upstream of Lake Pepin and therefore is required to implement TMDL plans for this impaired water body. The St. Croix Basin Team has set a goal to reduce nutrient loading to the St. Croix basin by 20%, to protect this Outstanding Resource Value Water (ORVW). The City adopted a BMP in its MS4 Permit to cooperate with the Watershed Districts to create a process to identify all discharges from the City's MS4 system to the St. Croix and determine if discharges to the ORVW can be eliminated, or to identify and adopt BMP's that allow the existing high quality of the St. Croix River to be maintained. If modifications are needed, the City will modify its SWPPP and submit the modifications to the MPCA.

The City will work with the Watershed Districts and other organizations as they complete TMDL studies and enforce its ordinances to assist in protection and improvement of these resources.

Potential Water Resource Problems

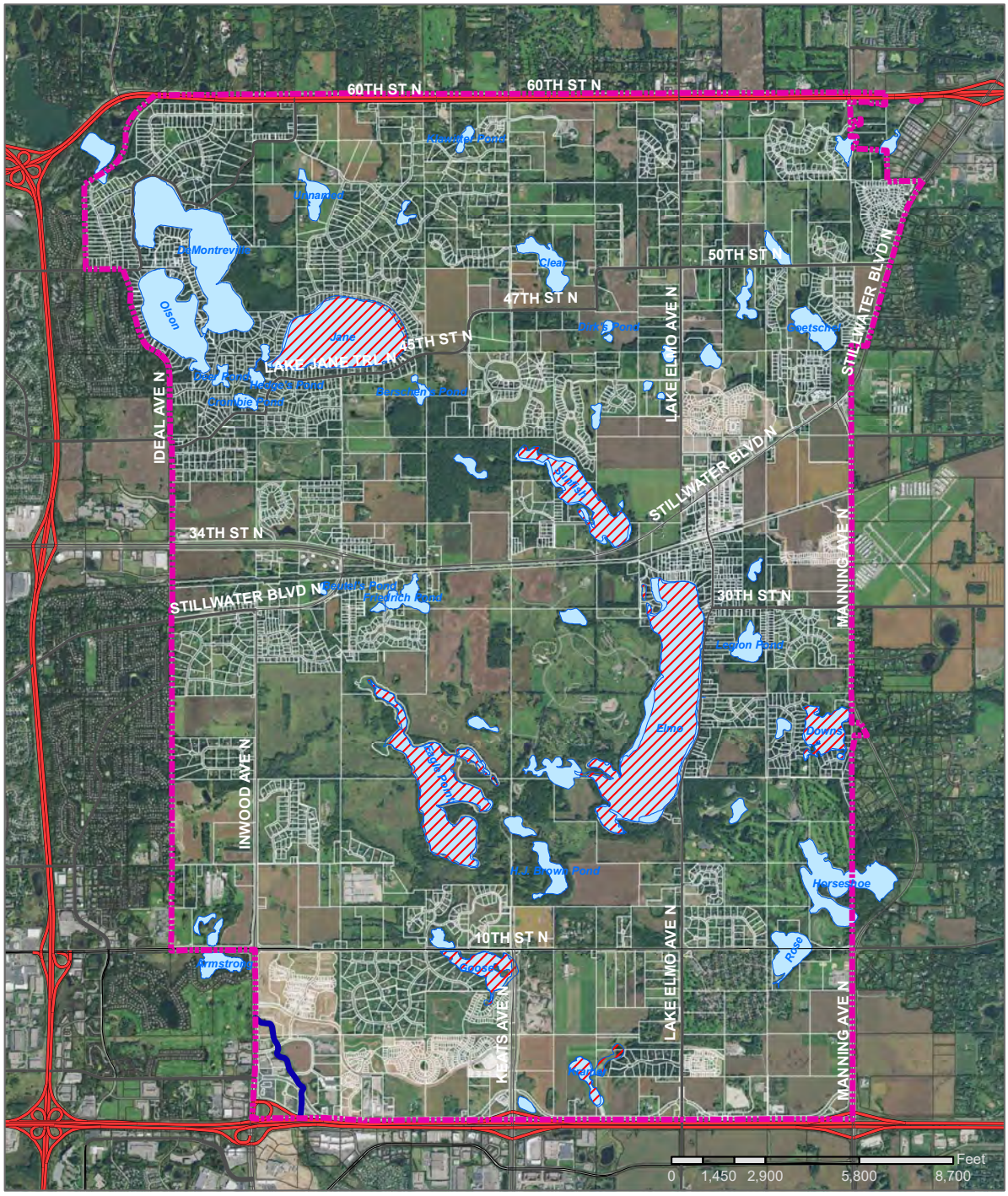
Maintaining and updating Municipal Stormwater Infrastructure

The City of Lake Elmo is responsible for maintenance of its storm sewer system in conformance with the MS4 Permit Program. This system includes pipes, constructed ponds, lakes, wetlands, ditches, swales, and other infiltration features and drainageways and provides needed flood management and water quality mitigation. The City's current SWPPP can be found in the Appendix of the LSWMP.

Other units of government are responsible for maintaining the stormwater systems under their control:

- MnDOT is responsible for maintaining the ditch and infiltration areas along Trunk Highway 36 and Interstate 94.
- Washington County is responsible for maintaining storm sewer catch basins and leads in the county roads. Private stormwater facilities must also be maintained in compliance with original performance design standards. Owners are responsible for removing and properly disposing of all settled materials, including solids, from ponds, sumps, grit chambers, and other devices. The City and/or local Watershed Districts may inspect private stormwater facilities and work with owners to bring cleaning and maintenance up to date.

Map 8-6. Lake Elmo Impaired Waters



Impaired Waterbodies (2014 Draft)

- Impaired Streams
- Impaired Lakes

Source: Metropolitan Council, MnGEO
Prepared by: SHC

Date: 4/24/2017

GOALS & POLICIES

General

The goals in Lake Elmo's Local Surface Water Management Plan are consistent with the goals of the Brown's Creek Watershed, Valley Branch Watershed District, and South Washington Watershed District while addressing the more specific and changing needs of the City. The goals are also established in accordance with Minnesota Statutes 103B and Minnesota Rules 8410. The policies of Brown's Creek Watershed District, Valley Branch Watershed District, and South Washington Watershed District have been adopted by reference for the portions of the watershed districts within the City, as shown in Map 8-1.
The City of Lake Elmo recognizes that BCWD, VBWD, and SWWD will continue to have permitting authority for areas within each district. The most recent rules and regulations for each district can be found at the relative locations online:

- Brown's Creek Watershed District (BCWD) www.bcwd.org
- Valley Branch Watershed District (VBWD) www.vbwd.org
- South Washington Watershed District (SWWD) www.swwdmn.org

Local surface water goals will continue to be implemented through annual review and updates of the City's Storm Water Pollution Prevention Plan (SWPPP), as well as compliance with the NPDES MS4 Permit. Additional goals and policies of the City are contained as follows.

LSWMP Goals and Policies

The following goals and policies are part of the City of Lake Elmo's adopted Local Surface Water Management Plan (LSWMP):

Goal 1. The City of Lake Elmo is committed to a goal of no adverse impacts to ground and surface water resources in the area.

Policies:

- The City will work cooperatively with local water management organizations, state agencies, and landowners to protect local wetlands, lakes, streams, and ground water to preserve the values of these resources for future generations.
- The City concurs with and adopts the Valley Branch, South Washington and Brown's Creek Watershed Districts' Watershed Management Plans, rules and standards by reference through this LSWMP. The Watershed Districts will

continue to enforce surface water regulations and permitting within the City within the boundaries of their districts. The City will coordinate its review of development proposals with the Watershed Organizations, by providing review comments to the districts.

- The City will manage land use to support protection of surface and ground waters through the following elements of its Zoning and Subdivision Ordinance:

  Chapter 53 Stormwater Management Utility
  Chapter 91 Forests and Trees
  Chapter 152 Flood Plain Management
  Chapter 153 Subdivision Regulations
  Chapter 154 Zoning Code

- The City will implement its ordinances and standards and cooperate with the County, MPCA and the Watershed Organizations in managing land use to protect ground water resources. Additional goals and policies for ground water protection are included in the Water Supply element of the City's Comprehensive Plan.

- The City encourages the use of best management practices for agricultural land uses to minimize erosion and to protect the quality of surface and ground water resources.

- The City supports and will encourage developers and landowners to use storm water practices that promote infiltration/filtration and decrease impervious areas through site design and use of Low Impact Development (LID) techniques and Green Design.

- The City supports inspection of on-site individual sewage treatment systems by an MPCA certified inspector at the time of property sale or transfer and requirements that these systems meet state standards.

Goal 2. The City will work with local Watershed Districts to collaborate in the plan review and permitting new development and redevelopment projects to meet ordinances and design standards thereby implementing rate and volume control practices.

Policies:

- The City will continue to review and implement the recommendations of the Village Regional Stormwater Study to further mitigate water quantity and quality concerns in the Old Village center and Down's Lake Watershed.

- Review developments and require they meet SWWD permit requirements.

Goal 3. Protect the quality of local lakes by supporting the Watershed Districts' goals and plans for managing lakes in the City.

Policies:

- The City will update and implement its land use plan, zoning and subdivision ordinances to protect shoreland areas and lake water quality, and work with the Watershed Districts to achieve the lake management goals identified in the Watershed's Water Management Plans.
- The City will participate in the Watershed Districts' Total Maximum Daily Load (TMDL) studies and implementation plans to address impaired water bodies within the City and areas downstream.

Goal 4. Protect and enhance the quality of wetland resources.

Policies:

- The City will cooperate with the Valley Branch Watershed District as they serve as the LGU for the WCA within its watershed area.
- The City will serve as the LGU for the WCA within the BCWD and SWWD areas of the City. The City will utilize the technical assistance provided by the Washington Conservation District in this role.
- The City will support and help to implement Watershed District requirements for wetland management, including District water quality standards, buffer requirements, and pretreatment of stormwater prior to discharge into all wetlands.
- Wetlands that have not been inventoried by the Watershed Districts will be required to complete a functions and values assessment as a part of the development application. Watershed rules regarding wetland management will be applied based on the results of the assessment and the wetland classification.

Goal 5. Protect and enhance the quality of natural resources.

Policies:

- The City will work with state agencies, Washington County, local watershed districts and residents and landowners to protect and enhance natural communities and natural resources in Lake Elmo.

- The City will encourage developers and landowners to retain native vegetation and undisturbed areas to protect habitat and manage stormwater.
- The City will require subdivision design that preserves natural drainage systems and protects and restores wetlands and wetland buffers.
- The City will work with other organizations and landowners to protect the greenway corridors and habitat connections identified in Lake Elmo.
- The City will work with other organizations and support efforts to control the spread of invasive exotic species.

Goal 6. Protect ground water quality and quantity.

Policies:

- The City will cooperate with the Minnesota Pollution Control Agency, Minnesota Department of Health, Washington County, and local watershed districts to address ground water quality and quantity issues. The City will enforce its Zoning and Subdivision ordinances to protect ground water quality, ground water quantity, and to manage ground water recharge areas.
- The City will coordinate with other LGUs for ground water sensitive areas, wellhead protection areas, water use contingency, and allocation plans, and other ground water issues where the plans may affect other jurisdictions.
- The City has completed a Wellhead Protection Plan (included in the LSWMP Appendix) and will continue to evaluate and monitor implementation of the objectives and plans of actions identified in this Plan.
- The City will consider requiring a ground water monitoring plan or ground water protection plan as part of a permit application for businesses that store, use, or transport hazardous materials and for properties formerly used as a waste disposal site or waste transfer facility.

TRIN Goal #1. **Provide improved infrastructure, including sewer, water, and facilities, to serve new residents in the developing areas of the community.**

- Chapter 1: Vision, Goals & Strategies

IMPLEMENTATION PLAN

City Role & Responsibilities

The City will complete the following specific implementation actions to implement the Surface Water Chapter of this Plan:

1. The City adopts and incorporates by reference the Watershed Management Plans of the three Watershed Districts with presence in Lake Elmo, including the standards and rules, into this Comprehensive Plan and as a part of the City's permitting and development review process. The Watershed Districts will continue to enforce surface water regulations and permitting within the City and within their geographic areas. The City will coordinate its review of development proposals with the Watershed Districts and will manage land use to support protection of surface and ground waters through its Zoning and Subdivision Ordinance.
2. The City will update its Local Surface Water Management Plan (LSWMP) by the end of 2019 consistent with the timeline adopted in the 2009 LSWMP. The City understands that its LSWMP must be consistent with each Watershed District's Watershed Management Plans.
    - The City understands that the Valley Branch Watershed District, Brown's Creek Watershed District and South Washington Watershed District have prepared models for portions of the City, but not all modeling work is complete. The City will rely on each Watershed District completing this work and will update its LSWMP as information and data become available.
    - The City will update its LSWMP and submit a copy to each of the Watershed Districts for review, comment, and approval once complete.

3. *City Process for Proposed Development*. The City of Lake Elmo reviews proposed development per its Subdivision Ordinance. Design must be in compliance with Engineering Design Standards. An approved Watershed District permit is required prior to final plat acceptance. WCD approval of any wetland impact must be provided if located in BCWD or SWWD. Any impacts to public waters must be reviewed by the MnDNR. An NPDES Permit must be received from the MPCA when applicable. An approved SWPPP must be provided for all subdivisions. No building permit will be issued until the following has been completed: The City will support the Watershed Districts' implementation of their standards for management of water quantity and quality, including control of peak runoff, volume control, infiltration and filtration, wetland quality, and best management practices to control Total Suspended Solids (TSS), Total Phosphorus (TP), and runoff from development or redevelopment within the City.
4. The Watershed Districts will continue to play the primary role in reviewing storm water plans for development applications within the City, and the City will condition any development approvals on demonstrated compliance with Watershed District Rules. The City will direct applicants to submit completed permit applications of any development proposals at time of application and will work cooperatively with the Watershed Districts through the review and approval process.
5. The City will continue to work with each Watershed District on refinement of coordination of permit and development application review processes and timelines.
6. The City will update its ordinances to be consistent with Watershed Management Plans, standards and rules, and with NPDES construction storm water permit requirements for erosion and sediment control if necessary.
7. The City will cooperate with the Watershed Districts to address concerns related to impaired waters and, as the Watershed Districts complete TMDL studies, will manage land use to avoid impacts to water resources within the City.

8. Continue to implement the City's MS4 Permit and SWPPP requirements.
9. *Funding Mechanisms*. The City will continue to use general fund revenues and storm water utility funds to fund improvements when needed to address water quality and quantity concerns and maintain City-owned storm water management facilities. The City's commitments to system maintenance are described in detail in its MS4 permit and SWPPP. The City requires that developers finance the improvements that are required with new development and redevelopment to ensure that private developments meet City and watershed requirements.
10. *Capital Improvement Plan (CIP)*. The City's CIP will incorporate specific implementation strategies for surface water management as part of the budgeting process.
11. The City's inspection and maintenance program and pollution prevention/good housekeeping is completed under the MS4 Permit and documented per the SWPPP.
12. The City will continue to implement the strategies and recommendations as needed from the Old Village Area Regional Storm Water Management Study that was completed by SEH, in May 2015, to continue to address and mitigate the Old Village Area flooding problems and to protect resources in the Down's Lake Watershed and downstream.

13. *City Ordinances*. The City's adopted ordinances that provide standards and regulations to manage water resources include the following:
    - Chapter 53 Stormwater Management Utility
    - Chapter 91 Forests and Trees
    - Chapter 150 Illicit Discharge and Connection
    - Chapter 152 Flood Plain Management
    - Chapter 153 Subdivision Regulations
    - Chapter 154 Zoning Code

NPDES Phase II

The City of Lake Elmo is required to have a Municipal Separate Storm Sewer System (MS4) permit through the MPCA's National Pollutant Discharge Elimination System (NPDES) Phase II Program of the Minnesota Pollution Control Agency (MPCA). MS4 Permits are required for communities with urban development and populations over 10,000 or with urban development and populations over 5,000 that have potential to discharge to valuable or polluted waters. In accordance with an MS4 Permit, the City of Lake Elmo is required at a minimum to implement six control measures:

1. Public Education and Outreach
2. Public Participation/Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping for Municipal Operations

For more information on the MS4 Permit requirements, see the MPCA's rules online at www.pca.state.mn.us.

Official Controls

The City of lake Elmo maintains official controls for the purposes of water management and environment protection within their Municipal Code.

Stormwater Management Utility

Lake Elmo maintains a stormwater management utility as outlined in ordinance Chapter 53 of the Municipal Code. The code states that "The municipal surface water system shall be operated as a public utility, pursuant to M.S. § 444.075, …from which revenues will be derived subject to the provisions of this chapter and Minnesota Statutes.

In general, revenue from the surface water utility shall be used for preparation of a Surface Water Management Plan, maintenance of existing ditches, culverts, pond, and storm sewers, capital improvement in developed areas, equipment, planning, inventories, and water quality improvements, including weed control."

Wetland Protection and Preservation Overlay District (WPP)
(Chapter 150, Section 215)

The purpose of the Wetland Protection and Preservation Overlay District is to "provide for the protection, preservation, proper maintenance, and use of the City's wetlands, to minimize the disturbance to them and to prevent damage from excessive sedimentation, eutrophication, or pollution, to prevent loss of fish or other beneficial aquatic organisms, and/or loss of wildlife and vegetation or the habitants of the same; to provide for the protection of the City's probable fresh water supplies from the dangers of drought, overdraft, pollution, or mismanagement; to secure safety from floods; to reduce the financial burdens imposed upon the communities through rescue and relief efforts occasioned by the occupancy or use of areas subject to periodic flooding to prevent loss of life, property damage, and the losses and risks associated with flood conditions; to preserve the location, character, and extent of natural drainage courses."

Shoreland District and Standards
(Chapter 150, Section 250)

The Shoreland District is identified to protect water features from potential development and land use impacts. Generally, the ordinance outlines standards that "apply to all shorelands of the protected waters. Where the requirements of the underlying zoning district as shown on the official zoning map are more restrictive than those set forth in §§ 150.250 et seq., the more restrictive standards shall apply. Only land above the ordinary high water level of public waters can be used to meet lot area standards, and lot width standards must be met at both the ordinary high water level and at the building line."

Storm Water and Erosion and Sediment Control
(Chapter 150, Section 270)

As part of the Land Usage chapter (Chapter 150), the municipal code also regulates maintenance of storm water facilities, both public and privately-owned. It also requires that all site construction undergo regular monitoring and inspections for compliance with appropriate NPDES permit requirements.

Illicit Discharge and Connection
(Chapter 150, Section 300)

This Chapter of the Municipal Code regulates discharge and watercourse protection, and directly supports requirements in the MS4 Permit. It states "No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than storm water." For privately-owned land along a public watercourse, the ordinance also states "Every

person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, yard waste, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse."

Floodplain Management

Lake Elmo maintains a floodplain management ordinance in Chapter 152 of the Municipal Code. The ordinance generally regulates development and construction within floodways and floodplains. The purpose of the ordinance is to promote the public health, safety, and general welfare and to minimize those losses" applicable "to all lands within the jurisdiction of Lake Elmo shown on the official zoning map and/or the attachments thereto as being located within the boundaries of the Floodway, Flood Fringe, or General Flood Plain Districts.

Others

Other rules part of the official controls contribute to the goals and policies for surface water management and are contained within the Municipal Code. These chapters include Chapter 91, Forests and Trees; Chapter 153 Subdivision Regulations; and Chapter 154 Zoning.
There are no major changes identified at this time to the City's Official Controls as they relate to the management of surface water in the City. As the Lake Elmo 2040 Comprehensive Plan Update is adopted, Zoning Codes will be updated to match the Future Land Use Plan. These Zoning Codes may incorporate additional standards that support implementation of best practices in surface water management as development occurs. The added standards may help achieve City goals for improved groundwater recharge, reduction of runoff, and increased water quality.

Education Program

As part of Lake Elmo's commitment to education, and an important component of the MS4 Permit compliance, the City will continue to organize education programs for increased public awareness and participation in local surface water management. Lake Elmo is a member of the East Metro Water Resource Education Program (EMWREP) to assist in establishing and facilitating education programs for water management. More information about EMWREP can be found online at www.mnwcd.org/emwrep.

Other opportunities will continue to be presented for residents, business owners, developers, and others to help improve strategies and implementation for increasing water quality and reducing runoff in all areas of Lake Elmo. Appropriate advertising of events and programs will be facilitated accordingly. Example programs may include:

- Wetland buffer delineation and management
- Best management practices for storm water infiltration
- Best management practices for storm water runoff reduction and control
- Invasive species control
- Conservation easements
- Sustainable groundwater recharge

Collaboration with Agencies & Organizations

There are a number of local, state, and federal agencies that have rules and regulations related to local water management. The City recognizes the roles of these other agencies and will cooperate, coordinate, and when possible partner with these agencies.

This Chapter recognizes the many agencies and organization involved with regulating surface water management. It is the intention of the City of Lake Elmo to cooperate, collaborate, and coordinate efforts with these agencies to achieve successful water management within the City. Each of these organizations hosts various resources, plans, data, rules, and regulations for water management at the related website:

Federal

- Environmental Protection Agency www.epa.gov
- US Army Corps of Engineers www.mvp.usace.army.mi
- US Fish and Wildlife Service www.fws.gov

State

- Minnesota Environmental Quality Board www.eqb.state.mn.us
- Minnesota Department of Natural Resources www.dnr.state.mn.us
- Minnesota Pollution Control Agency www.pca.state.mn.us
- Minnesota Department of Health www.health.state.mn.us
- Board of Water and Soil Resources www.bwsr.state.mn.us
- Minnesota Department of Agriculture www.mda.state.mn.us

County

- Washington County http://www.co.washington.mn.us/
- Washington Conservation District http://www.mnwcd.org/

Regional

- South Washington Watershed District www.swwdmn.org
- Valley Branch Watershed District http://vbwd.org/
- Brown's Creek Watershed District http://bcwd.org/
- Metropolitan Council www.metrocouncil.org

TRIN Goal #2. **Maintain the level of city services to existing neighborhoods and plan through appropriate capital expenditures for necessary improvements.**

- Chapter 1: Vision, Goals & Strategies

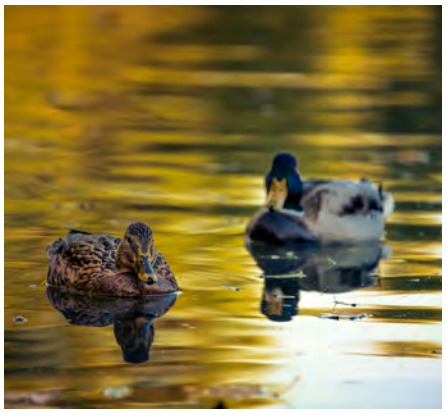
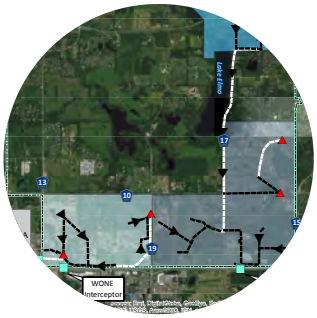


Table 8-3. Local Water Management Implementation Plan

DRAFT TABLE 8-3. LOCAL SURFACE WATER MANAGEMENT IMPLEMENTATION PLAN																	
Project Description	**MS4 Permit Requirement**	**Initial 12 Mo. Requirement**	**Annual Requirement**	**Projects, Programs & Studies**	**10 Year Cost Estimate**	**Possible Funding Sources**	**Proposed Cost By Year**										
							2018	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**Comments**
Update LSWMP	X	X					$10,000	$40,000									The current LSWMP expires in 2019; the update will be complete and adopted prior to this date; and budgeted for in 2018 – 2022 CIP
Education Activity Implementation Plan	X	X	X				$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	
Annual SWPPP Assessment & Annual Reporting	X		X				$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	
Annual Public Meeting/Event	X		X				$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	
Online Availability of the SWPPP	X	X	X				$250	$250	$250	$250	$250	$250	$250	$250	$250	$250	
IDDE Inspections	X	X	X				$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	
Phase 2 Regional Drainage Improvements								$1,200,000	$800,000								As shown in City adopted 2018-2022 CIP
Phase 3 Regional Drainage Improvements									$500,000								As shown in City adopted 2018-2022 CIP
Kramer Lake Floodplain study											$60,000						As shown in City adopted 2018-2022 CIP; contingent on grant from watershed district
Renew MS4 Permit								$10,000									Part of the next 5-year update to the SWPPP

DRAFT Chapter 9: Wastewater Services

Manage, Treat & Reserve



INTRODUCTION

The City of Lake Elmo is located within Washington County and is bordered by the City of Oak Park Heights, Baytown Township, and West Lakeland Township to its east; City of Woodbury to its south; the City of Oakdale to its west; and the City of Grant to its north.

A large portion of Lake Elmo is designated as Rural Residential, to which there are no plans to provide urban infrastructure, such as a centralized sanitary sewer collection. Two areas are designated as Emerging Suburban Edge and are in the Metropolitan Urban Service Area (MUSA), the Old Village MUSA Area and South Planning MUSA Area. In addition, there is a small MUSA area along the west side of Lake Olson where lake home properties connect to the City of Oakdale Sanitary Sewer system. The Comprehensive Wastewater Management Plan will focus heavily on the needs and future plans for the City sanitary sewer system needed to serve the Old Village and South Planning MUSA Areas.

The purpose of the Wastewater Management Chapter is to describe the existing wastewater management systems within the City and to outline timing and sequence of future improvements, allowing the City to build and improve a sanitary sewer collection system for the defined 2040 MUSA in the most efficient and cost-effective manner.

The City of Lake Elmo's Sanitary Sewer Plan was developed to conform to the Metropolitan Council's Thrive 2040 Water Resources Policy Plan, which outlines goals for the wastewater system, including environmental sustainability. Additionally, the Thrive 2040 Plan includes population, household, and employment projections alongside projected wastewater flows.

Wastewater flows are anticipated to increase significantly through 2040 as a result of projected population increases and land use changes within Lake Elmo. The Sanitary Sewer Plan serves as a guiding document for City infrastructure improvements and expansion.

CITY SANITARY SEWER SYSTEM AND URBAN SERVICES AREAS

Typically, municipal wastewater management systems consist of two elements: sanitary sewer collection and wastewater treatment. Collection systems include sewer services, trunk sewer pipe, lateral sewer pipe, manholes, lift stations, and forcemains which collect the sewer flows from private residential, commercial, and industrial properties within the city. Treatment systems include the biological or chemical treatment to remove targeted contaminants from the wastewater.

The City's sanitary sewer system is defined by four primary sanitary sewer service areas as follows: 1) the Old Village MUSA, 2) the Southeast Planning MUSA (Keats Avenue – Manning Avenue), and 3) the Southwest Planning MUSA (Inwood Avenue – Keats Avenue), and 4) Lake Olson MUSA.

Old Village MUSA

In 2013, the City constructed a lift station-forcemain system to convey wastewater from the Village Planning Area. The lift station-forcemain system was designed to serve the planned 1,100 new housing units and approximately 400 existing housing units with additional reserve capacity for future needs. The lift station was located near Reid Park at 30th Street and Lisbon Avenue, at the southern boundary of the Village Planning area. Two gravity trunk mains were extended north from the lift station, an 18-inch trunk main was extended on the Village east side through the new development growth areas, then along 39th Street from CSAH 14 to Lake Elmo Avenue. A 15-inch trunk main was extended west from the lift station along 30th Street, then north along Lake Elmo Avenue to serve existing residential properties. 8-inch lateral mains are being installed through a 7 Phase "Old Village Capital Improvement Plan" to replace aging and failed onsite wastewater systems, including two of the four community 201 wastewater systems. All Village wastewater is pumped through a 16-inch forcemain running approximately 3 miles and discharging to a 24-inch trunk main at Lake Elmo Avenue and 5th Street North.

Southeast Planning MUSA (Keats Avenue – Manning Avenue)

Sanitary sewer service was also initiated in 2013 to serve portions of the Southeast Planning MUSA beginning at the intersection of Lake Elmo Avenue and 5th Street. A 24-inch trunk main was extended north from the MCES Cottage Grove Ravine Meter Station in Lake Elmo and 8-inch lateral mains were extended to serve two new residential developments. As identified above, the 24-inch trunk main was designed to receive the Old Village MUSA wastewater and convey it to the MCES Cottage Grove Ravine Meter Station, located along Hudson Boulevard near Lake Elmo Avenue.

In 2017, following a Comprehensive Plan Amendment, sanitary sewer was extended to the Tartan Park area, just north of the Southeast Planning MUSA to serve the Royal Golf Club (RGC) residential development. The RGC sanitary sewer system consists of lateral gravity sanitary sewer mains within three separate lift station service areas. The multiple lift stations were needed to convey wastewater through a highly variable topography. The largest of the lift stations is located along 10th Street (the southern RGC boundary) and receives all wastewater generated from the development and pumps it to the existing 16-inch forcemain along Lake Elmo Avenue. The construction for two of the lift stations will be completed in 2018 with the third lift station to be phased in with the future build-out of the development.

The 2020 Staging Plan includes the extension of a second trunk sewer from the MCES Cottage Grove Ravine Meter Station to serve the portions of the Southeast Planning MUSA from Lake Elmo Avenue to Manning Avenue. In addition to serving new development in this area, service will be extended to the existing Cimarron manufactured home park consisting of approximately 510 units. Cimarron owns and operates a private sewer collection and wastewater treatment system. A new lift station will likely be required to connect to the City sanitary sewer system. This service area also includes the future connection to the existing Oakland Junior High School to replace an existing on-site wastewater treatment facility. These flows are included in the forecasts.

The 2030 Staging Plan includes the extension of two additional trunk sewer mains west of Lake Elmo Avenue, one from the MCES Cottage Grove Ravine Meter Station along Hudson Boulevard running west across Lake Elmo Avenue to serve new development south of the Forest Addition, and the second extending west from the intersection of Lake Elmo Avenue and 5th Street N. to serve the areas north and west of the Forest Addition. Both trunk sewer mains will discharge to a new lift station to be located on the west side of the Lake Elmo Avenue that will pumped across Lake Elmo Avenue to the adjacent gravity trunk mains.

Southwest Planning MUSA (Inwood Avenue – Keats Avenue)

The Eagle Point Business Park, located in the southeast 1/4 of Section 33, was platted and developed beginning in year 2000. The area was brought into the Metropolitan Urban Service Area (MUSA) and gravity sanitary sewer was constructed to serve the business park. Wastewater is conveyed to the I-94 lift station located on north side of Hudson Boulevard, about 1/3 mile east of Inwood Avenue (CSAH 13). Through agreement with the City of Oakdale, the I-94 lift station discharges to a City of Oakdale sanitary sewer main in Hudson Boulevard. From there it enters the WONE interceptor. Under the agreement with the City of Oakdale, Lake Elmo is limited to the amount it can discharge.

In 2014, significant residential development was initiated in the remaining Southwest Planning MUSA area, first to the east of the Eagle Point Business Park and later to the north. A sanitary sewer conveyance system was developed to serve the entire MUSA area consisting mostly of gravity sanitary sewer. A 12-inch trunk main was extended along Hudson Boulevard approximately 4,200 feet to the east of the I-94 lift station. At Jade Trail, another 12-inch trunk main is extended north into the Inwood development (north of the Eagle Point Business Park) which later transitions down to a 10-inch main at 10th Street and Island Trail. A lift station (Keats Avenue Lift Station) was needed to capture wastewater flows from the lower topographic area adjacent to Keats Avenue and Goose Lake. The forcemain from this lift station runs south along Keats Avenue, then west along Hudson Boulevard and discharging back to the 12-inch trunk main on Hudson Boulevard.

The current staging areas (up to 2020) have been platted for the most part and the sanitary sewer system installed, although some areas have not been fully built-out. The commercial areas remain unbuilt along Inwood Avenue and just north of the Eagle Point Business Park.

The 2020 Staging Plan consists of about 125 aces located between the Eagle Point Business Park and Keats Avenue, and south of 5th Street North. The existing sanitary sewer system is in place and readily available to serve this area.

Lake Olson MUSA

In 2013, the City of Lake Elmo and City of Oakdale entered into a cooperative agreement, which is included in this Chapter as Appendix D, to jointly install sanitary sewer along Olson Lake Trail in the Tri-Lakes area, a border street with Lake Elmo properties on the east side and Oakdale properties on the west side. The sanitary sewer extension provides public sewer service to 21 Lake Elmo properties but connects to an Oakdale owned and operated sanitary sewer system. Five properties were connected to sewer in 2013 and the remaining properties were connected in 2017. No future extensions are anticipated for this MUSA area at this time.

METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

For the City of Lake Elmo, the Metropolitan Council Environmental Services (MCES) provides wastewater treatment for Lake Elmo's sanitary sewer flows. Therefore, the City's sanitary sewer system consists of only a collection system which connects and discharge to MCES interceptors. MCES owns and operates a system of sewer interceptors that convey wastewater across City boundaries to regional treatment facilities. Wastewater flows from Lake Elmo enter the MCES Interceptor system at two locations. The western portion of the South Planning MUSA, between Inwood Avenue and Keats Avenue, are conveyed to the MCES Metropolitan Wastewater Treatment Plant (WWTP) located in the City of St. Paul, directly adjacent to the Mississippi River. This area connects to the MCES system through a 10-inch gravity sewer extending across eastern Oakdale and connecting to the MCES 15-inch 1-WO-500 (WONE) interceptor sewer that crosses under I-94 into Woodbury. The Old Village MUSA and eastern portion of the South Planning MUSA, between Keats Avenue and Manning Avenue, are conveyed to the MCES Eagle Point Plant in Cottage Grove which serves southern Washington County. This area connects to the MCES system at a meter station/interceptor that also crosses under I-94 into Woodbury. The connection point is located along Hudson Boulevard approximately 1,000 feet east of Lake Elmo Avenue.

The MCES plans to extend a new sewer connection for the City of Lake Elmo to replace the connection through Oakdale for the western portion of the South Planning MUSA, more specifically the east 1/2 of Section 33 and all of Section 34. The new WONE connection point will be near the City's existing I-94 lift station and will greatly reduce that lift station's forcemain length. The I-94 lift station will continue to be active and maintained by the City.

The existing units in the Cimarron manufactured home park will be served by regional sewer between 2030 and 2040 unless environmental threats require a more immediate connection. The remaining homes and businesses not currently served by sewer within the Village Planning Area are assumed to be served by regional sewer between 2018 and 2030.

Lift Stations

The City's current system includes 5 lift stations, as summarized in Table 9-1.

TABLE 9-1 LIFT STATIONS

No.	Lift Station	Year Constructed	Pumping Capacity (gpm)
1	I-94 (along Hudson Blvd.)	2018 (rebuilt)	825
2	Reid Park	2013	1,200
3	Keats Avenue	2014	390
4	RGC 1st Addition	2018	100
5	10th Street	2018	325

FORECASTS

Population

The Metropolitan Council projects and publishes population and sewer usage forecasts for each City in the Metropolitan Area. This allocation is used in projecting future wastewater flows and system capacity to plan for additional infrastructure needs. Table 9-2 shows such forecasts for Lake Elmo.

TABLE 9-2 POPULATION FORECASTS FOR LAKE ELMO

Forecast Year	Forecast Component	Population	Households	Employment
2010	MCES Sewered	0	0	623
2010	Unsewered	8,061	2,776	1,318
2020	MCES Sewered	3,712	1,359	2,338
2020	Unsewered	6,788	2,441	562
2030	MCES Sewered	6,960	2,540	2,788
2030	Unsewered	7,140	2,760	562
2040	MCES Sewered	10,208	3,721	3,238
2040	Unsewered	7,992	3,379	562

Community Forecast for Areas Served by Regional Sewer Service

Wastewater flow projections were generated for each MUSA area and regional interceptor for the 2020, 2030 and 2040 planning periods based on the anticipated land uses. Table 9-3 summarizes these projections by sewer REC units, average day wastewater flows and peak day wastewater flows.

TABLE 9-3 PROJECTIONS BY SEWER REC UNITS

Current (2020) Wastewater Flows by Interceptor						
	MCES WONE Interceptor/Oakdale			MCES Cottage Grove Ravine Interceptor		
	REC Units	Average Day Projected Flow (MGD)	Peak Day Projected Flow (MGD)	REC Units	Average Day Projected Flow (MGD)	Peak Day Projected Flow (MGD)
Old Village MUSA				1,542	0.42	1.48
Southeast Planning MUSA				170	0.05	0.19
Southwest Planning MUSA	1,682	0.46	1.61			
TOTALS	1,682	0.46	1.61	1,712	0.47	1.67

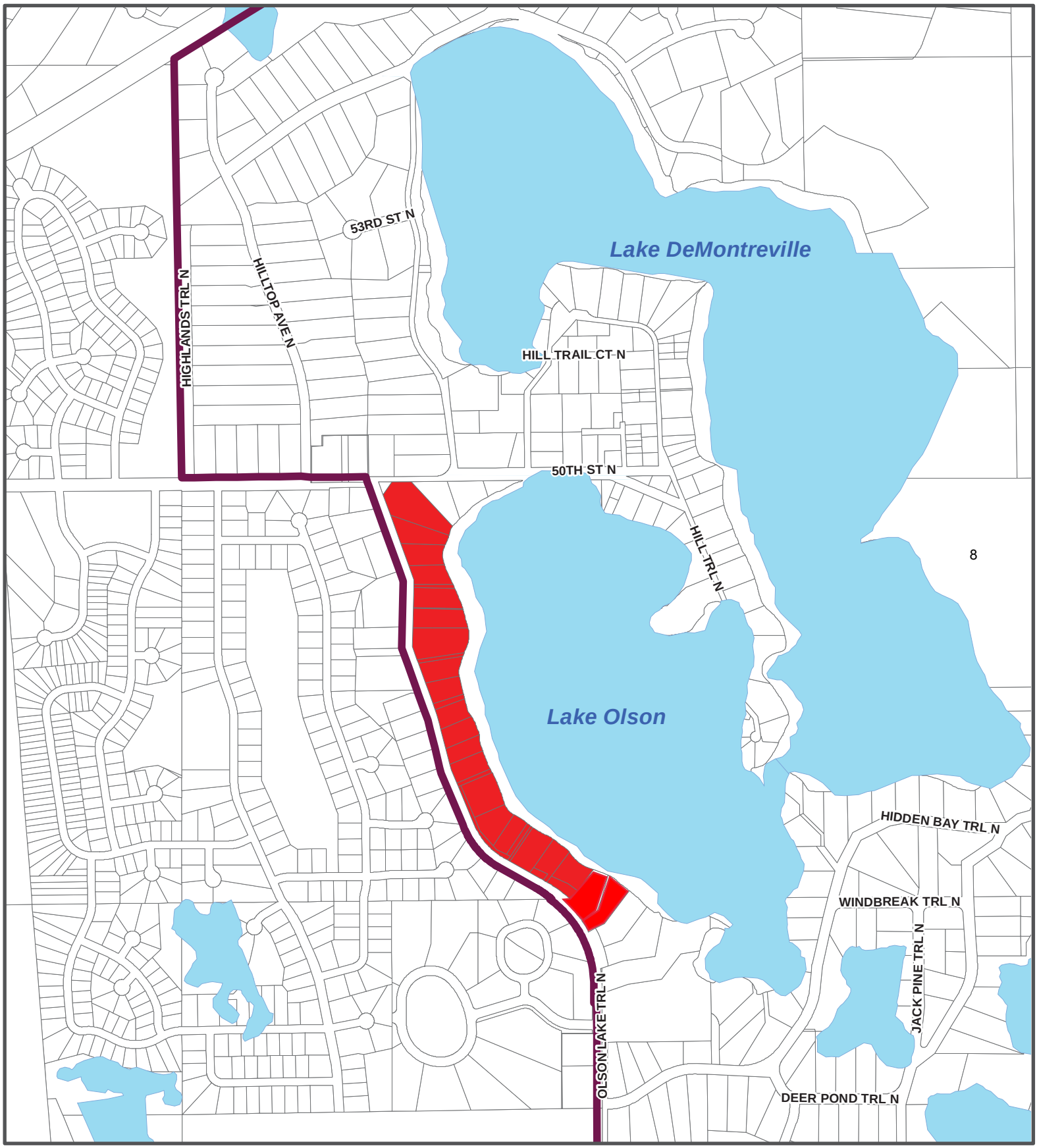
2020-2030 Wastewater Flows						
	MCES WONE Interceptor/Oakdale			MCES Cottage Grove Ravine Interceptor		
	REC Units	Average Day Projected Flow (MGD)	Peak Day Projected Flow (MGD)	REC Units	Average Day Projected Flow (MGD)	Peak Day Projected Flow (MGD)
Old Village MUSA				1,823	0.50	1.70
Southeast Planning MUSA				3,001	0.82	2.63
Southwest Planning MUSA	2,613	0.72	2.36			
TOTALS	2,613	0.72	2.36	4,824	1.32	4.33

2030-2040 Wastewater Flows by Interceptor						
	MCES WONE Interceptor/Oakdale			MCES Cottage Grove Ravine Interceptor		
	REC Units	Average Day Projected Flow (MGD)	Peak Day Projected Flow (MGD)	REC Units	Average Day Projected Flow (MGD)	Peak Day Projected Flow (MGD)
Old Village MUSA				2,537	0.70	2.29
Southeast Planning MUSA				5,344	1.46	4.39
Southwest Planning MUSA	2,613	0.72	2.36			
TOTALS	2,613	0.72	2.36	7,881	2.16	6.69

Sanitary Sewer Plan Map

The Sewer Staging Plan Map (Map 9-1) [to be inserted at a later date - see land use chapter] shows sewer service staging in four phases in accordance with the Land Use Plan.

The Sewer Services Area – Tri Lakes Map (Map 9-2) shows the sewer service area for existing homes to be provided with service along Lake Olson.



Sewer Service Area - Tri Lakes

Lake Elmo Comprehensive Plan Update

THE CITY OF LAKE ELMO

N

0 125 250 500 750 1,000 Feet

Public Sewer Service Area

Map 9-2

Projected Flows for Each MCES Interceptor Service Area (MGD)

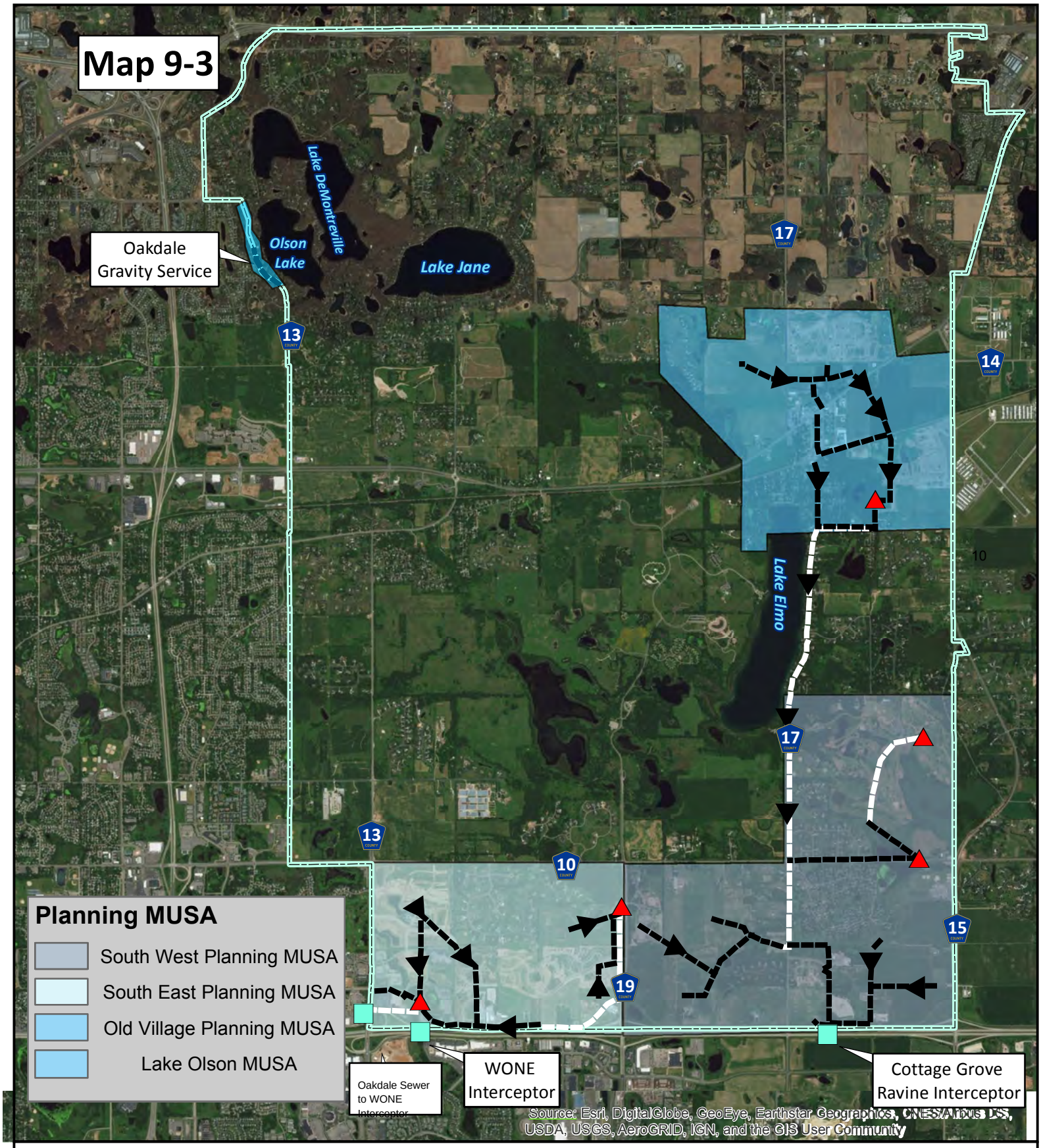
TABLE 9-4 PROJECTED FLOWS FOR EACH MCES INTERCEPTOR SERVICE AREA (MGD)

Average Day Projected Wastewater Flows by Interceptor (MGD)			
Year	WONE	Cottage Grove	TOTAL
2020	0.46	0.47	0.93
2030	0.72	1.32	2.04
2040	0.72	2.16	2.88

Peak Day Projected Wastewater Flows by Interceptor (MGD)			
Year	WONE	Cottage Grove	TOTAL
2020	1.61	1.67	3.28
2030	2.36	4.33	6.69
2040	2.36	6.69	9.05

Land Use Plan Map

The general plan for providing sanitary sewer to the planned service area is outlined in Map 9-3.



Future Land Use - Sewer Plan- DRAFT (needs edits and land use inserted)

Municipal Boundary

Data Source: Washington County, MN

Gravity Sewer
Forcemain Sewer
Flow Direction
Lift Station
MCES Interceptor

N

0 0.5 1 Miles

INFILTRATION AND INFLOW (I/I)

Inflow is water, typically stormwater, which enters the sewer system through broken manhole covers, sewer cleanouts, sump pumps, foundation drains, and rain leaders. ***Infiltration*** is water, typically groundwater, which leaks into the sewer system through cracks in the sewer mains, laterals, joints, and manholes. Water from inflow and infiltration (I/I) can consume available capacity in the wastewater collection system and increase the flow into treatment facilities. As a sewer system ages, I/I can become an increasing burden on a City's system and consume otherwise available capacity. Therefore, it is imperative that I/I be reduced whenever it is cost effective to do so.

In February 2006, the MCES began an Ongoing I/I Program which requires communities within their service area to eliminate excessive I/I. The City of Lake Elmo's sanitary sewer system is very new, primarily installed since 2013. Therefore, Lake Elmo currently does not have excessive I/I concerns.

The City of Lake Elmo's goal is to have no inflow or infiltration into its sewer system, and to attain the goal of preventing and reducing excessive infiltration and inflow as the sewer system ages. To meet that goal the City will observe the following procedures:

- All sewer mains will be air tested in accordance with the Minnesota City Engineers Association Standards for Utility Construction.
- All new sewer mains will be televised.
- Homes and businesses will be checked for sump pump discharge into the sewer system prior to issuance of a Certificate of Occupancy.
- The City will monitor actual sewer flows during storm events to see if there is an increase in sewer discharge.
- The City will develop a schedule to inspect and clean all sewers.

Additionally, City Code Section 150.300 prohibits discharge from and requires disconnection of existing sump pumps, foundation drains, and/or rain leaders to the sanitary sewer system, a copy of which is attached as in Appendix A.

AREAS NOT SERVED BY THE REGIONAL SYSTEM

Description of the City's Current Management Program

The City has adopted Chapter 4: Subsurface Sewage Treatment System Regulations of the Washington County Development Code by reference. A copy of the City's Ordinance and a description of the SSTS monitoring system are included as Appendix B. Washington County currently monitors SSTS installations and administers the code for the City. The City's Agreement with Washington County is included as Appendix C.
Cimarron Manufactured Home Park operates and maintains a packaged treatment plant with a capacity of 0.15 MGD. There is a State permit for this facility.

Information, including location, of non-conforming systems or systems with known problems may be obtained from the Washington County Comprehensive Plan 2040.

Conditions Under Which Septic Systems Are Allowed

Septic Systems are allowed for all land uses within the City outside of the planned sewer service areas in accordance with Chapter 4: Subsurface Sewage Treatment System Regulations of the Washington County Development code as adopted by reference by the City of Lake Elmo.

Private Community Wastewater Treatment Systems

Map 9-4 and Table 9-5 Private Community Wastewater Treatment Systems shows the privately owned sewage treatment systems that have been constructed in the City. These community wastewater collection and treatment systems were installed in accordance with Minnesota Rules 7080 to serve open space developments including Carriage Station, Discover Crossing, Farms of Lake Elmo, Fields of St. Croix, Hamlet on Sunfish Lake, Hidden Meadows, St. Croix's Sanctuary, Tamarack Farm Estates, Tana Ridge, Tapestry at Charlotte's Grove, Whistling Valley, and Wildflower Shores. These systems have all been constructed since 1998. The homeowners within these new subdivisions are responsible for ownership, operation and maintenance. The Private Community Wastewater Treatment Systems consist of "wetland treatment systems" or "community drainfield systems". Systems over 10,000 gallons per day have a State Disposal Permit.

TABLE 9-5 PRIVATE COMMUNITY WASTEWATER TREATMENT SYSTEMS

Private Community Wastewater Treatment Systems			
Subdivision	**Number of Homes**	**Design Flow (GPD)**	**State Permit**
Carriage Station	111	44,875	Yes
Discover Crossing	28	9,045	No
Farms of Lake Elmo	33	12,375	Yes
Fields of St. Croix	135	35,589	Yes
Hamlet on Sunfish Lake	41	8,200	Pending
Hidden Meadows	25 and church	13,375	Yes
St. Croix's Sanctuary	62	20,000	Yes
Tamarack Farm Estates	20	4,000	No
Tana Ridge	20	5,841	Yes
Tapestry at Charlotte's Grove	67	25,125	Yes
Whistling Valley	46	20,000	Yes
Wildflower Shores	25	3,600	No

Private Treatment Systems

There are currently 1,981 known individual sewage treatment systems (ISTSs or septic systems) within the City of Lake Elmo, as shown in Map 9-5.

13

City-Owned Community Wastewater Treatment Systems (201 Systems)

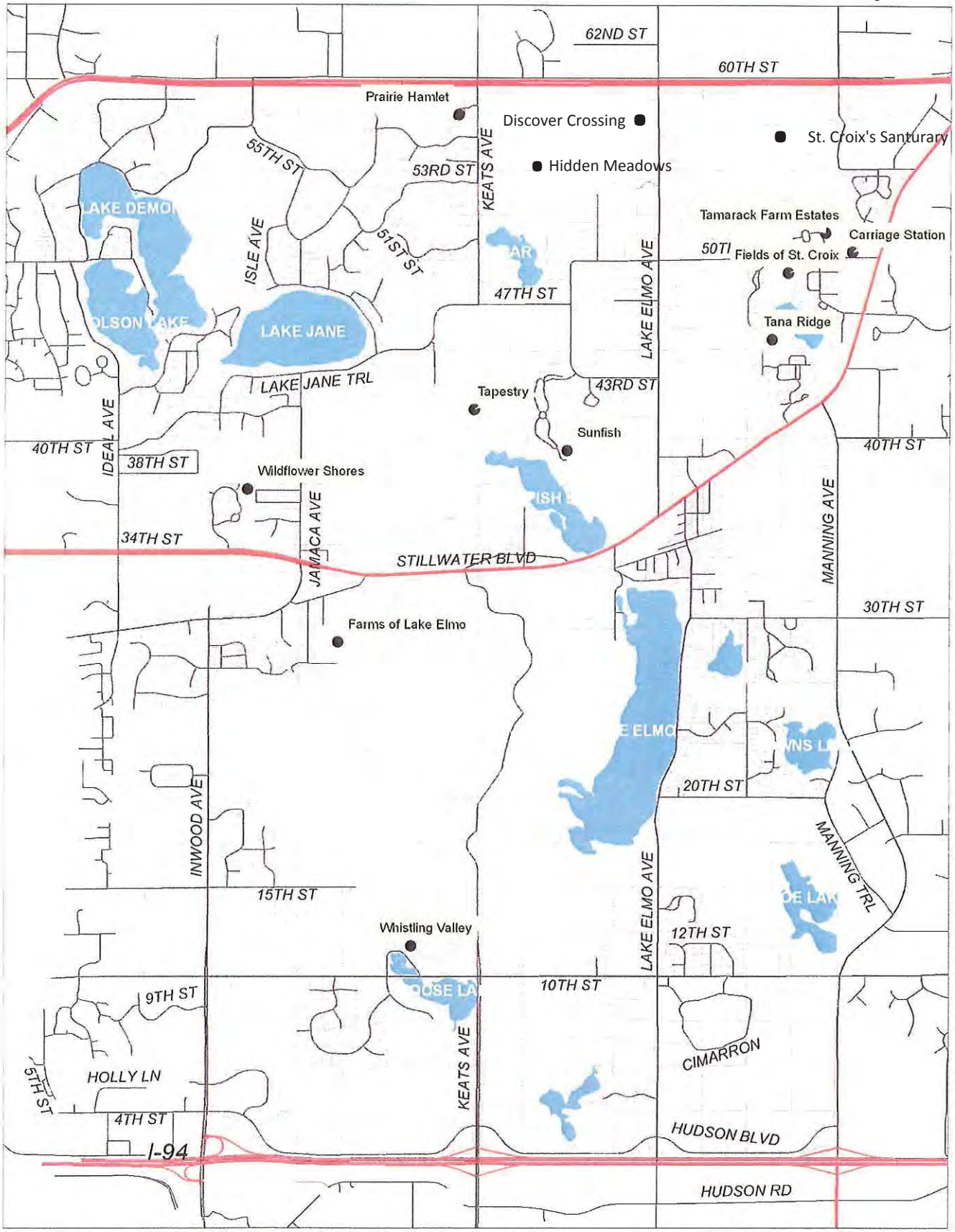
In the late 1980's, the City of Lake Elmo participated in the Federal 201 program which provided grant funds to help communities build shared wastewater treatment systems. The City of Lake Elmo designed and constructed eight (8) 201 shared wastewater treatment systems under this program to replace failing septic systems on private property. The systems provided individual septic tanks for private properties with shared wastewater drain fields and were constructed in the Old Village and Tri-Lakes areas. Two of the four Old Village 201 systems were replaced in 2015 and 2016 through the extension of City sanitary sewer, including Old Village Remote B and D. There are also four 201 systems located in the Tri-Lakes area.

Map 9-6 Existing 201 Shared Wastewater Treatment Systems shows the location of these systems, which includes the following facilities, as shown in Table 9-6:

TABLE 9-6 SHARED WASTEWATER TREATMENT SYSTEMS

City-Owned 201 Wastewater Treatment Systems		
Old Village Remote A	6	3,750
Old Village Remote B	REPLACED	0
Old Village Remote C	8	1,500
Old Village Remote D	REPLACED	0
Tri-Lakes Remote A	1	450
Tri-Lakes Remote B	3	1,500
Tri-Lakes Remote C	2	600
Tri-Lakes Remote D	3	1,350

Map 9-4



ENGINEERED WETLAND TREATMENT SYSTEMS

Lake Elmo Comprehensive Plan 2005 - 2030

Limitation of Liability

This document is not a legally recorded map or survey and is not intended to be used as one. This map is a compilation of records and information from various state, county, and city offices and other sources.

Map Date: August 24, 2005

Created By: TKDA

ENGINEERS ARCHITECTS PLANNERS

N W E S

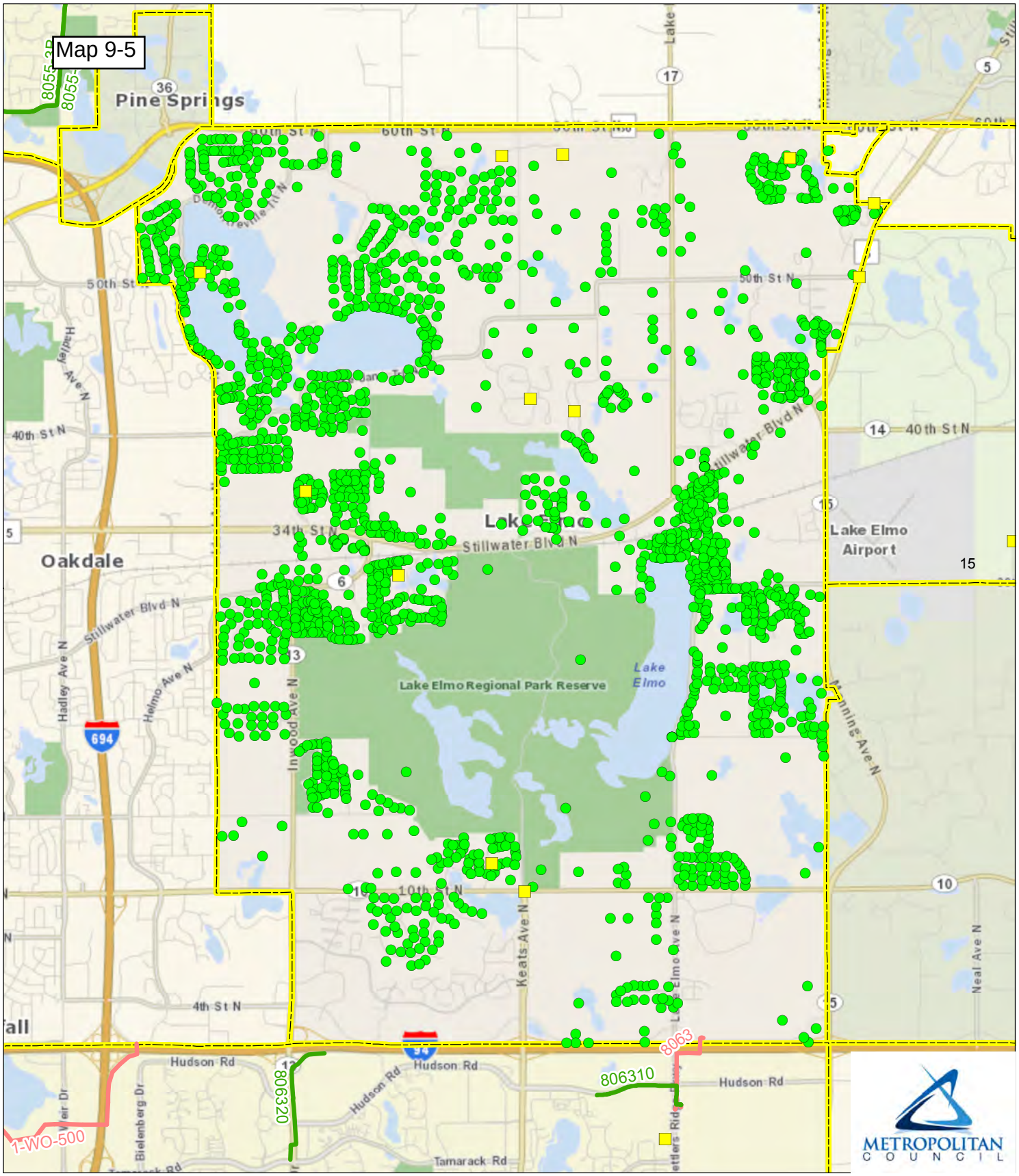
0 600 1,200 2,400 3,600

Feet

Treatment Systems

Wetland Treatment Location

Lake Elmo City Boundary



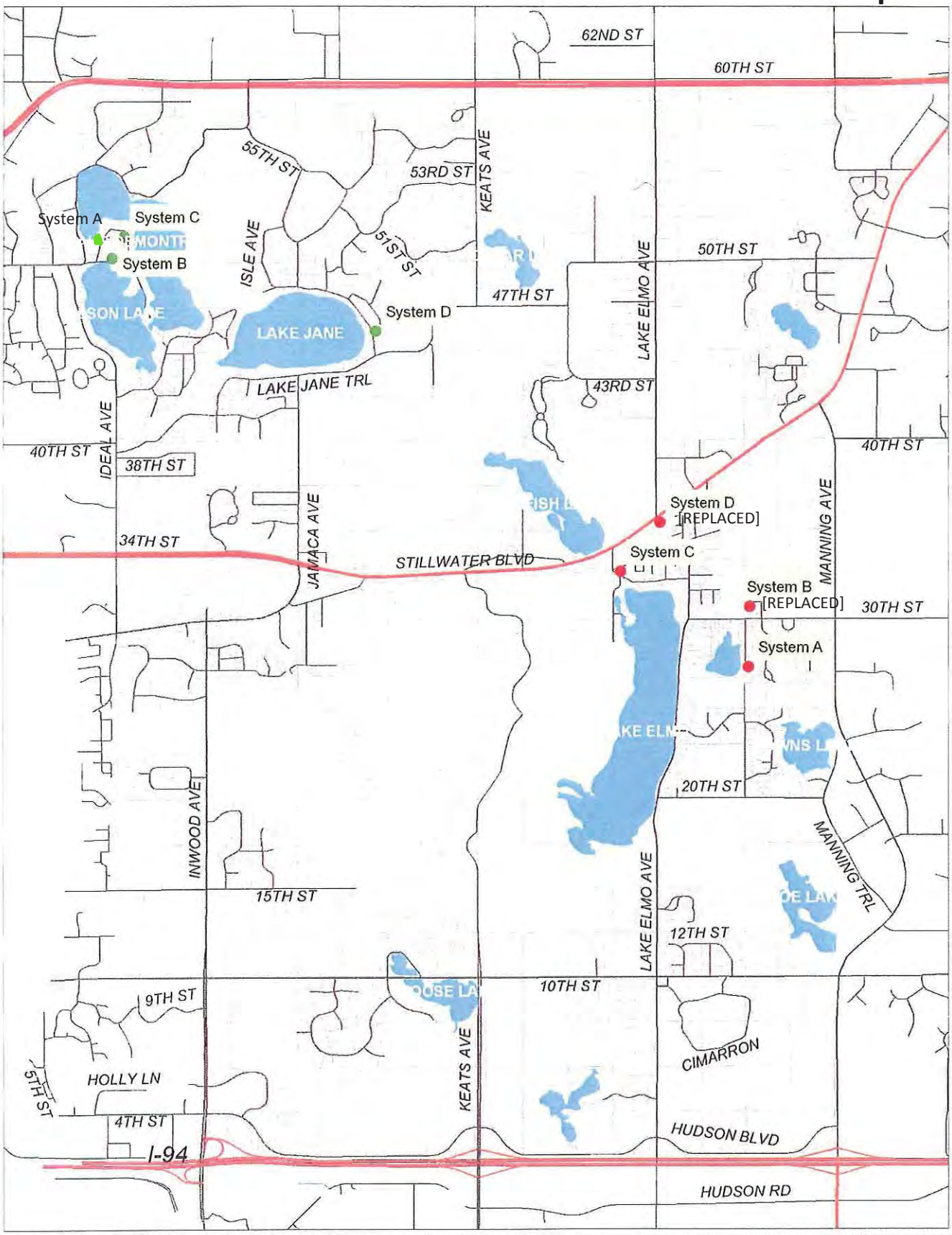
Individual Sewer Treatment Systems (ISTS)
City of Lake Elmo

Source Data: SSTS, (ISTS) Washington County (June 2017), NCompass Technologies and MCES.
Map created by MCES.

- Individual Sewer Treatment Systems (ISTS) (Approx. 1,982 Systems)
- Private Wastewater Treatment (Approx. 12 Systems)
- Gravity Interceptor
- Forcemain Interceptor
- City & Township Boundaries

0 2,000 4,000 Feet

Map 9-6



EXISTING 201 COMMON WASTEWATER SYSTEMS

Lake Elmo Comprehensive Plan 2005 - 2030

Limitation of Liability

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Map Date: August 24, 2005

Created By: TKDA

N W E S

0 600 1,200 2,400 3,600

Feet

Legend

- Old Village System
- Tri-Lakes System

Lake Elmo City Boundary

Print

Lake Elmo, MN Code of Ordinances

ILLICIT DISCHARGE AND CONNECTION

§ 150.300 PURPOSE.

The general purpose of this subchapter is to provide for the health, safety, and general welfare of the public through the regulation of non-storm water discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This subchapter establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the MS4 permit issued to the City of Lake Elmo by the Minnesota Pollution control Agency (MPCA) under the National Pollutant Discharge Elimination System (NPDES) permit process. The objections of this subchapter are:

(A) To regulate the contribution of pollutants to the MS4 by storm water discharges by any user;

(B) To prohibit illicit connections and discharges to the MS4;

(C) To establish legal authority to carry out all inspection, surveillance, monitoring, and enforcement 17 procedures necessary to ensure compliance with this subchapter.

(Ord. 2012-59, passed 6-5-2012)

§ 150.301 APPLICABILITY .

This subchapter shall apply to all water entering the storm drainage system generated on any developed and undeveloped lands unless explicitly exempted by § 150.306(A)(1) through (A)(4) of this subchapter.

(Ord. 2012-59, passed 6-5-2012)

§ 150.302 DEFINITIONS.

For the purposes of this subchapter, all terms, phrases, words, and their derivatives shall have the meanings as stated in Chapter 11 of the City Code.

(Ord. 2012-59, passed 6-5-2012)

§ 150.303 RESPONSIBILITY FOR ADMINISTRA TION.

The City of Lake Elmo shall administer, implement, and enforce the provisions of this subchapter. Any powers granted or duties imposed upon the City of Lake Elmo maybe delegated in writing by the City Administrator to persons or entities acting in the beneficial interest of or in the employ of the city.

(Ord. 2012-59, passed 6-5-2012)

§ 150.304 COMP ATIBILITY WITH OTHER REGULA TIONS.

This subchapter is not intended to modify or repeal any other ordinance, rule, regulation, or other provision of law. The requirements of this subchapter are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this subchapter imposes restrictions different from those imposed by any other ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

(Ord. 2012-59, passed 6-5-2012)

§ 150.305 ULTIMATE RESPONSIBILITY .

The standards set forth herein and promulgated pursuant to this subchapter are minimum standards; therefore this subchapter does not intend or imply that compliance by any person will ensue that there will be no contamination, pollution, or unauthorized discharge of pollutants.

(Ord. 2012-59, passed 6-5-2012)

§ 150.306 DISCHARGE PROHIBITIONS.

(A) Prohibition of illegal discharges. No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters[18] containing any pollutants, other than storm water. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

(1) The following discharges are exempt from discharge prohibitions established by this subchapter: water line flushing, landscape irrigation, diverted stream flows, rising groundwater, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, street wash water, dechlorinated swimming pool water, and any other water source not containing a pollutant.

(a) For swimming pool discharges, water shall sit seven days without the addition of chlorine to allow for chlorine to evaporate before discharge.

(b) Discharge of swimming pools, crawl spaces, sump pumps, footing drains and other sources that may be determined to contain sediment or other forms or pollutants may NOT be discharged directly to a gutter or storm sewer. This discharge must be allowed to flow over a vegetated area to allow filtering of pollutants, evaporation of chemicals and infiltration of water consistent with the storm water requirements of the City of Lake Elmo.

(2) Discharges or flow from firefighting, and other discharges specified in writing by the City of Lake Elmo as being necessary to protect public health and safety.

(3) Discharges associated with dye testing, however this activity requires a written notification to the City of Lake Elmo prior to the time of the test.

(4) The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the MPCA, provided that the discharger is in foil compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

(B) Prohibition of illicit connections.

(1) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(3) A person is considered to be in violation of this subchapter if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

(4) Improper connections in violation of this subchapter must be disconnected and redirected, if necessary, to an approved onsite wastewater management system or the sanitary sewer system upon approval of the City of Lake Elmo.

(5) Any drain or conveyance that has not been documented in plans, maps or equivalent, and which may be connected to the storm sewer system, shall be located by the owner or occupant of that property upon receipt of written notice of violation from the City of Lake Elmo requiring that such locating be completed. Such notice will specify a reasonable time period within which the location of the drain or conveyance is to be determined, that the drain or conveyance be identified as storm sewer, sanitary sewer or other, and that the outfall location or point of connection to the storm sewer system, sanitary sewer system or other discharge point be identified. Results of these investigations are to be documented and provided to the City of Lake Elmo.

(C) Additional discharge prohibitions. Any owner or occupant of property within the City of Lake Elmo[19] shall comply with the following requirements:

(1) Subsurface sewage treatment systems shall be maintained to prevent failure.

(2) Recreational vehicle sewage shall be disposed of to a proper sanitary waste facility.

(3) Mobile washing companies (carpet cleaning, mobile vehicle washing, and the like) shall dispose of wastewater to the sanitary sewer.

(4) All motor vehicle parking lots and private streets shall be swept, at a minimum, once a year in the spring to remove debris. Such debris shall be collected and properly disposed.

(5) Fuel, chemical residue, household hazardous waste or other types of potentially harmful material shall be disposed of properly.

(6) Objects, such as motor vehicle parts, containing grease, oil or other hazardous substances, and unsealed receptacles containing hazardous materials, shall not be stored in areas susceptible to runoff.

(7) Any machinery or equipment that is to be repaired or maintained in areas susceptible to runoff shall be placed in a confined area to contain leaks, spills or discharges.

(Ord. 2012-59, passed 6-5-2012)

§ 150.307 WATERCOURSE PROTECTION.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, yard waste, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

(Ord. 2012-59, passed 6-5-2012)

§ 150.308 INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGES.

Submission of Notice of Intent (NOI) to the City of Lake Elmo.

(A) Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit is required in a form acceptable to the City of Lake Elmo prior to the allowing of discharges to the MS4.

(1) Industrial activity includes activities subject to NPDES Industrial Storm Water Permits as defined in 40 CFR, Section 122.26 (b)(14).

(2) Construction activity includes activities subject to NPDES Construction Permits. These include construction projects resulting in land disturbance of one acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

(B) The operator of a facility, including construction sites, required to have an NPDES permit to discharge storm water associated with industrial activity shall submit a copy of the NOI to the City of Lake Elmo at the same time the operator submits the original NOI to the EPA as applicable.

(C) The copy of the NOI must be delivered to the City of Lake Elmo either in person or by mailing it to:

Notice of Intent to Discharge Storm Water
City of Lake Elmo
3800 Laverne Avenue S.
Lake Elmo, MN 55042

(D) A person commits an offense if the person operates a facility that is discharging storm water associated with industrial activity without having submitted a copy of the NOI to do so to the City of Lake Elmo.

(Ord. 2012-59, passed 6-5-2012)

§ 150.309 REQUIREMENT T O PREVENT , CONTROL, AND REDUCE ST ORM W ATER POLLUT ANTS BY THE USE OF BEST MANAGEMENT PRACTICES.

The City of Lake Elmo will adopt requirements identifying best management practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the storm drain system, or waters of the United States. The owner or operator of such activity, operation, or facility shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise that is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the MS4. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of storm water associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this subchapter. These BMPs shall be part of a storm water management plan (SWMP) as necessary for compliance with requirements of the NPDES permit.

(Ord. 2012-59, passed 6-5-2012)

§ 150.310 NOTIFICA TION OF SPILLS.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into

storm water, the storm drain system, or waters of the United States, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the City of Lake Elmo in person or by phone no later than the next business day. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Failure to provide notification of a release as provided above is a violation of this subchapter.

(Ord. 2012-59, passed 6-5-2012)

§ 150.311 RIGHT OF ENTR Y.

The City of Lake Elmo shall be permitted to enter and inspect facilities subject to regulation under this subchapter as often as may be necessary to determine compliance with this subchapter, including the right to set up, or require facilities owner to set up devices necessary to conduct monitoring and/or sampling of the facilities storm water discharge.

(Ord. 2012-59, passed 6-5-2012)

§ 150.312 ENFORCEMENT .

(A) Enforcement. The City of Lake Elmo shall be responsible for enforcing this subchapter.

(B) Penalties. Any person, firm or corporation failing to comply with or violating any of the provisions of this subchapter, shall be deemed guilty of a misdemeanor, and each day during which any violation of any of the provisions of this subchapter is committed, continued or permitted, shall constitute a separate offense. All land use and building permits shall be suspended until the applicant has corrected any and all violations.

(C) Emergency cease and desist orders. When the City of Lake Elmo finds that any person has violated, or continues to violate, any provision of this subchapter, or any order issued hereunder, or that the person's past violations are likely to recur, and that the person's violation(s) has (have) caused or contributed to an actual or threatened discharge to the MS4 or waters of the state which reasonably appears to present an imminent or substantial endangerment to the health or welfare of persons or to the environment, the City of Lake Elmo may issue an order to the violator directing it immediately to cease and desist all such violations.

(D) Suspension due to the detection of illicit discharge. Any person discharging to the MS4 in violation of this subchapter may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. Such suspension may also be imposed if it is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger.

(E) Violations deemed a public nuisance. In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this subchapter is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense; and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

(Ord. 2012-59, passed 6-5-2012)

§ 150.313 SEVERABILITY .

The provisions of this subchapter are severable. If any provision of this subchapter or the application of any provision of this subchapter to any circumstance is held invalid, such invalidity shall not affect other provisions or applications of this subchapter, which can be given effect without the invalid provision or application.

(Ord. 2012-59, passed 6-5-2012)

§ 150.314 AUTHORITY .

This subchapter shall become effective upon its passage and publication in accordance with the law.

(Ord. 2012-59, passed 6-5-2012)

Print

Lake Elmo, MN Code of Ordinances

Appendix B: Wastewater Treatment Systems Ordinance

CHAPTER 51: WASTE WATER TREATMENT SYSTEMS

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SUBSURFACE SEWAGE TREATMENT SYSTEMS

§ 51.001 INTENT AND PURPOSE.

This subchapter is adopted for the purpose of protecting the health, safety and welfare of the residents of the city through regulating the location, design, installation, use and maintenance of individual sewage treatment systems so as to prevent contamination of surface waters and groundwater.

(1997 Code, § 700.02) (Am. Ord. 08-029, passed 9-21-2010; Am. Ord. 08-159, passed 12-6-2016)

§ 51.002 REGULATIONS ADOPTED BY REFERENCE.

Chapter 4 of the Washington County Development Code entitled Subsurface Sewage Treatment Systems Regulations, Ordinance # 196 (the "County Regulations") , with the exception of Sections 3.1, 3.3, 3.4, 22.10, 23, 26.3, 28.1, and 29.1 is hereby adopted by reference and made part of this chapter. Whenever the term "Department" appears in the County Regulations, it shall mean the "Lake Elmo Planning Department." Whenever the word "County" appears in the County Regulations, it shall mean the "City of Lake Elmo" except as used in Section 3.14 of the County Regulations. Whenever the term "local unit of government" appears in the County Regulations, it shall mean the "City of Lake Elmo." 24

(Ord. 08-029, passed 9-21-2010; Am. Ord. 08-159, passed 12-6-2016)

§ 51.003 EXCEPTIONS TO COUNTY REGULATIONS.

(A) The following provisions are adopted in addition to the County Regulations and are more restrictive than the County Regulations:

Mound systems are not allowed for new collector systems in the OP Open Space Preservation District except to replace existing non-compliant systems.

(Ord. 08-029, passed 9-21-2010; Am. Ord. 08-159, passed 12-6-2016)

§ 51.004 GENERALLY.

General requirements - community sewage treatment systems.

(A) (1) Lawful connections to community sewage treatment systems will be allowed, with a city permit.

(2) When an existing individual sewage treatment system is failing and the property in question is near the community sewage treatment system provided capacity is available in all components of the community sewage treatment system.

(3) A new connection to a community sewage treatment system will not be permitted for new construction, unless the previous structure in which the new construction occurs was previously connected

to the existing community sewage treatment system. In that event, a city permit is required.

(Am. Ord. 97-105, passed 4-2-2002)

(B) The fee for new connections will be determined by the city. The new user will be responsible for paying all costs to connect to the system, plus a charge to pay for previously built drainfield areas.

(C) No person(s) shall uncover, make any connections with or opening into, use, alter, or disturb any community sewage treatment system or appurtenance of the system without first obtaining a written permit from the city. This provision shall not apply to certified qualified employees performing tasks within their area of certification for which a permit is not required. The definition of a CERTIFIED QUALIFIED EMPLOYEE shall be as set forth in the County Regulations.

(1997 Code, § 700.04) (Am. Ord. 08-029, passed 9-21-2010; Am. Ord. 08-159, passed 12-6-2016) Penalty, see § 10.99

§ 51.005 ADMINISTRA TION.

(A) Board of Adjustment and Appeals.

(1) Administrative appeals.

(a) An aggrieved party may appeal a decision by the permitting authority regarding the interpretation or application of the provisions of §§ 51.001et seq.

(b) Appeals shall be reviewed and determined by the city's Board of Adjustment and Appeals.

(2) Variance pr ocedures.

(a) Request for variances to the provisions of §§ 51.001et seq. shall be reviewed pursuant to the procedures and standards contained in the zoning code.

(b) No variances with respect to Sections 4.1, 4.7, 4.8, 4.9, and Sections 16.2(1) through 16.2(4) of the County Regulations will be considered or granted by the city. The city may grant a variance with respect to Section 4.8(4)(A) of the County Regulations for replacement MSTS serving existing dwellings or other establishments.

(Am. Ord. 97-124, passed 11-18-2003; Am. Ord. 08-029, passed 9-21-2010; Am. Ord. 08-159, passed 12-6-2016)

MUNICIPAL SANITARY SEWER SYSTEM

§ 51.020 GENERAL OPERA TION.

The municipal sanitary sewer system shall be operated as a public utility and convenience from which revenues will be derived, subject to the provisions of this chapter.

(1997 Code, § 705.01)

§ 51.021 DEFINITIONS.

Unless specifically defined within §§ 51.020et seq., common definitions, words, and phrases used in §§ 51.020 et seq. shall be interpreted so as to give them the same meaning throughout this code, and are found

in § 11.01.

(1997 Code, § 705.02)

§ 51.022 CONNECTIONS WITH SEWER REQUIRED.

(A) Any building used for human habitation or in which a toilet or other plumbing facility for the disposal of human waste is installed and located on property adjacent to a sewer main, or in a platted block through which the system extends, shall be connected to the municipal sanitary sewer system within 2 years from the date on which a connection is available to the building.

(B) All buildings subsequently constructed within the city on property adjacent to a sewer main or in a platted block through which the municipal sanitary sewer system extends, shall be provided with a connection to the sewer system for the disposal of all human waste.

(1997 Code, § 705.03) (Am. Ord. 08-139, passed 6-21-2016) Penalty, see § 10.99

§ 51.023 SUPER VISION OF SEWER CONNECTIONS.

(A) The Building Official shall supervise all sewer connections made to the municipal sanitary sewer system and excavations for installing or repairing the connections.

(B) All sewer installers shall verify the location and elevation of a sewer connection stub by securing a written statement from the City Engineer before proceeding with the installation of the sewer house connection.

(C) The City Engineer shall not deviate from the planned location without written permission from the Council.

(1997 Code, § 705.04) Penalty, see § 10.99

§ 51.024 PERMITS.

(A) Persons desiring a connection to the municipal sanitary sewer system shall apply to the city for a permit. The application shall be made on forms furnished by the Administrator and shall be accompanied by plans, specifications, and other information required by the Building Official, together with a permit fee as set forth from time to time by resolution of the Council. When reinspection is necessary, a fee as set forth from time to time by resolution of the Council for the reinspection shall be paid. All costs and expenses incident to the installation and connection shall be borne by the owner, and the owner shall indemnify the city for any loss or damage that may, directly or indirectly, be occasioned by the installation of the sewer connection, including restoring streets and street surfaces.

(B) Permits for connections will be issued only to the property owner or to a person duly licensed to make the connection under the provisions of this chapter.

(1997 Code, § 705.05) Penalty, see § 10.99

§ 51.025 CONNECTION CHARGE.

(A) A connection charge as determined by resolution of the Council and the permit fee as set forth from time to time by resolution of the Council shall be paid at the time of making application for a connection to the municipal sanitary sewer system.

(B) Before a permit shall be issued, the following conditions shall be complied with.

(1) Permit requirements. No permit shall be issued to connect any lot or tract of land with the municipal sanitary sewer system of the city, either directly or indirectly, unless it shall be determined that:

(a) The lot or tract of land to be served by the connection has been assessed for the cost of construction of the sanitary sewer main with which the connection is made;

(b) If no assessment has been levied for the construction cost, the proceedings for levying the assessment have been or will be commenced and completed in due course; or

(c) If no assessment has been levied, and no assessment proceedings will be completed in due course, a sum equal to the portion of cost of construction of the sanitary sewer main which would be assessable against the lot or tract has been paid to the city.

(2) Additional connection fee.

(a) If none of the above conditions are met, no permit to connect to any sanitary sewer main shall be issued unless the applicant shall pay an additional connection fee which shall be equal to the portion of the cost of construction of the sanitary sewer main which would be assessable against the lot or tract to be served by the connection.

(b) The assessable cost is to be determined by the Administrator upon the same basis as any assessment previously levied against other property for the main.

(c) If no assessment has been levied, the assessable cost will be determined upon the basis of the uniform charge which may have been or which shall be charged for similar connection with the sanitary sewer main, determined on the basis of the total assessable cost of the main, allocated on a frontage basis, acreage basis, or both.

(1997 Code, § 705.06) Penalty, see § 10.99

§ 51.026 TYPES OF W ASTES PROHIBITED.

(A) Unlawful discharges. It is unlawful to discharge any of the following described waters or wastes into the municipal sanitary sewer system:

(1) Any liquid or vapor having a temperature higher than 150°F;

(2) Any water or waste containing more than 100 parts per million by weight of fat, oil, or grease;

(3) Any liquids, solids, or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances to cause fire or explosion or be injurious in any other way to the waste water disposal system or to the operation of the system. Prohibited materials include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, and sulfides;

(4) Any waste water having a pH of less than 5.0 or greater than 9.5 or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the waste water disposal system;

(5) Any waste water containing toxic pollutants, including pesticides and herbicides, in sufficient quantity, either single or by interaction with other pollutants, to inhibit or disrupt any waste water treatment process, constitute a hazard to humans or animals, or create a toxic effect in the receiving waters of the waste water disposal system. A toxic pollutant shall include but not be limited to any pollutant identified pursuant to § 307(a) of the Clean Water Act of 1977, as amended;

(6) Any garbage that has not been properly shredded;

(7) Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, plastics, wood, manure, or any other solid or viscous substances capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage system;

(8) Any waters or wastes containing suspended solids of a character and quantity that unusual attention or expense is required to handle the materials at the sewage treatment plant;

(9) Any noxious or malodorous gas or substance capable of creating a public nuisance; and/or

(10) Grease, oil, and sand interceptors shall be provided when, in the opinion of the Building Official, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any inflammable wastes, sand, or other harmful ingredients; except that the interceptors shall not be required for private dwelling units which discharge only normal wastes. Grease and oil interceptors shall be of substantial construction, watertight, and equipped with easily removable covers, which, when bolted in place, shall be gastight and watertight. All grease, oil, and sand interceptors shall be maintained by the owner, at owner's expense, and in continuously efficient operation at all times.

(B) Substances prohibited.

(1) No person shall discharge or cause to be discharged directly or indirectly the following described substances to any public sewers unless, in the opinion of the city, the discharge will not harm the municipal sanitary sewer system facilities, nor cause obstruction to free flow in sewers, nor otherwise endanger life, limb, or public property, nor constitute a nuisance. In forming its opinion as to the acceptability of the wastes, the city may give consideration to the factors as the materials or construction of the sewers, nature of the sewage treatment process, capacity of the municipal sanitary sewer system facilities, the city's S.D.S./N.P.D.E.S. permit and other pertinent factors. City may make the determination either on a general basis or as a discharges from individual users or specific discharges, and may prohibit certain discharges from individual users because of unusual concentrations or combinations which may occur.

(2) The substances prohibited are:

(a) Any water or wastes containing strong acid, iron and pickling wastes, or concentrated plating solutions, whether neutralized or not;

(b) Any water or wastes containing phenols or other taste or odor-producing substances which constitute a nuisance or hazard to the structures, equipment, or personnel of the sewage works, or which interfere with the treatment required to meet the requirements of the state or federal government, or any other public agency with proper authority to regulate the discharge from the sewage treatment plant; and

(c) Any radioactive wastes or isotopes of the half-life or concentration that they are not in compliance with regulations issued by the appropriate authority having control over their use or may cause damage or hazards to the treatment works or personnel operating it.

(C) Water runoff discharge prohibited. It shall be unlawful to discharge or cause to be discharged into the municipal sanitary sewer system, either directly or indirectly, any roof, storm, surface or ground water of any type or kind, or water discharged from any air conditioning unit or system.

(1997 Code, § 705.08) Penalty, see § 10.99

§ 51.027 PRETREATMENT, CONTROL, AND REFUSAL OF EXTRAORDINARY WASTES.

(A) Generally.

(1) If any water or wastes are discharged, or are proposed to be discharged directly or indirectly to the public sewers, which water or wastes do not meet the standards set out in or promulgated under this section, or which in the judgment of the city may have a deleterious effect upon the treatment facilities, processes,

equipment, and soil, vegetation, and ground water or which otherwise create a hazard to life, or constitute a public nuisance, the city may take all or any of the following steps:

(a) Refuse to accept the discharges;

(b) Require control over the quantities and rates of discharge;

(c) Require pretreatment to an acceptable condition for the discharge to the public sewers; and/or

(d) Require payment to cover the added cost of handling or treating the wastes.

(2) The design and installation of plant or equipment for pretreatment or equalization of flows shall be subject to the review and approval of the city, and subject to the requirements of 40 C.F.R. § 403, as it may be amended from time to time, entitled "Pretreatment Standards," and the Minnesota Pollution Control Agency.

(B) Operation and maintenance; pr eliminary treatment. Where preliminary treatment, flow equalization, or interceptors are required for any water or waste, they shall be effectively operated and maintained continuously in satisfactory and effective condition by the owner at owner's expense and shall be available for inspection by the city at all reasonable times.

(C) Control; observation devices.

(1) When required by the city, the owner of any property services by a building sewer carrying industrial wastes shall install a suitable control structure together with the necessary meters and other appurtenances in the building sewer to facilitate observation, sampling, and measurement of the wastes.

(2) The structure and equipment, when required, shall be constructed at the owner's expense in accordance with plans approved by the city and shall be maintained by the owner so as to be safe and accessible at all times.

(D) Sampling. All measurements, tests, and analysis of the characteristics of water and waste to which reference is made in this section shall be determined in accordance with 40 C.F.R. § 136, as it may be amended from time to time, "Guidelines Establishing Test Procedures for the Analysis of Pollutants"; the latest edition of Standard Methods for the Examination of Water and Waste Water and shall be determined at the control structure provided, or upon suitable samples taken at the control structure. If no special structure has been required, the control structure shall be considered to be the nearest downstream manhole in the public sewer from the point at which the building sewer is connected. Sampling shall be carried out by customarily accepted methods to reflect the effluent constituents and their effect upon the treatment works and to determine the existence of hazards to life, health, and property. Sampling methods location, times, durations, and frequencies are to be determined on an individual basis subject to approval by the city.

(E) Proof of compliance. The owner of any property serviced by a building sewer carrying industrial wastes shall, at the discretion of the city, be required to provide laboratory measurements, tests, and analysis of waters or wastes to illustrate compliance with §§ 51.020et seq. and any special condition for discharge established by the city or regulatory agencies having jurisdiction over the discharge. The number, type, and frequency of sampling and laboratory analysis to be performed by the owner shall be as stipulated by the city. The industry must supply a complete analysis of the constituents of the waste water discharge to assure that compliance with the federal, state, and local standards are being met. The owner shall bear the expense of all measurements, analysis, and reporting required by the city. At the times as deemed necessary, the city reserves the right to take measurements and samples for analysis by an outside laboratory.

(F) New connections; sufficient capacity. New connections to the sanitary sewer system shall be prohibited unless sufficient flow capacity is available in all downstream facilities.

(G) Special considerations. No statement contained in §§ 51.020et seq. shall be construed as preventing any special agreement or arrangement between the city and any industrial concern where an industrial

waste of unusual strength or character may be accepted by the city for treatment, subject to payment for the special agreement/arrangement by the industrial concern, providing that National Categorical Pretreatment Standards and the city's N.P.D.E.S. and/or state disposal system permit limitations are not violated.

(1997 Code, § 705.09) Penalty, see § 10.99

§ 51.028 TAMPERING WITH MUNICIP AL SANIT ARY SEWER SYSTEM PROHIBITED.

No person shall maliciously, willfully, or negligently damage, destroy, uncover, deface, or tamper with any part of the municipal sewer system.

(1997 Code, § 705.10) Penalty, see § 10.99

§ 51.029 ENTR Y UPON PRIV ATE PROPER TY.

The Building Official, bearing proper credentials and identification, shall at reasonable times be permitted to enter upon all properties connected to the municipal sanitary sewer system for the purpose of inspection, observation, measurement, sampling, and testing in connection with the operation of the municipal sanitary sewer system.

(1997 Code, § 705.11)

§ 51.030 MAINTENANCE OF MUNICIP AL SANIT ARY SEWER CONNECTIONS.

Each property owner shall be responsible at all times for the maintenance of owner's sewer connection to the municipal sanitary sewer system, and shall have the obligation to keep the connection in good repair, to the end that there shall be no interference or obstruction to the sewer system as a whole, nor shall there be any violation of this chapter, and the laws of the state. The Building Official is authorized to make the inspections of the sewer connections as the Building Official may deem necessary to accomplish this purpose, and the property owner shall be responsible for carrying out the instructions as the Building Official deems necessary to accomplish this purpose.

(1997 Code, § 705.12) Penalty, see § 10.99

§ 51.031 RATES AND CHARGES.

Except as provided in §§ 51.020et seq., the Council shall prescribe by resolution the rates to be charged for sewer service and the method of billing and payments. Delinquent accounts may be assessed against the respective property served.

(1997 Code, § 705.13)

§ 51.032 ESTABLISHMENT OF STRENGTH CHARGES.

(A) The Metropolitan Waste Control Commission, a metropolitan commission organized and existing under the laws of the State of Minnesota (the "Commission"), in order to receive and retain grants in compliance with the Federal Water Pollution Control Act Amendments of 1972 (the "Acts"), as amended from time to time, and the regulations under the Act, has determined to impose an industrial user sewer strength charge upon users of the Metropolitan Disposal System (as defined in M.S. § 473.121, Subd. 24, as it may be amended from time to time) to recover operation and maintenance costs of treatment works

attributable to the strength of the discharge of industrial waste, the sewer strength charge being in addition to the charge based upon the volume of discharge. In order for the city to pay the costs based upon strength of industrial discharge and allocated to it each year by the Commission, it is found, determined, and declared to be necessary to establish sewer strength charges and a formula for the computation of the charges for all industrial users receiving waste treatment services within or served by the city. Furthermore, M.S. § 444.075, Subd. 3, as it may be amended from time to time, empowers the city to make the sewer charge a charge against the owner, lessee, occupant, or all of them and certify unpaid charges to the county auditor as a tax lien against the property served.

(B) For the purpose of paying the costs allocated to the city each year by the Metropolitan Waste Control Commission that are based on the strength of discharge of all industrial users receiving waste treatment service within or served by the city, in addition to sewer charge based on volume of discharge, a sewer charge upon each person, company, or corporation receiving waste treatment services within or served by the city, based upon strength of industrial waste discharged into the sewer system of the city, the charges referred to as "strength charge."

(1) Establishment of strength charge formula. For the purpose of computation of the strength charge established by this section, there is established, approved, and adopted the same strength charge formula designated in Resolution No. 76-172 adopted by the Metropolitan Waste Control Commission on 6-15-1976, a formula based upon pollution qualities and difficulty of disposal of the sewage produced through an evaluation of pollution qualities and quantities in excess of an annual average base and the proportionate costs of operation and maintenance of waste treatment service provided by the commission.

(2) Strength charge payment. The strength charge established by this section shall be paid by each industrial user receiving waste treatment services and subject to the charge before the twentieth day next succeeding the date of billing of the charge to the user by or on behalf of the city. The payment of the charge shall be deemed to be delinquent if not paid to the billing entity before the date. If the payment is not paid before the date an industrial user shall pay interest compounded monthly at the rate of 2/3 of 1% per month on the unpaid balance due.

(3) Establishment of tax lien.

(a) As provided by M.S. § 444.075, Subd. 3, as it may be amended from time to time, if payment of the strength charge established by this section is not paid before the sixtieth day next succeeding the date of billing of the charge to the industrial user by or on behalf of the city, the delinquent sewer strength charge, plus accrued interest, shall be deemed to be a charge against the property served, and the city or its agent shall certify the unpaid delinquent balance to the collection as other taxes are collected.

(b) The certification shall not preclude the city or its agent from recovery of the delinquent sewer strength charge and interest on the charge under any other available remedy.

(1997 Code, § 705.14)

COMMUNITY SEWAGE TREATMENT SYSTEM SERVICE CHARGE

§ 51.045 INTENT AND PURPOSE.

Sections 51.045et seq. is adopted for the purpose of:

(A) Setting forth the requirements for accruing revenues to enable the city to comply with the state and federal laws and to provide sufficient revenues to financially balance expenditures for the administration of those waste water systems within the city constructed with federal and state grant funds; and

(B) Charging those users of the waste water utilities within the city, which are constructed with federal and state grant funds, for the operation, maintenance, and replacement costs in proportion to use.

(1997 Code, § 710.02)

§ 51.046 REGULATIONS.

(A) The city has established a waste water service charge system whereby revenues collected from users of the waste water treatment facilities will be used to offset all expenditures incurred for administration, annual operation and maintenance, and equipment replacement.

(B) (1) A passive maintenance program shall be required of all those properties utilizing individual onsite sewage treatment systems while all properties connected to community collection and treatment systems, cluster system, or individual off-site treatment systems shall be on the active maintenance program.

(2) For those properties on the passive maintenance program, the property owner shall be responsible for the cost of operating, maintaining, and replacing owner's system. This will include arranging for all repairs and maintenance to septic tanks, pipes, pumps, controls, drain fields, as well as septic tank pumping. The property owner shall report all problems and the steps taken to alleviate the problems to the City Administrator. The city will supply inspection cards to the pumpers within the city. When a septic tank is pumped, the tank will also be inspected by the pumper and the signed inspection card returned to the city. The city shall, at regular intervals, and at least biennially, determine which septic tanks have not been inspected and/or pumped. If owners on passive maintenance fail to pump their septic tanks or to return the inspection card, the city will, at its option, inspect the system and perform the required maintenance. All costs of the inspection and maintenance shall be charged to the property owner.

(3) For those properties on the active maintenance program, the city shall be responsible for operating, maintaining, and replacing the collection and final treatment and disposal system. The city shall arrange for all repairs and maintenance on sewers, lift stations, controls, and drain fields. The property owner shall be responsible for all repairs and maintenance to septic tanks, including septic tank pumping, and to all individual pump stations and sewer pipes up to the collector sewer or final treatment and disposal system. Unless otherwise prescribed, city ownership and the city's responsibility for conducting operation, maintenance, and replacement shall begin at the property line.

(4) If owners on active maintenance fail to pump their septic tanks or to return the inspection card, the city will, at its option, inspect the system and perform the required maintenance. All costs of the inspection and maintenance shall be charged to the property owner. Property owners shall report all problems to the City Administrator who will determine responsibility for their correction. Damages caused by the abuse of the system by the property owner will be repaired by the city and assessed against the property owner.

(5) When it has been determined that maintenance and replacement is necessary on an individual or community sewage treatment system (apart from septic tank pumping addressed above), the maintenance and replacement shall be accomplished in a manner acceptable to the city. Replacement parts, equipment, and appurtenances shall be of a design and quality acceptable to the city and shall be installed in a manner acceptable to the city and in conformance with requirements of State of Minnesota Rule 7080, "Individual Sewage Treatment Systems," as it may be amended from time to time. In the absence of code provisions or in the amplification of code provisions, materials and procedures shall be as set forth in appropriate specifications of the A.S.T.M., and W.P.C.F. Manual of Practice No. 9. Replacement effected on individual systems shall be reported to the sewer authority.

(C) Community sewage treatment system service charges will be established based on equivalent residential units (E.R.U.). One E.R.U. is defined as a unit of waste water volume of 250 gallons per day with a theoretical waste strength of 250 mg/l of B.O.D. and 300 mg/l of total suspended solids. The

assignment of E.R.U.s will be made by the City Administrator in accordance with Tables I and II of Appendix A.

(D) In accordance with federal and state requirements, each user will be notified annually at the beginning of each calendar year of the user charge rates attributable to waste water treatment services.

(E) In accordance with federal and state requirements, the city will be responsible for maintaining all records necessary to document compliance with the waste water service charge system adopted.

(1997 Code, § 710.05) Penalty, see § 10.99

§ 51.047 DETERMINA TION OF COMMUNITY SEW AGE TREA TMENT SYSTEM SER VICE CHARGE.

(A) Intent.

(1) It is the intent of §§ 51.045et seq. that the user charges shall cover the costs of operating and maintaining the waste water systems, and that costs are recovered from all users in a proportionate manner. The City Administrator shall maintain a proper system of accounts suitable for determining the operation and maintenance, equipment replacement, and debt retirement costs of the collection and treatment facilities.

(2) These costs shall be reviewed at regular annual intervals. The city shall determine whether or not 33 sufficient revenue is being generated for the effective operation and maintenance and management of the waste water system, and that user charges are being distributed proportionately to all users. Any inequities and/or shortages shall be corrected by adjusting the rates accordingly by Council resolution.

(3) The annual user charge per equivalent residential unit is described as follows.

(a) User charge rate per equivalent residential unit:

$$\frac{Uc}{ERU} = \frac{Comr}{Total\ ERUs}$$

(b) Where:

1. Uc = Annual User Charge;
2. Comr = Total Annual OM&R Costs;
3. ERU = Equivalent Residential Unit; and
4. Total ERUs = The total number of ERUs connected to community sewage treatment systems.

(B) Use formula. All users shall be charged in accordance with the methodology described below.

(1) (a) Individual off-site or clustered sewage treatment units:

$$SCC = \frac{Uc}{ERU} * \#ERU + Ac$$

(b) Where:

1. SCC = Sewer Service Charge;
2. Uc = User charge for operation, maintenance, and replacement;
3. Ac = Administration charge; and

4. #ERU = Number of ERUs assigned to a particular connection.

(2) (a) Individual on-site sewage treatment units:

$$SCC = Ac$$

(b) Where:

1. SCC = Sewer service charge; and

2. Ac = Administration charge.

(C) Basis for annual user char ge. All users of the waste water treatment facilities shall be charged annually for sewer service based on the number of equivalent residential units assigned to each and based on whether the unit is seasonal or year-round.

(D) Additional requirements.

(1) If a user discharges toxic pollutants or wastes of unusual strength of character to the treatment facilities which cause or increase the operation and maintenance costs, the user shall be ordered either to install pretreatment facilities or pay for the extra costs of treating the wastes.

(2) This decision will be made by the City Administrator at the time the user begins to discharge extra strength wastes.

(1997 Code, § 710.06)

§ 51.048 DELINQUENT ACCOUNTS; REV OCATION.

(A) Delinquent accounts. Any bill not paid for 4 weeks after date of billing shall be declared delinquent and a past-due notice shall be issued to the billed party. The past-due notice shall contain an additional charge to cover the costs of the rebilling. Additional delinquent notices including their respective charges shall be sent at 8 and 12 weeks after the billing date. Should a bill still be delinquent after 120 days, the city may elect to take the following actions.

(1) Tax. Whenever waste water service charge bills become delinquent, the amount due shall be certified to the City Auditor for inclusion with the following year's tax statement.

(2) Lien. Whenever waste water treatment bills become delinquent, the same shall become and constitute a lien upon the real estate to which the sewer service is supplied. Statements rendered for the charge shall be deemed notice to all parties, whether or not the person charged with the statement is the owner of the property served. The claim for lien shall be made in the form of a sworn statement setting forth:

(a) A description of the real estate, sufficient for the identification of the real estate, upon or for which the sewage service was supplied;

(b) The amount of money due for the sewage service; and

(c) The date or dates when the amount or amounts became delinquent. If all amounts shown due remain unpaid after recording as provided by state statutes, the city may foreclose the lien in the same manner and with the same effect as in the foreclosure of mortgages on real estate.

(3) Civil action.

(a) In the alternative of levying a lien, the city may, at its discretion, file suit in a civil action to collect the amounts as are delinquent and due against the occupant or user of the real estate and shall collect, as well, all attorney's fees incurred by the city in filing the civil action.

(b) The attorney's fees shall be fixed by order of the court.

(B) Delinquent account penalties. In addition to all penalties and costs attributable and chargeable to recording notices of the lien or filing a civil action, the owner or user of the real estate being served by the treatment works shall be liable for interest upon all unpaid balances at the rate of 12% per annum.

(C) Revocation. The city reserves the right to revoke discharge permits and to disconnect service to any user whenever waste water treatment becomes delinquent.

(1997 Code, § 710.07)

§ 51.049 COMMUNITY SEW AGE TREA TMENT SYSTEM SER VICE FUND.

(A) Purpose.

(1) The city, by §§ 51.045et seq., establishes a "Sewer Service Fund" as an income fund to receive all revenues generated by the sewer service charge system, and all other income dedicated to the operation, maintenance, replacement, and construction of the waste water treatment works, including taxes, special charges, fees, and assessments intended to retire construction debt.

(2) The city also establishes the following accounts as income and expenditure accounts within the Sewer Service Fund:

(a) Operation and Maintenance Account;

(b) Equipment Replacement Account; and

(c) Debt Retirement Account.

(B) Management of funds.

(1) All revenue generated by the sewer service charge system, and all other income pertinent to the treatment system, including taxes and special assessments dedicated to retire construction debt, shall be held by the Clerk separate and apart from all other funds of the city.

(2) Funds received by the Sewer Service Fund shall be transferred to the Operation and Maintenance Account, the Equipment Replacement Account, and the Debt Retirement Account in accordance with state and federal regulations and the provisions of §§ 51.045et seq.

(C) Replacement. Revenue generated by the sewer service charge system sufficient to ensure adequate replacement throughout the design of useful life, whichever is longer, of the waste water facility shall be held separate and apart in the Equipment Replacement Account and dedicated to effecting replacement costs. Interest income generated by the Equipment Replacement Account shall remain in the Equipment Replacement Account.

(D) Operation and maintenance. Revenue generated by the sewer service charge system sufficient for operation and maintenance shall be held separate and apart in the Operation and Maintenance Account.

(1997 Code, § 710.08)

ALTERNATIVE WASTE DISPOSAL SYSTEMS; WETLAND TREA TMENT SYSTEMS

§ 51.065 INTENT AND PURPOSE.

(A) Health, safety, and welfare. The purpose of §§ 51.065et seq. is to protect the health, safety, and welfare of the residents of the community, present and future.

(B) Contamination of surface/ground water. The purpose of §§ 51.065et seq. is to regulate the location, design, installation, use, and maintenance of alternative waste disposal systems so as to prevent the contamination of the surface and ground water within the community.

(C) Contamination of private water supply wells. The intent of §§ 51.065et seq. is to protect the individual water supply wells of the community from contamination by inadequate, improperly designed, located, installed, or maintained individual and community sewage treatment systems.

(D) Open space development. The intent of §§ 51.065et seq. is to allow subsurface flow "wetland treatment" systems to be an allowed alternative system within cluster developments.

(1997 Code, § 720.02)

§ 51.066 RULES.

(A) Specifications which apply. Lake Elmo Municipal Code §§ 51.001et seq. shall apply, except as provided below: § 51.003(B)(1). Each dwelling shall have its own sewage tank and a stilling tank shall be installed before the first cell.

(B) Location of systems.

(1) Setbacks.

(a) All components of a wetland treatment system within a new residential or commercial development, including stilling tanks, pump stations, and treatment cells, shall be located a minimum of 100 feet from any property line, and 200 feet from any existing or proposed home. Stilling tanks may however be located 50 feet from a street right-of-way.

(b) Wetland treatment systems used to replace failed septic systems shall have setbacks considered reasonable for the site and the neighboring properties.

(2) Ground water. Treatment cells shall have a minimum of 3 feet between the bottom of the cell and the ground water table. Drain tile or French drains shall not be used to artificially lower the ground water table.

(C) System design.

(1) Designer. Wetland treatment systems shall be designed by a registered professional engineer with experience and specific training in the design of these types of systems.

(2) Design flow. Wetland treatment systems shall be sized based on a minimum of 50 gallons per day per person.

(3) Level of treatment.

(a) Wetland treatment systems shall be designed to remove total suspended solids (T.S.S.), phosphorous (P.), total nitrogen (T.N.), and fecal coliforms (F.C.), and reduce the 5-day carbonaceous biochemical oxygen demand (C.B.O.D.5). Calculations showing the design level of treatment shall be submitted.

(b) Prior to discharge into the infiltration cell, the following discharge limits shall be met:

1. C.B.O.D.5 - 50 mg/l;

2. T.S.S. - 20 mg/l;

3. T.N. - 15 mg/l;

4. N.H.4 - 10 mg/l;

5. T.P. - 5 mg/l; and

6. F.C. - 200 mg/l.

(c) One foot below the infiltration cell, the following discharge limits shall be met:

1. C.B.O.D.5 - 0 mg/l;

2. T.S.S. - 0 mg/l;

3. T.N. - 5 mg/l;

4. N.H.4 - 1 mg/l;

5. T.P. - 1 mg/l; and

6. F.C. - 10 mg/l.

(4) Inspection points. Inspection and monitoring ports shall be located within the system so that the water level can be determined, and a water sample can be easily taken in each treatment cell, and 1 foot below the infiltration cell.

(5) Operating plan. An operating plan shall be developed by the designer. This plan shall include standard operating procedures and maintenance of the system. 37

(6) Monitoring plan.

(a) Systems designed for greater than 1,500 gallons per day shall have a monitoring plan developed by the designer. It shall include monitoring of sludge and scum levels in the septic tanks and pumping stations, effluent flow into the system. Water quality exiting the first treatment cell shall be monitored to ensure that it meets the design level of treatment. Monitoring 1 foot below the second treatment cell shall be done to ensure that it meets the design level of treatment. Monitoring shall be conducted annually.

(b) The city shall be sent a copy of all test results.

(7) Mitigation plan. The system designer shall develop a plan to follow in case expansion or abandonment of the system is necessary.

(8) City review. The city shall review and approve all parts of the system design and associated plans prior to any construction taking place. Once approval of the system is given, a permit shall be issued by the city.

(D) Construction.

(1) Sanitary sewers. All sanitary sewers shall be constructed and tested in accordance with the City Engineers Association of Minnesota Standards for Utility Construction.

(2) Treatment cells; testing.

(a) Liners of treatment cells shall be visually inspected for tears, holes, or poor seams prior to placing rock. A leak test shall be performed after the rock is in placed. The liner shall be uncovered, repaired, and the test rerun if any leaks show up during this testing.

(b) A city representative shall be present for all treatment cell testing.

(3) Turf establishment; plant growth.

(a) The designer shall prepare a vegetation plan to establish a wetland community over the treatment cells.

(b) Prior to final acceptance, wetland plants shall display vigorous growth, and turf shall be established outside of the treatment cell area.

(c) No erosion shall be present on the site.

(4) Certification. The system designer shall certify in writing to the city that the treatment system has been constructed in accordance with the approved plans and specifications, and that all test requirements have been met. This certification must be received before start-up of the system.

(1997 Code, § 720.03) Penalty, see § 10.99

Contract # 9297
Dept. PHE
SEPTIC
1/1/15 - 12/31/16

20498

Agreement for Subsurface Sewage Treatment System Inspection Services

This agreement is made and entered into, by and between the County of Washington (hereinafter referred to as the County) and City of Lake Elmo (hereinafter referred to as the City).

I. WITNESSETH

WHEREAS, the City wishes to contract with the County to perform subsurface sewage treatment system (SSTS) inspection services within the City's boundaries; and

WHEREAS, the City adopted the County's Subsurface Sewage Treatment System Regulations Ordinance #179 (Washington County Development Code Chapter 4), hereinafter SSTSRO, regulating subsurface sewage treatment systems, which applies to all areas of the City; and

WHEREAS, the County agrees to provide subsurface sewage treatment system inspection services under the terms and conditions hereinafter set forth; and

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WHEREAS, this contract is authorized under Section 471.59 of the Minnesota Statutes.

NOW THEREFORE, it is mutually agreed between the County and City as follows:

II. SCOPE OF SERVICES

County's Responsibilities

1. The County agrees to provide, through its Department of Public Health and Environment, subsurface sewage treatment system inspection services for the City. The County shall provide a Qualified Employee(s), as described in Minn. Rule 7083.1010 and 7083.0020 subp 17.

2. The standards of performance, method of providing subsurface sewage treatment system inspection services, and other matters incident to the performance of services under this Agreement, including personnel to be employed, shall be determined by the County. The City shall be notified in advance of any proposed changes in standards of performance or methods of providing services.

3. The County shall provide the necessary SSTS application review and sewage system plan approval as required by laws, regulations and ordinances, provide all job site inspections of projects under permit, and conduct special inspections as deemed necessary to ensure compliance with the SSTSRO. Services shall include clerical support incidental to the performance of this agreement.

4. The County shall provide and issue all sewage permits as required by the SSTSRO, existing laws or regulations and shall maintain records of all such permits. If the City requests a copy of a granted permit, the County shall provide a copy to the City within 5 (five) working days.

5. The County shall send a copy of the County's issuance of a certificate of compliance of the sewage system's completion to the City within 10 (ten) working days of the County granting the certificate.

6. In the event of a violation or threatened violation of the SSTSRO or sewage permit the County may pursue the administrative issuance of stop work orders on the installation of the septic system, and/or issue corrective orders, and/or issue notices of non-compliance.

7. The County shall advise the City if a misdemeanor citation is warranted for any violation of a sewage permit or SSTSRO.

8. The County may request appropriate actions or proceedings be brought by the City, to prevent, restrain, correct or abate violations or threatened violations of a sewage permit or SSTSRO. 40

9. The County will cooperate with the City's officials and/or employees in fulfilling its obligations under this Agreement.

City's Responsibilities:

1. In areas not served by municipal sewer, the City shall not issue a building permit for new dwelling construction and/or for the addition of bedrooms until the County has issued a sewage permit for the new construction and/or addition of bedrooms.

2. The City shall act on all applications for special permits and SSTSRO variance requests.

3. Upon request from the County the City shall issue a stop work order on projects commencing construction prior to the issuance of a sewage permit.

4. The City is responsible for commencing appropriate actions or proceedings to prevent, restrain, correct or abate violations or threatened violations of a sewage permit or SSTSRO and shall represent the County during appeals of the administrative remedies issued by the County.

5. The City may issue misdemeanor citations for violations of the SSTSRO or sewage permit.

6. The City shall not issue a certificate of occupancy for new construction or the addition of bedrooms prior to receipt of the County's certificate of compliance.

7. The City, and its agents and employees, will cooperate and assist the County in the performance of this Agreement.

8. In the event of County SSTS Ordinance revision, the City may adopt a revised SSTS Ordinance which is consistent with or more restrictive than the County's revised SSTS Ordinance no more than 12 (twelve) months after the County revised SSTS Ordinance has been adopted.

III. SCHEDULE OF FEES AND CHARGES

1. The County shall establish the schedule of fees for its subsurface sewage treatment system inspection services. The septic permit application and installation fees shall be in accordance with the fee schedule adopted annually by the Washington County Board of Commissioners. The County shall collect, receipt for, disburse, and maintain records for all fees and charges collected incident to the administration of subsurface sewage treatment system inspection and permit services contained herein. 41

1. Fees and charges shall be due and payable by the applicant upon issuance of the permit and will be collected by the County from the applicant for said permit.

2. The City agrees that in payment for the subsurface sewage treatment system inspection and permit services provided by the County that the County shall retain, out of the fees and charges collected incident to this service, an amount equal to one hundred percent (100%) of all SSTS permit fees.

3. The City shall not assume any liability for the direct payment of any salary, wage, or other compensation to any County employee performing subsurface sewage treatment system inspection services pursuant to this agreement.

IV. GENERAL TERMS AND CONDITIONS

Data Privacy

1. All data collected, created, received, maintained or disseminated for any purposes by the activities of the County because of this Agreement is governed by the Minnesota Government Data Practices Act, Minnesota Chapter 13, as amended, the Minnesota Rules implementing such Act now in force or as adopted, as well as Federal Regulations on data privacy, including but not limited to, the Health Insurance Portability and Accountability Act (HIPAA) where it applies. The City and County agree to abide by these statutes, rules and regulations and as they may be amended.

Indemnity Clause

2. The City agrees that it will indemnify and hold harmless the County, its officers and employees, against any and all liability, loss, costs, damages and expenses which the County, its officers or employees may hereafter sustain, incur, or be required to pay arising out of the City's negligent performance or failure to adequately perform its obligations pursuant to this Agreement.

   The County agrees that it will indemnify and hold harmless the City, its officers and employees, against any and all liability, loss, costs, damages and expenses which the City, its officers or employees may hereafter sustain, incur, or be required to pay arising out of the County's negligent performance or failure to adequately perform its obligations pursuant to this Agreement.

Insurance

3. The City further agrees that in order to protect itself, as well as the County, under the indemnifications provisions set forth above that it shall at all times during the terms of this Agreement, provide maximum tort liability limits as set forth in Minnesota Statute, Sections 3.736 and 466.04. This provision shall be set as a condition subsequent; failure to abide by this provision shall be deemed a substantial breach of contract. 42

   The County further agrees that in order to protect itself, as well as the City, under the indemnifications provisions set forth above that it shall at all times during the terms of this Agreement, provide maximum tort liability limits as set forth in Minnesota Statute, Section 466.04. This provision shall be set as a condition subsequent; failure to abide by this provision shall be deemed a substantial breach of contract.

Records – Availability and Retention

4. Pursuant to Minnesota Statute 16C.05, Subd 5., the County/City agrees that the County/City, the State Auditor, or any of their duly authorized representatives at any time during normal business hours and as often as they may reasonably deem necessary, shall have access to and the right to examine, audit, excerpt, and transcribe any books, documents, papers, records, etc. which are pertinent to the accounting practices and procedures of the County/City and involve transactions relating to this agreement. The County/City agrees to maintain these records for a period of six years from the date of termination of this Agreement and make available as requested.

Nondiscrimination

4. The provisions of Minn. Stat. 181.59 and of any applicable ordinance relating to civil rights and discrimination shall be considered part of this Agreement as if fully set forth herein, and

shall be part of any Agreement entered into by the parties with any contractor, subcontractor, or material suppliers.

Merger and Modification

6. It is understood and agreed that the entire Agreement between the parties is contained here and that this agreement supersedes all oral agreements and negotiations between the parties relating to the subject matter.

   Any material alterations, variations, modifications, or waivers of provisions of this Agreement shall be valid only when they have been reduced to writing as an amendment and signed by the parties.

Severability

7. Every section, provision or part of this Agreement is declared severable from every other section, provision or part thereof to the extent that if any sections, provision or part of this Agreement shall be held invalid by a court of competent jurisdiction, it shall not invalidate any other section, provision or part thereof.

V. TERM AND EFFECTIVE DATE

1. The effective date of this agreement shall be January 1, 2015, notwithstanding the date of the signatures below.

2. This agreement shall run until December 31, 2016, at which time it will automatically terminate unless it is renewed by official action of both the City and the County prior to the termination date. Notice of either the City's intent or the County's intent not to renew the agreement should be given to the other party ninety (90) days in advance of the December 31, 2016, termination date.

IN WITNESS WHEREOF, the City has caused this agreement to be signed by its Mayor and attested to by its Clerk, and the County of Washington, by order of its Board of County Commissioners, has caused this Agreement to be signed by its Board Chair and attested to by its County Administrator.

City of Lake Elmo, Minnesota

By: _____
Mayor

Date: 12-2-14

By: _____
City Clerk

Washington County, Minnesota

By: _____
Chair, Board of Commissioners

Date: 2-10-15

By: _____
County Administrator

Approved as to Form:

_____
Assistant Washington County Attorney

Appendix D Lake Elmo Oakdale Sanitary Sewer Service Agreement

SANITARY SEWER SERVICE AGREEMENT

THIS AGREEMENT is made and entered into as of the 14th day of May, 2013 by and between the City of Lake Elmo, a Minnesota municipal corporation ("Lake Elmo") and the City of Oakdale, a Minnesota municipal corporation ("Oakdale").

RECITALS

1. Lake Elmo and Oakdale are each authorized by law to construct, operate and maintain municipal sanitary sewer utilities for the purpose of supplying sanitary sewer services to properties within their respective corporate limits.

2. Lake Elmo and Oakdale have entered into a Joint Powers Agreement pursuant to which sanitary sewer service will be extended to properties that abut Olson Lake Trail both in Lake Elmo and Oakdale. The sanitary sewer is an extension of an existing sanitary sewer line in Oakdale. The new sanitary sewer will therefore be part of Oakdale's sanitary sewer system.

3. Lake Elmo does not have sanitary sewer services that are available to the Lake Elmo properties that will be served by the new sanitary sewer line.

4. Oakdale is able to supply sanitary sewer service to the Lake Elmo properties from the new sanitary sewer line.

5. Lake Elmo has requested that Oakdale allow the Lake Elmo properties ("Properties") to be connected to Oakdale's sanitary sewer services and that Oakdale provide those Properties with sanitary sewer services.

6. Oakdale has agreed to allow the Properties to be connected to its sanitary sewer services and to provide sanitary sewer services to the Properties, pursuant to the following conditions.

AGREEMENT

NOW THEREFORE, in consideration of the mutual covenants contained in this agreement, the parties agree as follows:

1. Sanitary Sewer Service. Oakdale agrees to allow the Properties to connect to its sanitary sewer system. Sanitary sewer service to the Properties shall be supplied by Oakdale. The owners of each of the Properties will be responsible for connecting their respective property to Oakdale's sanitary sewer system.

2. Connection Permit and Fees. When the owners of the Properties connect to Oakdale's sanitary sewer system, Lake Elmo shall ensure that the owners apply for a connection permit from Oakdale. Oakdale shall be responsible for issuing the connection permit and for collecting its current sanitary sewer connection fees and availability charges from the owners at the time of application. The amount of the fees and charges shall be established by Oakdale and shall

be equal to the Oakdale resident fees or charges. Oakdale shall be entitled to retain all fees and charges collected.

3. Water Meters. The Properties are served by private wells and are not connected to either the Oakdale or Lake Elmo municipal water systems. The owners of the Properties will be responsible for purchasing a water meter and transmitter from Oakdale and installing that equipment on their wells before connecting to the Oakdale sanitary sewer system.

4. Service Charges. Oakdale shall be responsible for billing the resident or property owners and collecting the sanitary sewer service charges attributable to the Properties. The sanitary sewer service charges shall be equal to the Oakdale resident rates plus 5% unless otherwise jointly agreed by the City of Oakdale and City of Lake Elmo. Lake Elmo shall cooperate with Oakdale in the event that any unpaid sanitary sewer service charges need to be certified to the County Auditor for collection with the property taxes or assessed against the Properties.

5. Notices. Any notice or correspondence to be given under this Agreement shall be deemed to be given if delivered personally or mailed postage prepaid, certified mail, return receipt requested:

a) as to Oakdale:
City of Oakdale
1584 Hadley Avenue North
Oakdale, MN 55128-5407
ATTN: City Administrator

b) as to Lake Elmo:
City of Lake Elmo
3800 Laverne Avenue North
Lake Elmo, MN 55042
ATTN: City Administrator

or at such other address as either party may from time to time notify the other in writing in accordance with this paragraph.

6. Severability. In the event that any provision of this Agreement shall be held invalid, illegal or unenforceable by any court of competent jurisdiction, such holding shall pertain only to such section and shall not invalidate or render unenforceable any other provision of this Agreement.

7. Termination of Agreement. In the event that Lake Elmo constructs parallel sanitary sewer mains in the area of the Properties, this Agreement may be terminated by either party.

8. Services Agreement. This Agreement is a services agreement. The parties do not intend to undertake or create, and nothing herein shall be construed as creating, a joint powers agreement, joint venture, or joint enterprise between the parties.

9. Minnesota Law Governs. This Agreement shall be governed by and construed in accordance with the internal laws of the State of Minnesota. All proceedings related to this Agreement shall be venued in the State of Minnesota.

Pursuant to authorization of their respective city councils, Lake Elmo and Oakdale have entered into this Agreement as of the day and year first above written.

CITY OF LAKE ELMO

By: _____
Mayor

By: _____
City Administrator

47

CITY OF OAKDALE

By: _____
Carmen Sarrack, Mayor

By: _____
Craig Waldron, City Administrator

DRAFT Chapter 10: Implementation

Bringing the Plan to Fruition


BUDGET

INTRODUCTION

An important component of this Comprehensive Plan Update process is to identify implementation strategies and priorities that will work towards bringing this Plan to fruition. This Chapter provides a set of implementation strategies that are specific to the chapters, goals and strategies of each component contained within this Plan.

One of the last major public engagement efforts of this planning process was a city-wide Open House to present the draft Plan, and to solicit feedback specific to the Implementation Chapter development. Over 150 residents and stakeholders attended the event and nearly 100 people responded to the Implementation Survey at the Open House or online. Once tabulated, trends regarding implementation priorities were identified, and were then used to help inform the implementation strategies contained within this Chapter. A summary of the most agreed to, and highest priority implementation strategies as identified within the survey include:

- *General Comprehensive Plan Statement:* Overwhelmingly people responded that they rely on the Comprehensive Plan to understand what is happening in the City and that the City should follow its Plan. Further respondents felt that the City should put the work and financial resources into developing appropriate ordinances and policies to implement the Plan. Ordinances should be clear, easy to understand, and reliable.
- *Land Use:* The majority of respondents prioritized the development of zoning districts that support new Future Land Use designations contained within this Plan as the most important implementation step, and identified the top priority as creating zoning that supports the new mixed-use areas. With respect to the character of commercial areas, respondents were fairly consistent in their desire to promote low-intensity users that keep traffic calm. Further, respondents were uninterested in developing a regional destination for commercial and business park users, and instead prioritized creating opportunities for businesses and users that would support existing Lake Elmo neighborhoods and residents. From a residential perspective, respondents were focused on creating policies and ordinances that would support the protection, restoration and integration of existing natural resources into new neighborhoods and developing areas in the community.

- *Balanced Development & Growth:* Respondents were split as to whether the City should take a more proactive approach to economic development in the community. Many felt that the City's leaders and staff should be proactive to identify the types of growth and development it wants and may even go as far as supporting that effort with financial resources. Financial commitments aside, overwhelmingly people felt that the City should at a minimum be prepared to respond to development pressure through establishing appropriate zoning, design guideline and policies that support the desired development and growth patterns in the community. Additionally, respondents felt like it was important to create a more streamlined, easy to understand development review process, and to make sure details such as architecture/design standards, setbacks and landscape requirements were established within ordinances to reduce ambiguity.

- *Housing:* Opinions on the top priorities related to housing were more distributed than any other question, and there was less consensus on who and what types of housing would be most needed through this planning period. Generally, people continue to see the owner-occupied single-family detached housing type as important to the future of the community. However, a significant number of people also identified the need for owner-occupied town homes and condominiums in the City. With respect to demographic trends, people felt that the future needs in the community would continue to be households with young children, and empty-nesters looking to downsize but also recognized that there may be other demographics that may lack options within the community.

- *Parks, Trails & Open Space (PTOS):* Respondents generally agreed on their top priorities for the PTOS system; they prioritized the desire to create more local trail connections into Lake Elmo Park Reserve (north and west), to improve and restore the quality of natural resources (lakes, wetland, woodlands, etc.) in the community, and finally identified the desire to make sure new developments (residential and commercial) are required to incorporate a public trail or sidewalk in development plans that provide connections to the larger city-wide planned trail network.

- *Transportation:* People generally rely on the City's existing roadway network as the primary mode of transportation and identified their top priority as maintenance and management of the existing roadway system. Ranked closely behind, respondents were interested in creating more dedicated bike lanes and pedestrian safety improvements on local roadways.

In addition to the top priorities identified through the Implementation Survey, the Advisory Panel has also discussed priorities for implementing this Comprehensive Plan throughout this planning process. A summary of the top priorities that have been discussed by the Advisory Panel over the last year include the following:

- Create zoning districts that support a balanced land use plan and provide opportunities for housing diversity including single-family, townhome and multi-family products within the developing areas of the community.
- Create opportunities for young people to come back to the community in their early adult years. This likely will include some market rate renter-occupied product (apartment, townhome, etc.), that could not only provide options for young professionals but seniors looking to downsize.
- Allow enough flexibility within this Plan and supporting implementation ordinances and policies to have the latitude to respond to market fluctuations and demands.
- Integrate and weave parks, trails, open spaces and natural resources into every development – rural or urbanizing. Create a green network that is an amenity, and accessible, to all residents.
- Create bikeways and pedestrian connections on major roadways to create a more hospitable network.
- Work with the County to see if there is an opportunity to provide non-motorized trail access/connections into the Lake Elmo Park Reserve, particularly from the north and west sides of the park.

Guided by the priorities identified from the Advisory Panel, and the Implementation Survey the following Implementation Chapter was developed. This Chapter is not intended to identify every planning or policy effort needed to implement this Comprehensive Plan, but instead is intended to provide a road-map of major initiatives that may require time, resources, and additional study to make sure the City prioritizes certain efforts at it continues to grow and evolve.

IMPLEMENTATION STRATEGIES

The following strategies are organized by Chapter. In some cases some of the implementation strategies will perform 'double-duty' that is to say, there may be an implementation strategy identified that would assist with implementation of the goals and strategies of Chapter 3: Land Use and Chapter 5: Housing. In those cases, the implementation strategy is listed with the Comprehensive Plan Chapter that the implementation strategy most directly supports.

Chapter 3: Land Use

The following implementation steps and strategies are identified to support the City's Future Land Use Plan and the corresponding goals and strategies identified within Chapter 2 of this Plan.

1. Create two new zoning designations that support the Mixed-Use Business Park and Mixed-Use Commercial land use designations. The process to prepare the new zoning districts will be led by the Planning Commission and may involve a subcommittee to develop the ordinances. This process should be initiated immediately upon adoption of this Comprehensive Plan and should be completed within nine (9) months. Each zoning district may address and include standards such as:

    - Massing and architecture
    - Setbacks
    - Height restrictions
    - Site design/landscape standards
    - Permitted, conditionally permitted, and not permitted uses
    - Mix of uses
    - PUD process

2. Establish whether each parcel is required to be planned for mix of uses, or if a master planned approach with ghost platting and tracking/monitoring is more desirable

3. Establish a staff and policymaker process and/or create and adopt a formal policy that defines how mixed-use development projects will be tracked for compliance with this Plan. The process must identify how the City will track the mix of land uses and provide a minimum of 50-percent of the land area within the designations for residential uses at densities that meet minimum thresholds as identified within this Plan. Tracking may include, but is not limited to, the following examples:

- Require developers to 'ghost' plat and file the concept plan as an official document to establish land use mix consistent with this Plan. Create a database or inventory (e.g. Excel) to track residential units and associated density, and acreages associated with each use. This inventory should be considered and used during the development review process.

- Create a ordinance and process reference sheet for developers and land owners that describes the mix of uses and process (PUD or otherwise) to ensure compliance with the ordinance.

4. The City may consider using a consultant to assist with developing a master plan for the Mixed-Use Commercial and Mixed-Use Business Park designations that can be used to inform the development of the zoning district requirements and the process to track development within these designations.

5. Create a new zoning district to support the Village High Density Residential (V-HDR) land use designation. This zoning district should be based on other Village residential zoning districts but will be refined and updated to reflect the increased density range identified within this Plan.

7. The City will review and revise, as necessary, current zoning district regulations for consistency with the residential density ranges contained within this document. The review, and any changes, will be completed within nine (9) months of adoption of this Plan.

Chapter 4: Balanced Development and Growth

The following implementation steps and strategies are identified to support the City's Balanced Development and Growth Chapter and the corresponding goals and strategies identified within Chapter 2 of this Plan.

1. This City will prioritize and establish a cost for each of the zoning ordinance updates and budget appropriately to complete these updates within their next Capital Improvement Plan process. Some of these initiatives will likely be staff-led to be cost-effective while others may involve a focus group and/or consultant involvement. The City acknowledges that to effectively manage growth and development, the creation of clear, concise and easy to understand ordinances is integral to the implementation of this Plan.

2. The City will create three Overlay Districts for the Village Planning Area to support this Plan. The Overlay Districts will provide additional detail regarding the vision, plan, and specific standards that are unique and tailored to the specific overlay district. For example, the Old Village District overlay will focus on preservation of the integrity of Main Street and existing building patterns and uses within the District. This is unique to the Old Village Overlay District. The process will determine what characteristics and qualities are unique to each Overlay District, and a specific Zoning Overlay District will be added to the Zoning Ordinance and identified on the City's official Zoning Map. This process will include the Planning Commission and may include a subcommittee to prepare the criteria for each Overlay District. The Overlay Districts will be established and created within nine (9) months of adoption of this Plan.

3. The City will review and update its Open Space Development ordinance to focus on building the greenway network through connected conservation areas, public trails, and other natural resources.

4. The City will explore options to be cautiously proactive about the types of economic development it would like to see in its growth areas. To determine the appropriate level of involvement or engagement by policy makers, a task force, subcommittee, or staff review process may be initiated to establish an economic development and/or competitiveness plan.

5. The Phasing and/or Staging Plan identified within Chapter 3: Land Use, will serve as the foundation for development review and the approval process so that municipal utilities and infrastructure are contiguous and cost-effective.

6. The City will continue to prioritize identification of a solution to the current water supply issues related to the 3M contamination, and current freeze on water appropriation permits from the MnDNR. The City acknowledges that part of implementing a balanced growth plan is the ability to provide municipal services, and at this time there are obstacles that extend well beyond the City's borders and in some cases, beyond its control.

Chapter 5: Housing

The City's implementation program for Chapter 5: Housing is contained within that Chapter as required by the Metropolitan Council.

Chapter 6: Parks, Trails & Open Space

The following implementation steps and strategies are identified to support the City's Parks, Trails, and Open Space Chapter and the corresponding goals and strategies identified within Chapter 2 of this Plan.

1. The City will continue discussions with Washington County Parks to identify opportunities for improved trail connections into the Lake Elmo Regional Park Reserve, particularly from the north and west side.

2. The City is open to participating on a task force or working group with the County to plan for future connections into the Lake Elmo Regional Park Reserve.

3. The City will continue to require park dedication as established within the City's Ordinance, and will focus its priority on improving trail (bikeway and pedestrian) connections and providing open space/park access to new neighborhoods.

4. The Park Commission will be involved in initial stages of any development review and process and will provide recommendations regarding planned public trails, parks or other open spaces as identified within this Plan. The Park Commission will provide a written recommendation to the Planning Commission detailing how a proposed development plan is consistent, or inconsistent with this Plan and detailing what modifications are recommended, if any, for a project to be consistent with this Plan.

5. An update to the City's Park System Plan originally adopted in 2008 and incorporated as part of the 2030 Comprehensive Plan should be completed to reflect recent changes due to development, and to incorporate the Goals and Strategies of this Plan.

6. The City will prepare an update to the City's Trail System Plan originally adopted in 2005 and incorporated as part of the 2030 Comprehensive Plan, to reflect recent changes due to development, and to incorporate the Goals and Strategies of this Comprehensive Plan. The Trail System Plan should also include maps that identify existing trails, ownership (private or public), as well as planned trail routes and connections throughout existing and new developments.

7. The City will explore opportunities, either by ordinance, or through the development review process to support and enhance the Green Network through the continued enforcement of the park dedication ordinance.

8. The City will review existing ordinances and policies to identify opportunities to include standards that support the objectives of the Green Network and Resilient Infrastructure as described within this Plan.

Chapter 7: Transportation

The following implementation steps and strategies are identified to support the City's Transportation Chapter and the corresponding goals and strategies identified within Chapter 2 of this Plan.

1. The City will continue to work cooperatively with surrounding Cities, Washington County, the Minnesota Department of Transportation, and other government agencies in development of a transportation network consistent with the goals and strategies of this Plan.

2. The City will require developers to provide roadways, trails, and appropriate right-of-way consistent with the goals and strategies of this Plan. For example, the City has identified the continuation of the Minor Collector roadway (5th Street) to extend eastward to Manning Avenue as development progresses.

3. The City will participate in coalitions and multi-jurisdictional efforts for improvements to the transportation network that coincide with the overall goals of the City. This could include corridor studies/groups, transit oversight panels, and/or construction projects.

4. The City will continue to improve the transportation network to reflect all modes of travel, and will identify opportunities as development occurs to complete the bikeway and trail systems identified within this Plan or through future planning efforts.

5. The City will continue to work with MnDOT and Washington County on the TH 36 South Frontage Road Study to plan to provide safe and adequate access and connectivity to TH 36 for Lake Elmo residents, while minimizing traffic by-passing through the City.

6. The City will continue to support improvements that will maintain the rural character of Lake Elmo Avenue, in particular along the eastern shoreline of Lake Elmo.

7. The City will continue to incorporate the goals and strategies contained within this Plan into the Capital Improvement Plan process.

8. Capital Improvement Plan (CIP). The CIP is the financial planning mechanism used by the City to plan for long-term expenditures. Each year the CIP is revised and updated to reflect the City's priorities, and the CIP is used to aid in the annual budgeting process. Expenditures are made in accordance with the annual established and adopted budget for the following year. The transportation improvements will continue to be a priority within the CIP, and projects will be identified to implement and support this Comprehensive Plan.

Chapter 8: Surface Water

The following implementation steps and strategies are identified to support the City's Surface Water Chapter and the corresponding infrastructure goals and strategies identified within Chapter 2 of this Plan.

1. The City adopts and incorporates by reference the Watershed District's Water Management Plans, standards, and rules into this Plan and as a part of the City's permitting and development review process. The Watershed Districts will continue to enforce surface water regulations and permitting within the City within their geographic areas. The City will coordinate its review of development proposals with the Watershed Districts and will manage land use to support protection of surface and ground waters through its Zoning and Subdivision Ordinance.

2. The City will update its Local Surface Water Management Plan (LSWMP) by the end of 2019 consistent with the timeline adopted in the 2009 LSWMP. The City understands that its LSWMP must be consistent with each Watershed District's Water Management Plans.

    - The City understands that the Valley Branch Watershed District, Browns Creek Watershed District and South Washington Watershed District have prepared drainage models for portions of the City that indicate path and low direction, but not all modeling work has been complete. The City will rely on each watershed district completing this work and will update its LSWMP as information and data become available.

    - The City will prepare its LSWMP update and submit a copy of it to each of the Watershed Districts for review, comment and approval once complete.

3. City Process. The City of Lake Elmo reviews proposed development per its Subdivision Ordinance. Design must be in compliance with Engineering Design Standards. An approved Watershed District permit is required prior to final plat acceptance. WCA approval of any wetland impact must be provided by the designated LGU for the Watershed District. Any impacts to public waters must be reviewed by the DNR. An NPDES Permit must be received from the MPCA when applicable. An approved SWPPP must be provided for all subdivisions. No building permit is issued until the following has been completed:

    - The City will support the Watershed Districts' implementation of their standards for management of water quantity and quality, including control of peak runoff, volume control, infiltration and filtration, wetland quality, and best management practices to control Total Suspended Solids (TSS), Total Phosphorus (TP), and runoff from development or redevelopment within the City.

4. The Watershed Districts will continue to play the primary role in reviewing storm water plans for development applications within the City, and the City will condition any development approvals on demonstrated compliance with the Watershed District Rules. The City will direct applicants to submit completed permit applications of any development proposals at time of City application, and will work cooperatively with the Watershed Districts through the review and approval process.

5. The City will continue to work with each Watershed District on refinement of coordination of permit and development application review processes and timelines.

6. The City will update its ordinances to be consistent Watershed plans, standards and rules, and with NPDES construction storm water permit requirements for erosion and sediment control if necessary.

7. The City will cooperate with the Watershed Districts to address concerns related to impaired waters and, as the Watershed Districts complete TMDL studies, will manage land use to avoid impacts to water resources within the City.

8. The City will continue to implement the City's MS4 Permit and SWPPP requirements.

10 9. Funding Mechanisms. The City will continue to use general fund revenues and storm water utility funds to fund improvements when needed to address water quality and quantity concerns and maintain city-owned storm water management facilities. The City's commitments to system maintenance are described in detail in its MS4 permit and SWPPP. The City requires that developers finance the improvements that are required with new development and redevelopment to ensure that private developments meet City and watershed requirements.

10. Capital Improvement Plan (CIP). The City's CIP will incorporate specific implementation strategies for surface water management as part of the budgeting process.

11. The City's inspection and maintenance program and pollution prevention/good housekeeping is completed under the MS4 Permit and documented per the SWPPP.

12. The City will continue to implement the strategies and recommendations as needed from the Old Village Area Regional Stormwater Management Study that was completed by SEH, in May 2015, to continue to address and mitigate the Old Village Area flooding problems and to protect resources in the Down's Lake Watershed and downstream.

13. City Ordinances. The City's adopted ordinances that provide standards and regulations to manage water resources include the following:

    - Chapter 53 Storm water Management Utility
    - Chapter 91 Forests and Trees
    - Chapter 150 Illicit Discharge and Connection
    - Chapter 152 Flood Plain Management
    - Chapter 153 Subdivision Regulations
    - Chapter 154 Zoning Code

Chapter 9: Wastewater Services

The following implementation steps and strategies are identified to support the City's Wastewater Services Chapter and the corresponding goals and strategies identified within Chapter 2 of this Plan.

1. The City will review and update its Comprehensive Sanitary Sewer System Plan based on the Land Use and Zoning adopted in this Plan to ensure system capacity is available for each service area, including an updated Sanitary Sewer Capital Improvement Plan.

2. The City will work with the Metropolitan Council Environmental Services (MCES) to further understand the downstream capacity limitations and planned improvements required for the City's Oakdale interceptor connection and/or WONE interceptor connection; and will coordinate planned improvements with MCES.

3. The City will provide new sanitary sewer extensions consistent with the sanitary sewer staging plan and within the general time frames established as part of this Plan, when possible, and as market conditions warrant.

4. The City will continue to operate and maintain the City-owned 201 Community wastewater systems and will develop a system replacement plan.

5. The City will continue to support the MPCA and County's oversight, monitoring, permitting and enforcement of their respective ISTS rules and regulations within the City.

Chapter 10: Water Supply

The following implementation steps and strategies are identified to support the City's Water Supply System needs and the corresponding goals and strategies identified within Chapter 2 of this Plan.

1. The City will work expeditiously with the MDH, MnDNR and other agencies with regulatory authority of the City's Municipal Water Supply to identify a solution to the closure and decommissioning of Water Supply Well #1 and to implement a new water supply well to meet the existing and growing water customer base.

2. The City will work to implement a new water storage facility to serve the growing water system demands in the low pressure zone (Village Area south of the UPRR and southeastern parts of the City) and to replace the aging Water Tower No.1.

3. The City will review and update its Comprehensive Water System plan based on the Land Use adopted by this Plan to ensure system capacity is available for each service area, including an updated Water System Capital Improvement Plan.

4. The City will continue to work with the MDH to monitor the groundwater contamination plumes and contamination impacts to Lake Elmo properties and will develop a mitigation plan for extending the City's water supply to replace private wells whenever feasible.

5. The City will work to identify appropriate funding resources, including the recent 3M Settlement Fund and Closed Landfill Fund, to implement City water supply extensions to replace private wells, and to address short and long-term public water supply system improvements.

6. Continue to monitor the potential future use of Well No. 3 and Well No. 1 by providing water treatment, but plan for the abandonment of these wells when they are deemed no longer needed. Abandonment is important to protect against groundwater contamination at the well locations.

7. Negotiate a long-term Agreement with the City of Oakdale for a water system interconnect between the two Cities for standby emergency water supply use.

8. Maintain the City's Water Supply Plan consistent with the MnDNR water supply plan template and continue to provide necessary reporting through the MnDNR Permit and Reporting System (MPARS). Continue to incrementally review the Water Supply Plan to ensure it is consistent with continuing development activities and demands.

9. Implement water conservation measures as identified in the City's Water Supply Plan.

Appendix A: Background Report

Prepared: April 25, 2017

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Introduction, Context and History

This background report is the first step in the 2040 Comprehensive Plan (Plan) development process,

and it will be refined throughout the process as needed to ensure that it captures the current characteristics of the community. The intent of the following inventory and analysis is that will help facilitate the development of a Plan that is based in reality, is responsive to current and anticipated market trends, and respects the community's vision for the future of Lake Elmo.

The purpose of the background report is to provide a comprehensive 'snapshot' in time of the City of Lake Elmo today by providing a baseline of information, data and analysis about the community. Coupling this information with local and regional trends will help inform and guide the planning process by establishing a foundation from which the Plan can be developed. The City of Lake Elmo is a community with diverse resources that offers residents and businesses an exceptional quality of life, and to maintain that quality and to help facilitate this planning effort, it is important to understand the City as it is currently.

The following sections will discuss the people, the businesses, the facilities, natural resources, and the transportation system that make up the community. This report will serve as a resource for the Advisory Panel (AP), city staff, policymakers, stakeholders and residents throughout the Plan development process. The 2030 Comprehensive Plan adopted in 2008 (2005) introduced new land uses, development opportunities and challenges that have significantly affected the community over the past decade. This planning process will be conscientious of these changes and will include perspectives from Lake Elmo's residents, stakeholders, policymakers, employees, visitors and staff. This Plan will focus on the needs of community members from different areas of Lake Elmo, and will work to balance the various perspectives of the community with how the community will change, evolve and grow.

Lake Elmo Context and Location

The City of Lake Elmo is located 15 miles east of downtown Saint Paul, and is easily accessible to I-94, I-494 and Highway 36. Despite its proximity to the Twin Cities, Lake Elmo has remained a unique community with diverse land use patterns ranging from traditional residential neighborhoods in the Old Village to sprawling farmsteads in the rural heart of the community.

State Highway 5, also known as Stillwater Boulevard, runs east-west through the community and connects Stillwater with Minneapolis/Saint Paul and carries approximately 12,000 vehicles per day, with the most significant traffic during the morning and evening rush hours. County Road 17 (CR-17), Lake Elmo Avenue, runs north south through the heart of the Old Village and is the historic 'Main Street.' CR-17 provides a direct connection to Highway 36 on the north, and the I-94 frontage road on the south. County Road 15 (CR-15), Manning Avenue, runs north-south on the east edge of the community connecting with Highway 36 on the north and I-94 on the south.

History of Lake Elmo

To understand how the community got to where it is today it is important to understand its past. The history of the greater region and the community provides valuable insight into the community's core values. Oftentimes the history will reveal why land uses and development occurred in specific locations, while other areas remained less developed, untouched or in agricultural production. The following summary was prepared using information collected from the adopted 2030 Comprehensive Plan, and from the Lake Elmo Park Reserve Master Plan dated May 2006 prepared by Washington County.

Regional Context – Washington County

Washington County was established on October 27, 1849 and is comprised of 423 square miles which includes part of the scenic St. Croix River Valley. Washington County grew fairly slowly throughout the early part of the 20th century increasing its population only slightly from its 1900 population of approximately 27,808 to 34,544 in 1950. However, during the last half of the 20th century the county experienced rapid growth, with growth rates averaging more than 35% population increases throughout the 1990s and 2000s.

First Settlers of Lake Elmo

Even the earliest settlers of Lake Elmo were enamored with the lakes and abundant natural resources in the area, first settling on farmsteads near Sun Fish and Bass Lake (later renamed

Lake Elmo). In 1849 the first permanent settler, John Morgan, made his homestead in what is now known as the Old Village area. By 1850 a new road, suitable for stagecoaches had been constructed from St. Paul to Stillwater which corresponds today to modern Highway 5 and Stillwater Road. Morgan built a hotel on his property known as the "Halfway House" where stagecoaches traveling from St. Paul to Stillwater changed horses and ate meals.

The Old Village was developed near the northern end of the two-mile-long water body now known as Lake Elmo because early settlers realized the potential of the area as a 'resort town.' Developers for the St. Paul, Stillwater & Taylors Falls Railroad first recognized the recreational potential of the lake in the early 1870s, and by 1880, the railroad company had built a small resort community along the lake's north end. Steamships provided access to distant shores, while large upscale cottages, hotel, bathhouses, and sailboats attracted wealthy cosmopolitans to the developing Village area. The most ambitious development was the Elmo Residence Park, intended as a year-round community, which was platted in 1884 around the eastern side of the lake by a group of St. Paul businessmen (Goodman 2004). The development was publicized as "a beautiful park and lakeside home suburb near St. Paul."

A community name "Lake Elmo Village," sprang up around the resort and railroad station. A "Doctor Stevens" established a practice in the Village, and years later he founded a private hospital in the Village. In 1889, a power house was erected, giving Lake Elmo the first electric lights west of Chicago. By the early 1890s, streetcars were well established and streetcar companies were extending their lines to lakes close to the Twin Cities. During this time, the Village included a store, saloon, grain-house, blacksmith, and wagon repair shop. By 1900, a cooperative creamery and grain elevator had been added to the village. In 1911 a bank was established, and a consolidated school was built there by 1914. By the 1920s, Stillwater Road had been paved, and the Village incorporated in 1925 as a substantial shipping point and dairy center. The Village area became a more permanent residence for many, and several of the structures built during the early 1900s are still in existence today contributing to the small-town feel many in the community continue to cherish.
(Paraphrased from 2006 Master Plan)

In subsequent decades, the area retained a bucolic, old-fashioned appeal that drew lake visitors through the 1950s which eventually brought more permanent residents to the area. As residential growth and suburban development proceeded eastward from St. Paul, increasingly the area became more populated with fewer

large agricultural farmsteads in production. As previously referenced in the Regional History Washington County did not experience significant growth until after I-94 was completed in the 1980s; however once completed this area of the Twin Cities became more accessible resulting in significant population and household growth throughout the 1990s, 2000s and continues today.

Slowly many the farmsteads have been replaced with neighborhoods, but the City's commitment to protecting open spaces, natural resources and rural character outside of the Old Village have persisted.

The Recent Past

A Defining Decade

In the recent past the City of Lake Elmo is known throughout the Twin Cities Metropolitan Area for its unparalleled commitment to preserving its defining rural character even in the face of regional pressures. Between 2000 and 2005 that commitment played out between the City and the Metropolitan Council in the Courts. The case ended with a Minnesota State Supreme Court decision that mandated that the City of Lake Elmo allow for and plan for the extension of urban services in its Comprehensive Plan, consequently dictating that the City must grow and change beyond its historical rural land use patterns.

This Court decision has had far reaching impacts beyond the City of Lake Elmo in setting regional precedence for comprehensive planning in the seven-county metropolitan area. With the Court's decision, the City suddenly had to deal with guiding land for urbanized development patterns outside of the existing Village Area (which already had a more traditional urban development pattern because of its history) which was contrary to the vision the City had upheld for decades. Nevertheless, Lake Elmo was required to plan quickly for the extension of the Metropolitan Urban Service Area (MUSA) in compliance with the Metropolitan Council's projections to meet the deadlines of the Court. Given the tight timeline of the court, there was little opportunity for the City to thoughtfully plan for how the urbanized areas could develop with densities that would meet the Metropolitan Council's expectations while still incorporating, integrating, and respecting 'rural' characteristics that defined the community. The dynamic between urbanization and rural character, has resulted in a balancing act that has created friction in the community, which is easily the most defining issue for the City since 2000.

The Memorandum of Understanding (MOU)

The most influential document of the lawsuit was ultimately the Memorandum of Understanding ("MOU") which was executed between both parties, the City of Lake Elmo and the Metropolitan Council upon conclusion of the litigation in 2005. The MOU provided a framework from which the City was required to expand the MUSA into areas of the community in proximity to existing and planned regional infrastructure.

The MOU required the City to prepare a Comprehensive Plan Update that met the sewered projections for households, population and employment as established within the MOU, and was subject to review and approval by the Metropolitan Council. Through hard work and diligence, the City completed this planning effort. The City's Land Use Plan in 2005 memorialized the MOU, which subsequently became the basis of the 2030 Comprehensive Plan Update that continues to govern the City today.

The Adopted Comprehensive Plan and other Guiding Documents

Once the 2030 Comprehensive Plan was formally adopted, the City began the process of working through the implementation of the Plan, paying particular attention to the sewered areas. A primary objective during the years after the Plan was adopted was to ensure that the new development patterns respected, and incorporated the unique character of the community.

The City faced that challenge head on, conducting "theming" and "visioning" exercises to try and articulate to potential developers what the community meant by "rural" and "open space" character. The policymakers, staff, and its consultants worked diligently to figure out how elements of 'rural' and 'open space' could be incorporated into the urbanizing areas so that the community still felt like a whole, and that resulting developments and new neighborhoods would 'feel' like Lake Elmo. This process was complex and took countless hours of discussion, drafting and policy development to create ordinances, guidelines and other tools that would be used to help guide the development process.

Some new developments have been approved without the benefit of these guidelines and policy directives in place; however, more developments may have been approved if not for the Great Recession. Between late 2007 and mid-2009 the Great Recession occurred which is now identified as the most severe economic downturn since the Great Depression. The Great Recession brought nearly all development to a standstill with the housing crash being at the center of the downturn. While the Great Recession was devastating, it provided some respite to communities like Lake Elmo that were faced with potentially staggering growth. It allowed

Lake Elmo the breathing room to figure out how to implement the newly adopted "Planned Land Use" in a manner that would integrate and incorporate elements of the City's historical preference for rural development patters – it allowed the City to evaluate how, and if, there were ways to incorporate some of the rural and open space character defining elements into the areas that would eventually develop once the Great Recession receded.

While nationally, the Great Recession officially ended in mid-2009, the recovery took far longer and continued to plague the residential building industry well into 2013. Due to the extensive duration of the economic downturn, the City spent time studying the areas that would eventually grow and developed policy documents to help guide future development in the urbanizing areas.

The 2015 System Statement Replaces the MOU

State Statute requires the Metropolitan Council to issue a System Statement for each community within their authority that states the planning obligations of a community for regional compliance in their decennial Comprehensive Plan updates. The Lake Elmo 2015 System Statement serves as the guide for this 2040 Comprehensive Plan Update, and it is the City's obligation to prepare a Plan Update that is consistent with this document. The 2015 System Statement incorporates and builds upon the 2005 MOU, but the MOU no longer is the operative document for this decennial Plan update. While the lawsuit, and the subsequent MOU help tell the story of Lake Elmo's past, it no longer needs to cast the negative light on the 'change' occurring in Lake Elmo. Instead, the community now can thoughtfully build on its previous planning efforts, and move forward – change will happen, but it's in the City's power to help shape and guide the change that meets the new vision for the community.

The MOU is in the Past, Let's Leave *it* There.

It is essential for the City's constituents, leaders, staff and policymakers to understand that the objectives and requirements of the MOU are fulfilled by the current 2008 Plan and can consider the MOU an agreement of the past. The City has come a long way since 2005, and have plans, guidelines and ordinances in place that are starting to shape the community and its new neighborhoods. It is time for the City to embark on a new planning initiative, that builds on the good work that has happened in the past few years and focus on the opportunities of the 2040 Comprehensive Plan Update process.

To implement the 2030 Comprehensive Plan the City prepared several planning documents including policy documents, ordinances and guidelines. The following list of recent initiatives is provided:

- Design Guidelines and Standards

Manual Adopted November 19, 2013

- Village Master Plan – 2005 (Portions incorporated into 2030 Comprehensive Plan)
- AUAR for Village Areas – 2005 (Portions incorporated into 2030 Comprehensive Plan)
- Sewered Zoning Districts – Urban Low Density Residential, Urban Medium Density Residential, Urban High Density Residential, Mixed-Use, Commercial, Business Park

COMMUNITY CHARACTER

It is clear from Lake Elmo's history that the City has a strong commitment, dedication and sense of pride in its rural character and small town feel of the Old Village. Repeatedly residents, policymakers and stakeholders discuss what it means to be "rural" with little to no agreement except that it is a significant value to most in the community. While this process will hopefully help the City establish a unifying vision of what it means to be 'rural,' there are some obvious physical characteristics and patterns that can be used to start defining what rural means to Lake Elmo.

A City of Evolving Neighborhoods

The City is approximately 24-square miles, and not every part of the City has the same 'feel.' However, there is a unified approach to defining the City through neighborhoods, and the confines of the neighborhood thus influences how people describe 'rural character.' The City currently has 30 distinct neighborhoods that provides a smaller scale 'vision' to each resident, and helps to explain why some residents may define 'rural' in different ways.

Much of the variation in neighborhood design can be attributed to the fact that the neighborhoods developed at different times, under different rules and regulations, not to mention market demands. For example, what may have been standard 'rural' development in 1965 would no longer have been acceptable 'rural' development in 2000. Again, this does not make the 1965 devoid of 'rural' character because it is comprised of 2.5-acre lots versus the 10-acre lots developed in 2000, it just provides a different perspective on what constitutes 'rural' to the residents of each of those neighborhoods. Regardless of the changing regulatory landscape over the decades, Lake Elmo remained constant in its commitment to building the community through the development of 'neighborhoods' (whether this happened organically or deliberately). This pattern of development had the effect of creating strong bonds between neighbors and a shared sense of values internal to the neighborhood based on its shared characteristics.

The collection of unique neighborhoods is a clear Character defining element of Lake Elmo. Without the diversity of the different neighborhoods the City wouldn't have its distinct feel that it has today. Over the decades, the neighborhood patterns have changed, but it is clear that the collection of neighborhoods is not only interesting, but is a defining element that can be used as guide for the future creation of 'neighborhoods' throughout the City.

Innovation in Rural Neighborhoods

The City's evolution of neighborhoods also resulted in 'rural innovation' in residential development which was refined over the past several decades. While many parts of the Twin Cities were contemplating how to allow for open space development, Lake Elmo was leading the way with conservation and open space developments popping up throughout the community. This approach to rural development was innovative and was extremely effective in helping to protects large contiguous acreages from development. Acreage that was then allowed to be used for sustainable stormwater and surface water management, innovative community septic systems, agricultural production and long-term (perpetual) natural resources protection. This approach created a strong identity not only for residents of the neighborhoods, but also for the community, which became a leader for other like-minded communities in the region.

This is demonstrated clearly throughout the various Open Space and Conservation designed neighborhoods that are sprinkled throughout the City. Lot sizes in these neighborhoods can be below an acre (1.0) but the neighborhoods include extensive land area preserved in permanent Open Space. Many of these developments were designed with the protected Open Space strategically located to connect to adjacent neighborhood's' open spaces creating an expansive interconnected network of open spaces. As this development pattern was refined and repeated over time, it became a truly character defining land use pattern in the community.

The "Old Village"

Since the beginning the Old Village has been an important part of the community providing local residents with goods, services and places to gather. The Old Village has evolved over the years, but generally has retained its small-town character with typical users of yesteryear such as the local post office, library and grocery store. Residents from all over the community, whether they live in a new community or old, gather at the local restaurants or catch up at the local barber shops which are all located in the Old Village. Like many small towns, the development pattern is denser than in other parts of the community, but that doesn't detract from its

charm, instead it makes the Village 'feel' like a distinct area of the community and a destination for residents regardless of what neighborhood they live. The City and its residents have remained committed to supporting the Old Village and its historic development patterns, and would like to see the area expanded to support more small business, and to encourage a more walkable, pedestrian friendly environment. (See 2005 Old Village Master Plan)

Parks and Open Space

The City of Lake Elmo has an extensive network of parks and open spaces that has been methodically developed and protected over the past several decades. Early on Lake Elmo established itself as a community that not only valued agriculture and 'rural' character, but one that valued access and protection of natural resources and open space. The Lake Elmo Park Reserve is fully contained within the City of Lake Elmo's borders and comprises approximately 2,165 acres of land of which 80-percent is planned for restoration to pre-settlement conditions. In addition to the Reserve the amount of land protected through open space, local parks, and conservation easements is truly unique for a community of Lake Elmo's size, and it undoubtedly contributes to the overall character and feeling of the community. New and old neighborhoods alike have been developed to 'connect' into the network of open spaces through trail access, continuation and expansion of protected open spaces, and the creation of 'greenways.'

Growth

In the past decade growth has been a defining, and oftentimes divisive, characteristic of the community that cannot be ignored. The evolution of neighborhoods, development pattern, Old Village, transportation network, infrastructure, and other physical characteristics tell the stories of the community - good and bad. Since the last planning period, policymakers, stakeholders, residents, and staff have all grappled with how to deal with the inevitable changes occurring as a result of growth – but can all agree that Lake Elmo needs to retain its distinct feel whether in the Old Village, an urbanizing neighborhood south of 10th Street, or in the rural residential heart of the community.

Community Events

In addition to the physical characteristics of the City, the community's values are expressed through the opportunities for social interaction. As a community with small town values, the commitment to providing community events that brings neighborhoods and people together remains important. Some of these events are:

- Huff and Puff Days
- Farmers Markets

- Tri-lakes
- Arbor Day
- Clean up and Nature Day
- Fourth of July Parade

DEMOGRAPHICS AND HOUSING

Socio-Economic Conditions

The following section presents demographic and economic data for the City of Lake Elmo. This data provides an understanding of key trends that influence land use and other important community systems. In many of the exhibits included in this section, additional data is also presented for Washington County and the 7-County Twin Cities Metropolitan Area. This additional data is intended to provide greater context to trends and patterns that likely extend well beyond Lake Elmo's border but nevertheless impact the community.

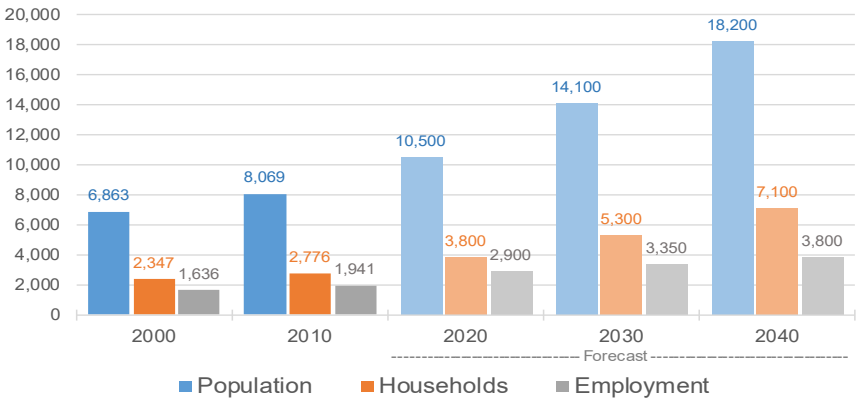
Metropolitan Council Socio-Economics Forecasts

The Metropolitan Council prepares socio-economic forecasts for each community within the 7-County metropolitan area. These forecasts are meant to inform each component of the Comprehensive Plan.

Figures 1 through 4 and Table 1 present data on the recent and forecasted growth trends for Lake Elmo through 2040. The Metropolitan Council anticipates Lake Elmo will roughly double its number of persons, households, and employees through 2040 which is substantially less than the projections provided by the Metropolitan Council and contained within the adopted 2030 Comprehensive Plan. Even though the projected growth is less than planned for in the 2030 Plan, this amount of growth is still a significant departure from recent growth patterns and will require a thoughtful approach as to where and how new development will occur within the City.

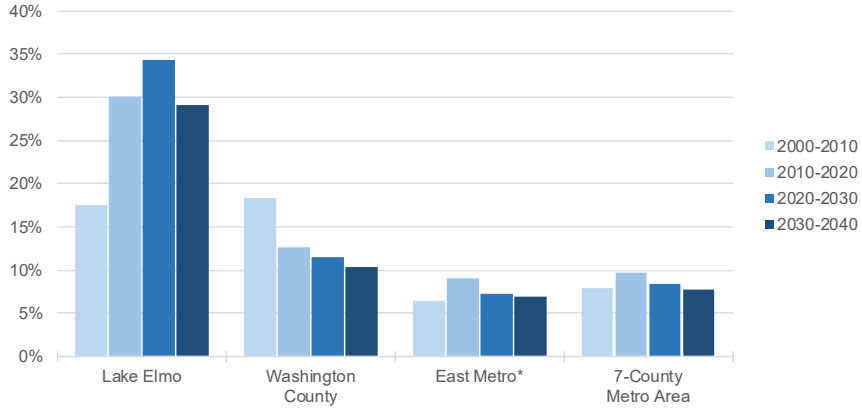
Although this rate of growth is substantial, it is consistent with the fact that portions of Lake Elmo have been designated as "Emerging Suburban Edge" and, therefore, are likely to capture near-term development given their proximity and access to existing infrastructure.

Figure 1: Lake Elmo Socio-Economic Growth Trends 2000-2040



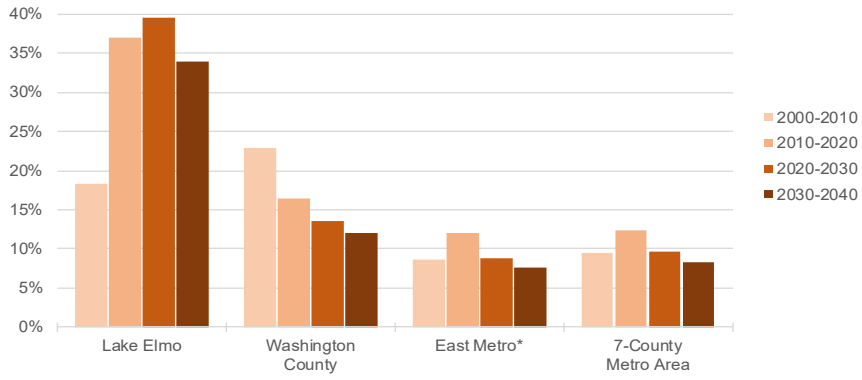
Source: Metropolitan Council

Figure 2: Population Growth Rates 2000-2040



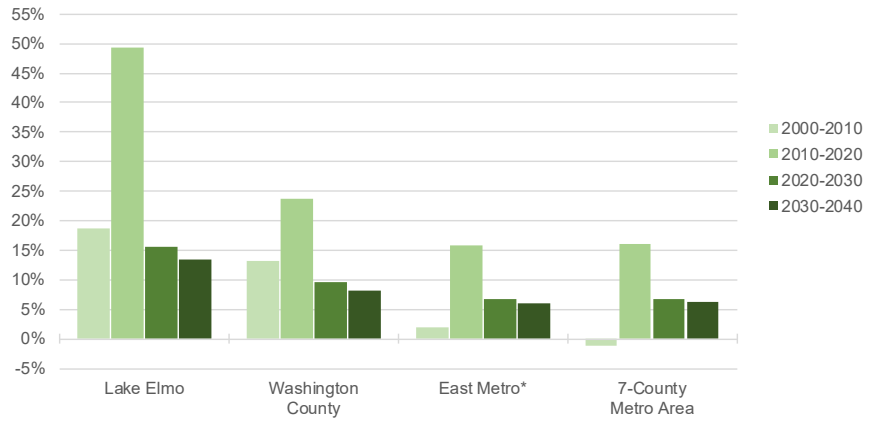
* East Metro includes all of Ramsey and Washington counties, the eastern two-thirds of Dakota county, and the eastern one-third of Anoka county.
Source: Metropolitan Council

Figure 3: Household Growth Rates 2000-2040



* East Metro includes all of Ramsey and Washington counties, the eastern two-thirds of Dakota county, and the eastern one-third of Anoka county.
Source: Metropolitan Council

Figure 4: Employment Growth Rates 2000-2040



* East Metro includes all of Ramsey and Washington counties, the eastern two-thirds of Dakota county, and the eastern one-third of Anoka county.
Source: Metropolitan Council

Table 1: Socio-Economic Growth Trends 2000-2040

12

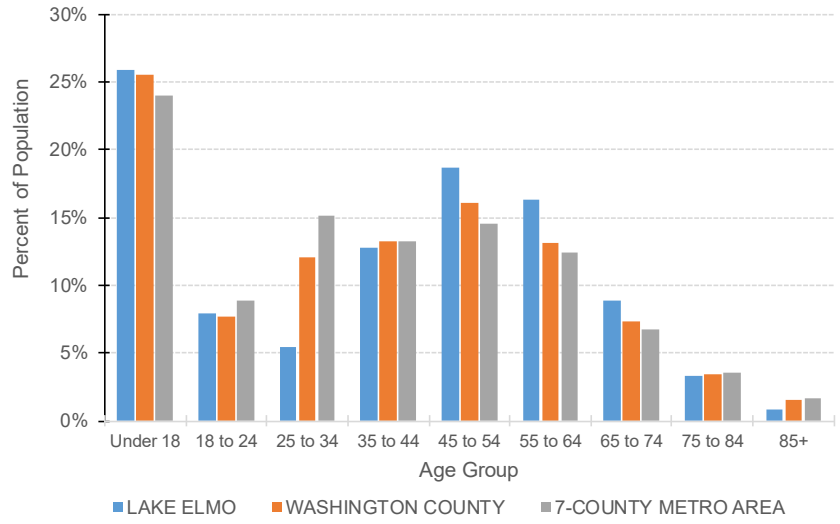
						Numeric Change				Percent Change			
Geography	**2000**	**2010**	**2020**	**2030**	**2040**	**'00-'10**	**'10-'20**	**'20-'30**	**'30-'40**	**'00-'10**	**'10-'20**	**'20-'30**	**'30-'40**
Population													
Lake Elmo	6,863	8,069	10,500	14,100	18,200	1,206	2,431	3,600	4,100	17.6%	30.1%	34.3%	29.1%
Washington Co	201,130	238,136	268,410	299,130	330,200	37,006	30,274	30,720	31,070	18.4%	12.7%	11.4%	10.4%
East Metro[1]	951,886	1,012,706	1,104,420	1,183,710	1,265,150	60,820	91,714	79,290	81,440	6.4%	9.1%	7.2%	6.9%
Metro Area[2]	2,642,062	2,849,567	3,127,660	3,388,950	3,652,060	207,505	278,093	261,290	263,110	7.9%	9.8%	8.4%	7.8%
Households													
Lake Elmo	2,347	2,776	3,800	5,300	7,100	429	1,024	1,500	1,800	18.3%	36.9%	39.5%	34.0%
Washington Co	71,462	87,859	102,280	116,210	130,090	16,397	14,421	13,930	13,880	22.9%	16.4%	13.6%	11.9%
East Metro[1]	360,626	391,728	439,010	477,710	513,750	31,102	47,282	38,700	36,040	8.6%	12.1%	8.8%	7.5%
Metro Area[2]	1,021,456	1,117,749	1,256,580	1,378,470	1,491,780	96,293	138,831	121,890	113,310	9.4%	12.4%	9.7%	8.2%
Employment													
Lake Elmo	1,636	1,941	2,900	3,350	3,800	305	959	450	450	18.6%	49.4%	15.5%	13.4%
Washington Co	63,521	71,897	88,880	97,460	105,410	8,376	16,983	8,580	7,950	13.2%	23.6%	9.7%	8.2%
East Metro[1]	493,830	503,511	582,700	622,100	659,820	9,681	79,189	39,400	37,720	2.0%	15.7%	6.8%	6.1%
Metro Area[2]	1,563,245	1,543,872	1,791,080	1,913,050	2,032,660	-19,373	247,208	121,970	119,610	-1.2%	16.0%	6.8%	6.3%

[1] East Metro includes all of Ramsey and Washington counties, the eastern two-thirds of Dakota county, and the eastern one-third of Anoka county.
[2] 7-County metro area, which includes the counties of Anoka, Carvery, Dakota, Hennepin, Ramsey, Scott, and Washington
Source: Metropolitan Council

Age of the Population

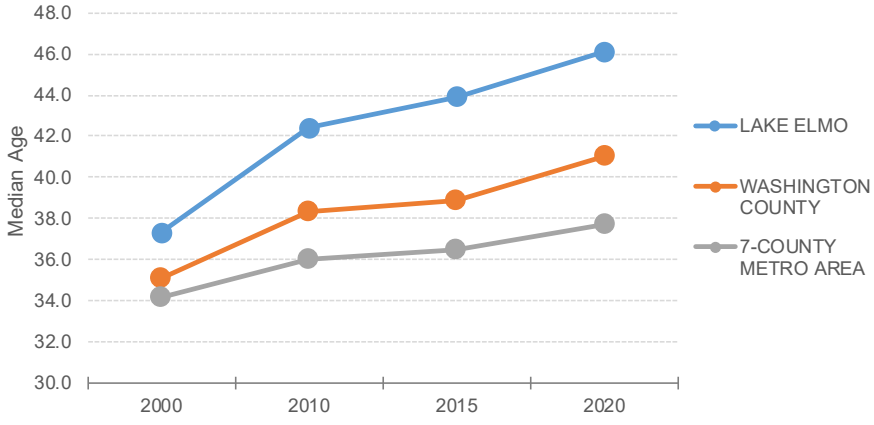
The age profile of the community has important ramifications on demand for housing, goods and services, and social cohesion. Figures 5 and 6 as well Table 2 present data on the age profile of Lake Elmo. Similar to most places, Lake Elmo's percentage of the older population is growing. Between 2000 and 2015, the median age increased from 37 to 44 (Figure 6). However, this is a much faster rate of aging than Washington County and the metropolitan area. This is largely due to a very low percentage of people age 25 to 34 (Figure 5). Oftentimes the lack of entry-level housing will result in low numbers of young adults, which is evidenced in subsequent sections of this report.

Figure 5: Age Distribution of the Population 2015



Source: US Census

Figure 6: Median Age 2000-2020



Sources: US Census; Minnesota State Demographer; Perkins+Will

Table 2: Age Distribution of the Population 2000-2020

					Numeric Change		Percent Change		Distribution					
Age Group	2000	2010	2015	2020	'00-'10	'10-'20	'00-'10	'10-'20	2000	2010	2015	2020	'00-'10	'10-'20
LAKE ELMO														
Under 18	2,004	2,189	2,122	2,241	185	52	9.2%	2.4%	29.2%	27.1%	25.9%	21.3%	-2.1%	-5.8%
18 to 24	496	516	648	743	20	227	4.0%	43.9%	7.2%	6.4%	7.9%	7.1%	-0.8%	0.7%
25 to 34	648	582	445	1,018	-66	436	-10.2%	74.9%	9.4%	7.2%	5.4%	9.7%	-2.2%	2.5%
35 to 44	1,361	1,099	1,046	1,078	-262	-21	-19.3%	-1.9%	19.8%	13.6%	12.8%	10.3%	-6.2%	-3.4%
45 to 54	1,185	1,669	1,530	1,572	484	-97	40.8%	-5.8%	17.3%	20.7%	18.7%	15.0%	3.4%	-5.7%
55 to 64	688	1,128	1,340	1,923	440	795	64.0%	70.5%	10.0%	14.0%	16.3%	18.3%	4.0%	4.3%
65 to 74	330	589	725	1,247	259	658	78.5%	111.8%	4.8%	7.3%	8.8%	11.9%	2.5%	4.6%
75 to 84	121	236	272	544	115	308	95.0%	130.7%	1.8%	2.9%	3.3%	5.2%	1.2%	2.3%
85+	30	61	71	133	31	72	103.3%	118.7%	0.4%	0.8%	0.9%	1.3%	0.3%	0.5%
Total	6,863	8,069	8,199	10,500	1,206	2,431	17.6%	30.1%	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%
Median Age	*37.3*	*42.4*	*43.9*	*46.1*	*5.1*	*3.7*	*13.7%*	*8.7%*	--	--	--	--	--	--
WASHINGTON COUNTY														
Under 18	59,225	63,598	62,951	63,458	4,373	-140	7.4%	-0.2%	29.4%	26.7%	25.5%	23.6%	-2.7%	-3.1%
18 to 24	13,726	17,047	19,023	27,895	3,321	10,848	24.2%	63.6%	6.8%	7.2%	7.7%	10.4%	0.3%	3.2%
25 to 34	27,341	28,864	29,686	24,180	1,523	-4,684	5.6%	-16.2%	13.6%	12.1%	12.0%	9.0%	-1.5%	-3.1%
35 to 44	38,877	34,243	32,706	31,010	-4,634	-3,233	-11.9%	-9.4%	19.3%	14.4%	13.3%	11.6%	-4.9%	-2.8%
45 to 54	30,210	40,412	39,670	39,919	10,202	-493	33.8%	-1.2%	15.0%	17.0%	16.1%	14.9%	1.9%	-2.1%
55 to 64	16,484	28,988	32,428	39,901	12,504	10,913	75.9%	37.6%	8.2%	12.2%	13.1%	14.9%	4.0%	2.7%
65 to 74	8,830	14,440	17,953	26,393	5,610	11,953	63.5%	82.8%	4.4%	6.1%	7.3%	9.8%	1.7%	3.8%
75 to 84	4,782	7,465	8,592	9,726	2,683	2,261	56.1%	30.3%	2.4%	3.1%	3.5%	3.6%	0.8%	0.5%
85+	1,655	3,079	3,661	5,929	1,424	2,850	86.0%	92.6%	0.8%	1.3%	1.5%	2.2%	0.5%	0.9%
Total	201,130	238,136	246,670	268,410	37,006	30,274	18.4%	12.7%	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%
Median Age	*35.1*	*38.3*	*38.9*	*41.0*	*3.2*	*2.7*	*9.1%*	*7.0%*	--	--	--	--	--	--
7-COUNTY METRO AREA														
Under 18	694,632	696,971	707,802	743,476	2,339	46,505	0.3%	6.7%	26.3%	24.5%	24.0%	23.8%	-1.8%	-0.7%
18 to 24	247,128	267,451	262,969	292,163	20,323	24,712	8.2%	9.2%	9.4%	9.4%	8.9%	9.3%	0.0%	0.0%
25 to 34	411,155	420,311	446,457	419,179	9,156	-1,132	2.2%	-0.3%	15.6%	14.7%	15.1%	13.4%	-0.8%	-1.3%
35 to 44	469,324	391,324	389,232	399,887	-78,000	8,563	-16.6%	2.2%	17.8%	13.7%	13.2%	12.8%	-4.0%	-0.9%
45 to 54	363,592	440,753	430,561	402,963	77,161	-37,790	21.2%	-8.6%	13.8%	15.5%	14.6%	12.9%	1.7%	-2.6%
55 to 64	200,980	326,007	364,897	416,589	125,027	90,582	62.2%	27.8%	7.6%	11.4%	12.4%	13.3%	3.8%	1.9%
65 to 74	130,615	163,425	197,597	282,392	32,810	118,967	25.1%	72.8%	4.9%	5.7%	6.7%	9.0%	0.8%	3.3%
75 to 84	90,292	97,442	103,059	102,774	7,150	5,332	7.9%	5.5%	3.4%	3.4%	3.5%	3.3%	0.0%	-0.1%
85+	34,338	45,883	49,540	68,237	11,545	22,354	33.6%	48.7%	1.3%	1.6%	1.7%	2.2%	0.3%	0.6%
Total	2,642,056	2,849,567	2,952,114	3,127,660	207,511	278,093	7.9%	9.8%	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%
Median Age	*34.2*	*36.0*	*36.5*	*37.7*	*1.8*	*1.7*	*5.3%*	*4.7%*	--	--	--	--	--	--

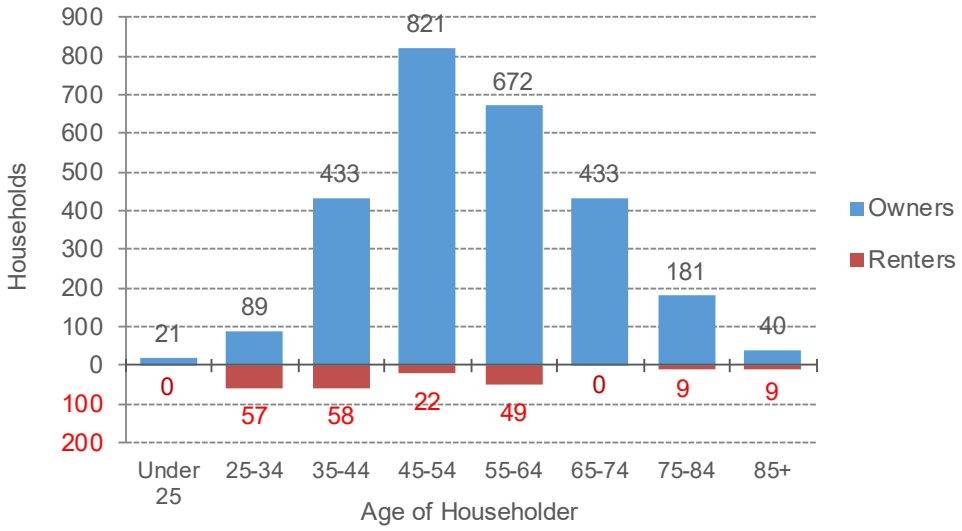
Sources: US Census; Minnesota State Demographer; Perkins+Will

Housing Tenure

Housing tenure is important to track because it provides insight into the potential of a community to respond to a changing age profile or shocks to the economy, such as a recession. For example, many older households often transition out of homeownership into rental housing as they require more assistance with activities of daily living. Figures 7 and 8 along with Table 3 provide detailed information of housing tenure in Lake Elmo.

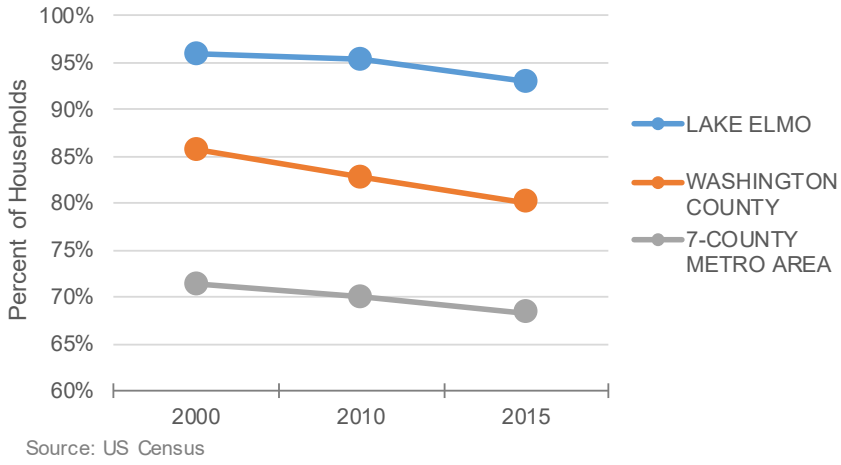
Roughly 93% of all households in Lake Elmo own their housing as of 2015. This is significantly above the homeownership rate for Washington County and the metropolitan area (Figure 8). However, like elsewhere in the region, the homeownership rate has been declining in Lake Elmo since 2000. This is likely due to an aging population as well as broad economic trends driven by the Great Recession of 2007-2008 in which the country experienced the worst housing bust since the Great Depression. During last decade's recession, many single-family residences went into foreclosure and transitioned into rental properties.

Figure 7: Lake Elmo Housing Tenure by Age of Householder 2015



Source: US Census: 2011-2015 American Community Survey

Figure 8: Homeownership Rate 2000-2015



Source: US Census

Table 3: Housing Tenure by Age of Householder 2000-2015

	2000			2010			2015			Numeric Change '10-'15			Percent Change '10-'15		
Age Group	Total	Rent	Own	Total	Rent	Own	Total	Rent	Own	Total	Rent	Own	Total	Rent	Own
LAKE ELMO															
Under 25	59	12	47	25	7	18	21	0	21	-4	-7	3	-16%	-100%	17%
25-34	274	26	248	186	35	151	146	57	89	-40	22	-62	-22%	63%	-41%
35-44	681	27	654	514	30	484	491	58	433	-23	28	-51	-4%	93%	-11%
45-54	628	13	615	884	28	856	843	22	821	-41	-6	-35	-5%	-21%	-4%
55-64	408	9	399	630	15	615	721	49	672	91	34	57	14%	227%	9%
65-74	199	6	193	354	11	343	433	0	433	79	-11	90	22%	-100%	26%
75-84	80	4	76	146	2	144	190	9	181	44	7	37	30%	350%	26%
85+	18	0	18	40	3	37	49	9	40	9	6	3	23%	200%	8%
All HHs	2,347	97	2,250	2,779	131	2,648	2,894	204	2,690	115	73	42	4%	56%	2%
Distribution by Tenure															
Under 25	*100%*	*20%*	*80%*	*100%*	*28%*	*72%*	*100%*	*0%*	*100%*	---	---	---	*0.0%*	*-28.0%*	*28.0%*
25-34	*100%*	*9%*	*91%*	*100%*	*19%*	*81%*	*100%*	*39%*	*61%*	---	---	---	*0.0%*	*20.2%*	*-20.2%*
35-44	*100%*	*4%*	*96%*	*100%*	*6%*	*94%*	*100%*	*12%*	*88%*	---	---	---	*0.0%*	*6.0%*	*-6.0%*
45-54	*100%*	*2%*	*98%*	*100%*	*3%*	*97%*	*100%*	*3%*	*97%*	---	---	---	*0.0%*	*-0.6%*	*0.6%*
55-64	*100%*	*2%*	*98%*	*100%*	*2%*	*98%*	*100%*	*7%*	*93%*	---	---	---	*0.0%*	*4.4%*	*-4.4%*
65-74	*100%*	*3%*	*97%*	*100%*	*3%*	*97%*	*100%*	*0%*	*100%*	---	---	---	*0.0%*	*-3.1%*	*3.1%*
75-84	*100%*	*5%*	*95%*	*100%*	*1%*	*99%*	*100%*	*5%*	*95%*	---	---	---	*0.0%*	*3.4%*	*-3.4%*
85+	*100%*	*0%*	*100%*	*100%*	*8%*	*93%*	*100%*	*18%*	*82%*	---	---	---	*0.0%*	*10.9%*	*-10.9%*
All HHs	*100%*	*4%*	*96%*	*100%*	*5%*	*95%*	*100%*	*7%*	*93%*	---	---	---	*0.0%*	*2.3%*	*-2.3%*
WASHINGTON COUNTY															
Under 25	1,974	1,292	682	2,044	1,388	656	1,654	1,311	343	-390	-77	-313	-19%	-6%	-48%
25-34	12,428	2,739	9,689	12,559	3,861	8,698	12,893	4,979	7,914	334	1,118	-784	3%	29%	-9%
35-44	20,694	2,231	18,463	17,835	2,837	14,998	17,253	3,716	13,537	-582	879	-1,461	-3%	31%	-10%
45-54	17,054	1,285	15,769	22,568	2,469	20,099	22,391	2,611	19,780	-177	142	-319	-1%	6%	-2%
55-64	9,736	690	9,046	16,860	1,477	15,383	18,180	2,129	16,051	1,320	652	668	8%	44%	4%
65-74	5,519	656	4,863	8,941	892	8,049	10,607	957	9,650	1,666	65	1,601	19%	7%	20%
75-84	3,153	887	2,266	4,966	1,115	3,851	5,752	1,253	4,499	786	138	648	16%	12%	17%
85+	904	455	449	2,086	1,102	984	2,202	1,112	1,090	116	10	106	6%	1%	11%
All HHs	71,462	10,235	61,227	87,859	15,141	72,718	90,932	18,068	72,864	3,073	2,927	146	3%	19%	0%
Distribution by Tenure															
Under 25	*100%*	*65%*	*35%*	*100%*	*68%*	*32%*	*100%*	*79%*	*21%*	---	---	---	*0.0%*	*11.4%*	*-11.4%*
25-34	*100%*	*22%*	*78%*	*100%*	*31%*	*69%*	*100%*	*39%*	*61%*	---	---	---	*0.0%*	*7.9%*	*-7.9%*
35-44	*100%*	*11%*	*89%*	*100%*	*16%*	*84%*	*100%*	*22%*	*78%*	---	---	---	*0.0%*	*5.6%*	*-5.6%*
45-54	*100%*	*8%*	*92%*	*100%*	*11%*	*89%*	*100%*	*12%*	*88%*	---	---	---	*0.0%*	*0.7%*	*-0.7%*
55-64	*100%*	*7%*	*93%*	*100%*	*9%*	*91%*	*100%*	*12%*	*88%*	---	---	---	*0.0%*	*3.0%*	*-3.0%*
65-74	*100%*	*12%*	*88%*	*100%*	*10%*	*90%*	*100%*	*9%*	*91%*	---	---	---	*0.0%*	*-1.0%*	*1.0%*
75-84	*100%*	*28%*	*72%*	*100%*	*22%*	*78%*	*100%*	*22%*	*78%*	---	---	---	*0.0%*	*-0.7%*	*0.7%*
85+	*100%*	*50%*	*50%*	*100%*	*53%*	*47%*	*100%*	*50%*	*50%*	---	---	---	*0.0%*	*-2.3%*	*2.3%*
All HHs	*100%*	*14%*	*86%*	*100%*	*17%*	*83%*	*100%*	*20%*	*80%*	---	---	---	*0.0%*	*2.6%*	*-2.6%*
7-COUNTY METRO AREA															
Under 25	56,489	46,699	9,790	49,736	41,789	7,947	42,727	37,764	4,963	-7,009	-4,025	-2,984	-14%	-10%	-38%
25-34	205,413	91,342	114,071	201,952	99,716	102,236	211,750	112,759	98,991	9,798	13,043	-3,245	5%	13%	-3%
35-44	262,167	58,438	203,729	213,981	59,303	154,678	211,287	67,401	143,886	-2,694	8,098	-10,792	-1%	14%	-7%
45-54	213,167	36,077	177,090	253,783	51,379	202,404	245,053	52,855	192,198	-8,730	1,476	-10,206	-3%	3%	-5%
55-64	120,788	18,205	102,583	196,950	34,355	162,595	216,177	41,383	174,794	19,227	7,028	12,199	10%	20%	8%
65-74	82,521	14,491	68,030	103,345	17,998	85,347	122,149	21,409	100,740	18,804	3,411	15,393	18%	19%	18%
75-84	60,685	17,109	43,576	66,268	16,185	50,083	67,247	16,330	50,917	979	145	834	1%	1%	2%
85+	20,224	10,127	10,097	31,734	14,549	17,185	33,764	14,841	18,923	2,030	292	1,738	6%	2%	10%
All HHs	1,021,454	292,488	728,966	1,117,749	335,274	782,475	1,150,154	364,742	785,412	32,405	29,468	2,937	3%	9%	0%
Distribution by Tenure															
Under 25	*100%*	*83%*	*17%*	*100%*	*84%*	*16%*	*100%*	*88%*	*12%*	---	---	---	*0.0%*	*4.4%*	*-4.4%*
25-34	*100%*	*44%*	*56%*	*100%*	*49%*	*51%*	*100%*	*53%*	*47%*	---	---	---	*0.0%*	*3.9%*	*-3.9%*
35-44	*100%*	*22%*	*78%*	*100%*	*28%*	*72%*	*100%*	*32%*	*68%*	---	---	---	*0.0%*	*4.2%*	*-4.2%*
45-54	*100%*	*17%*	*83%*	*100%*	*20%*	*80%*	*100%*	*22%*	*78%*	---	---	---	*0.0%*	*1.3%*	*-1.3%*
55-64	*100%*	*15%*	*85%*	*100%*	*17%*	*83%*	*100%*	*19%*	*81%*	---	---	---	*0.0%*	*1.7%*	*-1.7%*
65-74	*100%*	*18%*	*82%*	*100%*	*17%*	*83%*	*100%*	*18%*	*82%*	---	---	---	*0.0%*	*0.1%*	*-0.1%*
75-84	*100%*	*28%*	*72%*	*100%*	*24%*	*76%*	*100%*	*24%*	*76%*	---	---	---	*0.0%*	*-0.1%*	*0.1%*
85+	*100%*	*50%*	*50%*	*100%*	*46%*	*54%*	*100%*	*44%*	*56%*	---	---	---	*0.0%*	*-1.9%*	*1.9%*
All HHs	*100%*	*29%*	*71%*	*100%*	*30%*	*70%*	*100%*	*32%*	*68%*	---	---	---	*0.0%*	*1.7%*	*-1.7%*

Source: US Census

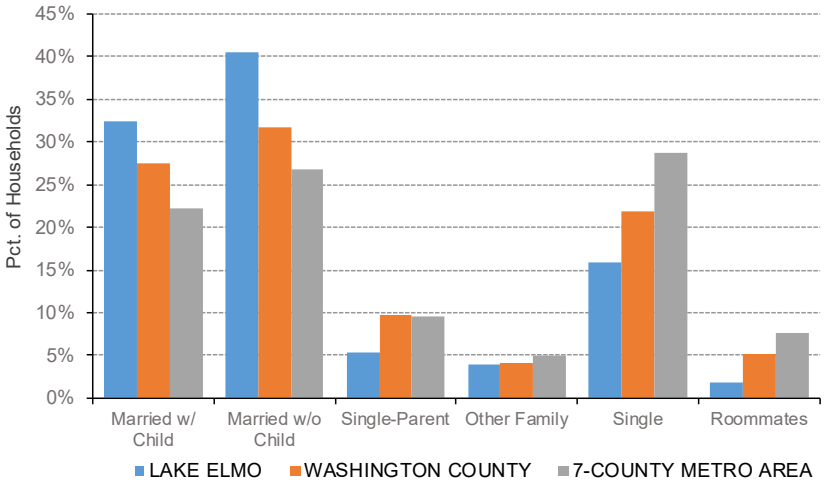
Household Type

Changing family and household structures can also have a profound effect on housing and other community needs. For example, decreasing household size has a direct impact on the square footage a household needs. Also, the presence of children not only impacts local schools and parks, but also the types of retailers that can be supported and the nature of housing demanded.

In 2015, Lake Elmo had a significantly higher proportion of traditional married couple households (both with and without children). These two household types accounted for 73% of all households in Lake Elmo (Figure 9). In contrast, these two household types represented only 49% of all households across the metropolitan area.

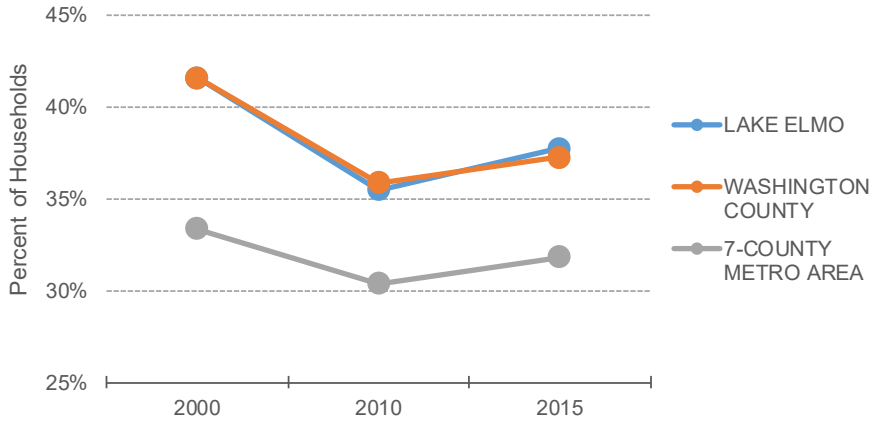
Although households with children experienced a sharp decline in Lake Elmo from 2000 to 2010, the trend both within Lake Elmo and across the region appears that households with children are on the rise (Figure 10). Within Lake Elmo, this is likely due to more established families moving to Lake Elmo. More broadly, it is likely due to the Millennial generation (those born between 1980 and 1999) entering their family formation years.

Figure 9: Household Type 2015



Source: US Census

Figure 10: Households with Children 2000-2015



Source: US Census

Table 4: Household Type 2000-2015

				Change '10-'15		Distribution		
Household Type	2000	2010	2015	Number	Percent	2010	2015	Change
LAKE ELMO								
Married with children	790	846	938	92	10.9%	30.4%	32.4%	2.0%
Married without childrer	838	1,118	1,174	56	5.0%	40.2%	40.6%	0.3%
Single-parent family	186	141	155	14	9.9%	5.1%	5.4%	0.3%
Other family*	110	147	112	-35	-23.8%	5.3%	3.9%	-1.4%
Single	307	413	461	48	11.6%	14.9%	15.9%	1.1%
Roommate	116	114	54	-60	-52.6%	4.1%	1.9%	-2.2%
Total Households	2,347	2,779	2,894	115	4.1%	100%	100%	0%
WASHINGTON COUNTY								
Married with children	24,307	24,378	25,003	625	2.6%	27.7%	27.5%	-0.3%
Married without childrer	22,011	28,319	28,782	463	1.6%	32.2%	31.7%	-0.6%
Single-parent family	5,409	7,142	8,880	1,738	24.3%	8.1%	9.8%	1.6%
Other family*	2,938	4,603	3,718	-885	-19.2%	5.2%	4.1%	-1.2%
Single	13,374	18,666	19,866	1,200	6.4%	21.2%	21.8%	0.6%
Roommate	3,423	4,751	4,683	-68	-1.4%	5.4%	5.2%	-0.3%
Total Households	71,462	87,859	90,932	3,073	3.5%	100%	100%	0%
7-COUNTY METRO AREA								
Married with children	256,655	244,687	256,022	11,335	4.6%	21.9%	22.3%	0.4%
Married without childrer	263,626	298,723	307,664	8,941	3.0%	26.7%	26.7%	0.0%
Single-parent family	84,246	95,127	110,124	14,997	15.8%	8.5%	9.6%	1.1%
Other family*	53,632	68,959	56,945	-12,014	-17.4%	6.2%	5.0%	-1.2%
Single	281,086	319,030	331,010	11,980	3.8%	28.5%	28.8%	0.2%
Roommate	82,209	91,223	88,389	-2,834	-3.1%	8.2%	7.7%	-0.5%
Total Households	1,021,454	1,117,749	1,150,154	32,405	2.9%	100%	100%	0%

* Other Family households can consist of households with adult siblings, parents with adult children, or householders with parents

Source: US Census

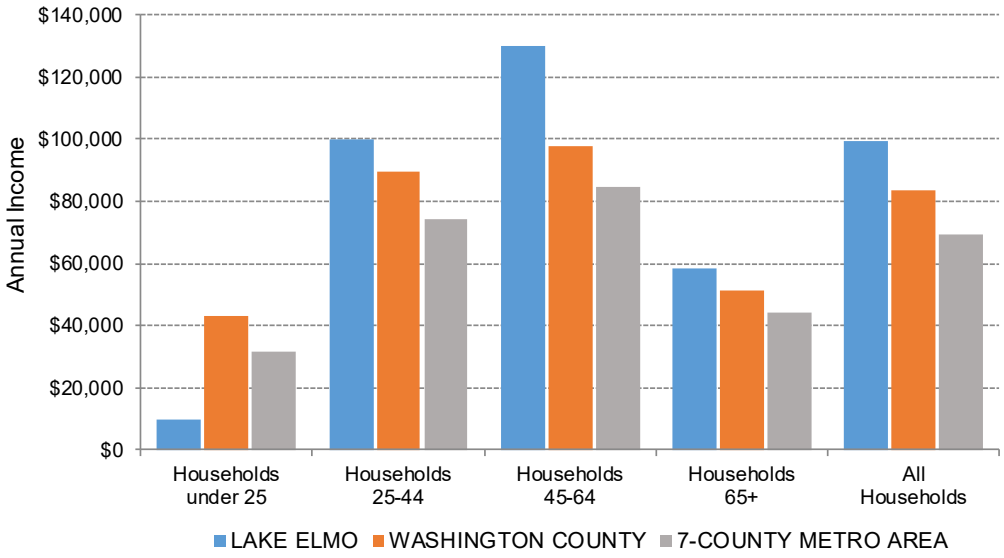
Household Income

Household income is important to track because it is strongly correlated with age, it directly affects the spending power of area residents and their ability to support retail, and it affects their ability to afford new forms of housing. Figures 11 and 12 as well as Table 5 present data on the median household income of Lake Elmo and the surrounding region.

Lake Elmo has a very high median household income. As of 2015, it is just under $100,000 (Figure 11). This is nearly 20% higher than Washington County's median income, and is 35% higher than the metropolitan area's median. Much of this difference can be explained by a sharp increase in Lake Elmo's median income between 2000 and 2010. Since 2010, though, the median income of Lake Elmo has slightly declined while the remainder of the region's median income has continued to increase (Figure 12). Some of this decline can be explained by a significant percentage of Lake Elmo's population transitioning into retirement and, thus, no longer are working full time.

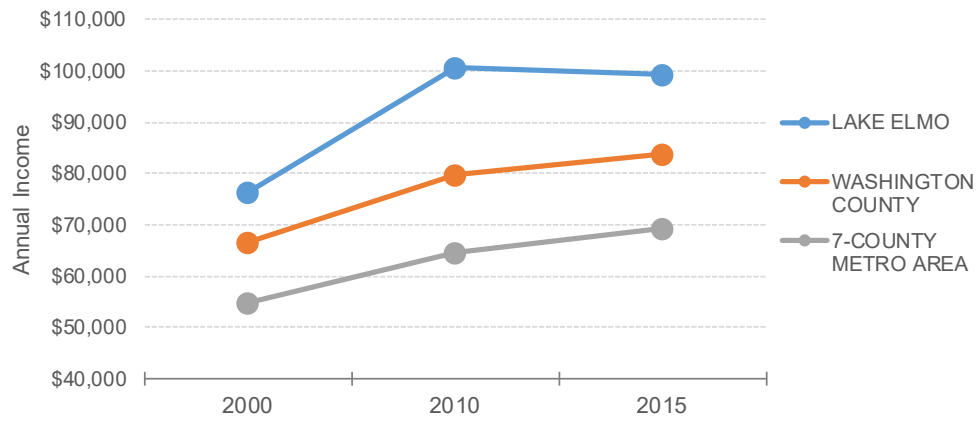
It should also be noted that in Figure 11 and Table 5 income data in 2015 for households under 25 is extremely low, especially when compared to previous years. This is because there are very few households in Lake Elmo that are under 25. Moreover, income data collected by the US Census is based on a sampling of the population and because of this, data for small population groups can be impacted by wide margins of error.

Figure 11: Median Household Income by Age of Householder 2015



Source: US Census

Figure 12: Median Household Income 2000-2015



Source: US Census

Table 5: Median Household Income by Age of Householder 2000-2015

				% Change	
Household Age	2000	2010	2015	'00-'10	'10-'15
LAKE ELMO					
Households under 25	$25,800	$36,354	$10,000	40.9%	-72.5%
Households 25-44	$65,588	$102,358	$99,846	56.1%	-2.5%
Households 45-64	$95,645	$116,868	$130,203	22.2%	11.4%
Households 65+	$40,611	$48,548	$58,448	19.5%	20.4%
All Households	$76,291	$100,545	$99,161	31.8%	-1.4%
WASHINGTON COUNTY					
Households under 25	$34,652	$45,968	$42,917	32.7%	-6.6%
Households 25-44	$69,377	$86,229	$89,550	24.3%	3.9%
Households 45-64	$77,911	$92,416	$97,968	18.6%	6.0%
Households 65+	$32,640	$41,960	$51,334	28.6%	22.3%
All Households	$66,493	$79,612	$83,767	19.7%	5.2%
7-COUNTY METRO AREA					
Households under 25	$29,818	$32,159	$31,434	7.9%	-2.3%
Households 25-44	$58,616	$69,652	$74,243	18.8%	6.6%
Households 45-64	$67,861	$77,813	$84,804	14.7%	9.0%
Households 65+	$31,233	$38,589	$44,133	23.6%	14.4%
All Households	$54,807	$64,471	$69,233	17.6%	7.4%

Sources: US Census; Perkins+Will

HOUSING

This section builds upon the previous demographic information and provides data specific to housing conditions in Lake Elmo. It is intended to provide a better understanding of where important gaps in the supply of housing may exist.

Metropolitan Council Housing Assessment

In support of each community updating their comprehensive plan, the Metropolitan Council has prepared an existing housing assessment that provides specific housing data required for incorporation into the Plan, which is integral to determining the need for certain types of housing, especially affordably priced housing. Table 6 presents this data.

Table 6: Metropolitan Council Existing Housing Assessment for the City of Lake Elmo (February 2017)

TOTAL HOUSING UNITS[1]	2,968

AFFORDABILITY[2]

Units affordable to households with income at or below 30% of AMI	Units affordable to households with income 31% to 50% of AMI	Units affordable to households with income 51% to 80% of AMI
373	100	392

TENURE[3]

Ownership Units	Rental Units
2,764	204

TYPE[1]

Single-family Units	Multifamily Units	Manufactured Homes	Other Housing Units
2,490	50	428	0

PUBLICLY SUBSIDIZED UNITS[4]

All publicly subsidized units	Publicly subsidized senior units	Publicly subsidized units for people with disabilities	Publicly subsidized units: All others
0	0	0	0

HOUSING COST BURDENED HOUSEHOLDS[5]

Income at or below 30% of AMI	Income 31% to 50% of AMI	Income 51% to 80% of AMI
200	151	67

AMI = Area Median Income; area in this definition refers to the 16-county Minneapolis-St. Paul metropolitan statistical area

[1] Source: Metropolitan Council, 2015 housing stock estimates

[2] Source: Metropolitan Council staff estimates for 2015 based on 2105 and 2016 MetroGIS Parcel Datasets (ownership units), 2009-2013 Comprehensive Housing Affordability Strategy data from HUD (rental units and household income), and the Council's 2015 Manufactured Housing Parks Survey (manufactured homes).

[3] Source: US Census Bureau, 2011-2015 American Community Survey five-year estimates; counts adjusted tobetter match the Council's 2015 housing stock estimates

[4] Source: HousingLink Streams data (covers projects whose financing closed by December 2014), http://www.housinglink.org/streams

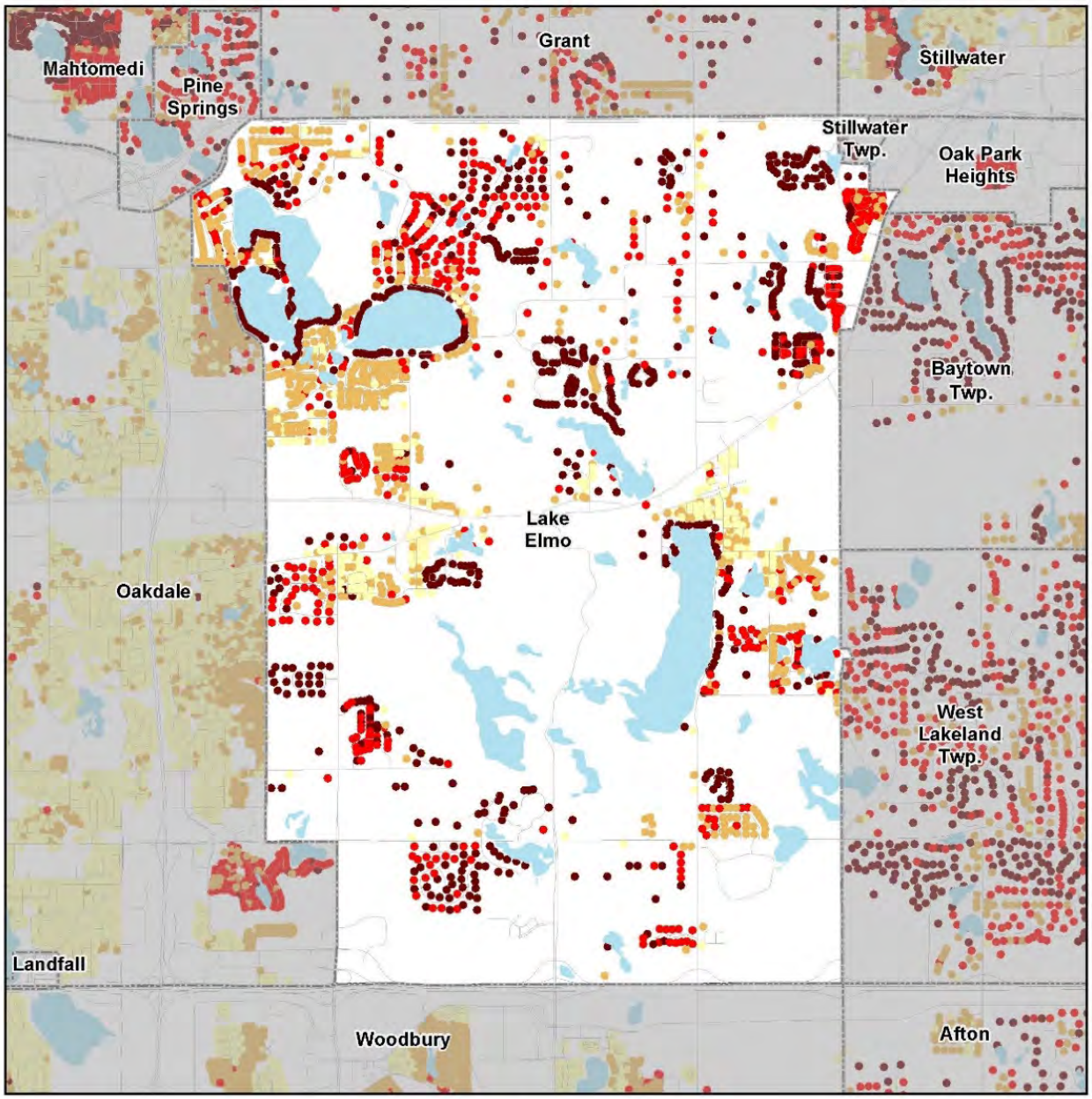
[5] Housing cost burden refers to households whose housing costs are at least 30% of their income. Source: U.S. Department of Housing and Urban Development, 2009-2013 Comprehensive Housing Affordability Strategy (CHAS) data, with counts adjusted to better match Metropolitan Council 2015 household estimates.

Metropolitan Council Map of Estimated Market Value of Lake Elmo Homes

Map 1 to the right was produced by the Metropolitan Council in order to identify the location of affordably-priced owner-occupied homes in Lake Elmo. Based on a set of assumptions, such as down payments, interest rates, etc., the Metropolitan Council considers an owner-occupied home to be affordable if it is valued at $236,000 or less. Not surprisingly, most of the homes that meet this criterion are located in older areas of Lake Elmo.

Map 1

Owner-Occupied Housing by Estimated Market Value
Lake Elmo



County Boundaries
City and Township Boundaries
Lakes and Major Rivers
Street Centerlines

Owner-Occupied Housing Estimated Market Value, 2015

- $238,500 or Less
- $238,501 to $350,000
- $300,001 to $450,000
- Over $450,000

1 inch = 0.9605 miles

Source: MetroGIS Regional Parcel Dataset, 2015 estimated market values for taxes payable in 2016.

Note: Estimated Market Value includes only homesteaded units with a building on the parcel.

Year Housing Built

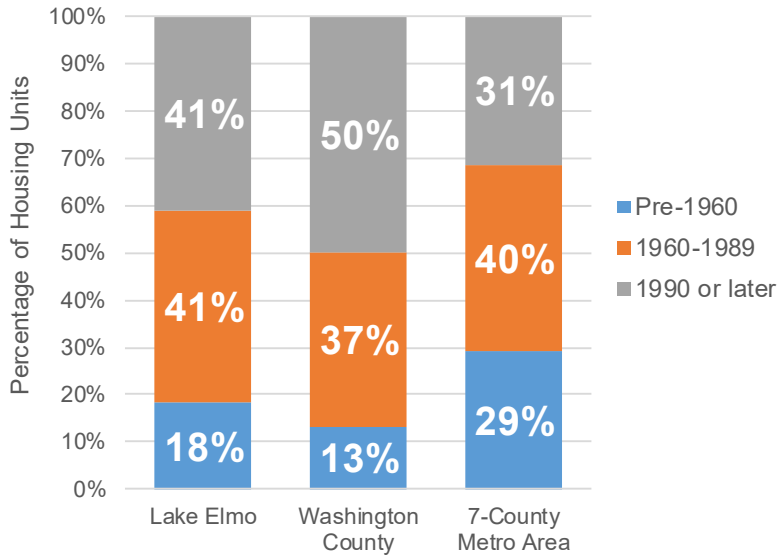
The age of housing is often a good proxy for its overall condition and value; older homes require more-frequent and costlier repairs, and their size and design may not match current cultural preferences. Although older housing stock can many times have aesthetic and historic value, if the homes are not well-maintained they are at significant risk to deferred maintenance, which could result in declining values and potentially blight. Therefore, many communities closely track the condition of their older housing stock and support programs that aid homeowners in their upkeep and overall maintenance.

Just over 40% of Lake Elmo's housing stock is less than 25 years old (Figure 13 and Table 7). Most significant home repairs that are critical to the home's longevity, such as a new roof or furnace, begin to occur when a home is 25-30 years old. Therefore, a significant portion of Lake Elmo's housing stock is still several years away from these types of important investments.

A similar proportion of Lake Elmo's housing stock is between 25 and 55 years old. Most of these homes are likely still in good condition. However, if investments are not made in critical repairs or upgrades, this is an age at which homes can rapidly fall into disrepair.

Although Lake Elmo is growing, the rich history of the community is evident in that nearly 20% of the housing stock is more than 55 years old. This is a larger proportion of homes than the surrounding Washington County area. Strong on-going stewardship of these homes is necessary to maintain them as a desirable and attractive housing stock. Older homes, such as these, can also be an important source of naturally occurring affordably-priced housing.

Figure 13: Year Housing Structure Built 2015



Sources: US Census; HUD (SOCDS)

Table 7: Year Housing Structure Built 2015

				Distribution		
Year Built	Lake Elmo	Washington County	7-County Metro Area	Lake Elmo	Washington County	7-County Metro Area
2010 or later*	248	6,333	63,920	7.9%	6.4%	5.1%
2000-2009	505	19,640	160,119	16.1%	19.8%	12.8%
1990-1999	534	23,640	168,283	17.0%	23.8%	13.4%
1980-1989	347	14,278	182,888	11.1%	14.4%	14.6%
1970-1979	555	14,405	186,473	17.7%	14.5%	14.9%
1960-1969	373	7,817	129,086	11.9%	7.9%	10.3%
1950-1959	192	4,754	130,991	6.1%	4.8%	10.4%
1940-1949	93	1,852	50,459	3.0%	1.9%	4.0%
Pre-1940	287	6,555	182,727	9.2%	6.6%	14.6%
Total Units	**3,134**	**99,274**	**1,254,946**	**100%**	**100%**	**100%**
Median Year	*1981*	*1989*	*1976*			

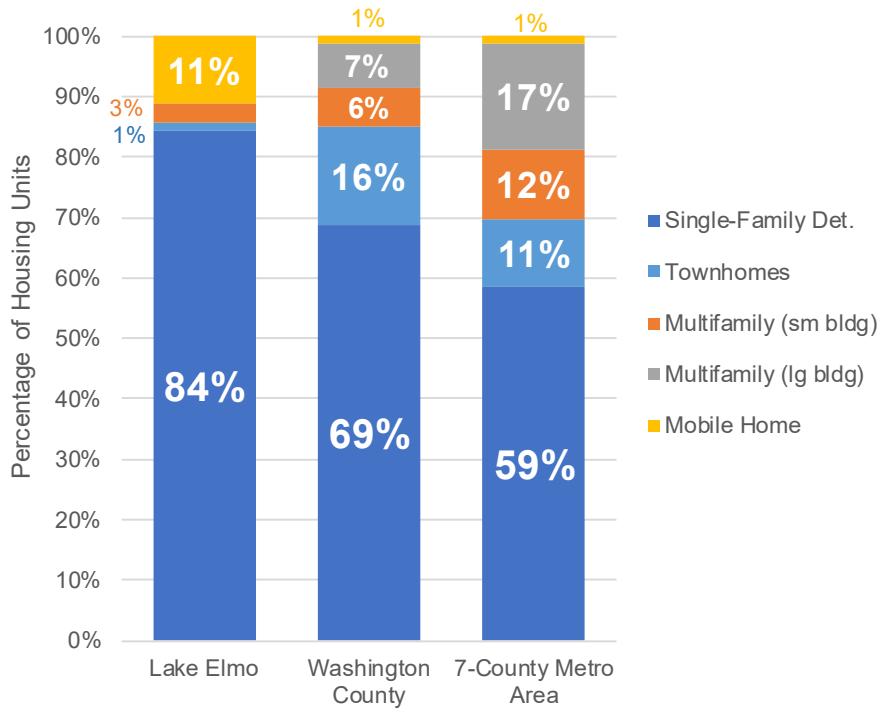
* Includes data from the Census/HUD State of Cities Data Systems (SOCDS)
Sources: US Census, American Community Survey 2011-2015; US Census/HUD SOCDS

Housing Structure Type

The type of housing structure can influence not only affordability but also overall livability. Having a range of housing structures can provide residents of a community options that best meet their needs as they shift from one life stage to another. For example, retirees often desire multifamily housing not only for the ease of maintenance, but also for security reasons. For those fortunate to travel south during the winter, multifamily residences are less susceptible to home maintenance issues or burglary concerns because of on-site management. For those with health concerns, multifamily residences often have neighbors that can also provide oversight should an acute health problem occur.

The vast majority (84%) of Lake Elmo's housing stock consists of detached single-family homes (Figure 14 and Table 8). This is well above the proportion found in Washington County (69%) or throughout the metropolitan area (59%). Only 4% of Lake Elmo's housing stock consists of multifamily or townhome units. This is significantly below the proportion found throughout the metropolitan area (40%). Relative to Washington County or the metropolitan region, Lake Elmo has a significant proportion of its housing units that are mobile homes (11%).

Figure 14: Housing Structure Type 2015



Sm Bldg = 2-19 units; Lg Bldg = 20+ units
Source: US Census

Table 8: Housing Structure Type 2015

LAKE ELMO					Distribution by Type				Distribution by Tenure			
Structure Type	Total	Owned	Rented	Vacant	Total	Owned	Rented	Vacant	Total	Owned	Rented	Vacant
1, detached unit	2,470	2,385	76	9	84.3%	88.7%	37.3%	24.3%	100.0%	96.6%	3.1%	0.4%
1, attached unit	40	27	13	0	1.4%	1.0%	6.4%	0.0%	100.0%	67.5%	32.5%	0.0%
2 units	53	0	53	0	1.8%	0.0%	26.0%	0.0%	100.0%	0.0%	100.0%	0.0%
3 or 4 units	41	0	41	0	1.4%	0.0%	20.1%	0.0%	100.0%	0.0%	100.0%	0.0%
5 to 9 units	0	0	0	0	0.0%	0.0%	0.0%	0.0%	---	---	---	---
10 to 19 units	0	0	0	0	0.0%	0.0%	0.0%	0.0%	---	---	---	---
20 to 49 units	0	0	0	0	0.0%	0.0%	0.0%	0.0%	---	---	---	---
50 or more	0	0	0	0	0.0%	0.0%	0.0%	0.0%	---	---	---	---
Mobile Home	327	278	21	28	11.2%	10.3%	10.3%	75.7%	100.0%	85.0%	6.4%	8.6%
Boat, RV, Van, etc.	0	0	0	0	0.0%	0.0%	0%	0%	---	---	---	---
Total Units	**2,931**	**2,690**	**204**	**37**	**100%**	**100%**	**100%**	**100%**	**100%**	**92%**	**7%**	**1%**

WASHINGTON COUNTY					Distribution by Type				Distribution by Tenure			
Structure Type	Total	Owned	Rented	Vacant	Total	Owned	Rented	Vacant	Total	Owned	Rented	Vacant
1, detached unit	65,195	59,458	3,476	2,261	68.7%	81.6%	19.2%	56.5%	100.0%	91.2%	5.3%	3.5%
1, attached unit	15,506	10,247	4,654	605	16.3%	14.1%	25.8%	15.1%	100.0%	66.1%	30.0%	3.9%
2 units	942	168	637	137	1.0%	0.2%	3.5%	3.4%	100.0%	17.8%	67.6%	14.5%
3 or 4 units	1,855	675	1,026	154	2.0%	0.9%	5.7%	3.8%	100.0%	36.4%	55.3%	8.3%
5 to 9 units	1,985	760	1,130	95	2.1%	1.0%	6.3%	2.4%	100.0%	38.3%	56.9%	4.8%
10 to 19 units	1,334	146	1,149	39	1.4%	0.2%	6.4%	1.0%	100.0%	10.9%	86.1%	2.9%
20 to 49 units	2,341	124	2,013	204	2.5%	0.2%	11.1%	5.1%	100.0%	5.3%	86.0%	8.7%
50 or more	4,557	337	3,828	392	4.8%	0.5%	21.2%	9.8%	100.0%	7.4%	84.0%	8.6%
Mobile Home	1,160	929	116	115	1.2%	1.3%	0.6%	2.9%	100.0%	80.1%	10.0%	9.9%
Boat, RV, Van, etc.	59	20	39	0	0.1%	0.0%	0%	0%	100.0%	33.9%	66%	0%
Total Units	**94,934**	**72,864**	**18,068**	**4,002**	**100%**	**100%**	**100%**	**100%**	**100%**	**77%**	**19%**	**4%**

7-COUNTY METRO AREA					Distribution by Type				Distribution by Tenure			
Structure Type	Total	Owned	Rented	Vacant	Total	Owned	Rented	Vacant	Total	Owned	Rented	Vacant
1, detached unit	705,956	632,367	50,228	23,361	58.5%	80.5%	13.8%	41.3%	100.0%	89.6%	7.1%	3.3%
1, attached unit	136,368	93,048	37,318	6,002	11.3%	11.8%	10.2%	10.6%	100.0%	68.2%	27.4%	4.4%
2 units	32,815	6,727	23,053	3,035	2.7%	0.9%	6.3%	5.4%	100.0%	20.5%	70.3%	9.2%
3 or 4 units	26,100	5,410	18,481	2,209	2.2%	0.7%	5.1%	3.9%	100.0%	20.7%	70.8%	8.5%
5 to 9 units	29,698	5,610	22,420	1,668	2.5%	0.7%	6.1%	2.9%	100.0%	18.9%	75.5%	5.6%
10 to 19 units	50,258	3,355	43,460	3,443	4.2%	0.4%	11.9%	6.1%	100.0%	6.7%	86.5%	6.9%
20 to 49 units	76,693	7,767	63,623	5,303	6.4%	1.0%	17.4%	9.4%	100.0%	10.1%	83.0%	6.9%
50 or more	133,131	18,628	104,067	10,436	11.0%	2.4%	28.5%	18.4%	100.0%	14.0%	78.2%	7.8%
Mobile Home	15,366	12,395	1,844	1,127	1.3%	1.6%	0.5%	2.0%	100.0%	80.7%	12.0%	7.3%
Boat, RV, Van, etc.	353	105	248	0	0.0%	0.0%	0%	0%	100.0%	29.7%	70%	0%
Total Units	**1,206,738**	**785,412**	**364,742**	**56,584**	**100%**	**100%**	**100%**	**100%**	**100%**	**65%**	**30%**	**5%**

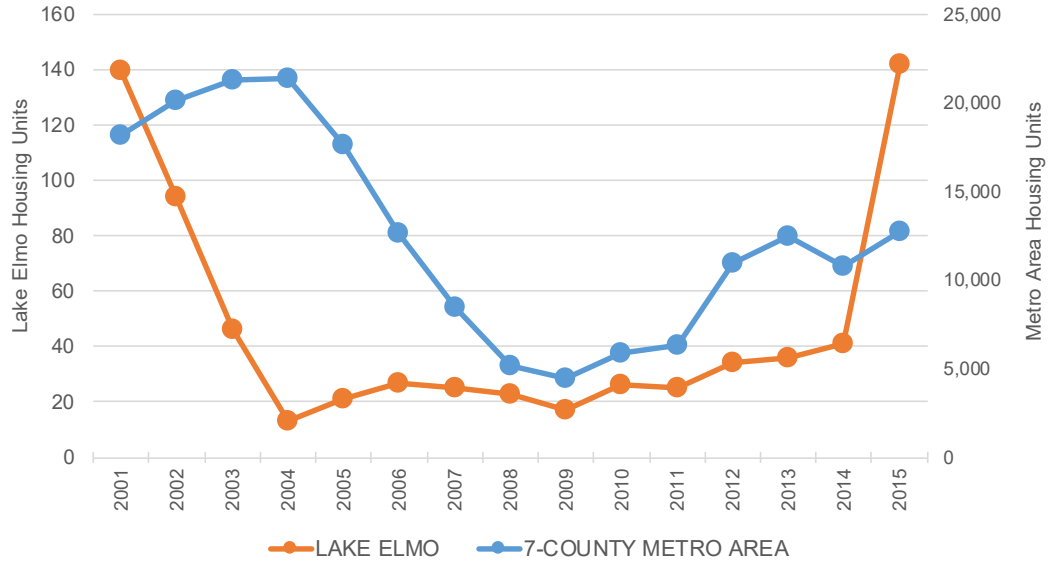
Source: US Census, American Community Survey 2011-2015

Housing Units Permitted for Construction

Building permits can provide insight into important development trends. Based on data compiled by the Metropolitan Council, Lake Elmo has permitted on average 47 housing units per year since 2001. However, these units were not evenly distributed over this period. Construction was concentrated in the early 2000s and only until 2015 did it return to these earlier more robust levels. Between 2004 and 2014, the average annual permits were only 26 (Figure 15).

The pattern of a sharp drop in housing construction was seen across the metropolitan region as well. However, the drop off did not begin to occur until 2006 and then slowly began to recuperate in 2012, but has yet to achieve the same pre-2006 levels of construction.

Figure 15: Housing Units Permitted for Construction 2001-2015



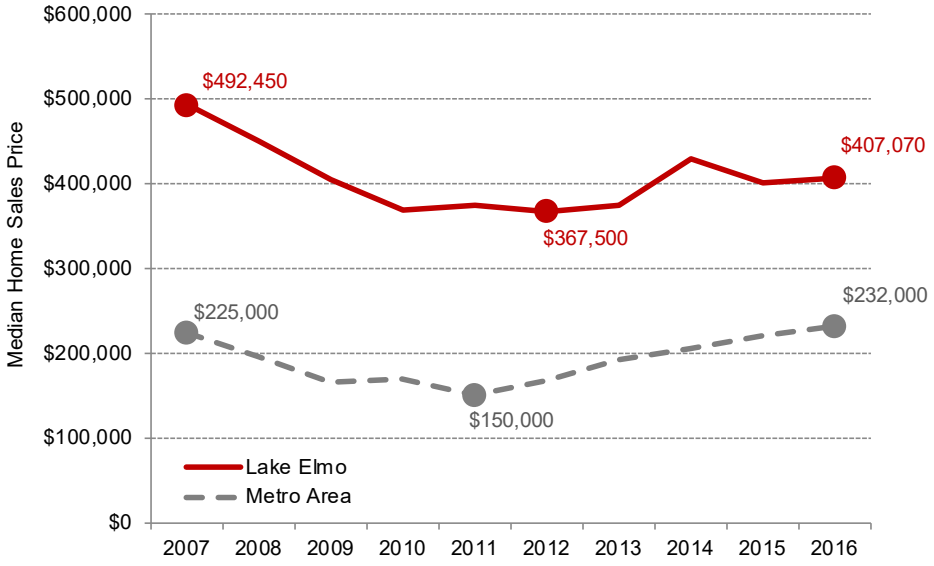
Source: Metropolitan Council

Home Sales Trends

According to data from the Minneapolis Association of Realtors, the median home sales price for Lake Elmo in 2016 was $407,070 (Figure 16). This was over 75% more than the metropolitan area median home sales price ($232,000). This indicates that the existing housing stock in Lake Elmo is expensive compared to the rest of the region. It should be noted, though, that the peak median sales price for Lake Elmo occurred in 2007 when it reached nearly $493,000. Although prices have improved in the last several years, the median sales price has yet to return to pre-recession pricing. The broader metro-wide market, however, appears to have regained all of the lost value from the bust and is actually now achieving new pricing peaks.

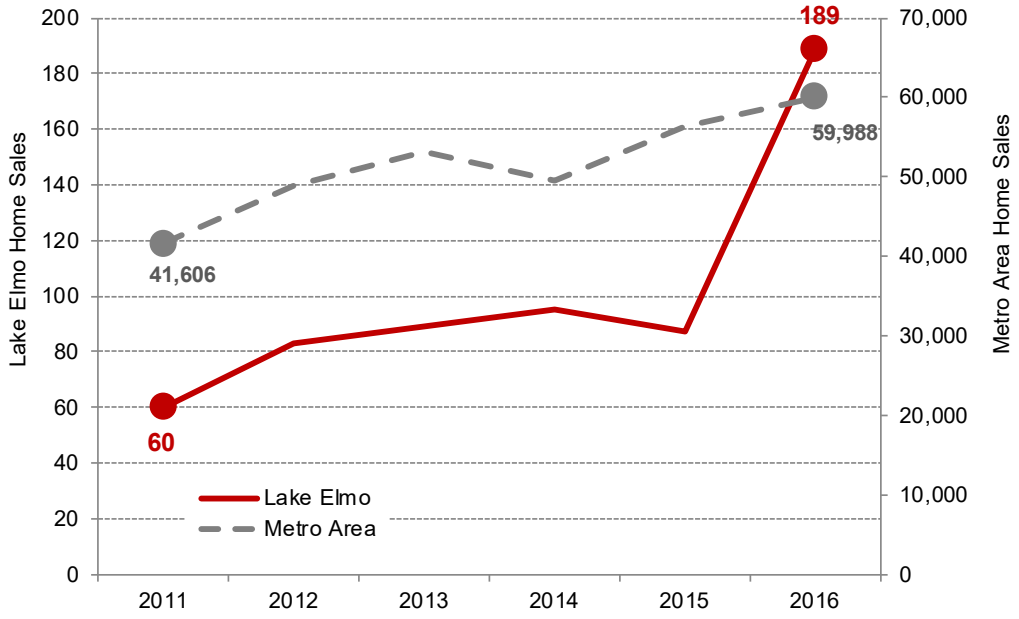
Despite stagnant median sale prices, the number of sales in Lake Elmo appears to be picking up significantly after several years of slow sales (Figure 17). This suggests that new developments may be driving the increase in the number of sales.

Figure 16: Median Home Sales Price 2007-2016



Source: Minneapolis Area Association of Realtors

Figure 17: Annual Homes Sold through MLS 2011-2016



Source: Minneapolis Area Association of Realtors

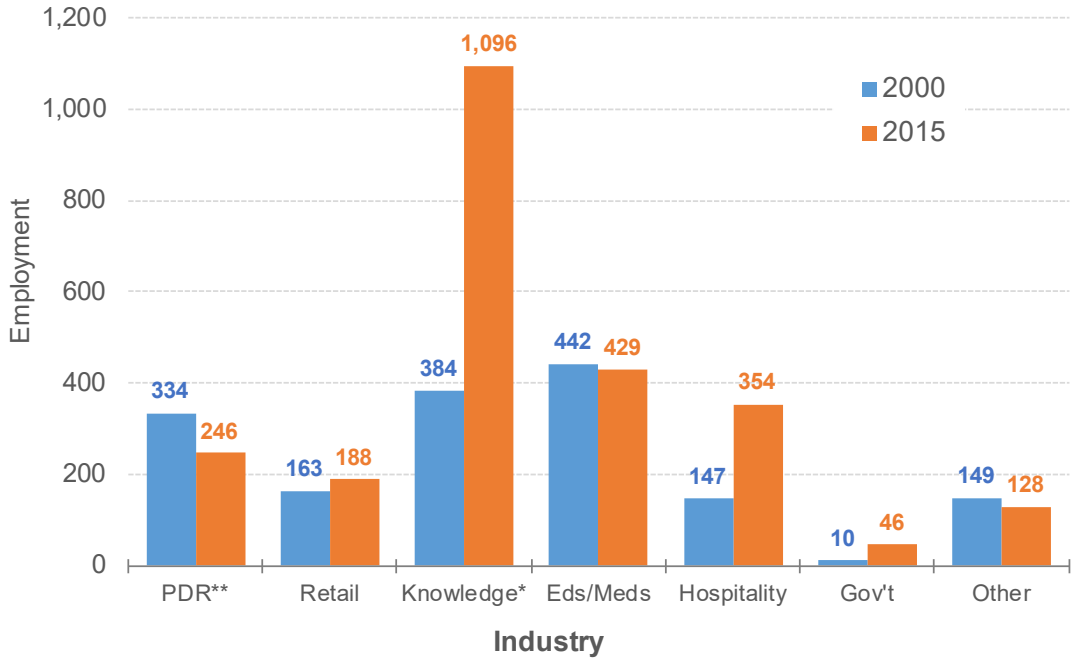
ECONOMIC OVERVIEW

Although Lake Elmo is still largely defined as being residential in its character, its employment base has been steadily growing and diversifying in recent years. Employment in a community can influence not only its tax base and use of land, but can also impact the types of housing demanded and support of certain types of retail. Figures 18 and 19 along with Table 9 present data on employment broken down by industry sectors.

Between 2000 and 2015, Lake Elmo's employment base increased by more than 850 jobs or 53%. Industries that have led this growth have been in the high-paying "knowledge" sectors of Information, Finance, and Professional and Management Services (Figure 18). Hospitality has also contributed to this growth as well.

Although the knowledge sectors have impressively driven employment growth in Lake Elmo over the past 15+ years, the industry that has performed the best throughout the metropolitan region over this time period has been the educational and medical services sector (or Eds/Meds). No other industry sector comes close as it has accounted for nearly 120,000 new jobs.

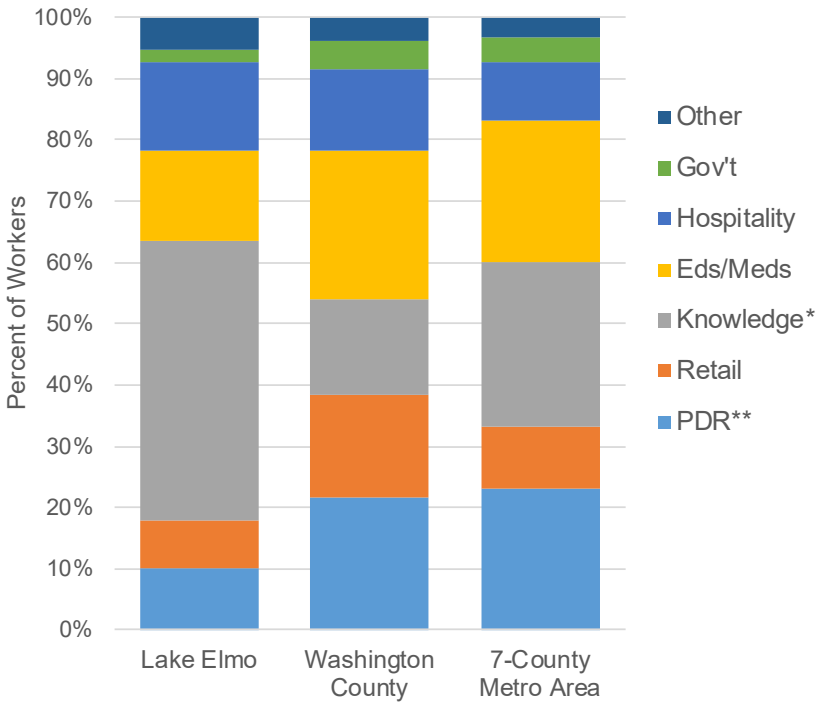
Figure 18: Lake Elmo Employment Change by Industry 2000-2015



** Knowledge = Consists of "knowledge-based" industry sectors, such as Information, Finance, and Professional Services/Managment*
*** PDR = Production, Distribution, and Repair industry sectors (i.e., Manufacturing, Construction, Transportation, Utilities, etc.)*
Sources: Minnesota Department of Employment and Economic Development, QCEW dataset; Perkins+Will

SHC
PERKINS+WILL

Figure 19: Employment Profile by Industry 2015



** Knowledge = Consists of "knowledge-based" industry sectors, such as Information, Finance, and Professional Services/Managment*
*** PDR = Production, Distribution, and Repair industry sectors (i.e., Manufacturing, Construction, Transportation, Utilities, etc.)*
Sources: Minnesota Department of Employment and Economic Development, QCEW dataset; Perkins+Will

Table 9: Employment by Industry 2000-2015

LAKE ELMO	Employment Counts				Distribution				Numeric Change			Percentage Change		
Industry	**2000**	**2005**	**2010**	**2015**	**2000**	**2005**	**2010**	**2015**	**'00-'05**	**'05-'10**	**'10-'15**	**'00-'05**	**'05-'10**	**'10-'15**
PDR**	334	321	167	246	20.5%	16.7%	8.4%	9.9%	-13	-154	79	-3.9%	-48.0%	47.3%
Retail	163	161	143	188	10.0%	8.4%	7.2%	7.6%	-2	-18	45	-1.2%	-11.2%	31.5%
Knowledge*	384	471	547	1,096	23.6%	24.5%	27.5%	44.1%	87	76	549	22.7%	16.1%	100.4%
Eds/Meds	442	483	659	429	27.1%	25.1%	33.1%	17.2%	41	176	-230	9.3%	36.4%	-34.9%
Hospitality	147	401	328	354	9.0%	20.8%	16.5%	14.2%	254	-73	26	172.8%	-18.2%	7.9%
Gov't	10	37	45	46	0.6%	1.9%	2.3%	1.8%	27	8	1	270.0%	21.6%	2.2%
Other	149	51	102	128	9.1%	2.6%	5.1%	5.1%	-98	51	26	-65.8%	100.0%	25.5%
Total	1,629	1,925	1,991	2,487	100.0%	100.0%	100.0%	100.0%	296	66	496	18.2%	3.4%	24.9%

WASHINGTON COUNTY	Employment Counts				Distribution				Numeric Change			Percentage Change		
Industry	**2000**	**2005**	**2010**	**2015**	**2000**	**2005**	**2010**	**2015**	**'00-'05**	**'05-'10**	**'10-'15**	**'00-'05**	**'05-'10**	**'10-'15**
PDR**	19,996	20,593	16,152	17,308	29.0%	27.4%	22.2%	21.5%	597	-4,441	1,156	3.0%	-21.6%	7.2%
Retail	12,326	12,585	11,907	13,608	17.9%	16.8%	16.4%	16.9%	259	-678	1,701	2.1%	-5.4%	14.3%
Knowledge*	11,232	11,866	12,234	12,560	16.3%	15.8%	16.8%	15.6%	634	368	326	5.6%	3.1%	2.7%
Eds/Meds	11,012	13,970	16,694	19,489	16.0%	18.6%	22.9%	24.2%	2,958	2,724	2,795	26.9%	19.5%	16.7%
Hospitality	8,846	10,383	9,672	10,749	12.8%	13.8%	13.3%	13.3%	1,537	-711	1,077	17.4%	-6.8%	11.1%
Gov't	2,928	3,258	3,563	3,704	4.3%	4.3%	4.9%	4.6%	330	305	141	11.3%	9.4%	4.0%
Other	2,528	2,437	2,539	3,112	3.7%	3.2%	3.5%	3.9%	-91	102	573	-3.6%	4.2%	22.6%
Total	68,868	75,092	72,761	80,530	100.0%	100.0%	100.0%	100.0%	6,224	-2,331	7,769	9.0%	-3.1%	10.7%

7-COUNTY METRO AREA	Employment Counts				Distribution				Numeric Change			Percentage Change		
Industry	**2000**	**2005**	**2010**	**2015**	**2000**	**2005**	**2010**	**2015**	**'00-'05**	**'05-'10**	**'10-'15**	**'00-'05**	**'05-'10**	**'10-'15**
PDR**	468,424	426,911	356,457	392,961	28.8%	26.3%	22.9%	23.1%	-41,513	-70,454	36,504	-8.9%	-16.5%	10.2%
Retail	181,371	178,263	157,279	168,012	11.1%	11.0%	10.1%	9.9%	-3,108	-20,984	10,733	-1.7%	-11.8%	6.8%
Knowledge*	451,059	434,882	430,823	456,173	27.7%	26.8%	27.6%	26.9%	-16,177	-4,059	25,350	-3.6%	-0.9%	5.9%
Eds/Meds	274,382	311,016	348,911	392,590	16.9%	19.2%	22.4%	23.1%	36,634	37,895	43,679	13.4%	12.2%	12.5%
Hospitality	137,828	151,232	147,182	163,371	8.5%	9.3%	9.4%	9.6%	13,404	-4,050	16,189	9.7%	-2.7%	11.0%
Gov't	58,384	63,200	65,974	68,131	3.6%	3.9%	4.2%	4.0%	4,816	2,774	2,157	8.2%	4.4%	3.3%
Other	56,212	55,992	52,403	56,250	3.5%	3.5%	3.4%	3.3%	-220	-3,589	3,847	-0.4%	-6.4%	7.3%
Total	1,627,660	1,621,496	1,559,029	1,697,488	100.0%	100.0%	100.0%	100.0%	-6,164	-62,467	138,459	-0.4%	-3.9%	8.9%

**PDR = Production, Distribution, and Repair industry sectors (i.e., Manufacturing, Construction, Transportaton, Utilities, etc.)□

*Know ledge = Consists of "know ledge-based" industry sectors, such as Information, Finance, and Professional Services/Management

Sources: Minnesota Department of Employment and Economic Development, Quarterly Census of Employment and Wages (QCEW); Perkins+Will

2015 System Statement Employment Projections

The information contained on the previous figures 18, 19 and in Table 9 demonstrates that the City of Lake Elmo is slowly increasing its employment base, and as of 2015 is on pace with the projections issued by the Metropolitan Council which are found in the following Table 10. As shown on Table 10, the System Statement further refines the employment projections according to sewered areas and unsewered areas of the community and is shifting employers (businesses) to the urbanizing areas and reducing the number of employers in the unsewered areas of the community. Some of this is naturally occurring in so far as many of the existing businesses in the community were located either in the Old Village or along Interstate 94 which is where the MUSA is being extended (See Table 11 for listing of

Existing Major Employers in Lake Elmo). The other underlying objective is to guide new businesses to areas that will be developed with urban services, and reduce the number of operating businesses in the communities more rural areas.

Table 10: Employment Projections (2015 System Statement)

	2010	2020	2030	2040
Employment Unsewered	1,318	562	562	562
Employment Sewered	623	2,338	2,788	3,238
Total Employment	1,941	2,900	3,350	3,800

Source: 2015 Metropolitan Council System Statement, City of Lake Elmo

Travel and Commuting

While the number of jobs and employment opportunities are increasing in the City, there remains a significant portion of the population that commutes to work and travels outside of the community for employment as shown in Table 12. Commuting time is important to economic development and competitiveness because accessibility to jobs is directly correlated to quality of life.

Table 11: Place of Work

Place of Work	Percentage
Worked in state of residence	98.0%
Worked in county of residence	37.2%
Worked outside county of residence	60.8%
Worked outside state of residence	2.0%

Source: 2011-2015 American Community Survey 5-Year Estimates

The mean travel time to work for Lake Elmo residents is 23.3 minutes as demonstrated in Table 13. However nearly 47 percent spend 19 minutes or less on their commute which indicates that employment opportunities are available near or within the City of Lake Elmo.

Table 12: Travel Time to Work

Travel Time to Work	Percent of Commuters
Less than 10 minutes	8.5%
10 to 14 minutes	16.5%
15 to 19 minutes	13.4%

20 to 24 minutes	15.6%
25 to 29 minutes	9.8%
30 to 34 minutes	18.4%
35 to 44 minutes	8.1%
45 to 59 minutes	7.0%
60 or more minutes	2.7%
Mean travel time to work (minutes)	**23.3 minutes**

Source: 2011-2015 American Community Survey 5-Year Estimates

In addition to commute times, the way in which people travel to work, or the mode of transportation, is important to understand and consider when preparing land use plans and identifying opportunities to improve infrastructure.

The vast majority (85%) of residents travel to work alone and access employment by car, truck or van. However, approximately five percent of residents carpool to work, seven percent work from home and very few (less than one percent) walk or bike to work. Many residents commute into the Twin Cities metropolitan area (TCMA) for their jobs.

Table 13: Mode of Transportation to Work

Means of Transportation	Estimated Number of Workers	Percentage
Car, truck, or van -- drove alone	3,632	85.3%
Car, truck, or van -- carpooled	221	5.2%
Public transportation (excluding taxicab)	70	1.6%
Walked	20	0.5%
Bicycle	29	0.7%
Worked at home	284	6.7%
	Total: 4,256	

Source: US Census, 2015 American Community Survey

LAND USE AND GROWTH MANAGEMENT

Existing Land Use and Corresponding Zoning Districts

The acreage of the City of Lake Elmo is approximately 15,585 Acres (24.35 square miles), and is geographically bound by Interstate 94 on the south, Highway 36 on the north, the City of Oakdale on the west, West Lakeland Township on the southeast, and Baytown Township on the northeast. The Existing Land Use acreages were updated as part of this planning process and are contained within Chapter 3: Land Use. It should be noted that the existing land use pattern is a snapshot in time, and that it will continue to change as new development occurs, particularly within the City's planned MUSA areas.

MUSA Planning Areas

The 2030 Land Use Plan is the City's first Plan to include areas designated for inclusion within the Metropolitan Urban Service Area (MUSA). The areas guided for urban services were designated with residential land uses of varying densities and commercial/business park uses. The diverse land use pattern guiding achieved three primary objectives, 1) met the requirements of the Metropolitan Council's projections for population, households and employment, 2) allowed for flexibility in development patterns to better respond to market conditions, and 3) allowed the efficient and cost-effective extension and development of needed infrastructure. A summary of the 2030 MUSA planning areas is provided.

Table 14: 2030 MUSA Development Areas

MUSA Stage Area	General Area Description	Guided Land Uses in Staging Area	Total Acres
Stage 1	Old Village	Urban Low Density Urban Medium Density Mixed Use Public/Park	1,272
Stage 1	Area generally south of 10th Street, east of municipal boundary and west of Keats Avenue	Urban Low Design Urban Medium Density Urban High Density Commercial Business Park Mixed-use Opportunities	694
Stage 2	Area generally south of 10th Street, north of I-94 and west of Manning	Urban Medium Density Urban High Density Business Park Commercial Mixed-use Opportunities	422
Stage 3	Area generally south of 10th Street, and east of Keats Avenue	Urban Low Density Urban Medium Density Commercial	644
		TOTAL Acres in MUSA	**3,032**

The following Table 14 identifies the future land use designations as presented in the adopted 2030 Comprehensive Plan and their corresponding Zoning Districts. Per the Metropolitan Land Planning Act municipalities are required to update their official controls, including their zoning ordinance and map, for consistency with the adopted Comprehensive Plan. It is possible that the current 2040 planning process may identify the need to modify the Land Use designations (guiding), zoning or both. In the event that occurs, the implementation plan will clearly identify what changes and or modifications to the zoning are necessary in order for the Plan to be implemented, and to meet the requirements of the Metropolitan Land Planning Act.

Table 15: Future Land Use Designations

2030 Land Uses (Guiding)	Corresponding Zoning District(s)
Rural Area Development	A RR OP
Residential Estate	RE
Rural Single Family	R-1 R-2
Rural Single Family Sewered	
Urban Low Density	LDR
Urban Medium Density	R-3 MDR
Urban High Density	HDR
Limited Business	LB LC
Commercial	C CC GB
Business Park	BP
Public/Park	P OSP
Village Mixed-Use	
Village Urban Low Density	
Village Urban Medium Density	

Figure 3-3 of the 2030 Comprehensive Plan identifies the Planned Land Uses as established (which have been periodically updated) by the City of Lake Elmo during the last planning period. The Planned Land Use pattern supports the intention of the community to focus long-term urbanized (sewered) growth in areas guided with MUSA as identified in Table 16. These land use areas will be analyzed and updated to reflect the updated 2015 Metropolitan Council System Statement during this planning process, which extends the planning period to 2040.

The guided land use pattern within the 2030 designated MUSA met the following objectives:

- Strategic urbanization of the areas south of 10th Street and the Old Village area protected large contiguous areas outside of the MUSA designation for long-term rural and agricultural uses in the community. Distinct physical or infrastructure boundaries provide clear demarcation of the areas planned for urbanization and those planned to continue with more rural development patterns.
- Compact and contiguous infrastructure expansion increased the efficiency of the systems that are developing, or are yet to be developed. Building infrastructure, whether roadways, sewers, trails, waterlines, etc., is expensive and it is made more cost prohibitive when not done in a methodical and contiguous manner. As such, clearly providing long-term geographic areas for urbanization ensures more cost-effective infrastructure planning.
- The Planned Land Uses met the Metropolitan Council's required land/acreage sewered allocations to accommodate the projected number of people, households and employment opportunities in the community.
- The Plan considered regional development patterns, particularly land use patterns of adjacent communities. The Plan for urbanization along the I-94 corridor is consistent with the development patterns, or anticipated development patterns, in neighboring Oakdale and Woodbury. While maintaining the more rural 'heart' of the community north of 10th Street is consistent with adjacent communities such as the City of Grant to the north and Baytown and West Lakeland Townships to the east.

Growth

National and Regional Growth Trends

Nationally, the Great Recession had a significant impact on the pace of growth between 2008 and 2009, with some of the most significant impacts felt in the residential market which lasted well beyond the official end of the recession. Lagging not too far behind, the commercial and industrial markets also experienced a significant decline in the same period. Generally, since late 2012 all real estate markets have experienced a slow recovery, and now in 2017 some markets are doing extremely well. Today, many economists suggest that there is pent up demand for new housing and that the supply is inadequate to meet demand. This trend is expressing itself throughout the nation, on a regional level and is now demonstrated in the accelerating pace of development in the Lake Elmo housing market.

Local Growth

Lake Elmo was also affected during the recession and faced little-to-no development pressure until late 2012. In many ways, the lull in development activity benefited the community and allowed the City to adopt policy documents to guide future development without significant development pressure. However, since the recovery, consistent with the regional and national trends, the City of Lake Elmo has experienced a slow and steady acceleration of development requests. While many of these developments are just getting started, there are a significant number of newly entitled subdivisions with more than 1,800 platted lots scheduled to come online that will be developed bringing new residents, households and opportunities to the community.

Most of the newly entitled subdivisions are located within the MUSA Stage 1 areas, with only one new subdivision in the rural area of the community).

Table 16 provides a summary of developments with either Preliminary or Final Plat approval since the last Plan, which is current as of April 6, 2017.

Table 16: Pending and Approved Developments as of April 6, 2017

Plat Name	Location	Existing Land Use	Entitlement	Unit Type	Acres	Number of Units
InWood	South of 10th	RAD	Final Plat	Single Family, Multi-family & Commercial	154.09	537
Boulder Ponds	South of 10th	RAD	Final Plat	Single Family	58.22	162
Hammes Estates	South of 10th	RAD	Final Plat	Single Family	76.28	163
Savona	South of 10th	RAD	Final Plat	Single Family	91.97	310
Diedrich-Reider	South of 10th	RAD	Preliminary Plat	Single Family	14.34	46
Hunters Crossing	South of 10th	RAD	Final Plat	Single Family	23.08	51
Wildflower at Lake Elmo	Old Village	RAD	Final Plat	Single-Family	136.89	143
Village Park Pre-serve	Old Village	RAD	Preliminary Plat	Single-Family	31.78	97
Easton Village	Old Village	RAD	Final Plat	Single Family	98.17	217
Hidden Meadows	Rural Heart	RAD	Preliminary Plat	Single Family	57.93	143

In addition to the identified developments, the City also is aware three other potential projects on which the land is under contract with a developer. Approximately 105 acres is under contract in the long-term rural area, and approximately 192 acres is under contract in the Old Village. It is anticipated that the land under contract would all be developed with residential uses.

NATURAL RESOURCES

The City of Lake Elmo is blessed with an abundance of natural resources, lakes, and open spaces that have been preserved, maintained, and enhanced throughout the years. Understanding and identifying the location of these resources is important to consider when preparing the land use plan, transportation plan and considering the physical infrastructure that may impact sensitive natural resources. The City's adopted Water Plan which is incorporated within the City's 2030 Comprehensive Plan addressed Natural Resources, and a summary of some of the available information contained within the Water Plan are identified below.

Land Cover, Natural Resources and Fish and Wildlife Habitat

The vegetation of Lake Elmo includes woodlands, hardwood forests, wetland communities including wetland prairies and wetland forests. The Minnesota County Biological Survey (MCBS) has identified some high quality hardwood forest areas that still remain in the City which are located within the Lake Elmo Park Reserve and north of the Reserve.

The MnDNR has identified regionally significant ecological areas (RSEA) which are primarily located within the Park Reserve, with some pockets of significance in other areas of the community. The RSEA and MCBS are shown on Map 7. The MCBS also includes approximate locations of rare species of animals and plants found within the City. Generally, these species are found in the remaining natural areas of the community.

The Lake Elmo Park Reserve is 2,165 acres and 80-percent of its acreage is set aside for preservation and protection. The 80-percent is planned to be restored/preserved to pre-settlement conditions, or pre-mid-1800s conditions. The Park Reserve has gently rolling hills with a variety of landscape types, including forest and prairie.

The current land cover in the community is identified through the Minnesota Land Cover Classification System (MLCCS) which is shown on Map 8. MLCCS data is a natural resources inventory classification system that categorizes areas in terms of physical land cover and is based on existing conditions, not planned. This data has not been updated to reflect new development patterns, but generally, land uses in the community continue to be dominated by agricultural and residential land uses, with numerous wetlands, lakes and natural communities remaining in the City.

(Summary and Paraphrased from *Chapter V Water Plan, City of Lake Elmo*)

Aggregate Resources

In 2000, the Metropolitan Council in cooperation with the Minnesota Geological Survey produced a report entitled "Aggregate Resources Inventory of the Seven County Metropolitan Area, Minnesota." The report indicated that there are deposits of unencumbered natural aggregate (sand and gravel) as well as natural aggregate (sand and gravel) that had been urbanized or mined within Lake Elmo.

In the 2030 Comprehensive Plan the City acknowledged and identified the Hammes Sand and Mining Company operations located in the southern portion of the city south of 10th Street and east of Keats Avenue. This area is now a part of the future MUSA Stage II extension area, and is guided for urbanized residential and commercial uses.

The second area identified within the Aggregate Resources Inventory report is land that was owned by Shafer Contract Company which is located in the western part of the city near Jamaca Avenue and north of Highway 5. A portion of the land originally identified with Aggregate Resources has not been developed with rural residential uses, with a portion of the property remaining undeveloped/agricultural.

Surface Water Resources

Lakes

The City's Existing Land Use identifies approximately 1,355 acres of lakes and open water, which comprises approximately 8.7% of the City's land area. Since the last Plan Update the MnDNR has updated their impaired waters list, and have also identified priority lakes. The lakes, along with impaired waterbody designation is identified on Map 9.

Watershed Districts

The City of Lake Elmo is included within three watershed districts (Valley Branch Watershed District, Browns Creek Watershed District, South Washington Watershed District) which are identified on Map 10. The watershed districts manage and regulate surface and stormwater within their jurisdiction, and the City of Lake Elmo has adopted all three watershed district plans by incorporation in the Water Plan. The City of Lake Elmo is the Local Governing Unit for the wetland conservation act (WCA) in the Browns Creek Watershed District and in the South Washington Watershed District. The Valley Branch Watershed District is the LGU for administering WCA.

TRANSPORTATION

The City's transportation infrastructure is essential to understanding how people travel within and through the City of Lake Elmo. As a primarily suburban community, residents rely heavily on auto-centric travel options to navigate through the City and to the greater region. The City is well connected to the interstate and regional roadway network that run adjacent to the City's borders, providing exceptional access to the employment centers in downtown Minneapolis/St. Paul, and regional shopping opportunities in nearby Woodbury and Oakdale. Internal to the City's borders is an extensive network of county and local roadways which provide access to neighborhoods, and local attractions. Table 19 is taken from the Transportation Plan which was incorporated into the 2030 Comprehensive Plan and shows the system of roadways throughout the community with corresponding functional classification of roadways. Table 17 is from the Transportation Plan and identifies the jurisdiction of the roadways identified on Map 11.

Table 17: Roadway Jurisdiction and Names

Roadway Jurisdiction	Roadway Type	Roadway Name
Federal	Interstate US Highway	I-94 (Adjacent to South Lake Elmo Boundary, not in City
Minnesota	Trunk Highway	TH 36 34th Street/Stillwater Blvd. (Hwy 5)
Washington County	County State-Aid	Stillwater Blvd (CSAH 6) 10th Street (CSAH 10) Ideal Ave./Olson Lake Tr. (CSAH 13) Inwood Avenue (CSAH 13) 40th St (CSAH 14) Manning Ave (CSAH 15) Lake Elmo Ave (CSAH 17) Keats Ave (CSAH 19) 50th St (CSAH 35)
Washington County	County Road	Demontreville Tr (CR 13B) Lake Elmo Avenue (CR 17B)
City of Lake Elmo	Municipal State-Aid	Klondike Ave/33rd St (MSA 101) Lake Jane Tr/42nd St (MSA 102) Jamaca Ave (MSA 103) Lake Jane Tr/45th St/Julep Ave/47th St./Kimbro Ave/43rd St (MSA 104) Keats Ave (MSA 105) Upper 33rd St/Laverne Ave (MSA 106) 20th St (MSA 107) 30th St (MSA 108) 31st St (MSA 109) 15th St (MSA 110) Kimbro Ave/50th St (MSA 111) Eagle Point Blvd (MSA 112) Helmo Ave (MSA 113) 39th St (MSA 114) Manning Tr (MSA 115) Manning Ave (MSA 116
City of Lake Elmo	Municipal/Local	All remaining roads

Source: Transportation Plan, Lake Elmo Comprehensive Plan

As demonstrated in Table 17, the City has developed an interconnected roadway network that provides access to neighborhoods, parks, and community gathering areas.

Transportation Analysis Zones (TAZs)

The City is required to provide analysis of their land use plans corresponding to Transportation Analysis Zones (TAZs) which are provided within the 2015 System Statement. This analysis will be completed once the Future Land Use Plan is developed during this planning process. As shown, the TAZs generally correspond to physical barriers such as roadways, and natural features (lakes, etc.) and also correspond to the sewered and unsewered areas of the community.

Multi-modal/Transit/Air/Railroad/Bikeways

Multi-modal, Transit Services

The City of Lake Elmo is currently served by Metro Transit which is the regional transit provider. Route 294 currently serves residents of Lake Elmo by providing primarily rush hour/ commuter services. The Line has multiple stops on Stillwater Boulevard (Highway 5) and provides connections to the west in Downtown St. Paul, and to the east in Downtown Stillwater.

There are several park and rides available in the Cities of Woodbury, Oakdale and Maplewood which provide additional Transit options beyond rush hour services.

The Metro Gold Line is also anticipated to open in 2021, and will connect Washington County residents with the larger transit system providing connections to the existing Light Rail lines and other bus routes in the Twin Cities metropolitan area. There are no stops planned in Lake Elmo, but residents will be able to access this route either through park and rides along the new line, or will need to make a connection to the route via current bus service 294.

Bikeways

For the first time the 2015 System Statement issued by the Metropolitan Council includes a Regional Bicycle Transportation Network (RBTN) plan. The City of Lake Elmo currently does not have any designated bikeways; however, that is not to say that there are not trails that would help fulfill some of the requirements of the RBTN. The objective of the RBTN is to encourage biking as a mode of transportation, and that such networks will connect households, neighborhoods, and communities with regional and metropolitan job centers. The 2015 System Statement has identified two east-west Tier 2 corridors, and one Tier 2 north-south corridor in the City (Map 13). The existing trail system should be used to help guide the alignment in the corridors, and connections to the existing system identified in this planning process.

Air Service

The Minneapolis/St. Paul International Airport (MSP) located in St. Paul, Minnesota is approximately 27 miles southwest of Lake Elmo, and is an approximately 28-minute drive. Adjacent to the City, is the Lake Elmo Airport which is located in Baytown Township.

Railroads

The Union Pacific (UP) railroad currently operates a freight line in the City of Lake Elmo, and is classified as a Major Railroad Class I per the Minnesota Department of Transportation. The Line runs adjacent to Highway 5, and bisects the Old Village area.

PARKS, TRAILS AND OPEN SPACE

The City of Lake Elmo has many unique and valuable natural resources, and the City has made an effort to preserve many of these spaces for enjoyment by residents and area visitors through their Parks, Trails and Open Space network.

Parks

In 2010 Lake Elmo had a total of 2,602 acres in Parks, Recreation and Preserves, 1 this is nearly 17% percent of the total land area within the City of Lake Elmo. The vast majority of this park area is comprised of the Lake Elmo Regional Park Reserve that contains 2,165 acres, with the remaining acreage spread across 19 neighborhood, community and special use parks. In March of 2008 the City adopted a Comprehensive Parks and Recreation Plan, listing the parks and amenities which are shown on Table 20. As demonstrated in Table 20, the City's park system is diverse and provides options to park users based on the desired activity. Many of the parks contain both an active and passive recreational component offering user choice.

The Park and Recreation Plan also identified search areas for new parks that were primarily identified in the growth areas of the community (MUSA designated areas). Since the Park and Recreation Plan was adopted, several new residential developments have been approved. The Parks and Recreation Plan will be updated as part of this Planning process to identify the new development areas and corresponding park areas. This process will also require refinement of 'search areas' to plan for what park function is needed to support the additional population and households.

Trails

In 2005 the City of Lake Elmo updated its Trails Master Plan and incorporated it into the 2005 Comprehensive Plan Update. While a Trail Plan had been completed in the 1990s it was never formally adopted as part of the Comprehensive Plan, and it needed to be updated. Thus in 2005, the City undertook an extensive process to update the Trail Master Plan which included feedback and participation from the City's Park Commission, residents, key stakeholders, staff and policy makers.

The trail planning process identified several areas of the community where trails had been started, and also identified where critical connections were missing to complete the system. To identify the needs in the system the process focused on a destination based analysis, which means that the plan was developed with the assumption that

1 Metropolitan Council, Community Profile, accessed at: https://stats.metc.state.mn.us/profile/detail.aspx?c=02395589

people would use the trail system primarily for recreational uses (i.e. ending destination at one of the parks in the community) or would use the trail system for transportation (i.e. ending destination at a school). This process identified approximately 20 locations in the community that were likely destinations and then identified ways to connect the neighborhoods to the destinations. This process also acknowledged that many of the neighborhoods in the community had private trail networks internal to the development that would benefit by provided connections into the public trail system of the City. This analysis was completed in the Trail Plan, but the information has not been updated in a central location since 2005.

In addition to local connections, the City also identified existing and needed connections into the regional trail systems. Part of the impetus in creating the updated 2005 Trail Master Plan was the Metropolitan Council's System Statement which required consistency with the regional trail network. The Gateway State Trail (Minnesota DNR), is a regional amenity, runs along the far northwestern corner of the City, and connections from Lake Elmo are provided via Hytrail Avenue North and 59th Street North. The Gateway Trail is classified as a 'Rail-Trail', meaning it is located in a converted railroad right-of-way and provides 18-miles of paved trail surface extending from St. Paul to Pine Point County Park. In addition to the Gateway State Trail, there are miles of Washington County trails located within the community which provide additional connections to the region, and also into the Lake Elmo Park Reserve.

The 2005 Trail Master Plan looked comprehensively at the network; however, the City does not have a current trail map that provides accurate data with respect to what has been constructed, or where there are gaps in the system. Part of this planning process will include creating a trail plan that identifies where the existing system is located, identify the gaps, and locate opportunities in the system.

Open Space

In addition to the public park areas, Lake Elmo has an extensive connected system of open spaces throughout the community. As previously stated, the City has more than a dozen open space development neighborhoods where private open space is set aside and held into perpetuity and cannot be further developed. The majority of these lands are protected by a

conservation easement and are protected from further development, but are permitted to be used for some passive recreational uses, agriculture, stormwater treatment, and other infrastructure provided the objectives of the conservation easement are maintained (each conservation easement is tailored to the specific use contained within the development). The open space areas provide value not only to the residents of the neighborhoods, but also to the greater community because many of these areas are interconnected providing larger contiguous areas of open space in the community.