



CITY OF MOUND 2040 COMPREHENSIVE PLAN



January 2020

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1. INTRODUCTION

Mound's 2040 Comprehensive Plan is the guide for future growth, redevelopment and improvement of the community. It provides the blueprint, goals and policies to ensure the community continues to be a place where people want to live, work, shop and play. The Comprehensive Plan consists of several elements and is organized into the following chapters:

- » **Introduction** provides a brief overview of the city's comprehensive planning process and state/metropolitan comprehensive planning requirements.
- » **Community Context** briefly describes Mound's existing conditions and history and provides the context in which the 2040 Comprehensive Plan was prepared.
- » **Land Use Plan** describes the future land use plan and areas of focus for future redevelopment.
- » **Housing** analyzes the existing housing conditions in the community and identifies strategies to address needs.
- » **Park, Open Space and Recreation** identifies the City's park system, identifying gaps, and makes recommendations for the future.
- » **Transportation** identifies the network for movement in the community, including roads, trails and transit.
- » **Water System, Sanitary Sewer and Surface Water** chapters articulate how the community will ensure adequate infrastructure to meet the needs of existing and future residents, businesses and visitors.
- » **Implementation** identifies how the Plan is to be implemented to achieve the community's Vision by posing recommendations for public and private actions.

COMPREHENSIVE PLANNING OVERVIEW

COMPREHENSIVE PLAN VS. ZONING ORDINANCE

Characteristics of a Comprehensive Plan:

- » Broad in scope
- » Visionary
- » Principles and Policy oriented
- » It's a guiding document
- » Conceptual and idealistic
- » Focus is on neighborhood, community or regional scale
- » Flexible in its interpretation

Zoning Ordinance:

- » Narrow in scope
- » More rigid standards
- » It's the law
- » Detail oriented, specific
- » Focus on the district and site level

So which one rules? In many instances, State Statutes make direct references linking a zoning ordinance provision to a community's comprehensive plan. Case law over the years has proven that a zoning ordinance in sync with a comprehensive plan is a more defensible ordinance than one that is not in sync or is not based on an approved comprehensive plan.

A review of zoning and subdivision ordinances always follows the updated comprehensive plan, resulting in minor or major modifications, depending on the new directions forged by the comprehensive plan.

A comprehensive plan is an official city tool used to guide future physical and socio-economic growth and change within the community. It is intended to be broad in scope by establishing general goals and policies regarding key element of the community, including land use, transportation, public infrastructure, parks/trails/open spaces, housing and natural resources.

The comprehensive plan differs from the more commonly known zoning ordinance in that the comprehensive plan is visionary, general and policy-oriented, whereas the zoning ordinance is regulatory and detailed. The zoning ordinance must be consistent with the comprehensive plan and is a primary tool to implement the comprehensive plan. Following any changes to the comprehensive plan, the zoning ordinance must be amended to reflect the vision, goals and policies set out by the plan.

The primary users of the comprehensive plan are the City Council, Planning Commission, Parks and Open Space Commission, and City Staff who must use the plan to guide the ongoing decisions of local government. However, the comprehensive plan is also important for others, such as property owners and developers, as it provides general guidance for all properties within the city.

The 2040 Comprehensive Plan addresses the following:

- » Future vision for the community
- » Future land use plan
- » Protection of sensitive natural resources
- » Expanding the range of housing types to meet changing housing needs
- » Location and improvement of parks, open space and recreational facilities
- » Transportation system needs and enhancements
- » Municipal infrastructure facilities

WHY IS THE COMPREHENSIVE PLAN IMPORTANT?

As the guide for future community growth and development, the 2040 Comprehensive Plan influences many other community decisions and tools, including the following:

- » Establishes the need for potential modifications of the zoning ordinance and other land use controls
- » Influences the location, form, and pace of new development and redevelopment
- » Promotes the maintenance and enhancement of existing neighborhoods and commercial districts
- » Determines approaches for protecting natural resources and open spaces
- » Guides City investments in roads, utilities and parks
- » Determines the need for City roles in economic development, redevelopment and housing

AUTHORITY AND REQUIREMENT TO PLAN

The power to create and employ a comprehensive plan comes from State Law. Minnesota Statutes, Sections 462.351 to 462.364 contain the planning powers granted to Minnesota cities. Specifically, M.S. Section 462.353, Subd. 1 authorizes the City to “carry on comprehensive municipal planning activities for guiding the future development and improvement of the municipality and may prepare, adopt and amend a comprehensive municipal plan and implement such plan by ordinance and other official actions.”

The City of Mound is required to complete and keep updated a Comprehensive Plan under the Metropolitan Land Planning Act of 1976 and all subsequent amendments to that act. The Metropolitan Land Planning Act (MLPA) addresses the interdependence of local units of government within the Twin Cities Metropolitan Area and requires the adoption of coordinated plans and programs. In preparing the plan, the planning body is required to work with other City agencies, adjacent communities, school districts and counties in order to ensure coordinated regional planning. The MLPA also requires the Metropolitan Council to prepare a comprehensive development guide for the metropolitan area.

The Metropolitan Council’s Thrive MSP 2040, which was completed in 2014, fulfills this requirement and provides local units of government with direction on how to plan for land use, housing, development, transportation, water resources management and parks. Local governments within the seven-county metropolitan area are required to amend their local comprehensive plans so that they are consistent with the goals and policies established in Thrive MSP 2040. The City of Mound submitted a complete draft of the Comprehensive Plan to the Metropolitan Council on July 15, 2019 and was approved by the Metropolitan Council on October 9, 2019.

The City Council adopted the 2040 Comprehensive Plan on January 28, 2020.

PREVIOUS PLANNING EFFORTS

This updated Comprehensive Plan represents the sixth major planning effort for the City of Mound. This plan represents an update to the 2008 Comprehensive Plan to comply with the requirements of Thrive MSP 2040 and new community issues. The original City Comprehensive Plan was prepared in 1961 and was updated with the 1979, 1990, 2000, and 2008 plans.

VISION FOR THE FUTURE

In order to effectively plan, a community must define its aspirations for the future. A community's "Vision" statement captures those aspirations and provides a basis from which the plan and strategic initiatives can be identified. It also serves as a benchmark to which future ideas and proposals not considered as part of this comprehensive planning process can be evaluated. Mound's Vision Statement was formed based on previous Comprehensive Plans, input from the community, and on discussions with the Planning Commission; Parks and Open Space Commission; and City Council. The Vision Mound defines for its future is:

Located on the western shores of Lake Minnetonka, Mound is a full-service community that recognizes and appreciates its unique setting. Its strong neighborhoods, quality schools, walkability and lake access make it a desirable place for residents of all ages. In the heart of the community, Downtown is easily accessible with places for people to live, shop, work and gather. Our commitment to preserving the natural environment ensures everyone can enjoy the community's four lakes and numerous wetlands, varied topography, open spaces and parks.

Within each chapter, a set of goals and policies was identified to provide additional clarity for the Vision. These goals and policies highlight the elements most important to the community and are critical to the achievement of the community's Vision. The goals articulate Mound's broad vision for each element of the 2040 Comprehensive Plan; whereas the policies provide more specific directions the community will follow in order to attain the goal.

PLANNING PROCESS

The 2040 Comprehensive Plan planning process extended for more than a year and involved numerous elected and appointed officials, as well as the general community. The process was overseen by the Planning Commission. The planning process was organized into the following tasks:

- » Task 1 - Update the Baseline Data - This task focused on start-up activities for the comprehensive planning process, including a meeting with Staff, assembling background data and maps, and establishing a document format. The consulting team focused on researching, analyzing, and communicating the local and regional context that might affect Mound over the planning horizon. This task also included evaluating the 2030 Comprehensive Plan and developing a market profile.
- » Task 2 - Conduct Phase 1 Engagement - Inform & Listen - This task focused on outreach efforts to help educate about the 2040 Comprehensive Plan and solicit input on community likes, needs, and concerns. This first phase involved the use of the Social Pinpoint website to engage the public.
- » Task 3 - Land Use and Parks Chapter - This step built on the information from the previous tasks to identify potential directions for the future land use, parks, and trails. Input was solicited from City Staff, the City Council, the Planning Commission, and the Parks and Open Space Commission.
- » Task 4 - Conduct Phase 2 Engagement - Consult and Collaborate - The various possibilities explored in Task 3 were presented to the public and feedback was sought. Consultants held an Open House, with over 50 attendees. Input was also gathered online through a survey, and over 100 people contributed comments and ideas.
- » Task 5 - Prepare Plan Document - The consulting team used the direction gleaned from previous tasks to develop the various sections of the 2040 Comprehensive Plan.
- » Task 6 - Conduct Approval and Adoption Process - This task included the formal review, approval, and adoption process. This process involved all of the steps needed for initial adoption of a plan to be sent to adjacent governmental units for review; revisions and then adoption of a plan submitted to the Metropolitan Council for review and approval; and final revisions and adoption of a plan as approved by the Metropolitan Council.



COMMUNITY INPUT & ENGAGEMENT

Community engagement is a means for all people to bring their voices into the process and to share their ideas, backgrounds, and experiences to plan for a future that benefits everyone. **Appendix A** shows the specific comments of community members as they participated in the variety of community engagement opportunities throughout the Comprehensive Planning Process.

Phase 1: Inform and Listen

The first engagement task acted as a general information announcement that established and communicated the study's purpose and goals, the planning process and methodologies, and the project schedule. It also provided an opening for interested parties to raise questions, express levels of interest, express issues or concerns, and identify values and priorities, as well as critical evaluation of the vision and guiding principles to determine if changes are warranted.

Social Pinpoint

Social Pinpoint is a map-based online engagement tool that allows community members to leave comments on specific areas of the city via a map. Commenters are then able to interact with each other, by upvoting/downvoting other comments, or replying directly into a comment thread.

We utilized Social Pinpoint for Phase 1: Inform and Listen engagement to identify areas in the city people like ("Like it!"), areas people don't like ("Needs work!"), comments specific to the parks system ("Needed Park Improvements"), and needed street/safety improvements ("Safety Concern").

Embedded throughout the Social Pinpoint website were also a variety of surveys, asking for input on the current Vision, commercial areas in the city, the City's Parks, and a SWOT (Strengths, Weaknesses, Opportunities, Threats) Analysis for the community.

In total, Social Pinpoint was open for comment for one month in Spring of 2017 and there were 277 comments and 55 survey responses during that time.

Key Findings

- » Generally, the Vision seems to capture what Mound should be in 2040
 - Some feel that Mound is, and should continue to be, focused on serving the needs of residents by being self-sustaining and offering an affordable lifestyle that is not otherwise available around the lake
 - Some feel that the community should be a destination for the region similar to Wayzata or Excelsior where there are small shops, restaurant, and nightlife -
 - Some felt that the Vision could be more unique or compelling – there is a desire for it to more clearly communicate to others in metro that Mound is an engaging place to visit
 - It is important for the vision to maintain the idea of preservation of the natural environment

- » There are positive features in the community that should be highlighted and retained
 - “Small town feel” with a relaxed, friendly atmosphere
 - The local library is a valued amenity that patrons would love to use more with expanded hours
 - Existing community garden is a great example of private investment that serves the public good
 - Dakota Rail Regional trail is excellent for connectivity across community
 - Commons and dock program unique and positive aspect of Mound
 - Public spaces on the lake important to provide access to those who do not live on the lake
 - Having a variety of parks and facilities is appreciated. This includes community parks like Surfside, neighborhood parks like Three Points and Philbrook, and facilities like Wolner Field, and Zero Gravity
- » Community appearance is a concern
 - Commercial areas, including vacant and/or building facades not maintained and undeveloped areas
 - Public infrastructure like welcome signs, water towers, etc. need face-lifts
 - Community gateways - they should be inviting and attractive, whether publicly or privately owned
 - Private property maintenance not up to standards in pockets around the City
 - Road conditions
 - Parks, particularly where dogs heavily using
- » Investment and redevelopment in Downtown, as well as along Commerce and Shoreline, should be a key focus of discussion in the Comprehensive Plan
 - Additional investment needed to fill vacant spaces and improve building maintenance in Downtown
 - Revamp Commerce Boulevard to add greenspace and sidewalk/trail to encourage more pedestrian traffic along corridor
 - Explore adding outdoor gathering places
- » Park investment is needed
 - Important that parks are within walking distance of neighborhoods
 - Open spaces and natural areas should be preserved for informal play and natural resource protection
 - Facilities need to be replaced, such as aging playgrounds, park signs, landscaping, and tennis courts
 - Explore opportunities to provide off-leash dog area, disc golf, skating, pickleball, and community garden
 - Add amenities to support users, including picnic tables, trash cans, restrooms, parking, etc.
 - Develop a plan for the revitalization of Surfside Park
 - Include neighborhood and community input in development plans

- » Safety continues to be a concern at intersections throughout the community
 - Motorized and non-motorized movement in downtown should be evaluated, including Dakota Rail Regional Trail, cut-through traffic on Auditors Road, and turn lanes on Commerce
 - Intersections on Commerce at Grandview Middle School and Westedge
 - Sidewalks explored along Lynwood Blvd. west of Downtown, Bartlett, and Wilshire Boulevard
 - Multiple restricted visibility areas along Three Points Boulevard cause dangerous conditions
 - Explore year-round rather than seasonal stop signs at key intersections
 - Stormwater management into lakes

Phase 2: Consult & Collaborate

The second engagement task focused on seeking input from the community on the initial directions for land use, parks, and trails. The Open House, which 50 people attended, provided an introduction to the comprehensive planning process, presented the land use concepts overall and for each of the focus areas, and described the proposed future parks and trails system. The information presented at the open house was then modified and included in an online survey that was completed by more than 100 people. Given that the Open House and Survey presented the same information and asked similar questions, the results are combined into one summary.

Key Findings

Input received in the second phase was largely consistent with what the planning process heard during the first phase of engagement. Many expressed a desire for an improved appearance for the community. This includes improvements to existing properties, thoughtful design of new development, and a reduction in the number of vacant commercial spaces. Also supported is the proposed improved visual connection between Downtown and Surfside Park, whether that would be from redevelopment or improvement streetscape. After reviewing the concepts for the mixed-use areas, most respondents were generally supportive. Concerns were raised about whether the mix of residential and commercial was appropriate in some areas. There were also concerns about density, particularly related to traffic and design character of buildings. Respondents also expressed a need within the mixed-use areas for green space and public access to the lake front, more parks and amenities in the City to serve the additional residential development and pedestrian-oriented design to allow movement within and among the proposed mixed-use areas.

Participants in the second phase of engagement concurred with the need for more investment and improvements in the existing park system. Prioritization of the proposed actions identified as the top three as the creation and implementation of a maintenance and replacement schedule for neighborhood and pocket parks, the annually updating of the Capital Improvement Plan to meet needs, and the development of a feasibility study to evaluation of a trail link between Downtown and Surfside. Respondents also agreed that the City needs to continue to explore options to improve safety at the crossings of the Dakota Rail Regional Trail through Downtown. Comments received also expressed an interest in the ability to walk around Lost Lake.



2. COMMUNITY CONTEXT

This portion of the 2040 Comprehensive Plan summarizes the large amount of information reviewed and analyzed as part of the comprehensive planning process. The data was gathered from a variety of sources, including existing plans and studies, websites and discussions with City Staff.

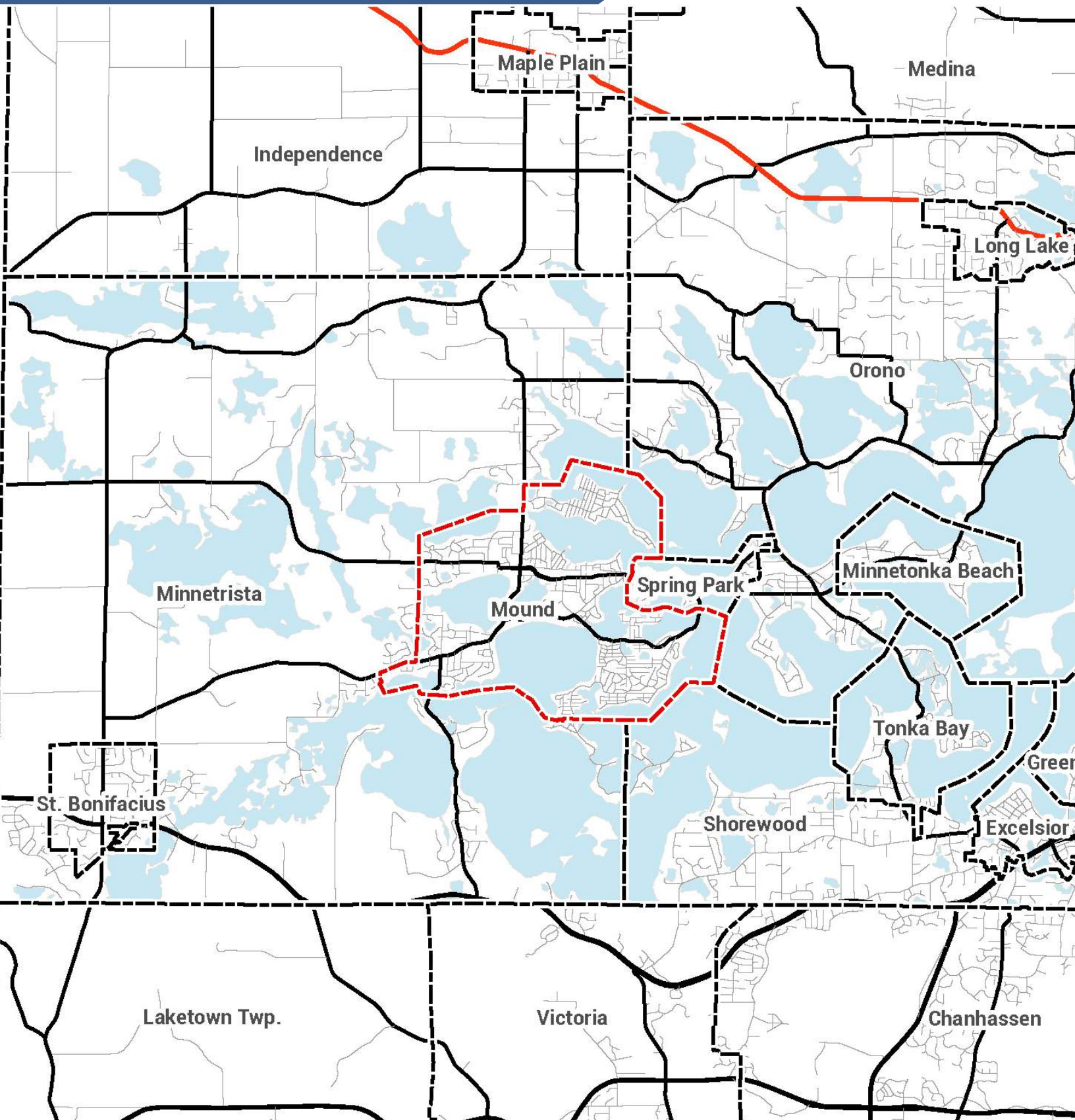
REGIONAL SETTING

The City of Mound is located on the western shores of Lake Minnetonka and its numerous bays. Located in southwestern Hennepin County, it is approximately 25 miles west of downtown Minneapolis. Highway access into Mound is provided by County Roads 15 from the east and west, 110 from the north and west, and 44 from the south. As shown in **Figure 2.1**, neighboring Lake Minnetonka communities include Minnetrista, Shorewood, Spring Park, and Orono. Mound is physically separated by water from every community except Minnetrista, who also shares the largest border with Mound.

HISTORICAL DEVELOPMENT

Mound's existing, and future, evolution is directly tied to its natural landscape and historic settlement pattern. The City's numerous bays, inlets, wetlands and hills not only created a beautiful setting for residential development, but also shaped the placement of roads and buildings as developers and engineers sought efficient ways of crossing waterways and constructing roads that were not too steep.

Figure 2.1 **Regional Setting**



The community initially consisted of lakeshore cabins on small residential lake lots. As it was primarily a summer destination the City was platted with relatively narrow street rights-of-way and substantial areas of park commons. This established pattern results in future land use and redevelopment issues that are unique to Mound and generally not found in other suburban communities.

Commercial districts in Mound sprouted in various locations in response to the primary mode of transportation of the time. By the 1870s, the primary business district was located just off Cooks Bay near present day Commerce and Bartlett. The area had a general store, post office, saw mill, boat works, two hotels, two boat fleets, and several homes.

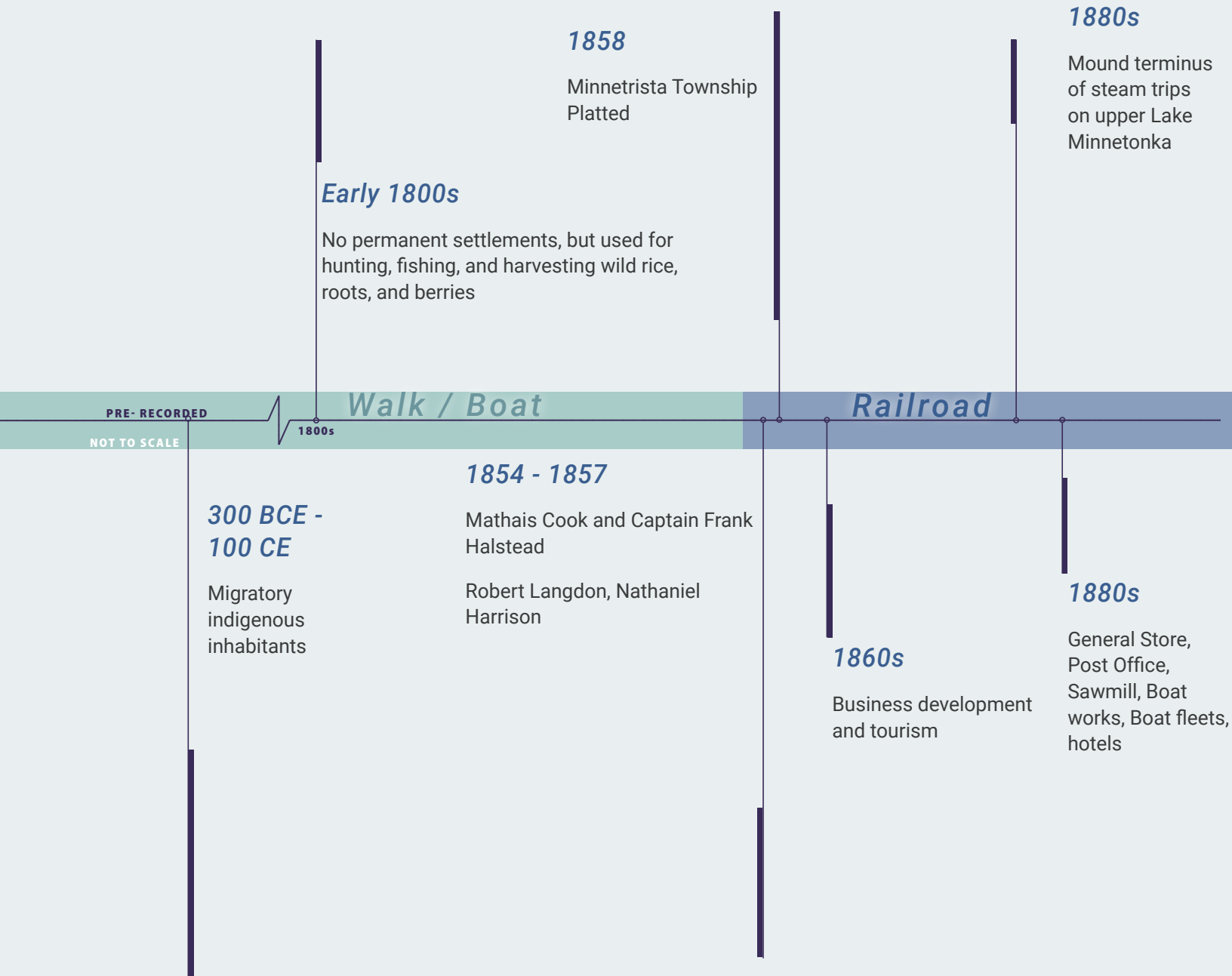
When the railroad came to Mound it shifted focus away from the Cooks Bay area to the historical intersection of County Road 15 and Commerce Boulevard, located near the current Dakota Rail Regional Trail. By 1912, this intersection boasted a hardware store, lumberyard, cafe, church, bank, liveries, post office, and hotels.

The moving and the timing of Mound's business district development impacted its form and character as compared to other Lake Minnetonka communities. While in other communities the downtown is directly adjacent to the lake front, in Mound the majority of downtown shifted a half mile north away from direct access and visual connection to the lake. To help establish a better connection to the downtown area, the Lost Lake channel was dredged.

In addition to losing its visual and physical connection to the lake, the business district in Mound also never saw the construction of brick and stone buildings, an often noted feature in destination downtowns. In Minnesota small towns, brick and stone buildings were most frequently constructed in the late 1800s and early 1900s. This type of construction was often used to replace an existing wood frame building as the business or property owner prospered. Brick and stone buildings were also often constructed in response to major fires in a business district. With no major fires and the construction of a second business district in the early 1900s due to the arrival of the railroad, Mound never saw the construction of a traditional historic main street like other communities. Instead, Mound has historically had multiple commercial districts that extend along both Shoreline and Commerce Boulevards.

In considering the development pattern of the community, it is also important to recognize that the Mound of today is really the result of multiple mergers. While there was a place called Mound City in the 1800s, the area was really a part of Minnetrista Township. The Village of Mound formally incorporated in 1912. The Village then expanded with the mergers of a variety of legacy, unplanned communities, including the Three Points Neighborhood (1959), Village of Island Park (1960), Halstead Heights Neighborhood (1960), and Shadywood Point Neighborhood (1963). Much of the development pattern of the community was largely set by the end of the 1960s. In fact, a look at the age of housing stock finds that more than half of Mound's existing homes were already constructed by 1970.

TIMELINE OF MOUND HISTORY



1912

Village of Mound incorporated.

Business Center moving busy corners to Commerce and Railroad track (CR 15)

1960s

Sanitary sewer system, street lighting downtown

1975

Commons Dock Ordinance

1930s

Most visitors were summer residents who had privately owned lake cottages

1980s

Departure of Tonka Toys

1986 - Commerce Place Shopping Center

Automobile

1900s

2000s TODAY

1959 - 1963

Mound Annexed/Merged

- » Three Points Neighborhood (1959)
- » Village of Island Park (1960)
- » Halstead Heights Neighborhood (1960)
- » Shadywood Point Neighborhood (1963)

1974

Village of Mound becomes City of Mound

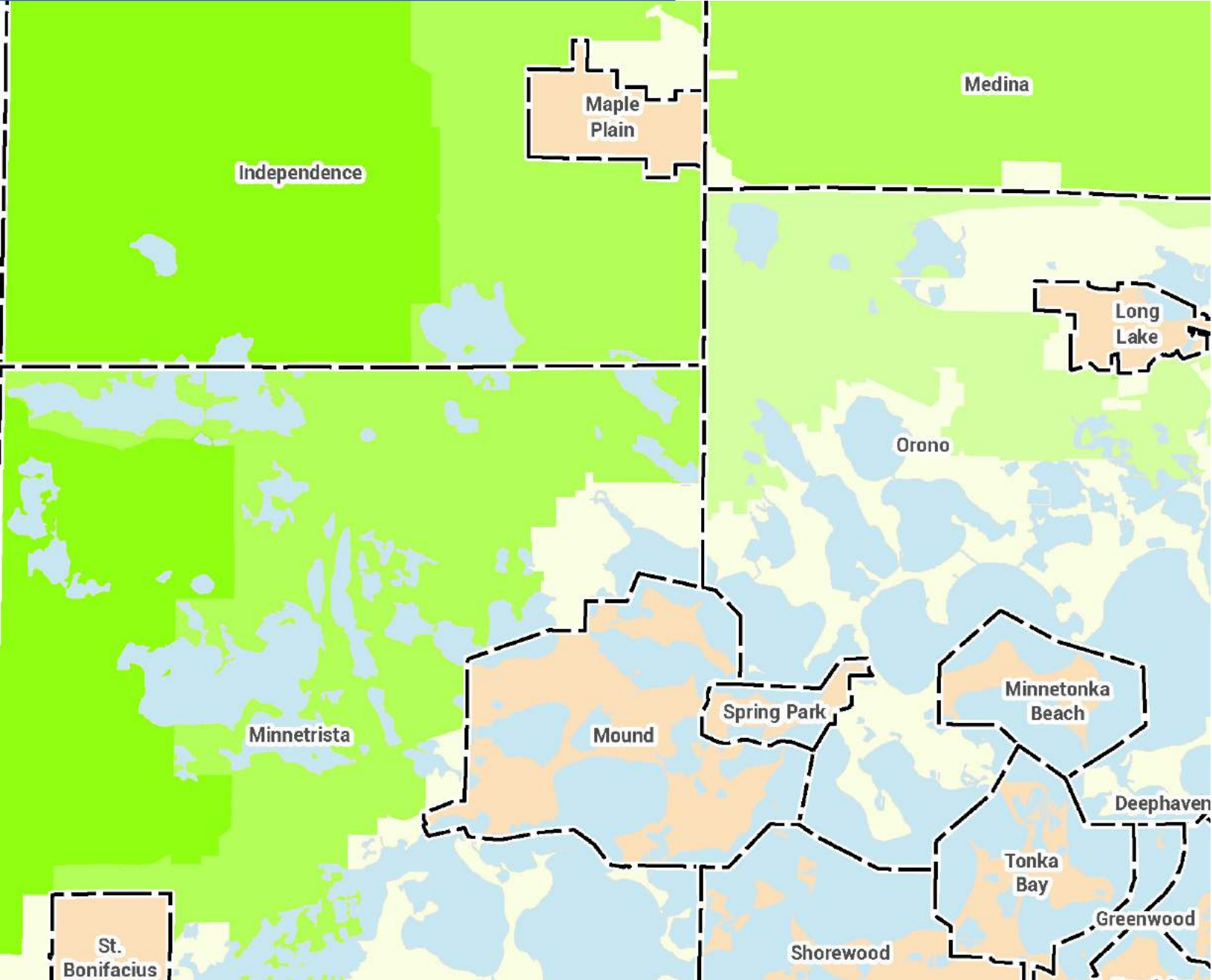
City Hall built

Indian Knoll Manor built

Early 1900s

Railroad tracks extended - tourists arrive via train rather than boat

Figure 2.2 Community Designation



- | | | |
|--------------------------|------------------------|-------------------|
| Jurisdictional Boundary | Suburban | Diversified Rural |
| Urban Center - Core City | Suburban Edge | Rural Residential |
| Urban Center | Emerging Suburban Edge | Agricultural |
| Urban | Rural Center | Non-Council Area |

REGIONAL PLANNING AREA DESIGNATION

As shown in **Figure 2.2**, the City of Mound is designated by the Metropolitan Council as Suburban, meaning it is a developed community. Suburban communities experienced continued growth and expansion during the 1980s and early 1990s, and typically have automobile-oriented development patterns at significantly lower densities than in previous eras. The regional planning area designation identifies the Metropolitan Council's expectations for the community's growth levels and standards including: maintenance of current public infrastructure; renewing and improving infrastructure, buildings and land to provide for additional growth, particularly at centers along transit corridors; accommodating growth through reinvestment at appropriate densities, and supporting developments that integrate land uses.

NATURAL RESOURCES

Mound has a large amount and variety of natural features, including numerous lakes, wetlands, rolling topography and mature tree cover that lend character to the community. Although the historical development of much of the community is typical of urban single family densities, the many natural features provide a sense of openness that provides relief from the community's urban form. Lake Minnetonka and its many bays, Lake Langdon, Dutch Lake and recently reclaimed Lost Lake are Mound's most defining natural resource features and have significantly influenced the community's development and street patterns. The entire city is located within the Minnehaha Creek Watershed District, which means that the community's surface water drains to Lake Minnetonka, which then empties into Minnehaha Creek and ultimately drains into the Mississippi River in Minneapolis.

A Natural Resources Inventory (NRI) was completed for the City of Mound in March 2006 by the Hennepin County Department of Environmental Services (HCDES). The study was conducted in cooperation with the City of Mound, with funding assistance from the Minnesota Department of Natural Resources and the Metropolitan Council. The purpose of the NRI study was to classify existing land cover (natural and developed) for the entire city and to assess the relative ecological quality of the City's remaining natural areas, including wetlands, soil types, high quality natural community remnants, and rare plant and animal species. The study found that the original land survey notes from 1853 to 1856 for the state indicate that the City of Mound pre-settlement vegetation was dominated mostly by Upland Deciduous Forest as part of the historic Big Woods landscape that covered a large part of south-central Minnesota.

The NRI identifies a number of individual natural community remnants within the city, including oak forest, maple basswood forest, lowland hardwood forest, floodplain forest, mixed hardwood swamp, willow swamp, poor fen shrub, birch bog, cattail marsh, wet meadow and water lily open marsh areas. The study also recommends some conceptual greenway/open space corridor areas that the city is encouraged to use as a foundation for planning and preserving natural areas.

THRIVE MSP 2040 SUBURBAN POLICIES

Mound has been designated as an Suburban community. The following are examples of the policies Suburban communities similar to Mound are expected to incorporate into their plans:

- » Plan for new growth and redevelopment to occur at a density of at least 5 units per acre.
- » Plan for a mix of housing, including affordable housing.
- » Preserve and support areas for employment.
- » Plan for and program local infrastructure needs (roads, sidewalks, sewer, water, and surface water) to meet future growth and redevelopment.
- » Identify opportunities to improve pedestrian and bicycle circulation.
- » Integrate and identify strategies for natural resources conservation and restoration.
- » Implement best management practices to control and treat stormwater.
- » Identify and address community resiliency.

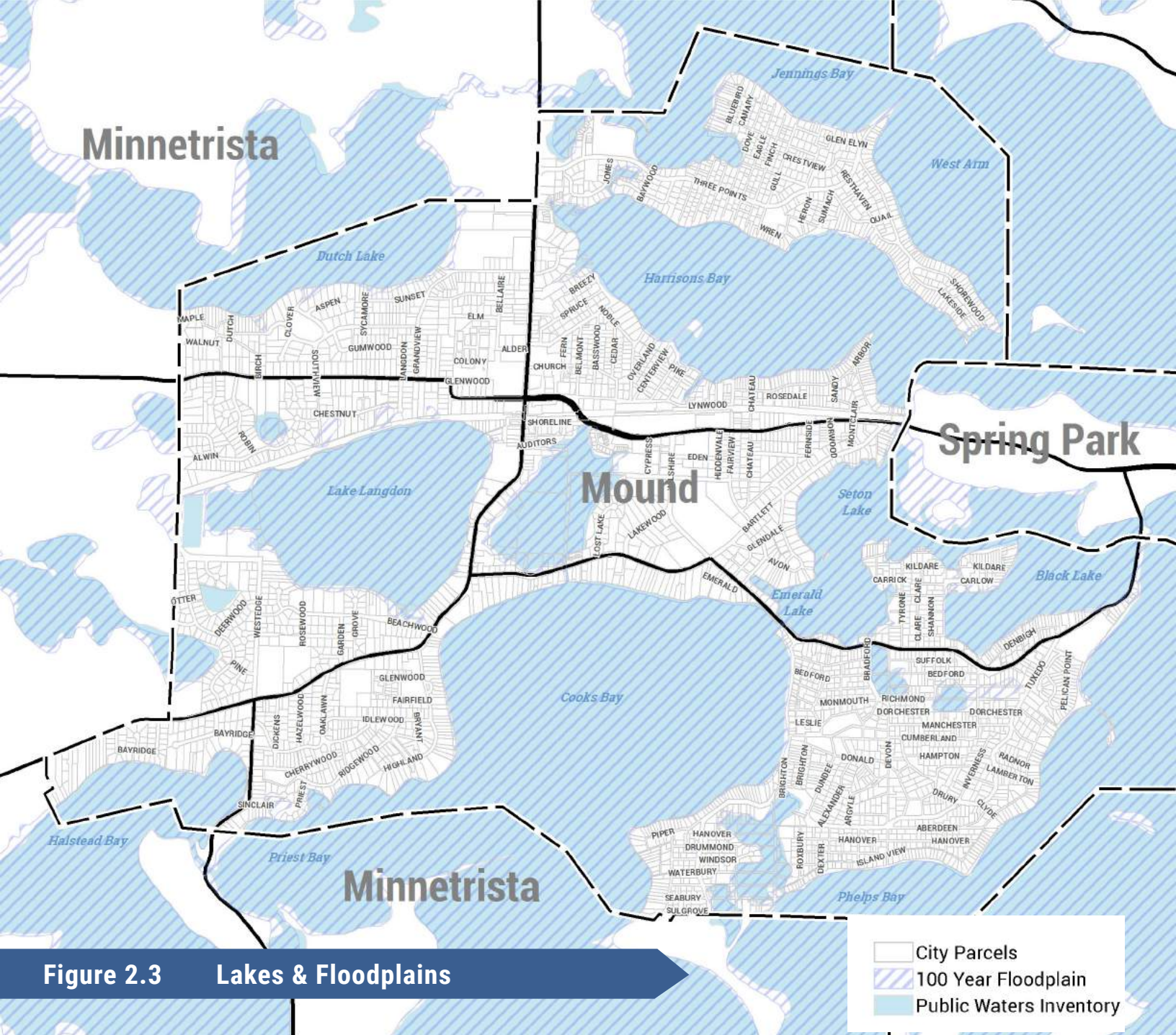


Figure 2.3 Lakes & Floodplains

Lakes and Floodplains

The NRI shows that lakes account for approximately 45% of the community's land cover. Lake Minnetonka and its many bays surround the community to the north, east and west. In fact, the southeast portion of Mound, commonly known as "the island" neighborhood, is actually an island within Lake Minnetonka and the Three Points neighborhood is a long peninsula that juts out into Lake Minnetonka. Lake Langdon is located in the western portion of the community and Dutch Lake is in the northwest corner of the community. Finally, Lost Lake was recently reclaimed in the very center of the community abutting the south edge of downtown Mound. The floodplains associated with these lakes are defined as the areas where surface flooding has the statistical likelihood of occurring once every 100 years. The floodplain can be divided into two areas: the floodway and flood fringe. The floodway is the area where absolutely no development should take place. The flood fringe is suitable for development if proper filling and flood proofing is

conducted as part of construction. As shown in **Figure 2.3**, most of the floodplain areas border the lakes and are directly linked to fluctuating lake levels. The Federal Regional Elevation establishes floodplain elevations for the three major lake systems in the community. The 100 year lake elevations are as follows: Lake Minnetonka = 931.0; Dutch Lake = 940.0; Langdon Lake = 935.0. Structures are required to be elevated above these 100 year flood elevations to protect their integrity and occupants in a flood event. The Regulatory Flood Protection Elevation for each lake is as follows: Lake Minnetonka = 933.0; Dutch Lake = 942.0; Langdon Lake = 937.0.

Wetlands

Wetlands usually consist of peat and mucky soils covered with marshy vegetation. These areas experience a seasonal to permanent wetness with the water table lying within two feet of the surface. Wetlands serve as natural components of the overall storm water management system by holding water during heavy rains until evaporation or percolation occurs. Wetlands also serve as natural filters by removing impurities as the water passes through them prior to entering the underground water table. Wetlands also serve as a valuable habitat for wildlife, providing food and cover.

Many of these areas are presently used as public open space. As shown in **Figure 2.4** the most intensive wetland networks lie in the Lake Langdon, Emerald Lake and Lost Lake areas. The city has established a set of wetland management requirements to ensure the continued functional and aesthetic preservation of these areas.

High Water Table

A high water table elevation also poses developmental limitations within a community. A water table that lies within two (2) feet of the surface can cause structural damage. Areas where the water table lies within one (1) to two (2) feet of the surface coincide with wetland areas. Moderate development limitations result from water lying three (3) to four (4) feet below the surface. Generally when the water table exceeds five (5) feet in depth, slight to moderate limitations are encountered. Most of Mound has a water table that exceeds five (5) feet in depth.

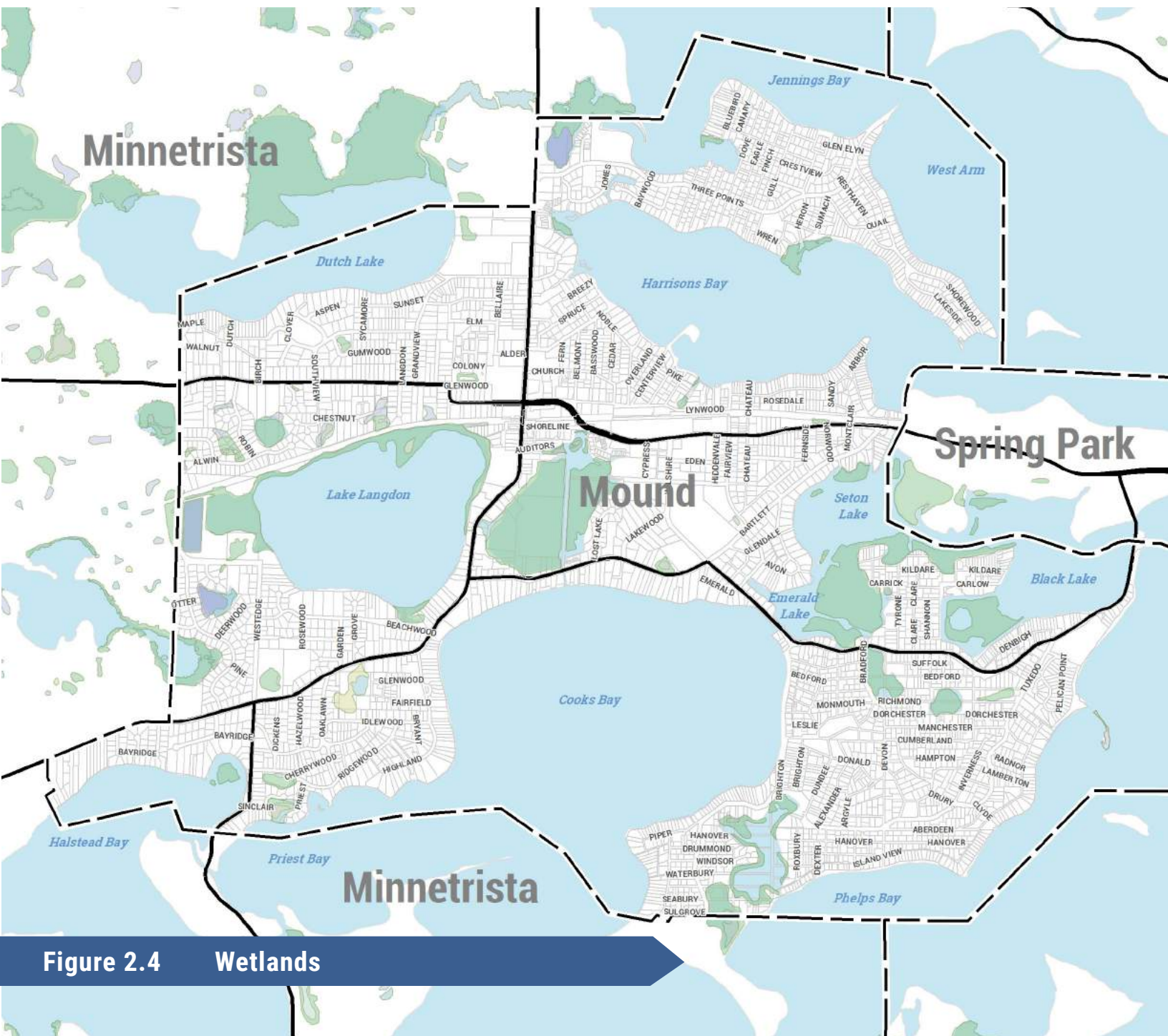
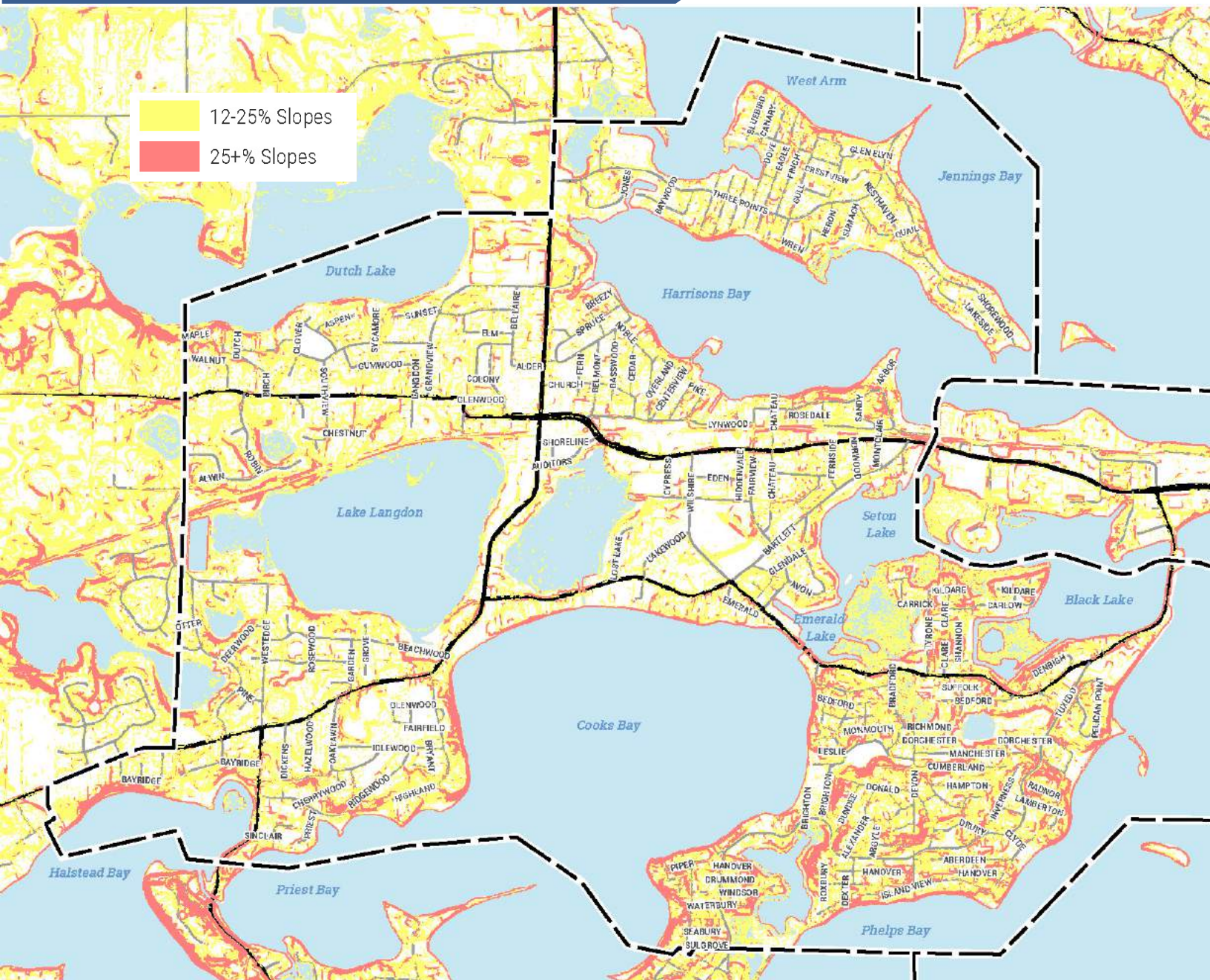


Figure 2.5 Slopes



Slopes

Slopes can pose limitations on development. Severely sloped land more easily erodes, creating potential foundation problems. The steep slope map designates areas where slopes pose moderate to severe limitations on development. Land with slopes of up to 25% pose moderate limitations, however, they can be developed utilizing proper construction techniques. Land with slopes greater than 25% pose more severe development limitations and require proper management techniques. Those areas are shown in **Figure 2.5**. Additional slope protection is provided for in the shoreland management regulations for all areas within 1,000 feet of lake shorelines. The regulations limit structures on the most severe slopes in the City and also require proper management of vegetation to reduce the potential for soil erosion.

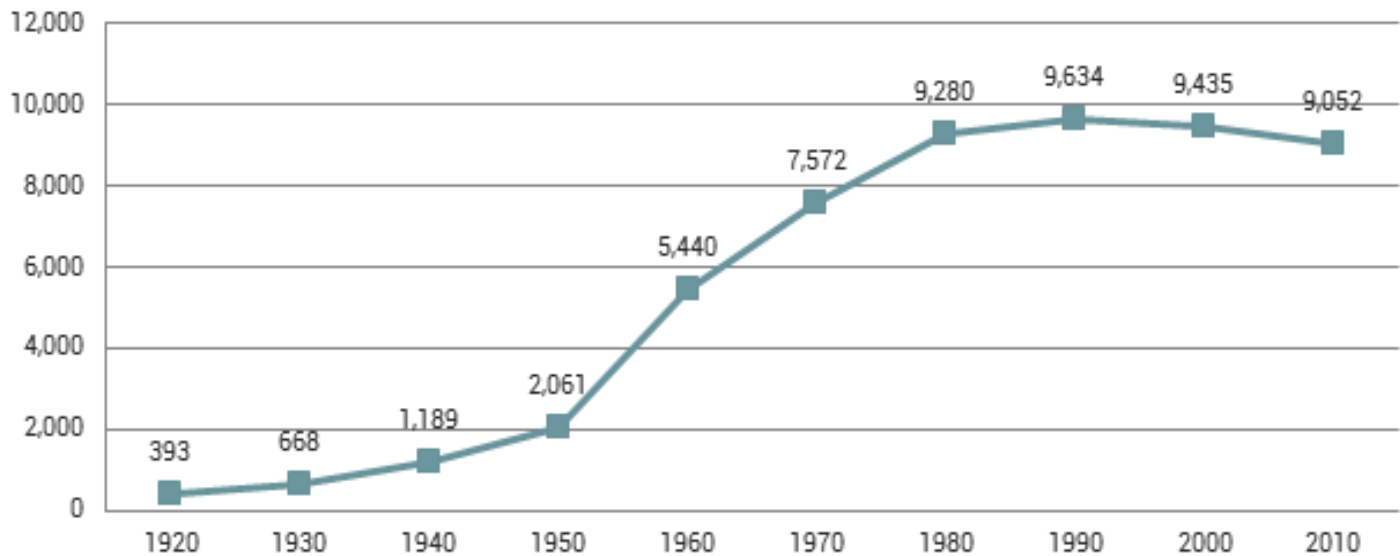
CULTURAL RESOURCES

The Lake Minnetonka area has many cultural and historical resources that play an important role in the area's rich heritage. Prior to modern settlement, the Lake Minnetonka area was inhabited by Dakota and Ojibwa Indians. Evidence of cultural practices is indicated by earthwork mounds and "burial mounds" that existed through the late 1800s and early 1900s. Although most of these mounds have been heavily disturbed by human settlement and modern construction activity, a few are still intact. The Historical Society of Minnesota, now called the Minnesota Historical Society, recognized in the late 1800s the importance of documenting the mounds that were believed to have been created by early aboriginal peoples. A state-wide study was commissioned and preformed by Alfred J. Hill and later by Theodore H. Lewis with assistance from Jacob V. Brower. The findings of this survey are published in the book, "The Aborigines of Minnesota" by N. H. Winchell, 1911. Excerpts from this book on documented sites in Mound follow.

Within the City of Mound, the Hill & Lewis book contains 103 burial mounds that were surveyed a century ago (a copy of diagrams from this book is available at City Hall). Not all of the "burial mounds" contained human remains so it is not wholly accurate to describe them as such. The State Archaeologist Office officially terms them as "earthwork mounds" for this reason. Pre-1900 when there was little development in the area, most of the sites were untouched. As Minneapolis and St. Paul grew, Lake Minnetonka became a popular place for recreation and excursions. Intrigued by this lore, people sought out artifacts from these Indian cultures. As settlement from Minneapolis pushed further west, development overran most of the shoreline areas where mounds were surveyed. Most of these mounds have been severely impacted by development activity over the years.

Nonetheless, the mounds do receive protection by the State of Minnesota. The Minnesota Private Cemeteries Act, Minnesota Statutes Section 307.08 affords all human remains and burials older than 50 years, and located outside of platted, recorded or identified cemeteries, protection from unauthorized disturbance. Any party that knowingly disturbs a site where artifacts are present is subject to felony charges by the State. Public education is then an important role in protecting and preserving any remaining sites.

Figure 2.6 City Population 1920-2010



Source: US Census 1920-2010

DEMOGRAPHICS

An examination of population and housing characteristics provides information useful for planning for city services and anticipating changing population needs. Data was primarily gathered from the United States Census, the Metropolitan Council, Hennepin County and the City of Mound.

Population

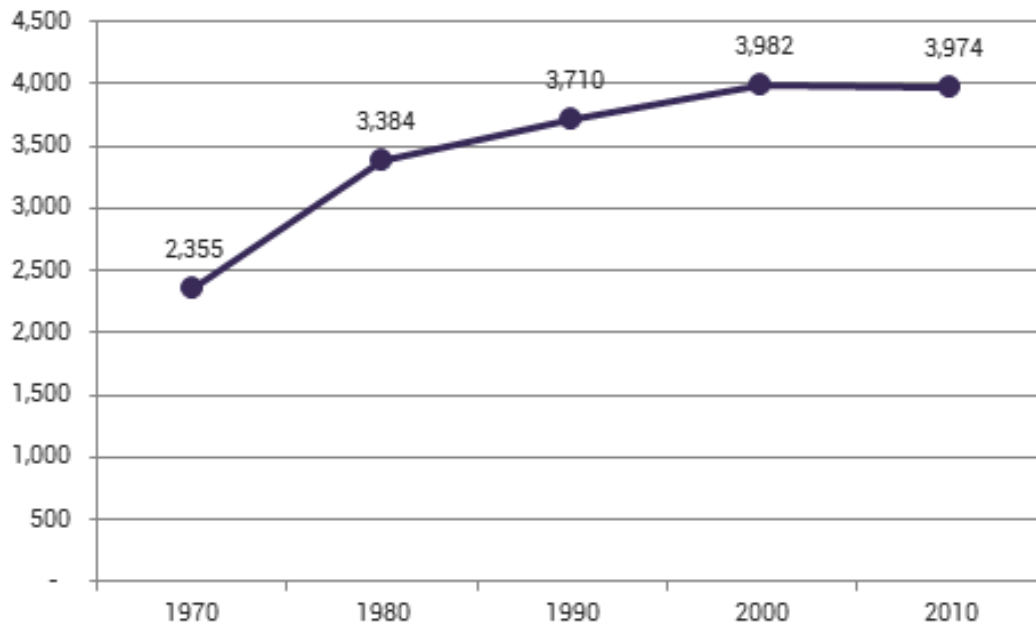
The population in Mound dropped about 5% from 9,435 people in 2000 to 9,052 people in 2010. The American Community Survey estimated the population to be 9,249 in 2015. Historical population figures show significant growth in Mound between 1950 and 1980. This growth reached its peak in 1990, as Mound transitioned from a developing community to a fully-developed community. Since then the population of Mound has decreased slightly to stay fairly consistent over time between 9,000 and 9,500.

On a regional level, both Hennepin County and the Metropolitan Area are expected to see population increases. It is estimated that the Twin Cities Metropolitan Area will add about 840,000 people by 2040.

Households

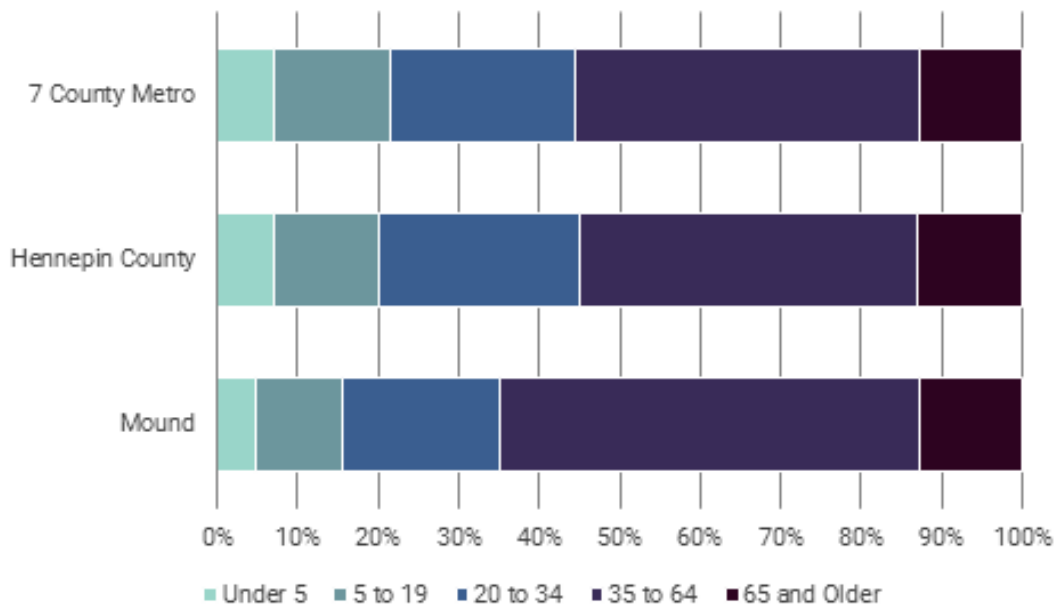
Over the last decade, the number of households in Mound decreased very slightly, by eight households (~0.2%), while the number residents decreased by 5%. This happened as a result of the continued decrease in the number of people per household. In Mound, the number of people per household dropped from 3.13 in 1990 to 2.37 people in 2000 to 2.27 people in 2010. This trend is often attributed to the fact that adults are waiting longer to get married and have children; families are having fewer children; the aging of the baby boom generation who are becoming empty-nester households; and the continued increase in life-spans.

Figure 2.7 Households 1970 - 2010



Source: US Census 1920-2010

Figure 2.8 Age Distribution of Population 2015



Source: American Community Survey 2015

Age

The age distribution in the City of Mound is slightly different than the rest of Hennepin County and the Twin Cities Metropolitan Area. Over one-half of the population in Mound is between 35 and 64 years of age, with the median age being 42.9 years in 2015. With such a significant portion of the population between 35 and 64, it is important to note how small of a proportion children (19 and under) are in Mound, making up around 15.6% of the population.

ECONOMIC CLIMATE

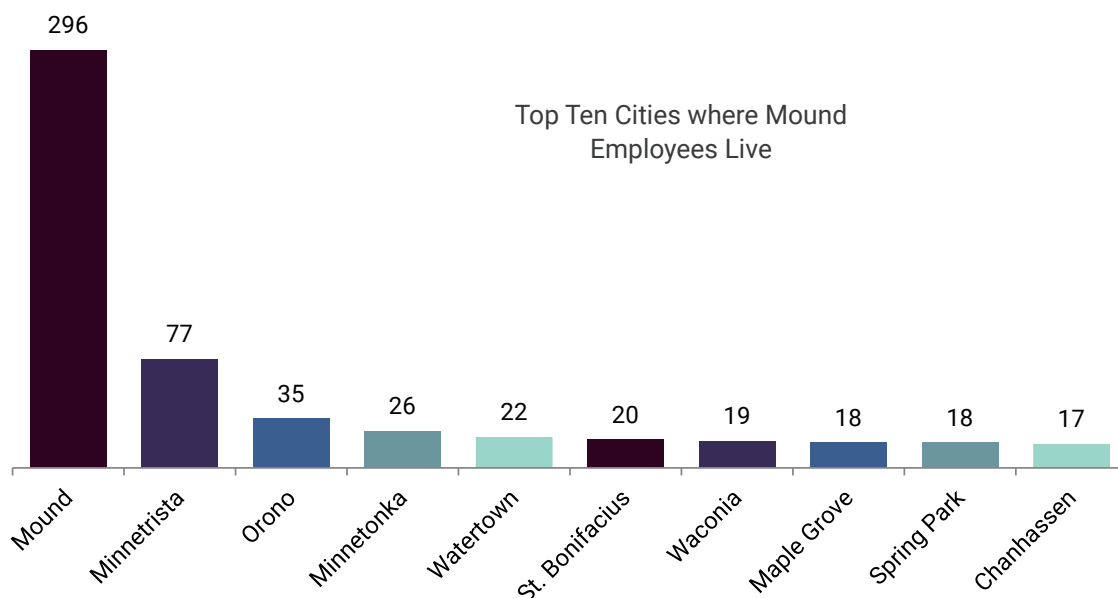
While the City of Mound is primarily a residential community, there is a desire to have a stable base of employment to provide opportunities for residents to live and work in the community. According to the US Census, Mound had approximately 1,165 jobs in 2010. Approximately 31% of the people working in Mound reside within the community with employees who commute into Mound living in nearby communities, including Minnetrista, Orono, Minnetonka, and Watertown. There are also a number of employees who travel from other communities in Hennepin, Carver, and Wright Counties.

Since the closure of the Tonka Toys plant in 1984 with a loss of 814 jobs, the City has found it difficult to get back to its 1980 employment number. The Balboa Business Center, created on the former Tonka Toys site, has attracted business tenants to occupy most of the space. Businesses include a variety of manufacturing, warehousing and service businesses.

The Metropolitan Council estimates that additional employment growth will occur in Mound. The growth rate is estimated to be modest business expansion in the service and retail sectors. Development forecasts anticipate employment will grow to 1,900 by 2040. The redevelopment of Downtown Mound should assist with the development of additional employment opportunities.

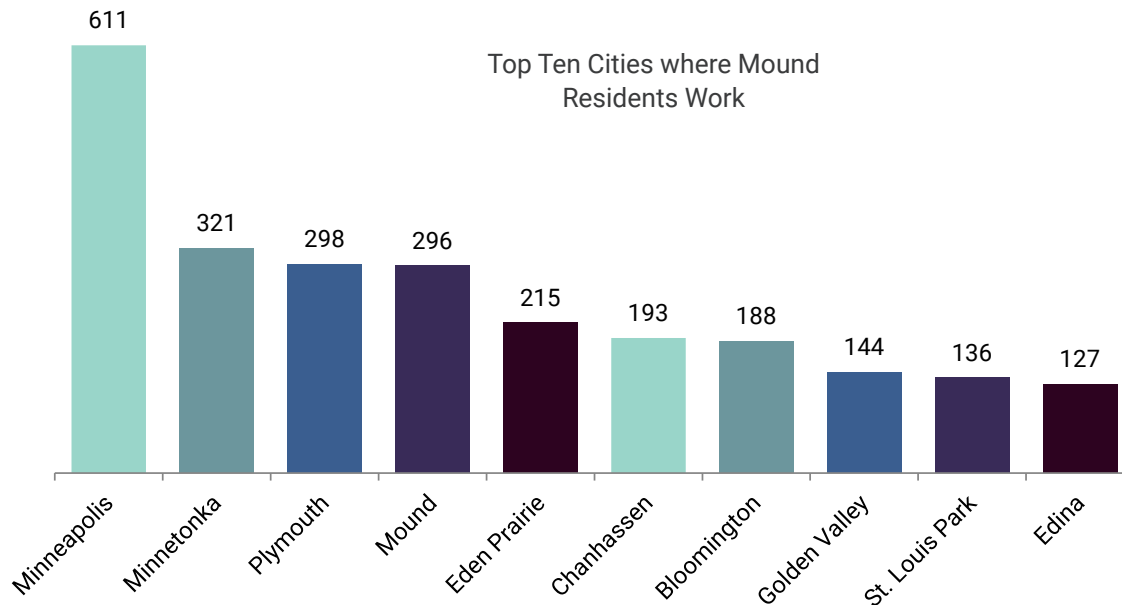
Approximately 76% of those over 16 years of age are in the labor force with about 39% in management or professional occupations and 28% in sales and office occupations. Almost half of Mound residents commute more than 30 minutes for their job, which is greater than the rate for Hennepin County and the Twin Cities

Figure 2.9 Residence of Mound Employees 2014



Source: US Census 2017

Figure 2.10 Employment Destination for Mound Residents 2014



Source: US Census 2017

Metropolitan Area. About 7% of Mound residents work in Mound, other places of employment include Minneapolis, Minnetonka, Plymouth, and Eden Prairie. According to the 2011-2015 American Community Survey, the median household income in Mound was \$73,750. This is slightly higher than both Hennepin County's median household income of \$65,834 and \$68,800 for the Twin Cities region.

Out of the 4,683 residents of Mound who were employed in 2014, around 6.3%, or 296, of them both lived and worked in Mound. The remaining employed residents worked in Minneapolis (13%), and larger suburbs such as Minnetonka (7%), Plymouth (6%), Eden Prairie (5%), Chanhassen (4%), Bloomington (4%), Golden Valley (3%), St. Louis Park (3%), and Edina (3%).

FORECASTS

The 2040 Regional Development Framework includes forecasts for households, population and employment for the years 2020, 2030, and 2040. These forecasts were developed with input from the City of Mound and are updated periodically. Forecasts are based on historic trends, 2010 Census data, current demographic data, annual monitoring of building permits, employment data and comprehensive plans.

Table 2.1 Mound Projections

	Census			Projections		
	1990	2000	2010	2020	2030	2040
Population	9,634	9,435	9,052	9,400	9,500	9,600
Households	3,710	3,982	3,974	4,200	4,460	4,600
Employment	1,849	1,709	1,165	1,400	1,600	1,700

Source: Metropolitan Council 2018

EDUCATIONAL SYSTEM

Mound is part of the Westonka Public School District #277, which was consolidated in 1917. It serves the cities of Mound, Minnetrista, Orono, Navarre, Spring Park, Shorewood, Independence, and Lyndale. The District offers a number of community education and service programs including:

- » Early Childhood Family Education (ECFE)
- » Westonka Adventure Club
- » Youth development programs
- » Recreation and enrichment classes
- » Adult Basic Education GED
- » Programs for disabled adults
- » Senior Citizen Programs

The Westonka School system has 2,300 students in kindergarten through grade 12, served by 175 teachers and 100 support staff. The school district has four schools, two of which are in Mound. The Grandview Middle School for 5th, 6th, and 7th grades is located at 1881 Commerce Blvd.. Shirley Hills Elementary School serves students in pre-kindergarten to grade 4 and is located at 2450 Wilshire Blvd..

In addition to the two public schools, Our Lady of the Lake School at 2411 Commerce Boulevard offers private schooling for preschool through eighth grade.

COMMUNITY FACILITIES AND SERVICES

The City has numerous facilities throughout the community. City Hall is centrally located at 2415 Wilshire Boulevard. The City Council Chambers is located in the former City Hall, renamed the Centennial Building, that now serves as offices for local organizations and non-profits, such as the Westonka Historical Society.

The Mound Fire Department, comprised of volunteers and a full-time chief, has been in existence since 1923. Fire and rescue services are provided out of the City Hall to Mound and the surrounding communities of Minnetrista, Spring Park, Shorewood and Minnetonka Beach.

In 2013, Mound began contracting with the City of Orono for police services.

The City has Public Work Facilities along Lynwood Boulevard and a parks maintenance facility on Leslie Road on the Island.

Library

The Hennepin County Library System's Westonka Branch is located at 2079 Commerce Boulevard. The branch is one of the County's 23 community libraries.



3. LAND USE PLAN

A community's land use patterns are typically one of the most significant defining physical elements in its landscape. The mix, location, form and relationship of adjacent and nearby land uses greatly affect the community's physical environment and social interaction. Typical of a Lake Minnetonka community, Mound's land use patterns and mix are dominated by residential uses. The existing development pattern is the result of its historical development as a lakeshore cabin community of small residential lake lots, narrow street rights-of-way, and substantial areas of park commons. This established pattern results in future land use and redevelopment issues that are unique to Mound and generally not found in other suburban communities.

The Land Use Plan provides a general concept for land use types, intensities and locations through the year 2040. Every parcel within the City's limit is placed into a specific land use category. The Land Use Plan seeks to reinforce desirable land use patterns, identify places where change is needed and guide the form and location for future land use changes.

EXISTING LAND USE

“NET” ACREAGE

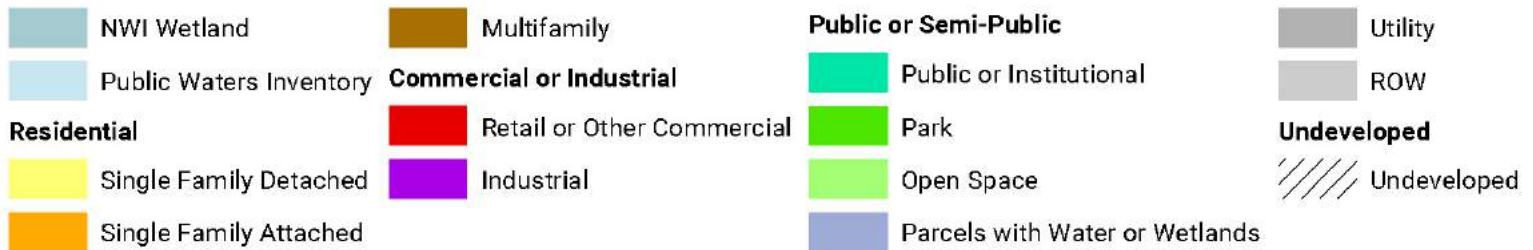
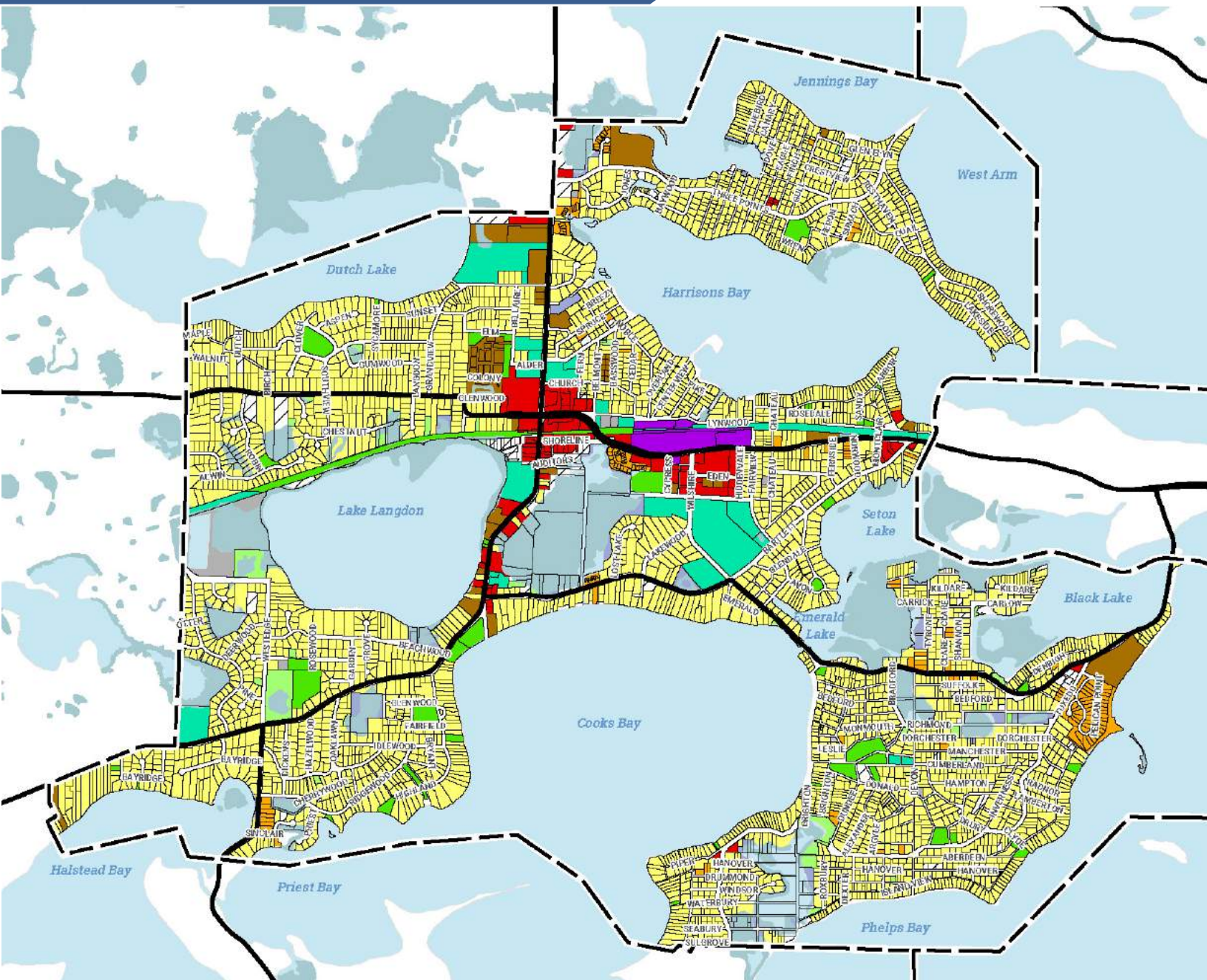
Please note that all acreages are “net” where arterial rights-of-way, water bodies, wetlands and public parks have already been removed.

Existing land use, depicted in **Figure 3.1**, was developed based on the analysis from the Metropolitan Council, information from Hennepin County’s parcel database, reviews of aerial photography, and field surveying by staff. A number of land use categories were established to aggregate similar land use types. **Table 3.1**, below, identifies the existing land use, amount of acres in that land use and what percent of the total it represents.

Table 3.1 Existing Land Use

Existing Land Use	Description	Acres (net)	Percent of Total
Single Family Detached	The most common land use within Mound. As a suburban lake community that developed in the last half of the 20th century, Mound has many neighborhoods of small- to medium-lot single family detached homes on quiet neighborhood streets.	957.43	29.52%
Single Family Attached	This category includes townhomes, row homes, twin homes, duplexes, triplexes, and quadplexes. While these housing types were not historically prevalent, many redevelopment and infill sits along major corridors have utilized this type of land use. Notable developments of this type can be seen on Tuxedo Boulevard, Westedge Boulevard, Commerce Boulevard and Shoreline Drive.	34.84	1.07%
Multifamily	Mound has a few sites throughout the community that have multifamily apartments or condominiums. Most of these sites are along major corridors within the community, such as Commerce Boulevard and Wilshire Boulevard.	45.79	1.41%
Retail or Other Commercial	Existing commercial uses within Mound are concentrated along Shoreline Drive and Commerce Boulevard, with the exception of a few neighborhood commercial corners on the Island and on Three Points. Most businesses in the city provide local services and have site design oriented for customers with vehicles.	45.95	1.42%
Industrial	Mound has only one Industrial area within the city, the Balboa Business Center, located along Shoreline Drive. What was once home to the Tonka Toy Truck facility is now an incubator for many local industrial businesses.	13.89	0.43%
Public or Institutional	In addition to the City of Mound, other institutions within the community include the Westonka School District and many churches/religious organizations.	69.52	2.14%
Park	The City of Mound has 24 parks of varying sizes, as well as three additional public beaches, which serve the recreational needs of the community.	48.20	1.49%
Open Space	These areas of the city are publicly owned parcels which do not have an active public function (such as Utilities or Parks).	22.50	0.69%
Parcels with Water or Wetlands	As a Lake Minnetonka Community, being surrounded by lakes and wetlands brings its own opportunities as well as challenges. There are a number of parcels within the city which are covered by open water or wetlands.	1,623.82	50.07%
Utility	Parcels throughout the city which support water, wastewater, or other municipal services.	11.97	0.37%
ROW	Roadways and other public accesses.	332.45	10.25%
Undeveloped	Very few sites within Mound are undeveloped, and many vacant sites have wetlands or are not accessible to a public street. As such most development within the community will be redevelopment of existing sites.	37.00	1.14%
Total		3,243.35	100.00%

Figure 3.1 Existing Land Use 2017



FORECASTED GROWTH

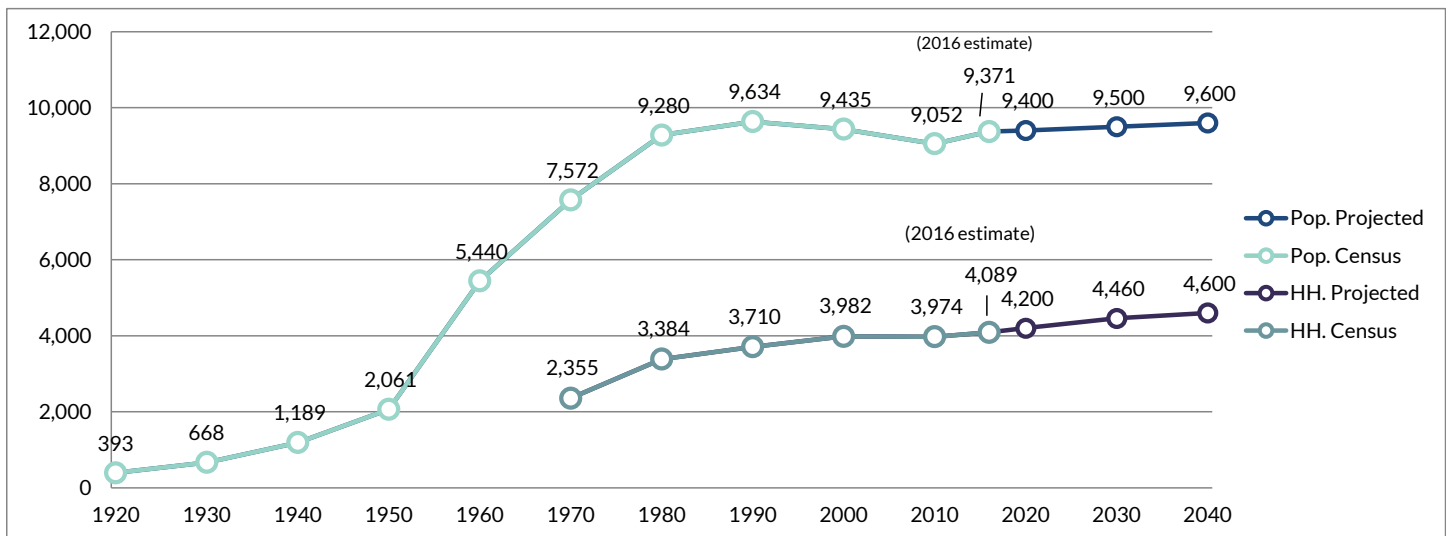
An important element in planning for the future is establishing forecasts for households, population and employment for the years 2020, 2030, and 2040. The Metropolitan Council established forecasts through their system statements in 2015. Since then, the City of Mound has worked with Metropolitan Council forecasting staff to adjust the forecasts to reflect more recent growth in the city, as seen in **Table 3.2**. Forecasts are based on historic trends, 2010 Census data, current demographic data, annual monitoring of building permits, employment data and comprehensive plans. The ability of the City to accommodate the forecasts for population and households were confirmed through the development of the Future Land Use Plan as described in the following section.

Table 3.2 Projections

	Census			Estimate	Adjusted Forecasts		
	1990	2000	2010	2016 / 2017	2020	2030	2040
Population	9,634	9,435	9,052	9,371	9,400	9,500	9,600
Households	3,710	3,982	3,974	4,089	4,200	4,460	4,600
Employment	1,849	1,709	1,165	1,360	1,400	1,600	1,700

Source: 2010 Census, Metropolitan Council, City of Mound

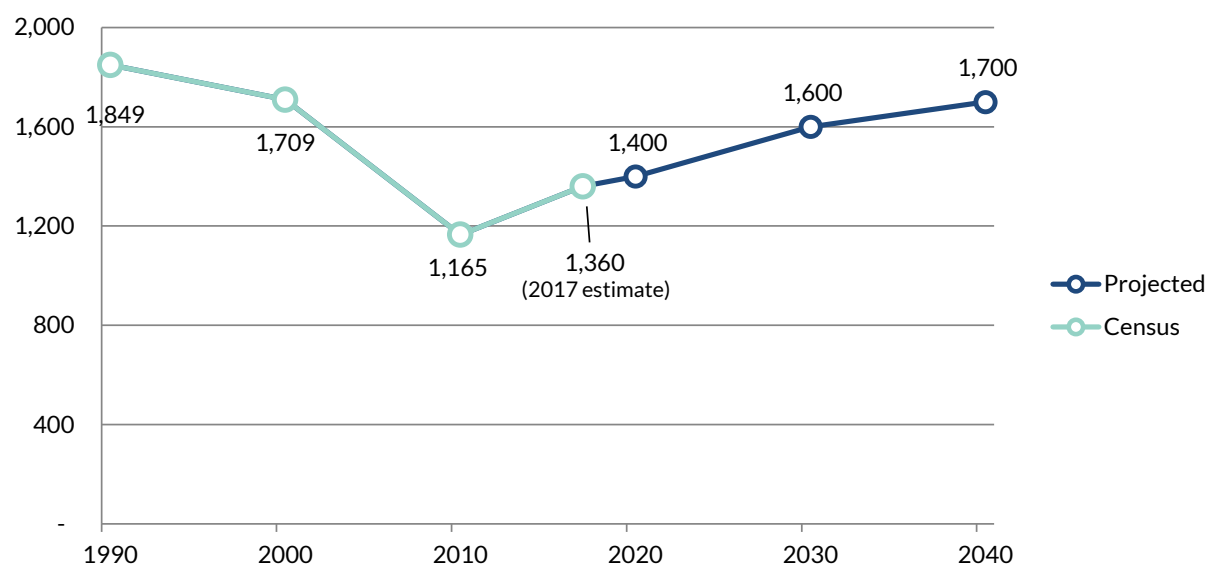
Figure 3.2 Population & Household Trends & Projections



As part of the Comprehensive Planning process a general market study was conducted for Mound. This market study involved a review of demographic and market trends and projections, as well as discussions with commercial property owners. The overall findings from the study were that the City will continue to have potential for population and household growth, but that it is likely that the number of jobs projected is significantly overstated. These conclusions were reached from the following findings from the market study:

- » Mound has not been a center for employment in the last few decades and has, in fact, lost jobs since 1970. However, it has, and may continue to be, a local node for goods, services, restaurants, and entertainment as neighboring communities to the west grow.
- » Currently the community has too much retail space and there is interest in converting some of that space to other uses. Consolidation of retail into a core area may be beneficial.
- » Mound residents tend to rely on larger retail shopping areas outside of Mound or electronic purchases for many of their everyday goods. The City may also see an impact from national trends, including retail consolidation.
- » Retail areas should continue to focus on serving day-to-day needs like groceries, pharmacy, eating and drinking, convenience items, and professional/health services.
- » The City has a limited office and industrial market with less than 60,000 square feet of offices and only one industrial area, the Balboa Business Center. Market analysis indicates that due to its location and transportation connections, it is unlikely the City will significantly capture more office or industrial. Offices uses will continue to be primarily small business offices like insurance, attorneys, etc. or medical services like dentists, chiropractic, etc. It is anticipated office uses will be integrated in future mixed-use areas as well as in stand-alone neighborhood commercial nodes.
- » The assumptions made in the Future Land Use Plan indicate that a more appropriate projection for the City’s employment is 1,400 by 2020, 1,600 by 2030, and 1,700 by 2040 as shown in Figure 3.3 below.

Figure 3.3 Employment Trends & Projections



FUTURE LAND USE PLAN

FUTURE LAND USE DESIGNATION BY DECADE

As the City is fully built out, and is entirely located within the MUSA, the future land use designations are planned to be the same for 2020, 2030, and 2040, as seen in **Table 3.3**.

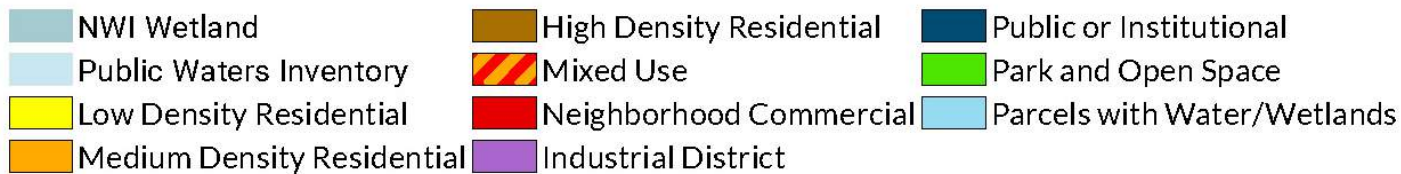
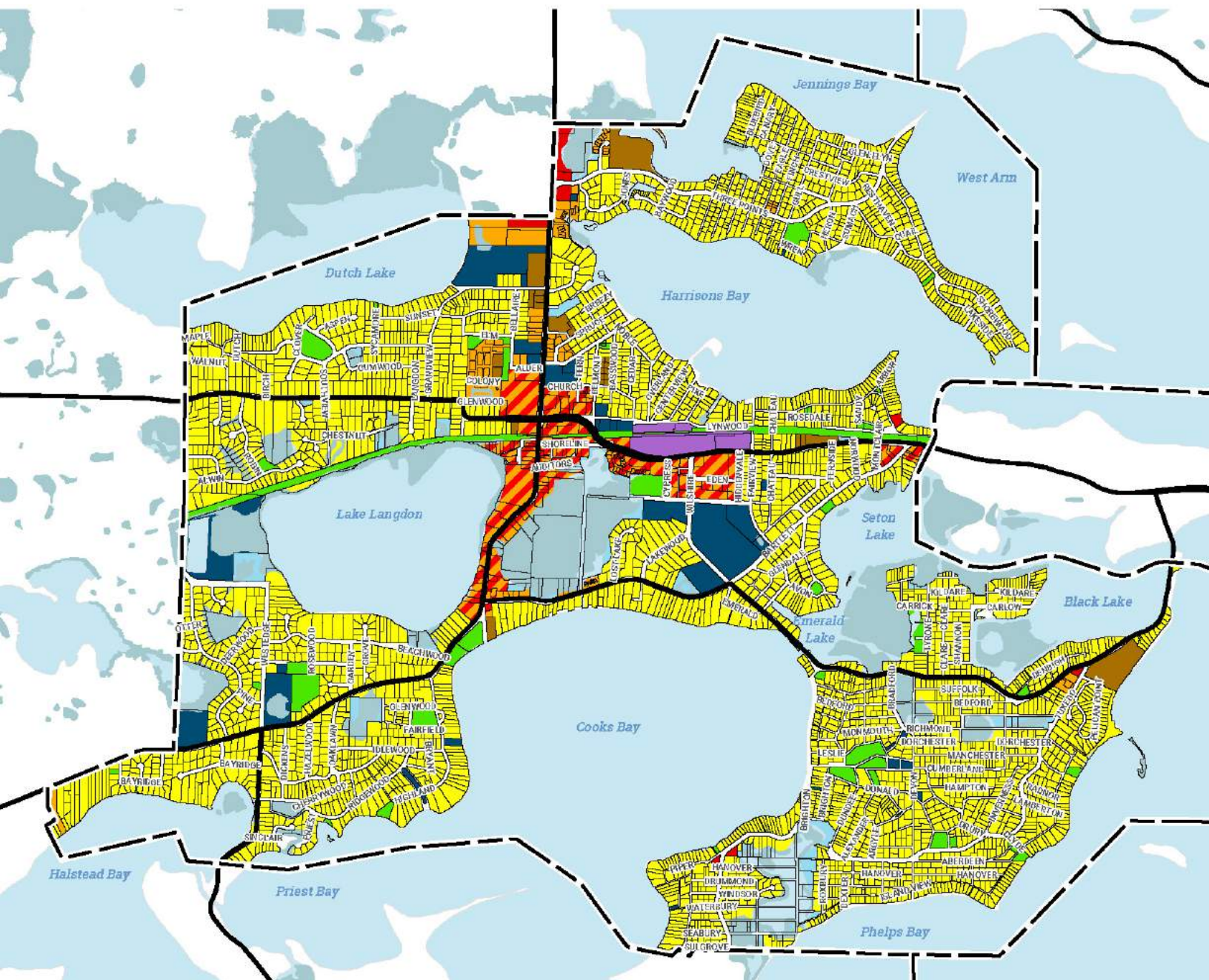
The future land use plan, shown in **Figure 3.4**, builds on the community's previous planning efforts. The community continues to be focused on maintaining a predominantly single-family residential character while encouraging multi-family housing, commercial services, and mixed use areas in downtown, along major corridors and at major nodes.

The land use categories used in this Comprehensive Plan are very similar to the previous plan. Minor changes include combining the former designations of "Pedestrian District," "Destination District," and "Linear District" into the designation "Mixed Use," which is described in more detail on page 34. This land use plan also combines the previous "Park" and "Open Space" categories into "Parks and Open Space." **Table 3.3**, below identifies the future land use categories, the amount of acres in each category and what percent of the total it represents. Please note that all acreages are "net" where arterial rights-of-way, water bodies, wetlands and public parks have already been removed.

Table 3.3 Future Land Use

Future Land Use	Description	Acres (net)	Percent of Total
Low Density Residential	Density range from 1 to 6 units per acre. This category accounts for the larger percentage of the housing in Mound and most of the land use. Typical housing types include single family detached and attached when within the density range.	998.32	30.78%
Medium Density Residential	Density range from 7 to 12 units per acre. Typical housing stock includes multi-unit townhomes, four-plexes, and smaller-scale apartment and senior living facilities without significant medical support services. To minimize the potential impacts of these medium density uses to single family neighborhoods, these uses are generally located along arterials and collector streets.	32.97	1.02%
High Density Residential	Density range in excess of 12 units per acre and accommodates multi-building apartment, condominium, and senior living facilities. These are intensive residential uses that are appropriate along arterials and collector streets.	27.31	0.84%
Mixed Use	Meant to support a variety of commercial, residential, and public uses. Under the Mixed Use designation, there are distinct areas, each of which have their own character and approach to mixed use. Further information as to the intent of each area can be seen on page 35 to page 38.	68.13	2.10%
Neighborhood Commercial	Provides a variety of retail commercial and office uses that have a neighborhood scale. They are located along collector and arterial roadways to minimize the impact on the adjacent residential neighborhoods	7.81	0.24%
Industrial District	Limited to the Balboa Business Center and adjacent lands for business, assembly, manufacturing, wholesale, and storage uses.	13.57	0.42%
Public or Institutional	Includes city, school, church, and other public and quasi-public facilities and land.	70.95	2.19%
Park and Open Space	Areas used for active and passive recreation including playgrounds, ball fields, trails, and public access to lakes as well as resource protection.	59.07	1.82%
Public Water or Wetlands	Permanently flooded open water, rivers and streams, and wetlands included in the National Wetland Inventory (NWI).	1,633.67	50.37%
ROW		331.53	10.22%
Total		3,243.35	100.00%

Figure 3.4 Future Land Use



Mixed Use Areas

Table 3.4 Mixed Use Area Summary

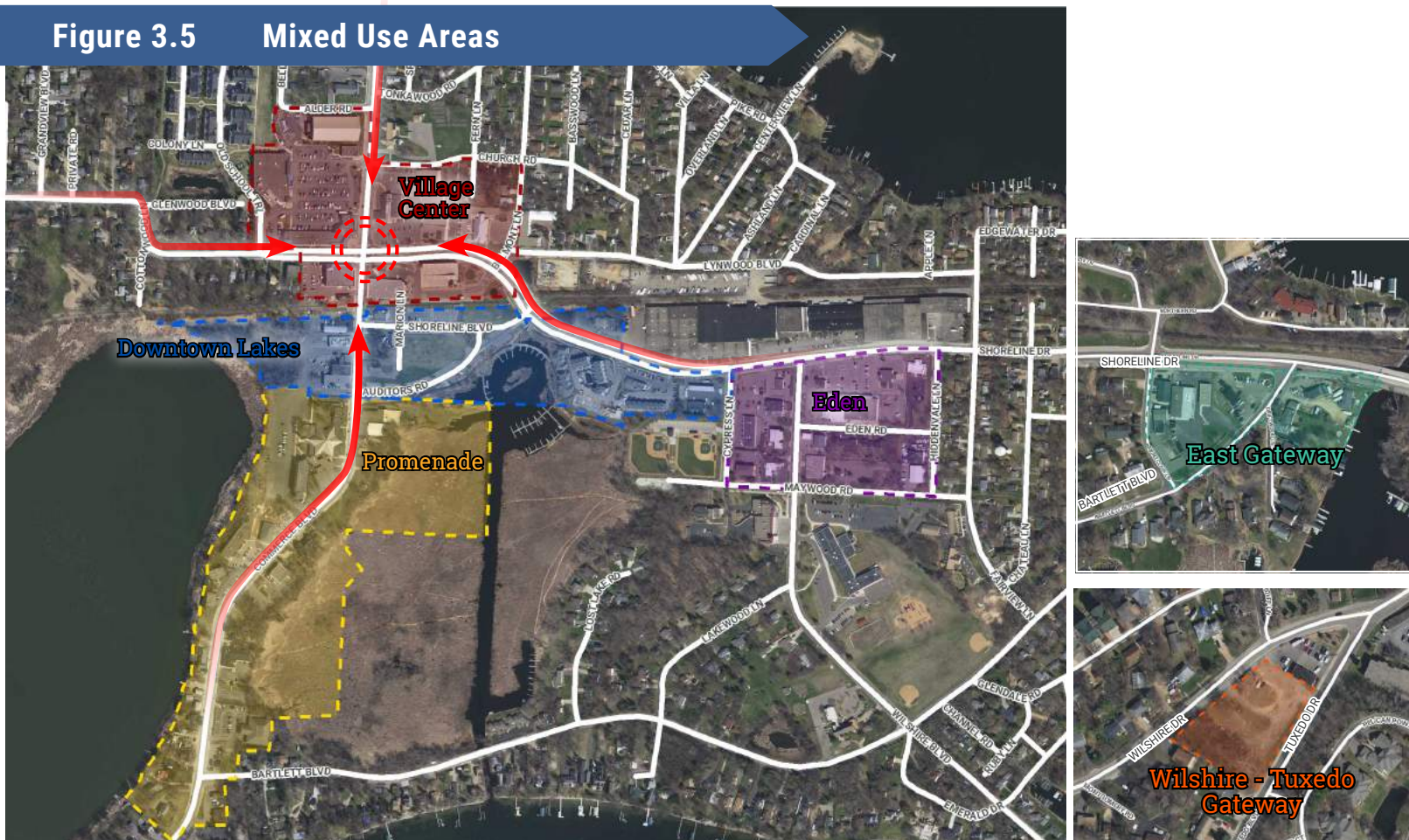
Mixed Use Area	Percent Res.	Percent Comm.	Anticipated Res. Density units/acre
Village Center	70%	30%	12 - 30
Downtown Lakes	70%	30%	8 - 15
Eden	80%	20%	12 - 20
Promenade	80%	20%	8 - 20
East Gateway	85%	15%	8 - 15
Wilshire Tuxedo Gateway	85%	15%	7 - 15

A significant portion of the commercial areas of the City have been designated as “Mixed Use.” This designation is meant to recognize that the characteristics of these areas are unique and can support a variety of uses, including commercial, residential, and public. This designation is intended to provide flexibility so that property owners and developers have options when considering redevelopment in the areas.

Under the Mixed Use designation, there are five distinct areas, as seen in **Figure 3.5**: Village Center, Downtown Lakes, Eden, Promenade, East Gateway, and Wilshire-Tuxedo Gateway. Each area has its own character and approach to mixed uses. All of these areas are interrelated, as redevelopment within one can impact the others.

The overall intent is that commercial development and redevelopment will be primarily focused around the intersection of Shoreline Drive and Commerce Boulevard with only small pockets located further away. Areas away from these main corridors are anticipated to contain a greater percentage of residential development as part of the mixed use. Most of these areas are planned for medium and high density residential given their location adjacent to transportation corridors, proximity to commercial businesses, and likely costs related to redevelopment.

Figure 3.5 Mixed Use Areas



MIXED USE AREA: VILLAGE CENTER



Intent

The Village Center Mixed Use Area is centered around the intersection of Commerce Boulevard and Shoreline Drive. There are existing retail stores, restaurants, the Transit Park & Ride ramp, and Veteran's Memorial Plaza.

While the existing area is dominated by commercial uses, there is potential for redevelopment in the northeast corner of the intersection. Redevelopment should be a mix of residential and commercial uses, with the commercial uses located along Shoreline or Commerce to activate the street level of those corridors. The mix of uses may be organized vertically within the same building or horizontal among multiple buildings on the site. Emphasis should be placed on circulation to and within site.

Acreage (gross)	22.94
Redevelopment area (net)	3.82
% Residential	70%
% Commercial	30%
Residential Unit Types	Townhomes, Multifamily
Residential Densities	12 - 30 units/acre

Considerations

- » Some level of commercial is preferred to be maintained at the site. Commercial should be located near Commerce or Shoreline at street level to help activate those corridors
- » Building heights should be taller along Commerce and lower towards the adjacent single family neighborhoods
- » Care should be taken with respect to site access from Commerce and Shoreline
- » Internal circulation should support pedestrians



MIXED USE AREA: DOWNTOWN LAKES



Intent

Redevelopment should be a mix of residential and commercial uses, with the commercial uses concentrated along Commerce Boulevard. Consideration should be given to the potential for restaurant anchors at Auditors Road and Shoreline Drive and/or at southwest corner of the Dakota Rail Regional Trail and Commerce Boulevard. Residential uses should transition in intensity as they approach the lakes. Redevelopment will allow for the optimization of Lost Lake Harbor and the views across Lake Langdon as amenities.

Internal circulation for pedestrians, cyclists, and vehicles is a priority for the Downtown Lakes Mixed Use Area. Consideration should be given to eliminating Auditors Road as a through street to improve the pedestrian environment, though some type of appropriate circulation should be maintained through the site to support any commercial tenants. Developing plazas, streetscape, and/or other public amenities that connect uses to the harbor, Dakota Rail Regional Trail, and the Village Center is important. Height limitations could be variable if greater open space is exchanged.

Acreage (gross)	22.68
Redevelopment area (net)	9.53
% Residential	70%
% Commercial	30%
Residential Unit Types	Townhomes, Multifamily
Residential Densities	8 - 15 units/acre

Considerations

- » Views across Lake Langdon & Lost Lake should be maximized for buildings away from the shoreline
- » Connections to the Dakota Rail Regional Trail and to the lakes are needed
- » Internal circulation should provide pedestrian connectivity and limit driveway accesses on Commerce
- » Site assembly will be required in some areas



MIXED USE AREA: EDEN



Intent

As in previous Comprehensive Plans, Eden is identified as a mixed use area to recognize the existing land use pattern and to provide flexibility for redevelopment. To better reflect changing demographic and market trends, however, it is anticipated with this plan that the area will transition from a predominantly commercial area to a predominantly residential area over time. Commercial that does remain is anticipated to be located along the major transportation corridors of Shoreline Drive and Wilshire Boulevard. Residential development should transition in density and intensity, with the most dense, multifamily uses, along Shoreline Drive. As you move away from Shoreline Drive, townhomes become the predominant use, with the potential for even single family homes adjacent to Shirley Hills Elementary.

Acreage (gross)	15.92
Redevelopment area (net)	11.01
% Residential	80%
% Commercial	20%
Residential Unit Types	Single Family Detached, Townhomes, Multifamily
Residential Densities	12 - 20 units/ acre

Considerations

- » Density and intensity should transition down as development moves away from Shoreline Drive. Buildings along Shoreline should be oriented toward each other rather than facing Shoreline Drive
- » Connections should be made to Lost Lake Trail and Elementary School
- » Shoreline Drive development should be designed as a community gateway. Consideration should be given to landscaping or screening to improve the look of the corridor and/or to improve the residential setting.



MIXED USE AREA: PROMENADE



Intent

Located along Lost Lake and Lake Langdon, the Promenade offers a beautiful setting for all types of land uses. The area is guided mixed use to provide use and site development flexibility in recognition of the narrowness of the properties and the likely impacts from wetlands and floodplain. While some commercial will remain in the district, it is anticipated that redevelopment will likely be more residential, including single family detached, townhomes and multifamily.

As the connector between Downtown and Surfside Park, the Promenade should support visitors and residents who travel through the area on foot or bicycle. Streetscape should include elements like sidewalks/trails, lighting and benches. It is also important that building orientations allow views to the lakes.

Considerations

- » Floodplain and wetlands may limit buildable area of some sites
- » Redevelopment anticipated to occur in pockets with larger residential and institutional uses likely to remain over long-term
- » Opportunities to view the shorelines between buildings desired



Acreage (gross)	40.06
Redevelopment area (net)	9.03
% Residential	80%
% Commercial	20%
Residential Unit Types	SF Detached, Townhomes, Multifamily
Residential Densities	8 - 20 units/acre



MIXED USE AREA: EAST GATEWAY



Intent

East Gateway serves as the eastern gateway to the City of Mound. The area has historically been a neighborhood commercial node that offered retail, services, and employment, with most current uses as service-oriented rather than retail. Given market trends, it is anticipated that over time commercial services may seek to cluster around the intersection of Shoreline and Commerce rather than on community edges like in East Gateway. To provide flexibility for property owners, East Gateway is being guided mixed use so medium density residential products such as townhomes can be incorporated in future developments.

Acreage (gross)	3.96
Redevelopment area (net)	1.65
% Residential	85%
% Commercial	15%
Residential Unit Types	Townhomes
Residential Densities	8 - 15 units/acre

Considerations

- » Mix of uses to provide flexibility in redevelopment of the area
- » Small area of land lends itself to townhomes and other medium density residential options
- » Access and connections to Seton Channel an amenity for redevelopment
- » Site assembly will be needed some areas.



MIXED USE AREA: WILSHIRE-TUXEDO GATEWAY



Intent

The Wilshire-Tuxedo Gateway is located just southwest of where the two main roadways intersect in Mound's island neighborhood. While there has been a commercial business operating at the intersection for many years, interest in additional commercial in this area has been limited. Mixed use is proposed to provide additional flexibility in developing this site for residential or commercial uses.

Acreage (gross)	1.28
Redevelopment area (net)	1.28
% Residential	85 %
% Commercial	15 %
Residential Unit Types	Townhomes, Multifamily
Residential Densities	7 - 15 units/acre

Considerations

- » Mix of uses to provide flexibility in development of area
- » Topography on site will affect site design options
- » Small area of land lends itself to townhomes or other smaller multifamily options
- » Access and circulation design should consider safety on Wilshire and Tuxedo
- » Building design should seek to fit into the residential neighborhood through elements such as individual entrances, porches, or patios/small entrance yards.



Considerations in Developing Mixed Use Development Character

All Mixed Use areas within Mound will be encouraged to incorporate elements which create character and support a pedestrian-oriented environment. While each Mixed Use area is distinct, there are common elements that are important to consider. The City will explore, as a follow-up to the Comprehensive Plan, identify how these design elements could be addressed through guidelines and/or regulations.

Building Placement and Linkages

- » Along major corridors buildings should be placed close to the street with adjacent buildings having similar setbacks.
- » Residential structures with individual entries should be setback from roadways to provide for a front yard area.
- » A minimum amount of street frontage along major corridors should be occupied by building facades to provide a frame to the street and minimize long stretches of parking.
- » Street-facing entries are encouraged along major roadways and should be architecturally prominent and accessible from the street. Rear entries should be well-defined if there is rear-yard parking.
- » Plazas and pockets of connected open space should be created to provide informal gathering areas.
- » Pedestrian connections should be made to Dakota Rail Regional Trail, Andrews Sisters Trail, Surfside Park, the transit ramp, and the Village Center.
- » Views and connections through developments to the lakes and to the downtown core should be preserved.

Building Design

- » Multi-story buildings are encouraged to support redevelopment and to allow for additional for open space.
- » Heights are generally expected to be multiple stories along major roadway corridors. Buildings with floors more than 3 stories should have upper stories step back from the street to provide an improved pedestrian experience on the sidewalk.
- » Buildings should “step down” in height adjacent to residential neighborhoods and the lake front.
- » Long facades should be divided into smaller increments by architectural elements, including variation in building materials, shift in facade depth, etc.
- » Multi story buildings should have ground floor elements that appeal to the pedestrian like awnings, windows, etc.



Commercial and mixed use buildings should be built similarly close to the street



Public plazas and pockets of open spaces should be linked through sidewalks/trails



Facade articulation through multiple materials and setbacks creates visual interest



Residential structures with individual entries should be setback from major roadways



Entries should be architecturally predominant with accesses along major streets



Higher floors have greater setbacks, decreasing bulk



Ground floor elements like awning, and windows important for multi-story buildings



Facades have windows and doors at pedestrian level



Bulkheads and other accents should include brick or stone



Pedestrian and cyclist connections to features of the center city



Landscaping within and around development makes for pleasant movement throughout



Pitched roofs with dormers and cupolas replicate Mound's historical character



Street facing facades should include wood lap siding



Public areas have the opportunity for multiple functions



Parking should be screened and interior to the site

Building Materials and Roofs

- » A minimum amount of the building facade along the major roadway should be windows and doors.
- » Wood lap siding, or comparable products, should be used.
- » Bulkheads may have wood, brick, stone, or precast products.
- » Roofs recommended to have architecturally interesting compound hip and gable roofs with dormers, cupolas, etc.

Linkages

- » Create connections to Dakota Rail Regional Trail, Andrews Sisters Trail, and sidewalks to Surfside Park.
- » Preserve views and connections through developments to the lake and to the downtown core.
- » Ensure pedestrian connections to the transit ramp.

Parking and Landscaping

- » Where possible, parking should be located to the rear or side of buildings rather than in front.
- » Shared parking is encouraged between complementary land uses.
- » Structured parking with entrances on side streets encouraged.
- » Interconnected circulation within sites or blocks encouraged.
- » Screening with hedges, low walls, or decorative fencing should be used to separate parking and service areas from streets.
- » Minimize large expanses of parking through use of parking islands and creating smaller, scattered parking.

STAGING OF DEVELOPMENT & REDEVELOPMENT

POTENTIAL FUTURE IMPACTS ON LOCAL INFRASTRUCTURE

As a fully-built community, Mound already has its major infrastructure (roads, sewer, water) already in place. Even with future growth and intensified development at key points, major infrastructure needs are not anticipated beyond routine maintenance between now and 2040.

As a developed community, Mound will most likely experience only a limited amount of growth through the year 2040. Most of the growth will occur through redevelopment as there are very few vacant, developable properties remaining in Mound. **Table 3.6**, below, summarizes the anticipated household growth due to new development and redevelopment, and **Table 3.7** shows anticipated growth in employment based on development. As shown, the overall net density for new development in the City of Mound is likely to be between seven and seventeen units per acre, which exceeds the minimums for the community's suburban designation requirement. The range of new housing units also meets the projections for each decade. The amount of redevelopment is difficult to predict as it is hard to know the timing of the private sector, so this table should be used as an indication on what is possible, and phasing when it is likely to occur, not required to occur. Most of the new housing units will be constructed in redevelopment projects as there are a limited number of low and medium density undeveloped parcels.

Table 3.5 Anticipated Net Acres of Redevelopment Phasing

Future Land Use	Net Acres 2018-2020	Net Acres 2021-2030	Net Acres 2031-2040	Net Acres 2018-2040
Low Density Residential	-	-	-	-
Medium Density Residential	-	-	-	-
High Density Residential	-	-	-	-
Mixed Use: Village Center	-	3.82	-	3.82
Mixed Use: Downtown Lakes	-	9.45	-	9.45
Mixed Use: Eden	-	-	11.01	11.01
Mixed Use: Promenade	-	2.81	7.02	9.83
Mixed Use: East Gateway	-	0.42	1.09	1.51
Mixed Use: Wilshire-Tuxedo Gateway	1.28	-	-	1.28
Neighborhood Commercial	-	-	-	-
Industrial District	-	-	-	-
Public or Institutional	-	-	-	-
Total	1.28	16.50	19.12	36.89

Table 3.6 Residential Units Redevelopment Phasing

Future Land Use	Percent Residential	Units Per Acre		Units 2018-2020		Units 2021-2030		Units 2031-2040		Total Units 2018-2040	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Mixed Use: Village Center	70%	12.0	30.0	-	-	32	80	-	-	32	80
Mixed Use: Eden	70%	8.0	15.0	-	-	-	-	106	176	106	176
Mixed Use: Downtown Lakes	80%	12.0	20.0	-	-	53	99	-	-	53	99
Mixed Use: Promenade	80%	8.0	20.0	-	-	18	45	45	112	63	157
Mixed Use: East Gateway	85%	8.0	15.0	-	-	3	5	7	14	10	19
Mixed Use: Wilshire-Tuxedo Gateway	85%	7.0	15.0	8	16	-	-	-	-	8	16
Total				8	16	106	230	158	302	271	548
Total Mound Development/Redevelopment Units Per Acre										9.58	19.36

Table 3.7 Employment Redevelopment Phasing

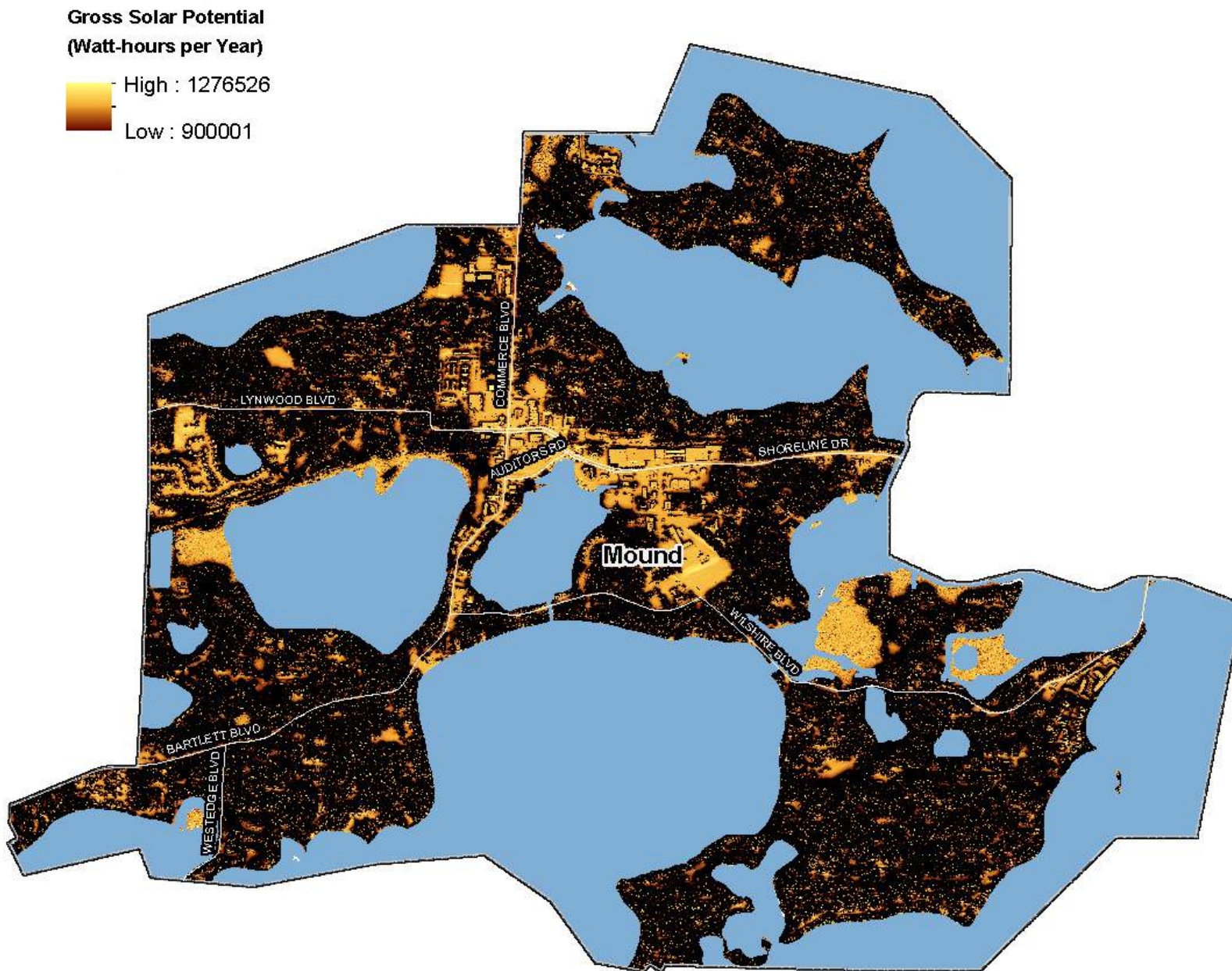
Future Land Use	Percent Commercial	FAR	Jobs per SF	Jobs 2018-2020	Jobs 2021-2030	Jobs 2031-2040	Total Jobs 2018-2040
Mixed Use: Village Center	30%	0.3	1000	-	50	-	50
Mixed Use: Eden	20%	0.3	1000	-	-	144	144
Mixed Use: Downtown Lakes	30%	0.3	1000	-	125	-	125
Mixed Use: Promenade	20%	0.3	1000	-	26	93	118
Mixed Use: East Gateway	15%	0.3	1000	-	5	14	20
Mixed Use: Wilshire-Tuxedo Gateway	15%	0.3	1000	17	-	-	17
Total				17	205	251	473

RESOURCE PROTECTION

Solar Resources

In accordance with the Metropolitan Land Planning Act, the City has had an element for the protection and development of access to solar energy since the 1980 Comprehensive Plan. As shown in **Figure 3.6** most of Mound does not have solar potential that exceeds 900,000 watt-hours per year. The values represented in the map are reflected in **Table 3.8**. The gross solar potential and gross solar rooftop potential were calculated by the Metropolitan Council.

Figure 3.6 Gross Solar Potential



These potentials are expressed in megawatt hours per year (Mwh/yr), and represent gross totals. In other words, these calculations do not demonstrate the amount of solar likely to develop in Mound; instead the calculations estimate the total *potential* resource.

The fact that Mound is nearly a fully developed community suggests that consideration of solar access will occur during redevelopment efforts and on an individual basis. Accordingly, the City has identified a number of policies and actions, as seen on page 48, to ensure protection of solar access where appropriate.

Table 3.8 Solar Resource Calculation

Community	Gross Potential (Mwh/yr)	Rooftop Potential (Mwh/yr)	Gross Generation Potential (Mwh/yr)	Rooftop Generation Potential (Mwh/yr)
Mound	1,956,915	278,870	195,691	27,887

INFORMATION FOR APPLICANTS

At the start of any application for development within Mound, the City provides this notice relating to historic Indian burial and earthwork mounds:

Historic Indian burial mounds and/or earthwork sites have been discovered in and around the City of Mound. While many of the sites have been severely impacted by development over the years, they do receive protection under state law. Penalties will be imposed for the unauthorized disturbance of Indian burial mounds.

Additional information may be obtained through the Minnesota State Archeologist. Any formal investigation of a site, including a determination of whether a mound or burial area exists on a subject site, is the responsibility of the property owner or developer. The issuance of permits by the City of Mound to do work on a site does not relieve the owner or developer of that responsibility.

Historic Preservation

The Metropolitan Land Planning Act (Minnesota Statutes 473.859, Subd. 2) requires that local comprehensive plans include a section on historic preservation. Historic assets promote community pride and create a sense of community. As noted in Chapter Two (Community Context), the primary known cultural or historic resources in Mound are Indian burial and earthwork mounds. There are no historic buildings designated on the National Register for Historic Places.

As a developed community, it is unlikely that there are many intact archaeological resources within the community. However, as the community is committed to protecting its resources, it has and will continue to include assessments of historical and cultural resources as required for redevelopment projects.

Aggregate Resources

The City of Mound does not have any aggregate resources which need to be protected.

Critical Area Protection

The City of Mound does not have any areas which are part of a designated Critical Area that need to be protected.

LAND USE GOAL, POLICIES, & ACTIONS

As land use decisions of property owners are ever changing due to market and trends, the plan should be dynamic enough to respond to the needs of the community. This is not to say that the plan should accommodate every request. The following goals and policies should be used to ensure that as requests for Comprehensive Plan changes are considered, the community's overall vision is not compromised.

Goal

Create a land development pattern which fulfills social and economic needs while preserving natural resources and community character.

Policies

1. Support maintenance, investment, and redevelopment of residential neighborhoods to maintain livability and desirability.
2. Ensure land use pattern changes are compatible, and use design and buffers to appropriately transition to existing development patterns.
3. Support the transformation of mixed use areas into pedestrian-oriented environments that take advantage of views, access, and use of nearby lakes.
4. Encourage improvement and redevelopment of existing commercial areas to enhance available services, provide employment opportunities, and expand the tax base. Support investment through close coordination with the business community and property owners, as well as provide when feasible, City assistance through HRA activities, tax increment financing, and public improvements.
5. Maintain the area around and along Shoreline Drive and Commerce Boulevard as the focus of Mound's commercial activity with a mixture of retail, offices, services, and entertainment.
6. Promote shoreland management practices that are reflective of Mound's existing land use patterns and consistent with Minnesota Department of Natural Resources regulations.
7. Support preservation of historic sites by public, private and/or partnerships by directing interested parties to existing resources at the local, state, and federal levels.
8. Ensure that the design of new development and redevelopment projects protect any significant cultural, historic and/or archaeological features.
9. Ensure that new development and redevelopment projects on sites with sensitive natural features, such as poor soils, high ground water, poor drainage, or steep slopes, are properly managed to prevent potential hazards to the site and/or adjacent properties.

10. Improve community appearance and promote a stronger tax base by maintenance, enforcement, and regular review of development and performance standards to accomplish high aesthetics and ensure durable, quality development.
11. Enhance the aesthetic character of the City's primary gateways, major roadway corridors, and community mixed use areas to increase community identify and a sense of place.
12. Protect access to direct sunlight for solar energy systems and support development of distributed solar energy systems that are in keeping with the community's character.

Actions

1. Update zoning map to establish consistency with the Future Land Use Plan.
2. Develop new zoning districts for the Mixed Use Areas.
3. Review the DNR's Heritage Database for information about endangered or threatened species in the vicinity of Mound.
4. Continue evaluation of site plans and development proposals for potential impacts to the community's natural resources and to identify potential mitigation actions.
5. The City will identify ways to share information about native planting and shoreline restoration with property owners.
6. The City Council, Planning Commission and Park, Open Space, and Docks Advisory Commission shall review and analyze publicly owned land to ensure that it is needed for public purposes. Parcels that are deemed to serve no current or future public purpose should be considered for removal from the City inventory and returned to the tax rolls.
7. The City should consider making information available pertaining to design criteria for solar access.
8. Examine the existing Zoning and Subdivision Ordinances to ensure that they adequately include solar energy protection measures.
9. Prepare and implement signage plan to create uniform signage at all City entries.



4. HOUSING PLAN

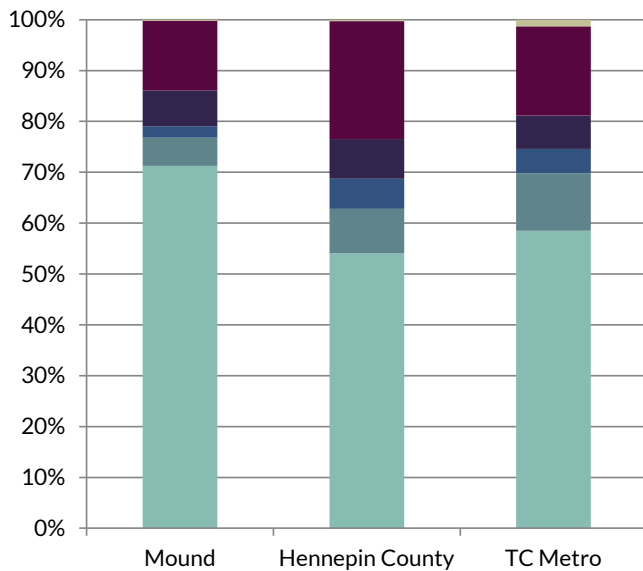
Housing has always been the most significant component of Mound's land use. In the 1920s and 1930s, Mound was primarily a lake cabin community with a seasonal population. Historically, platted lots were small, reflecting land use patterns of that time period and the predominance of small, seasonal lakeshore cabins. Over the years, the community increasingly became a location for year-round residences and today, very few seasonal homes remain. The legacy of seasonal cottages, however, has left an imprint that still significantly impacts the city's land use pattern and housing stock.

In most communities, the primary role of the municipality is to serve as a place to reside. In Mound, 80% of the net land area in the City is currently used for housing. Of privately owned, developed land, housing accounts for over 90% of the development. Housing is a dominant component of the community and, therefore, continues to be an important part of the community's planning efforts.

EXISTING HOUSING CONDITIONS

In 2016, there were an estimated 4,382 housing units in Mound. 71% of Mound's housing stock is comprised of single-family detached homes, which is a significantly higher proportion than Hennepin County and the Twin Cities Metropolitan Area, as seen in **Figure 4.1**. The next largest proportion is apartments with 20 or more housing units, comprising about 14%. It is important to note that the portion of single family detached homes in Mound has decreased (from 75% to 71%) in the last ten years. This shows that the variety in housing types is increasing over time in the city.

Figure 4.1 Housing By Type



- Other
- Apt/Condo 20+ Units
- Apt/Condo 5-19 Units
- Apt/Condo 2-4 Units
- Single Family Attached
- Single Family Detached

Source: American Community Survey, 2016

Table 4.1 Housing Unit Types, 2016

Housing Type	Units
Single Family Detached	3,123
Single Family Attached	242
Apt. / Condo 2-4 Units	98
Apt. / Condo 5-19 Units	309
Apt. / Condo 20+ Units	599
Other	11
Total	4,382

Source: American Community Survey, 2016

Age

As may be expected in a fully developed community, most of Mound's owner housing stock is over 25 years old. The community has started to see some replacement of older homes, especially along the lakeshore. **Figure 4.2** shows the age of existing residential buildings. Notable areas that have or are in the process of developing since 2000 include:

- » Lost Lake Villas
- » Balsam Hill Apartments & Townhomes
- » Serenity Hills Condominiums
- » Trident Senior Housing

Having such a significant portion of the housing stock over 30 years old presents its own challenges. The older homes get, the more they become in need of major repairs, such as roof and foundational work, which can become very costly. Also, the original small-lot development of the city can become a hurdle when property owners want to tear down old homes and rebuild much larger homes on the same lot.

Tenure

In 2016 an estimated 3,207 housing units (73.2%) were owned, while 1,176 units were rented (26.8%).

New Construction

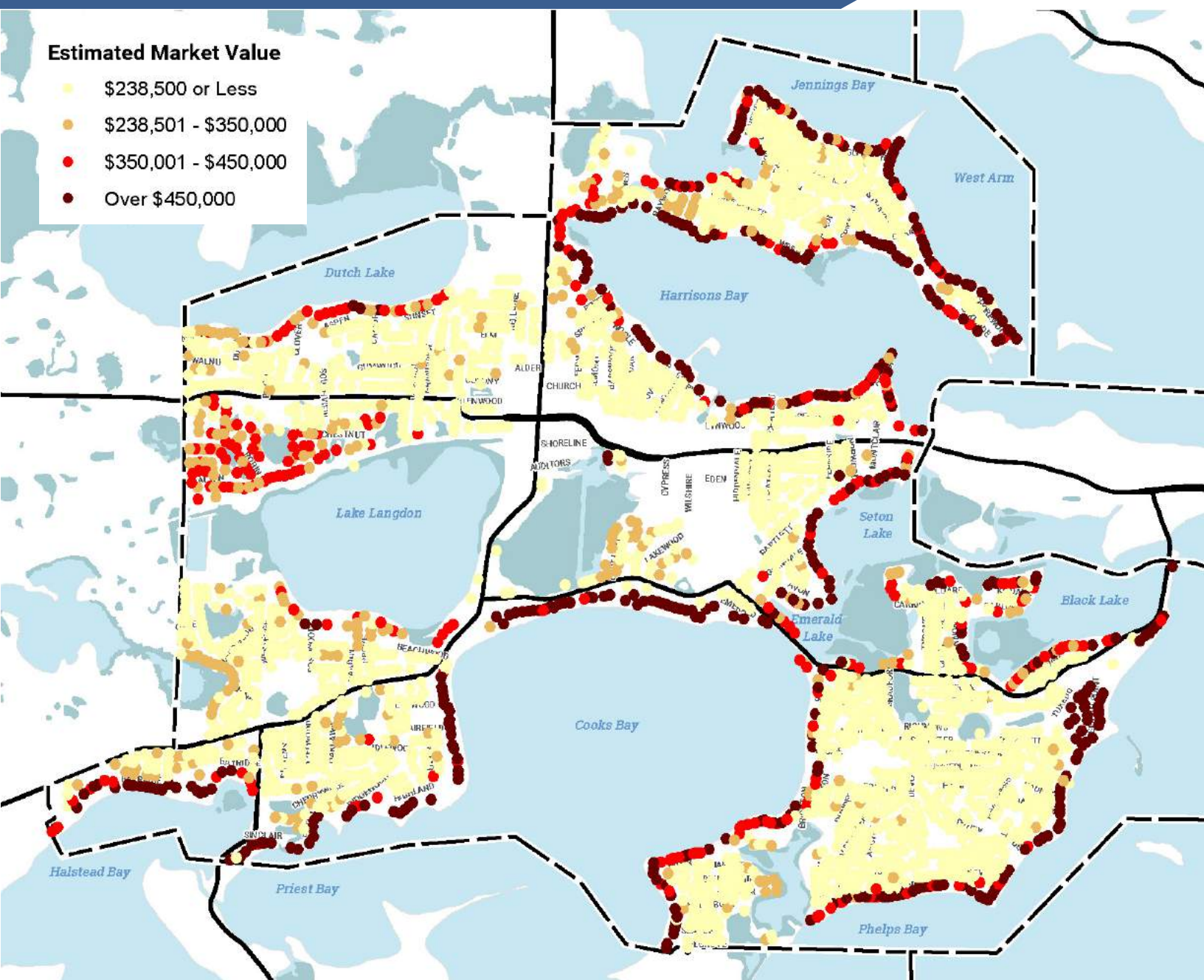
The demand for new housing in Mound is controlled by three primary factors: market conditions, zoning and land availability. Limited land availability and existing zoning have resulted in most of the new construction occurring as redevelopment of sites into medium or high density residential, as well as redevelopment of individual single-family detached lots with new homes. Over the last 12 years the City has averaged 22 units of new residential construction per year. A detailed breakdown can be seen in **Table 4.2**.

Table 4.2 New Residential Construction Activity

Year	SF Detached Units	SF Detached Value	SF Attached Units	SF Attached Value	MF Units	MF Value	Total Units	Total Value
2006	18	\$7,019,097	11	\$2,899,052	-	-	29	\$9,918,149
2007	12	\$4,464,031	2	\$540,000	-	-	14	\$5,004,031
2008	6	\$1,746,973	-	-	-	-	6	\$1,746,973
2009	3	\$656,168	-	-	-	-	3	\$656,168
2010	6	\$2,876,426	-	-	-	-	6	\$2,876,426
2011	8	\$2,946,287	-	-	-	-	8	\$2,946,287
2012	6	\$2,275,000	-	-	-	-	6	\$2,275,000
2013	16	\$5,339,025	4	\$1,150,369	-	-	20	\$6,489,394
2014	13	\$5,184,765	-	-	-	-	13	\$5,184,765
2015	19	\$6,645,778	7	\$1,400,000	-	-	26	\$8,045,778
2016	15	\$7,542,484	5	\$1,510,000	16	N/A	36	N/A
2017	25	\$11,000,510	-	-	72	N/A	97	N/A
Total	147	\$57,696,544	29	\$7,499,421	88	N/A	264	N/A

Source: City of Mound

Figure 4.3 Estimated Market Value of Owner-Occupied Homes



Housing Value & Cost

Figure 4.3 represents 2016 estimated market values for owner-occupied housing units as presented by the Metropolitan Council. As seen in the graphic, the highest percentage of owner-occupied homes in Mound are \$238,500 or less in value, which is considered the “affordable” threshold for owner-occupied homes. Many of these units are those that are considered “Naturally Occurring Affordable Housing” or NOAH. NOAH are market-rate units, typically older homes on small lots, that are affordable to modest income (80% Area Median Household Income) households. These affordable homes are found throughout the community, especially the interior of the Island, Three Points, and the Highlands. Higher-value units are found, unsurprisingly, on the water-front properties around the community.

Table 4.3 Households (HH) Experiencing Housing Cost Burden

Households with income at or below:	Housing Cost Burdened Households	Percentage of Total Housing Units (4,382 in 2016)
30% AMI	522	11.91%
31% to 50% AMI	176	4.02%
51% to 80% AMI	217	4.95%

Source: Metropolitan Council, 2016

Housing Cost Burden

The cost of housing is typically the most significant expense in a household's budget. A residence is considered "affordable" when 30% or less of the household's gross income is spent on housing. If a household spends more than 30% of their gross income on housing, it is experiencing a "Housing Cost Burden". According to the Metropolitan Council, Mound has the following breakdown of households experiencing housing cost burden, as seen in **Table 4.3**.

Table 4.4 Affordability of Housing Units

Households with income at or below:	Units Affordable to Households	Percentage of Total Housing Units (4,383 in 2016)
30% AMI	345	7.87%
31% to 50% AMI	1,276	29.12%
51% to 80% AMI	1,653	37.72%

Source: Metropolitan Council, 2016

Housing Affordability

As seen in **Table 4.4**, Mound has a limited number of housing units that are considered affordable to very low income households (those households with 30% or less of the Area Median Income [AMI]). There are a fair number of homes considered in the affordable range for low income households (31% to 50% AMI) and moderate income households (51% to 80% AMI).

Table 4.5 Publicly Subsidized Units by Type

Publicly Subsidized Units by Type	Units	Percentage of Total Housing Units (4,383 in 2016)
Senior Unit	42	0.96%
People with Disabilities	0	0.00%
All Others	50	1.14%
Total	92	2.10%

Source: Metropolitan Council, 2016

Publicly Subsidized Housing

Sometimes the cost of housing is so out of reach for individuals or families that the only way to make a unit affordable is through public subsidy. **Table 4.5** shows the breakdown of publicly subsidized units currently in Mound.

Housing Issues

Life-Cycle Housing

Life-cycle housing, which is a common term to describe the provision of housing types for all stages of life, is one of Mound's housing policies. Life-cycle housing is based on the premise that as people go through life, their housing needs change. A young person getting out of school and just starting out usually can not afford a home, so often begins by renting. As a person grows older, they often establish a family and buy their first home, usually a townhouse or a small starter home. Then as a family's household income grows and children enter the picture, they may move up to their largest home. Once the children leave and a family's size decreases, parents often move back to a smaller home with fewer maintenance needs or into a home with an association that takes care of home and property maintenance. Eventually, as a person ages there is often a need for an assisted living or nursing home facility. This represents the life-cycle housing chain as illustrated in the following figure.

With the anticipated construction of a new assisted living facilities, Mound will have some supply of housing for every stage with the exception. However, it is difficult to assess whether the community is in balance with its mixture of housing types. The redevelopment that has and will be occurring continues to add to the mix of housing types.

Rental housing is another component of life-cycle housing that needs to be monitored over time. Rental housing is a critical component as it provides more housing options for both the beginning and end of the life-cycle chain. It also fulfills the needs of several segments of the population including commercial and retail service employees; single-income families and individuals; senior citizens living on fixed incomes; young people moving out of childhood homes and into the workforce; and economically disadvantaged households. While redevelopment is hoped to add new housing units, overall the rental housing stock in the City of Mound is aging and is in need of ongoing maintenance. The City may want to use rental housing maintenance regulations, licensing programs, and rehabilitation funding programs to ensure that the existing rental housing supply is maintained in good condition.

Figure 4.4 Life-Cycle Housing Chain

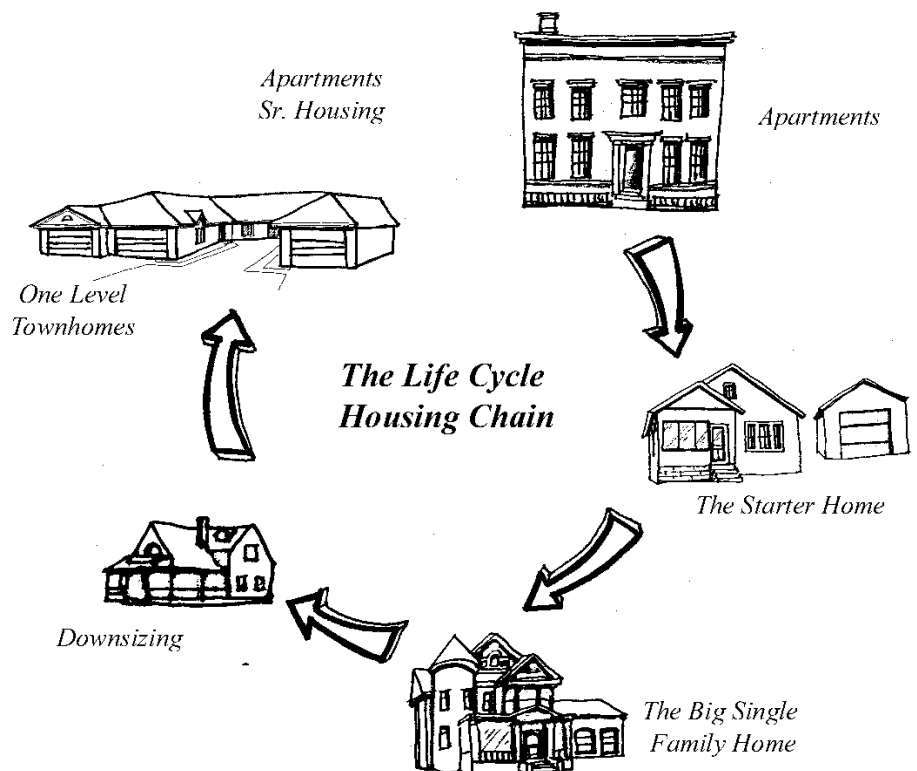


Table 4.6 Regional Household Income Levels

Household Size	30% AMI	50% AMI	80% AMI
One-person	\$18,050	\$30,050	\$46,000
Two-person	\$20,600	\$34,350	\$52,600
Three-person	\$23,200	\$38,650	\$59,150
Four-person	\$25,750	\$42,900	\$65,700
Five-person	\$28,440	\$46,350	\$71,000
Six-person	\$32,580	\$49,800	\$76,250
Seven-person	\$36,730	\$53,200	\$81,500
Eight-person	\$40,890	\$56,650	\$86,750

Source: Metropolitan Council, 2015

Affordable Housing

Table 4.7 Affordable Housing Need Allocation

Household Income Level	Units
At or below 30% AMI	34
31 to 50% AMI	8
51 to 80% AMI	27
Total Units	69

Source: Metropolitan Council, 2015

Through its regional planning efforts, the Metropolitan Council has prioritized housing affordability in the Thrive MSP 2040 Regional Policy. The Metropolitan Council determined the allocation of affordable housing needed to meet the rising need of affordable housing across the Twin Cities metropolitan region. Housing is considered “affordable” when no more than 30% of household income goes to housing. As such, households with different income levels have different thresholds of “affordable,” as seen in **Table 4.6**.

The Metropolitan Council has selected the four-person household thresholds as a general measurement for affordable housing needs at each income level.

This allocation of affordable housing need is calculated based on a variety of factors:

- » Projections of growth of households earning 80% of Area Median Income or less.
- » Current supply of existing affordable housing, whether subsidized or naturally occurring
- » Disparity of low-wage jobs and housing for low-wage households within a community

Through these calculations, the Metropolitan Council has determined the Affordability Housing Need Allocation for Mound between 2021 and 2030 as 69 units, as shown in **Table 4.7**.

The way that communities accomplish this affordable housing allocation is by designating adequate vacant land or redevelopable land at minimum densities (units/acre) that are high enough for affordable housing to be an option. Essentially, the more units/acre allowed on a site, the less cost per unit to be built, which makes the development an option for affordable housing developers as well as market-rate developers. The affordable housing allocation does not mean that the City must force the building of this many affordable units by 2030. Rather, through future land use guidance, the City needs to ensure that the opportunity for affordable housing exists by having adequate vacant or redevelopable land guided for higher densities to meet the stated share.

In order to determine if Mound can achieve the calculated number of units, we need to determine which residential future land use designations count towards Affordable Housing Allocation Need. According to the Metropolitan Council, any residential future land use designation that has a minimum density of 8 units per acre or more can count towards affordable housing allocation calculations. **Table 4.8** features all future land use designations for Mound and their minimum units per acre.

As is noted in the Land Use Plan, most of the new units of housing will come through redevelopment efforts. While it is difficult to predict the timing of redevelopment projects as they are primarily market driven, it is estimated that there will be redevelopment in the new Mixed Use Designated areas that will result in a minimum of 103 units developed between 2021-2030, as seen in **Table 4.9**. These anticipated developments show that enough higher-density land uses are set aside to meet the affordable housing need allocation.

Table 4.8 Land Use Designations for Affordable Allocation

FLU	Min. Units/ Acre	Qualify?
Low Density Residential	1.0	No
Medium Density Residential	7.0	No
High Density Residential	12.0	Yes
Mixed Use: Village Center	12.0	Yes
Mixed Use: Downtown Lakes	8.0	Yes
Mixed Use: Eden	12.0	Yes
Mixed Use: Promenade	8.0	Yes
Mixed Use: East Gateway	8.0	Yes
Mixed Use: Wilshire-Tuxedo Gateway	7.0	No

Source: Metropolitan Council, 2016

Table 4.9 Minimum Unit Count for Affordable Allocation Need 2021-2030

FLU	2021-2030 Acres (net)	Min Units/ Acre	% Residential	Units
High Density Residential	-	12.0	100%	-
Mixed Use: Village Center	3.82	12.0	70%	32
Mixed Use: Downtown Lakes	9.45	8.0	70%	52
Mixed Use: Eden	-	12.0	80%	-
Mixed Use: Promenade	2.81	8.0	80%	17
Mixed Use: East Gateway	0.42	8.0	85%	2
Total	16.50			103

Source: City of Mound, 2017

In addition to ensuring there is sufficient land designated that has the potential to provide affordable housing opportunities, the City of Mound is committed to participating in the Metropolitan Livable Community Program. As a participant since 1997, the City of Mound supports the following principles for providing housing within the community:

- » A balanced housing supply, with housing available for people at all income levels.
- » The accommodation of all racial and ethnic groups in the purchase, sale, rental, and location of housing within the community.
- » A variety of housing types for people in all stages of the life-cycle.
- » A community of well-maintained housing and neighborhoods, including ownership and rental housing.
- » Housing development that respects the natural environment of the community while striving to accommodate the need for a variety of housing types and costs.
- » The availability of a full range of services and facilities for its residents, and the improvement of access to and linkage between housing and employment.

Housing Quality

There is limited vacant land to add more housing units. Because of limited growth potential and the age of much of the existing housing stock, maintenance of the existing housing stock is an important future planning and policy issue. If the community is going to continue to be an attractive place to live, existing housing will demand significant maintenance and reinvestment.

Maintenance of housing usually takes one of two forms, either voluntary or regulatory. Most municipalities rely on both approaches. Ideally, Mound residents will continue to maintain their property in a safe, sound and attractive condition. Realistically, a certain percentage of the homes will not be adequately maintained because of economic hardship or owners' neglect. In these cases, governmental agencies and regulatory tools need to be employed.

The City of Mound adopted the International Property Maintenance Code for both owner- and renter-occupied housing units. These provisions require adequate housing maintenance to preserve public health, safety and welfare.

The City of Mound does recognize that economic conditions frequently result in poorly maintained housing. In these circumstances, programs offered by local, county, state and federal agencies should be employed. While many of these programs are more limited than they were in the past, the City of Mound will continue to monitor federal and state programs for opportunities to assist Mound residents with housing maintenance issues.

Housing Assessment

It is important in analyzing the existing housing conditions data to keep in mind the local context. Mound is a Lake Minnetonka community with a lot of bays, inlets, wetlands, and hills that created a beautiful setting for residential development, but limited the transportation and transit connections and the market for commercial, office, or industrial development. Thus, the City is a bedroom community with most residents leaving via automobile for employment in other locations.

Mound continues to be a desirable place to live. However, the City recognizes that as more than 71% of its units are single-family residential it is primarily serving the needs of those seeking to live in those types of homes. There is increasing interest from people of all ages for more options, like townhomes or senior living facilities. In addition, most of the City's larger multi-family complexes are more than twenty-five years old and not up to modern standards. Thus, the City would benefit from the creation of new, market rate apartments, as well as modernization of existing complexes.

As noted with the City's multi-family structures, more than 75% of the City's housing stock is more than 25 years old. While over the last decade there has been some renewal of properties along the lakeshore, the same level of renewal has not been seen in the City's non-lakeshore lots. The City continues to be interested in supporting property maintenance and investment to ensure resident health, safety and welfare, as well as thriving neighborhoods.

The amenities that make Mound an attractive residential community also impact cost. While housing costs are not as high in Mound as other Lake Minnetonka communities, it is still a concern for those desiring to move to or remain in the community. While higher density projects are not necessarily less expensive, the diversification of the housing stock will likely include some lower cost options. In addition, the addition of new options may provide existing single-family homeowners an alternative which may free up some other naturally occurring affordable housing options. The City continues to seek opportunities to partner on the creation of affordable housing options. The City recognizes, however, that there may not be many opportunities as due to limited transit and employment options, the City is a more appropriate location for those able to have an automobile.

As a developed community, most of the new housing options will come through redevelopment of private property. The City has created mixed-use districts to provide flexibility and encourage the development of attractive neighborhoods with a mix of medium and high density residential options.

PRIORITIZATION OF EXISTING AND PROJECTED HOUSING NEEDS

1. Maintenance and reinvestment in existing housing stock
2. Variety of housing types for all stages of life
3. Housing that is affordable to a range of income levels, especially moderate and low income households



Lost Lake Townhomes

Recent Housing Projects

Since the last Comprehensive Plan update, Mound has seen an increase in multi-family housing development. The success of these projects show that these housing types are marketable within the community. It also shows how limited the city is on availability of land for new single family developments, as those developments often require large, open, previously undeveloped land, which Mound does not have.

Lost Lake

Just east of Downtown, along Shoreline Drive, the Lost Lake Development provides a mix of townhomes and twin homes. This development, starting in 2006, resulted in 27 total units, a private pool, access to Lost Lake, an extension of the Andrew Sisters Trail, and a small commercial space, with a coffee shop and other services.

Balsam Hill

This affordable housing redevelopment is owned by Aeon. The project, which just finished in 2016 added units to an existing affordable housing apartment building, for a total of 56 units, as well as added ten affordable townhomes to the property, improved landscaping, and on-site parking



Balsam Hill Townhomes

Harrison Bay Senior Living

Located at the northern edge of the city along Commerce Boulevard, the Harrison Bay Senior Living development is a 72-unit senior, assisted living/memory care rental housing project. Construction of the project completed in 2018.



Balsam Hill Apartments



Harrison Bay Senior Living Facility

HOUSING GOAL, POLICIES, & IMPLEMENTATION

Goal

Promote and encourage the provision of life-cycle housing opportunities for all residents, supporting creative multi-family housing while emphasizing the construction and maintenance of high quality, single family dwelling units.

Policies

1. Encourage a mixture of life-cycle housing types to provide for all stages of life while maintaining a predominately single family housing base throughout the city.
2. Recognize unique historical platting practices in certain areas by allowing some flexibility in the application of current bulk/area regulations. Flexibility may be considered when it can be demonstrated that the integrity and intent of the comprehensive plan is not compromised.
3. Promote ongoing maintenance and orderly appearance of residential structures and surrounding yard areas.
4. Monitor and enforce ordinances and policies that affect housing to ensure that they are reflective of community policy.
5. Ensure infill and redevelopment of housing areas are designed appropriately to integrate into the surrounding neighborhood.
6. Promote and support the development of new affordable housing units to meet the community's share of the regional affordable housing needs as well as the community's affordable housing goals.

Implementation

The Goal and Policies above set out to address the identified Housing Needs from earlier in the Chapter. This section gives specific implementation actions and tools that can be utilized by the City, residents, developers, and financiers to meet those Housing Needs in Mound. **Table 4.10** identifies each widely-available tool/action, when it would be considered, and what housing need(s) it addresses.

Table 4.10 Housing Tools & Actions to Meet Identified Housing Needs

Housing Tool	Circumstances & Sequence of Use	Identified Housing Need*
Housing & Redevelopment Authority (HRA)	The City Council, through its role as the HRA, will review the Housing Implementation Plan on an on-going basis to ensure their resources are being utilized most effectively.	Tool addresses multiple housing needs and improves our housing strategy capacity in general
Tax Increment Financing (TIF)	The City would consider Tax Increment Financing for redevelopment projects in Mixed Use areas that meeting housing goals and provide a number of units that are affordable to very low-, low-, or moderate-income households.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households
Housing Bonds	The City would consider issuing Housing Bonds for residential projects that are eligible for TIF and the use of Housing Bonds would make more units affordable to very low-, low-, or moderate-income households. However, there are competing priorities and limitations to city bonding authority	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households
Tax Abatement	The City would consider tax abatement for housing projects that increases the number of affordable units available to very low-, low-, or moderate-income households.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households
Consolidated RFP through the MHFA	The City would strongly consider supporting/sponsoring an application to the Consolidated RFP programs through MHFA for residential project proposals in areas guided for high density residential uses and mixed uses.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households Need for a variety of housing types for all stages of life
Land Bank Twin Cities	The City would encourage developers and property owners to work with the Land Bank of the Twin Cities. It is unlikely that the City will become an active partner with the Land Bank for development.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households

*For purposes of this Comprehensive Plan, the following terms refer to specific household income levels:

- » Very-low income = 30% Area Median Income (AMI) or below
- » Low income = 31% - 50% AMI
- » Moderate income = 51 - 80% AMI

Housing Tool	Circumstances & Sequence of Use	Identified Housing Need*
Local Funding Resources: Livable Communities Demonstration Account (LCDA) through Metropolitan Council	The City would strongly consider sponsoring/supporting an application to Livable Communities Account programs for proposals with residential units in areas guided as high density residential as well as mixed use areas. In the interest of supporting expanding affordable housing options in the community, preference will be given to projects that include units for very-low, low-income, and moderate income households.	Need for a variety of housing types for all stages of life
Local Funding Resources: Community Development Block Grant Funds (CDBG) through Hennepin County	The City will explore the use of a portion of our CDBG funds to prioritize projects if they provide units affordable to very low-, low-, or moderate-income households, and are located in the high density or mixed use locations on the City's future land use map.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households
Local Funding Resources: HOME Investment Partnerships Program (HOME) through Hennepin County	The City will explore with Hennepin County the application for HOME funds to provide rental assistance to low and moderate income households that are in existing rental units in the City.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households
Local Funding Resources: Affordable Housing Incentive Fund (AHIF) through Hennepin County	The City will explore with Hennepin County the application for AHIF funds to provide incentives for developers to develop affordable units for very-low income households.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households
Housing Improvement Area (HIA)	The City will evaluate the potential use of Housing Improvement Areas (HIA) through its HRA and EDA as a tool to assist condo and townhome associations with improvements they could not otherwise finance.	Tool to address long-term maintenance and investment in housing stock
Site Assembly	<p>The City would strongly consider supporting/sponsoring an environmental clean-up grant application for housing projects that provide affordable units for very-low, low, and moderate income households</p> <p>The City would strongly consider using any awarded funds, including but not limited to the programs described in this list, to assemble a site in the locations guided at appropriate densities and land uses, as shown on the future land use map, for projects which include a portion of units that are affordable to very low, low, or moderate income households. This could include acquiring and holding land, as well as sub-allocating such monies to a qualified developer approved by the City Council.</p>	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households

Housing Tool	Circumstances & Sequence of Use	Identified Housing Need*
Referrals	The City will review and update our reference procedures and training for applicable staff by 2022, including a plan to maintain our ability to refer our residents to any applicable housing programs outside the scope of our local services.	Tool addresses multiple housing needs and improve our housing strategy capacity in general
Guiding land at densities that support affordable housing	See our future land use plan and projected housing needs section of the housing chapter of this comprehensive plan.	Tool to address multiple housing needs and improve our housing strategy capacity in general
Moderate lot sizes	The City will continue to support minimum lot sizes of 6,000 and 10,000 square feet to help minimize land costs.	Need of housing that is affordable to a range of income levels
Community Land Trust	The City would explore opportunities to collaborate with a community land trust to support affordable housing options for any type of housing density.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households
NOAH Impact Fund	The City will explore opportunities with the Minnesota Housing Fund on the use of NOAH (Naturally Occurring Affordable Housing) Impact Funds to finance the acquisition and preservation of naturally occurring affordable housing.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households
Local 4d Tax Incentives	The City will evaluate the appropriateness of a local 4d tax incentive policy.	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households
Homeownership Referrals	The City will work with Hennepin County on identifying the appropriate resources and/or process to link homeowners in need. This will include programs specific to low- and moderate- income households, such as the Home Rehab Program or Fix Up Program.	Tool to address multiple housing needs and improve our housing strategy capacity in general
Participation in Housing Related Organizations: Regional Council of Mayors	The Mayor of Mound may participate or designate an appropriate representative to actively engage in the Urban Land Institute Minnesota's Regional Council of Mayors Group.	Tool to address multiple housing needs and improve our housing strategy capacity in general
Fair Housing Policy	The City will continue to assist residents facing issues of fair housing within the community as well as monitor actions and best practices by other communities in the region to help further fair housing. The City will consider adoption of a fair housing policy.	Tool addresses multiple housing needs and improve our housing strategy capacity in general

Housing Tool	Circumstances & Sequence of Use	Identified Housing Need*
Zoning and Subdivision Ordinances	<p>The City will be reviewing our zoning and subdivision ordinances to identify any regulations that inhibit the housing priorities in this document. This effort is slated for completion by 2022.</p> <p>It should be noted that the City's waiver of platting procedures and lot of record variance for undersized lot reduce the cost of creating individual, single-family lots and allow small lots that were originally platted to be used for residential purposes.</p>	Tool addresses multiple housing needs and improve our housing strategy capacity in general
Property Maintenance	The City will continue to enforce the International Property Maintenance Code.	Tool addresses multiple housing needs and improve our housing strategy capacity in general
Expedited Pre-application	The City will consider the creation of a pre-application process to identify ways to minimize unnecessary delay for projects that address our stated housing needs, prior to a formal application submittal.	Tool addresses multiple housing needs and improve our housing strategy capacity in general
Fee Reductions	The City will consider reductions in city fees, such as park dedication or trunk utility, to support redevelopment projects.	Tool addresses multiple housing needs and improve our housing strategy capacity in general
Low Income Housing Tax Credit Program	<p>The Low-Income Housing Tax Credit program helps developers access capital for the construction and rehabilitation of homes for working families. Greater use of this resource can help communities expand the amount of federal dollars available for affordable homes.</p> <p>The City will continue to support developers seeking LIHTC by providing resources and information about this housing tool.</p>	Need of housing that is affordable to a range of income levels, especially very-low, low, and moderate income households

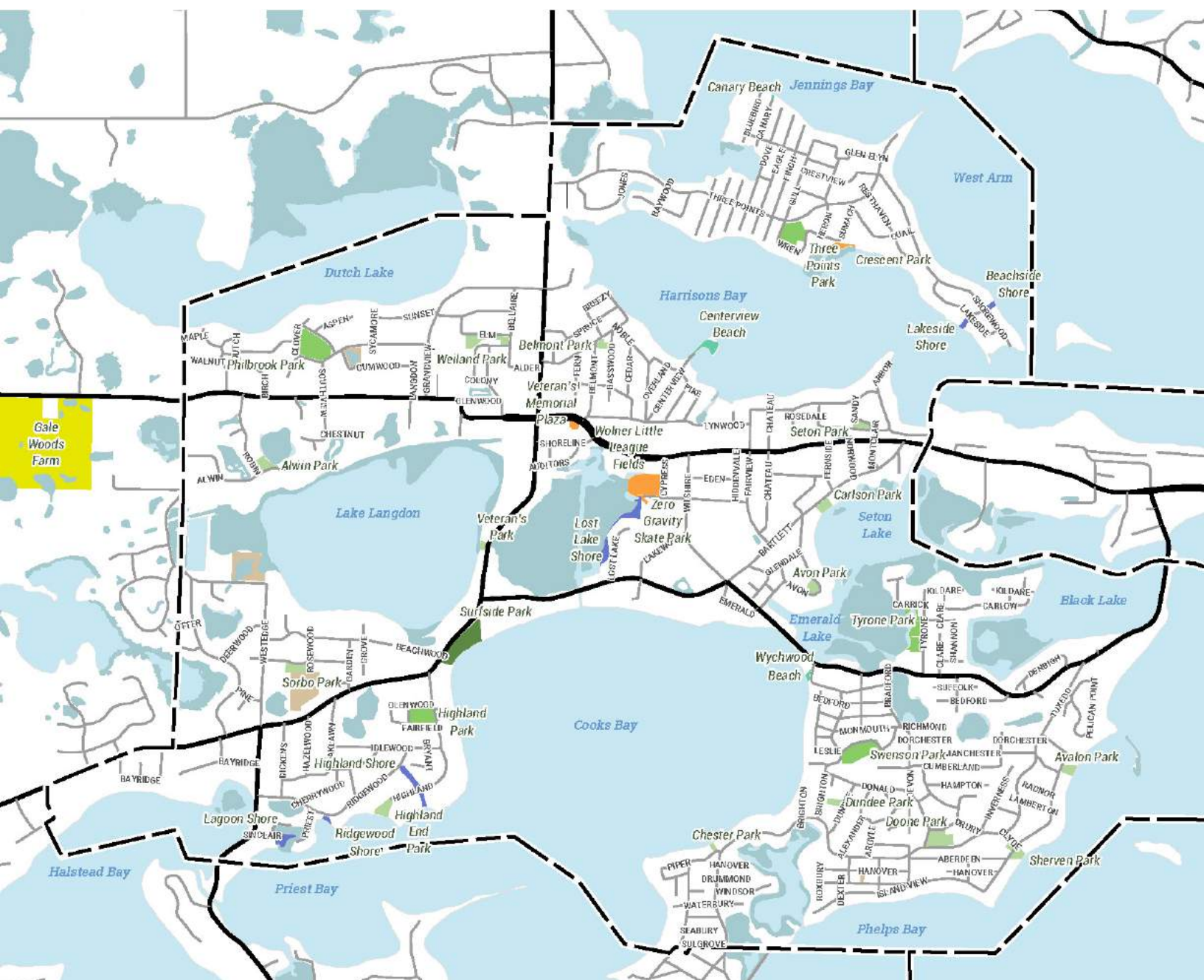
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5. PARKS, OPEN SPACE & RECREATION

Park, open space and recreation areas play a critical role in the physical, social and natural environment of a community. Mound's park, open space and recreation system consists of a wide variety of community parks, neighborhood parks, pocket parks, public beaches, special use parks, public shores, lake access points, open spaces, regional trails and the Mound Docks & Commons areas. Due to the city's location on the western shores of Lake Minnetonka, Mound possesses a variety of natural resources ideal for parks and public open spaces. Lakes, wetlands, rolling topography, and mature tree cover are key features that enhance the recreational setting in Mound. These areas can also support the protection of natural and historic resources.

Figure 5.1 Park & Recreation System



- Active Recreation**

 - Community Park
 - Neighborhood Park
 - Pocket Park
 - Public Beach

Passive Recreation

 - Special Use Park
 - Open Space
 - Public Shore

Regional Recreation

 - Special Recreation Feature

EXISTING PARK, OPEN SPACE, AND RECREATION SYSTEM

Active Recreation Areas

Active recreational facilities, which accommodate more physical recreational activities, include ball fields, playground equipment, tennis courts, swimming beaches, skating rinks and sledding hills.

Community Park

Community parks provide active recreation facilities at high-quality, accessible locations. Facilities generally include community gathering areas and typically require off-street parking areas. Surfside Park is Mound's Community Park. It offers a boat launch, beach, playground, rentable pavilion, and picnicking area.

Neighborhood Park

Neighborhood parks are intended to serve the day-to-day needs of surrounding residents. These parks provide active recreation, such as playgrounds or fields, and informal gathering spaces for families and groups of neighbors. Fields are usually sized for practice or youth games. While mostly served with on-street parking, off-street parking may be provided when recreational facilities are anticipated to draw users from beyond the surrounding neighborhood. Neighborhood parks are spaced throughout the community with the intention of having one within a short walk or bike ride of each resident. Mound has five neighborhood parks all around 2 to 3 acres.

Service area – ½ mile.

Pocket Park

Pocket parks are intended to support the neighborhood park network by providing small recreation and gathering areas. Depending on the size, pocket parks may include playgrounds, open play fields, and other facilities for informal recreation. Given that most users come from the surrounding area and will walk to the site, amenities are generally limited to picnic tables, benches, and trash cans. Mound has 14 pocket parks ranging in size from 1 acre to 5,000 square feet.

Service area - 1/4 mile.









































Public Beaches





















Mound has six public beaches that provide access for swimming. Two are located within Mound's Surfside Park and Centerview Beach, and are destinations for families and gatherings. The other four beaches are located in residential neighborhoods throughout the city. Beaches offer swimming access to the lake from a designated sandy shore. Lifeguard services are not available.



Table 5.1 Parks by Type & Amenities

	Area (acres)	Handicap Accessible 	Parking Lot 	Bathrooms 	Picnic / BBQ 	Basketball 	Diamond Field 	Volleyball 	Soccer 	Tennis/Pickleball 
Community Parks		Provide active recreation for the whole community with high-quality, accessible facilities that generally include community gathering areas, specialized activities and typically require off-street parking areas								
Surfside Park & Beach*	3.31									
Neighborhood Parks		Intended to serve the day-to-day needs of surrounding residents, providing active recreation, such as playgrounds or fields, and informal gathering spaces for families and groups of neighbors								
Highland Park	2.37									
Philbrook Park	3.36									
Swenson Park	2.57									
Three Points Park	2.35									
Tyrone Park	2.58									
Pocket Parks		Intended to support the neighborhood park network by providing small recreation and gathering areas for more informal recreation								
Alwin Park	0.84									
Avalon Park	0.57									
Avon Park	0.55									
Belmont Park	0.42									
Carlson Park	0.54									
Chester Park*	0.13									
Doone Park	1.64									
Dundee Park	0.43									
Highland End Park	0.80									

	Playground 	Open Play Field 	Skate Park 	Sledding Hill 	Natural Area 	Motor Boat Access 	Paddle Boat Access 	Fishing 	Beach 
Community Parks									
Surfside Park & Beach									
Neighborhood Parks									
Highland Park									
Philbrook Park									
Swenson Park									
Three Points Park									
Tyrone Park									
Pocket Parks									
Alwin Park									
Avalon Park									
Avon Park									
Belmont Park									
Carlson Park									
Chester Park									
Doone Park									
Dundee Park									
Highland End Park									

	Area (acres)	Handicap Accessible 	Parking Lot 	Bathrooms 	Picnic / BBQ 	Basketball 	Diamond Field 	Volleyball 	Soccer 	Tennis/Pickleball 
Pocket Parks (Cont.)	Intended to support the neighborhood park network by providing small recreation and gathering areas, for more informal recreation									
Seton Park	0.48									
Sherven Park & Beach*	0.82									
Sorbo Park	0.91									
Veteran's Park	0.21									
Weiland Park	1.29									
Public Beaches*	Intended to provide access to public swimming areas throughout the City <i>*No lifeguard supervision provided at beaches</i>									
Canary Beach*	0.05									
Centerview Beach*	0.87									
Wychwood Beach*	0.12									
Special Use Parks	Provide unique recreational opportunities for neighborhood and community residents									
Crescent Park	3.65									
Veteran's Memorial Plaza	0.28									
Wolner Little League Fields	3.46									
Zero Gravity Skate Park	0.23									

	Playground 	Open Play Field 	Skate Park 	Sledding Hill 	Natural Area 	Motor Boat Access 	Paddle Boat Access 	Fishing 	Beach 
Pocket Parks									
Seton Park									
Sherven Park & Beach									
Sorbo Park									
Veteran's Park									
Weiland Park									
Public Beaches									
Canary Beach									
Centerview Beach									
Wychwood Beach									
Special Use Parks									
Crescent Park									
Veteran's Memorial Plaza									
Wolner Little League Fields									
Zero Gravity Skate Park									

Special Use Parks

Mound has a number of special use areas that provide unique recreational opportunities for neighborhood and community residents.

Crescent Park

This quiet area located on Three Points features a large open-space and natural shoreline, perfect for a quick hike or bird watching.

Veteran's Memorial Plaza

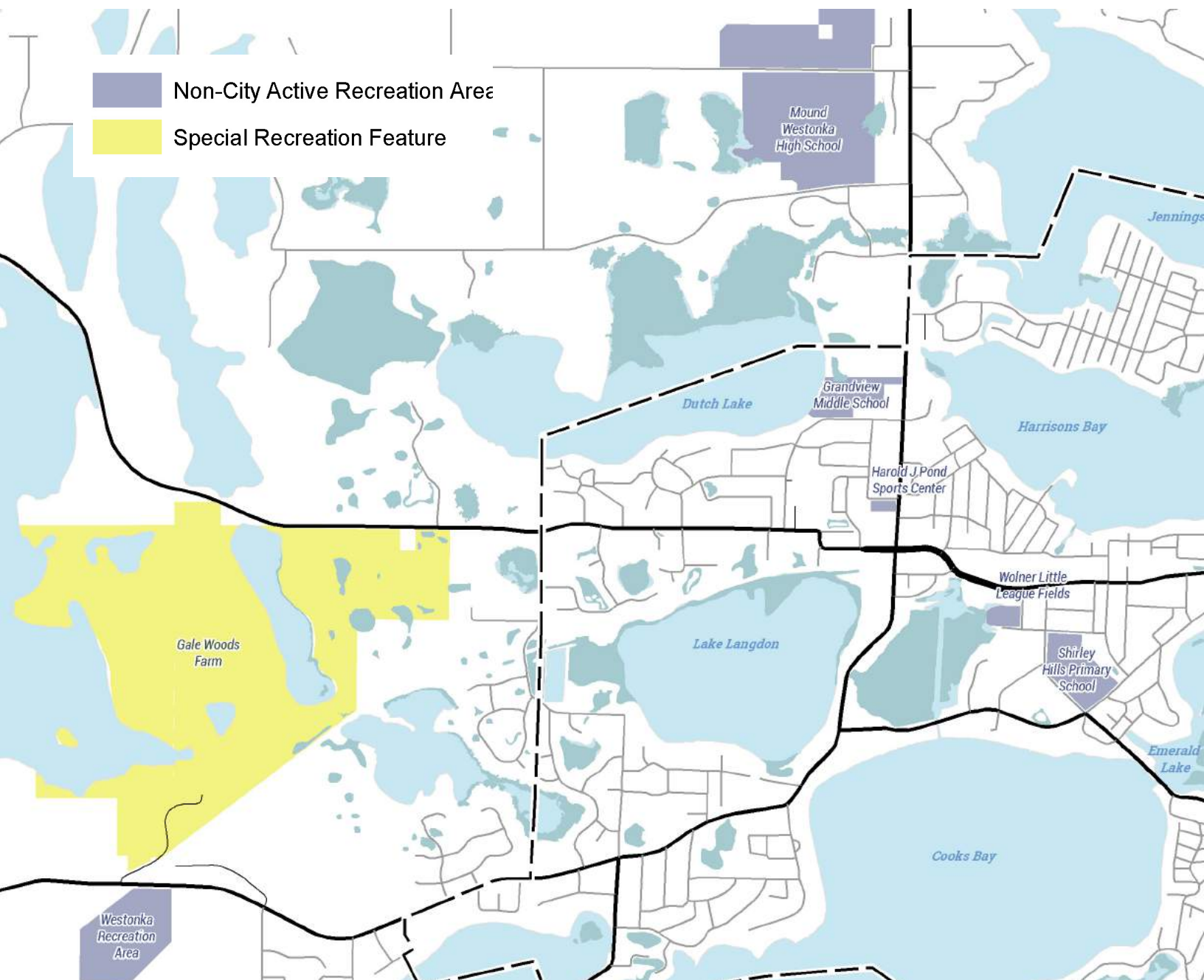
This downtown plaza was built to commemorate those Mound community members who have served in the armed forces.

Zero Gravity Skate Park

Zero Gravity Skate Park consists of an area for in-line skating and skateboarding with a half-pipe, ramps, and other obstacles. This area is located immediately south of Wolner Field on Cypress Road (behind Super America), at the end of Maywood Road.



Figure 5.2 Non-City-Owned Recreation Areas



Non-City Owned Active Recreation Areas

Within and around the City of Mound, there are active recreational areas that are owned or managed by other organizations, including:

- » The City has a long-term lease arrangement for the operation of the Wolner Little League Fields, a 3.4 acre community playfield with ballfields, benches, restrooms and a parking area.
- » Westoka Public Schools provides active recreational opportunities at Shirley Hills Elementary School and Grandview Middle School. These two facilities provide approximately 20 acres of community playfield facilities for the community.
- » Pond Sports Center, which opened in 1981, is owned by the Westoka-Orono Sports Center Association and managed for the Mound Westoka Youth

Hockey Association and the Orono Hockey Boosters.

- » Mound Westonka High School, located just to the north of Mound in Minnetrista has athletic facilities, including soccer, la crosse, and football fields; baseball and softball diamonds; tennis courts; track; indoor gyms, and pool. The campus is also home to the Thaler Sports Center which opened in 2005 and is on land leased from the school district. Thaler is owned by the Westonka Sports Association and manages the ice for the Mound-Westonka High School hockey teams, the Mound-Westonka Youth Hockey Association, the Mound-Westonka Schools and Community Education Program, and local organizations.
- » Westonka Recreational Park in Minnetrista has four softball fields, one baseball field, a playground with picnic area and shelter and a meeting room. The park is managed by a group of various service organizations with representatives from Minnetrista, Mound, and St. Bonifacius.
- » Gale Woods Farm, located west of Mound, provides opportunity for visitors to learn about agriculture, food production and land stewardship on a working farm.



Passive Recreation Areas and Open Space

Passive recreational facilities are oriented toward more leisurely activities such as picnicking, wildlife observation, visitation of cultural and historical sites, etc.

Public Shores

There are six public shores located through the community's residential neighborhoods. These small public spaces provide a view of the lake and access to the waterfront. Motorboat access and swimming are not allowed at these public shores.

Lake Access Points

There are a number of year-round and seasonal lake access points that provide public access to Lake Minnetonka and Dutch Lake. These lake access points are located throughout the community affording convenient lake access to residents without lake front property or Commons use. Year-round access points accommodate winter snowmobiling and ice fishing access as well as seasonal boat access.

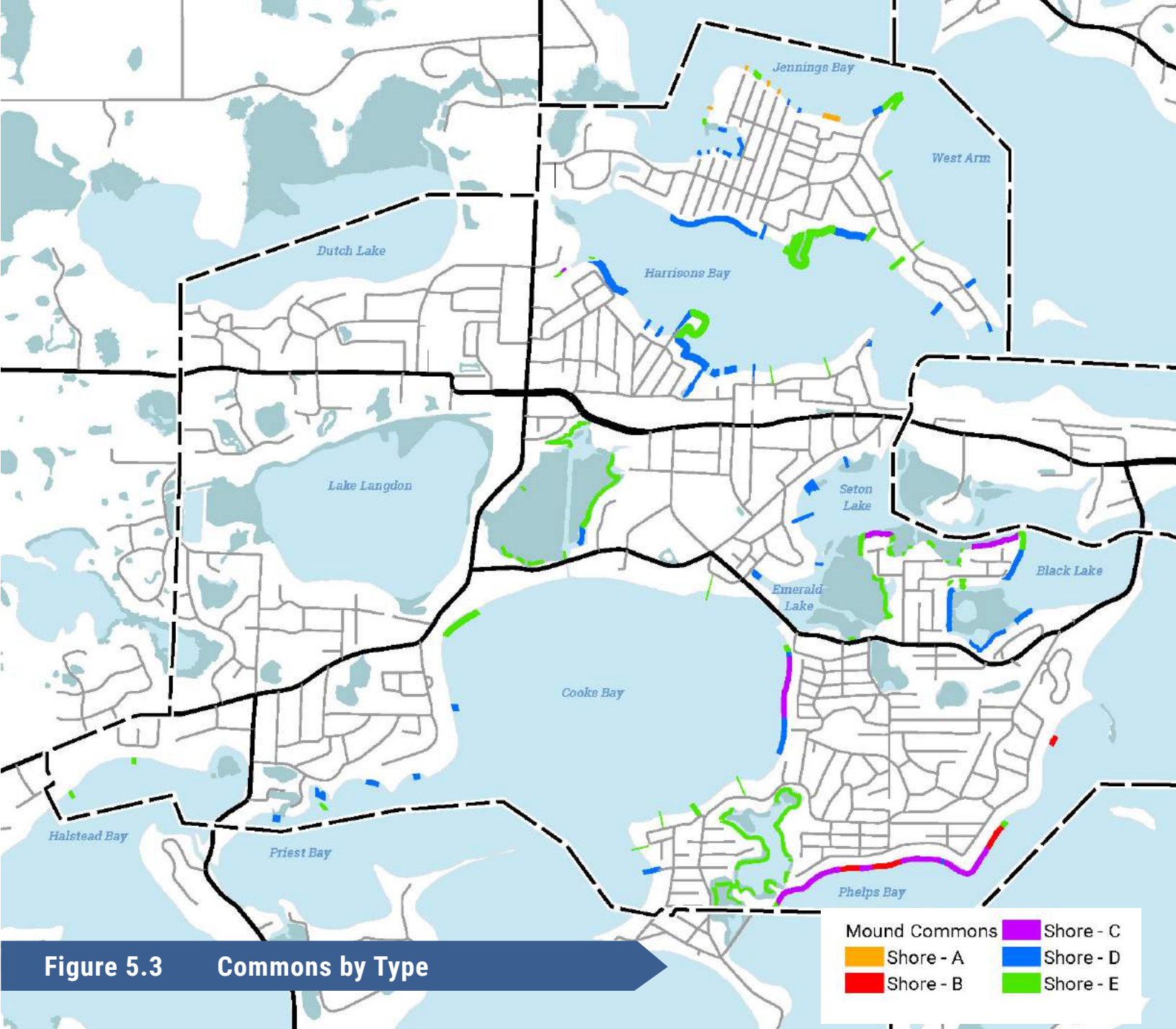


Open Space

The City of Mound has four (4) Open Space areas encompassing 10 acres. The qualities of each site vary from wooded wetland swamps to heavily timbered higher ground ranging in size from 0.15 to 4.6 acres.

Mound Docks and Commons Areas

Approximately 26 acres of land classified as Mound Commons currently exists in the community. These parcels comprise nearly 4.5 miles or roughly 10 percent of the total Lake Minnetonka shoreline in the community. Substantial diversity characterizes the Commons areas. Some areas are relatively flat and are easily accessible to the general public, while some parcels consist of steep slopes that



Type	Description
A	Traversable on upland only. Need stairway to access shoreline. Accessible from public right-of-way. No docks.
B	Traversable only along the shoreline. Access point is available to traversable shoreline. Regular guidelines apply.
C	Not traversable. Stairway needed to access shoreline. Not accessible from public right-of-way. Access granted to abutting property owners only.
D	Traversable on upland and along the shoreline. Accessible from public right-of-way. Regular guidelines apply
E	Wetlands, wildlife areas, beaches, boat landings and transient docks. No leased dock sites.

are virtually inaccessible, even to abutting property owners. Some Commons areas are deep and provide ample space for numerous public uses. Some are narrow and offer little more than a walkway or access to dockage. Other areas are so narrow that even access becomes difficult and can narrow to nothing at all.

Commons areas provide a valuable recreational resource to neighborhood residents and the general public. In many cases, the commons areas function as access points to Lake Minnetonka. Each Commons area has its own dedication language for the properties it is intended to serve. Commons areas are generally not capable of providing community-wide boat launching or parking facilities. However, depending on the specific site or Commons area, boat launching facilities, limited parking, swimming and fishing can be accommodated.

Commons areas are categorized as one of five general types shown in **Figure 5.3** on the previous page and described in the table below the figure.

Regional Recreation Facilities

In addition to the city's park, open space and recreation areas, Mound residents also benefit from nearby regional open space and recreation facilities. According to the Metropolitan Council's 2040 Regional Parks Policy Plan, in 2014 the metropolitan regional parks system encompassed approximately 54,000 acres of park land, including 54 regional parks and park reserves, 8 special recreation features and 40 regional trails, with 340 miles of trails.

Regional Facilities

There are no regional parks located within Mound. The closest regional facility is Gale Woods Farm, which is located in Minnetrista. Gale Woods Farm is a 410 acre special recreation area located on Whaletail Lake. It features a working educational farm, 4.4 miles of paved, aggregate, and turf trails, cross-country running trails, canoeing, fishing and a four-season picnic pavilion.

Regional Trails

The Dakota Rail Regional Trail provides a highly valued recreational amenity through the community. The Dakota Rail Regional Trail is a 14.2 mile multiuse



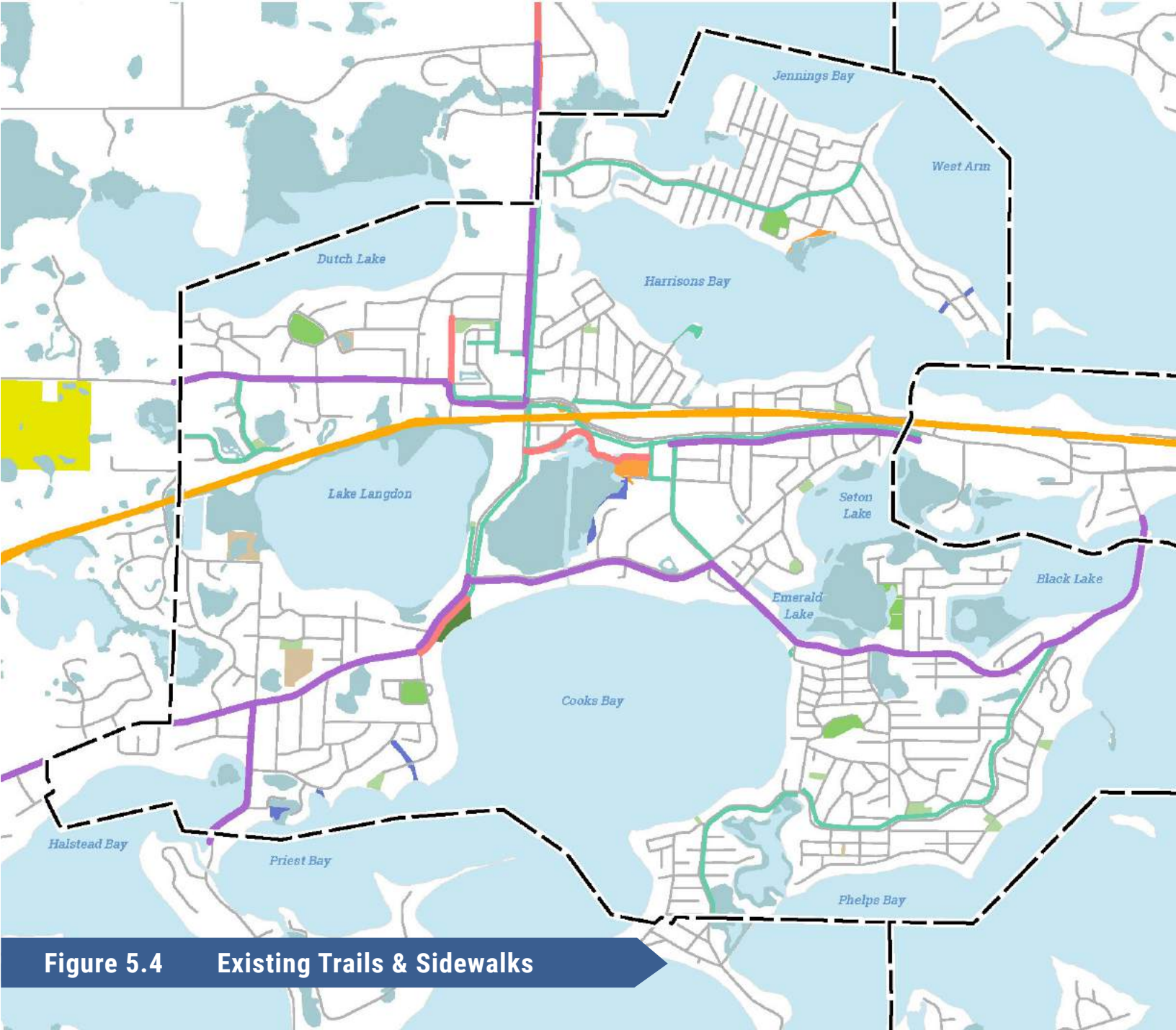


Figure 5.4 Existing Trails & Sidewalks

Bicycle/Pedestrian Facilities

- Regional Trail
- Local Trail
- Sidewalk
- On-Street Shoulder

trail located in the former Dakota Rail railroad corridor constructed and managed by the Three Rivers Park District. From east to west, the trail links the cities of Wayzata, Orono, Minnetonka Beach, Spring Park, Mound, Minnetrista and St. Bonifacious in western Hennepin County. West of Hennepin County, the trail currently extends another 12.5 miles into Carver County and is planned to extend an additional 31.5 miles through Carver and McLeod counties, ending in Hutchinson.

The corridor right-of-way is owned by the Hennepin County Regional Rail Authority (HCRRA) who intends to preserve the corridor for a potential future transit line. Based on the typical lengthy time period required for transit development and the Park District's successes in using other HCRRA rights-of-way for trails as interim uses, the Parks District has a 20-year lease on the portion of the corridor (16 foot wide rail bed) needed for the regional trail. Lease may be terminated with 180 days written notice during the first 20 years (2007-2027) for transportation purposes. After 2027, HCRRA may terminate at anytime.

This regional trail, constructed in 2007 and 2008, provides the primary east-west walking and biking connection through the City and runs through the center of Downtown Mound.

Trails & Sidewalks

In addition to the Dakota Rail Regional Trail, the City has a mix of trails, sidewalks, and on-street shoulders that support pedestrians and bicyclists as shown in Map 4.4 and described below:

Local Trails

The existence of the Dakota Rail Regional Trail is augmented by a few local, off-street trails in Mound. The Andrew Sister's Trail (formerly known as the Lost Lake Trail) is a very popular local trail which connects the Lost Lake Harbor to Wolner Fields.

Sidewalks

Most neighborhoods have streets that are too narrow to accommodate off-street trails or on-street bike lanes. Many of the main access roads within neighborhoods do, however, have sidewalks to accommodate pedestrians and casual cyclists.

On-Street Shoulder

Many of the County Roads and main thoroughfares through the City currently have improved shoulders for bicycling and walking.

Future Trails and Sidewalks

While the historical land use pattern and width of right-of-way for local streets makes significant expansion of off-street trails and sidewalks limited, the City will continue to explore opportunities to improve safety and connectivity. As

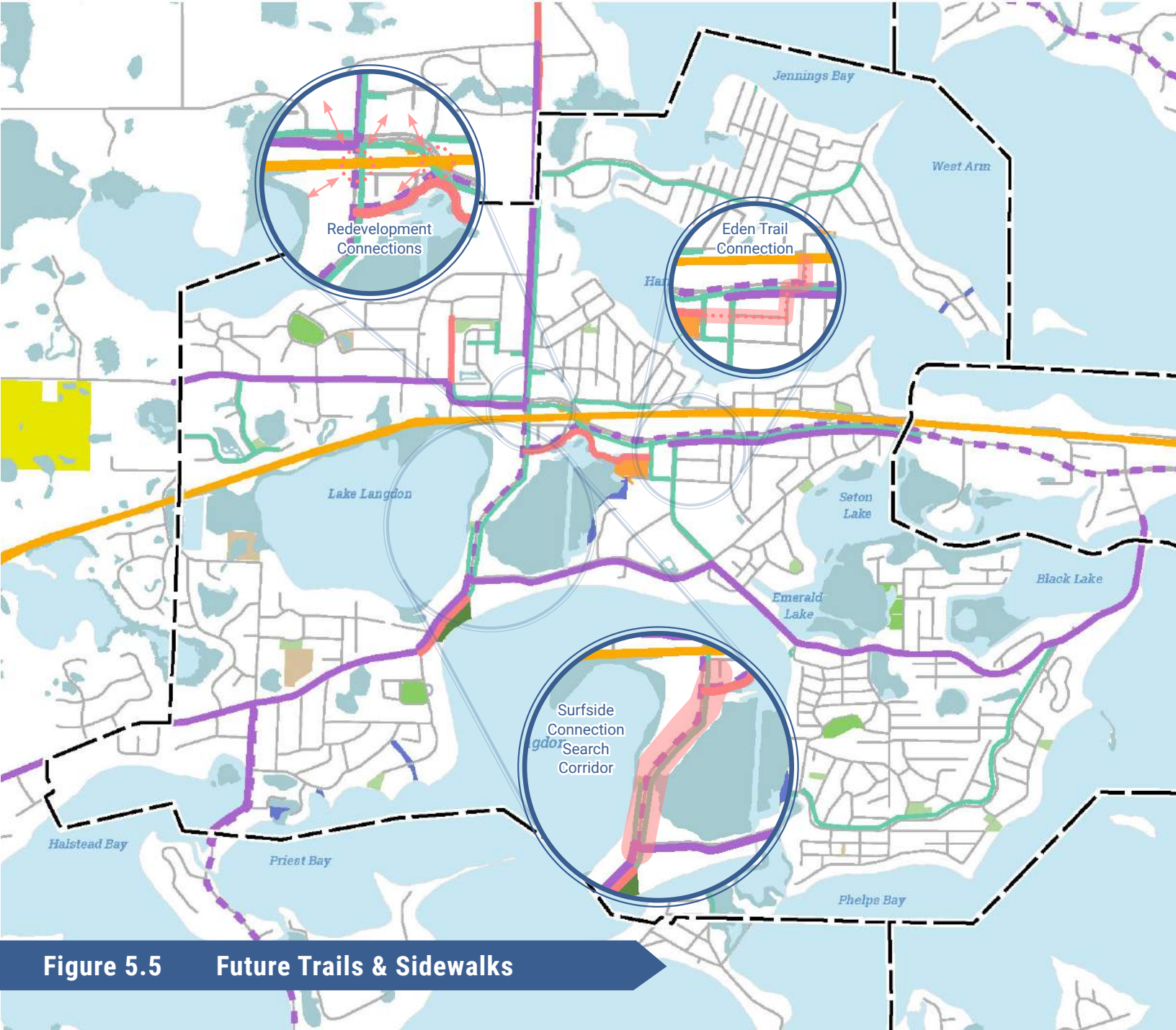


Figure 5.5 **Future Trails & Sidewalks**

Bicycle/Pedestrian Facilities

- Regional Trail
- Local Trail
- Sidewalk
- On-Street Shoulder
- - - Planned On-Street Shoulder

shown in Map 4.5 Future Trails and Sidewalks, the City anticipates there may be opportunities for trail and sidewalk expansion as part of future redevelopment of the proposed Mixed Use Areas around Shoreline Drive and Commerce Boulevard. The City will also continue to encourage Hennepin County to improve streetscape along County Roads and increase safety improvements for the on-street shoulders found along County Roads.

Neighborhood & Pocket Park Distribution Analysis

Being a developed community, Mound's park and recreation system is relatively established with few opportunities for significant expansion. Neighborhood and pocket parks are distributed relatively well throughout the City with most residents being a short walk or bike ride from a park. In addition, Non-City facilities like Shirley Hills and Grandview Schools provide recreational opportunities to the surrounding neighborhoods. Rather than additional parks, the City's focus will be on maintenance and continuing to evaluate the mix of amenities offered at neighborhood and pocket parks.

Community Feedback

The community members of Mound care deeply about the city's park, open space, and recreation system. Throughout the 2040 Comprehensive Plan process, they provided comments relating to parks, open space and recreation. The following is a summary of those comments. For a more in-depth look at individual comments, please see **Appendix A**.

- » Parks like Surfside Park, Wolner Little League Fields and Zero Gravity Skate Park are positive features of the community and should be highlighted and retained
- » The current appearance of parks across the city is a concern, particularly where dogs heavily use
- » More park investment is needed
- » It is important that parks are within walking distance of neighborhoods
- » Open spaces and natural areas should be preserved for informal play and natural resource protection
- » Facilities need to be replaced, such as aging playgrounds, park signs, landscaping, and tennis courts
- » Explore opportunities to provide off-leash dog areas, disc golf, skating, pickleball, and community garden
- » Add amenities to support uses, including picnic tables, trash cans, restrooms, parking, etc.
- » Develop a plan for the revitalization of Surfside Park
- » Include neighborhood and community input in development plans

PARKS, OPEN SPACE & RECREATION

GOAL, POLICIES, & ACTIONS

Goal

To provide a variety of active and passive recreational opportunities to enhance all residents' quality of life, meeting the needs of all age groups and providing year-round recreational opportunities for a population diverse in age, structure, interests and activities. It is also important that this system assist in protecting the natural and historic resources of the community in a manner which leaves them unimpaired for future generations.

Policies

The City of Mound has identified the following policies to guide the planning and development of park, open space and recreation areas that meet the community's goal:

1. Strive to provide active recreation spaces within a short walk or bike ride from every resident (approximately 1/2 mile from neighborhood park or 1/4 mile from pocket park).
2. Maintain neighborhood and public access to Lake Minnetonka for Mound residents through public beaches, public lake access points, public shores, and the Mound Docks & Commons Program.
3. Provide user amenities as appropriate for the type of park:
 - » Pocket Park - benches, trash can
 - » Neighborhood Park - benches, picnic tables, trash can, seasonal restrooms for field use, off-street parking when fields draw from greater than neighborhood
 - » Community Park - benches, picnic tables, shelter, trash cans, year-round restrooms, off-street parking
 - » Public Beach - sand beach, trash cans, on-street parking
 - » Public Shore - none
4. Seek opportunities to connect to, improve safety of, and support use of the Dakota Rail Regional Trail.
5. Support cooperative efforts between the City, Westonka Public Schools District, and Three Rivers Park District that enhance the development and usage of recreational lands and facilities and minimize duplication.
6. Continue to integrate where feasible the preservation and celebration of the community's natural and historic resources into the park, open space and recreation system.
7. Emphasize community input and active community participation in the planning, design and development of recreational facilities.

IMPLEMENTATION FRAMEWORK

Project or Idea Generation

- » Project or idea may come from the Parks and Open Space Commission, public, partners or Staff.
- » It is recommended that the project or idea be outlined with information about why it is needed, who it will serve, vendors, costs and timing.



Evaluation by Staff and Parks and Open Space Commission and City Council

- » Evaluate project or idea against comprehensive plan goals, policies, and actions.
- » Give consideration to the following potential decision principles:
 - Is a community unmet need being addressed?
 - Is a new recreational opportunity being provided?
 - Does it inspire community pride?
 - Does it increase awareness of history, culture and art?
 - Does it support healthy living?
 - Does it improve connectivity?
 - How does it impact the surrounding neighborhood and what can be done to mitigate those impacts?
 - How does it impact the environment and what can be done to mitigate those impacts?
 - Is there adequate funding for long-term maintenance and operational costs?
 - Could it be a catalyst for private sector investment?
 - Could it be served by partnerships?
 - How does it fit into the City's capital improvement program?



COUNCIL ACTION: authorize Staff to proceed with next step - which may include further project planning, inclusion of funding in an upcoming budget, and/or preparation of construction documents

8. Design park improvements to provide environmental and aesthetic benefits by developing planting plans that use native plants and sensitively integrating recreational facilities into the natural environment of the site.
9. Coordinate the expenditure of local funds for park, open space and recreation facilities with the provision and development of other municipal services.

Actions

The City of Mound has established a diverse park, open space and recreation system plan that will provide a variety of recreational opportunities to meet residents' needs. The following recommended actions are intended to build upon the existing system so that the community is in a position to meet the needs of all residents in the year 2040.

1. Annually update the Capital Improvement Plan for parks, recreation, and open space ensuring that continued funding is available to meet the community's needs, including staffing, programming, new amenities and maintenance.
2. Create and implement a maintenance and replacement schedule to plan for phased replacement of neighborhood and pocket park facilities (i.e. playgrounds, courts, etc.). Provide an opportunity for neighborhood input on replacement projects.
3. Add user amenities to parks to respond to evolving public need.
4. Establish, and implement as opportunities arise, a uniform park signage and branding system for Mound's park, open space and recreation system.
5. Conduct a Master Plan for Surfside Park.
6. Consider an off-leash dog area where there is usable, underutilized open space that has an adequate buffer from adjacent residential properties.
7. Explore the development of a few disc golf holes in a location where there is underutilized open space and users will not impact high quality natural areas.
8. Explore opportunities, including partnerships, for a community garden. Seek locations where there is usable, underutilized open space where water for irrigation can be available.
9. Conduct a feasibility study to evaluate the potential of a trail to link Downtown Mound to Surfside Park along the west side of Lost Lake.
10. Identify and sell extra city-owned parcels and tax forfeiture parcels that are too small for park facilities, do not have significant natural areas, and do not serve as an access point to city utilities or other functions.
11. Periodically review and update the City's park dedication policy and ordinances to meet current state standards and respond to the market.
12. Develop a tree preference list and educational materials to support the diversification of the tree canopy.



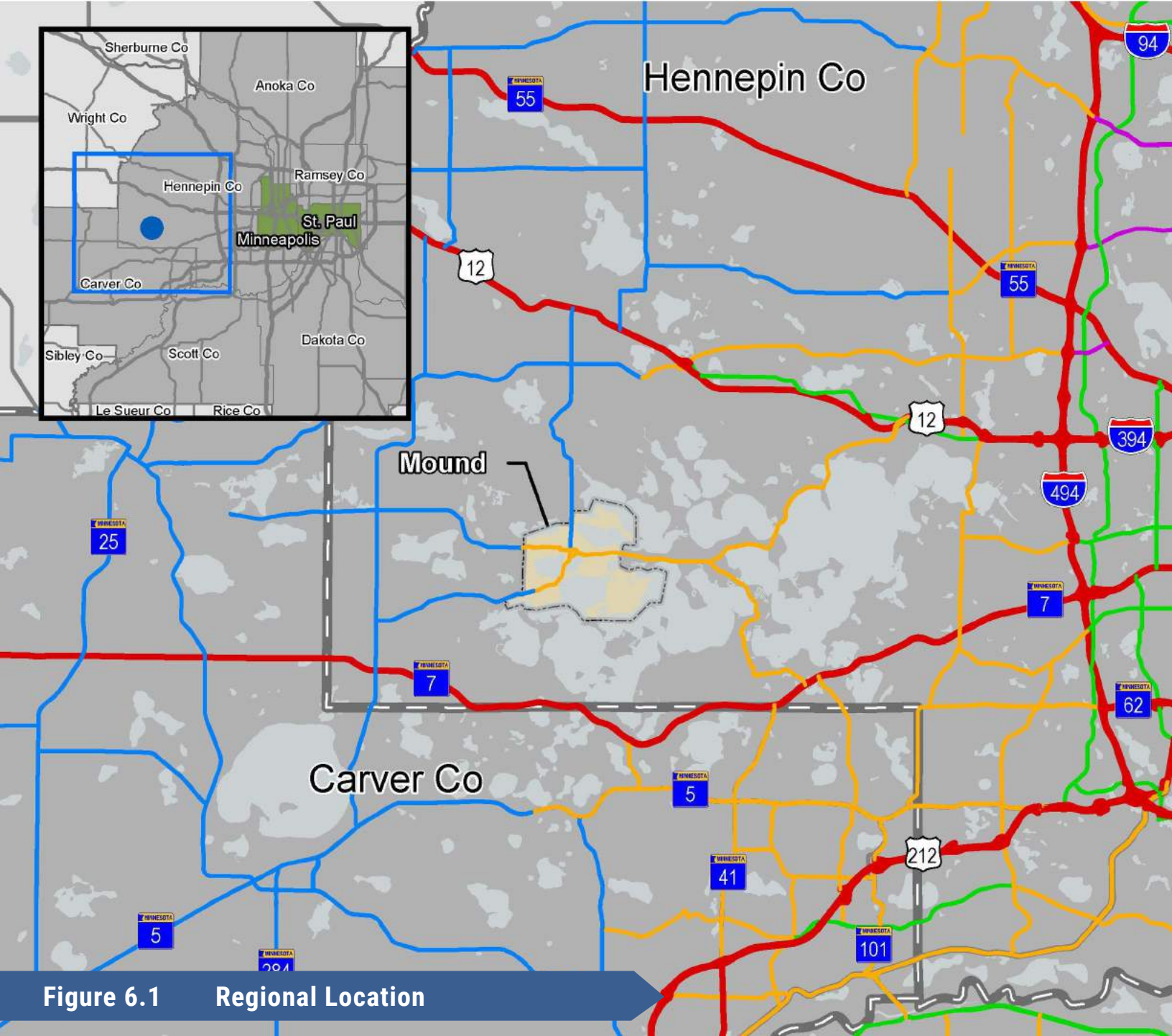
6. TRANSPORTATION










Consistent with its designation as a Suburban community by the Metropolitan Council, Mound is a largely developed city. It is expected this area will maintain current population and jobs into 2040, with only limited growth potential. As such, it is not anticipated that Mound will need a major expansion of its transportation network by 2040.

However, there are still opportunities to improve the city's transportation network. The city needs to plan for the maintenance, improved safety, and overall enhancement of the existing transportation network, for both local and regional connections. Additionally, the City of Mound may need to assess current transportation options to ensure they align with transportation preferences of residents and are fully accessible to all members of the community. This may include expansion of multimodal options, and improvements to connectivity and safety.

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

As shown to the right, this chapter includes all modes of travel in and around Mound, including automobile, bicycle, pedestrian, freight, and aviation. Chapter 5 Parks, Open Space & Recreation has additional content relevant to the trail network.



- | | |
|--|--|
|  City Limits |  Principal Arterial |
|  St. Paul & Minneapolis |  A Minor Augmentor |
|  Metro Counties |  A Minor Reliever |
|  Other Counties |  A Minor Expander |
| |  A Minor Connector |

EXISTING ROADWAY CONDITIONS

Existing Traffic Volumes and Crash Data

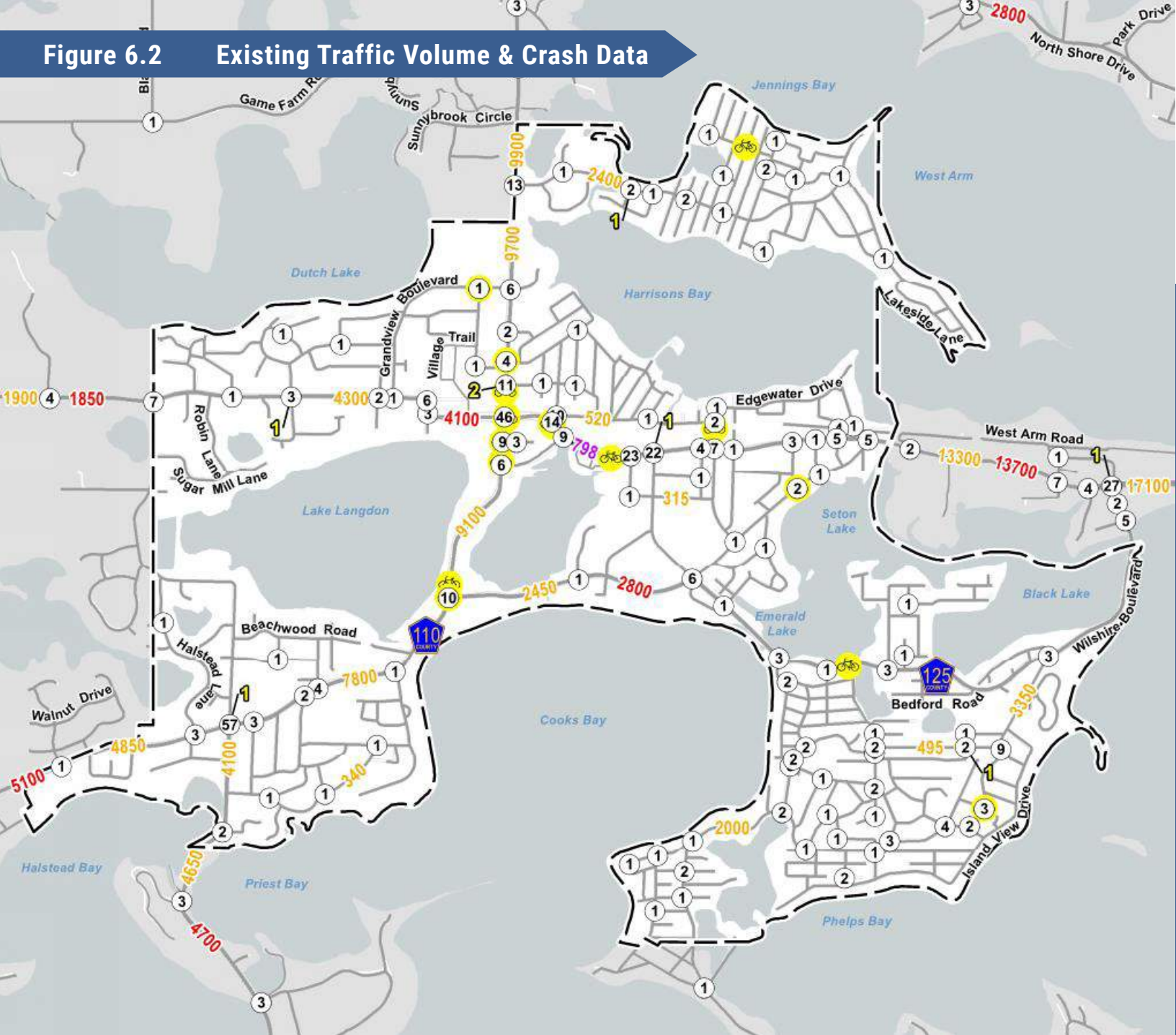
The most basic characteristic of a given roadway is the volume of traffic that it carries. Existing and forecasted traffic volumes are used to determine which roads are approaching or exceeding the capacity for which they were designed.

Existing average daily traffic volumes on roadways within Mound are presented on **Figure 6.2**. These numbers are based on the most current MnDOT data available for traffic on these roads.

Crash statistics are used to determine which locations on the roadway network have safety concerns, which may need improvements to address. The most recent crash data for roadways are summarized on **Figure 6.2**. It can be seen that the highest volumes of crashes are at:

- » CSAH 110/Bartlett Boulevard and Westedge Boulevard (including one with incapacitating injuries)
- » CSAH 15/Lynwood Boulevard/Shoreline Drive and CSAH 110/Commerce Boulevard
- » CSAH 15/Shoreline Drive and Wilshire Boulevard/Cypress Lane (including one with incapacitating injuries)
- » CSAH 15/Lynwood Boulevard/Shoreline Drive and Belmont Lane
- » CSAH 110/Commerce Boulevard and Church Lane (including two with incapacitating injuries)
- » CSAH 110/Commerce Boulevard and CR 125/Bartlett Boulevard

Figure 6.2 Existing Traffic Volume & Crash Data



Average Annual Daily Traffic (AADT)



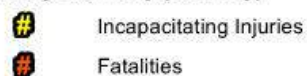
Heavy Commercial Average Annual Daily Traffic (HCAADT)



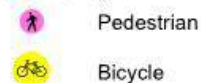
Intersection Summary (2006-2015)

Total Crashes

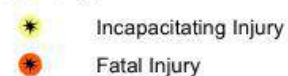
Severity Summary (Quantity)



Non-Motorized Crashes (2006 - 2015)



Non-Intersection Crashes (2006-2015)



Jurisdictional and Functional Classification

Jurisdictional Classification

Roadways are classified on the basis of which level of government owns and has jurisdiction over them. Typically, roadways with higher mobility functions are under the jurisdiction of a county, regional, state, or federal level of government. Likewise, roads with a focus on local circulation and access typically are under the jurisdiction of a local government. In the City of Mound, only two jurisdictions have responsibility for the overall road network. Hennepin County is responsible for routes 15, 44, 110, and 125. The City of Mound is responsible for all remaining roadways. **Figure 6.3** depicts the existing roadway jurisdictional classification system in Mound.

Functional Classification

Individual roads and streets typically do not operate independently in any major way. Functional classification is a cornerstone of transportation planning. Within this approach, roads are located and designed to perform their designated function.

The functional classification system defines the hierarchy of roads within a network that distributes traffic from local access routes all the way up to major mobility corridors. A typical system connects up neighborhood streets to collector roadways, then to minor arterials, and ultimately the Metropolitan Highway System. Roads are classified based on the degree to which they provide access to adjacent land uses and lower level roadways versus providing higher-speed mobility for “through” traffic.

The current roadway functional classification map for Mound as identified by the Metropolitan Council is presented on **Figure 6.4**. The roadway system presently consists of three roadway functional roadway classifications:

- » “A” Minor Arterial
- » Major Collector
- » Local Street

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

Figure 6.3 Existing Roadway Jurisdiction

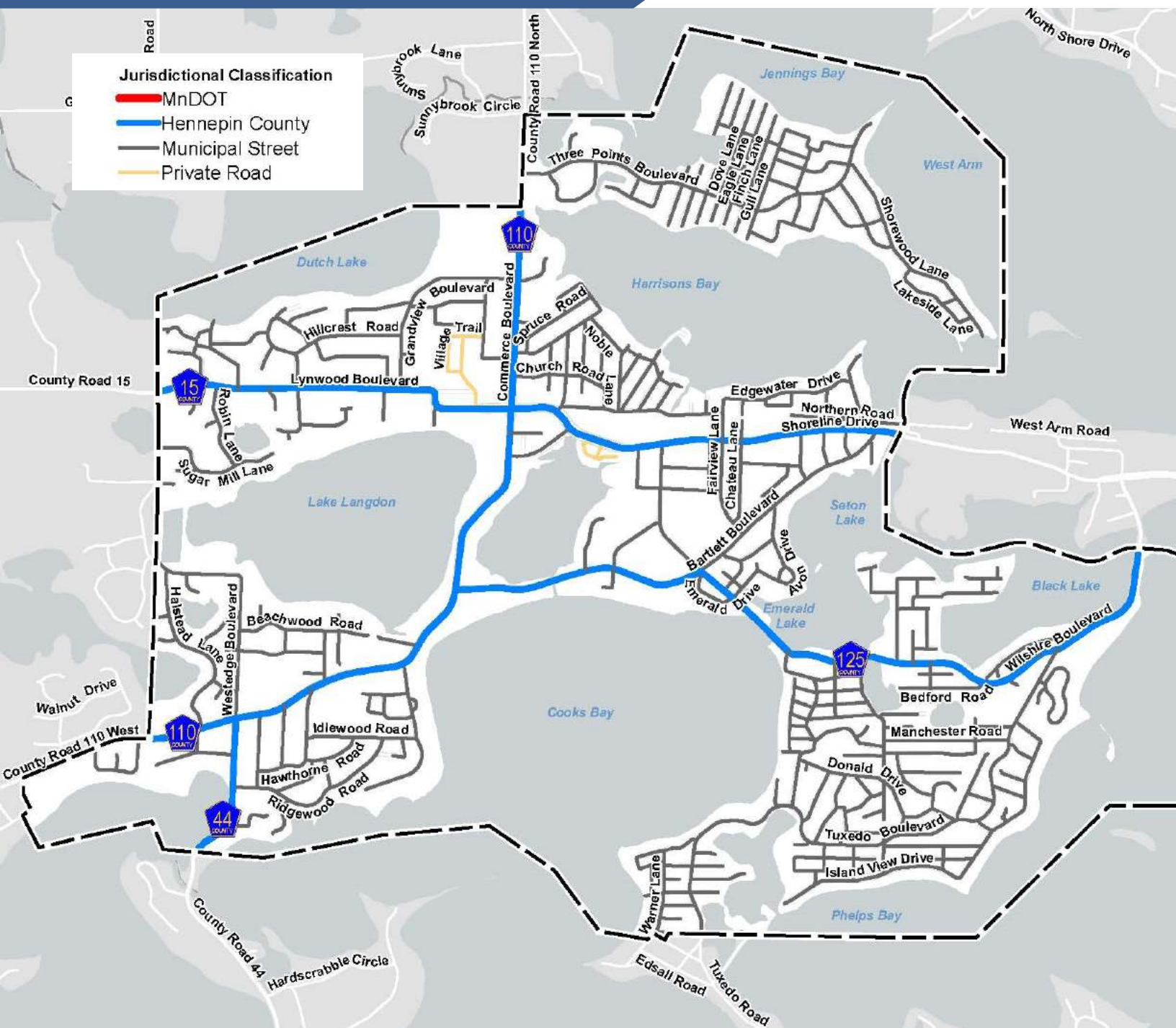
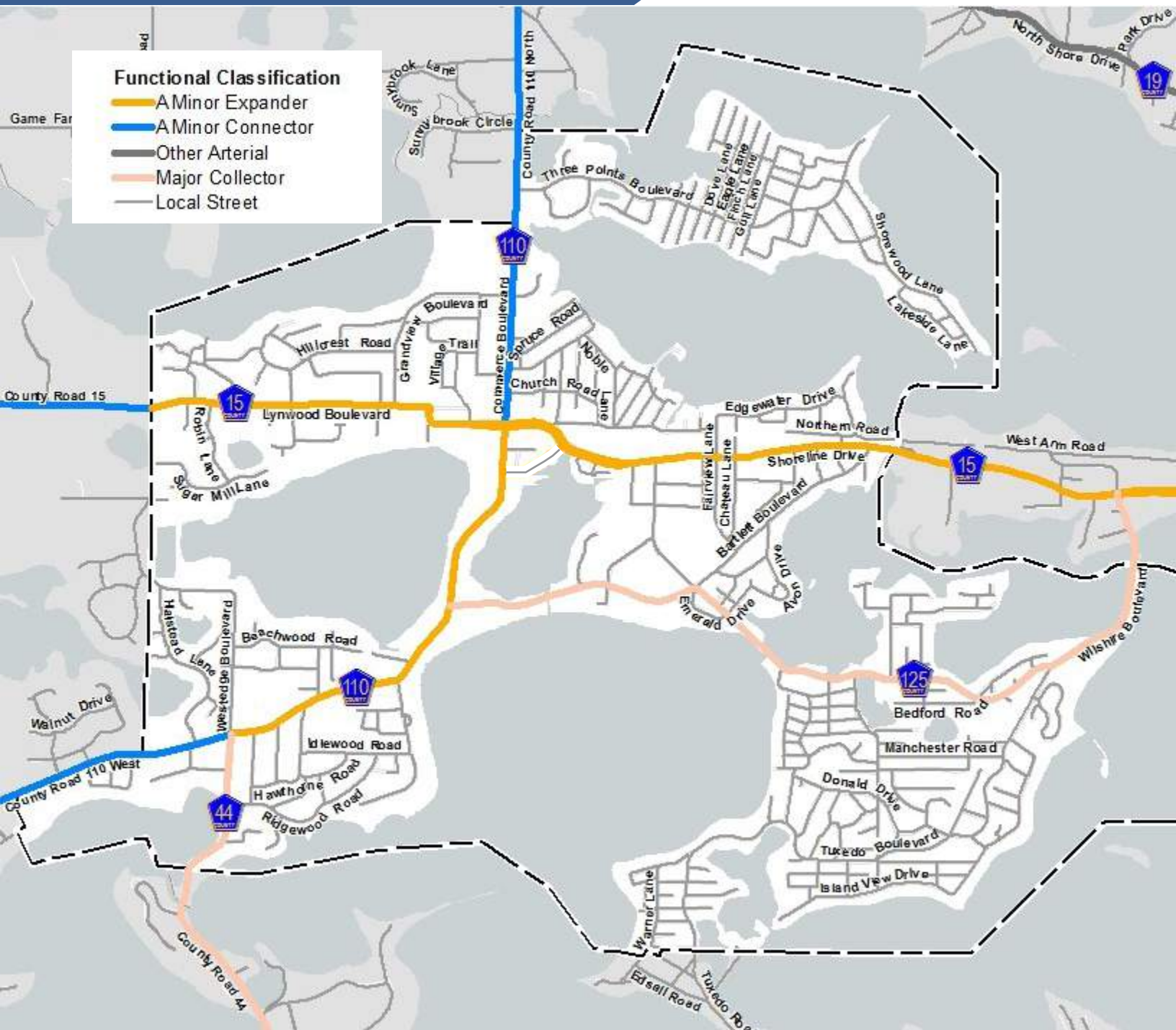


Figure 6.4 Existing Roadway Functional Class



"A" Minor Arterial Sub Categories

Relievers provide supplementary capacity for congested parallel principal arterials. They are typically found in urban and suburban communities.

Augmentors supplement the principal arterial system in more densely developed or redeveloping areas. They are typically found in urban communities.

Expanders supplement the principal arterial system in less densely developed or redeveloping areas. They are typically found in urban and suburban communities.

Connectors provide safe, direct connections between rural centers and to principal arterials in rural area without adding continuous general purpose lane capacity. They are typically found in rural communities.

Principal Arterials

Principal arterials are the highest roadway classification and make up the Metropolitan Highway System. The primary function of these roadways is to provide mobility for regional trips, and they do not provide a land access function. They are intended to interconnect regional business concentrations in the metropolitan area, including the central business districts of Minneapolis and St. Paul. These roads also connect the Twin Cities with important locations outside the metropolitan area. Principal arterials are generally constructed as limited access freeways, but may also be multiple-lane divided highways. There are no principal arterial roadways in Mound. The closest principal arterials to Mound are TH 7 to the south, TH 12/I-394 to the north, and I-494 to the east.

"A" Minor Arterials

These roads connect important locations within the City of Mound to access points of the metropolitan highway system and with important locations outside the City. These arterials are also intended to carry short to medium trips that would otherwise use principal arterials. While "A" minor arterial roadways provide more access than principal arterials, their primary function is still to provide mobility rather than access to lower level roadways or adjacent land uses.

Metropolitan Council has defined four sub-categories of "A" minor arterials: reliever, expander, connector, and augmentor. These sub-categories are primarily used by the Metropolitan Council to allocate federal funding for roadway improvements. The different types do not have separate, specific design characteristics or requirements. However, they have somewhat different functions in the roadway network and are typically found in certain areas within the region.

As shown on **Figure 6.4**, the "A" Minor network in Mound is primarily Expanders, while the connections outwards towards more rural areas are designated as Connectors. Current "A" minor arterials are identified in **Table 6.1**, below. There are no changes in the number of travel lanes on arterial roadways in Mound identified in this plan, except for an additional segment of CSAH 110 potentially being converted from 4 to 3 lanes, as described later in this chapter.

Table 6.1 "A" Minor Arterial Roadways

Roadway	From	To	Number of Travel Lanes (Total)
CSAH 15/ Lynwood Boulevard/ Shoreline Drive	Western city limits	Wilshire Boulevard	2-4
CSAH 110/ Commerce Boulevard/ Bartlett Boulevard	Northern city limits	Western city limits	3-4

Major and Minor Collectors

Collector roadways provide a balance of the mobility and land-use access functions discussed above. They generally serve trips that are entirely within the City and connect neighborhoods and smaller commercial areas to the arterial network. Minor collectors generally are shorter in length, with lower volumes and lower speeds than major collectors. Current major collector roadways are identified in **Table 6.2**, below.

According to the Metropolitan Council, there currently are no roadways formally designated as Minor Collector roadways in the City of Mound.

Currently, there are no officially designated minor collectors in Mound, and few major collectors. This is due in part to the irregular road network in the city, which was developed over time in response to the unique topography and historic small lot development patterns that typify the community. Many streets that function as collectors do not meet standard requirements for width, spacing, access management, connectivity, and other criteria used to determine functional class.

However, a number of city streets do nonetheless function as collectors, in terms of their role in the overall road network – particularly for areas of the city that are accessible by only a few roads. Identifying them is useful to the city, because it helps identify priorities for investment and improvements to improve overall network efficiency and safety. This plan makes recommendations to designate additional roads as both major and minor collectors. There are no changes in the number of travel lanes on collector roadways in Mound identified in this plan.

Table 6.2 Major & Minor Collector Roadways

Roadway	From	To	Number of Travel Lanes (Total)
Major Collectors			
Wilshire Boulevard/ CR 125	Bartlett Boulevard/CSAH 110	Interlachen Road	2
Bartlett Boulevard/ CSAH 110	Wilshire Boulevard/ CR 125	W Commerce Boulevard/ CSAH 110	2
Westedge Boulevard	County Road 44	Bartlett Boulevard/ CSAH 110	2

SUMMARY OF RELEVANT TRANSPORTATION STUDIES

Hennepin County Plans

Hennepin County Freight Study (2016)

Hennepin County conducted a study of its multimodal freight network, including recommendations to improve it. The study noted that county roads around the lakes (including CSAH 110 and CSAH 15, both of which pass through Mound) tend to have higher percentages of truck traffic than other county routes. It also noted that these same roads tended to have lower than posted speeds for truck traffic during peak times.

While there were no specific shorter term projects identified for improving the freight network in Mound in this plan, there were some upgrades planned for the nearby intersection of CSAH 15 and CSAH 19, programmed for 2020. Additionally, the plan recommends continuing to track with freight data, and exploring ways to improve the freight network.

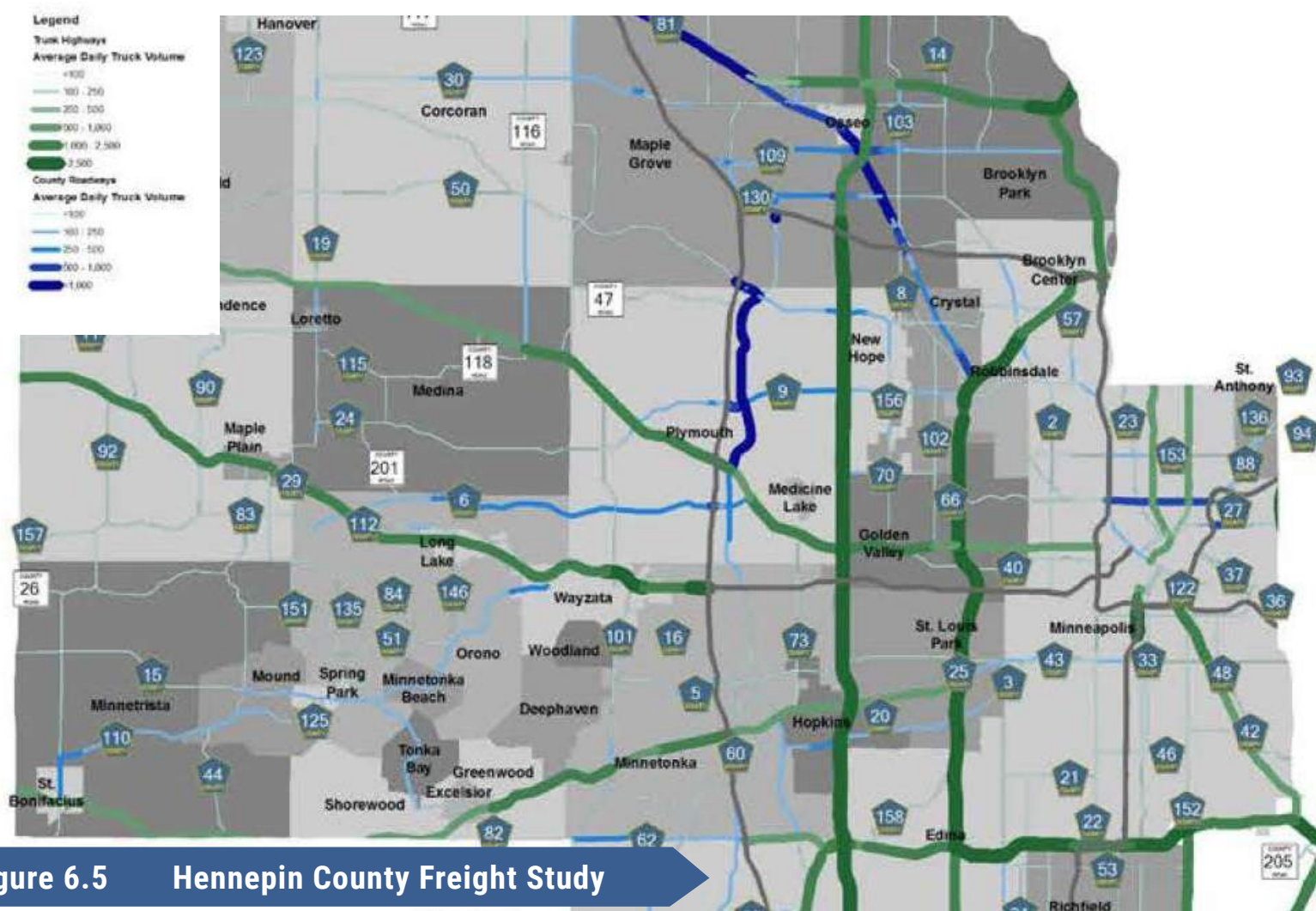


Figure 6.5 Hennepin County Freight Study

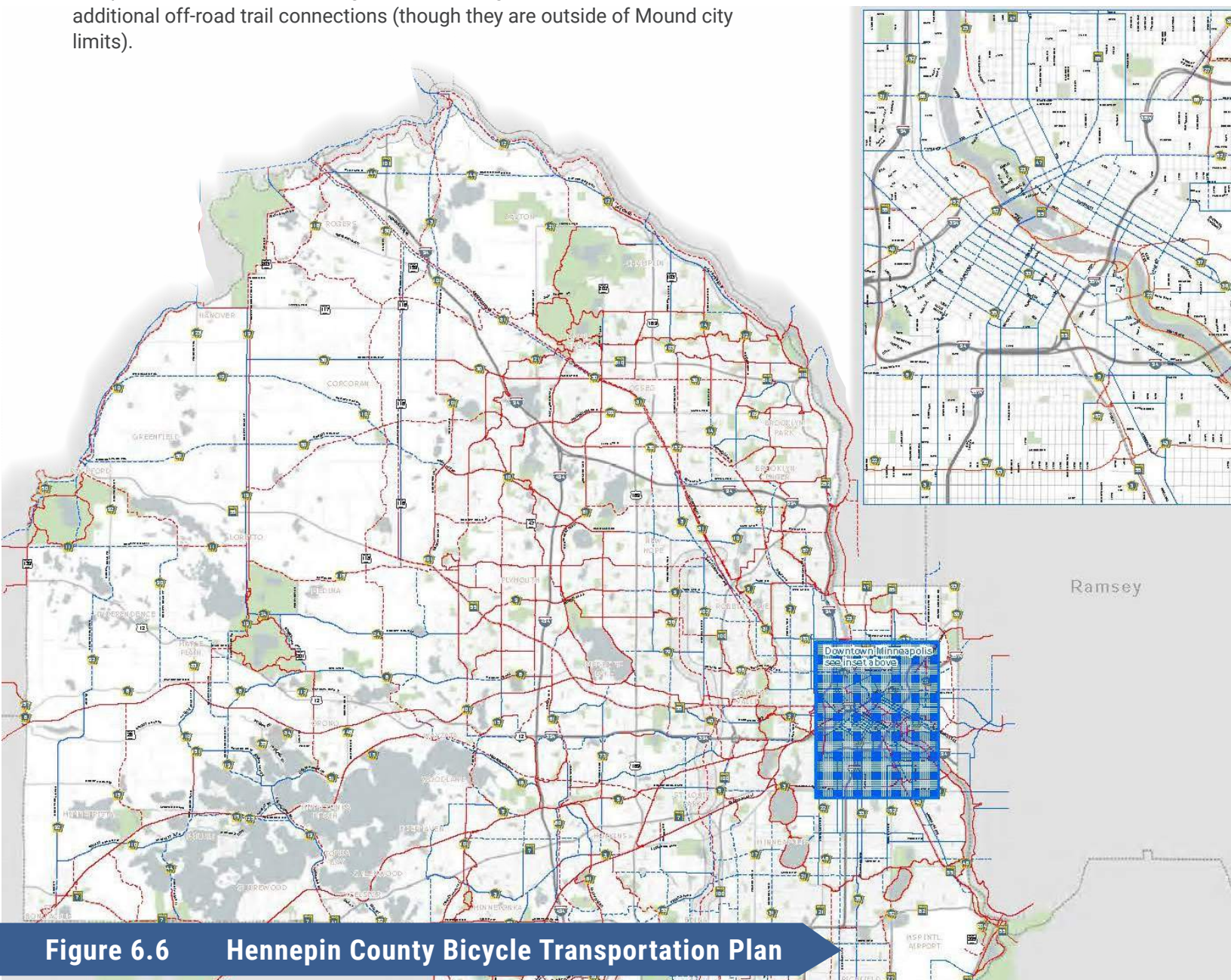
2040 Hennepin County Bicycle Transportation Plan (2015)

Hennepin County completed its bicycle transportation plan in advance of its overall 2040 comprehensive plan update. The plan identified overall system goals, gaps in the existing network, and recommended projects by type.

In the Mound area, the plan identified several potential bicycle projects, including:

- Shoreline Drive/CSAH 15 (CSAH 110 to CSAH 19) – on-street bikeway
- Bartlett Boulevard/CSAH 110 (Wilshire Boulevard to Commerce Boulevard) – on-street bikeway
- Westedge Boulevard/CR 44 (Bartlett Boulevard to terminus of existing trail) – on-street bikeway

The plan also shows the existing Dakota Rail Regional Trail, and recommends additional off-road trail connections (though they are outside of Mound city limits).



ROADWAY SYSTEM PLAN

Future Roadway Network

The roadway network of Mound is largely established. Planned redevelopment in the community generally will require only minor changes to the roadway network. Additionally, topographic constraints limit opportunities to expand existing roads or add new ones.

The roadway network assumed for the 2040 analysis includes the existing network, plus projects that have been programmed and/or planned. *While no changes are anticipated at this time, this will be modified with input from the County prior to plan completion if necessary.*

Transportation Analysis Zones

Traffic projections are based on the use of Transportation Analysis Zones (TAZs). The TAZs for the City of Mound, as defined by the Metropolitan Council, are presented on **Figure 6.7**. TAZs are defined to reflect travel patterns for an area, and are used as a unit of analysis in a regional travel demand model which forecasts future travel patterns based on expected growth of an area. The model's outputs include estimated traffic volumes and capacity on the roads included in the model (typically those with a functional class of collector or above).

The anticipated land use patterns discussed in Chapter 3 of this Comprehensive Plan were used to develop the 2040 population, household, and jobs projections by TAZ were used in the model. The 2040 land use map for Mound is presented in **Figure 3.4** in that chapter.

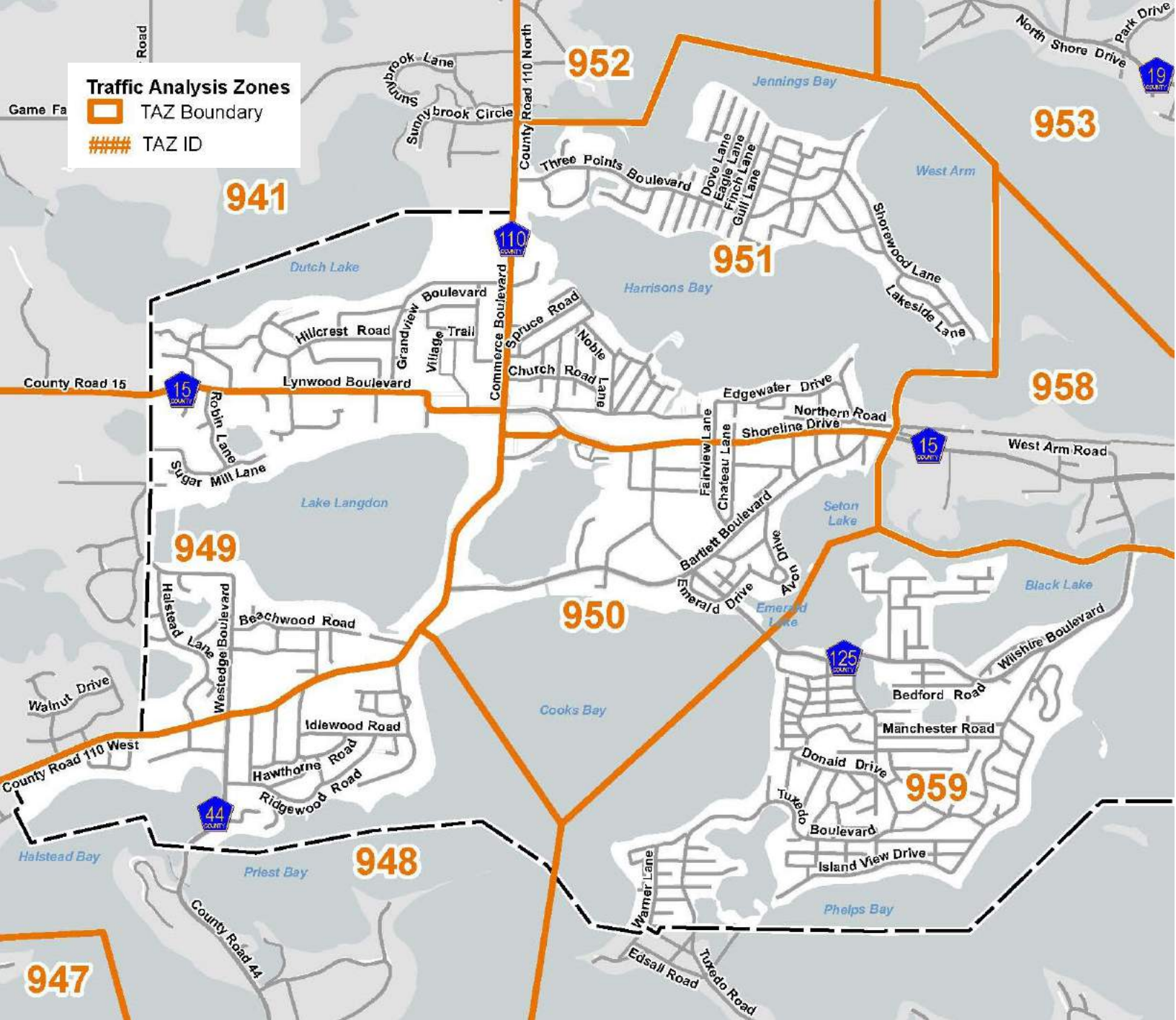


Figure 6.7 Transportation Analysis Zones

The TAZ socioeconomic data projected for 2040 conditions are presented in **Table 6.3** below. *These numbers may be revised moderately based on further refinements through the County's transportation modeling process.*

Table 6.3 2040 Mound TAZ Data

TAZ	Year	Population	Households	Retail Jobs	Non-Retail Jobs	Total Jobs
941	2010	974	425	10	83	93
	2020	1,042	469	20	110	130
	2030	1,042	470	20	110	130
	2040	1,042	470	20	110	130
948	2010	864	377	0	160	160
	2020	930	420	15	180	195
	2030	934	430	15	180	195
	2040	934	430	15	180	195
949	2010	947	413	16	73	89
	2020	988	440	30	100	130
	2030	1,003	480	60	105	165
	2040	1,014	495	80	110	190
950	2010	810	345	112	386	498
	2020	879	390	130	405	535
	2030	914	480	235	420	655
	2040	1,003	605	280	450	730
951	2010	2,258	1,018	90	99	189
	2020	2,323	1,060	100	110	210
	2030	2,361	1,160	140	115	255
	2040	2,361	1,160	140	115	255
959	2010	3,173	1,396	20	116	136
	2020	3,238	1,421	60	140	200
	2030	3,245	1,440	60	140	200
	2040	3,245	1,440	60	140	200

2040 Traffic Forecasting

To plan for road capacity improvements, the Metropolitan Council has developed a regional travel demand model. This model uses the TAZ forecast data and other data on travel patterns to forecast how traffic volumes will change on major roads in future years. The model functionality allows users to compare volumes with and without planned roadway improvements, to gauge the benefit of these improvements to congestion relief.

Since the regional model was designed primarily to forecast traffic on regional routes, Hennepin County has done additional work to update the model to produce forecasts for county and local routes. The model results provided in this chapter come from the County version of the travel demand model. Forecasted traffic volumes from the model are being evaluated based on the typical traffic capacities shown in **Table 6.4**. **Table 6.5** shows proposed roadway improvements recommended based on this analysis. Additional discussion on recommended improvements is provided on the following pages.

Table 6.4 Typical Traffic Capacity by Roadway Type

Roadway Design	Planning Level Daily Capacity
Local	
Local and Minor Collector 2-Lane	Up to 1,000
Collector and Arterial	
Urban 2-Lane	7,500-12,000
Urban 3-Lane or 2-Lane Divided	12,000-18,000
Urban 4-Lane Undivided	Up to 20,000
Urban 4-Lane Divided	28,000-40,000
4-Lane Freeway	Up to 70,000

Table 6.5 Proposed Roadway Improvements

Project	Location	Type
Bartlett Boulevard/CR 124	Western city boundary to CR 44	Safety improvements and addition of turn lanes
Commerce Boulevard/ Bartlett Boulevard/ CSAH 110	Shoreline Drive/ CSAH 15 to western city limits	Convert from 4 to 3 lane roadway
Commerce Boulevard/ CSAH 110	CSAH 44 to northern city limits	Evaluate need for capacity related improvements

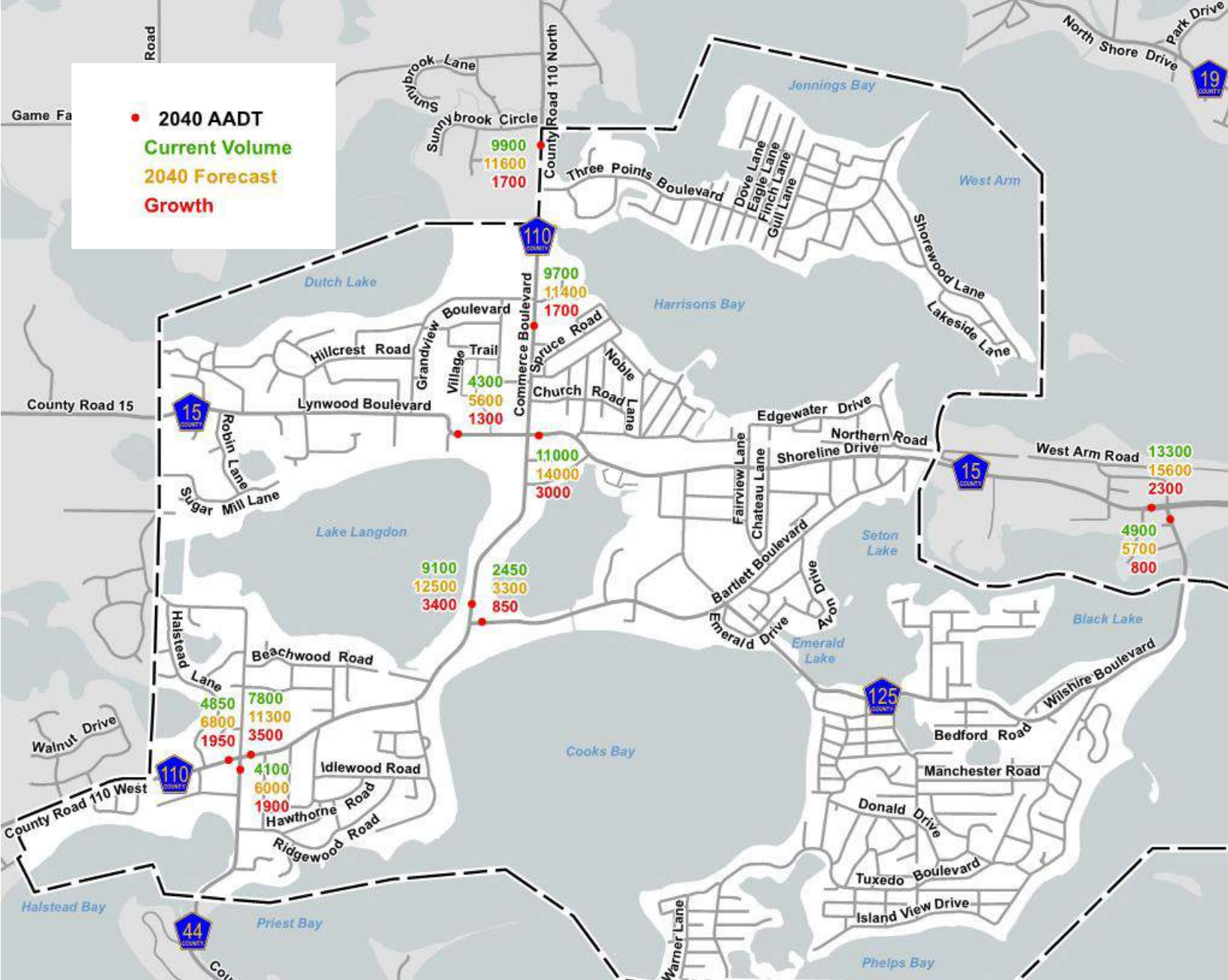


Figure 6.8 Projected 2040 Traffic Volumes

2040 Traffic Projections

Projected traffic on roadways in Mound for the year 2040 are from the Hennepin County travel demand model.

Factors considered when developing the projections included: historic trend analysis of traffic volumes, assessment of local and regional development patterns and growth trends, review of other studies and planned improvements, and coordination with other jurisdictions regarding future plans.

The 2040 traffic projections are presented on **Figure 6.8**, along with existing volumes. These reflect capacities for roadways that are either already existing or funded in the capital improvement plan.

Recommended Roadway System Improvements

Roadways

See **Table 6.5** for a summary of proposed roadway improvements. Except for as noted, the number of future travel lanes on arterials and collectors will remain the same in the future.

Based on the Spot Safety and Corridor Issue Analysis, a segment of Bartlett Boulevard/County Road 125 from the western city boundary to County Road 44 has been identified for monitoring. The suggested safety improvement is the addition of turn lanes. Currently, this intersection is a two-way stop with only one right turn lane, from Bartlett Boulevard northbound onto County Road 44.

Auditors Road

Auditors Road is a local street that connects County Road 15 to County Road 110. It was originally designed to support the redevelopment of the Downtown area into a vertically mixed use district that would have commercial facing the street. Development along the corridor has not yet occurred and the street has become a way for motorists to avoid the intersection of County Roads 15 and 110. The 2040 Comprehensive Plan identifies the potential for a horizontal mixed use area with a portion devoted to housing and a portion devoted to commercial. If this occurs, it may be beneficial for Auditors Road to be eliminated as a through street. It is recommended that evaluation of the long-term need for Auditors Road occur as part of a development discussion.

A portion of CSAH 110 has been converted to a three-lane section. This study recommends converting a remaining four-lane segment to three lanes. 4-to-3 conversions have multiple benefits, including improved safety, fewer conflict points, traffic calming, and space for potential bicycle and/or pedestrian improvements. On the last point in particular, this will allow for safer bicycle facility accommodations on a section of the road that has seen multiple bicycle-related crashes in recent years.

CSAH 110 also may need consideration for capacity-related improvements. This will likely be addressed more through intersection improvements than widening, since there is not room for additional lanes.

Intersections

It is beyond the scope of this 2040 transportation plan to perform intersection analyses with detailed recommendations. However, based on information gathered as part of this planning process, including previous studies, the following intersections will likely require attention over the 2040 planning horizon:

- » Lynwood Boulevard/Shoreline Drive/CSAH 15 & Commerce Boulevard/CSAH 110
- » Shoreline Drive/CSAH 15 & Wilshire Boulevard
- » Bartlett Boulevard/Commerce Boulevard/CSAH 110 & CSAH 44/Westedge Boulevard
- » Commerce Boulevard/CSAH 110 & Grandview Boulevard
- » Wilshire Boulevard/CR 125 & Tuxedo Boulevard

Interchanges

There are no existing or planned interchanges in the City of Mound.

System Continuity

Due to the fully developed nature of the City of Mound, together with the community's predominant pattern of water features and steep slopes, there are many existing non-continuous roadways. Due to these existing limitations, roadway continuity improvements are not anticipated.

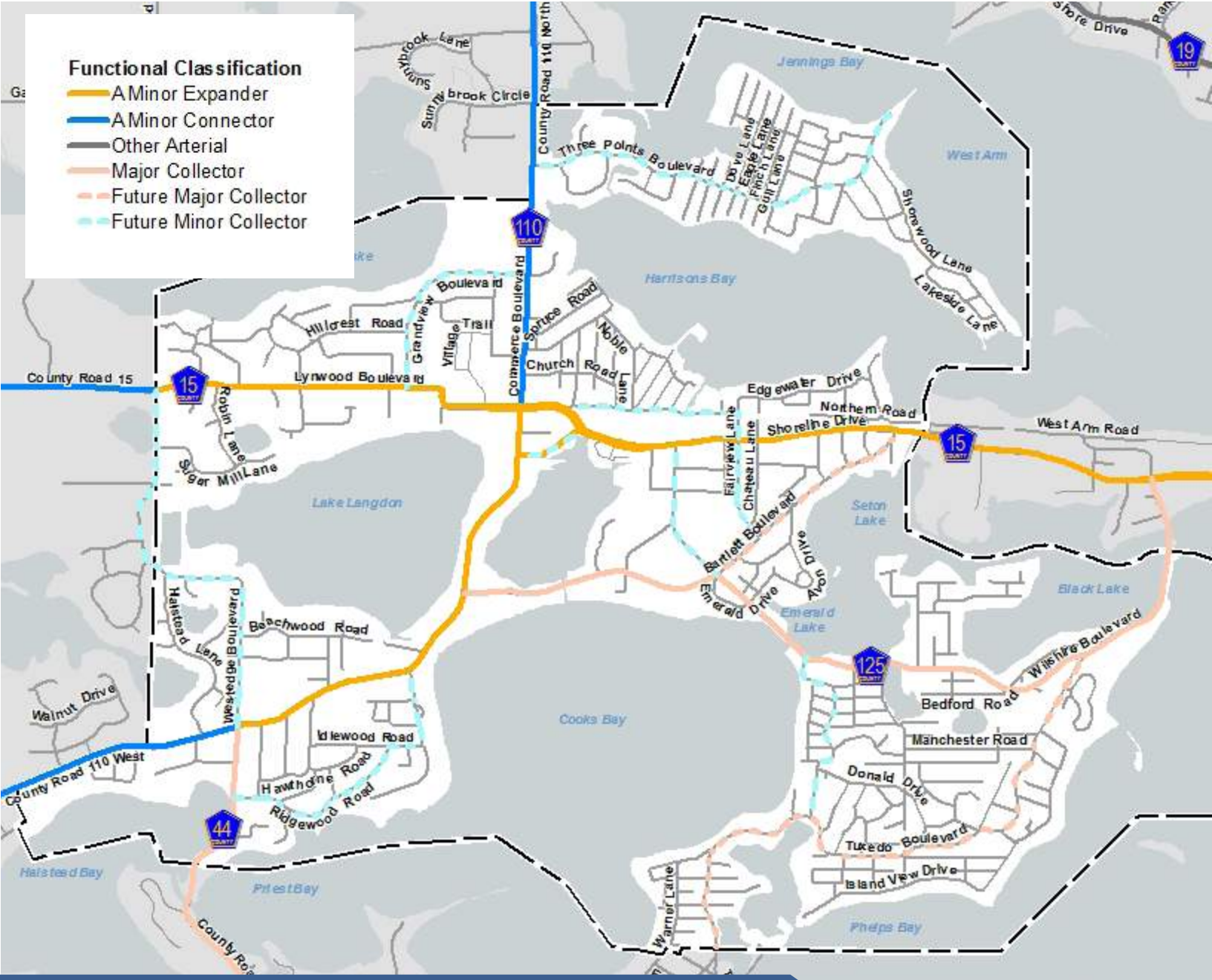


Figure 6.10 Planned Functional Classification

Future Functional and Jurisdictional Classification

Re-designations of roadways involving the A-minor arterial functional classification (e.g. from collector to arterial, from arterial to collector, or changing designations within arterial) are under the authority of the Metropolitan Council. No changes to the arterial system are proposed at this time.

For collector roadways, the functional class designation is under the authority of the agency which owns the given road. This plan recommends that the functional classifications of various roadways should be revised. As discussed in the section on existing functional class, this reflects the fact that many of these roads are already functioning as collector streets, even though they have not been officially designated. These locations are depicted on **Figure 6.10** and are summarized in **Table 6.6**. Similarly, recommended jurisdictional changes are shown in **Table 6.7**.

Table 6.6 Proposed Roadway Functional Classification Re-Designations

Roadway	Segment	Action/Comment
Auditors Road	Commerce Boulevard/CSAH 110 to Shoreline Drive/CSAH 15	A minor arterial to minor collector
Bartlett Boulevard	Wilshire Boulevard/CR 125 to Shoreline Drive/CSAH 15	Local road to major collector
Tuxedo Boulevard	Wilshire Boulevard/CR 125 to Sulgrove Road/southern city limits	Local road to major collector
Three Points Boulevard	Commerce Boulevard/CSAH 110 to Shorewood Lane	Local road to minor collector
Grandview Boulevard	Commerce Boulevard/CSAH 110 to Lynwood Boulevard/CSAH 15	Local road to minor collector
Lynwood Boulevard	Shoreline Drive/CSAH 15 to Shoreline Drive/CSAH 15	Local road to minor collector
Westedge Boulevard	Lynwood Boulevard/CSAH 15 to Bartlett Boulevard/CR 110	Local road to minor collector
Fairview Lane	Lynwood Boulevard to Bartlett Boulevard/CR 125	Local road to minor collector
Ridgewood Road	Westedge Road/CR 44 to Highland Boulevard	Local road to minor collector
Idlewood Road	Ridgewood Road to Highland Boulevard	Local road to minor collector
Highland Boulevard	Ridgewood Road to Commerce Boulevard	Local road to minor collector
Wilshire Boulevard	Shoreline Drive/CSAH 15 to Bartlett Boulevard	Local road to minor collector
Brighton Boulevard	Wilshire Boulevard/CR 125 to Tuxedo Boulevard	Local road to minor collector
Bartlett Boulevard	Wilshire Boulevard/CR 125 to Shoreline Drive/CSAH 15	Local road to major collector
Three Points Boulevard	Commerce Boulevard/CSAH 110 to Shorewood Lane	Local road to minor collector
Grandview Boulevard	Commerce Boulevard/CSAH 110 to Lynwood Boulevard/CSAH 15	Local road to minor collector
Lynwood Boulevard	Shoreline Drive/CSAH 15 to Shoreline Drive/CSAH 15	Local road to minor collector
Westedge Boulevard	Lynwood Boulevard/CSAH 15 to	Local road to minor collector
Fairview Lane	Lynwood Boulevard to Bartlett Boulevard/CR 125	Local road to minor collector
Ridgewood Road	Westedge Road/CR 44 to Highland Boulevard	Local road to minor collector

Table 6.7 Jurisdictional Classification Changes

Roadway	Segment	Action/Comment
County Road 125/ Bartlett Boulevard/ Wilshire Boulevard	Commerce Boulevard/ CSAH 110 to eastern city limits/transition to Interlachen Road	Turnback from County to City
Tuxedo Boulevard	Wilshire Boulevard/CR 125 to southern city limits	Transfer from City to County

The following roads have been proposed for a turnback from Hennepin County to the City of Mound:

- » County Road 125/Bartlett Boulevard/Wilshire Boulevard from Commerce Boulevard to the eastern city limits/transition to Interlachen Road has been identified for turnback from County to City. This was identified as a potential turnback in both the 2020 and 2030 comprehensive plans. Any discussion regarding this change would need to include the City of Spring Park.
- » Tuxedo Boulevard from Wilshire Boulevard/CR 125 has been identified to transfer from City to County.

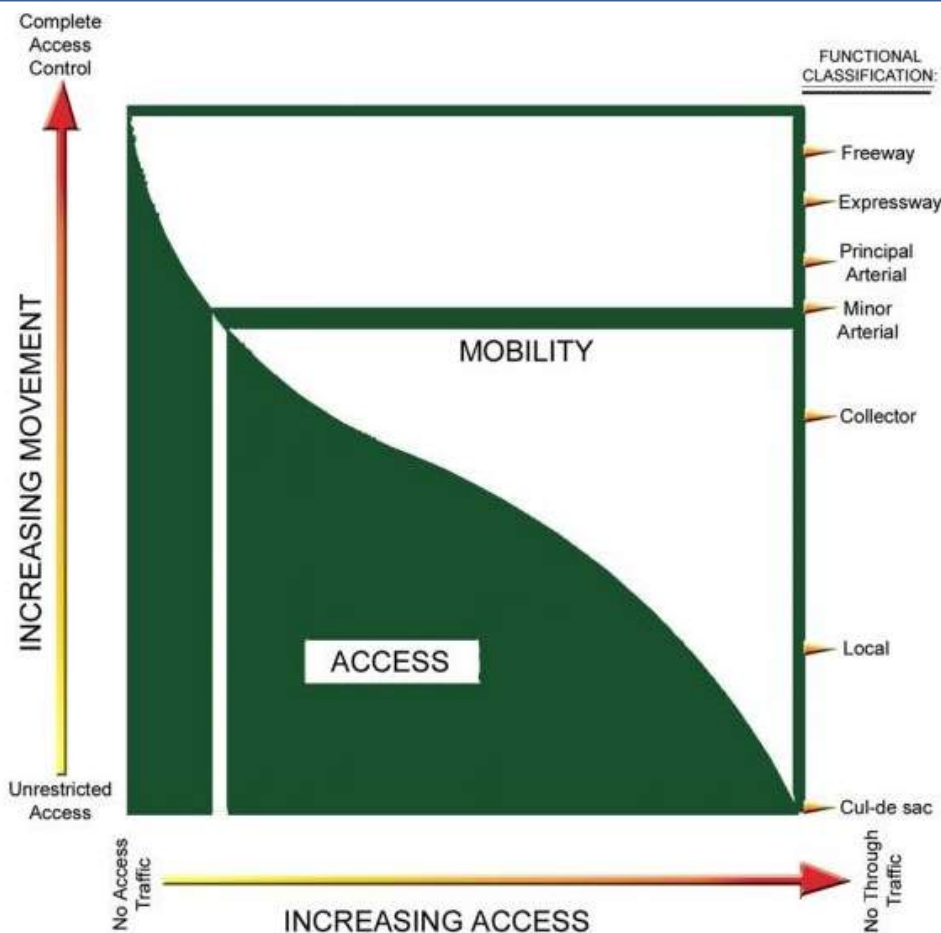
Tuxedo serves as major collector connecting portions of three cities (Mound, Minnetrista, and Shorewood). While the existing right of way and irregular topography do not permit the road to meet established County geometric standards, its function as a multi-city connector establishes its place in the area road network.

Access Management

Access management refers to balancing the need for connections to local land uses (access) with the need for network-level movement (mobility) on the overall roadway system. Arterials generally have limited access in the form of driveways and low volume side streets because their role in the network is to support relatively long, high speed traffic movements; collectors allow a greater degree of access given their combined mobility/access function; and local streets have relatively few limits on access. **Figure 6.11** shows the relationship between the two. Appropriate access control preserves the capacity on arterial and collector streets, and improves safety by separating local turning movements from higher-speed “through” traffic. Moreover, it concentrates higher volume traffic linkages at intersections controlled with traffic signals, roundabouts, or other measures.

Each access location (i.e. driveway and/or intersection) creates a potential point of conflict between vehicles moving through an area and vehicles entering and exiting the roadway. These conflicts can result from the slowing effects of merging and weaving that takes place as vehicles accelerate from a stop turning onto the roadway, or decelerate to make a turn to leave the roadway. At signalized intersections, the potential for conflicts between vehicles is increased, because through-vehicles are required to stop at the signals. If the amount of traffic moving through an area on the roadway is high and/or the speed of traffic on the roadway is high, the number and nature of vehicle conflicts are also increased.

Figure 6.11 Mobility and Access Diagram



Access Management Guidelines

Hennepin County roadways in Mound are identified on **Figure 6.3**. For these roadways, Hennepin County's access management guidelines apply. Hennepin County guidelines are included in **Appendix B**.

The City of Mound has access authority for those roadways under its jurisdiction. At present, the City has limited access management guidelines for streets in City ordinance. These include:

- » Minimum spacing of intersections. Intersections shall not be closer than 150 feet from centerline to centerline.
- » Access to collector or arterial streets. Where a proposed plat is adjacent to a collector or minor arterial street, it is advised not to direct vehicle or pedestrian access from individual lots to such thoroughfares. Where possible, the subdivider shall attempt to provide access to all lots with subdivision streets.

This plan recommends establishing driveway access standards and access spacing as a means to manage existing ingress/egress onto city streets and to provide access controls for new development and redevelopment. Access standards for County and MnDOT roads would be the starting point, though they may need to be modified to fit within the existing city network. To further the relationship of access and mobility throughout Mound, the City supports managing access consistent with the roadway mobility and access relationship described above and supports the access spacing guidelines of the County.

In the previous comprehensive plan, there were more specific standards related to the above referenced areas. While these reflected standard practices in transportation engineering, it was determined they may not be fully enforceable in Mound, due to the irregular topography and existing lot configuration. Instead, this plan recommends that modifications to existing access and spacing be evaluated by the City Engineer on a case-by-case basis.

Table 6.8 Existing Road Design Guidelines in Mound

Topic	Guidelines
Intersections	Insofar as practical, streets shall intersect at right angles. In no case shall the angle formed by the intersection of two streets be less than 75 degrees. Intersections having more than four corners shall be prohibited.
Deflections	When connecting street lines deflect from each other at any one point by more than ten degrees, they shall be connected by a curve with a radius of not less than 100 feet, except in those cases specifically approved by the City Council.
Vertical curves	Different connecting street gradients shall be connected with vertical curves. Minimum length in feet of these curves shall be 20 times the algebraic difference in the percent of grade of the two adjacent slopes.
Street jogs	Street jogs with centerline offsets of less than 150 feet shall be prohibited as measured from centerline to centerline.
Subdivision streets	Subdivision streets shall be laid out so that their use by through traffic will be discouraged.
Culs-de-sac	The maximum length of a street terminating in a cul-de-sac shall be 500 feet, measured from the centerline of the street of origin to the center of the cul-de-sac, and shall have a radius of 50 feet.
Half streets	Half streets shall be prohibited except where it will be practical to require the dedication of the other half when the adjoining property is subdivided, in which case the dedication of a half street may be permitted.
Sidewalks	All plats with lots or tracts abutting on collector, minor arterial, state trunk highways, municipal state-aid street and county roads shall have concrete sidewalks installed between the lot line and the aforementioned streets in accordance with city specifications.

Table 6.9 Existing Road Design Guidelines in Mound

Functional Class	Minimum Width	Max Gradient ⁽¹⁾
Minor arterial streets	100'	5%
Collector streets	60'-80'	5%
Minor collector streets	60'	5%
Local streets	50'	8%
Driveways	10' ⁽²⁾	n/a

⁽¹⁾ Minimum gradient is at least .5%

⁽²⁾ Maximum width is 24' without approval from the City Council

Geometric Design Standards

City Roadways

Geometric design standards are directly related to a roadway's functional classification, design speed, amount of traffic that the roadway is designed to carry, and width of the roadway's right-of-way.

The City of Mound currently has road geometric design standards in their Subdivision Ordinance, guiding the development of new streets where needed. **Table 6.8** and **Table 6.9** summarize the existing guidelines:

While these roadway standards are preferred, it is acknowledged that they are not always achievable within the constraints of existing conditions. The City of Mound's existing road network is largely built out, and few if any new roads will be constructed within the near future. Additionally, due to the city's highly irregular topography and constrained road rights-of-way, it is not always possible to meet all minimum standards for access control and road geometry. The City will strive to meet the standards to the extent possible, but may have to vary standards on a case-by-case basis as circumstances require.

While these roadway standards are preferred, it is acknowledged that they are not always achievable within the constraints of existing conditions. The City of Mound's existing road network is largely built out, and few if any new roads will be constructed within the near future. Additionally, due to the city's highly irregular topography and constrained road rights-of-way, it is not always possible to meet all minimum standards for access control and road geometry. The City will strive to meet the standards to the extent possible, but may have to vary standards on a case-by-case basis as circumstances require.

County Roadways

Geometric design standards for Hennepin County roadways are generally based on the standards as specified by the State Aid Office. It should be noted that there are a number of roadway sections that could be chosen for county roadways. These roadways, which typically have a range of 15-18,000 ADT, can operate with 3-lane, 4-lane undivided, and 4-lane divided cross sections. Hennepin County and the City of Mound will work collaboratively to determine what is most appropriate for each section.

Future Right-of-Way Preservation

At present, there are no anticipated needs for additional public right-of-way that need to be designated. There may be minor connections needed with the buildout of the trail network, and the redevelopment of the Downtown area. However, those will be determined on an as-needed basis, possibly in coordination with a development project.

BICYCLING AND WALKING

A well-developed bicycle and pedestrian network provides a way for people of all ages and abilities to travel in a way that is safe, comfortable, accessible, and active. It connects people to community destinations, improves bicycle and pedestrian safety, increases multimodal opportunities, encourages active living, and provides a community amenity. The City's recent investments in a walkable and bikeable downtown core are further strengthened by building out a pedestrian and bicycle network for both the immediate area and citywide.

Pedestrian Facilities

Pedestrian travel provides an alternative to driving for short distance trips, and safe connections between other modes and final destinations for longer ones. It also can serve as an amenity for residents and visitors who are looking for a safe and active means of recreation, and for businesses districts looking for street life. Dedicated pedestrian facilities also help prevent fatalities resulting from pedestrians mixing with vehicle traffic.

The current sidewalk system serving Mound is depicted on **Figure 6.12**. Also depicted are the new sidewalk links that the City intends to build to extend and enhance the overall pedestrian network.

Bicycle Facilities

Bicycle facilities provide additional opportunities for non-motorized connectivity and travel. Bicycle trips can be longer than pedestrian, which opens up possibilities of both replacing auto trips and connecting to a regional network. As traffic volumes grow, having an alternative means of travel can ease pressure on roads with limited capacity. Additionally, bicycle tourism has become increasingly popular in many communities, as a low-impact way to enjoy area attractions and support local businesses.

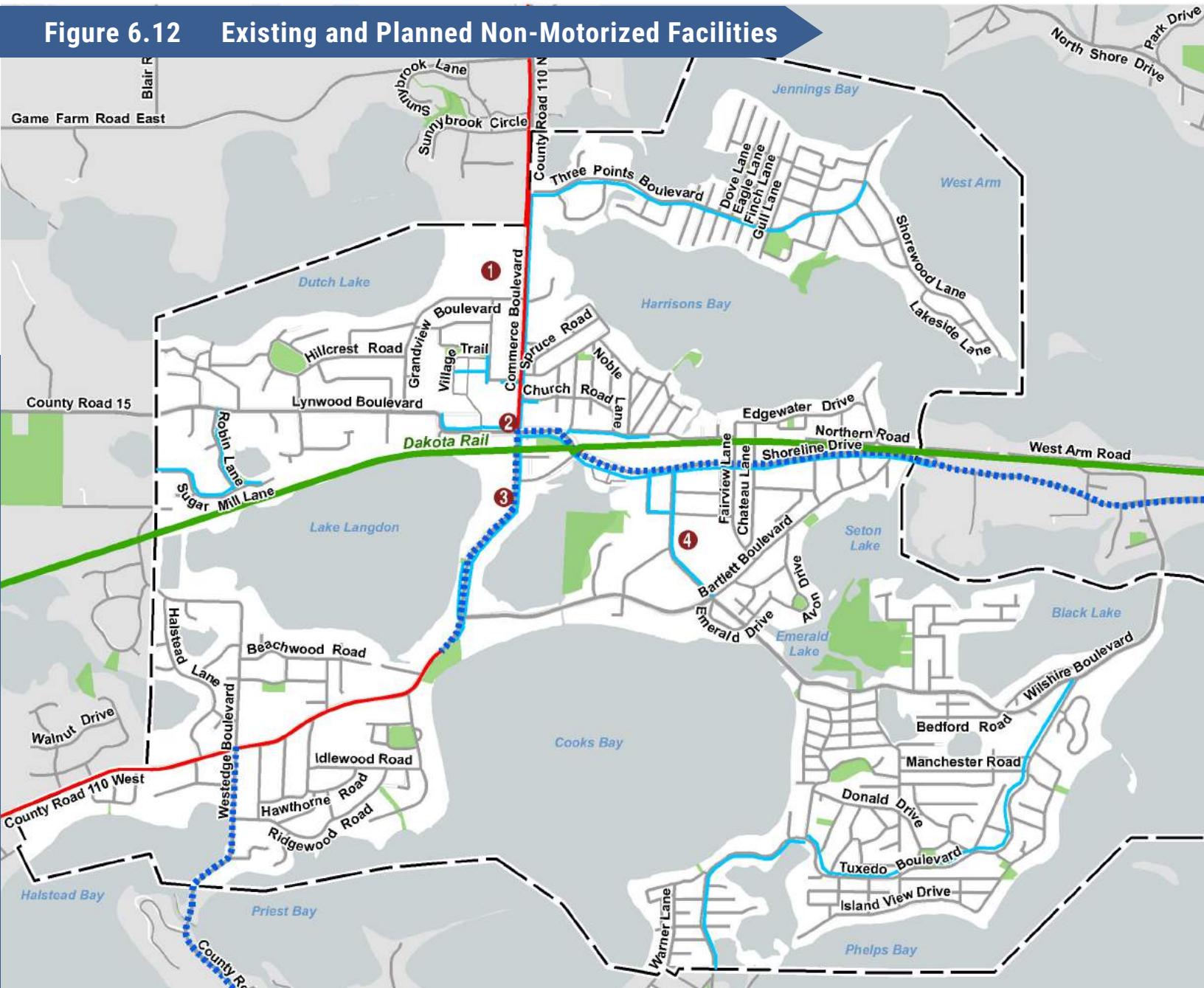
They can also be developed as a system that is similar to road functional class – with different facility types for different travel needs. Major categories of bicycle facilities in Mound include:

Off-street trails – These trails link destinations and communities, and may have a range of supporting amenities, including signage, parking, seating, and wayfinding. They may be located along major roadways, or in their own dedicated right-of-way (such as an abandoned rail corridor, as is the case with the Dakota Rail Trail). They are frequently located along higher volume and speed corridors where on-street bicycling would be less safe. Regional trails are developed and maintained at the county or regional level, and provide connections over longer distances and between cities. Local trails are maintained at the city level, and typically provide connectivity between local destinations and regional systems.

On-street bike lanes – On-street bicycle facilities are typically developed by the county or municipality when funding or right-of-way constraints preclude off-street facilities – or where traffic volumes do not justify the additional investment. They can provide important local connections to the off-street system and local destinations. There are paved shoulders serving as on-street bike lanes along much of Bartlett Boulevard/CSAH 110.

Existing bicycle facilities in Mound are depicted on **Figure 6.12**. Also depicted are the new bicycle facilities that the City intends to build to extend and enhance the overall network.

Figure 6.12 Existing and Planned Non-Motorized Facilities



Points of Interest

- ① Grandview Middle School
- ② Downtown Mound
- ③ Our Lady of the Lake School
- ④ Shirley Hills Primary School

Trails

- Existing Regional Trail
- Planned Trails
- Bikeway
- Sidewalks

Regional Trail Facilities

As shown in **Figure 6.13**, the main regional bicycle and pedestrian facility in the city is the Dakota Rail Regional Trail. In Hennepin County, the Dakota Rail Regional Trail is a paved, 13 mile trail that utilizes the abandoned Dakota Rail Corridor to connect St. Bonifacius, Minnetrista, Mound, Spring Park, Minnetonka Beach, Orono and Wayzata. The trail also extends into Carver County from St. Bonafacius, adding another 12.5 miles of trails that connect to Victoria and New Germany in Carver County before ending at the Carver County/McLeod County line.

In addition to connecting these communities, the regional trail connects to Gale Woods Farm, a regional park facility with a working farm, located just west of Mound in the City of Minnetrista.

The Dakota Rail Trail is open daily from 5:00 am to 10:00 pm and accommodates pedestrians, bicyclists, and dogs. In addition to public parking available at the Mound Transit Center on Shoreline Drive, there is public parking to access the Dakota Rail Trail across the street on Lynwood Boulevard.

At present, there are no further plans to develop additional regional trail alignments in Mound.

Regional Bicycle Transportation Network

The Metropolitan Council has reflected the need for a hierarchy of non-motorized transportation facilities through their designation of the Regional Bicycle Transportation Network (RBTN). The RBTN was developed by the Metropolitan Council through the Regional Bicycle System Study in 2014, and was incorporated into the 2040 Transportation Policy Plan. It is the Met Council's intent that the RBTN will "serve as the 'backbone' arterial system for biking in the region." The guiding principles for this network include:

- » Overcome physical barriers and eliminate critical system gaps.
- » Facilitate safe and continuous trips to regional destinations.
- » Function as arteries to connect regional destinations and the transit system year round.
- » Accommodate a broad range of cyclist abilities and preferences to attract a wide variety of users.
- » Integrate and/or supplement existing and planned infrastructure.
- » Provide improved opportunities to increase the share of trips made by bicycle.
- » Connect to local, state, and national bikeway networks.
- » Consider opportunities to enhance economic development.
- » Be equitably distributed throughout the region.
- » Follow spacing guidelines that reflect established development and transportation patterns.
- » Consider priorities reflected in adopted plans.

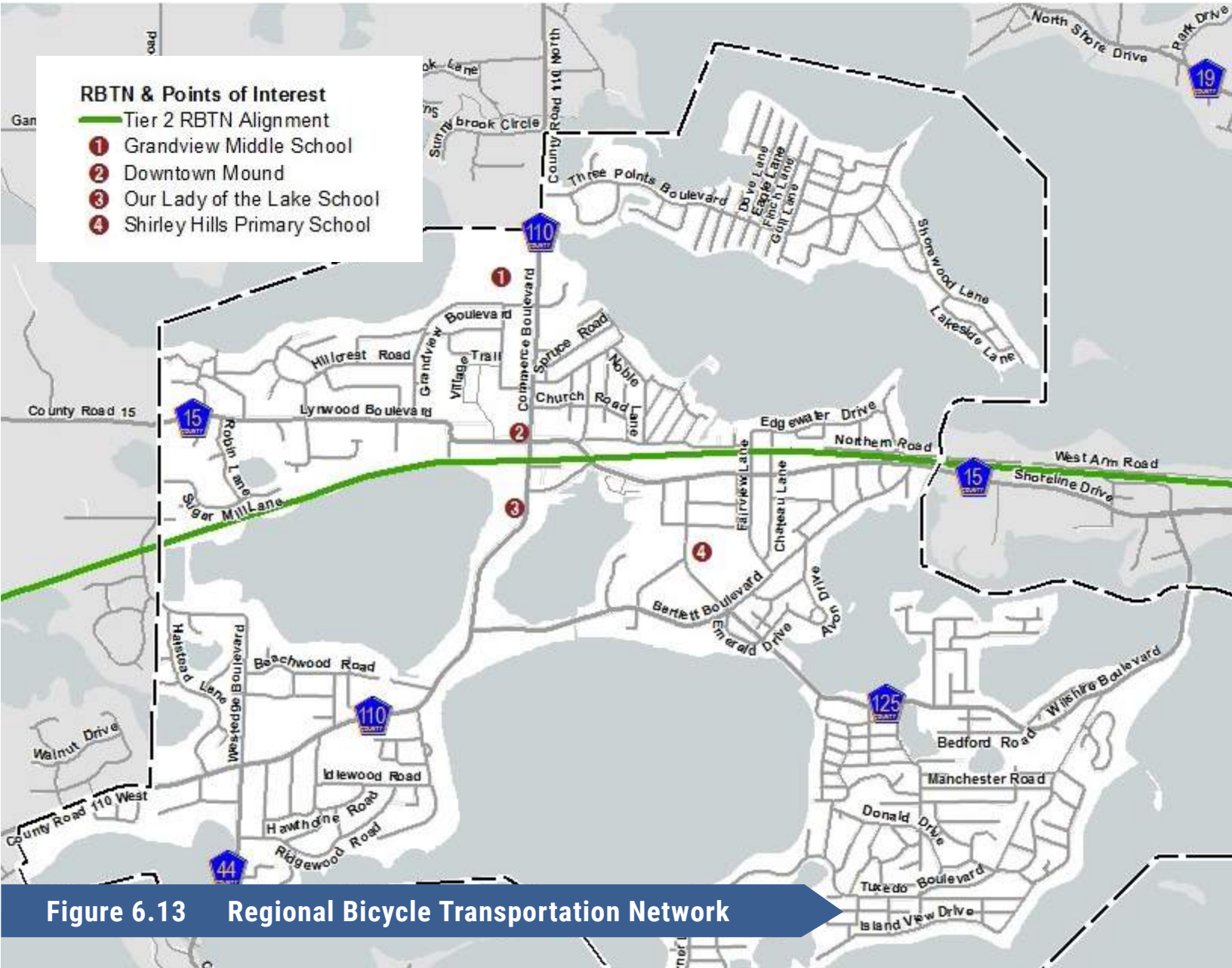


Figure 6.13 Regional Bicycle Transportation Network

The RBTN is subdivided into two tiers for planning and investment prioritization:

Tier 1 and Tier 2 Regional Bicycle Transportation Alignments reflect specific routes that have already been constructed and/or identified through local plans. Some may need little or no improvement, while others have not yet been developed. The Tier 1 subset reflects those that provide direct connections to and between regional destinations.

Tier 1 and Tier 2 Regional Bicycle Transportation Corridors are the highest priorities for regional planning and investment, with Tier 1 being the top ones. They were chosen to reflect areas where it would be possible to attract the most riders and thereby make the biggest difference in terms of mode shifts. At present, they are shown as broad lines on the map because the exact alignment has not yet been determined.

The Dakota Rail Regional Trail is identified as a Tier 2 Alignment in the RBTN. No additional RBTN connections are identified within Mound, although the Dakota Trail provides a connection to a Tier 1 Priority Corridor in nearby Orono, providing a proposed north-south linkage to the larger regional network.

Project Recommendations

- » An on-street bikeway on Westedge Boulevard/County Road 44, extending south into Carver County. The northern limit of this bikeway will be the intersection of County Road 44 and Bartlett Boulevard/County Road 110. This bikeway will be completed in partnership with the City of Minnetrista and Hennepin County.
- » An on-street bikeway on Shoreline Drive/CSAH 15, between Commerce Boulevard/CSAH 110 and CSAH 19 in Orono. This would provide a parallel on-street facility to the Dakota Rail Regional Trail, with more local access points.
- » An on-street bikeway on Commerce Boulevard/CSAH 110 from Bartlett Boulevard/CR 125 to Shoreline Drive/CSAH 15, filling a gap in the existing network.

Current Issues

Specific issues and concerns in the bicycle and pedestrian network are identified below:

- » The City, in collaboration with Hennepin County and Three Rivers Park District, has explored multiple methods of improving safety of the Dakota Rail Regional Trail crossings through Downtown. Discussion on options will continue as development concepts are explored. Safety and circulation improvements will be explored and incorporated into any sketch plan or plats proposed for this area. A few options generally considered not feasible include a tunnel (because of high water table) and a bridge (because it would have to start almost at Commerce on the west to get over Shoreline).
- » There is an on-road bike route on Commerce Boulevard/Bartlett Boulevard/CSAH 110 through the City of Mound, which is part of the Hennepin County Bicycle Route system. However, there is a gap in the system between County Road 125 and County Road 15. This intersection also provides a connection to the Dakota Rail Trail, meaning that addressing this gap would provide continuous connections to two existing bicycle routes.
- » Revamp Commerce Boulevard to add greenspace and sidewalk/trail to encourage more pedestrian traffic along corridor. Current environment is not bicycle and pedestrian friendly. There are also a number of bicycle-related crashes along Commerce Boulevard, so safety improvements are needed.
- » Sidewalks to be explored along Lynwood Blvd west of Downtown, Bartlett Boulevard, and Wilshire Boulevard.

Facility Improvements

General Guidelines

Bikeways, sidewalks and/or multi-use trails are recommended to be adjacent to minor arterial, major collector and minor collector roadways within Mound to accommodate pedestrian, bicycle, and other non-motorized travel in a safe and comfortable manner. These roadways carry a considerable amount of vehicular traffic and separation of vehicular and non-vehicular travel modes is recommended. At the discretion of the City, in commercial and industrial areas, the requirements for trails and sidewalks may vary to accommodate additional pedestrian and bicycle traffic to provide connectivity as illustrated in **Figure 6.12**.

Along major collectors, on-street bikeways are recommended, and when possible a sidewalk on at least one side. On minor collectors, due to varying right-of-way widths and existing limitations, on-street bikeways or off-street trails or sidewalks are recommended, where right-of-way permits. When possible, pedestrian facilities on both sides of major collector roadways are recommended to allow for pedestrian travel within the corridor without introducing excessive crossing demand. With the vehicular volumes anticipated on minor collector streets, pedestrians can safely cross the roadway; however, pedestrian travel along the roadway may become less comfortable as traffic levels increase. An off-street sidewalk or trail will accommodate pedestrian travel along the corridor as well as provide a safe, comfortable link between lower volume residential streets and the other pedestrian facilities within the community.

TRANSIT

Transit Market Area

Transit connections for Mound are important to the community, providing a transportation alternative for workers in and around Mound, particularly to major job centers in the Twin Cities metropolitan region. Levels of transit service in the region are determined by a series of Transit Market Areas. The Metropolitan Council has defined Transit Market Areas based on the following primary factors:

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

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

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

The Emerging Market Overlay identifies locations within Transit Market Areas II and III that have a higher potential for transit usage than the rest of the market areas surrounding them. These areas are currently too small or non-contiguous to support a higher level of transit service. Focusing growth in and around these areas to connect to other areas of higher potential transit use will present good opportunities for future transit improvement.

Transit Market Area III has moderate density but tends to have a less traditional street grid that can limit the effectiveness of transit. It is typically Urban with large portions of Suburban and Suburban Edge communities. Transit service in this area is primarily commuter express bus service with some fixed-route local service providing basic coverage. General public dial-a-ride services are available where fixed-route service is not viable.

Also from Appendix G of the 2040 TPP (Table G-2), the primary emphasis within Transit Market Area III is on commuter express bus services. Local routes can provide basic coverage, given high enough demand, and dial-a-ride services compliments existing routes. As an emerging Market Area, the City of Mound may see future transit services, mainly through expanded express route services. However, this will depend on demand from residents or residents of neighboring communities willing to park-and-ride at the Mound Transit Center.

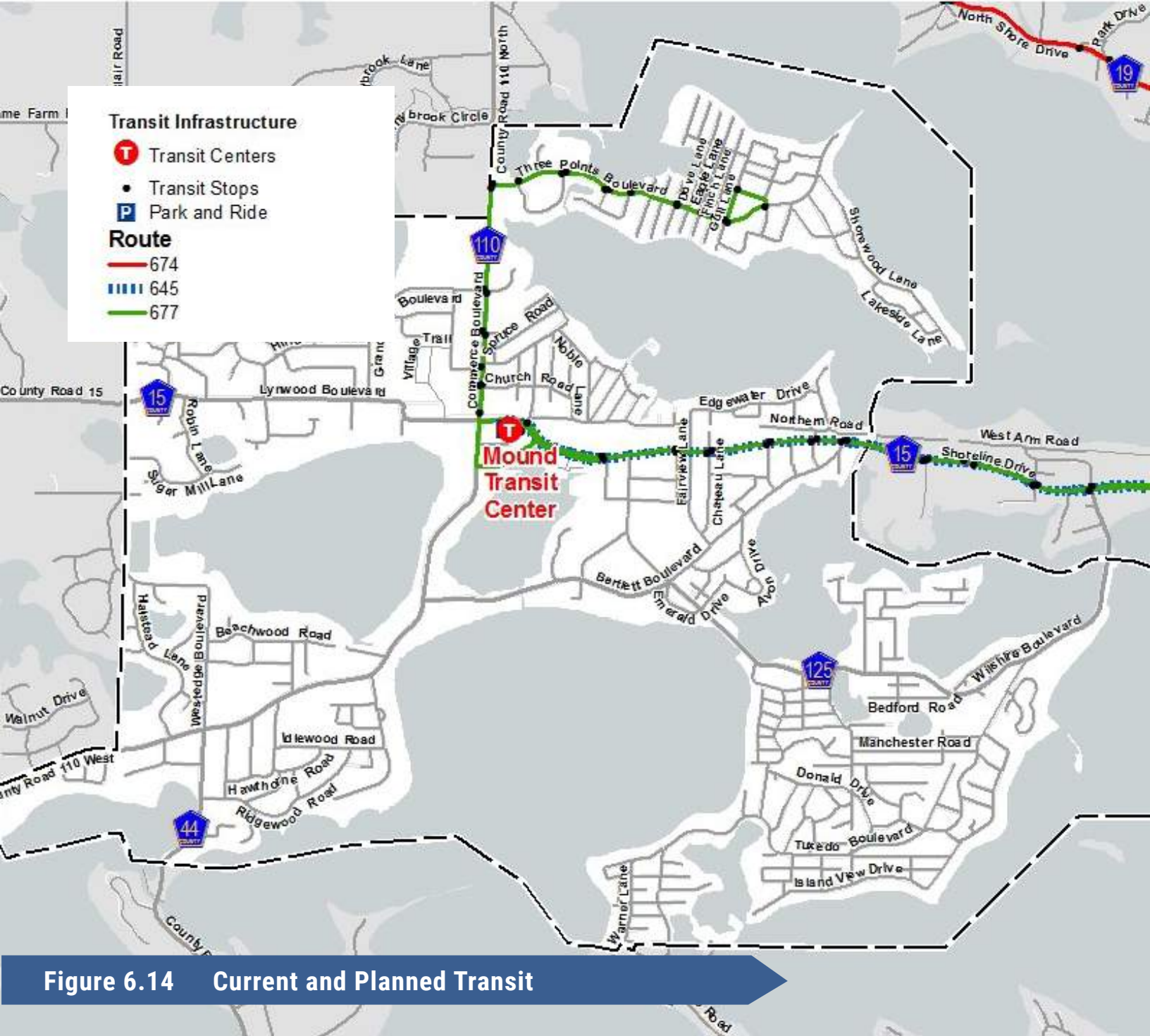


Figure 6.14 Current and Planned Transit

Current Transit Service and Facilities

The current and planned transit service and facilities in the City of Mound are depicted on **Figure 6.14** and summarized on the following pages.

Peak Hour Commuter Bus Service

The City of Mound is served by two transit routes, Route 645 and 677. Both are operated by Metro Transit.

Route 645 is a limited stop route runs east/west along I-394 from the Mound Transit Center to Downtown Minneapolis. However, not all runs of Route 645 start in Mound; the route alternates starting location between the Mound Transit Center and the Wayzata Transit Center. This route runs eastbound into Downtown Minneapolis from Mound Transit Center from 6:39 am to 8:37 pm and runs westbound to Mound Transit Center from 7:51 am to 8:24 pm. Both eastbound and westbound services run approximately once per hour. While Route 645 runs on Saturday and Sundays, it starts at the Wayzata Transit Station and does not directly service the City of Mound.

Route 677 is an express route that runs east/west along I-394 from the Mound Transit Center to Downtown Minneapolis. This route services some neighborhoods in the City of Mound in addition to the transit station. While Route 677 is more direct between Minneapolis and Mound, it runs much less frequently. This route runs eastbound into Downtown Minneapolis from 5:41 am to 7:27 am and runs westbound to Mound, leaving Minneapolis from 4:11 to 5:27 pm. Buses run approximately every half hour during these times.

Transit Facilities

There is one park-and-ride facility in Mound. The Mound Transit Center opened in 2007, following the realignment of Highway 15. The three-level municipal parking ramp includes 176 parking spaces, 50 of which have been reserved for Metro Transit's Park & Ride customers. The transit center is located on Shoreline Drive. This is roughly the geographic center of the city, offering convenient access to all Mound residents. It is also located off of the Dakota Rail Regional Trail, providing bicycle and pedestrian access. Routes 645 and 677 service this facility.

The elevator and heated waiting area at Mound Transit Center is open from 5 a.m. to 9 p.m. Public restrooms are open from 5:30 a.m. to 9:30 p.m. daily between May 1 and October 31.

City Considerations

Issues raised through the community engagement process related to transit include:

- » Support for transit service continuing in Mound
- » Interest in supporting additional ridership and utilization of the park and ride at the transit center
- » Support for installation of bicycle racks at the transit center

Dial-a-Ride Service

Mound is serviced by Transit Link, the dial-a-ride service provided through the Metropolitan Council at the County level. Transit Link provides metro-wide transit connections and access to qualifying rides, such as last mile service, connections between transit stations, or to and from area not serviced by regular bus routes. Any member of the public may reserve a qualifying ride. Upon reservation, each trip is assessed to ensure it does not overlap with regular route bus services. Starting and ending destinations must be more than a quarter mile from regular route transit in winter months (November-March) and more than half mile from regular route transit in summer months (April- October). Transit Link Service does not operate on Thanksgiving Day, Christmas Day, and New Year's Day.

Transit Link fares are determined by distance traveled. Trips less than 10 miles are \$2.25 one way, trips between 10 and 20 miles are \$4.50 one way, and trips more than 20 miles are \$6.75 one way. ADA-certified riders pay a maximum of \$4.50 one way regardless of distance traveled. This fare includes transfer to a regular service route except for the Northstar Line or peak hour services.

Transit Link service offered jointly through Hennepin and Scott Counties (as SmartLink Transit) serves all cities and townships in Hennepin and Scott Counties. Service is available Monday-Friday from 6 a.m. – 7 p.m. Transfers between Transfer Link and regular service routes take place at one of the following transit hubs: Chanhassen Transit Station, Southwest Village, East Creek Station, Marschall Road Transit Station, Eagle Creek Park & Ride, and Southbridge Crossing Park & Ride. The following stations in Dakota County are also available for transfer service: Burnsville Shopping Center, Burnsville Transit Station.

Metro Mobility is also available to qualified individuals with disabilities on an on-call basis throughout the seven-county metropolitan area.

Planned Transit Service and Facilities

With the completion of the park and ride facility, it is not anticipated that additional investment will be needed in transit infrastructure in the city before 2040. The City will encourage utilization of the park and ride and transit services in general, to support this investment, bring additional activity to the area, and to mitigate traffic concerns on area roadways.

Additionally, as the city's population ages, the City will work with Metro Transit, Senior Community Services, and other service providers to ensure transportation needs of seniors and people with disabilities are being met.

The Dakota Rail Regional Trail corridor has been identified as a potential transit corridor in the future, though it is not currently part of the 2040 regional transitway plan. The City of Mound should be an active participant in any studies related to the potential for future transit service along the Dakota Rail Regional Trail corridor.

AVIATION

There are no airports located within or nearby Mound. Flying Cloud Airport, located in Eden Prairie, is the nearest airport to Mound within the regional airport system. Flying Cloud is located approximately 17 miles southeast of Mound. The airport poses no potential impacts on Mound and there are no airspace restrictions affecting development in the City. Facility operation, maintenance, and improvements at Flying Cloud are provided by the Metropolitan Airports Commission (MAC).

Section 129 of the City of Mound's Zoning Code, covering the construction of telecommunication towers, restricts towers to 125 feet in height. Artificial lighting or paint marking is required to meet Federal Aviation Administration (FAA) standards, and the code includes FAA notification requirements.

FREIGHT

As there are no principal or minor arterials in the City of Mound, there is limited freight traffic. According to the 2016 Hennepin County Freight study, both County Road 15 and 125 see an average of 100 and 250 trucks per day. Segments of County Road 15 east of Commerce Boulevard/County Road 110 experience delays during both morning and evening peak travel times. This has led to decreased reliability in travel times along this stretch of road.

Commerce Boulevard/County Road 110 is a collector and a connector. County Road 110 sees an average of 1,000+ trucks daily south of County Road 15/ Lynwood Boulevard/Shoreline Drive and very little truck traffic north of this intersection. This roadway experiences major delays during morning peak travel times. However, this has not impacted the overall reliability of freight travel times along this stretch of roadway.

While overall travel times and reliability of County Road 15 and County Road 110 have not been impacted, future development or changes in freight and commodities mobility may create additional delays on these roadways and decrease the reliability of travel times.

There are no active rail lines in the City of Mound. The abandoned rail line has been converted into a regional trail, the Dakota Rail Regional Trail.

Due to the topography and geographic constraints of the City of Mound, there are numerous locations where there are issues with insufficient roadway width or turning radii that may restrict local freight capacity. Freight traffic and turning movements will need to be evaluated as part of planning for roadway improvements.

TRANSPORTATION GOAL, POLICIES, AND ACTIONS

Goal

Ensure the development and maintenance of a transportation system that provides safe, convenient, and effective multi-modal connections within Mound and to adjacent municipalities, the remainder of the Twin Cities Metropolitan Area, and greater Minnesota.

Policies

The City of Mound has identified the following policies to guide the planning and development of park, open space and recreation areas that meet the community's goal:

1. Develop a multimodal transportation system that balances the needs and requirements of all travel modes.
2. Reduce the need for and costs of future expansion of transportation systems through efficient land use and development patterns.
3. Improve the existing transportation system to provide a safe, cost effective, efficient and multi-modal future transportation system for the movement of people and goods.
4. Preserve and maintain the existing transportation infrastructure to protect existing investment, increase its efficiency, and delay the need for major system improvements or expansions.
5. Prevent and reduce congestion on roadways by promoting the expansion of alternate modes of transportation, including transit, park and ride facilities, carpooling, biking, and walking.
6. Promote a transportation system that contributes to the economic vitality by connecting people to work, shopping, schools, and other activity generators/ attractions.
7. Support a system of access management for the city, limiting direct property access to collector and arterial roadways where possible, and maintaining adequate spacing between access points.
8. Support growth of commercial and industrial uses through an efficient system for moving people and freight.
9. Cooperate on a regional level in the planning and development of the future metropolitan transportation system, including future transit services, to ensure that services meet the functional needs of all.
10. Cooperate at the local, state, and regional levels to reduce traffic congestion and safety concerns on regional transportation corridors.

11. Encourage a balanced approach to regional financing of transportation and other community needs at the local level based on current availability of services and facilities and maintenance of existing infrastructure.
12. Continue to coordinate future road construction and reconstruction projects with all utility service providers and Hennepin County to ensure efficient repair/replacement and avoid duplicate costs.

Actions

1. Maintain a Capital Improvement Plan that contains elements for reconstruction of the roadway system, with scheduled maintenance included in annual budgets. Street maintenance should include routine patching, crack filling, and storm sewer cleaning.
2. Implement a schedule for roadway maintenance and reconstruction (e.g. seal coating every 4 to 5 years, complete reconstruction or mill/overlay every 15 to 20 years), street widening/realignment, etc.
3. Prioritize and program non-development driven transportation improvements in the Capital Improvement Plan.
4. Work to ensure that the County's Capital Improvement Plan addresses needed reconstruction of County roads in Mound, and the addition potential trails along the roadways when improved.
5. Update the Zoning and Subdivision Ordinances to be consistent with the Comprehensive Plan, including the Transportation Element.
6. Establish an assessment standard for Major Collector and Minor Arterial roadways to establish expectations and ensure consistent application.
7. Establish a standard in the City's ordinances outlining when a traffic impact study should be conducted, including acceptable information to be contained within the study.
8. Collaborate with developers to construct needed transportation improvements prior to development, utilizing developer agreements to ensure improvements are constructed as agreed upon in the platting or development process.
9. Include adjacent roadways and intersections to be impacted by development in a Tax Increment Finance (TIF) District, when TIF money is used for redevelopment purposes.
10. Require right-of-way dedication along county and local roads to meet future roadway capacity needs as redevelopment is proposed and platted.
11. Explore modifications to Commerce Boulevard in the Promenade District to improve the pedestrian experience
12. Evaluate potential improvements to improve crossing safety around the schools and at trail/street crossings
13. Explore options with Hennepin County to improve non-motorized movement along Lynwood Boulevard west of Downtown, Bartlett Boulevard, and Wilshire Boulevard.

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7. WATER SYSTEM

INTRODUCTION

The City of Mound is a mostly developed city, and all of its residents and businesses are served by the municipal water system. The municipal water system is fully built out, in similar fashion to the housing and business/retail areas of Mound, with opportunities for redevelopment. No significant new water system infrastructure has been identified or is needed at this time to serve those opportunities. Infrastructure efforts over the past two decades in Mound have been highly focused on making improvements identified in the 2006 Water Plan as well as identifying high risk water infrastructure that existed in annual reconstruction project areas, as well as inside those project areas of partners Hennepin County and Metropolitan Council Environmental Services. As we near the end of the reconstruction efforts and shift into maintenance and risk mitigation, the types of water projects the city pursues will change accordingly.

WATER SUPPLY PLAN

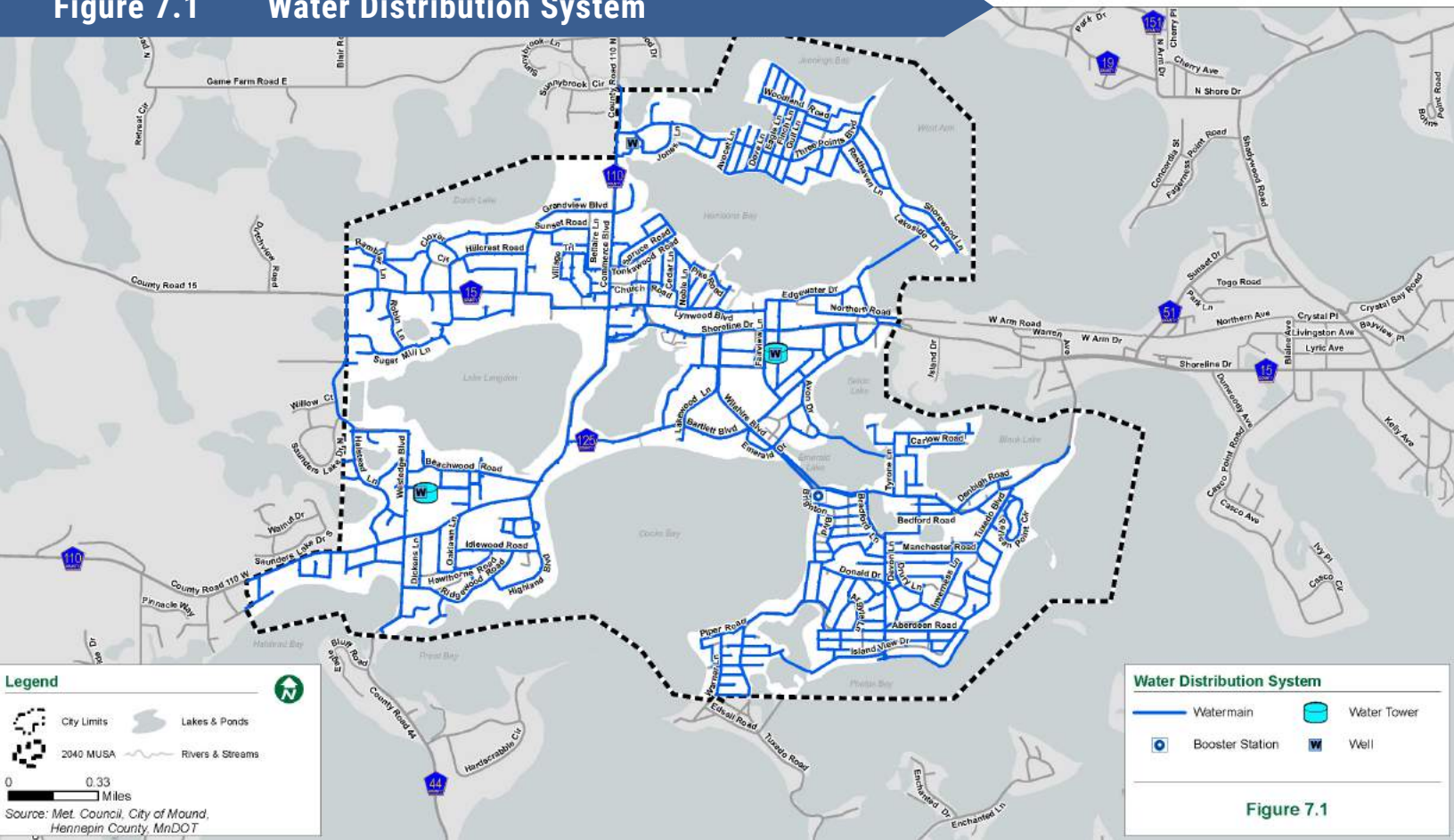
The City of Mound has previously completed and submitted Water Supply Plans in 1995 and 2006. The plan identifies strategies for supply and distribution facility improvements in the City, infrastructure costs and water conservation techniques.

Since new guidelines for water supply plan updates were released in 2017, an updated plan has been prepared and submitted in October 2017 to the DNR, Metropolitan Council and Hennepin County Department of Environmental Services for review and approval. The revised Water Emergency and Conservation Plan is available from the City of Mound. After the DNR has reviewed and commented on the Plan, necessary revisions will be made and by reference, become a part of the Water System. The Water Supply plan in its most current revised state is attached to this document as **Appendix C**.

EXISTING INFRASTRUCTURE

The existing water supply and distribution system provides service to all community residents and businesses. Historically the distribution system has met Mound's water demands. Improvements have been performed as required to maintain the system and continue to meet Mound's current and anticipated future water demands. A layout of the current water distribution system is shown in **Figure 7.1**.

Figure 7.1 Water Distribution System



The Water Supply Plan illustrates average and peak day usage and includes analysis of the impact of forecast growth on the water supply system. In addition, the Water Supply Plan identifies high-volume water users and analyzes groundwater and surface water sources. The Water Supply plan also places a greater emphasis on water audits and examining water loss, which is a downward trending metric for the City of Mound.

The City has recently set a routine schedule for water facility inspections and refurbishment to monitor and extend the useful life of existing infrastructure.

Wells

Public wells within the City are identified in ascending numerical order in the order they were constructed. Currently Mound obtains the raw water supply from two wells, Wells #3 and #8. Well #7 is out of service, but not yet capped and closed.

Historically Wells #3 and #8 have been able to meet the demands of the City, and have done so without the need for water from Well #7. Also the Water Supply Plan highlights the potential for growth of the served population and the capacities of Wells #3 and #8 are projected to easily continue to meet Mound's drinking water demands.

Water Treatment

City water is treated by on site chemical injection treatment. Fluoridation and chlorination are utilized in this treatment. The City presently does not have any plans to add water treatment, which could include manganese removal or softening, but continues to monitor test results closely to predict any additional treatment needs well in advance of health necessity.

Water Storage

The city has two elevated storage facilities. The first tower has a capacity of 400,000 gallons and is located at 2335 Chateau Lane while the second tower has a 300,000-gallon capacity and is located at 6139 Evergreen Road.

The former 265,000 gallon standpipe is now isolated from the system and awaiting demolition, which is located in the northeast quadrant of Devon Lane/ Donald Drive intersection in the Island Park Neighborhood. This removal has been an overarching goal of watermain upsizing and improvements scattered throughout multiple years of Mound's Infrastructure projects, as the height of the standpipe is a limiting factor, and created a separate fire flow and pressure zone for the Island Park Neighborhood. Until secondary and tertiary connections between the rest of the distribution system existed, the standpipe was needed to ensure adequate fire flows throughout the Island Park neighborhood. Both of those connections have been accomplished in 2016 and 2017 and the operation of the system has been adjusted to exclude the standpipe, as it is significantly lower in elevation than Towers #1 and #2, and would overflow, as well as the associated booster pumps. Fire flows have been improved for the Island Park neighborhood as a result of this system change.

Distribution System

Mound's water distribution system consists of a series of mains throughout the City ranging in diameter from 4-inches to 16-inches. In general, these mains were originally constructed of Cast Iron, Ductile Iron, or PVC. Mains that underlay previously reconstructed streets have been assessed for risk at the time of reconstruction and repaired or replaced accordingly.

Water Supply Plan

Additional information on the existing distribution system is included in the 2017 Water Supply Plan attached as **Appendix C**.

WATER CONSERVATION

An important component of the Water Supply Plan and a goal of the Minnesota Department of Natural Resources is to reduce the demand on the underlying aquifers that serve the metropolitan area. While the average residential water use in Mound at 68 gallons per day is below the metropolitan average of 75 gallons per day, conservation by and for Mound residents is still important.

Some water conservation measures currently used by the City include: tiered consumption rate structures, odd/even watering rules, water auditing and monitoring water loss. The water auditing and monitoring includes city maintenance activities such as flushing hydrants and watermain breaks but also unknown or unapproved use of city water. In Mound the amount of unaccounted water use is 8.49% over the past five years, which is below the maximum industry standard of 10% when corrective measures are necessary. It is also important to check water meters for correct readings. The City has employed a city wide radio read meter system and meters are being checked as part of this program. In addition, Federal and State laws require water efficient plumbing fixtures and rainfall sensors on landscape irrigation systems. The City also offers its residents educational information on the importance of water conservation and emergency water use reduction via its web site, the annual Consumer Confidence Report of the City's water supply system and community newsletters.

FUTURE FACILITIES/PLANS

The City has recently completed year 12 of its 13-year reconstruction projects, which have included major improvements to its water supply and storage system, programmed to meet the anticipated needs of the City's projected 2040 population. This includes the previously mentioned secondary and tertiary connections to the Island Park neighborhood to allow removal of the standpipe and booster pumps. Upsized mains and two directionally drilled connections crossing Lake Minnetonka are included in the recent efforts to accommodate these goals.

Specific capital improvements are identified in the Implementation Chapter of the Comprehensive Plan.

MAINTENANCE AND RISK MANAGEMENT

As Mound shifts from its reconstruction efforts into maintenance, this includes a shift in the type and scope of projects pursued by the city as part of its Water System operations. Past efforts have included tracking and mapping watermain breaks to analyze criticality of the system. Because a significant length of aging cast iron mains remain in-place, underground, there is a need to monitor and maintain those mains to ensure the maximum usable life and maximum water quality.

DOWNTOWN REDEVELOPMENT DISTRICT

As part of the future planning for proposed redevelopment of the downtown district, we have examined the infrastructure in that area and find that it is adequately served to meet current demands. Should the area be redeveloped as proposed, any needed changes to the water infrastructure would be built out as part of that redevelopment, however no trunk or transmission mains would be affected, and there are multiple opportunities to ensure adequate water supply to the area in its redeveloped state.

WATER SYSTEM GOAL, POLICIES, AND ACTIONS

Goal

Ensure the maintenance of a water system that provides safe and reliable water for drinking and fire suppression to the residents of Mound and adjacent communities through emergency interconnections.

Policies

The City of Mound has identified the following policies to guide the planning and development of the water system that meet the community's goal:

1. Maintain the existing water infrastructure service while improving infrastructure with redevelopment.
2. Continue to coordinate water system reconstruction projects with future road construction/ reconstruction projects, with all utility service providers and Hennepin County to ensure efficient repair/replacement and avoid duplicate costs.
3. Encourage education outreach to maintain or lower the per capita water use.

Actions

1. Maintain a Capital Improvement Plan that contains elements for reconstruction of the water system, with scheduled maintenance included in annual budgets.
2. Continue replacement of mains known to be in poor condition that were not part of the street reconstruction program in the short term.
3. Set-up framework for investigating existing cast iron mains in the mid-term.
4. Plan for replacement of mains found to be in poor condition in the long-term.
5. Continue monitoring water quality to assess for additional treatment needs in advance of health necessity.
6. Continue to provide education through newsletters and social media on water conservation.



8. SANITARY SEWER

INTRODUCTION

The purpose of this Sanitary Sewer Plan is to provide a snapshot of Mound's current sewer system and ensure that any growth or necessary improvements to the system are programmed as part of the overall comprehensive plan. The city of Mound's residents and businesses are all served by the municipal sewer system. The municipal sewer system is fully built out, in similar fashion to the housing and business/retail areas of Mound, with opportunities for redevelopment. No significant new sewer system infrastructure has been identified or is needed at this time to serve opportunities identified in this document. While the city's existing trunk sewer system serves the entire community, individual segments may need upsizing if significant redevelopment occurs. With the availability of public sewer to all properties, city code requires that property owners hook up to those facilities and no new Individual Sewage Treatment Systems (ISTS) are allowed. Previous phases of Mound's capital improvement plan have focused on maintenance and system integrity, and that focus will continue as the reconstruction projects transition in to maintenance and risk management.

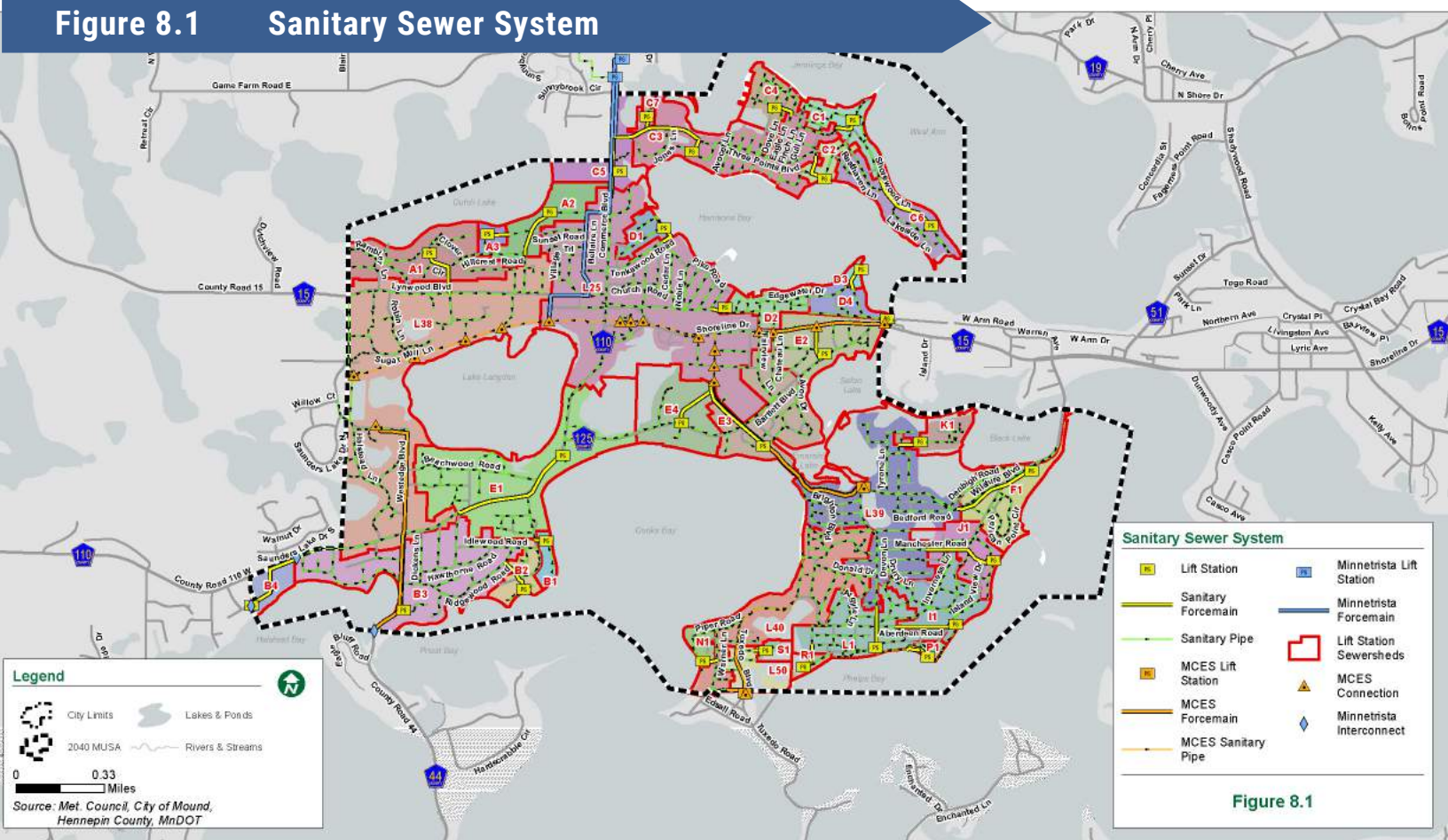
INFLOW AND INFILTRATION STUDY AND REDUCTION PLAN

Prior to 2007 the city completed spot sewer repairs and end to end pipe lining on an as needed basis or as part of the reconstruction project areas, with minimal attention paid to whole system or “turn key” rehabilitation. In June of 2007, in response to the levying of a Metropolitan Council Surcharge, the City Council ordered and received the Inflow and Infiltration Study and Reduction Plan along with the Lift Station Reconstruction Plan. The Lift Station Reconstruction plan was recently revised and updated by the Council to minimize the need for rate increases by continuing lift station replacements over the next 10 years. Both plans include a prioritization of areas of the city for infrastructure rehabilitation directed to reduce the amount of Inflow and Infiltration the municipal sewer system receives, and subsequently passes on to be treated.

EXISTING INFRASTRUCTURE

The City of Mound is currently generating approximately 358,500,000 gallons of wastewater per year with a current population of 9,371 and 3,545 sanitary sewer connections. Figure 8.1 Shows the Existing Sanitary Sewer Infrastructure.

Figure 8.1 Sanitary Sewer System



Treatment

The City of Mound lies within the Metropolitan Urban Service Area; therefore all wastewater is treated by the Metropolitan Council Environmental Service at their Blue Lake Wastewater Treatment Plant in Shakopee, MN. This plant provides primary and secondary wastewater treatment before discharging into the Minnesota River. The secondary treatment provides chlorination/dechlorination. On average this plant treats 26 million gallons of wastewater per day from 27 different communities. The total capacity of the Blue Lake WWTP is 38 million gallons of wastewater per day. There are no sub-surface sewage treatment systems in the City of Mound as connections for all properties to the City sewer is mandatory.

Lift Stations

Based on the unique topography of Mound, with rolling terrain and 47 miles of linear shoreline for a relatively small footprint, the city owns and operates a large number of lift stations. The City owns and operates 30 lift stations and associated discharge piping/forcemains that pump sewage on to other larger gravity pipes, or other lift stations, to be ultimately delivered to the MCES collection system in/throughout Mound for treatment at Blue Lake. The capacities of the City lift stations are shown in Appendix D.

Collection System

The municipal sewer system in Mound also consists of gravity mains ranging in sizes from 4-inch to 24-inch that are city owned. Much of this system is original vitrified clay tile pipe, which means it's prone to breakage from being brittle, and the pipe segments themselves are only 4-feet long, leaving a larger number of joints on these portions of the system. Large quantities of the clay tile pipe have also been rehabilitated, but is an ongoing process. Mound's collection system has multiple connections and discharge points into the MCES system.

System Capacity

Historically the system has provided adequate capacity for sewer flows. Because the area is fully developed and the city has taken steps to reduce the amount of Inflow and Infiltration in their system, reducing peak flows, no additional flow capacity is required to meet the sewage flows of the city's residences and businesses. It was determined that the existing system is adequately sized for the projected future flows and at this time no significant improvements or capacity increases are needed.

System Coordination

The precipitation events of the summer of 2014 and resulting max-capacity flows highlighted points of poor system coordination; both internal to the City system and at interconnects between City and MCES systems creating a significant effect in Mound and the region. These critical points in both City and MCES systems were identified, and the city continues to pursue fixes for those that can be mitigated.

Inflow and Infiltration

The City currently experiences inflow and infiltration peaks during wet weather. Interoperation of the sanitary systems make it difficult to accurately assess the entire City, but general observations can be made that sewer mains and manholes closer to or below lake elevation are more susceptible to inflow and infiltration. Approximate inflow and infiltration amounts are listed in **Table 8.1**, using the difference between flows from the lowest winter months and the entire year. The flows were provided by MCES.

Table 8.1 Estimated Inflow and Infiltration

	Average Annual Flow (MGD)	Peak Month Flow (MGD)	Base Sanitary Flow (MGD)	Average Annual I/I (MGD)	Average Annual I/I (%)	Peak Month I/I (%)
2010	1.172	1.519	0.921	0.250	21%	39%
2011	1.239	1.971	1.082	0.157	13%	45%
2012	0.929	1.365	0.790	0.139	15%	42%
2013	1.076	1.693	0.786	0.290	27%	53%
2014	1.169	2.737	0.739	0.430	37%	73%
2015	0.918	1.152	0.739	0.179	19%	36%
2016	0.966	1.167	0.816	0.149	15%	30%
2017	0.983	1.713	0.910	0.074	7%	47%
Average (2015-2017)	0.956	1.344	0.822	0.134	14%	38%

*Calculated as annualized flow of lowest month (January or February)

The main public source of clear water flow is the existing pipe. The City is comprised of 26,000 feet of public sanitary sewer and around 23,000 of that pipe was installed prior to 1970. The length of private service mains is unknown, but there is approximately an additional 30,000 feet of private service laterals, both equally likely to contribute to inflow and infiltration. Homes built after 1970 are less likely to have inflow and infiltration because of updated construction standards. Of the properties in Mound, 2,046 of them have been built prior to 1970, while 2,183 of them were constructed 1970 or later. Since Mound was largely developed by 1970, a good portion of the homes were likely rebuilt and the sewer service may still be contributing to inflow and infiltration, or its status is unknown. If a private service investigation and remediation ordinance is adopted, this will need to be taken into account. While the actual length of all privately owned sewer laterals in the city limits is not known, an estimate places the total length of pipe to be 51% of the linear length of conveyance in the City of Mound, compared to the city's public 49% of conveyance. Therefore it is reasonable to assume that over half of the inflow and infiltration comes from private sources.

Other sources of inflow and infiltration include sanitary manholes, private service sump pump, rain leader or foundation drain connections. Per City ordinance, discharge is prohibited from any roof, surface, groundwater sump pump, footing tile, swimming pool or other natural precipitation into the sanitary sewer system. The City has previously inspected all properties for conformance to the ordinances requiring disconnection from the sanitary sewer system. The ordinances, Section 74-216, are included in **Appendix E**.

Since the 2007 Inflow and Infiltration Reduction Study, the City has been pursuing fixes using multiple strategies, which include: replacing manhole castings with watertight castings and ring sealing, lining pipes, sealing leaking manholes and replacing lift stations. The original study has served as the guideline for directing the work performed to reduce I/I. Previous calculations of flow are based on pump run times, however, these calculations can be unreliable if multiple pumps are running or if a pump malfunctions. To gain a better understanding of flow sources and concentrations, flow meters are being installed with lift station replacements.

Based on the flows reported to us from the MCES, using their equation to subtract other community contributing flows, The City has observed inflow and infiltration from a high of 37% of flows in 2014 to a low of 7% in 2017, with an average of 14% over the last three years. This is deeply influenced by the weather and lake levels in Lake Minnetonka, but is trending downward as improvements are made. Mound has spent over \$800,000 from 2013 to 2017 on eliminating sources of inflow and infiltration, and plans to spend over \$800,000 over the next five years to continue eliminating I/I in its systems. Additional detail on spending can be found in the Capital Improvement Plan in **Appendix F**.

FUTURE FACILITIES/PLANS

The City has recently completed year 12 of its 13-year reconstruction projects, which have included minor improvements to the sewer collection system, and have focused efforts on reducing Inflow and Infiltration and increasing the integrity of the sewer collection system. Continued investments in the Sanitary Sewer system are two pronged: continue lift station reconstructions until all stations are reconstructed, and continue investigation and rehabilitation efforts that increase the integrity of the collection system, such as manhole rehabilitation and pipe lining. Specific capital improvements are identified in **Appendix F**.

Capacity upgrades are not included in the capital improvements since they are not projected to be needed with a slow growth forecast. **Table 8.2** lists the total projected population of Mound, which is also the sewered population. The City is expected to grow gradually to 2040, but remain below the peak population, reached in the 1990's.

Table 8.2 Mound Sewer Projections

	Census	Observed	Forecasts		
	2010	2016/2017	2020	2030	2040
MCES Sewered Population	9,052	9,371	9,400	9,500	9,600
Unsewered Population	0	0	0	0	0
Households	3,974	4,089	4,200	4,460	4,600
People Per Household	2.28	2.29	2.24	2.14	2.09
Employment	1,165	1,360	1,400	1,600	1,700

There are two trunk sewer connection points to MCES facilities within the City. Service area L25N includes the north portion of sewershed L25, along with sewersheds C1-C7 and D2. L38S includes the portion of L38 along Westedge Boulevard along with sewersheds B2-B4 and E1. **Table 8.3** breaks down the 2040 forecast by these major connections.

Table 8.3 2040 Trunk Sewer Area Projections

Service Area	City	L25N	L38S
Population	9,600	2,150	1,650
Households	4,600	1,030	800
Employment	1,900	650	50

MAINTENANCE AND RISK MANAGEMENT

As Mound shifts from its reconstruction efforts into maintenance, this includes a shift in the scope of projects pursued by the city as part of its Sewer System operations. The likelihood that a sewer flow event that triggers another exceedance event remains high unless rehabilitation efforts are continued to make a significant impact on the potential for Inflow and Infiltration in Mound. Recurring sewer main cleaning and video inspection will continue to identify conditions that increase risk of inflow, failure, collapse, or obstruction.

Key flow and pumping station nodes have been identified to allow improved system metering and monitoring. The City will employ city-wide SCADA technology that includes both fixed-site equipment as well as temporary meters to gain situational awareness of the overall system performance and locate higher-risk areas for Inflow and Infiltration.

The City council has also discussed the possibility of additional ordinances that may be considered in the future to place more responsibility on homeowners who are identified as contributors to Infiltration and Inflow.

SYSTEM INTEROPERATIONS

Another result of the 2014 events has been a renewed sense of cooperation between the City of Mound and MCES, as well as an acceleration of the projects that MCES has previously programmed in the Mound Area Sewer Facility Plan. That has resulted in MCES investments in maintenance, inter-system coordination, and capacity for future sewer flows through Mound starting in 2015 and continuing through 2019. This improved coordination and added capacity decrease the likelihood that sewer backups will occur in similar kind and quantity as the events of 2014; but may falsely reduce the perceived urgency of the need to reduce Inflow and Infiltration. As these improvement projects come to completion in 2020, Mound would like to shift focus toward understanding the way MCES' regional sewers and Mound's local collection system interoperate so both systems are optimized during any future max-capacity events. Germane to understanding system interoperations is continued metrics for accurately measuring flows that come from Mound itself; and separately the non-Mound flows passing through the same intercept infrastructure by continuing to improve meter technology, modeling, and actual flow situational awareness throughout the MCES system.

Currently, the neighboring communities that have sewage flows passing through Mound include Minnetrista, Spring Park and Shorewood. Spring Park and Shorewood flows all run through MCES facilities. Two interconnects exist with Minnetrista, shown on Figure 8.1, where flows run into Mound owned facilities prior to reaching MCES facilities. One area consists of a few homes on the south end of Westedge Boulevard. The second area is in the southwest portion of town. The B4 service area flows to the Minnetrista LS 13 and from there, flows combine with Minnetrista's flows for that area and are discharged to the gravity main on Bartlett Boulevard. There are no formal agreements between the neighboring cities and Mound. Some adjustments are made via calculated contributions, and for others MCES has set up metering to distinguish between the flows from different cities. Within Mound there are many gravity mains that connect directly to MCES gravity mains without metering, but is instead metered at the lift station prior to exiting the City.

Trunk sewer mains, those 12-inch and larger, that connect directly to MCES facilities were evaluated for capacity and the results are listed in Table 8.4. L25N is a 15-inch main crossing Shoreline Drive at Auditors Road. L38S is a 15-inch main on Westedge Boulevard north of Bartlett Boulevard and directly connects to the MCES LS 38. There are no known capacity issues within the City.

Table 8.4 2040 Trunk Sewer Capacities

Trunk Sewer	L25N	L38S
Sewer Size	15"	15"
Capacity	1928 gpm	1840
2040 Flows	582 gpm	636 gpm*
Percent Full	30%	35%

*Flow includes 173 gpm from Minnetrista LS 13 service area

DOWNTOWN REDEVELOPMENT DISTRICT

As part of the future planning for proposed redevelopment of the downtown district, we have examined the infrastructure in that area and find that it is adequately served to meet current demands. Should the area be redeveloped as currently proposed, with primarily medium density housing, any needed changes to the sewer infrastructure would be built out as part of that redevelopment, however no trunk or interceptor mains would be affected, and there are multiple opportunities to connect to the collection system in that area in its redeveloped state.

SANITARY SEWER GOAL, POLICIES, AND ACTIONS

Goal

Ensure the maintenance and upgrading of the sanitary sewer system to improve reliability and while continuing research and mitigation of sources of inflow and infiltration.

Policies

The City of Mound has identified the following policies to guide the planning and development of the sanitary sewer system that meet the community's goal:

1. Prioritize research of public sources of inflow and infiltration.
2. Prioritize public inflow and infiltration reduction and transition to private sources after public source repairs have been exhausted.

Actions

1. Continue investigating public sources of inflow and infiltration in the near term through metering, and televising.
2. Use research to prioritize inflow and infiltration reduction based on convergence of highest flows and cost effective fixes.
3. Continue replacement of existing aged lift station infrastructure.
4. Fix public sources of inflow and infiltration in the near and mid-term as budgets allow through pipe lining and manhole rehabilitation.
5. Set-up framework for investigating and subsequent repair of private sources of inflow and infiltration in the mid-term.
6. Begin investigation and remediation of private sources of inflow and infiltration in the long-term.



9. SURFACE WATER

INTRODUCTION

Mound is almost completely developed, and the City has reconstructed a majority of its storm management infrastructure over the last 10 years. As such, it is not anticipated that Mound will be adding much new infrastructure to manage storm water runoff by 2040.

However, the City will need to begin managing pollutant loading for impaired waters within city boundaries per State requirements, and opportunities to improve the City's storm water management network will still become available. In addition, the city needs to plan for maintenance and overall enhancement of the existing drainage system.

The primary purpose of this chapter is to provide guidance to city staff and elected officials regarding the implementation of effective, integrated storm water management practices and programs through the 2040 planning timeframe. This chapter is consistent with the regional requirements for surface water resources as outlined in the Metropolitan Council's 2040 Local Planning Handbook.

This chapter includes level of service considerations, impervious surface management, and potential improvement projects to enhance surface water resources in the City. Also, since the State requires a separate surface water management document for communities located within the Twin Cities seven county metropolitan area, the information included in this chapter are further outlined in Mound's Surface Water Management Plan.

SURFACE WATER

Level of Service

Level of Service considerations for stormwater collection and conveyance are important for planning purposes. In many locations and watersheds throughout the City of Mound, existing conditions, roadways, and terrain limit our ability to build stormwater management capacity to only contain or manage a 20-percent probability or five-year event. When otherwise possible the 10-percent probability event will be used as the governing design criteria in repair or improvement projects. All new work must meet all of the Minnehaha Creek Watershed District (MCWD) stormwater rules triggered by the project.

Impervious Surface Management

Impervious Surface Management is critical to leaving open land available for the percolation of stormwater which minimizes or eliminates runoff and discharge of stormwater into open lakes and streams. Mound will continue to limit impervious surfaces to 40% in lots of record and 30% in new lots. The City may alternatively consider BMP outcomes separate from impervious cover where innovative stormwater management tools are used to satisfy MCWD stormwater rules.

Shore Overlays

The City of Mound will continue to enforce 50-ft setback from Ordinary High Water or 10-ft from top of bluff (most restrictive) to preserve the riparian environment necessary to enhance water quality in its lake resources.

Localized Stormwater Treatment

Localized Stormwater Treatment projects can improve water quality by reducing pollutant levels in runoff discharge, recharge local groundwater through infiltration, and diminish flooding potential by reducing rate and volume of runoff. Localized projects can include installation of storm sewer, sump manholes, stormwater treatment devices, rain gardens, sand filters, and ponds or general maintenance of the existing storm sewer system. The City of Mound will strive to incorporate Best Management Practice for localized treatment and management in any watershed area that discharges direct to open waters. In order to maximize benefits, localized projects should be prioritized by considering available funding, feasibility, project partners, number of benefits provided, and bioengineered solutions.

Natural Area Preservation and Restoration

Natural Area Preservation and Restoration projects can improve water quality through stabilization of upland slopes and restoration of native vegetation, restore natural habitat for native species of birds, insects, and animals, and provide scenic views and recreational and educational opportunities. Natural restoration projects can include ravine stabilization, prairie and woodland restorations, and shoreline restoration work. In order to maximize benefits, restoration projects should be prioritized by considering available funding, feasibility, project partners, number of benefits provided, and bioengineered solutions. Mound will consider opportunities in the existing commons, vacant lakeshore lots, and unimproved street ends along the shoreline to demonstrate the aesthetic and functional values of natural area preservation within lakeshore and wetland buffer zones and to reduce long term operation and maintenance cost of upland city lots.

Wetland Restoration

Wetland Restoration projects can improve water quality through stabilization of shorelines, detention of runoff, and restoration of native vegetation, restore natural habitat for native species of fish, birds, insects, and animals, and provide scenic views and recreational and educational opportunities. In addition, wetland restoration projects can help diminish flood potential by reducing rate and volume of stormwater runoff. In order to maximize benefits, restoration projects should be prioritized by considering available funding, feasibility, project partners, number of benefits provided, and bioengineered solutions.

Stream Restoration

Stream Restoration projects can improve water quality through stabilization of shorelines and restoration of native vegetation, restore natural habitat for native species of fish, birds, insects, and animals, and provide scenic views and recreational and educational opportunities. In order to maximize benefits, restoration projects should be prioritized by considering available funding, feasibility, project partners, number of benefits provided, and bioengineered solutions.

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10. IMPLEMENTATION

Mound's Comprehensive Plan provides guidance for making decisions about the community's future growth, redevelopment and infrastructure improvements. The narrative sections and supporting graphics within this plan provide direction for solving existing problems and dealing with future change. Implementation of the Comprehensive Plan involves the conversion of the established goals and policies into official municipal controls and programs. The Implementation section, like the plan itself, is a flexible tool and should be amended or adjusted as conditions warrant.

The Mound Comprehensive Plan will be implemented in a number of ways. Actual implementation of the plan is accomplished on a daily basis by City personnel and on a regular basis by the decisions that are made by the various advisory commissions and the City Council. Implementation will involve the application and enforcement of existing ordinances, modifications to existing ordinances, adoption of new ordinances, use of a capital improvement program, maintaining and enhancing a housing program, use of public fiscal tools, directives from the City Council, and administrative procedures.

IMPLEMENTATION ROLES AND RESPONSIBILITIES

The City of Mound, like many communities, has defined the community's key planning elements and processes, and established advisory commissions to specifically focus on each element. Each of these commissions has a role in the implementation of the comprehensive plan. Ultimately, these commissions are advisory to the City Council who has final decision-making and policy-establishing authority. It is important that the efforts of each of the commissions coincide with the policy direction that is established by the City Council.

City Council

The City Council is the final authority in the implementation process. The Council has official approval of all municipal plans, ordinances and programs, the authority to earmark funds, and the ability to execute funding agreements with state and federal agencies.

The City Council needs to work closely with all of the advisory commissions in implementing the recommendations found within the Comprehensive Plan. The council members and the mayor have frequent contacts with residents and business people in the community and can contribute to continued public support of adopted policies, ordinances and programs.

Planning Commission

The Planning Commission plays a key role in all new development and redevelopment decisions. It is important that the Commission's role be closely coordinated with the City Council to assure continuity between policies and what they strive to achieve and what is actually allowed by the City's ordinances and programs.

The Planning Commission is the entity with primary responsibility for the preparation of the Comprehensive Plan. After adoption of the plan, two areas of emphasis remain. First, it is the role of the Commission to ensure that the City's ordinances are in conformance with the goals and policies of the plan. Conformance may require periodic updates of the Zoning Ordinance and other sections of the City Code. Secondly, on an ongoing basis, it will remain the charge of the Commission to review all new development and redevelopment proposals, including but not limited to site plans, subdivisions, lot splits, rezonings and variances, for their conformance with the Comprehensive Plan.

Housing and Redevelopment Authority

In order to achieve some of the recommendations found in this plan, involvement by Mound's Housing and Redevelopment Authority may be necessary. The HRA's involvement may be especially critical in financing redevelopment efforts where building and property constraints may preclude development solely by the private sector.

Parks and Open Space Advisory Commission

All decisions pertaining to the development of municipal parks and open space within the City of Mound are reviewed by the Parks and Open Space Advisory Commission. The commission has the lead role in implementing the park, open space and recreation goals and policies found within the Comprehensive Plan. Since the commission's recommendations are formally approved by the City Council, it is important that the two groups work together closely to attain identified objectives.

Docks and Commons Advisory Commission

The Docks and Commons Advisory Commission is focused on providing direction regarding the City's dock program and the operations of the City's commons. Mound's unique Docks and Commons Program consists of publicly owned shoreline areas or linear parkway commons and docks that provide an incredible level of public access to Lake Minnetonka.

ANNUAL REVIEW AND AMENDMENTS

To ensure that the Comprehensive Plan remains a useful tool for guiding growth, it will be periodically monitored and modified to reflect changing conditions and to correct errors identified through its implementation. Any amendments will be completed using the process outlined in state statutes and the City Code.

OFFICIAL CONTROLS

The City's official controls include ordinances, fiscal devices and public programs that are established to carry out the Comprehensive Plan's land use, transportation, housing, parks and natural resources goals and policies.

Official controls are key tools for implementing the 2040 Comprehensive Plan and must be consistent with the Comprehensive Plan. The following Official Controls can be found in the City's Code of Ordinances:

- » Zoning, including wetland, shoreland and bluff ordinances (Chapter 129)
- » Subdivision Regulations, including park dedication ordinance (Chapter 121)
- » Floodplain Management (Chapter 113)
- » Buildings and Building Regulations, including International Property Maintenance Code (Chapter 105)
- » Utilities, including Water System and Sewers and Sewage Disposal (Chapter 74)

A review of the official controls for conformance with the 2040 Comprehensive Plan will occur once adopted. Modifications will be made as needed by 2021.

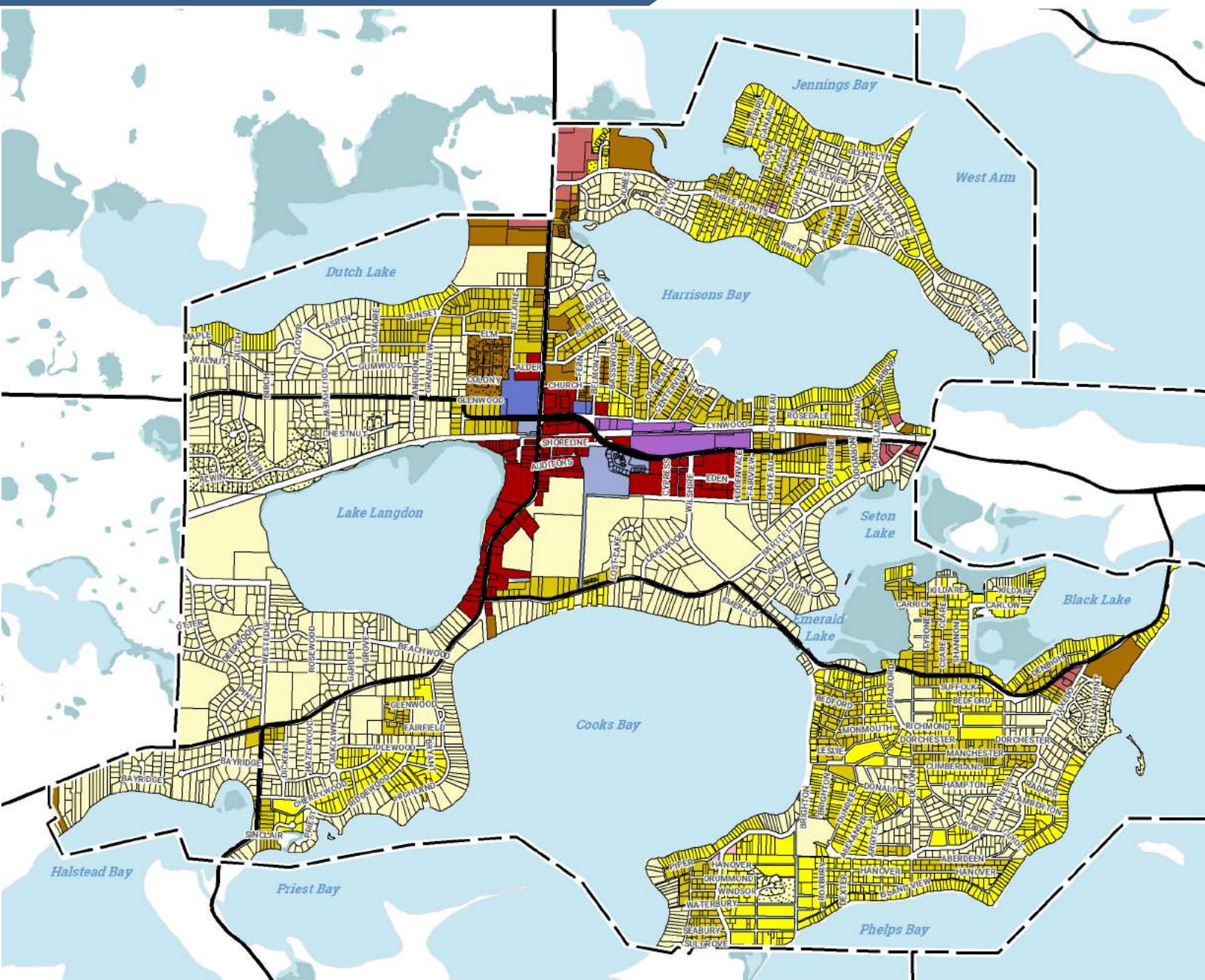
Implementation of the 2040 Comprehensive Plan will require modifications to the City's existing zoning districts. As guided by the 2030 Comprehensive Plan the City currently has geographic based zoning districts. In the 2040 Comprehensive Plan, one mixed use district is proposed. Within nine months of the adoption of the 2040 Comprehensive Plan the City will amend its zoning ordinance to be in compliance. The City's current zoning districts include:

- » R-1 Single Family Residential
- » R-1A Single Family Residential
- » R-2 Two Family Residential
- » R-3 Multiple Family Residential
- » B-1 Central Business
- » B-2 General Business
- » B-3 Neighborhood Business
- » I-1 Light Industrial
- » PED-PUD Pedestrian Planned Unit Development
- » DEST-PUD Destination Planned Unit Development
- » L-PUD Linear Planned Unit Development
- » CON Conservation District

Mound's zoning districts regulate allowable density/intensity through minimum lot size, minimum lot widths and maximum building heights rather than maximum number of dwelling units per acre.

Figure 10.1 shows the City's current Zoning Districts Map.

Figure 10.1 Existing Zoning 2017



POLICY PLANS

The Comprehensive Plan refers to other policy plans that Mound uses to guide municipal systems, actions and investments. These plans include the Water Supply Plan, Inflow and Infiltration (I/I) Reduction and Lift Station Reconstruction Plan, and Local Surface Water Management Plan. These plans serve as ongoing tools for implementing the plans, goals and policies in the Comprehensive Plan. These plans may be updated and modified without updating the Comprehensive Plan.

FISCAL DEVICES

The City has established various fiscal tools that support implementation of the Comprehensive Plan goals and policies, including tax increment financing (TIF) districts, special assessments, development review fees, park dedication fees, write-down of publicly-owned land for redevelopment purposes, and public funding of contaminated land cleanup.

CAPITAL IMPROVEMENT PROGRAM

State Law requires that the implementation program for the Comprehensive Plan contain a capital improvement program for transportation, sewers, parks, water supply and open space facilities. The 2040 Comprehensive Plan serves as the foundation for ongoing capital improvements planning by the City. The City has created a capital improvements plan (CIP) that matches the estimated project costs over a five-year period with funding sources. The CIP allows the City to prioritize projects and to make best use of available revenues. By looking at future needs, the City is better able to find funding sources to fill gaps and to coordinate projects with other jurisdictions. The CIP is updated and approved annually. The City's adopted CIP is included in **Appendix F**.

PUBLIC PROGRAMS

Mound's unique Docks and Commons Program consists of publicly owned shoreline areas or linear parkway commons and docks that provide an incredible level of public access to Lake Minnetonka. The City should continue to enhance this program, including expansion of the program in conjunction with redevelopment projects and exploration of the potential for increasing links between the trail system and the public commons/docks. The City requires licenses for all docks as part of this program.

PARTNERSHIPS

Implementation of the Comprehensive Plan will require cooperation and coordination with many other local governments, agencies, organizations, and businesses. Two examples of these partnerships include:

- » Since most of the community playfields within Mound are owned and operated by the Westonka School District, the City should continue to collaborate with the School District on establishing programs/partnerships for sharing playfield facilities and considering community playfield needs in any potential future redevelopment of School District property.
- » The development of the Dakota Rail Regional Trail created a regional connection for Mound. The City will continue to work cooperatively with the Hennepin County Railroad Authority and the Three Rivers Park District Board of Commissioners on improving the safety of crossings and local trail connections.

CITIZEN PARTICIPATION

Citizen participation in the local planning process is a key element in the continued implementation of the comprehensive plan. Open communication should characterize the relationship between city government and local citizens. The expression of public opinion and its subsequent consideration in decision making are essential ingredients in implementing all public policy issues including comprehensive plans.

Citizen participation was a component of the preparation and adoption of this Comprehensive Plan. In addition to the input of the volunteer commissions that contributed to this planning effort, public comments were continually sought at a public information meeting and at formal public hearings.

The implementation of a comprehensive plan requires an even stronger citizen participation effort. The community will need to continually re-evaluate the comprehensive plan to ensure that it accurately portrays public opinion. If the people of Mound are familiar with the plan and endorse its recommendations, the implementation effort will be more effective. The City of Mound should use its newsletter, other mailings, and its website to portray the concepts found in this plan and to apprise the public on progress toward meeting identified goals.

IMPLEMENTATION ACTIONS

Topic	Action	Near-Term 0-5 yrs	Long-Term 5+ yrs	On-Going
Land Use	Update zoning map to establish consistency with the Future Land Use Plan.	X		
Land Use	Develop new zoning districts for the Mixed Use Areas.	X		
Land Use	Continue evaluation of site plans and development proposals for potential impacts to the community's natural resources and to identify potential mitigation actions.			X
Land Use	The City Council, Planning Commission and Park, Open Space, and Docks Advisory Commission shall review and analyze publicly owned land to ensure that it is needed for public purposes. Parcels that are deemed to serve no current or future public purpose should be considered for removal from the City inventory and returned to the tax rolls.	X		
Land Use	The City should consider making information available pertaining to design criteria for solar access.	X		
Land Use	Examine the existing Zoning and Subdivision Ordinances to ensure that they adequately include solar energy protection measures.	X		
Land Use	Prepare and implement signage plan to create uniform signage at all City entries		X	
Parks, Open Space & Recreation	Annually update the Capital Improvement Plan for parks, recreation, and open space ensuring that continued funding is available to meet the community's needs, including staffing, programming, new amenities and maintenance.			X
Parks, Open Space & Recreation	Create and implement a maintenance and replacement schedule to plan for phased replacement of neighborhood and pocket park facilities (i.e. playgrounds, courts, etc.)	X		
Parks, Open Space & Recreation	Provide an opportunity for neighborhood input on replacement projects.			X
Parks, Open Space & Recreation	Add user amenities to parks to respond to evolving public need.			X
Parks, Open Space & Recreation	Establish, and implement as opportunities arise, a uniform park signage and branding system for Mound's park, open space and recreation system.		X	
Parks, Open Space & Recreation	Conduct a Master Plan for Surfside Park.	X		
Parks, Open Space & Recreation	Consider an off-leash dog area where there is usable, underutilized open space that has an adequate buffer from adjacent residential properties.	X		
Parks, Open Space & Recreation	Explore the development of a few disc golf holes in a location where there is underutilized open space and users will not impact high quality natural areas.		X	
Parks, Open Space & Recreation	Explore opportunities, including partnerships, for a community garden. Seek locations where there is usable, underutilized open space where water for irrigation can be available.		X	

Topic	Action	Near-Term 0-5 yrs	Long-Term 5+ yrs	On-Going
Parks, Open Space & Recreation	Conduct a feasibility study to evaluate the potential of a trail to link Downtown Mound to Surfside Park along the west side of Lost Lake.		X	
Parks, Open Space & Recreation	Identify and sell extra city-owned parcels and tax forfeiture parcels that are too small for park facilities, do not have significant natural areas, and do not serve as an access point to city utilities or other functions.		X	
Parks, Open Space & Recreation	Periodically review and update the City's park dedication policy and ordinances to meet current state standards and respond to the market.			X
Parks, Open Space & Recreation	Develop a tree preference list and educational materials to support the diversification of the tree canopy.	X		
Transportation	Maintain a Capital Improvement Plan that contains elements for reconstruction of the roadway system, with scheduled maintenance included in annual budgets. Street maintenance should include routine patching, crack filling, and storm sewer cleaning.			X
Transportation	Implement a schedule for roadway maintenance and reconstruction (e.g. seal coating every 4 to 5 years, complete reconstruction or mill/overlay every 15 to 20 years), street widening/realignment, etc.			X
Transportation	Prioritize and program non-development driven transportation improvements in the Capital Improvement Plan.			X
Transportation	Work to ensure that the County's Capital Improvement Plan addresses needed reconstruction of County roads in Mound, and the addition potential trails along the roadways when improved.			X
Transportation	Update the Zoning and Subdivision Ordinances to be consistent with the Comprehensive Plan, including the Transportation Element.	X		
Transportation	Establish an assessment standard for Major Collector and Minor Arterial roadways to establish expectations and ensure consistent application.	X		
Transportation	Establish a standard in the City's ordinances outlining when a traffic impact study should be conducted, including acceptable information to be contained within the study.	X		
Transportation	Collaborate with developers to construct needed transportation improvements prior to development, utilizing developer agreements to ensure improvements are constructed as agreed upon in the platting or development process.			X
Transportation	Include adjacent roadways and intersections to be impacted by development in a Tax Increment Finance (TIF) District, when TIF money is used for redevelopment purposes.			X
Transportation	Require right-of-way dedication along county and local roads to meet future roadway capacity needs as redevelopment is proposed and platted.			X

Topic	Action	Near-Term 0-5 yrs	Long-Term 5+ yrs	On-Going
Transportation	Explore modifications to Commerce Boulevard in the Promenade District to improve the pedestrian experience		X	
Transportation	Evaluate potential improvements to improve crossing safety around the schools and at trail/street crossings	X		
Transportation	Explore options with Hennepin County to improve non-motorized movement along Lynwood Boulevard west of Downtown, Bartlett Boulevard, and Wilshire Boulevard.			X
Water System	Maintain a Capital Improvement Plan that contains elements for reconstruction of the water system, with scheduled maintenance included in annual budgets			X
Water System	Continue replacement of mains known to be in poor condition that were not part of the street reconstruction program	X		
Water System	Set-up framework for investigating existing cast iron mains		X	
Water System	Plan for replacement of mains found to be in poor condition		X	
Water System	Continue monitoring water quality to assess for additional treatment needs in advance of health necessity			X
Water System	Continue to provide education through newsletters and social media on water conservation			X
Water System	Reevaluate water tower conformance to City aesthetic as part of implementation of long-term capital improvement plan		X	
Sanitary Sewer	Continue investigating public sources of inflow and infiltration through metering, and televising.	X		
Sanitary Sewer	Continue replacement of existing aged lift station infrastructure.			X
Sanitary Sewer	Fix public sources of inflow and infiltration as budgets allow through pipe lining and manhole rehabilitation.	X		
Sanitary Sewer	Set-up framework for investigating and subsequent repair of private sources of inflow and infiltration .		X	
Sanitary Sewer	Begin investigation of private sources of inflow and infiltration		X	

APPENDIX A. COMMUNITY ENGAGEMENT

PURPOSE

Community engagement is a means for all people to bring their voices into the process and to share their ideas, backgrounds, and experiences to plan for a future that benefits everyone. Appendix A shows the specific comments of community members as they participated in the variety of community engagement opportunities throughout the Comprehensive Planning Process.

PHASE 1: INFORM AND LISTEN

The first engagement task acted as a general information announcement that established and communicated the study's purpose and goals, the planning process and methodologies, and the project schedule. It also provided an opening for interested parties to raise questions, express levels of interest, express issues or concerns, and identify values and priorities, as well as critical evaluation of the vision and guiding principles to determine if changes are warranted.

Social Pinpoint

People's lives are always changing, so the ways that we can meaningfully engage with them also has to change. One way we decided to engage the community through this round of comprehensive planning was to try a new online engagement tool called Social Pinpoint. Social Pinpoint is a map-based online engagement tool that allows community members to leave comments on specific areas of the city via a map. Commenters are then able to interact with each other, by upvoting/downvoting other comments, or replying directly into a comment thread.

We utilized Social Pinpoint for Phase 1: Inform and Listen engagement to identify areas in the city people like ("Like it!"), areas people don't like ("Needs work!"), comments specific to the parks system ("Needed Park Improvements"), and needed street/safety improvements ("Safety Concern").

Embedded throughout the Social Pinpoint website were also a variety of surveys, asking for input on the current Vision, commercial areas in the city, the City's Parks, and a SWOT (Strengths, Weaknesses, Opportunities, Threats) Analysis for the community.

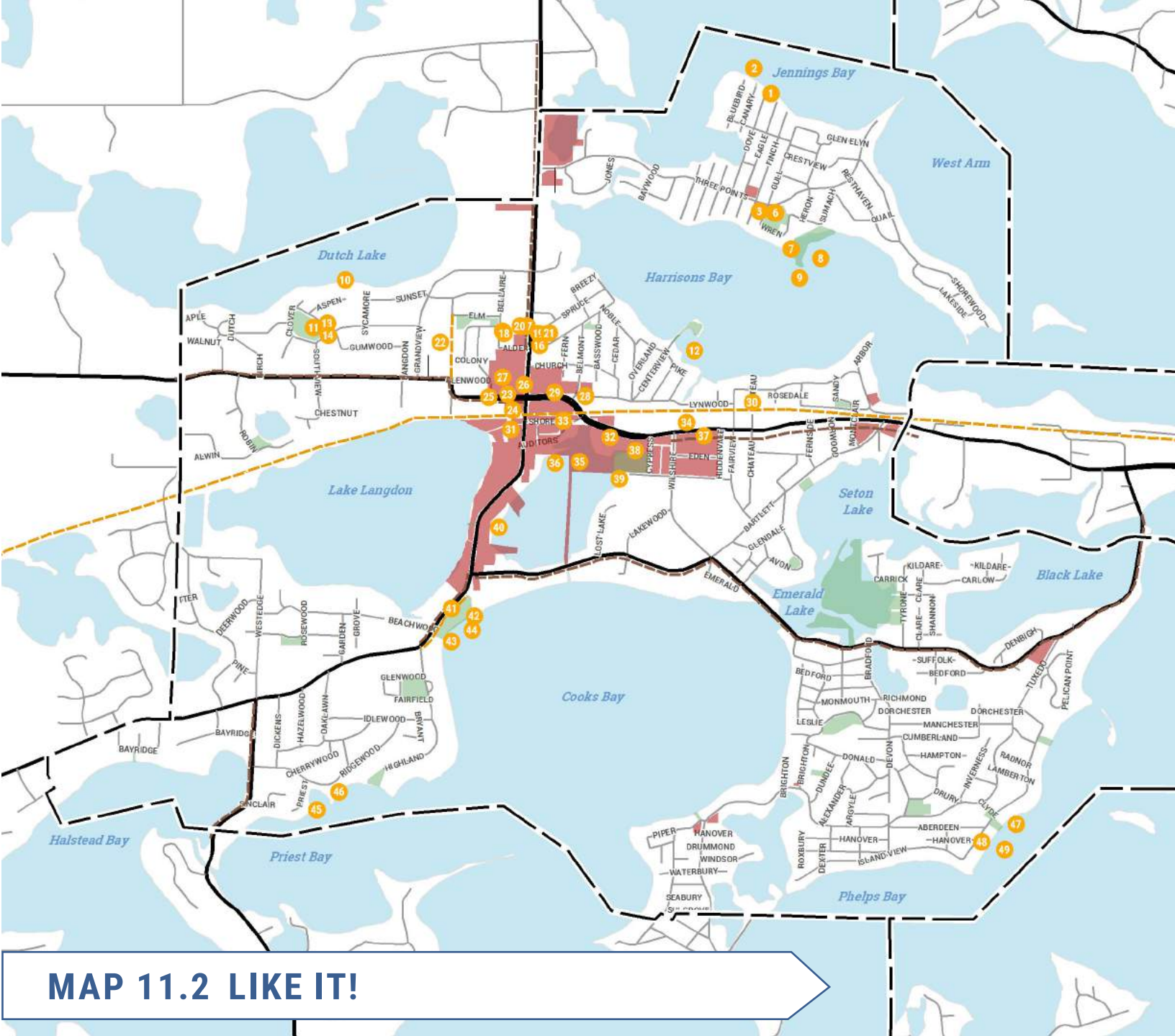
In total, Social Pinpoint was open for comment for one month in Spring of 2017 and there were 277 comments and 55 survey responses during that time.

Key Findings

- » Generally, the Vision seems to capture what Mound should be in 2040
 - Some feel that Mound is, and should continue to be, focused on serving the needs of residents by being self-sustaining and offering an affordable lifestyle that is not otherwise available around the lake
 - Some feel that the community should be a destination for the region similar to Wayzata or Excelsior where there are small shops, restaurant, and nightlife -
 - Some felt that the Vision could be more unique or compelling – there is a desire for it to more clearly communicate to others in metro that Mound is an engaging place to visit
 - It is important for the vision to maintain the idea of preservation of the natural environment
- » There are positive features in the community that should be highlighted and retained
 - “Small town feel” with a relaxed, friendly atmosphere
 - The local library is a valued amenity that patrons would love to use more with expanded hours
 - Existing community garden is a great example of private investment that serves the public good
 - Dakota Rail Regional trail is excellent for connectivity across community
 - Commons and dock program unique and positive aspect of Mound
 - Public spaces on the lake important to provide access to those who do not live on the lake
 - Having a variety of parks and facilities is appreciated. This includes community parks like Surfside, neighborhood parks like Three Points and Philbrook, and facilities like Wolner Field, and Zero Gravity
- » Community appearance is a concern
 - Commercial areas, including vacant and/or building facades not maintained and undeveloped areas
 - Public infrastructure like welcome signs, water towers, etc. need facelifts
 - Community gateways - they should be inviting and attractive, whether publicly or privately owned
 - Private property maintenance not up to standards in pockets around the City
 - Road conditions
 - Parks, particularly where dogs heavily using
- » Investment and redevelopment in Downtown, as well as along Commerce and Shoreline, should be a key focus of discussion in the Comprehensive Plan
 - Additional investment needed to fill vacant spaces and improve building maintenance in Downtown
 - Revamp Commerce Boulevard to add greenspace and sidewalk/trail to encourage more pedestrian traffic along corridor
 - Explore adding outdoor gathering places
- » Park investment is needed
 - Important that parks are within walking distance of neighborhoods
 - Open spaces and natural areas should be preserved for informal play and natural resource protection
 - Facilities need to be replaced, such as aging playgrounds, park signs, landscaping, and tennis courts
 - Explore opportunities to provide off-leash dog area, disc golf, skating, pickleball, and community garden
 - Add amenities to support users, including picnic tables, trash cans, restrooms, parking, etc.
 - Develop a plan for the revitalization of Surfside Park
 - Include neighborhood and community input in development plans
- » Safety continues to be a concern at intersections throughout the community
 - Motorized and non-motorized movement in downtown should be evaluated, including Dakota Rail Regional Trail,

cut-through traffic on Auditors Road, and turn lanes on Commerce

- Intersections on Commerce at Grandview Middle School and Westedge
- Sidewalks explored along Lynwood Blvd west of Downtown, Bartlett, and Wilshire Boulevard
- Multiple restricted visibility areas along Three Points Boulevard cause dangerous conditions
- Explore year-round rather than seasonal stop sign on Tuxedo
- Stormwater management into lakes

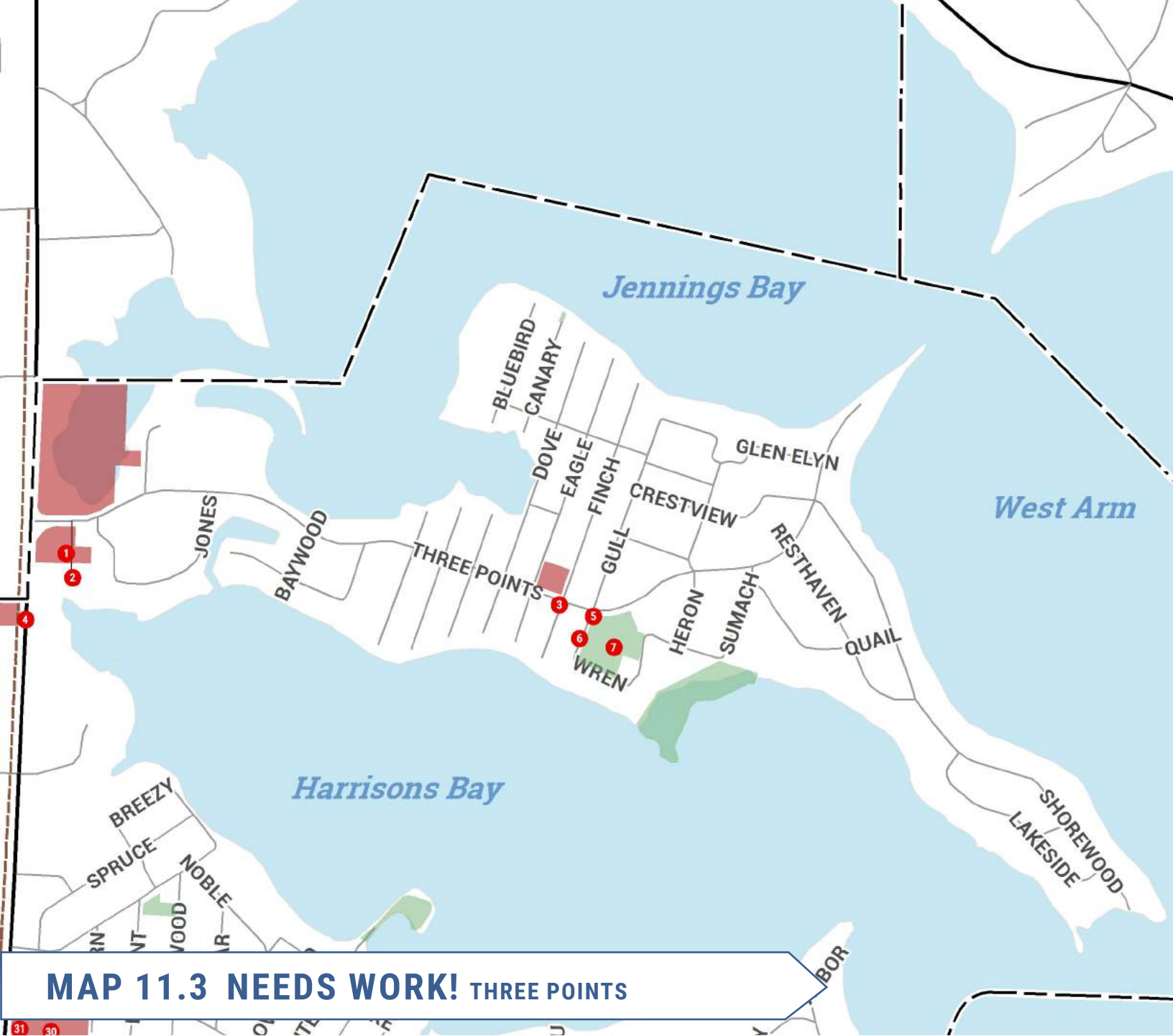


MAP 11.2 LIKE IT!

ID #	Like it! Comment (up votes, down votes)
2	Love this nice little beach. Kids use it often (2, 0)
1	» Agreed! (0, 0)
3	Great location for a park. Only one within walking distance for the entire Three Points Neighborhood (~25% of town). (1, 0)
6	I like the open space and areas for sporting activities. The tennis courts could use some upkeep. It is a great place to walk you dog, play frisbee, run the kids ect. (8, 0)
4	» Agree, these tennis courts are a great asset, but could use some tlc! (0, 0)
5	» Agree on upkeep to tennis courts, and making pickle ball an option. BB courts also need refresh. (0, 0)
8	This is a lovely open space and should be kept natural. (5, 0)
7	» Absolutely agree!!!! This natural area is a great asset to the neighborhood! (0, 0)
9	Crescent Beach is a nice area for walks both with and without dogs. The point has a nice fire pit area. It is natural and I often see kids playing out there. My kids walk out there often. (7, 0)

ID #	Like it! Comment (up votes, down votes)
10	Dutch lake has 4 eagles that visit daily. Set up a nest in the marsh to help keep them here and reproduce. Also, we have a loon. Set-up a floating nest to encourage it to stay throughout the summer (4, 0)
11	Great playground, love the big cottonwood trees surrounding the park! Could use more trash cans or set out earlier in the season. (0, 0)
12	Nice little beach (4, 0)
14	great park! Love the open area to run and fly kites or whatever. Run around the circle :) thank you for the beautiful playground. (0, 0)
13	» small set of bleachers in spring for parents to sit & watch their kids play t-ball & soccer would be a nice addition. thanks for bringing in a port-a-potty! Philbrook sign looks so dark & dingy. (1, 0)
15	Love that there is a library within walking distance. Love that it has kept old trees. Longer hours needed. (0, 0)
19	Love the library. Would be nice if there were some benches on the grassy areas in front or behind though. (13, 0)
16	» It's the county's library but I think this is a wonderful idea! (0, 0)
17	» Seems like the majority of times I drive by the library, it's closed. My wife and I moved to Mound last May from Chanhassen. Chan has a wonderful library centrally located in the city's center. (1, 0)
18	» Would be nice if they could open again on Sunday afternoons, too! (1, 0)
20	I love our library. It is so nice to be part of the County system. (3, 0)
21	Fantastic community garden giving residents without adequate land the opportunity to grow produce. Also supports the local food shelf. A great use of private land for public good! (6, 0)
22	I love this newer area Mound Marketplace! It is aesthetically pleasing, and was sorely needed! (0, 0)
23	Thank goodness Westonka Animal Hosiptal moved into this long empty building. We finally have a nearly full shopping center on this corner. (4, 0)
27	One of the coolest things about Mound is that we are a true "town" as opposed to downtown Wayzata and Excelsior. This means that we have all needed functions instead of just being for dining and fun. (3, 3)
24	» I agree with the OP. We moved here for the small town feel, which is what we get with the "downtown" Mound area. For us, there is just enough of what we need in the downtown. (0, 0)
25	» While the town is what attracted us here, it is fairly run down, far too much vacant commercial space and FAR too many buildings left poorly maintained, if not looking abandoned. (0, 0)
26	» Agree. The main intersection is awesome. Some of the fringe areas along shoreline or commerce could be greatly improved, though. (1, 0)
28	The center median is great and the plants add a lot to the city (2, 0)
29	The transit center and bike trail are great for the community. If only the trail were actually open! (3, 0)
30	Love the walk/bike trail! Also, it is nice to have trash cans along the trail! Sure beats having to carry your dog's waste for a long time. Just wish more dog owners would utilize them. (1, 0)
31	Dakota Junction is one of the few gems in town. (3, 0)
32	love the regional trail (1, 0)
33	Some of the recent efforts to make this area more like a park are nice. People are starting to socialize and plan events here. The ice cream shop draws people in. That's the future we need here. (1, 0)
34	The Dakota Bike Trail is excellent, in both directions. We use it often. (7, 0)
35	Love the Mound Harbor open space and it's central location. Having this aesthetically appealing area helps make up for the asinine decision to make a parking ramp the focal point of a beautiful town. (3, 0)
36	We need to increase visitors to downtown Mound. If we could incentivize Al and Alma's to operate out of the Harbor/surf side. They can increase volume/parking and drive traffic to local businesses (5, 3)
37	The commercial building at Stonegate has new owner recently and with Wecan expanding and the new martial arts gym it is starting to be a good spot (1, 0)
38	Nice ball fields and also neat to have the skate park for those who like that sort of thing (4, 0)
39	great little ballpark! (3, 0)

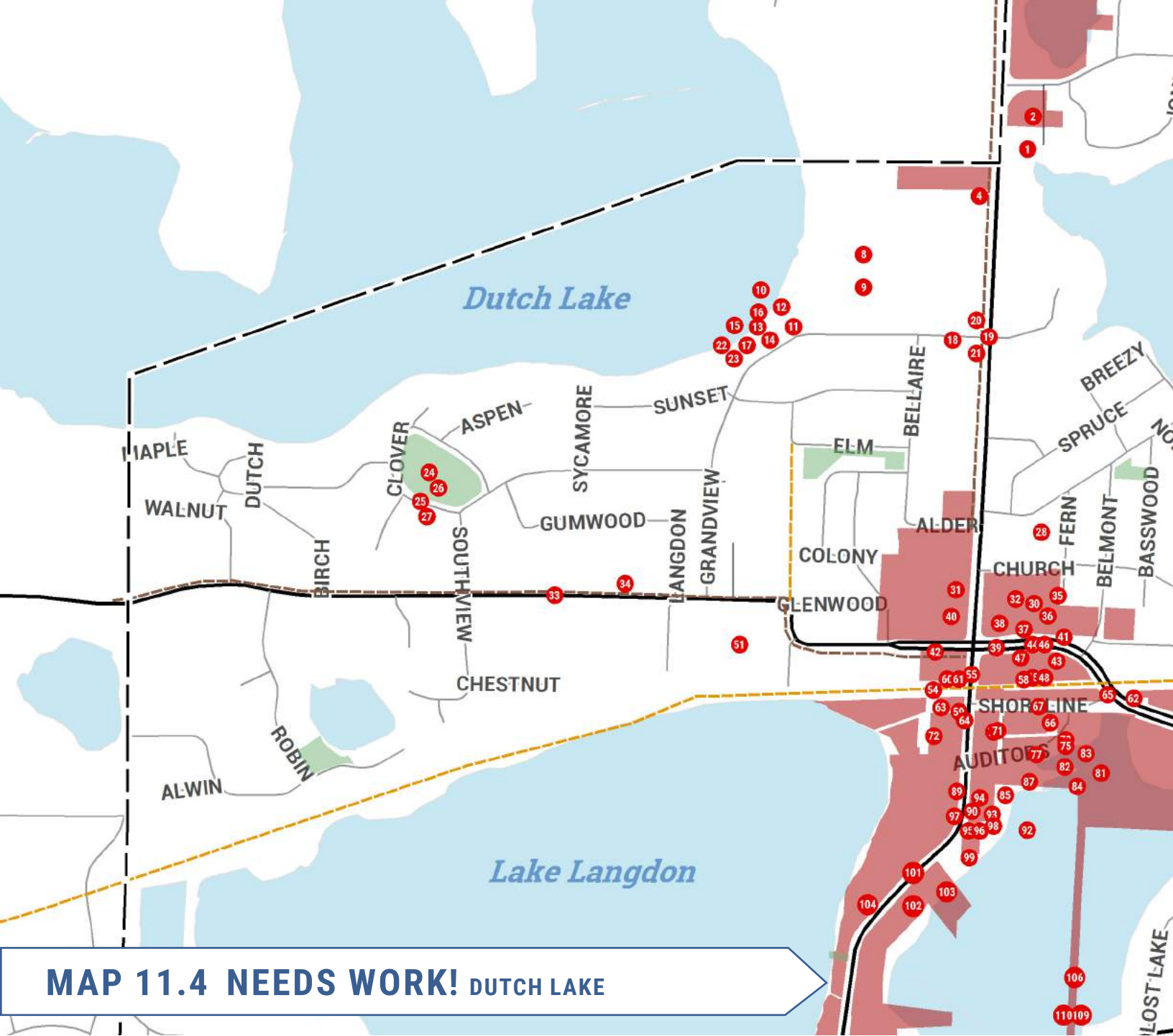
ID #	Like it! Comment (up votes, down votes)
40	Surfside is a nice addition to our town. I hope it stays profitable and people use it so we get to keep it. (3, 0)
43	Could use more parking, but otherwise this is a great space (10, 1)
41	» I like that there's little parking but agree that the playground could use some updating but it's a great park. (0, 0)
42	» playground needs updating. way too small and outdated for the space. also a large covered picnic area should be added for people to rent for the day. (0, 0)
44	Great space, great access for people who do not live on the lake. The fireworks are great from Cooks Bay as well. We have rented the pavilion for grad parties ect, it is nice. (7, 0)
46	This greenspace is a great addition to our community! (2, 0)
45	» Very much agree. Mounds commons and dock programs are really great unique aspects of our town. (0, 0)
49	I enjoy this beach access with the docks (5, 2) Additional Comment: Could use more parking
47	» Have tried to swim here but it's not well maintained and beach is full of broken glass. One year a local guy raked it so his kids could swim. :((2, 0)
48	» The docks completely block the view of the lake. The beach is completely unusable for swimming. Why should 8 boat owners who have a dock through the City reduce the enjoyment of the lake for others? (2, 0)



MAP 11.3 NEEDS WORK! THREE POINTS

ID # Needs Work! Comment (up votes, down votes)

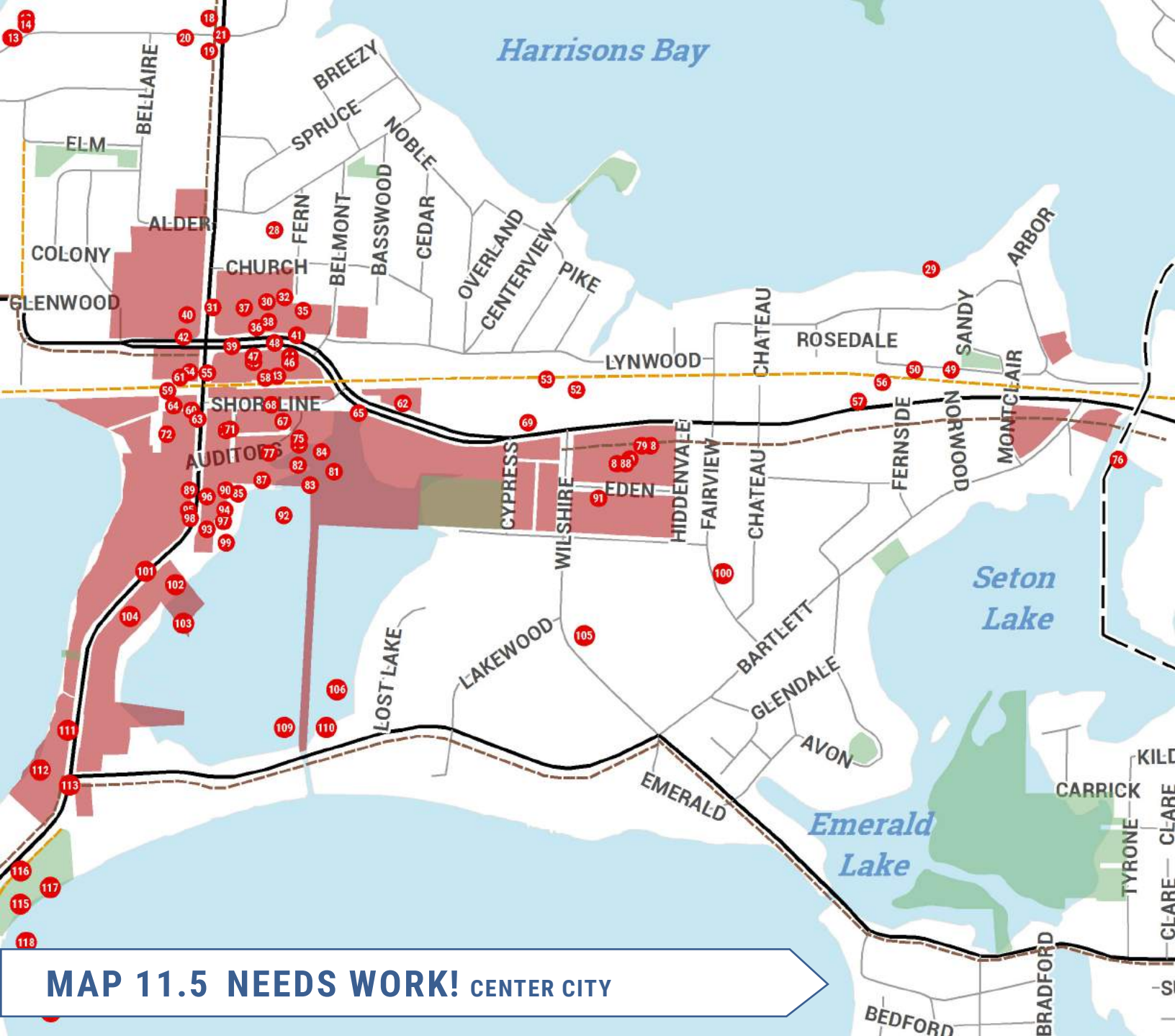
2	This is just an ugly empty staging area - how about improving it somehow? (9, 0)
1	» The city should not allow properties to exist in a state of disrepair or abandonment. In other communities, these properties would be assessed fines/liens in increasing amounts until they are fixed. (1, 0)
3	I 100% support ALANO. Perhaps we should support them with unused space in one of the city buildings, and let this space be sold for a different commercial use that area residents can enjoy. Win/win? (0, 0)
5	The park sign and flower bed need replacement/improvement. A bench at the school bus stop would also be a great addition (0, 0)
6	if this is being used for WYBL, needs better parking/turnaround area. Field is not kept up well enough for practice/games. (1, 0)
7	Needs swings - otherwise it's a wonderful park (3, 1)



MAP 11.4 NEEDS WORK! DUTCH LAKE

ID #	Needs Work! Comment (up votes, down votes)
4	How about improved/well designed "Welcome to Mound" signs? (7, 0)
9	Keep the woods a green space and tear down Toni's flowers. Allow the school and community to use the space for snowshoeing, edu purposesetc. don't build a retirement community (5, 0)
8	» Agree - why didn't the school purchase this property for future expansion, open spaces, fields. (0, 0)
10	Could use a floating fishing pier in this area. (1, 9)
14	Improve access for boat launch (8, 6)
11	» Agreed! This is a very small lake! There should be a maximum of 3-4 trucks with trailers at the ramp as it is. This lake can not support the additional traffic. It is a 160 acre lake with 70+ homes on it...It only takes 5-6 boats before the lake is congested. (2, 0)
12	» Wakeboard boats from off the lake create such large waves that water from the lake comes over our riprap and into our yard. A better ramp will result in a more congested lake. (4, 0)

ID # Needs Work! Comment (up votes, down votes)	
13	» An improvement to the boat launch will cause an increase in boat traffic on an already small lake. This lake is too small for 3 boats pulling tubers or skiers and can be a safety concern. (4, 0)
17	A floating fishing dock could turn into a swimming and party place for young people. Much liability involved not to mention the distractions for lake residents that deserve to enjoy their homes. (6, 1)
15	» This is a bad idea! There is already a problem with trash. Having a fishing dock will make this an even bigger problem. Dutch is a SMALL and quiet lake. The residents chose to live here because it is small and quiet. A fishing dock belongs on LK Mtkka (4, 0)
16	» I agree. No fishing dock (5, 0)
21	Might consider an actual stop light at this intersection. School traffic in the morning is busy and the officer there isn't safe on bad weather days. Stop light would be a better solution. (10, 10)
18	» I disagree. Placing a stoplight at this location will result in added traffic on Grandview boulevard. There are already irresponsible drivers that speed on Grandview and we don't need any more. (3, 0)
19	» Agree, we need a stoplight at the school intersection. (0, 2)
20	» I agree with the traffic light comment. Driving south in the morning to get to the parking ramp (bus) is tough. Even rougher for those cars going North. (0, 2)
23	Our storm water goes directly into our lakes unfiltered. This is one of the locations this is happening. Mound should consider having storm water go through a rain garden or holding pond to help our lake water quality. (0, 0)
22	» Agree - and the quality of our lakes directly correlate to our community's value. No more raw sewage ever! (0, 0)
24	The park is spacious, has lots of potential. However it's almost impossible to use without running or walking head down to keep from stepping in dog poo. Not sure how to train bad dog owners. (1, 0)
26	Space is large enough to accommodate a closed off section for a dog park. (1, 5)
25	» Playground equipment selected w/no input f/at least 3 neighbors across street. COMMERCIAL COLORS Blue/Yellow in Residential area-an Eyesore = UGLY. Unable to block f/my view at end of my driveway . (0, 1)
27	sign looks dark & dingy. paint it bright colors. add a small sign reminding people to pick up their dogs poop. install a dog bag dispenser & poop disposal like the one by the "Greens" trail (1, 0) Additional Comment: like the portapotty at Philbrook park
33	This side of 15 needs curbs! (3, 1)
34	Needs sidewalk. (6, 1)
51	Owned by the city. Could be dog park and picnic area for bikers. (2, 0)



MAP 11.5 NEEDS WORK! CENTER CITY

ID #	Needs Work! Comment (up votes, down votes)
28	Dog park (3, 0)
29	Houses and yards not kept up. Eye sore. (0, 0)
30	Anytime is such a great addition over here, would be nice to have a healthier eating option....salad/sandwiches, etc. (0, 0)
31	Terrible intersection to go into the shops, people are crossing, nobody is stopping, lanes are cutting down to 1 people are bypassing. (5, 0)
32	This complex looks awful. Update exterior. (15, 0)
35	Need a decent salon/spa, butcher shop/sandwich shop and some sort of gift shop or small sporting goods store. These are attractive for young families. (3, 0)
37	Too many vacant storefronts. We need to attract businesses to our city to increase tax revenue and reduce eyesores! (13, 0)
36	» There is a vacant building that used to be a shoe store by Our Lady of the Lake and it looks like it needs to be condemned. There are sheets hanging in the windows and peeling paint. (0, 0)

ID #	Needs Work! Comment (up votes, down votes)
38	This commercial area needs better traffic routing. It is very difficult for anyone using it to get back onto eastbound Shoreline Dr., especially during heavy traffic times and no U-turn at light. (5, 0)
39	Such a loss of businesses in this shopping strip. There needs to be a considered effort to fill those empty stores. (16, 0)
40	Very unappealing, unimaginative, and uninspired downtown area. Nothing draws me here. (3, 0)
41	You drive into Mound here and see backs of buildings - mural? additional screening needed. (0, 0)
42	The downtown area has no direction or meaning. Today it's a hodgepodge of old and new building. Mound is the birthplace of Tonka Toys yet there is no mention of it anywhere. Mound needs an identity (2, 0)
48	This ramp is ugly and overkill. Turn the top two floors in to shops and restaurant with view of lake. (14, 0)
43	» I've had the same thought myself. The top needs to be a place to socialize, grab some food, and look out over Lost Lake. The ramp is underutilized currently and our town is likely maxed for commuters. (0, 0)
44	» Great idea! We don't have any fine dining in Mound. The top of the ramp would be amazing! I wish I could give this comment more than one "like." (0, 0)
45	» Ride the bus to DT MSP every work day. LOVE that as an option. Agree that some retail there would be nice, but perhaps that can come in the grass area south of the ramp. (0, 0)
46	» I think it is necessary, look how tough the parking is in Excelsior. It was built too early but it will be useful eventually. (0, 0)
47	» Even just the top floor or bottom. When you stop at a big bus stop like that it's nice to be able to grab a cup of coffee and something to nibble on during the ride. (2, 0)
50	Update the "welcome" sign? (7, 0)
49	» The sign should be updated and made more attractive. (0, 0)
52	This is a rusting, vandalized water tank that needs to be torn down. It is a terrible eyesore. Good example of the kinds of bad things that you find in Mound that you don't find in other areas. (1, 0)
53	Rusted, vandalized water tank. Should remove. Good example of the negative things that you see in Mound that are taken care of in other communities. (1, 0)
54	I'm embarrassed when I drive out of town guest through "Downtown" Mound. Seems like I make excuses for the shabbiness of the storefronts and lack of something to catch an eye and draw in customers. (0, 0)
55	We need a dog park! (10, 0)
57	Entering Mound, greeted by Apartment buildings (5, 1)
56	It would be much better if the apartment buildings, houses, and commercial buildings, at the entrance of mound, were nicer. Some paint, and general maintenance would make a big difference. (1, 0)
58	Wasted space (6, 0)
61	2 major roads Commerce and Shoreline are good for moving vehicles, but are not conducive to walking around, biking, shopping, dining. It's not a downtown feel like Excelsior or Wayzata. (9, 0)
59	» I think it's conducive to pedestrians but just not a lot worth walking to right now. (0, 0)
60	» Those towns have major sidewalks with parking in back. When Walgreens moved they did it right. I hope in the future things will continue to improve (0, 0)
62	There is a very hard to see trail crossing here, no signs, on a curve, VERY DANGEROUS! (0, 0)
64	Run down buildings that are constantly revolving. (8, 0)
63	» Agree! The run down buildings are everywhere. This needs to be addressed. (0, 0)
65	Could use a better crossing signal. Quite dangerous to cross on 15 to connect on the trail here. Would make more sense to have just a pedestrian and trail crossing in 1 area instead of separate. (5, 0)
68	Do something with this area? Dog park? Shops? Restaurants? (12, 1)
66	» This area needs to be sold due to the investment the city put into preparing it. So I don't think a dog park will cut it. (0, 0)
67	» Mound is considered "far out" by a lot of people so I think something like a hotel or bed and breakfast might be a neat idea. There aren't any around the lake I know of. (0, 0)

ID #	Needs Work! Comment (up votes, down votes)
69	The old Tonka Toy factory (Balboa building) isn't the greatest thing to drive along as you come into Mound. Can we rezone this so in the future it has to become a bit more attractive of a business? (2, 0)
70	Overall, the central priority needs to be the simple improvement of the street and road quality throughout the city (0, 0)
71	Develop this area or make it a park. Stop holding up progress and making our city's public lakefront look like an afterthought. (15, 0)
72	With so many stores like Mama's Happy being such a trend, couldn't the old downtown store fronts be updated to make them more appealing to small businesses. (7, 0)
75	this has become a shortcut for drivers. and is dangerous for people using the park/docks. also needs more benches and trees. close one of the entry points so it's a 1-way in/out. (8, 3)
73	» If people are using the park and docks what are they doing in the road where I drive? (0, 0)
74	» Auditors Rd is the next closest road to be able to get back onto Shoreline after leaving Wells Fargo since you can no longer turn eastbound onto Shoreline and there is no U-turn at the lights. (0, 0)
76	Improve the Welcome to Mound sign (9, 0)
77	This land needs to be developed ASAP. Other cities around the lake are managing to cash in on some assets, and this is a prime piece of property that should be returned to the tax base asap. (1, 0)
80	The strip mall is so ugly. I love going there for the ECFE but it is just an eyesore (6, 0)
78	» I think the auto shop corner needs a makeover. What is this martial arts gym coming in? (0, 0)
79	» The buildings are actually cute, just fix the pot holes! (1, 0)
84	Mound will not have boat access like Excelsior or Wayzata, but what dredged access has been made available, with docks, it would be nice if there were something there to attract boaters into town. (13, 0)
81	» This area could be a big draw for our community but needs to be invested in to draw boaters/visitors. Restaurants, shops etc. (0, 0)
82	» Cheap ways to attract boaters and others to Mound would be adding picnic tables, a jungle gym, dog park, etc. (0, 0)
83	» A brewery along Commerce with a boardwalk could do it. Do you think a sign over Bartlett bridge facing the lake would help/look good/ugly??? (0, 0)
87	How about some sort of hotel and brewery in this area? We could do a boardwalk along the marsh and connect to Surfside Park (so you can walk along businesses), and drive to businesses on 110. (10, 1)
85	» I really like the "boardwalk along the marsh" idea. It's unique and takes full advantage of some of our better scenery. (0, 0)
86	» New martial arts gym is good start (0, 0)
88	These businesses need to be filled out, lower taxes or something to draw new business into Mound. (11, 1)
90	eyesores, the old buildings need to be removed or updated. especially those that don't even get used. (6, 0)
89	» Completely agree. We could have beautiful downtown with the lagoon. Need to incentive private investment in this area. Upgrade the current buildings in the area. (0, 0)
91	Improve properties along CR15. This is the first impression of Mound when driving into town. (6, 0)
92	When is the vacant land near lost Lake Harbour going to be turned into commercial businesses? (16, 0)
96	Huge eyesore. (32, 0)
93	» Wonder what the city can do about this property. The doors don't even seal on the bottom leaving plenty of room for rodents to access. Is there any city code for businesses to upkeep their property? (0, 0)
94	» This building needs to be put to use or removed. Until then, reasonable window treatments (not blue floral bed sheets) should be required. (0, 0)
95	» A way of attracting boaters here would be ideal - convenience stores, more restaurant options, etc (1, 1)

ID #	Needs Work! Comment (up votes, down votes)
97	"Eyesore with sheets in the windows: Step 1) Buy it and knock it down Step 2) Sell the land at a loss to a developer with solid plans for a business Step 3) Get a big bag to put the tax revenue in! (5, 0)"
98	Eye sore! I think we can do better than this. (9, 0)
99	Something needs to be done about the old William's store. (8, 0)
100	Let's paint our water tower something fun or attractive. It needs a paint job. How about a contest for clever ideas and a fundraiser to help paint it. (2, 0)
102	This area needs to be condemned and upgraded. Significantly degrades our community (8, 1) Additional Comment: Yes I'd like to discuss. MCP76B6A6
101	» If we do not have businesses available to revamp the condemned buildings, we should tear down the vacant buildings and make a green space for now. It will improve the image, when you drive into town. (1, 0)
103	Please demolish the hideous cinderblock building with blue curtains in the window on Commerce Blvd. that has been vacant for many years. It is an eyesore, making the whole town look like a junk yard. (5, 1) Add greenspace between Commerce Blvd and sidewalk on the east side + create parking on the west between Surfside and Downtown. More walk/bike friendly, and could increase foot traffic. Photo CLT DOT (2, 0)
104	Additional Comment: Would really like to see Commerce boulevard become a walking/biking route to increase visibility of businesses on that road. It seems that negative comments are focused on dilapidated buildings and I think creating a more welcoming route for people to use would encourage investment in that area.
105	Wilshire Boulevard from Bartlett to 15 would benefit from a complete resurfacing. (9, 0)
106	Can we dredge Lost Lake and make it a real lake? The shoreline would be so much more valuable. If not, can we add a walking path around the east side so we could walk around the marsh? (3, 0)
110	"Remove bridge....make bartlett blvd dead ends on either side. widen the channel for larger boats to come into mound harbor. rezone all the property around the harbor for development into shops resta (0, 1)"
109	I get that the channel needs to be widened and the bridge is not high enough, but this should not get dead-ended. We have too many dead end roads as it is. (0, 0)
111	eyesore (3, 1)
112	"The whole area from Surfside Park to the intersection at Shoreline Drive needs work. Many of the buildings are either vacant or run-down or both. We should have a retail space we can be proud of, and that can be a source of revenue to the city. At the very least, use the area as green space (1, 0)"
113	Looks dilapidated here, time to find unique businesses to put here. (1, 0)
115	Just add to it. Fun park but gets overloaded at times. (0, 0)
116	How? To what? (0, 0)
117	update the playground (3, 2)
118	The building that you can rent out needs work. Needs painting, deep cleaning, repairs to the restrooms, lightbulbs needed. I rented it last month and spent 4 hours cleaning it before we had our event. (1, 0)
121	I assume that Westedge will be repaved once the Water Treatment Facility is completed. (0, 0)



MAP 11.6 NEEDS WORK! THE ISLAND

ID # Needs Work! Comment (up votes, down votes)

108	Public fishing should not be allowed here (3, 1)
107	» People leave their trash after fishing. (0, 0)
114	House not maintained. Junk left outside. (0, 0)
120	empty space here, what is it for? can it be developed? always overgrown, sometimes used as a shortcut. maybe a convenience store? (1, 0)
119	» Or maybe a garden? (0, 0)
127	So many dead ends on the island, would be nice to have better traffic flow on/off. With the current detours in place, so easy to get lost and GPS doesn't help. (0, 0)
128	Old Island Park hall is in shambles and an eyesore. Can this be replaced or rehabilitated to be usable property. Need a community discussion and fundraising to accomplish vision. (0, 0)
129	Property at parks garage is looking run down. Building needs to be maintained. (0, 0)
130	May not be feasible, but would love a convenience store on the island. (0, 0)

ID #	Needs Work! Comment (up votes, down votes)
131	This property is not adequately maintained. (1, 0)
132	Development of parkside "Killer Hill" into more beautiful usable space. Clean up woods. (0, 0)
135	This would make more sense as a business, maybe a general store with liquor sales or a lower cost restaurant. (4, 2)
134	» The building was a business in the 1950s thru 60s, (Grims store) a small convenience store with a Greyhound bus stop. The location does NOT have enough parking for a business and is zoned residential. (2, 0)
136	Very poorly kept up housing here, kind of scary, junk left out year round in the yard... (1, 0)
138	This property is not maintained. (1, 0)
139	This property is not maintained. (1, 0)
140	I would love to understand why there's a peninsula that you can only access from Mound, has utilities and services fed from Mound, and yet belongs to Minnetrista and also Shorewood. Missed tax revenue (0, 0)

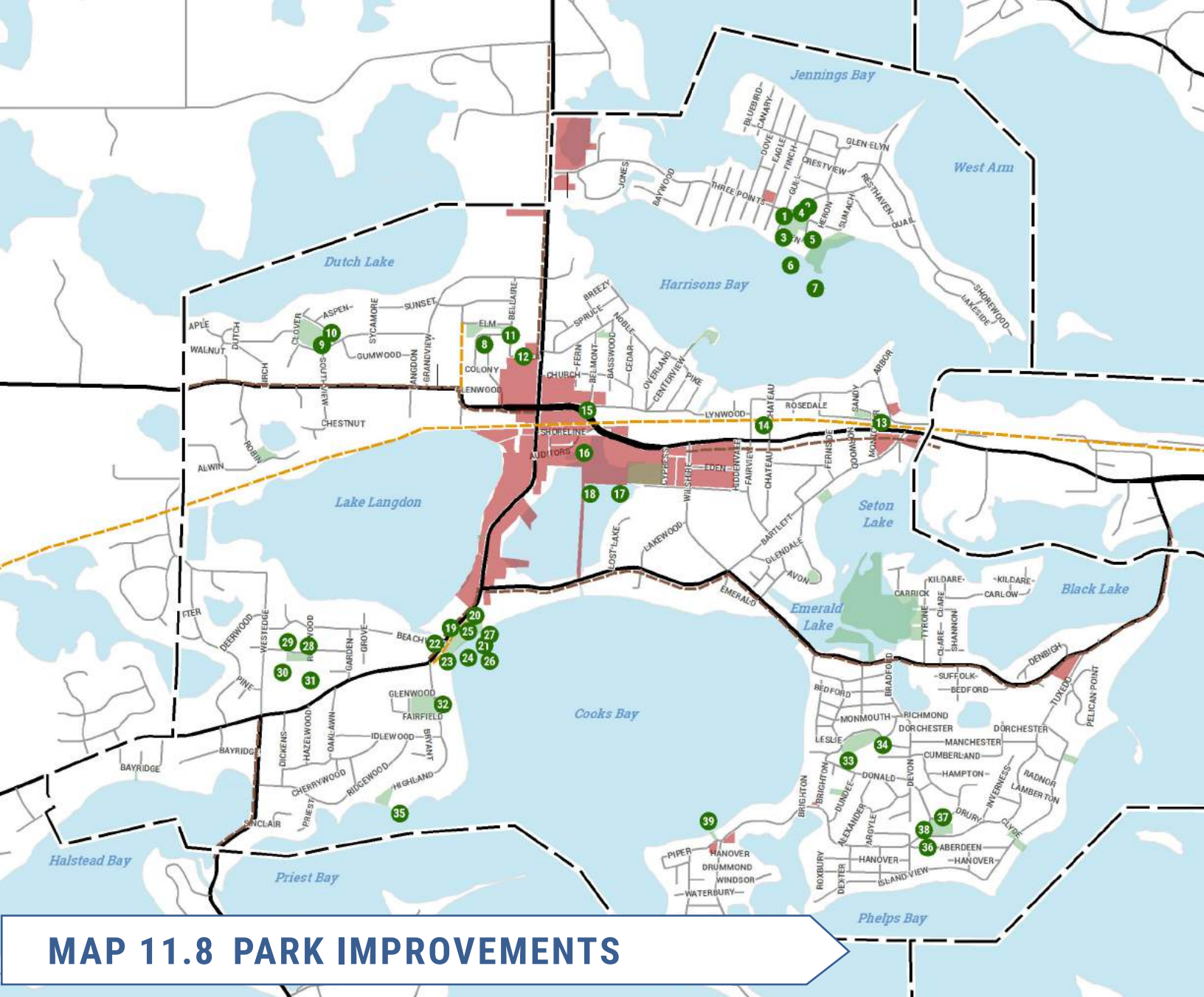


MAP 11.7 NEEDS WORK! THE HIGHLANDS

ID # Needs Work! Comment (up votes, down votes)

117	update the playground (3, 2)
115	» Just add to it. Fun park but gets overloaded at times. (0, 0)
116	» How? To what? (0, 0)
118	The building that you can rent out needs work. Needs painting, deep cleaning, repairs to the restrooms, lightbulbs needed. I rented it last month and spent 4 hours cleaning it before we had our event. (1, 0)
121	I assume that Westedge will be repaved once the Water Treatment Facility is completed. (0, 0)

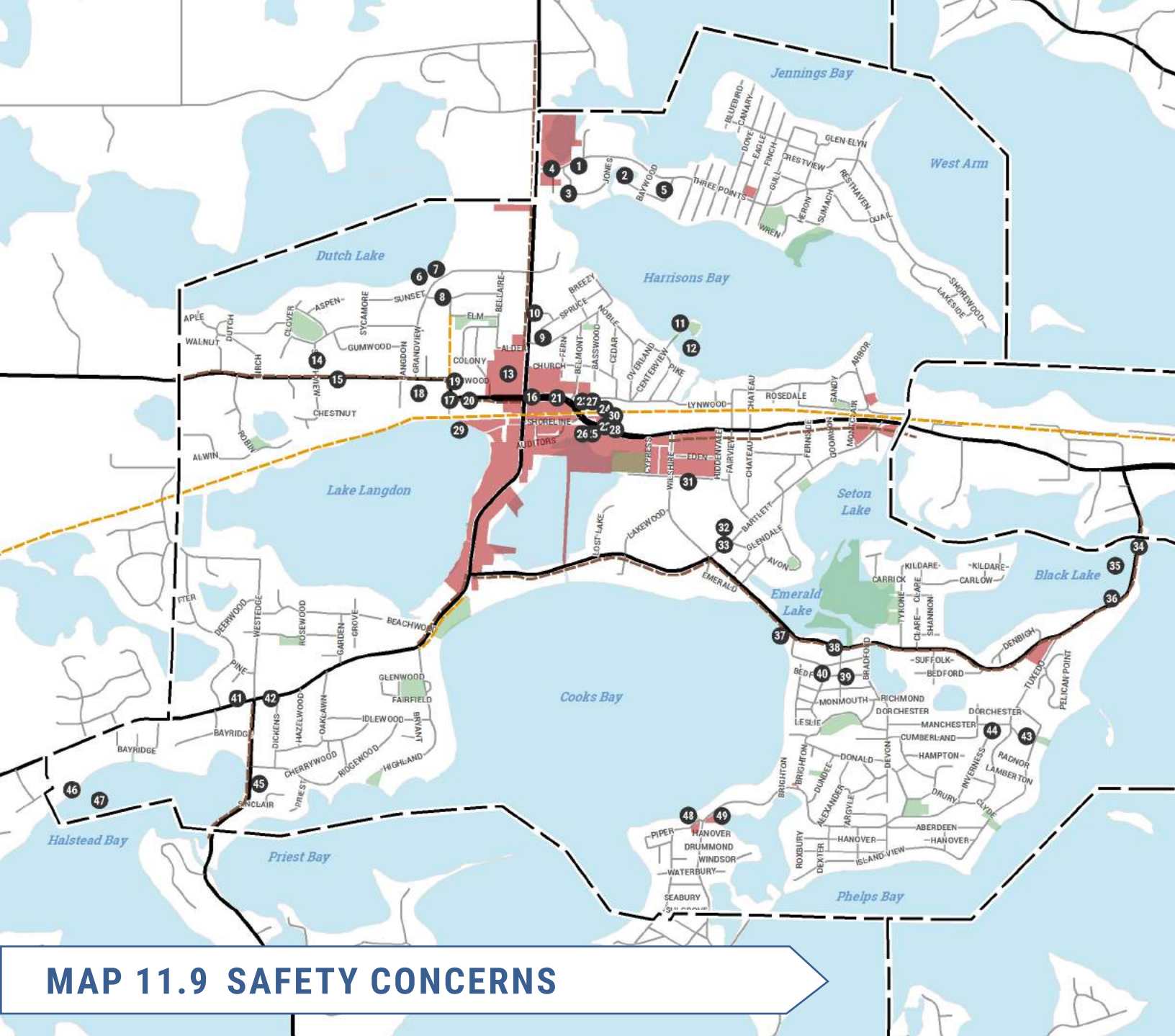
ID #	Needs Work! Comment (up votes, down votes)
	Surfside Park could be a true jewel of the western Lake Minnetonka area. Make the park more charming and interesting. A carousal for kids. Food trucks. Better lighting. (13, 1)
123	Additional Comment: Top priority should be improvement of streets. They are generally in very bad condition. Also, make Mound a high tech area with ultra high bandwidth capabilities and encourage micro-business and home offices. It could become an intentional high tech city that would increase property values and tax revenues. Also, consider an intentional development of the area from Ace Hardware area to Surfside Park leveraging the access to the lake and waterfront.
122	» Additional docks would make the part a significant lake attraction for boaters with children. (0, 0)
124	Multiple houses surrounding Highland Park are in need of major repair or need to be removed. A huge eyesore for an otherwise beautiful area. (3, 0)
125	Highland neighborhood is beautiful but a few of the homes around the perimeter of the park (which no one lives in) are not maintained. Broken down cars, sheets hanging in windows, caving in roofs ect (3, 0) Additional Comment: Thank you for trying to improve our city. It's been a long time coming!
126	Other than the playground this space is useless. (0, 0)
133	The retaining wall in this area is about to collapse (0, 0)
137	You're making the beautiful drive through Minnetrista on 44, then round the corner into Mound...BAM! "Welcome to Mound" sign in front of multiple houses/yards in need of cleanup. Most multi-family. (3, 0)



MAP 11.8 PARK IMPROVEMENTS

ID #	Needed Park Improvements Comment (up votes, down votes)
1	Swing sets and bathrooms needed (1, 0)
2	This park needs swings!!!! The slides are too high, especially when the neighborhood has so many smaller children wanting to play on it. Would love to see improvements to make it more kid friendly. (0, 0)
3	Great park. Add swings, bathroom, picnic areas (tables & grills). Fix/re-purpose tennis court. Will be top notch! (0, 0)
4	Swings at the park playground please! Also, the three trees on the sledding hill should be moved so the sledding area is not blocked. (4, 0)
5	Could use quite a few more shade trees around the playground area. Also could use more picnic type benches. (11, 0)
6	We need to resurface and maintain the tennis courts and also make them suitable for Pickle Ball. This also should include the courts the island. (2, 0)
7	Please keep a trash can at the end of the point and empty it periodically. There is always trash left here. (8, 0)
8	Could be dog park. (0, 0)
9	There's a LOT of dog poop being left around this park, mainly by people who drive their dogs here to run off leash. Can we put up signs and/or dog waste bag dispensers to encourage cleanup? (2, 0)

ID #	Needed Park Improvements Comment (up votes, down votes)
10	Could do more with this space. (4, 0)
12	Park (2, 1)
11	» I think there are enough parks. How about a community garden? (0, 0)
13	It would be nice to have some sitting benches. (0, 0)
14	Is the corner of Hillcrest and Gumwood northeast wooded area the cit of Mound. If it is it needs a good clean up. It is breedind gronds for insects. (0, 0)
15	Wasted space (2, 0)
16	amphitheater? splash pad? small business spaces? this area needs something since it's the towns only frontage on the lake close to downtown. (0, 0)
18	Mound at one point had at least 6 outdoor skating rinks. Now we have none. (the rink at Shirley Hills is owned by the MWAH). We need at least one City owned and maintained outdoor Hockey/Staking rink. (11, 0)
17	» Agree!!!! (0, 0)
21	Could do more with this space. (1, 0)
19	» Check out the comments over the pavilion (0, 0)
20	» Could the city do something with the beach? The weeds are terrible and it makes it difficult to want to swim here with kids. (1, 0)
25	The pavilion is underused. Maybe it could be a convenience store? I think boaters would love to be able to purchase ice, soda, and snacks. And then, a "walk" to connect the Lost Lake are to here. (5, 0)
22	» Good ideas. Agreed that pavilion is underutilized, and it's getting older by the day and needs work. Sell it off and build something new where we're always setting up a stage anyway. (0, 0)
23	» I like the idea of having a restaurant there. Something like Sea Salt https://seasalteatery.wordpress.com/menu-3/ , would be a wonderful addition. (0, 0)
24	» A really nice walkway from Lost Lake to here would be ideal. I agree-too underused. Turn this pavilion into a store or restaurant and build a new pavilion/bandshell that is more of a focal point. (0, 0)
27	Permanent restrooms would be appreciated with this being an incredibly busy summer area. (4, 0)
26	» Agreed. And do something fun to make this beach park unique. I'm thinking a big lakeside water slide. (0, 0)
29	Would love to have a disc golf course in Mound and Sorbo Park has been suggested by many. Active sport great for kids and adults, growing activity that would bring visitors to Mound. (1, 1)
28	» Disc golf is a great idea. I can't comment on Sorbo Park being the best place, but somewhere would be nice. Good clean fun! (0, 0)
30	Park needs updating. Playground needs repairs/to be replaced. (2, 0)
31	This park seems to have the oldest play equipment in Mound. There is paint peeling off the play equipment. Needs updating! (1, 0)
32	Since Highland Blvd was re-done, there has been a lack of grass along the road which gets muddy when wet. (0, 0)
33	This used to be a great park until the met council got ahold of it. I certainly hope there are plans to restore it quickly. It would be nice for the city to share restoration plans! (2, 0)
34	Clean the park up! (0, 0)
35	Trash barrels and a picnic table or two would be nice for this little park (0, 0)
38	This would be a good location for congregation but there is nothing but a field here. Add some gazebos or something that can be used. (4, 2)
36	» I would love to see a skating rink here in the winter time...or someplace on the island (0, 0)
37	» It makes a great dog run. (1, 0)
39	This is a great location for a park but it's it rough shape. The old wooden/metal structure is in need of replacement. Also this beach is useless in the summer since so many dead fish wash up here. (1, 0)



MAP 11.9 SAFETY CONCERNS

ID #	Safety Concerns Comment (up votes, down votes)
1	Storms, wind and trees falling are a key concern for our city. Ice storms are becoming more common. Let's start burying power lines now and save ourselves the trouble of many more future outages. (1, 0)
2	City bus traffic through the heart of a major residential area is not needed given the underutilized parking ramp downtown. Let's use the ramp we built like other cities do and end this bus route. (0, 0)
4	A safety concern while pulling out of the Shell gas station. Can't see to the left side. Cars come too fast out of 3 Points. Speed limit should be lowed in this area to 15 or 20 mph. (4, 3)
3	» Agreed. Multiple unsafe (restricted visibility areas) along Three Points, and 30 MPH limit yields 40 MPH traffic. Let's take it down to 15 or 20 now, instead of waiting until after someone gets hurt. (0, 0)
5	Blind curves and 30+ MPH make this unsafe. If we can't drop the speed limit lets add a stop sign at Baywood Lane or Jones Lane to slow things down. People cross the road frequently between there. (0, 0)

ID #	Safety Concerns Comment (up votes, down votes)
7	Our home borders the boat launch. Adding a floating pier would alter the area significantly. We have problems with trespassing on our dock and trash from boaters/fisher people. No floating dock! (10, 0)
	Additional Comment: NO FLOATING DOCK!
6	» I agree, no floating dock. (1, 0)
8	NO FLOATING DOCK ON EAST DUTCH LAKE! We live next door and this unacceptable! Increase noise, increase trash in a very limited space. (7, 0)
10	No center turn lane area for northbound Commerce traffic to turn into Library. The pavement should be remarked so you don't have to worry about being rear-ended by impatient drivers. (3, 0)
9	» I was given the hand gesture for being in this lane waiting to turn into the library (westbound), by a driver trying to use it to turn eastbound, so needs to be clear that it's a shared turning lane. (0, 0)
12	Needs permanent restrooms and gravel should be smoothed and leveled. Needs to be checked frequently to prevent littering and to make sure users follow posted signs. (6, 0)
11	» Restrooms would be a great addition! (0, 0)
13	Too much going on here. People are trying to cross the street, nobody stopping, impossible to turn and people speeding to bypass. (5, 0)
15	Speeding and crossings are a hug safety problem. We have a large number of children in the area as well as school bus stops, and no means of crossing to reach the park and trails (5, 1)
	Additional Comment: Consider measures to curb speeding, and a crossing. high police presence is not fully effective.
14	» I disagree, I have lived on CTY RD 15 for 24 years. Never had an issue with my 3 children crossing the county road. Speeding can be an issue at times but most of the traffic is within the legal limit. (0, 0)
16	there should be a flashing pedestrian light alerting drivers that walkers are in the crosswalk. (1, 0)
17	sidewalks! OR?? with the trail being closed TONS of kids and adults w/strollers are close to getting HIT! Saw it last Sat on the 60 degree day. need sidewalk... (3, 0)
18	Sidewalk or trail needed - barely a shoulder - many people walk here to get into "downtown" mound. (0, 0)
20	No sidewalks (4, 0)
19	» Want sidewalks everywhere move to MPLS. This is not the big city. (0, 1)
21	This part of the roadway is dangerous. Can't see west around the parking ramp. Can't see east with plants in the median. Trail crossing sneaks up on you. Put in a light and close a road crossing? (0, 0)
27	The trail crosswalk is very dangerous. Is a light needed? (16, 2)
22	» An overpass for the trail (similar to St. Boni) would be the ideal solution here. The adjacent high power lines would need to be integrated into it, complicating the design/construction/maintenance. (1, 0)
23	» Agree with a dangerous intersection. Leaving the parking ramp to the east can be dangerous. A second light would slow drivers down. (0, 0)
24	» signs should be added for trail users (cars do not stop) its confusing. Should also some how communicate to drivers not to stop. eitherway - danger zone (1, 0)
25	» The trail crossings are not crosswalks, no markings on the road. For safer crossing use the designated crosswalks. (0, 0)
26	» A warning signal needs to put on the west side of the street by the parking ramp for traffic going east. It is difficult comming around the corner with cars in both lanes to see people in the crossin (1, 0)
28	Trail crosses busy road on a curve without signage! (3, 0)
29	I walk on this curve almost daily. It is scary that cars come so close, I do like that the bushes with those crummy black berries have been trimmed. (2, 0)
30	Trail crossing, hard for drivers to see bikes & pedestrians coming from both sides and there is one spot where the trail comes out with a separate location for crossing. (3, 0)
31	maybe needs to be a 4-way stop here? it is a busy intersection. (0, 0)

ID #	Safety Concerns Comment (up votes, down votes)
33	Sidewalks along Bartlett - lots of traffic and lots of people so sidewalks would keep people safe. (5, 1)
32	» Sorry, I don't feel that sidewalks are needed in this area as the road is especially wide down Bartlett in comparison to almost all other Mound roads. Why burden taxpayers unnecessarily? (0, 0)
34	Safety concerns in summer with public fishing - people are crossing the road without paying attn to traffic. Same with parking in winter for ice fishing. (1, 0)
35	Safety concern with all the public fishing allowed in the summer (5, 1)
36	wider road or something here - people are walking and you cannot see them at this curve, especially at night. Worse when you are meeting vehicles. (0, 0)
37	curve is too tight and cars drive too fast. cannot see people walking and there is no place to get over quick. (0, 0)
38	I frequently walk along Wilshire Blvd. It is unsafe with no sidewalks & fast cars. I would like a good sidewalk system (or at a minimum, a wider shoulder/bike lane that could be used by walkers). (3, 0)
39	The hills on the island get very slippery during winter and are not plowed quick enough. With all the road closures, this becomes a big issue. (0, 0)
40	In general, all of the hills on the Island get scary slippery in the winter and not plowed quick enough. (0, 0)
42	This intersection is a constant concern. I understand it's likely county jurisdiction but we should at least seek some remedy from Henn. Cty. (2, 0)
41	» I agree, this intersection is a major concern. This need to be a 4 way stop. This would also solve the speeding issue down the hill into town. Would force them to slow down. (1, 0)
44	This corner is dangerous due to the cars speeding down the hill on Tuxedo. Is there any way to slow down the traffic? (8, 0)
43	» Perhaps the police could actually patrol the area instead of only coming out on the island when they get a call or is patrolling not part of the contract? (0, 1)
45	The slope up from Ridgewood to Westedge is treacherous in winter; very easy to lose traction unexpectedly while pulling into 35mph traffic. (0, 0)
46	Regarding old trailer park. http://www.tinyhouseexpedition.com/livingtinylegally/ The IRC approved Amendment V for Tiny Houses. Consider a pocket community of Tiny Houses/small homes (0, 0) Additional Comment: I'm glad to apart of the growth in Mound. I'm a former community dweller, however my roots are still there.
47	http://www.tinyhouseexpedition.com/livingtinylegally/ Consider a pocket community in the old trailer park (0, 0)
49	I realize it's difficult with the winter weather but the stop sign being here all year would be tremendous in keeping speeding down. People fly down this hill and there a few blind driveways and kids. (7, 1)
48	» I agree. YR-round stop sign would help. Got ticket last year coming down hill north on Tuxedo. couldn't even SEE the sign around the curve until it was too late. They had just put it back up. (0, 0)

Survey Responses: Vision

ID #	How well do you think the vision summarizes what Mound should be in 2040? Scale from 1. Not at all well to 5. Perfectly well	What part(s), if any, of the Vision should be revised?	What do you think might be missing from the Vision?
1	4		Vitality in the form of employment, nightlife, shopping and activities.
2	4	Communicating to the Metro Area that Mound is a engaging place to visit. Also, I think a name change is in order! Mound is just plain unattractive!	Having a comprehensive plans will be very good. Currently Mound feels like it lacks that vision/plan needed to be a thriving small city. We could be better than other lake cities by being more self sustained, keep an affordable lifestyle available and preserve our quaint lake side rather than just rows of bars and boutiques. Trail access is good, lake access is good, road access isn't great, but that helps keep traffic down. A walkable self sustaining city is the future.
3			This seems like it could be any city's vision (generic). Is there a way to give it some passion and make it more unique? That may be valuable as you build support for the vision and engage businesses and citizens in making the vision a reality.
4	4	Need to have more restaurant options. Also need to condemn the horrific looking buildings along Commerce Blvd. Such as 2435 Commerce Blvd and the record/vacuum store on Commerce. These are degrading the appearance we want to present and hurts property values.	
5	4	The reference to "places for people to..." should include an adjective before places. We don't just want "places" (could be ordinary), we want "engaging places" or something along those lines.	
6	5 Perfectly Well	This isn't a revision but I love the part of the statement that says, "commitment to preserving the natural environment." So many cities lose this. This is what attracts people to the community. We don't want to live in a city like Maple Grove or Edina.	
7	5 Perfectly Well		
8	3	I feel the vision is basically fine. I just don't feel we are achieving that vision.	Entertainment / dining / destination. Do we want to be good for residents only, or be a destination for non-residents? I'd love to have a smaller Excelsior or Wayzata downtown feel with shops, dining, and other venues that bring spending into Mound. Not just meeting essentials of residents.
9	4		Downtown could still use better outdoor gathering spots.
10	5 Perfectly Well	N/A	N/A

Survey Responses: Commerce

ID #	How often do you purchase the following goods or services within Mound?				% of purchases last 6 months made online?	Where do you work?	What types of retail or services do you travel outside of Mound to purchase or access?	What improvements would you suggest to help improve or diversify the City's commercial areas?
	Daily/Consumable Goods	Medical/Dental Needs	Services	Dining				
1								use open space by Auditors road as a park - add picnic tables, adult & kid outdoor exercise equipment ,hold more events there. have once a month flea market, Do like Farmers Market & Dog Days.
2	Daily	A few times a year	A few times a year	Monthly		Work in Mound	fast food, clothes, shoes, home decorator items, party & gift supplies	Wendys or Arbys, dollar store, small motel. don't add any more metal fences
3							Movie Theater, fast food	
4	Weekly	Never	A few times a year	Monthly	10% to 25%	Work in Lake Minnetonka area (Orono, Spring Park, Wayzata, etc.)	clothing and household decor, shoe repair, dry cleaning, hair care, fast food, medical and dental.	We need a couple of large employers to build in the area so there are more customers to support more shops. Offer tax incentives for companies to develop here. If we could replace the few really ugly storefronts with attractive buildings we would be more attractive to all.
5	Weekly	A few times a year	Weekly	A few times a year	10% to 25%	Work in Lake Minnetonka area (Orono, Spring Park, Wayzata, etc.)	sporting goods	
6	Monthly	Never	Never		More than 50%	Work in other community	Healthy/Fresh Groceries Salon/Spa services RESTAURANTS--good food!!!!!!	Develop a decent down town layout...the current layout doesn't encourage shopping and dining. Look at the main streets in Wayzata and Excelsior...those are successful prototypes. Mound has such as cheesy image, and it is reflected in almost every building within the city. Why not good quality building...not cheap metal construction? Add trees and green space to encourage people in the community to get outdoors. Finally...marketing! Other towns have all types of campaigns driving activity and business! It works!...look at ladies night in Excelsior!
7	Weekly	Never	Never	Monthly	25% to 50%	Work at home		Modernize store fronts; add green space; get new businesses to locate here; increase walkability between areas. I would like Mound downtown to be more like Wayzata and Excelsior.

Survey Responses: Commerce

ID #	How often do you purchase the following goods or services within Mound?				% of purchases last 6 months made online?	Where do you work?	What types of retail or services do you travel outside of Mound to purchase or access?	What improvements would you suggest to help improve or diversify the City's commercial areas?
	Daily/Consumable Goods	Medical/Dental Needs	Services	Dining				
8	Daily	Monthly	Weekly	Daily	25% to 50%	Work at home	Restaurants, Movies, Bowling, Shopping, Dog Parks, Community Gardens, Sports Equipment, Teen stuff - not much for the youth to do in town...a malt shop catering to teens 1/night per week would be great.	Movie Theater, Sushi, Salad Shops, Westonka Sports Attire Shop, Marina, revamp parts...we have too many that look awful. sell some or re-purpose them. Have a junk day - people have no way to fully do spring cleaning....we need a curbside pick up day. We also need more enforcement on yard storage, items encroaching lot-lines & clutter - too many homes use their yards for storage. Limit cars/trailers in yards. Many homes have projects that are 1/2 done...no one holds anyone accountable.
9	Monthly	A few times a year	Never	Never	10% to 25%	Work at home	Everything. Except the hardware store.	
10	Daily	A few times a year	Weekly	Weekly	10% to 25%	Work in Mound		
11	Weekly	A few times a year	Weekly	Weekly	More than 50%	Work at home	Larger grocery stores for better prices; cub, target, etc Shopping mall	Better restaurants, more selection Entertainment options
12	Weekly	Never	Daily	A few times a year	25% to 50%	Work in Mound	Clothing, dental/health care	Improve the appearance of existing buildings. Fine people for owning "dumps".
13	Weekly	Never	A few times a year	Monthly	Less than 10%		Target, medical	Better restaurants
14	A few times a year	A few times a year	A few times a year	Never	25% to 50%	Work in other community	Pretty much everything.	More upscale restaurants and bars. A better grocery store would be nice. I suggest Hyvee.
15	Daily	A few times a year	Weekly	Weekly	25% to 50%	Work at home	Restaurants	More restaurants accessible by boat. Also maybe a hotel near or on the lake
16	Weekly	Monthly	Weekly	Weekly	More than 50%	Work at home		Need more restaurants
17	Monthly	Never	A few times a year	A few times a year	10% to 25%	Work in Lake Minnetonka area (Orono, Spring Park, Wayzata, etc.)	all	
18	Monthly	A few times a year	A few times a year	Monthly	25% to 50%	Work in other community	Affordable grocery, urgent care and specialty medical,	Add lakefront attractions to lost lake area such as full service and quick service restaurants, a wine bar, shops, marina store, etc. Excelsior is a destination, Mound is not (yet).
19	Weekly	Never	Never	Monthly	10% to 25%	Work in other community	Good Will, craft stores, video game/electronics stores, Target, Walmart, pet stores, etc.	Fill in the abandoned shops. The mall is kinda sad looking with one half being completely empty. To have a variety of retail would be nice.

Survey Responses: Commerce

ID #	How often do you purchase the following goods or services within Mound?				% of purchases last 6 months made online?	Where do you work?	What types of retail or services do you travel outside of Mound to purchase or access?	What improvements would you suggest to help improve or diversify the City's commercial areas?
	Daily/ Consumable Goods	Medical/ Dental Needs	Services	Dining				
20	Daily	A few times a year	A few times a year	Never	25% to 50%	Work in Mound	CUB foods- more affordable grocery access. Target, Dining, more affordable home improvement	We need more options for dining, shopping (affordable-not pricey boutiques) hardware-home improvement supplies
21	Weekly	Never	Daily	Monthly	More than 50%	Work in other community	I work in SLP and there is everything I need there. We need more restaurants. The ones that are in Mound aren't hip enough for the area.	Old Thrifty White end is vacant. Draw some business in there. Tear down the eye sore across the street from Our Lady of the Lake.
22	Daily	A few times a year	A few times a year	Weekly	More than 50%	Work at home	Target, bank, dinner, auto,	More restaurants, target, hockey store, fast food options

Survey Responses: Parks

ID #	How often do you use one of the City's parks or water accesses?	What are some recreational activities that are currently not available in Mound that you would like to see in the community?	Do you have any other general suggestions for the park system?
1	A Few Times a Month	Community Garden - we go to Excelsior. Frisbee Golf - we go to Orono. Our parks are not enjoyable - sticks, leaves, hard to run on - ankle break...poor picnic tables...old mulch - nothing inviting. Garbage laying around.	Get rid of 10 - turn 10 into other types of parks, garden, frisbee golf, baseball field, volleyball, basketball hoops, dog park...and then put new play ground equipment on the other larger ones...they all need work. some too small to even use - sell those to the neighboring properties....and profit 2 times - the sale & increased property taxes.
2		A leash off dog park would be great. There are many dog owners in mound.	
3	A Few Times a Week	Splash pad	Love the parks! They're great for young families.
4	Almost Never	Yoga in the park	Add a restaurant like Sea Salt in Minnehaha Falls.
5	A Few Times a Year		
6	A Few Times a Month	We need a dog park!	
7	A Few Times a Week	None that I can think of.	More playgrounds.
8	Almost Daily	Kid centered activities for younger children and toddlers	Keep beaches cleaner
9	A Few Times a Year		More parking near Mound Bay Park.

Survey Responses: SWOT

ID #	Strengths: What does Mound excel at and what separates it from surrounding communities?	Weaknesses: What prevents the community from being the best it could be? Where does the community need to improve to be competitive with surrounding communities?	Opportunities: What external factors could Mound capitalize on to improve itself for the future?	Threats: What external factors could prevent the community from achieving its desired Vision?
1	Mound is not pretentious like some of the other towns on the lake. I love the friendly atmosphere at the hardware store and the grocery store. I don't need to dress up to run errands. I appreciate the relaxed atmosphere I feel in town.	The name Mound is uninspiring. Can we consider changing our name to West Tonka? We need a couple of large employers to bring more patrons to our stores. We do not have a hotel. Getting here from the city is a windy road around the lake. Is there any long-term plan to improve our connecting roadway to Hwy 12?	The aging population is looking for a more relaxed place to live. We need a hotel in town. Something small, but comfortable for out-of-town guests visiting for weddings and weekends. Lots of people are working from home.	Online shopping is hurting all retail.
2	Good schools, nice lakes, good public services (police, fire), safe place to live	Lack of desirable retail and restaurants; industrial feel (factories along Shoreline Drive); we have some nice park spaces but equipment is, in many cases, outdated (e.g. playgrounds); lack of sidewalks in residential areas to facilitate safe walking.	Having a comprehensive plans will be very good. Currently Mound feels like it lacks that vision/plan needed to be a thriving small city.	Funding/economic factors seem to be the biggest threat.
3	It's not just a place for the elite. The residents can afford to enjoy what mound has, not just the boaters. Also we have the metro transit!	We could be better than other lake cities by being more self sustained, keep an affordable lifestyle available and preserve our quaint lake side rather than just rows of bars and boutiques.	Trail access is good, lake access is good, road access isn't great, but that helps keep traffic down. A walkable self sustaining city is the future.	Trying to be another Wayzata or Excelsior. That would be a mistake, they are noisy and crowded on weekends, and residents have to drive elsewhere to shop for everyday items. Mound is it's own village and hopefully retains what these others didn't.
4	Lake Community. Residential Growth occurring - need more. Trail system is awesome. Schools awesome.	Codes are too lean. We need to tighten it up and set standards around the community. too much junk in yard. too many unkept, unfinished properties. We live & Mound & have been trying to move to another property in Mound - nothing is good. We can find homes in Minnetrista & Orono that we like - nothing in Mound & we want to stay...need more development.	trail system & lake - we do not utilize either of these very well. capitalize on the lake landings & parks. improve docks = price them higher - get rid of the rif raf that rents & destroys the property as they come to their boats. Mound needs more RULES. We allow things that no other community would. The town is improving - but still people are leaving and this is nothing to do after 7PM - people have homes here - they do not truly live here - sad to see.	dilapidated homes, yard, parks. the town is not welcoming when you drive through it. too much clutter. it looks aged & run-down. We are competing with Wayzata, Deephaven, Orono, Excelsior, Tonka Bay - we need to rise to their level or people will leave. And when they come we need to have local options for them - our walk-ability is great - but SA & Dakota is about all we can walk too.
5	The city does a great job with community activities (Spirit of the Lakes, Fish Fry).	The appearance. Drive through Orono, Excelsior, Wayzata and you won't see a city that allows businesses to operate in buildings like the ones we see.		
6	Nothing.	There needs to be some upscale places to dine out. Dakota Junction was a great start. I love their Farm to Table style. A place like that that is larger and has a full bar that serves craft cocktails would help Mound's economy. Mound is really depressing.	The lake, the bike trail. Those things are excellent. If we could bring in good night life and restaurants, Mound would be a better place to live. Bringing in light rail would also be wonderful.	

Survey Responses: SWOT

ID #	Strengths: What does Mound excel at and what separates it from surrounding communities?	Weaknesses: What prevents the community from being the best it could be? Where does the community need to improve to be competitive with surrounding communities?	Opportunities: What external factors could Mound capitalize on to improve itself for the future?	Threats: What external factors could prevent the community from achieving its desired Vision?
7	Mound has beautiful nature, nice areas to walk, plenty of water access. It's a great community and has a wonderful school district as well.	Too much abandoned retail space. Could use more stores, or tear down smaller, unused buildings and have more parks/playgrounds.		
8	It's a quiet town	Mound is a sleeper town. It's amenities support those who live there. The lake brings people in but Mound could do more to attract boaters to her shores. Once considered to open the channel at Bartlett to allow passage of Cruise Ships to portage in the Mound Harbor. A restaurant near the lake would also drive people into town. Mound is not organized well, it has clusters of businesses all sprawled out. It's walking paths are not as safe as they could be. Cross walks are unsafe. Too many buildings empty that could be better utilized	THE LAKE in all seasons. In Harbor Bay in winter a supervised ice rink. Open up the channel on Bartlett to allow passage of boats & ships to portage in the Harbor. Dakota trail strengthen its crosswalk on 110 & 15 for safer crossing of all users. Celebrate its many parks & green spaces.	Money. Or lack of creative financing. There are 2 major roads that lead one to town. If either one or both need repair traffic is dreadful. Lack of public transportation out of or into (besides WeCan) Uber or Lyft?
9	I am still trying to figure this out.	It needs new businesses and the City needs to court new business. It seems like a stagnant city.	Stricter rules preventing the pile up of junk in yards, for instance old cars, trailers etc. Garbage cans should be in garages not in front of them for all to see. Also signage should be addressed and standards used for instance the vacuum cleaner store/record store sign.	Not being open to trying to "clean up" Mound. In all honesty, I came from a City that prided itself on cleanliness in all aspects and would not allow what goes on in Mound to go on in their City.

Survey Responses: SWOT

ID #	Strengths: What does Mound excel at and what separates it from surrounding communities?	Weaknesses: What prevents the community from being the best it could be? Where does the community need to improve to be competitive with surrounding communities?	Opportunities: What external factors could Mound capitalize on to improve itself for the future?	Threats: What external factors could prevent the community from achieving its desired Vision?
10	We have a couple good trails, and a couple good restaurants, and a couple good retail.	<p>This is a disjointed community with few choices. One expensive grocery store, one family type restaurant that's overpriced, walk ability is awful..I can't walk up town because there's no sidewalk on the busy road. There's nowhere to sit and relax and nothing to do with kids if you come to the big wasted area by the parking ramp. It's a beautiful spot but what am I going to do..stand there? You need to start looking at livability... people go to Cub for groceries.. out of town...people go out of town to eat because having one family dining restaurant gets boring..Scotty B's...it's not a destination town. You have to decide are we going to be a great town, or stay the same. What does summer look like in Wayzata and why. Cute shops, walk ability, places to sit and enjoy, choices.</p> <p>There's no coffee shop in the downtown area...the coffee shop should be by the transit area!! In Eagan there's shops, restaurants and coffee shop in the first floor of the transit. A bagel or donut shop would be nice. Those are the things that make a town livable.</p>	Get a decent city planner with forward thinking and stop listening to people that want to keep mound small town. Small town is nice if there's choices.	The increasing development of the charming towns around it.. Wayzata, Long Lake, Shorewood. With all they have to offer...why come to mound.
11	Small lake town feel.	Outdated businesses, lack of diverse dining, chickens and poultry are not allowed, more crossings at trails and kid friendly spaces and activities. Cleaner beaches	Dinning,affordable shopping for clothing etc..	Increased Traffic

PHASE 2: CONSULT & COLLABORATE

The second engagement task focused on seeking input from the community on the initial directions for land use, parks, and trails. The Open House, which 50 people attended, provided an introduction to the comprehensive planning process, presented the land use concepts overall and for each of the focus areas, and described the proposed future parks and trails system. The information presented at the open house was then modified and included in an online survey that was completed by more than 100 people. Given that the Open House and Survey presented the same information and asked similar questions, the results are combined into one summary.

Key Findings

Input received in the second phase was largely consistent with what the planning process heard during the first phase of engagement. Many expressed a desire for an improved appearance for the community. This includes improvements to existing properties, thoughtful design of new development, and a reduction in the number of vacant commercial spaces. Also supported is the proposed improved visual connection between Downtown and Surfside Park, whether that would be from redevelopment or improvement streetscape. After reviewing the concepts for the mixed-use areas, most respondents were generally supportive. Concerns were raised about whether the mix of residential and commercial was appropriate in some areas. There were also concerns about density, particularly related to traffic and design character of buildings. Respondents also expressed a need within the mixed-use areas for green space and public access to the lakefront, more parks and amenities in the City to serve the additional residential development and pedestrian-oriented design to allow movement within and among the proposed mixed-use areas.

Participants in the second phase of engagement concurred with the need for more investment and improvements in the existing park system. Prioritization of the proposed actions identified as the top three as the creation and implementation of a maintenance and replacement schedule for neighborhood and pocket parks, the annually updating of the Capital Improvement Plan to meet needs, and the development of a feasibility study to evaluation of a trail link between Downtown and Surfside. Respondents also agreed that the City needs to continue to explore options to improve safety at the crossings of the Dakota Rail Regional Trail through Downtown. Comments received also expressed an interest in the ability to walk around Lost Lake.

Open House Board: Previous Community Engagement

» Generally, the Comprehensive Plan Vision seems to capture what Mound should be in 2040

- Some feel that Mound should focus on serving the needs of residents by being self-sustaining and offering an affordable lifestyle that is not otherwise available around the lake
- Some feel that the community should be a destination for the region similar to Wayzata or Excelsior where there are small shops, restaurants, and nightlife.
- Some felt that the statement could be more unique or compelling
- It is important that the idea of preservation of the natural environment is retained

Should be market driven

Climate change driven

» There are positive features in the community that should be highlighted and retained

- "Small town feel" with a relaxed, friendly atmosphere
- Local amenities such as a library, the existing community garden, and the Dakota Rail Regional trail
- Commons and dock program unique and positive aspect of Mound along with public spaces on the lake that provide access to those who do not live on the lake
- The variety of parks and facilities. This includes community parks like Surfside, neighborhood parks like Three Points and Philbrook, and facilities like Wolner Field, and Zero Gravity

» Community appearance is a concern

- Commercial areas, including vacancies, poorly maintained building facades, and undeveloped areas
- Public infrastructure like welcome signs, water towers, etc. need face-lifts
- Community gateways should be inviting and attractive, whether publicly or privately owned
- Private property maintenance not up to standards in pockets around the City
- Road conditions
- Parks, particularly where dog use is heavy

The school district has done a great job improving its image/reputation. Many young families move here for it. I hope the city goes in a route that appeals to the families

» Investment and redevelopment in Downtown, and key corridors, should be a focus of the Comprehensive Plan

- Additional investment needed to fill vacant spaces and improve building maintenance in Downtown
- Revamp Commerce Boulevard to add greenspace and sidewalk/trail to encourage more pedestrian traffic along corridor
- Explore adding outdoor gathering places

» Park investment is needed

Lower priority than other issues

Open spaces and natural areas should be preserved for informal play and natural resource protection. Facilities need to be replaced, such as aging playgrounds, park signs, landscaping, and tennis courts

- Explore opportunities to provide new amenities such as off-leash dog area, disc golf, skating, pickleball, and community garden
- Add amenities to support users, including picnic tables, trash cans, restrooms, parking, etc.
- Develop a plan for the revitalization of Surfside Park
- Include neighborhood and community input in development plans

» Safety continues to be a concern at intersections throughout the community

- Motorized and non-motorized movement in downtown should be evaluated, including Dakota Rail Regional Trail, cut-through traffic on Auditors Road, and turn lanes on Commerce
- Intersections on Commerce at Grandview Middle School and Westedge
- Sidewalks explored along Lynwood Boulevard west of Downtown, Bartlett, and Wilshire Boulevard
- Multiple restricted visibility areas along Three Points Boulevard cause dangerous conditions
- Explore year-round rather than seasonal stop sign on Tuxedo Boulevard
- Stormwater management into lakes

SOCIAL PINPOINT COMMENT MAP



As shown above, the comments received on Social Pinpoint were distributed throughout the community and covered all of the potential topic areas.

Add flashing pedestrian lights at jubilee and bike trail cross walk

Water Quality Improvement Plan
Pollution algae, eutrophication, pH, fertilization

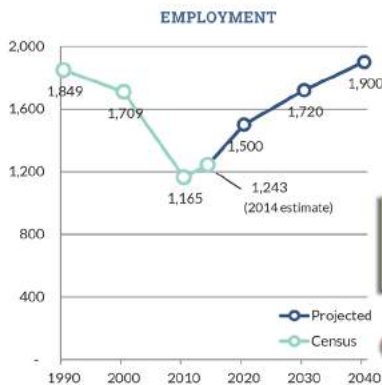
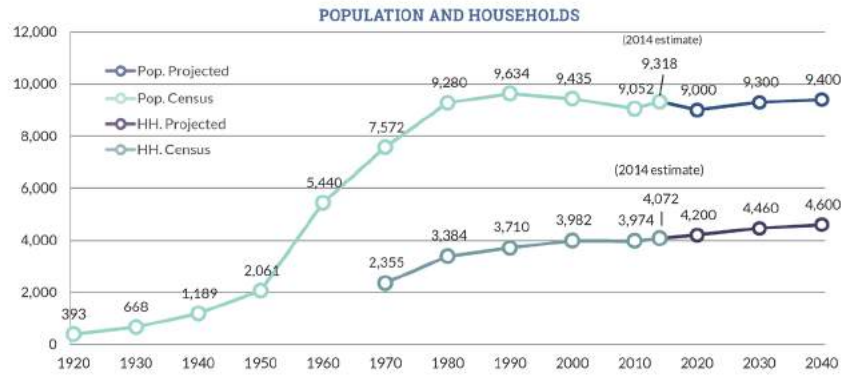
Comments from Open House

- » Should be market driven
- » Climate change driven
- » The school district has done a great job improving its image/reputation. Many young families move here for it. I hope the city goes in a route that appeals to the families
- » Lower priority than other issues
- » Add flashing pedestrian lights at Jubilee and bike trail cross walk
- » Water Quality Improvement Plan - Pollution algae, eutrophication, H, fertilization

Open House Board: Forecasts & Market Study

FORECASTED GROWTH

Thrive MSP 2040, established by the Metropolitan Council, includes forecasts for households, population and employment for the years 2020, 2030, and 2040. These forecasts were developed with input from the City of Mound and are updated periodically. Forecasts are based on historic trends, 2010 Census data, current demographic data, annual monitoring of building permits, employment data and comprehensive plans. The ability of the City to accommodate the forecasts for population and households was confirmed through the development of the Future Land Use Plan as described in the following section.



Probably few from west drive into mound to shop. People in Mound drive west to Waconia or elsewhere

Needs to fill retail space, not necessary remove

MARKET STUDY: KEY FINDINGS

As part of the Comprehensive Planning process a general market study was conducted for Mound. These conclusions were reached from the following findings from the market study:

- » Mound has not been a center for employment in the last few decades. (Contradictory Statements)
- » The City has and will likely continue to be a local node for goods, services, restaurants, and entertainment as neighboring communities to the west grow. (Contradictory Statements)
- » Mound residents tend to rely on larger retail shopping areas outside of Mound or electronic purchases for many of their everyday goods. (Contradictory Statements)
- » The City may also see an impact from national trends, including retail consolidation. (Contradictory Statements)
- » Today Mound has too much retail space and there is interest in converting some of that space to other uses. (Contradictory Statements)
- » Consolidation of retail into a core area may be beneficial. (Contradictory Statements)
- » Retail areas should continue to focus on serving day-to-day needs like groceries, pharmacy, eating and drinking, convenience items, and professional/health services. (Contradictory Statements)
- » Market analysis indicates that due to its location and transportation connections, it is unlikely the City will significantly capture more office or industrial. (Contradictory Statements)
- » Offices uses will continue to be primarily small business offices like insurance, attorneys, etc. or medical services like dentists, chiropractic, etc. (Contradictory Statements)
- » It is anticipated office uses will be integrated in future mixed-use areas as well as in stand-alone neighborhood commercial nodes. (Contradictory Statements)



2040 COMPREHENSIVE PLAN

HOISINGTON KOEGLER GROUP





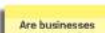
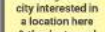
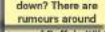
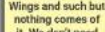
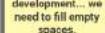



Comments from Open House

- » Probably few from west drive into Mound to shop. People in Mound drive west to Waconia or elsewhere
- » Needs to fill retail space, not necessarily remove

Open House Board & Online Graphic: Draft 2040 Future Land Use Plan



Category	Description
 Low Density Residential	Density range from 1 to 6 units per acre. This category accounts for the larger percentage of the housing in Mound and most of the land use. Typical housing types include single family detached and attached when within the density range.
 Medium Density Residential	Density range from 7 to 12 units per acre. Typical housing stock includes multi-unit townhomes, four-plexes, and smaller-scale apartment and senior living facilities without significant medical support services. To minimize the potential impacts of these medium density uses to single family neighborhoods, these uses are generally located along arterials and collector streets.
 High Density Residential	Density range in excess of 12 units per acre and accommodates multi-building apartment, condominium, and senior living facilities. These are intensive residential uses that are appropriate along arterials and collector streets.
 Mixed Use	Meant to support a variety of commercial, residential, and public uses. Under the Mixed Use designation, there are four distinct areas, Downtown Core, Downtown Lakes, Eden, and Promenade Areas, which have their own character and approach to mixed uses.
 Neighborhood Commercial	Provides a variety of retail commercial and office uses that have a neighborhood scale. They are located along collector and arterial roadways to minimize the impact on the adjacent residential neighborhoods
 Industrial District	Limited to the Balboa Business Center and adjacent lands for business, assembly, manufacturing, wholesale, and storage uses.
 Public or Institutional	Includes city, school, church, and other public and quasi-public facilities and land.
 Park and Open Space	Areas used for active and passive recreation including playgrounds, ball fields, trails, and public access to lakes as well as resource protection.
 Public Water or Wetlands	Permanently flooded open water, rivers and streams, and wetlands included in the National Wetland Inventory (NWI).
 ROW	Public right-of-way

Comments from Open House

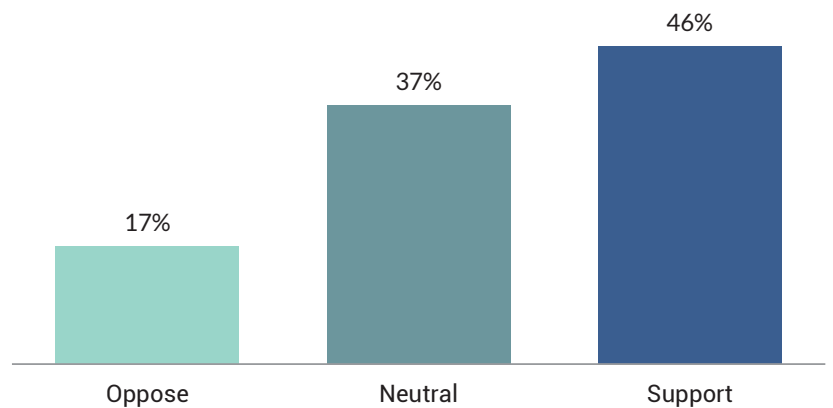
- » So! Happy with our library! Miss when open Sunday idea of reading park in the shade?
- » Can we walk around this lake, Please? (Lost Lake)
- » Dirty Surfside Beach - Goose poo not healthy
- » Stop sign needed 4-way (Tuxedo Blvd & Wilshire Blvd)
- » Are businesses coming to the city interested in a location here & they're turned down? There are rumours around town of Buffalo Wild Wings and such but nothing comes of it. We don't need development...we need to fill empty spaces

Online Survey Comments

- » Please read what's on the front page of the city website. We continue to promote housing in the few remaining downtown open areas. Easy immediate Tax funds? Of any real benefit to our community? 55 resident surveys and only one 2 hour chance to hear about it doesn't represent the community.

- » The city of Mound has a lot of low income/multi-family housing. Adding more would be less attractive to people purchasing or building single family homes.

- » I am not in favor of more multi unit housing. Mound has a lot of apartment buildings already. Driving into the town of Mound in every direction and it is immediate apartment/mult housing in almost every entrance.
- » "It seems pretty similar to how it's being used now. So, I'm okay with it."
- » There are properties in the mixed use category that are not currently in use and are run down; those property owners should be fined and buildings torn down. If a building sits vacant for more that 12 months the city should step in so we don't end up looking like a junkyard town.
- » A commercial link with pedestrian boardwalk or more friendly sidewalks are necessary between surfside park and "downtown." Focus commercial development here and nest to parking garage.
- » Not interested in any additional multi-family housing
- » It would be helpful to compare and contrast what is existing with what is proposed.
- » The school district has worked very hard to change it reputation and image. If all we attract is multi family housing, it doesn't make the town very appealing aesthetically or help the district. I hope to see the town stay small town and be proud of the businesses here.
- » Developing the downtown would be valuable. It remains a missed opportunity.
- » Density should be managed very carefully.
- » Need senior housing
- » Please highlight how this differs from existing use.
- » Overall I am good with the plan with the exception of exclusive residential in the auditors road area and the eden area
- » I feel Mound should develop more incentives to bring restaurants and boutique shops to town. We need more neighborhood commercial use.
- » If more property is developed I'm concerned about traffic.
- » Concerned about the Snipr home zoning backing up to Dutch Lake.



What do you think of the draft 2040 Future Land Use Plan?

Open House Board and Online Graphics: Mixed Use Character



Commercial and mixed use buildings should be built similarly close to the street



Public plazas and pockets of open spaces should be linked through sidewalks/trails



Residential structures with individual entries should be setback from major roadways



Entries should be architecturally predominant with accesses along streets



Facade articulation through multiple materials and setbacks creates visual interest



Pedestrian and cyclist connections to features of the center city



Landscaping within and around development makes for pleasant movement



Public areas have the opportunity for multiple functions



Parking should be screened and interior to the site



Higher floors have greater setbacks, decreasing bulk



Ground floor elements like awning, and windows important for multi-story buildings



Facades have windows and doors at pedestrian level



Bulkheads and other accents should include brick or stone



Pitched roofs with dormers and cupolas replicate Mound's historical character



Street facing facades should include wood lap siding

Comments from Open House

- » Letting Walgreens define the main corner intersection was a BAD mistake. That building ALWAYS looks dead.
- » How do we attract millennials?



Mixed Use Areas in Downtown Mound

Building Placement and Linkages

- » Along major corridors buildings should be placed close to the street with adjacent buildings having similar setbacks.
- » Residential structures with individual entries should be setback from roadways to provide for a front yard area.
- » A minimum amount of street frontage along major corridors should be occupied by building facades to provide a frame to the street and minimize long stretches of parking.
- » Street-facing entries are encouraged along major roadways and should be architecturally prominent and accessible from the street. Rear entries should be well-defined if there is rear-yard parking.
- » Plazas and pockets of connected open space should be created to provide informal gathering areas.
- » Pedestrian connections should be made to Dakota Rail Trail, Andrews Sisters Trail, Surfside Park, the transit ramp, and the Village Center.
- » Views and connections through developments to the lakes and to the downtown core should be preserved.

Building Materials and Roofs

- » A minimum amount of the building facade along the major roadway should be windows and doors.
- » Wood lap siding, or comparable products, should be used.
- » Bulkheads may have wood, brick, stone, or precast products
- » Roofs recommended to have architecturally interesting compound hip and gable roofs with dormers, cupolas, etc.

Building Design

- » Multi-story buildings are encouraged to support redevelopment and to allow for additional open space.
- » Heights are generally expected to be multiple stories along major roadway corridors. Buildings with floors more than 3 stories should have upper stories step back from the street to provide an improved pedestrian experience on the sidewalk.
- » Buildings should "step down" in height adjacent to residential neighborhoods and the lakefront.
- » Long facades should be divided into smaller increments by architectural elements, including variation in building materials, shift in facade depth, etc.
- » Multi-story buildings should have ground floor elements that appeal to the pedestrian like awnings, windows, etc.

Parking and Landscaping

- » Where possible, parking should be located to the rear or side of buildings rather than in front.
- » Shared parking is encouraged between complementary land uses
- » Structured parking with entrances on side streets encouraged
- » Interconnected circulation within sites or blocks encouraged
- » Screening with hedges, low walls, or decorative fencing should be used to separate parking and service areas from streets.
- » Minimize large expanses of parking through use of parking islands and creating smaller, scattered parking

How do we attract millennials?

Online Survey Comments

» I LOVE the idea of highlighting the historical features of Mound.

» This is a hodgepodge of stuff. We all know that developers are pushing housing and painting bright tax dollars before your eyes. Retail is minimally attracted and few are successful... WHY? You know why. Recent (20 yrs) multi-housing developments were poorly designed and now unattractive to new buyers... and deteriorating. Just look. What's the vision here?

» Mound is a small city with nothing to attract people to. Its not a Wayzata or an Excelsior, it will never be. People get on their boats and leave for better places to eat/shop. Adding the proposed buildings above would cost a lot and i fear not generate enough revenue. Just like the parking ramp which sits unused. The city should be concerned about rebuilding its reputation. The schools and superintendent have worked hard to make Mound more attractive from an educational stand point, the city should follow suite. I enjoy living here, but the perception from others is not good.

» I am neutral. I think the pictures look great and it makes sense. I would need more information on where these buildings go. It seems like Mound has a few different built up downtown ideas and doesn't all connect. If the multi family has character and looks like the pictures it looks good. However, next to a lot of the run down buildings and apartments it seems like that would need to change, as well.

» I really like this. The town needs some sort of distinct architecture to realign the down-town area. It's a hodge-podge right now.

» Create an environment that supports our local businesses and attracts new businesses to Mound. Create an environment that encourages Mound residents and visits to patronize these businesses.

» Don't get too fancy.

» "wish the Council had these ideas before they let the hideous Walgreen building dominate the main intersection in Mound and create a spot that looks dead no matter what time of day."

» There are many areas Mound has tried to make into a downtown with buildings now sitting vacant. Have we looked into using what we have? Why would we build more if we can't fill existing? Let's save the money.

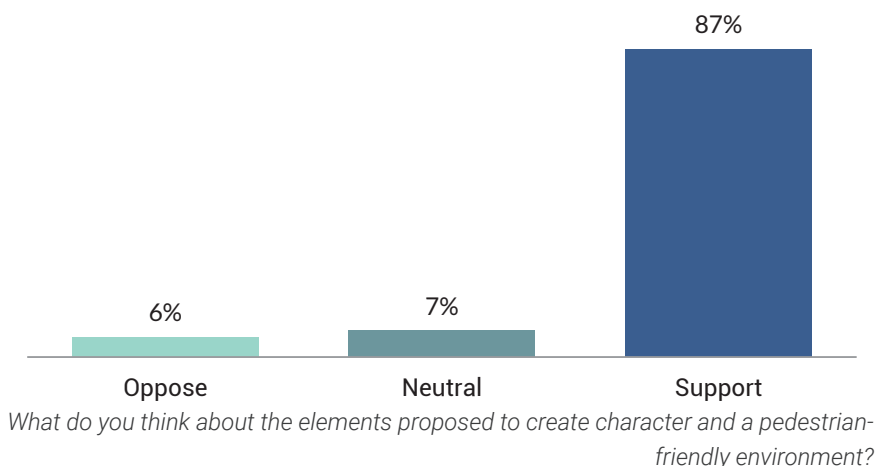
» Zoning should be restrictive, thoughtful and require attractive aesthetic.

» I like a lot of the elements proposed, including the setbacks, awnings and integrated landscaping, but wood lapped siding is the only material specifically identified and that seems odd compared to the overall level of specifics. If wood is going to be a feature id like to see all other elements expected to be integrated. The Proposed parking needs more thought. Lastly, I'm not seeing how dormers and cupolas reflect Mound's historical character.

» Need more character. Currently too much pavement. Spring Park always looks nice with their blooming flowers on the medians. Those fake stone pillars are ugly!

» DO you know how many empty buildings are in mound??? A ton. Nobody wants to put a business here. There is nothing to offer. How much longer do we have to look at the Williams building? Mound will NEVER be Wayzata, Excelsior or even Delano or Waconia which have so much to offer. Mound if full of empty buildings with no businesses in them. Do you really think people will drive their boat here to eat and shop? Eat where?? Shop where? Then you allowed Walgreens to put that ugly building right in town. Have you seen the Wayzata Walgreens? All windows and pedestrian friendly. Mound's Walgreens has horrible parking and this building is darn right ugly. This town offers nothing at all.

» Lets really upgrade the Commerce Blvd strip from downtown to Surfside Beach and Park. This area is a gem and needs cleaning up and upgrading!



Open House Board and Online Graphic: Village Center



Proposed Village Center	
Acreage (gross)	21.60
Redevelopment area (net)	3.82
% Residential	70%
% Commercial	30%
Residential Unit Types	Townhomes, Multifamily
Residential Densities	12.0 - 30.0 units/acre

Intent

The Village Center Mixed Use Area is centered around the intersection of Commerce Boulevard and Shoreline Drive. There are existing retail stores, restaurants, the Transit Park & Ride ramp, and Veteran's Memorial Plaza. While the existing area is dominated by commercial uses, there is potential for redevelopment in the northeast corner of the intersection. Redevelopment should be a mix of

residential and commercial uses, with the commercial uses concentrated at the corner of Shoreline and Commerce, and transitioning to residential uses further from the intersection. The mix of uses may be organized vertically within the same building or horizontal among multiple buildings on the site. Emphasis should be placed on circulation to and within site.

Considerations

- » Commercial should be concentrated near the intersection of Commerce Boulevard and Shoreline Drive
- » Building heights should be taller along Commerce and lower towards the adjacent single family neighborhoods
- » Care should be taken to on site access from Commerce and Shoreline
- » Internal circulation should support pedestrians

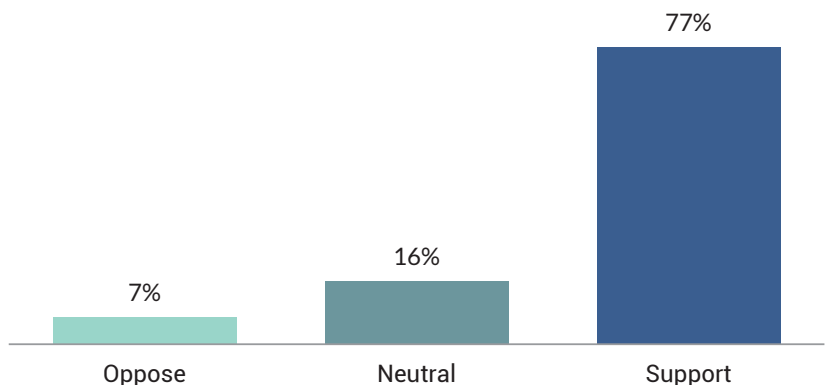


Comments from Open House

- » Keep the Harbor Area as a Green Space

Online Survey Comments

- » "As before... Multi unit housing and increasing the tax base is your real objective here. I see nothing about improving community anything or dealing with all the additional infrastructure issues you're
- » going to create."
- » Get rid of the eye sore Pond Arena and put it out skirts of town. Then add a retail with more places to eat. Even a hotel there with a bar and food would be great
- » I do not think we need more multi units in that area. There are already a lot behind Jubilee. I do not think we need more buildings for commercial space. There is space available throughout Mound not being filled. The town needs a town "cheerleader" to help bring in business before developing more.
- » This is great. I think the shopping areas currently look a little dumpy on the north side of Lynwood/Shoreline.
- » Parking lots should be out of site - behind structures. It would be hard to re-do Jubilee but the strip contains Carbones does a nice job. The new Walgreens does a nice job.
- » What will happen to Anytime Fitness? Will it close/move? I enjoy its location where it is.
- » Especially like improvement of NE side.
- » We currently aren't able to fill the buildings we have vacant. I don't believe it's a good idea to build more. Does Moines Iowa is a great example of that. It's full of empty buildings.
- » There is very little downtown that makes it interesting or take appropriate advantage of the lake.
- » Density needs to be managed very carefully. The city should require all covered garage parking for all apartment and/or townhome development.
- » Develop closer to ROW with active sidewalks for walkability. Parking to rear or just no large parking on street side.



What do you think about the Village Center Mixed Use Area concept?

- » would prefer more of a lake town vibe rather than a 50/france look
- » The residential density is high in proportion to the commercial density. I'd like to see more emphasis on the commercial potential before looking at increasing density in Mound, especially in the largest commercial node. Integrating residential is not frowned on, however.
- » I do not support any exclusively residential structures in this district.
- » Johnny's Flowers takes up too much parking and hard to get around when he's in operation. Nothing has character in the center. Just an oversized strip mall. The stoplight corner looks nice with the plaza but once you get in the parking lot it's ugly.

Open House Board and Online Graphic: Downtown Lakes



Proposed Downtown Lakes	
Acreage (gross)	22.68
Redevelopment area (net)	9.53
% Residential	70%
% Commercial	30%
Residential Unit Types	Townhomes, Multifamily
Residential Densities	8.0 - 15.0 units/acre



Intent

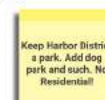
Redevelopment should be a mix of residential and commercial uses, with the commercial uses concentrated along Commerce Boulevard. Consideration should be given to the potential for restaurant anchors at Auditors Road and Shoreline Drive and/or at southwest corner of the Dakota Rail Trail and Commerce Boulevard. Residential uses should transition in intensity as they approach the lakes. Redevelopment will allow for the optimization of Lost Lake Harbor and the views across Lake Langdon as amenities.

Internal circulation for pedestrians, cyclists, and vehicles is a priority for the Downtown Lakes Mixed Use Area. Consideration should be given to eliminating Auditors Road as a through street to improve the

pedestrian environment, though some type of appropriate circulation should be maintained through the site to support any commercial tenants. Developing plazas, streetscape, and/or other public amenities that connect uses to the harbor, Dakota Rail Trail, and the Village Center is important. Height limitations could be variable if greater open space is exchanged.

Considerations

- » Views across Lake Langdon & Lost Lake should be maximized for buildings away from the shoreline
- » Connections to the Dakota Rail Trail and to the lakes are needed
- » Internal circulation should provide pedestrian connectivity and limit driveway accesses on Commerce
- » Site assembly will be required in some areas



HOISINGTON KOEGLER GROUP

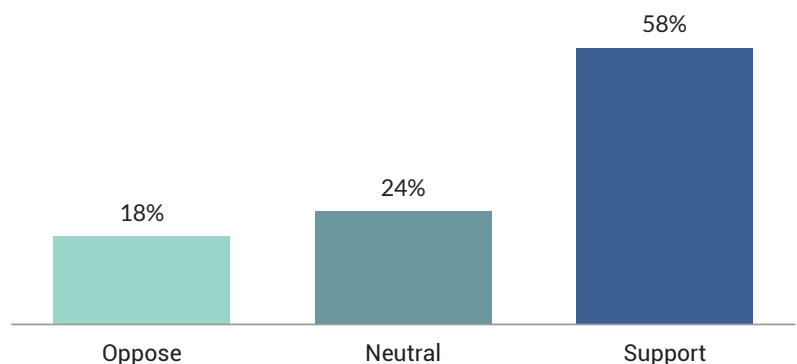


Comments from Open House

- » Commercial on the peripheral
- » Keep auditors road. Mixed use for Harbor Area
- » Need dog friendly walk (keep clean)
- » Keep Harbor District a park. Add dog park and such. No residential!

Online Survey Comments

- » I agree with closing Auditors Road to traffic and restricting it to only pedestrians. Auditors Road is unnecessary for traffic since the main intersection of Shoreline & Commerce is less than 30 sec down the road and links the same areas.
- » Multifamily housing once again is your only focus here. Other than pointing out that Auditors Road is an issue, an issue because of an existing infrastructure problem, there is no mention of dealing with the bigger bottleneck issues you're proposing to create. Where's the common sense here?
- » Again, already multi-family homes in this area that have not sold very fast.



What do you think about the Downtown Lakes Mixed Area?

- » I somewhat oppose because I like the open green space. I like getting ice cream and being able to sit on the picnic tables and see the lake. I think it's a nice place for the community. However, there is potential to build. The townhomes adjacent are nice looking and I assume generate income for the city. Again I would proceed with caution on commercial. There are a lot of spaces available not being filled by businesses. I think businesses need to agree to come before building more space. It seems like If it is going to cost a lot for the city to build, unless the money is available I rather see the green space.
- » Only support if the public retains use of the lake shore areas.
- » Looks nice.
- » Make sure there is affordable housing for 1 income families.
- » Make sure to leave some open space for farmers markets or gatherings near lost lake boat access.
- » Mound has a very hard time drawing new business. Let's use what we have. Embrace the small town. Fix up (enforce city codes) what we have. Make business owners make their structures look presentable (like Spring Park).
- » Density needs to be managed very carefully. The city should require all covered garage parking for all apartment and/or townhome development.
- » Strongly consider park space, rather than residential, adjacent to Lake Langdon.
- » A higher proportion of the land between Auditors Rd and the Dakota Trail should be committed to being park/open space.
- » Closing down Auditors Rd will significantly increase traffic density during rush hours at the intersection of Commerce and Shoreline; a significant proportion of traffic uses this bypass.
- » Higher elevations along Commerce (as shown). Activate Auditor's Road with uses to encourage boaters from harbor. Development / uses complimentary with Dakota Trail.
- » redevelop this areas ASAP- what a waste of goof space- so disappointed at no lights on auditors road this year- looks dumpy and abandoned
- » Why is there so much residential proposed here? This plan is missing the opportunity for increasing commercial in a pedestrian friendly manor by putting residential right in the middle of the land. Id like to see more pedestrian improvements here.
- » I strongly oppose the residential type proposed in both the Auditors road and the Langdon districts!!!
- » I strongly support bringing in anchor restaurants which will provide more variety to residents and allow summer visitors to spend money in our community.

Open House Board and Online Graphic: Eden Mixed Use Area



Proposed Eden	
Acreage (gross)	15.92
Redevelopment area (net)	11.01
% Residential	80%
% Commercial	20%
Residential Unit Types	Single Family Detached, Townhomes, Multifamily
R D	It would be nice to improve the property along 15 as you drive into town
	12.0 - 20.0 units/acre

Intent

As in previous Comprehensive Plans, Eden is identified as a mixed use area to recognize the existing land use pattern and to provide flexibility for redevelopment. To better reflect changing demographic and market trends, however, it is anticipated with this plan that the area will transition from a predominantly commercial area over time. Commercial that does remain is anticipated to be located along the major transportation corridors of Shoreline Drive and Wilshire Boulevard

Residential development should transition in density and intensity, with the most dense, multifamily uses, along

Shoreline Drive. As you move away from Shoreline Drive, townhomes become the predominant use, with the potential for even single family homes adjacent to Shirley Hills Elementary.

Considerations

- » Density and intensity should transition down as development moves away from Shoreline Drive. Buildings along Shoreline should be oriented toward each other rather than facing Shoreline Drive
- » Connections should be made to the Andrew Sister's Trail and Elementary School
- » Shoreline Drive development should be designed as a community gateway
- » Site assembly will be needed in some areas

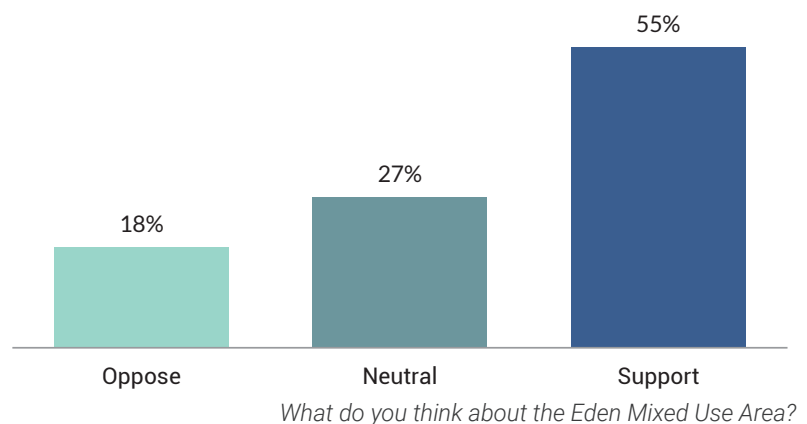


Comments from Open House

- » It would be nice to improve the property along 15 as you drive into town
- » Traffic & Congestion Concerns
- » Basketball Soccer Teen Playground

Online Survey Comments

- » Your forcing the community to deal with and pay for infrastructure issues that are already a problem. Need to be realistic about planning and stop listening to tax eyed developers who don't live here and will never have to deal with the issues being comprehensively proposed here.
- » I'm neutral. I'm not sure what should go here. There seems to be so many different ideas of the town that it almost seems like it is being stretched out and what is already there doesn't seem to be doing well. I'm not sure.
- » This seems nice but I'm somewhat concerned about how this will effect the current businesses that are in this location. I feel that this area is better suited for commercial use rather than residential.
- » Changing this to residential makes a lot of sense. It is a very ugly area of the city.
- » There is so much multi family housing in Mound. Where will these people work? How will they get there? I don't agree with it.



What do you think about the Eden Mixed Use Area?

- » Density needs to be managed very carefully. The city should require all covered garage parking for all apartment and/or townhome development. This area should strongly be considered for single family and townhouses only (no multi-family).
- » Deference should be given in some fashion to maintain in Mound the businesses that will be forced to relocate as a result of this plan.
- » Eliminate existing uses with large parking along street with shielded, aesthetic views along Shoreline Dr.
- » again- embrace the lake vibe and okey doke
- » Way too heavy on residential properties!
- » We need space for businesses. Adding further residential puts pressure to raise property taxes on the residents when

Open House Board and Online Graphic: Promenade Mixed Use Area



Intent

Located along Lost Lake and Lake Langdon, the Promenade offers a beautiful setting for all types of land uses. The area is guided mixed use to provide use and site development flexibility in recognition of the narrowness of the properties and the likely impacts from wetlands and floodplain. While some commercial will remain in the district, it is anticipated that redevelopment will likely be more residential, including single family detached, townhomes and multifamily. As the connector between Downtown and Surfside Park, the Promenade should support visitors and residents who travel through the area on foot or bicycle. Streetscape should include elements like sidewalks/trails, lighting and benches. It is also important that building orientations allow views to the lakes.

Considerations

- » Floodplain and wetlands may limit buildable area of some sites
- » Redevelopment anticipated to occur in pockets with larger residential and institutional uses likely to remain over long-term
- » Opportunities to view the shorelines between buildings desired

Proposed Promenade	
Acreage (gross)	40.06
Redevelopment area (net)	9.03
% Residential	80%
% Commercial	20%
Residential Unit Types	SF Detached, Townhomes, Multifamily
Residential Densities	8.0 - 20.0 units/acre

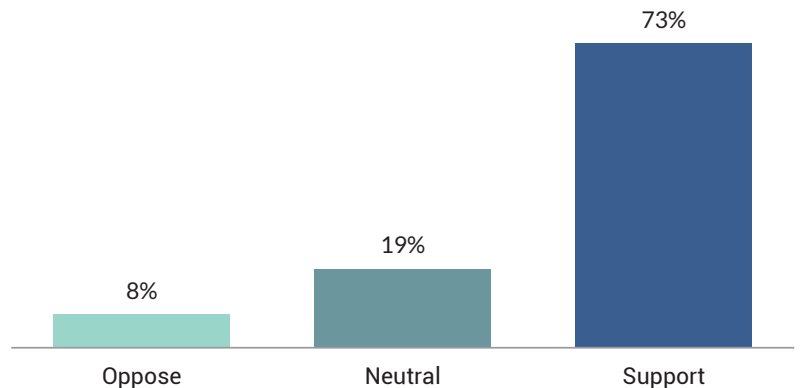


Comments from Open House

- » Fitness Track

Online Survey Comments

- » I think the Promenade would be more useful as a primarily commercial and entertainment/public parks area rather than residential.
- » Look up "Infrastructure" and drive through these areas between 7 and 8am, 5-6pm, and weekends... especially the Promenade on nice summer weekends. You'll start to understand.
- » More restaurants and or hotels would enhance area
- » I strongly support this area to be cleaned up. There are way too many vacant and run down buildings and homes through here. I'm not convinced development is needed but it needs to be cleaned up. A few places like Surfside has done a great job and maybe housing would help but again just like other areas of Mound there are already apartments and condos here, too.
- » I like this. Driving through this area right now is a little strange with the mixture of building types.
- » Continue to work with a couple property owners along Commerce to improve some of these properties or put them to productive use. There are a couple of abandoned buildings this high profile street that look terrible and reflect poorly on Mound,
- » This needs to happen ASAP if we want to keep good businesses coming into town.
- » I like the intent except I think commerce should be the focus above townhomes. Like Excelsior's downtown.
- » Almost anything would be an improvement! Could also be a spot for some small business like salons.
- » It would be great to see some of Mound be left as open space for everyone to use. Every square inch doesn't need to be developed just for the sake of development.



What do you think about the Promenade Mixed Use Area?

- » Residential as much as possible.
- » Low height buildings along this road, please. There won't be much room for deep setbacks.
- » More appropriate for some residential.
- » Anything is better than what is currently there. The architecture should be defined and consistent to show a more desirable facade for another main entrance to the city.
- » How long are you going to allow that Williams building to sit boarded up?

Open House Board and Online Graphic: East Gateway Mixed Use Area

Proposed East Gateway	
Acreage (gross)	3.96
Redevelopment area (net)	1.65
% Residential	85%
% Commercial	15%
Residential Unit Types	Townhomes
Residential Densities	8.0 - 15.0 units/acre



Intent

East Gateway serves as the eastern gateway to the City of Mound. The area has historically been a neighborhood commercial node that offered retail, services, and employment. Given market trends, it is anticipated that over time commercial services may seek to cluster around the intersection of Shoreline and Commerce rather than on community edges like in East Gateway. To provide flexibility for property owners, East Gateway is being guided mixed use so medium density residential products such as townhomes can be

Considerations

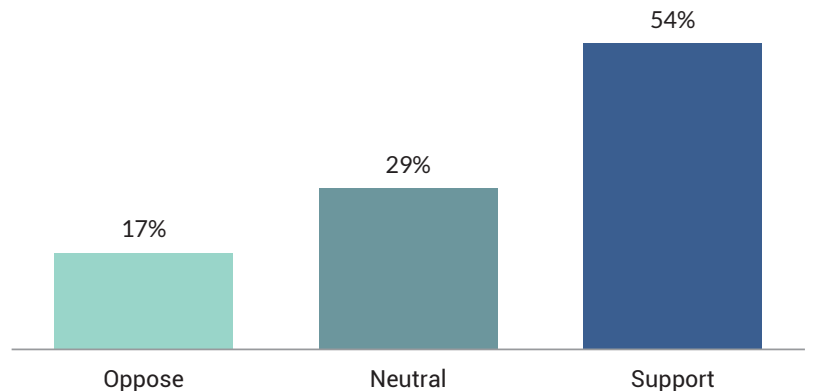
- » Mix of uses to provide flexibility in redevelopment of the area
- » Small area of land lends itself to townhomes and other medium density residential options
- » Access and connections to Seton Channel an amenity for redevelopment
- » Site assembly will be needed some areas

Comments from Open House

- » [No Comments]

Online Survey Comments

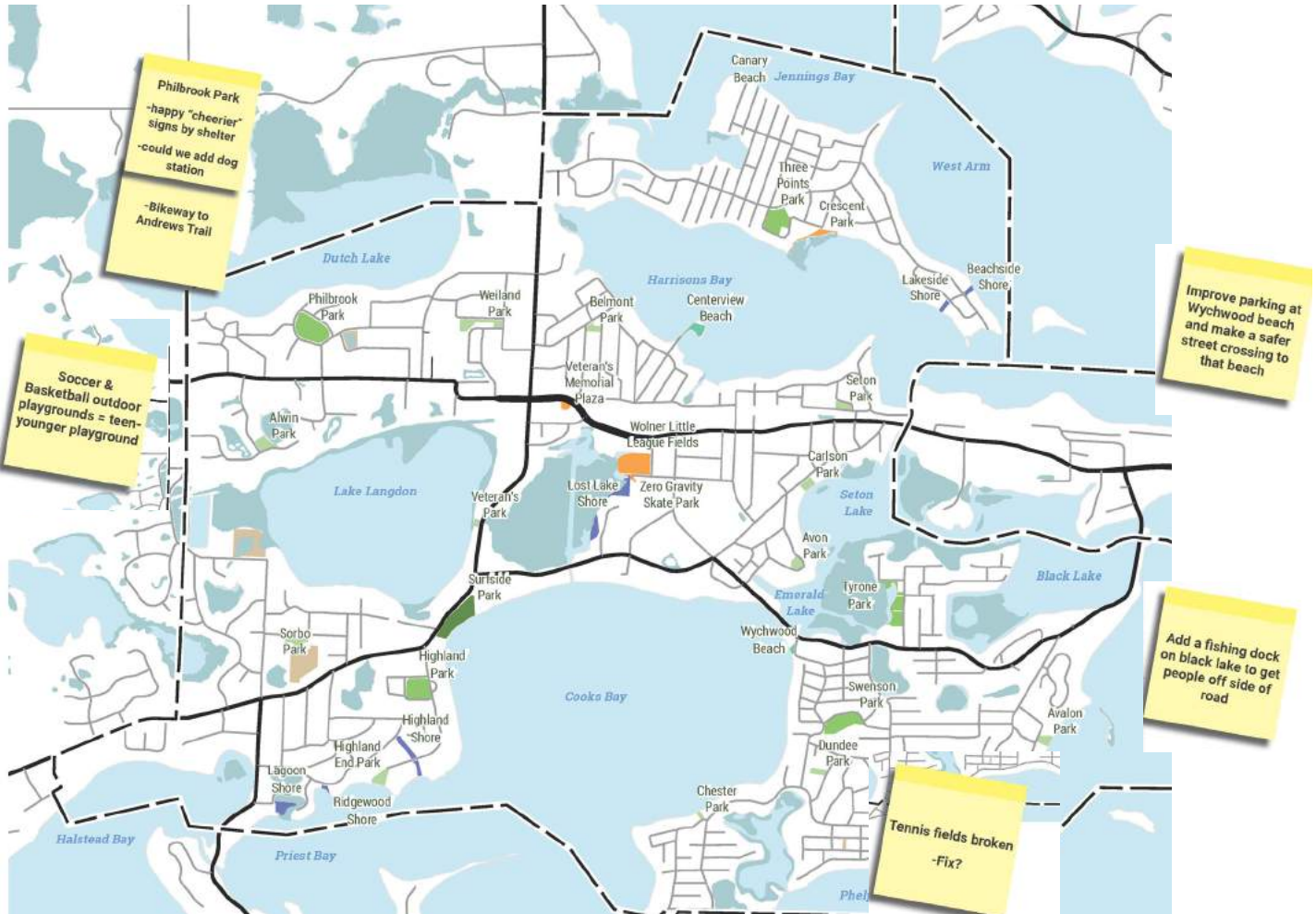
- » I agree that commercial businesses should be located to the Village Center, Eden, Downtown Lakes, and Promenade areas and this should be residential.
- » Infrastructure will not handle. How is traffic ever going to move in this already highly congested area? To say nothing about police, fire, and ambulances?
- » I think it needs to be cleaned up. I'm not sure development is the answer or multi family. Apartments are not too far down on the right. The area coming into Mound doesn't look good. I'm not sure another apartment building is the answer.
- » I have mixed feelings about this. Seems like it's too busy of an area for it to become residential.
- » Yes, prioritize and strengthen the core business/mixed use areas versus spreading it too thin and having too many vacant commercial spaces.
- » This is another ugly area with the car dealership and a small engine something there. A mix of residential and commercial makes sense, probably mostly residential, but it could look like down town Spring Park with shops at street level and residential above.
- » More townhomes is a very good idea to support the tax base and the excellent school system.
- » Density needs to be managed very carefully. The city should require all covered garage parking for all apartment and/or townhome development.
- » Enough with the townhomes! There should be 2-3 anchor neighborhood shops/restaurants and the rest should be converted to single- or, at most, dual-family homes.
- » Activate / revitalize this entrance into Mound with attractive high quality uses.



What do you think about the East Gateway Mixed Use Area?

- » Most importantly I'd like to see these residential areas along Shoreline to maintain some level of integrity to how well kept the houses and yards will be.
- » Again I'm concerned about the push for residential
- » The entrance to Mound needs a desirable facade. The existing is not a good look. Who is asking for more multi family residential? Stick to single family in Mound.

Open House Board and Online Graphic: Proposed Parks Map

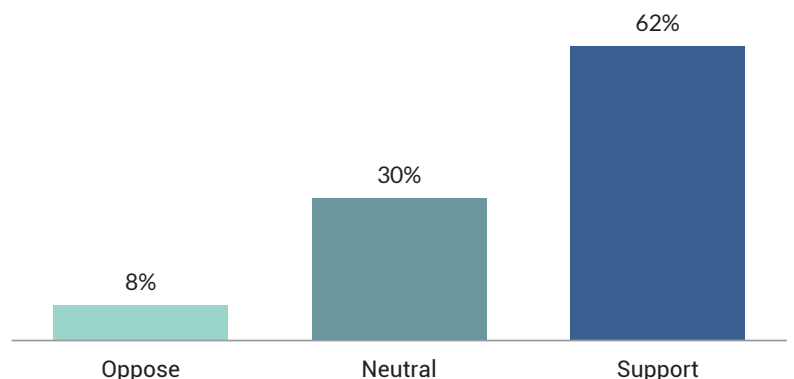


Comments from Open House

- » Philbrook Park - happy “cheerier” signs by shelter; could we add dog station?
- » Bikeway to Andrews Trail
- » Improve parking at Wychwood beach and make a safer street crossing to that beach
- » Add a fishing dock on Black Lake to get people off the side of the road
- » Soccer & Basketball outdoor playgrounds = teen-younger playground
- » Tennis field broken - Fix?

Online Survey Comments

- » One thing you can count on is increased use and congestion in all these areas. Especially if you really go ahead with all the multi-family structures your proposing without any open space areas around them... to say nothing about ever increasing outside traffic coming into the Lake for recreation and enjoying the trail system. More “Infrastructure” concerns and community cost.
- » What are you proposing for open space parks like Sorbo?



What do you think about the proposed parks map?.

- » I'm neutral and would need more info on the parks. If it is part of the mound city dock program I am not in favor. I think that program needs a big overhaul. If this is public parks for the community to gather I am in favor.
- » More access to shore for fishing etc. also additional swimming access.
- » Any/All improvements would be welcome.
- » While I like the idea updating what's currently there, I feel that the city should look into expanding or adding to it's park system. If the plans include adding to residential use of the land, the parks should also support that growth.
- » Prioritize. Focus on fewer, higher-quality parks.
- » Neighborhood parks need swing sets. Three points park; they were removed; there is plenty of room to fit them back in... figure it out. Love the apple trees; let's do more of that across town; even vegetable garden boxes in the park would be nice.
- » The green color choices make it difficult to distinguish the different types. Where and what is a pocket park. And why at the end of Island View Drive has the city allowed the homeowner to encroach and restrict access to public wetland, while inappropriately removing trees?
- » I just noticed there was not specific management of fields, playgrounds, or courts. Maybe something to be added for neighborhood and community parks.
- » I believe there are a lot of parks to choose from and the city has done a nice job offering places to play, walk and picnic outdoors.
- » Strongly agree. It will not let nlme choose
- » My only concern here is that there are some public docks located on some of the Public Shore properties. Based on wording, would these docks then exclude use by residents intending to dock motor boats?
- » There are many city owned spaces (way out on 3 points - Shoreline Drive) that don't seem to serve any public purpose. Suggest vacation and allowing adjoining property owners to repurpose and clean up.
- » map is hard to read- buy yes- maintain current and update parks
- » Mound has a good variety of parks and open spaces currently so I feel reinvesting and improving our current park spaces is a good idea.
- » Having been on the park commission for 9+ years I appreciate the detailed inventory.
- » Dog park?
- » Would like to see Sorbo park enhanced.
- » Would like to see more parks added
- » Is there any potential for more development and expansion upon the Lost Lake waterway? As a gateway to Lake Minnetonka, it should serve as a main draw for boaters and commercial development for the city.

Open House Board and Online Graphic: Proposed Trails & Sidewalk Plan

Existing System

Regional Trail

The Dakota Rail Regional Trail is a 13.5 multiuse trail along Lake Minnetonka managed by the Three Rivers Park District.

Local Trails

The Dakota Rail Regional Trail is augmented by a few local, off-street trails in Mound. The Andrew Sister's Trail (formerly known as the Lost Lake Trail) is a very popular local trail which connects the Lost Lake Harbor to Wolner Fields.

Sidewalks

Most neighborhoods have streets that are too narrow to accommodate off-street trails or on-street bike lanes. Many of the main access roads within neighborhoods do, however, have sidewalks to accommodate pedestrians and casual cyclists.

On-Street Shoulder

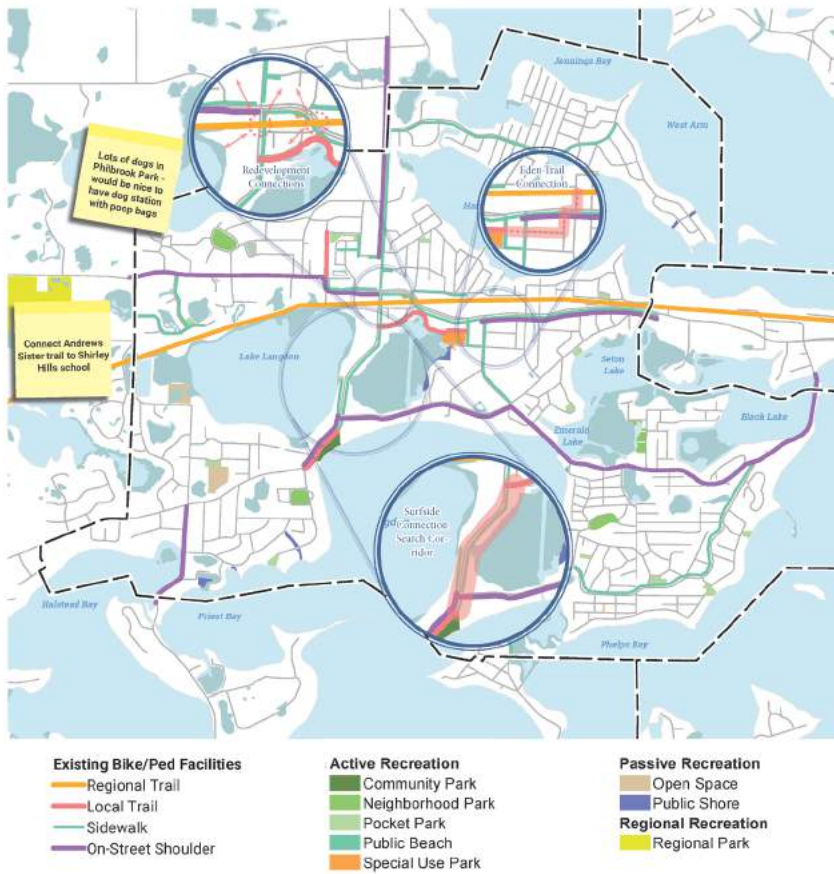
Many of the County Roads and main thoroughfares through the City currently have improved shoulders for bicycling and walking.

Future Trails & Sidewalks

While the historical land use pattern and width of right-of-way for local streets makes significant expansion of off-street trails and sidewalks limited, the City will continue to explore opportunities to improve safety and connectivity.

The City anticipates there may be a need for trail and sidewalk expansion as part of future development in Mixed Use Areas around Shoreline.

The City will also continue to encourage residents to improve streetscape along County Roads and increase safety improvements for the on-street shoulders found along County Roads.

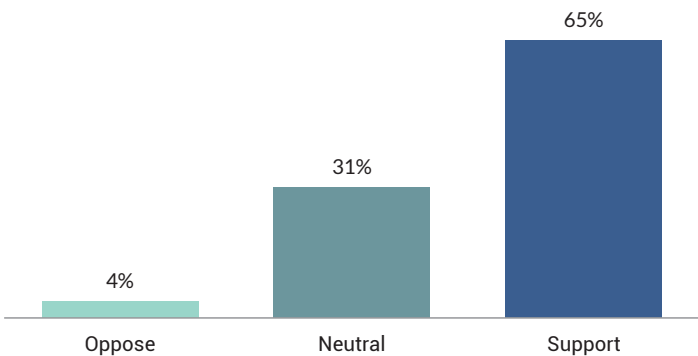


Comments from Open House

- » Lots of dogs in Philbrook Park - would be nice to have dog station with poop bags
- » Connect Andrews Sister trail to Shirley Hills school
- » Population education about what is a crosswalk & walk on the left

Online Survey Comments

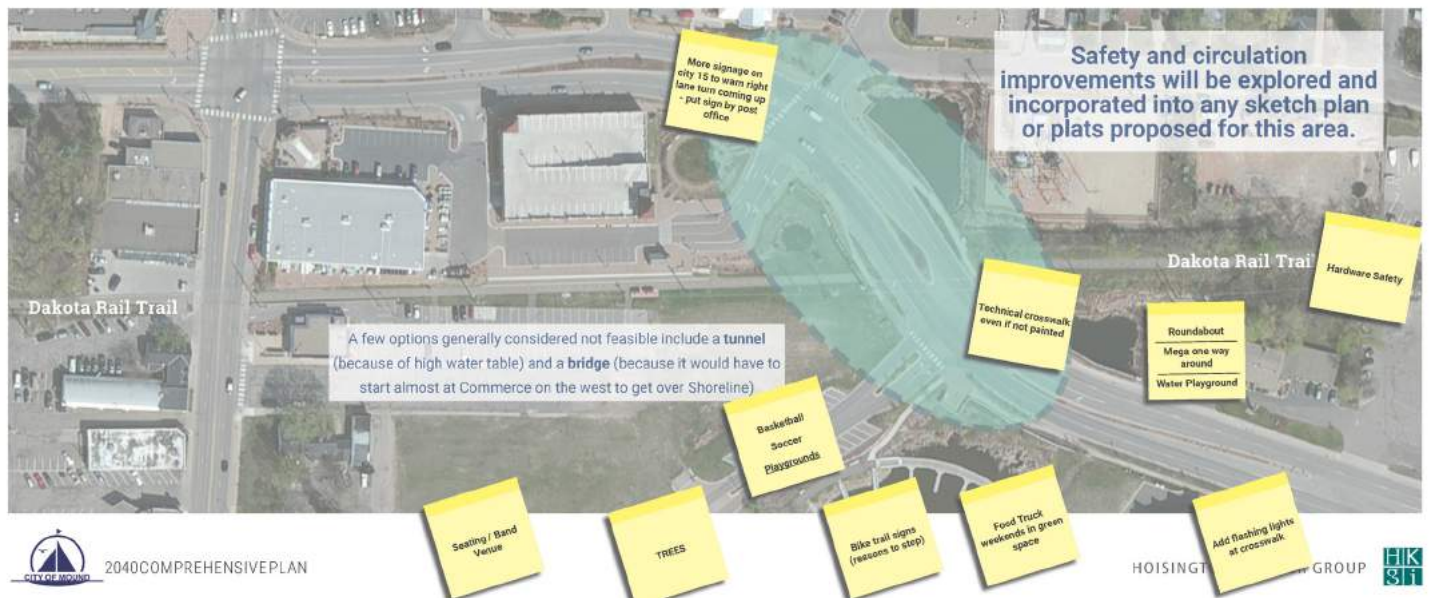
- » "It is hard to tell what is changing."
- » A better crossing between Caribou Coffee and parking garage. Curves are a bad place for cars to stop. No one understands that it isn't a crosswalk. Maybe move it to the crosswalk so people stop once. ?"
- » I strongly support if it makes the city more accessible and easier on families and the community to use the space available.
- » I would really appreciate the bicyclists follow the rules of the trail and road without running over families walking w/kids, strollers, or dogs. They are reckless and very frustrating. Enforcement would be great.
- » Prioritize, focus resources on maintaining or upgrading existing sidewalks and trails.
- » I love the future trails and sidewalks plan



What do you think about the proposed trails and sidewalk plan?

- » The sidewalk along tuxedo Blvd is to narrow for bikes and walkers. An on street bike lane would be better.
- » I especially like the idea trail between surf side and downtown.
- » I think they're fine how they are.
- » Strongly support.
- » No one will walk around/through the intended business districts if they cannot safely walk to those areas. While most existing streets may not be able to accommodate sidewalks, all redevelopment should include a means to walk to neighborhood and town amenities. Literally, everyone in Mound lives within walking distance of Commerce/Shoreline and/or other points of interest. Without sidewalks, trails, and wide shoulders, everyone will continue to drive causing increased parking issues should the population increase as you forecast.
- » It would be nice if the Dakota Regional Trail was kept clear in the winter months.

Open House Board and Online Graphic: Dakota Rail Regional Trail



Comments from Open House

- » More signage on city 15 to warn right lane turn coming up - put sign by post office
- » Technical crosswalk even if not painted
- » Roundabout; Mega one way around; Water Playground
- » Basketball; Soccer; Playgrounds
- » Hardware Safety
- » Add flashing lights at crosswalk
- » Food Truck weekends in green space
- » Bike trail signs (reasons to stop)
- » TREES
- » Seating / Band Venue

Online Survey Comments

- » What ever you do, it can't interfere with Traffic flow and safety... a HUGH issue.... "Infrastructure"?
- » I am in support. It seems dangerous through that area.
- » Positive impact.
- » Absolutely must do something about the ped crossing on Shoreline at the post office
- » I completely agree on improving this area. This is a dangerous area. I've seen too many people speed through or not stop for pedestrians/cyclists.
- » "The realignment of highway 15 has caused problems for both the trail crossing and the pedestrian crossing at the Post Office. The line of sight is not good in either direction because of the curves and the decorative markers in the middle of the road. The curve around the parking structure also results in a poor line of sight from the west to both the pedestrian crossing and the trail crossing. The existing signs in Mound requesting drivers to allow pedestrians to cross are large ignored by drivers in my experience. Both the pedestrian crossing at the post office and the trail crossing are major accidents waiting to happen. I have three possible suggestions, each of which includes combining the pedestrian and trail crossings into one crossing and one of..
 - 1) a central protection area to allow crossing in two steps - much as was done in Navarre on highway 15
 - 2) overhead crossing warning lights - manually activated to warn drivers of crossing pedestrians / cyclists

- 3) a real stop light activated manually by pedestrians / cyclists - probably the safest solution - and only stopping traffic when crossing is in process”
- » It’s plenty safe.
- » It needs to be a cross walk controlled by lights; traffic goes to fast around that curve to slow down in time for the crosswalk.
- » The crossing in Tonka Bay would be a nice solution here.
- » On hiway 19 near excelsior there is a change where cars are to stop for bikes. If this were implemented across the system with education and a flashing light device, that could be helpful.
- » It needs to be more visible.
- » Crossing areas are always a safety issue. There’s no way around it. Pedestrians and cyclists need to be aware of their surroundings. I don’t think there’s much more you can do.
- » NO - not volume
- » YES, please stop people from crossing with a bridge or tunnel its not a safe crossing area
- » The trail benefits Mound significantly. A safer crossing needs to be resolved.
- » Yes
- » Flashing lights?
- » “Closing the access to Auditors Rd may make the safety issue worse, as drivers on Shoreline will no longer be on the lookout for cross-traffic.
- » Given the lack of scenery on the Dakota Trail immediately east of Shoreline and the previously stated intent of planning to largely do away with any open space between Auditors and the Dakota Trail, a bridge could actually be a very striking architectural feature if executed appropriately. If straight-line space is a concern, a 2-3 story spiraling ramp west of Shoreline could partially balance the visual mass of the existing parking ramp centerpiece.”
- » Dakota Trail crossing over Shoreline Drive is a death waiting to happen. The curve of Shoreline Drive around the public parking ramp makes it hard for cars to get on and cross over Shoreline Drive and having the bike crossing there is not good.
- » I think this particular area shown in the picture could use major improvements for safety to people using the trail. A bridge or cross walk would be helpful.
- » This must have a crosswalk with blinking lights, very similar to Navarre. There is both too much bike and vehicle traffic in this area, and especially on a curve!! Way too many close calls. I will not let my kids cross here, they have to back pedal to the stoplights in town.
- » Put the crosswalk where the trail leads to rather than having it down the block. Motorists and cyclists get confused and cause slow-downs and other hazards.
- » Improving safety on the trail crossing is a good idea. Possibly adding a flashing signal for bikes and pedestrians to push when they want to cross to alert cars coming around the corner as it’s hard to see pedestrians/bikes. Another idea could be to redirect the trail crossing to an existing intersection.
- » Improved safety in this area is incredibly difficult but needs to begin with extensive public education that trail users stop for the road traffic and that it is NOT a crosswalk requiring vehicles to stop!!
- » I didn’t think the moving of the bikepath near the parking garage made any difference it is still hard to see people around that curve.
- » Needs improvement. Perhaps add a stoplight.
- » Most drivers are unable to see those bicyclists and walkers with the wind in the road and the sun in their eyes. It is not a safe intersection.
- » People need to be educated. Cars do NOT need to stop at a trail crossing.

Open House Board and Online Graphic: Parks Goals, Policies, & Actions

GOAL

To provide a variety of active and passive recreational opportunities to enhance all residents' quality of life, meeting the needs of all age groups and providing year-round recreational opportunities for a population diverse in age, structure, interests and activities. It is also important that this system assist in protecting the natural and historic resources of the community in a manner which leaves them unimpaired for future generations.

Monitor carbon balance of the city
Increase carbon sinks and capture

WHAT DO YOU THINK?

USE STICKERS TO GIVE YOUR REACTION



Have more thoughts?

Write them on a Post-it & stick it right on the board!

Water quality
fertilizers pesticides
pollution plan

Get Minnetonka to
collect yard waste

POLICIES

- » Strive to provide active recreation spaces within a short walk or bike ride from every resident (approximately 1/2 mile from neighborhood park or 1/4 mile from pocket park).
- » Seek opportunities to connect to, improve safety of, and support use of the Dakota Rail Regional Trail.
- » Provide user amenities as appropriate for the type of park:
 - Pocket Park - benches, trash can, seasonal restroom, off-street parking when fields draw from greater than neighborhood
 - Neighborhood Park - benches, picnic tables, shelter, trash cans, year-round restrooms, off-street parking
 - Public Beach - sand beach, trash cans, on-street parking
 - Public Shore - none
- » Maintain neighborhood and public access to Lake Minnetonka for Mound residents through public beaches, public lake access points, public shores, and the Mound Docks & Commons Program.
- » Support cooperative efforts between the City, Westonka Public Schools District, and Three Rivers Park District that enhance the development and usage of recreational lands and facilities and minimize duplication.
- » Continue to integrate where feasible the preservation and celebration of the community's natural and historic resources into the park, open space and recreation system.
- » Emphasize community input and active community participation in the planning, design and development of recreational facilities.

Nice Temporary
Toilets would be
awesome at pocket
parks

How can we have
good parks - when
they are facilitating
drug deals?

Air Quality Plan
No Fires to burn
yard waste - wood
burn renewables

Why are we not
dealing with the
here and now in
order to improve the
future?

ACTIONS

Annually update the Capital Improvement Plan for parks, recreation, and open space ensuring that continued funding is available to meet the community's needs, including staffing, programming, new amenities and maintenance.

Create and implement a maintenance and replacement schedule to plan for phased replacement of neighborhood and pocket park facilities (i.e. playgrounds, courts, etc.). Provide an opportunity for neighborhood input on replacement projects.

Add user amenities to parks to respond to evolving public need.

Explore opportunities, including partnerships, for a community garden. Seek locations where there is usable, underutilized open space where water for irrigation can be available.

Conduct a Master Plan for Surfside Park.

Consider an off-leash dog area where there is usable, underutilized open space that has an adequate buffer from adjacent residential properties.

Explore the development of a few disc golf holes in a location where there is underutilized open space and users will not impact high quality natural areas.

Continue to explore opportunities to improve the safety of the Dakota Rail Trail Crossings, particularly across Shoreline Drive.

Conduct a feasibility study to evaluate the potential of a trail to link Downtown Mound to Surfside Park along the west side of Lost Lake.

Dog friendly signs
telling law and
amenities - dog
friendly business

Develop a tree preference list and educational materials to support the diversification of the tree canopy.

Explore opportunities to implement a uniform park signage and branding system for Mound's park, open space and recreation system.

Temp mini-golf by
lost lake would be
fun

9-10 holes or
nothing

Identify and sell extra city-owned parcels and tax forfeiture parcels that are too small for park facilities, do not have significant natural areas, and do not serve as an access point to city utilities or other functions.

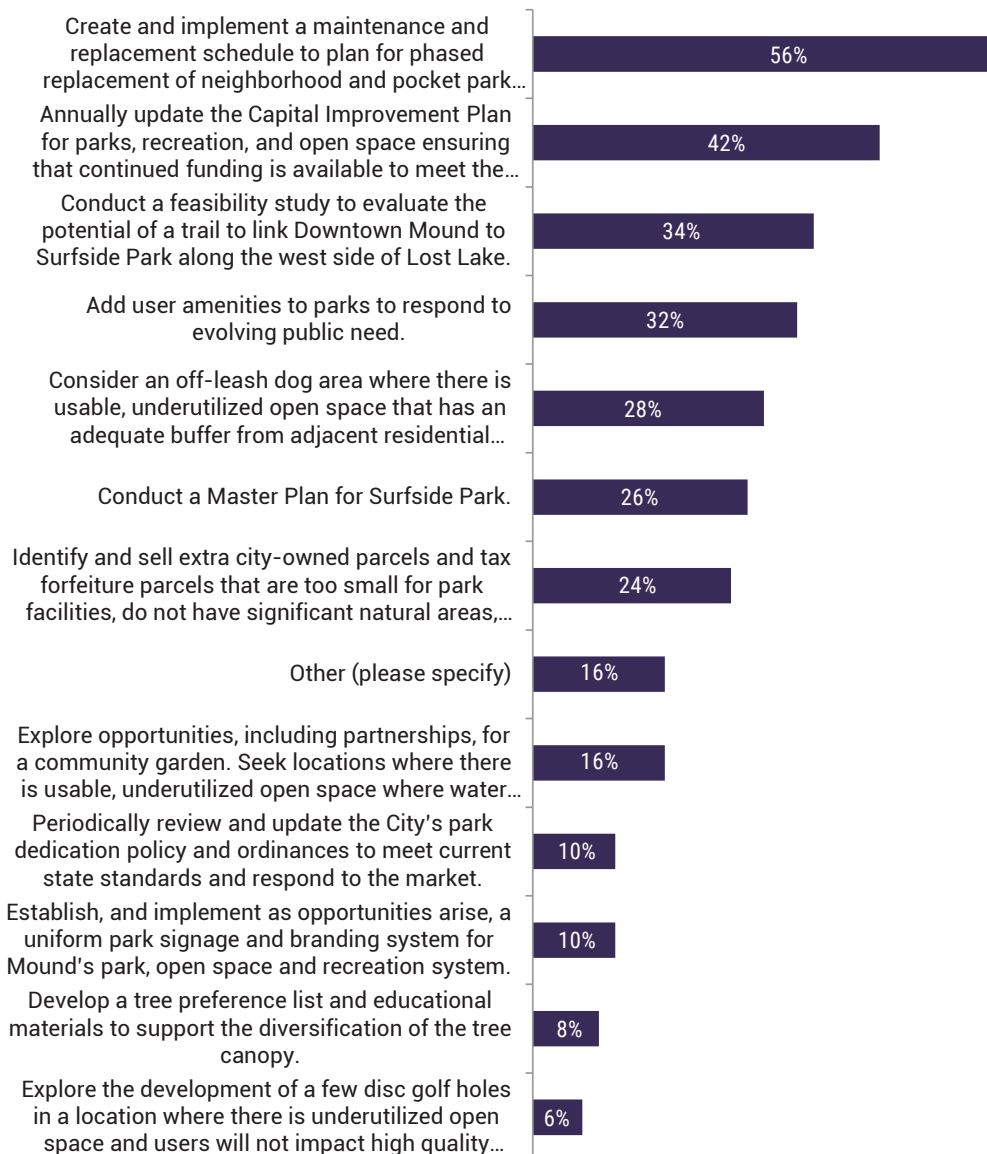
Climate change
strategy
Pest control

Think Culture too!
Part of Recreation

Comments from Open House

- » Water quality fertilizers pesticides pollution problem
- » Get Minnetrista to collect yard waste
- » Nice Temporary Toilets would be awesome at pocket parks
- » Monitor carbon balance of the city increase carbon sinks and apture
- » How can we have good parks - when they are facilitating drug deals?
- » Air Quality Plan - No fires to burn yard waste - wood burn renewables
- » Why are we not dealing with the here and now in order to improve the future?
- » Dog friendly signs telling laws and amenities - dog friendly business
- » Temporary minigolf by Lost Lake would be fun
- » 9-18 [Disc Golf] holes or nothing
- » Think Culture too! Part of Recreation
- » Climate change strategy Pest Control

Online Survey: What do you think should be the City's top priorities? Select your top 3



Online Survey Comments

- » We need to be able to maintain facilities and amenities that are already in use before thinking about adding new. Paint, stain, and normal repair go a long way toward reducing unnecessary cost.
- » "I think the mound city dock program needs a change. I think the market/supply and demand should dictate the cost of docks and not the city keeping the fees artificially low. I also don't see the need to keep commons in front of a lot of homes. If only that home has access to that dock, why not give back the lakeshore, stop maintaining it, raise the value of the home, and collect property tax.
- » I think some of the development looks great but I think the city needs to focus on cleaning up the town both commercial space and residential."
- » Disc golf and dog parks do not seem like broad-based critical priorities. Focus on improving the look and feel of the connection between Surfside and Downtown. This includes supporting existing businesses and attracting new businesses and high quality housing.
- » This is cheating, but Dog Park would be #4.
- » The dock program should be looked at. The docks are well below market value. The community has been in uproar over water bills (which is ridiculous) and if the city would capitalize on an area to bring in revenue, it could pay for more. A dock through a marina is thousands of dollars. This isn't a charity.
- » As there appears to be no other place to put general comments, I will add that, as part of looking ahead to the next 5 years, much less the next 23 years, Mound needs to seriously consider drastic improvements to two of its utility services: water and telecommunications. Frontier, in particular, is significantly sub-standard in its service to the community. And this is the only place I have ever lived (among several suburban communities across four Mid-Western states), that the water is intentionally turned a turbid orange twice a year and at any other time major water service repairs are needed within a 1-mile radius. If you have never tried it, I suggest you capture a glass jar's worth of water during the next hydrant flushing: it will settle overnight to a 5mm sludge of dirt, rust, and Lord knows what else that will make you nervous to ever drink it again straight out of the tap.
- » This will not require a study, but implement a way to get rid of the geese at Surfside Park, possibly through electronic speakers? There is so much poop on that beach, turning it over with a bobcat does not make the problem go away.
- » I'm very curious about where there is a large enough underutilized space for a dog park??
- » Compared to other cities Mound really has nothing to offer. Many cities have pools, Mound has nothing. You don't even maintain what you have. It's embarrassing.

APPENDIX B. HENNEPIN COUNTY ACCESS MANAGEMENT GUIDELINES

HENNEPIN COUNTY TRANSPORTATION SYSTEMS PLAN (HC-TSP)								
Exhibit 7-5								
Access Spacing Guidelines								
		Rural			Urban & Urbanizing			Urban Core
		Arterial		Collector	Arterial		Collector	
Access Type	Movements Allowed	Greater than 7,500 ADT	Less than 7,500 ADT		Undivided	Divided		
Single Family Residential Driveway or Farm Field Entrance	Full Movements allowed	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/8 mile (660 feet)			1/8 mile (660 feet)	
	Limited Access						1/16 mile (330 feet)	
Low Volume Driveway (less than or equal to 500 trips per day)	Full Movements allowed	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/8 mile (660 feet)			1/8 mile (660 feet)	1/16 mile (330 feet)
	Limited Access					1/8 mile (660 feet)	1/16 mile (330 feet)	1/16 mile (330 feet)
High Volume Driveway (greater than 500 trips per day)	Full Movements allowed	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/8 mile (660 feet)
	Limited Access					1/8 mile (660 feet)		1/16 mile (330 feet)
Low Volume Public Street (less than or equal to 2,500 ADT)	Full Movements allowed	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/8 mile (660 feet)	1/8 mile (660 feet)
	Limited Access					1/8 mile (660 feet)		1/16 mile (330 feet)
High Volume Public Street (greater than 2,500 ADT)	Full Movements allowed	1/2 mile (2,640 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)	1/4 mile (1,320 feet)
	Limited Access					1/8 mile (660 feet)		1/8 mile (660 feet)
	Definitions & Notes:							
		- Non-Applicable or Not Allowed. Residential driveways in urban & urbanizing settings should be oriented to the local street system.						
		There is recognition that non-conforming driveways currently existing along the county roadway system - these will be reviewed for removal if and when redevelopment opportunities occur.						
	If conformance to guidelines does not appear feasible, further justification, evaluation, and analysis may be required. Formal traffic studies may be required for large projects.							
	Existing median channelization will not be opened or broken even under circumstances where the above guidelines would suggest that full access could be allowed.							
	Other criteria are also reviewed for access requests such as entering sight distances, speeds, traffic volumes, and other elements (truck traffic, land use activities, etc.).							
	Access spacing is measured from centerline to centerline							
	Street spacing applies between street entrances, driveway spacing applies between all access types							
	If the roadway is divided - access spacing is measured on just one side of the roadway.							
	Rural - areas where agriculture, forestry, or very low density residential uses predominate. Local street networks are widely spaced							
	Urban / Urbanizing - areas with either fully matured development or continued development is occurring.							
	Urban Core - areas that are fully developed with a tightly woven network of public streets. Public street spacing is based on block length - usually between 300-660 feet.							
	ADT - Average Daily Traffic - volumes should be based on the 20-year forecasts.							
June 24, 2009	Limited access means some intersection movements are restricted. Examples include; 1) Designs limiting turns to right-in / right-out, or 2) Movements restricted by median channelization.							

APPENDIX C. MOUND WATER SUPPLY PLAN

Local Water Supply Plan Template Third Generation for 2016-2018

Revised April 10, 2017

Formerly called Water Emergency & Water Conservation Plan



Cover photo by Molly Shodeen



For more information on this Water Supply Plan Template, please contact the DNR Division of Ecological and Water Resources at (651) 259-5034 or (651) 259-5100.

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This information is available in an alternative format upon request.

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DEPARTMENT OF NATURAL RESOURCES – DIVISION OF ECOLOGICAL AND WATER RESOURCES AND METROPOLITAN COUNCIL

INTRODUCTION TO WATER SUPPLY PLANS (WSP)

Who needs to complete a Water Supply Plan

Public water suppliers serving more than 1,000 people, large private water suppliers in designated Groundwater Management Areas, and all water suppliers in the Twin Cities metropolitan area are required to prepare and submit a water supply plan.

The goal of the WSP is to help water suppliers: 1) implement long term water sustainability and conservation measures; and 2) develop critical emergency preparedness measures. Your community needs to know what measures will be implemented in case of a water crisis. A lot of emergencies can be avoided or mitigated if long term sustainability measures are implemented.

Groundwater Management Areas (GWMA)

The DNR has designated three areas of the state as Groundwater Management Areas (GWMAs) to focus groundwater management efforts in specific geographies where there is an added risk of overuse or water quality degradation. A plan directing the DNR's actions within each GWMA has been prepared. Although there are no specific additional requirements with respect to the water supply planning for communities within designated GWMAs, communities should be aware of the issues and actions planned if they are within the boundary of one of the GWMAs. The three GWMAs are the North and East Metro GWMA (Twin Cities Metro), the Bonanza Valley GWMA and the Straight River GWMA (near Park Rapids). Additional information and maps are included in the [DNR Groundwater Management Areas webpage](#).

Benefits of completing a WSP

Completing a WSP using this template, fulfills a water supplier's statutory obligations under M.S. [M.S.103G.291](#) to complete a water supply plan. For water suppliers in the metropolitan area, the WSP will help local governmental units to fulfill their requirements under M.S. 473.859 to complete a local comprehensive plan. Additional benefits of completing WSP template:

- The standardized format allows for quicker and easier review and approval
- Help water suppliers prepare for droughts and water emergencies.
- Create eligibility for funding requests to the Minnesota Department of Health (MDH) for the Drinking Water Revolving Fund.
- Allow water suppliers to submit requests for new wells or expanded capacity of existing wells.
- Simplify the development of county comprehensive water plans and watershed plans.
- Fulfill the contingency plan provisions required in the MDH wellhead protection and surface water protection plans.
- Fulfill the demand reduction requirements of Minnesota Statutes, section 103G.291 subd 3 and 4.

- Upon implementation, contribute to maintaining aquifer levels, reducing potential well interference and water use conflicts, and reducing the need to drill new wells or expand system capacity.
- Enable DNR to compile and analyze water use and conservation data to help guide decisions.
- Conserve Minnesota's water resources

If your community needs assistance completing the Water Supply Plan, assistance is available from your area hydrologist or groundwater specialist, the MN Rural Waters Association circuit rider program, or in the metropolitan area from Metropolitan Council staff. Many private consultants are also available.

WSP Approval Process

10 Basic Steps for completing a 10-Year Water Supply Plan

1. Download the DNR/Metropolitan Council Water Supply Plan Template from the [DNR Water Supply Plan webpage](#).
2. Save the document with a file name with this naming convention:
WSP_cityname_permitnumber_date.doc.
3. The template is a form that should be completed electronically.
4. Compile the required water use data (Part 1) and emergency procedures information (Part 2)
5. The Water Conservation section (Part 3) may need discussion with the water department, council, or planning commission, if your community does not already have an active water conservation program.
6. Communities in the seven-county Twin Cities metropolitan area should complete all the information discussed in Part 4. The Metropolitan Council has additional guidance information on their [Water Supply webpage](#). All out-state water suppliers **do not** need to complete the content addressed in Part 4.
7. Use the Plan instructions and Checklist document from the [DNR Water Supply Plan webpage](#) to insure all data is complete and attachments are included. This will allow for a quicker approval process.
8. Plans should be submitted electronically using the [MPARS website](#) – no paper documents are required.
9. DNR hydrologist will review plans (in cooperation with Metropolitan Council in Metro area) and approve the plan or make recommendations.
10. Once approved, communities should complete a Certification of Adoption form, and send a copy to the DNR.

Complete Table 1 with information about the public water supply system covered by this WSP.

Table 1. General information regarding this WSP

Requested Information	Description
DNR Water Appropriation Permit Number(s)	1973-1021
Ownership	<input checked="" type="checkbox"/> Public or <input type="checkbox"/> Private
Metropolitan Council Area	<input checked="" type="checkbox"/> Yes or <input type="checkbox"/> No (Hennepin County)
Street Address	2415 Wilshire Blvd
City, State, Zip	Mound, Minnesota, 55364
Contact Person Name	Ray Hanson
Title	Public Works Superintendent
Phone Number	952-472-0614
MDH Supplier Classification	Municipal

PART 1. WATER SUPPLY SYSTEM DESCRIPTION AND EVALUATION

The first step in any water supply analysis is to assess the current status of demand and availability. Information summarized in Part 1 can be used to develop Emergency Preparedness Procedures (Part 2) and the Water Conservation Plan (Part 3). This data is also needed to track progress for water efficiency measures.

A. Analysis of Water Demand

Complete Table 2 showing the past 10 years of water demand data.

- Some of this information may be in your Wellhead Protection Plan.
- If you do not have this information, do your best, call your engineer for assistance or if necessary leave blank.

If your customer categories are different than the ones listed in Table 2, please describe the differences below:

--

Table 2. Historic water demand (see definitions in the [glossary](#) after Part 4 of this template)

Year	Pop. Served	Total Connections	Residential Water Delivered (MG)	C/I/I Water Delivered (MG)	Water used for Non-essential	Wholesale Deliveries (MG)	Total Water Delivered (MG)	Total Water Pumped (MG)	Water Supplier Services	Percent Unmetered/Unaccounted	Average Daily Demand (MGD)	Max. Daily Demand (MGD)	Date of Max. Demand	Residential Per Capita Demand (GPCD)	Total per capita Demand (GPCD)
2005	9435	3656	218.03	45.46	0	0	263.49	274.47	0	4.00%	0.75	N/A	N/A	63.3	79.7
2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007	9769	3724	220.85	64.20	0	0	285.05	305.72	0	6.76%	0.84	1.42	5/19/2007	61.9	85.7
2008	9769	3724	169.86	61.48	0	0	231.34	287.19	0	19.45%	0.79	1.33	5/26/2008	47.6	80.5
2009	9769	3721	167.78	62.26	0	0	230.04	276.79	0	16.89%	0.76	1.22	7/5/2009	47.1	77.6
2010	9052	3697	142.79	62.63	0	0	205.42	237.03	0	13.34%	0.65	1.43	7/4/2010	43.2	71.7
2011	9084	3694	149.47	55.36	0	0	204.83	234.47	0	12.64%	0.64	1.19	8/16/2011	45.1	70.7
2012	9052	3741	156.16	59.80	0	0	215.96	241.59	0	10.61%	0.66	1.42	7/16/2012	47.3	73.1
2013	9210	3705	161.37	57.92	0	0	219.29	241.91	0	9.35%	0.66	1.13	8/27/2013	48.0	72.0
2014	9270	3778	163.37	55.92	0	0	219.29	225.76	0	2.86%	0.62	1.13	7/23/2014	48.3	66.7
2015	9270	3834	161.31	52.92	0	0	214.23	218.84	0	2.11%	0.60	1.20	8/14/2015	47.7	64.7
Avg. 2010-2015	9156	3742	155.74	57.42	0	0	213.17	233.27	0	8.49%	0.64	1.25	N/A	46.6	69.8

MG – Million Gallons **MGD** – Million Gallons per Day **GPCD** – Gallons per Capita per Day

See [Glossary](#) for definitions. A list of [Acronyms and Initialisms](#) can be found after the Glossary.

Complete Table 3 by listing the top 10 water users by volume, from largest to smallest. For each user, include information about the category of use (residential, commercial, industrial, institutional, or wholesale), the amount of water used in gallons per year, the percent of total water delivered, and the status of water conservation measures.

Table 3. Large volume users

Customer	Use Category (Residential, Industrial, Commercial, Institutional, Wholesale)	Amount Used (Gallons per Year)	Percent of Total Annual Water Delivered	Implementing Water Conservation Measures? (Yes/No/Unknown)
1. Seahorse Condo Association	Residential	2,996,000	1.40%	Unknown
2. Lakewinds Condo Association	Residential	1,588,000	0.74%	Unknown
3. Indian Knoll Manor Affordable Housing	Residential	1,566,000	0.73%	Unknown
4. SCL Holdings	Commercial	1,550,000	0.72%	Unknown
5. Shoreline Place Apartments	Residential	1,476,000	0.69%	Unknown
6. Grandview Apartments	Residential	1,360,000	0.64%	Unknown
7. Home Laundry Mat	Commercial	1,119,000	0.52%	Unknown
8. Westonka Estates Affordable Housing	Residential	828,000	0.39%	Unknown
9. OLL Catholic Church & School	Institutional	660,000	0.31%	Unknown
10. Chapman Place Condo Association	Residential	522,000	0.24%	Unknown

B. Treatment and Storage Capacity

Complete Table 4 with a description of where water is treated, the year treatment facilities were constructed, water treatment capacity, the treatment methods (i.e. chemical addition, reverse osmosis, coagulation, sedimentation, etc.) and treatment types used (i.e. fluoridation, softening, chlorination, Fe/MN removal, coagulation, etc.). Also describe the annual amount and method of disposal of treatment residuals. Add rows to the table as needed.

Table 4. Water treatment capacity and treatment processes

Treatment Site ID (Plant Name or Well ID)	Year Constructed	Treatment Capacity (GPD)	Treatment Method	Treatment Type	Annual Volume of Residuals	Disposal Process for Residuals	Do You Reclaim Filter Backwash Water?
Well #3	2006	2,160,000	Chemical Additions	Chlorination Fluoridation	None	N/A	N/A
Well #8	2003	2,160,000	Chemical Additions	Chlorination Fluoridation	None	N/A	N/A
Total	N/A	4,320,000	N/A	N/A	None	N/A	N/A

Complete Table 5 with information about storage structures. Describe the type (i.e. elevated, ground, etc.), the storage capacity of each type of structure, the year each structure was constructed, and the primary material for each structure. Add rows to the table as needed.

Table 5. Storage capacity, as of the end of the last calendar year

Structure Name	Type of Storage Structure	Year Constructed	Primary Material	Storage Capacity (Gallons)
Standpipe (Donald Drive)	Elevated Storage	1978	Steel	240,000
Tower (Evergreen Tower)	Elevated Storage	1970	Steel	350,000
Tower (Chateau Tower)	Elevated Storage	2006	Steel	400,000
Total	NA	NA	NA	990,000

Treatment and storage capacity versus demand

It is recommended that total storage equal or exceed the average daily demand.

Discuss the difference between current storage and treatment capacity versus the water supplier's projected average water demand over the next 10 years (see Table 7 for projected water demand):

The City of Mound currently has a total of 990,000 gallons of storage between 3 elevated storage tanks. Typically, it is desired to maintain a storage capacity greater than the average day demand (based on Ten States Standards). In 2016, the average day demand is projected to be 631,456 gallons per day. Using the Ten States Standards and comparing the average day demand to the total storage capacity, there is a surplus of 358,544 gallons, in 2016. By 2025, the projected average day demand is 640,500 gallons per day, yielding a storage surplus of 349,500 gallons. Over the next ten years, storage is adequate. By 2040, the average day demand is projected to be 658,000 gallons per day, which yields a surplus of 332,000 gallons. Future projections indicate the storage capacity for Mound is adequate for average day demand through 2040. Additionally, this is based off of a conservative figure for projected total water per capita of 70 GPCD, as this is the average total water per capita for the past 10 years.

The City of Mound's only water treatment method is chemical injection, therefore water treatment capacity is equal to pump capacity. Typically water treatment capacity is sized to treat the maximum daily demand projected for a community. By 2040, the projected maximum daily demand is 1,316,000 gallons per day. The treatment system

(pump capacity) is currently 4,320,000 gallons per day, which is far greater than the projected maximum daily demand in 2040. Future projections indicate the treatment capacity for Mound is adequate for maximum day demand through 2040.

C. Water Sources

Complete Table 6 by listing all types of water sources that supply water to the system, including groundwater, surface water, interconnections with other water suppliers, or others. Provide the name of each source (aquifer name, river or lake name, name of interconnecting water supplier) and the Minnesota unique well number or intake ID, as appropriate. Report the year the source was installed or established and the current capacity. Provide information about the depth of all wells. Describe the status of the source (active, inactive, emergency only, retail/wholesale interconnection) and if the source facilities have a dedicated emergency power source. Add rows to the table as needed for each installation.

Include copies of well records and maintenance summary for each well that has occurred since your last approved plan in **Appendix 1**.

Table 6. Water sources and status

Resource Type (Groundwater, Surface water, Interconnection)	Resource Name	MN Unique Well # or Intake ID	Year Installed	Capacity (Gallons per Minute)	Well Depth (Feet)	Status of Normal and Emergency Operations (active, inactive, emergency only, retail/wholesale interconnection))	Does this Source have a Dedicated Emergency Power Source? (Yes or No)
Groundwater	QBAA	206993	1934	N/A	285	Sealed	No
Groundwater	Multiple	206928	1939	250	509	Abandoned	No
Groundwater	OPCJ	206994	1947	1500	317	Active	
Groundwater	Mt Simon – Red Clastic	208866	1962	N/A	729	Observation	No
Groundwater	QBAA	232167	1970	60	140	Abandoned	No
Groundwater	QBAA	112215	1976	N/A	174	Sealed	No
Groundwater	QBAA	240756	1977	750	194	Emergency	Yes
Groundwater	QBUA	699091	2003	1500	304	Active	Yes
Interconnection	City of Spring Park	N/A		1500	N/A	Emergency	N/A
Interconnection	City of Minnetrista	N/A		800	N/A	Emergency	N/A

Limits on Emergency Interconnections

Discuss any limitations on the use of the water sources (e.g. not to be operated simultaneously, limitations due to blending, aquifer recovery issues etc.) and the use of interconnections, including capacity limits or timing constraints (i.e. only 200 gallons per minute are available from the City of Prior Lake, and it is estimated to take 6 hours to establish the emergency connection). If there are no limitations, list none.

None

D. Future Demand Projections – Key Metropolitan Council Benchmark

Water Use Trends

Use the data in Table 2 to describe trends in 1) population served; 2) total per capita water demand; 3) average daily demand; 4) maximum daily demand. Then explain the causes for upward or downward trends. For example, over the ten years has the average daily demand trended up or down? Why is this occurring?

The community of Mound, MN has overall been decreasing in population over the last 10 years. The population served that is shown in table 2 shows a very un-linear trend downwards in population. The general population served has been declining, but becomes un-linear due to population reporting accuracy and the addition of homes to the public water supply system that prior were on private wells.

The average total per capita water demand from 2005 through 2015 is 74 gallons per capita per day (gpcd). The average total per capita water demand over the past 5 years is 70 gpcd. In 2007 the average total per capita water demand was 85 gpcd, but has recently been hovering between 64-70 gpcd per year. This is a relatively low number for the total per capita water demand and can be contributed to a lower percentage of commercial/industrial/institutional water usage than communities of similar size.

Average demand over the last 10 years has remained fairly steady between 0.60 and 0.84 million gallons per day (MGD), with an average of 0.70 MGD. Over the last 5 years, the average demand was even steadier with an average of .64 MGD ranging between 0.60 and 0.66 MGD. The steadier range of averages can be contributed to increased water efficiencies and a focus on more accurate reporting of water usages over the past 10 years since the previous water supply plan was conducted.

The maximum day demand has been on a slight trend downward over the previous 10 years, but has remained between 1.13 MGD and 1.43 MGD. Historically, the maximum day demand has occurred in the summer months (May through August) when water usage was the highest. A reduction over the last few years can most likely be attributed to higher precipitation rates during that time period than previous years, which directly affects the amount of water used for irrigation. It is well known that water used for irrigation is what increases the water usage during the summer months. In addition, the maximum day demand may have also been decreased from the increased education about water efficiency and water efficient devices.

Use the water use trend information discussed above to complete Table 7 with projected annual demand for the next ten years. Communities in the seven-county Twin Cities metropolitan area must also include projections for 2030 and 2040 as part of their local comprehensive planning.

Projected demand should be consistent with trends evident in the historical data in Table 2, as discussed above. Projected demand should also reflect state demographer population projections and/or other planning projections.

Table 7. Projected annual water demand

Year	Projected Total Population	Projected Population Served	Projected Total Per Capita Water Demand (GPCD)	Projected Average Daily Demand (MGD)	Projected Maximum Daily Demand (MGD)
2016	9,021	9,021	70	0.631	1.261
2017	9,016	9,016	70	0.631	1.261
2018	9,010	9,010	70	0.631	1.260
2019	9,005	9,005	70	0.630	1.264
2020	9,000	9,000	70	0.630	1.268
2021	9,030	9,030	70	0.632	1.273
2022	9,060	9,060	70	0.634	1.277
2023	9,090	9,090	70	0.636	1.281
2024	9,120	9,120	70	0.638	1.285
2025	9,150	9,150	70	0.641	1.281
2030	9,300	9,300	70	0.651	1.302
2040	9,400	9,400	70	0.658	1.316

GPCD – Gallons per Capita per Day

MGD – Million Gallons per Day

Projection Method

Describe the method used to project water demand, including assumptions for population and business growth and how water conservation and efficiency programs affect projected water demand:

Population projections were done using the 2015 Met Council System Statement for Mound.

Average day demand was projected using the 10-year historic total water per capita demand of 70 gpcd and multiplying that by the projected population served. The max day demand was calculated by taking the average day times a peaking factor of 2.0.

E. Resource Sustainability

Monitoring – Key DNR Benchmark

Complete Table 8 by inserting information about source water quality and quantity monitoring efforts. The list should include all production wells, observation wells, and source water intakes or reservoirs. Groundwater level data for DNR’s statewide network of observation wells are available online through the [DNR’s Cooperative Groundwater Monitoring \(CGM\) webpage](#).

Table 8. Information about source water quality and quantity monitoring

MN Unique Well # or Surface Water ID	Type of monitoring point	Monitoring program	Frequency of monitoring	Monitoring Method
206994	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> routine MDH sampling <input checked="" type="checkbox"/> routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input checked="" type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input checked="" type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input type="checkbox"/> steel tape <input type="checkbox"/> stream gauge

MN Unique Well # or Surface Water ID	Type of monitoring point	Monitoring program	Frequency of monitoring	Monitoring Method
240756	<input checked="" type="checkbox"/> emergency production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input checked="" type="checkbox"/> routine MDH sampling <input type="checkbox"/> routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input checked="" type="checkbox"/> annually	<input type="checkbox"/> SCADA <input checked="" type="checkbox"/> grab sampling <input checked="" type="checkbox"/> steel tape <input type="checkbox"/> stream gauge
699091	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> routine MDH sampling <input checked="" type="checkbox"/> routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input checked="" type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input checked="" type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input type="checkbox"/> steel tape <input type="checkbox"/> stream gauge

Water Level Data

A water level monitoring plan that includes monitoring locations and a schedule for water level readings must be submitted as **Appendix 2**. If one does not already exist, it needs to be prepared and submitted with the WSP. Ideally, all production and observation wells are monitored at least monthly.

Complete Table 9 to summarize water level data for each well being monitored. Provide the name of the aquifer and a brief description of how much water levels vary over the season (the difference between the highest and lowest water levels measured during the year) and the long-term trends for each well. If water levels are not measured and recorded on a routine basis, then provide the static water level when each well was constructed and the most recent water level measured during the same season the well was constructed. Also include all water level data taken during any well and pump maintenance. Add rows to the table as needed.

Groundwater hydrographs illustrate the historical record of aquifer water levels measured within a well and can indicate water level trends over time. For each well in your system, provide a hydrograph for the life of the well, or for as many years as water levels have been measured. Include the hydrographs in **Appendix 3**. An example of a hydrograph can be found on the [DNR's Groundwater Hydrograph webpage](#). Hydrographs for DNR Observation wells can be found in the [CGM](#) discussed above.

Table 9. Water level data

Unique Well Number or Well ID	Aquifer Name	Seasonal Variation (Feet)	Long-term Trend in water level data	Water level measured during well/pumping maintenance
206994	PDCJ	N/A	<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	N/A
240756	QBAA	N/A	<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	N/A

Unique Well Number or Well ID	Aquifer Name	Seasonal Variation (Feet)	Long-term Trend in water level data	Water level measured during well/pumping maintenance
699091	QBUA	N/A	<input type="checkbox"/> Falling <input type="checkbox"/> Stable <input type="checkbox"/> Rising	N/A

Potential Water Supply Issues & Natural Resource Impacts – Key DNR & Metropolitan Council Benchmark

Complete Table 10 by listing the types of natural resources that are or could potentially be impacted by permitted water withdrawals in the future. You do not need to identify every single water resource in your entire community. The goal is to help you triage the most important water resources and/or the water resources that may be impacted by your water supply system – perhaps during a drought or when the population has grown significantly in ten years. This is emerging science, so do the best you can with available data. For identified resources, provide the name of specific resources that may be impacted. Identify what the greatest risks to the resource are and how the risks are being assessed. Identify any resource protection thresholds – formal or informal – that have been established to identify when actions should be taken to mitigate impacts. Provide information about the potential mitigation actions that may be taken, if a resource protection threshold is crossed. Add additional rows to the table as needed. See the glossary at the end of the template for definitions.

Some of this baseline data should have been in your earlier water supply plans or county comprehensive water plans. When filling out this table, think of what are the water supply risks, identify the resources, determine the threshold and then determine what your community will do to mitigate the impacts.

Your DNR area hydrologist is available to assist with this table.

For communities in the seven-county Twin Cities metropolitan area, the [Master Water Supply Plan Appendix 1 \(Water Supply Profiles\)](#), provides information about potential water supply issues and natural resource impacts for your community.

Steps for completing Table 10

1. Identify the potential for natural resource impacts/issues within the community

First, review available information to identify resources that may be impacted by the operation of your water supply system (such as pumping).

Potential Sources of Information:

- County Geologic Atlas
- Local studies
- Metropolitan Council System Statement (for metro communities)
- Metropolitan Council Master Water Supply Plan (for metro communities)

ACTION: Check the resource type(s) that may be impacted in the column “Resource Type”

2. *Identify where your water supply system is most likely to impact those resources (and vice versa).*

Potential Sources of Information:

- Drinking Water Supply Management Areas
- Geologic Atlas - Sensitivity
- If no WHPA or other information exists, consider rivers, lakes, wetlands and significant within 1.5 miles of wells; and calcareous fens and trout streams within 5 miles of wells

ACTION: Focus the rest of your work in these areas.

3. *Within focus areas, identify specific features of value to the community*

You know your community best. What resources are important to pay attention to? It may be useful to check in with your community's planning and zoning staff and others.

Potential Sources of Information:

- Park plans
- Local studies
- Natural resource inventories
- Tourist attractions/recreational areas/valued community resource

ACTION: Identify specific features that the community prioritizes in the "Resource Name" column (for example: North Lake, Long River, Brook Trout Stream, or Green Fen). If, based on a review of available information, no features are likely to be at risk, note "None".

4. *Identify what impact(s) the resource is at risk for*

Potential Sources of Information:

- Wellhead Protection Plan
- Water Appropriation Permit
- County Geologic Atlas
- MDH or PCA reports of the area
- Metropolitan Council System Statement (for metro communities)
- Metropolitan Council Master Water Supply Plan (for metro communities)

ACTION: Check the risk type in the column "Risk". If, based on a review of available information, no risk is identified, note "None anticipated".

5. *Describe how the risk was assessed*

Potential Sources of Information:

- Local studies
- Monitoring data (community, WMO, DNR, etc.)
- Aquifer testing
- County Geologic Atlas or other hydrogeologic studies
- Regional or state studies, such as DNR's report 'Definitions and Thresholds for Negative Impacts to Surface Waters'
- Well boring logs

ACTION: Identify the method(s) used to identify the risk to the resource in the “Risk Assessed Through” column

6. *Describe protection threshold/goals*

What is the goal, if any, for protecting these resources? For example, is there a lower limit on acceptable flow in a river or stream? Water quality outside of an accepted range? A lower limit on acceptable aquifer level decline at one or more monitoring wells? Withdrawals that exceed some percent of the total amount available from a source? Or a lower limit on acceptable changes to a protected habitat?

Potential Sources of Information:

- County Comprehensive Water Plans
- Watershed Plans or One Watershed/One Plan
- Groundwater or Aquifer Plans
- Metropolitan Master Plans
- DNR Thresholds study
- Community parks, open space, and natural resource plans

ACTION: Describe resource protection goals in the “Describe Resource Protection Threshold” column or reference an existing plan/document/webpage

7. *If a goal/threshold should trigger action, describe the plan that will be implemented.*

Identify specific action, mitigation measures or management plan that the water supplier will implement, or refer to a partner’s plan that includes actions to be taken.

Potential Sources of Information:

- County Comprehensive Water Plans
- Watershed Plans or One Watershed/One Plan
- Groundwater or Aquifer Plans
- Metropolitan Master Plans
- Studies such as DNR Thresholds study

ACTION: Describe the mitigation measure or management plan in the “Mitigation Measure or Management Plan” column.

8. *Describe work to evaluate these risks going forward.*

For example, what is the plan to regularly check in to stay current on plans or new data?

Identify specific action that the water supplier will take to identify the creation of or change to goals/thresholds, or refer to a partner’s plan that includes actions to be taken.

Potential Sources of Information:

- County Comprehensive Water Plans
- Watershed Plans or One Watershed/One Plan
- Groundwater or Aquifer Plans
- Metropolitan Master Plans
- Studies such as DNR Thresholds study

ACTION: Describe what will be done to evaluate risks going forward, including any changes to goals or protection thresholds in the “Describe how Changes to Goals are monitored” column.

Table 10. Natural resource impacts (*List specific resources in Appendix 12)

Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input type="checkbox"/> River or stream	None	<input checked="" type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (<1.5 miles) <input checked="" type="checkbox"/> Other: Met Council System Statement	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> No data available <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____
<input type="checkbox"/> Calcareous fen	None	<input checked="" type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed Report <input type="checkbox"/> Proximity (<5 miles) <input checked="" type="checkbox"/> Other: Met Council System Statement <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____

Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input checked="" type="checkbox"/> Lake	Minnetonka Langdon Dutch Lost	<input checked="" type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input checked="" type="checkbox"/> Proximity (<1.5 miles) <input checked="" type="checkbox"/> Other: Met Council System Statement <input checked="" type="checkbox"/> Other: 2030 Comprehensive Plan	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> Wetland	Several	<input checked="" type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input checked="" type="checkbox"/> Proximity (<1.5 miles) <input checked="" type="checkbox"/> Other: Met Council System Statement	<input type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____

Resource Type	Resource Name	Risk	Risk Assessed Through *	Describe Resource Protection Threshold or Goal *	Mitigation Measures or Management Plan	Describe How Thresholds or Goals are Monitored
<input type="checkbox"/> Trout stream	None	<input checked="" type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> WRAPS or other watershed report <input type="checkbox"/> Proximity (< 5 miles) <input checked="" type="checkbox"/> Other: Met Council System Statement	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____
<input checked="" type="checkbox"/> Aquifer	QBAA QBUA	<input checked="" type="checkbox"/> None anticipated <input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat <input type="checkbox"/> Other: _____	<input type="checkbox"/> Geologic atlas or other mapping <input type="checkbox"/> Modeling <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> Proximity (obwell < 5 miles) <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Additional data is needed to establish <input type="checkbox"/> See report: _____ <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Newly collected data will be analyzed <input type="checkbox"/> Regular check-in with these partners: _____ <input type="checkbox"/> Other: _____

Wellhead Protection (WHP) and Source Water Protection (SWP) Plans

Complete Table 11 to provide status information about WHP and SWP plans.

The emergency procedures in this plan are intended to comply with the contingency plan provisions required in the Minnesota Department of Health's (MDH) Wellhead Protection (WHP) Plan and Surface Water Protection (SWP) Plan.

Table 11. Status of Wellhead Protection and Source Water Protection Plans

Plan Type	Status	Date Adopted	Date for Update
WHP	<input type="checkbox"/> In Process <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Not Applicable	Nov, 2009	June 11, 2019
SWP	<input type="checkbox"/> In Process <input type="checkbox"/> Completed <input checked="" type="checkbox"/> Not Applicable		

WHP – Wellhead Protection Plan **SWP** – Source Water Protection Plan

F. Capital Improvement Plan (CIP)

Please note that any wells that received approval under a ten-year permit, but that were not built, are now expired and must submit a water appropriations permit.

Adequacy of Water Supply System

Complete Table 12 with information about the adequacy of wells and/or intakes, storage facilities, treatment facilities, and distribution systems to sustain current and projected demands. List planned capital improvements for any system components, in chronological order. Communities in the seven-county Twin Cities metropolitan area should also include information about plans through 2040.

The assessment can be the general status by category; it is not necessary to identify every single well, storage facility, treatment facility, lift station, and mile of pipe.

Please attach your latest Capital Improvement Plan as **Appendix 4**.

Table 12. Adequacy of Water Supply System

System Component	Planned action	Anticipated Construction Year	Notes
Wells/Intakes	<input checked="" type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition		
Water Storage Facilities	<input checked="" type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition		
Water Treatment Facilities	<input checked="" type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition		
Distribution Systems (Pipes, valves, etc.)	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input checked="" type="checkbox"/> Expansion/addition	2018, 2019, 2020	Replace old pipes. Expand system.
Pressure Zones	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition	2021	Upsize smaller pipes.

System Component	Planned action	Anticipated Construction Year	Notes
Other:	<input type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input checked="" type="checkbox"/> Removal	2022	Well 7, Booster Pump Station, Devon Lane Standpipe

Proposed Future Water Sources

Complete Table 13 to identify new water source installation planned over the next ten years. Add rows to the table as needed.

Table 13. Proposed future installations/sources

Source	Installation Location (approximate)	Resource Name	Proposed Pumping Capacity (gpm)	Planned Installation Year	Planned Partnerships
Groundwater	N/A				
Surface Water	N/A				
Interconnection to another supplier	N/A				

Water Source Alternatives - Key Metropolitan Council Benchmark

Do you anticipate the need for alternative water sources in the next 10 years? Yes ☐ No ☒

For metro communities, will you need alternative water sources by the year 2040? Yes ☐ No ☒

If you answered yes for either question, then complete table 14. If no, insert NA.

Complete Table 14 by checking the box next to alternative approaches that your community is considering, including approximate locations (if known), the estimated amount of future demand that could be met through the approach, the estimated timeframe to implement the approach, potential partnerships, and the major benefits and challenges of the approach. Add rows to the table as needed.

For communities in the seven-county Twin Cities metropolitan area, these alternatives should include approaches the community is considering to meet projected 2040 water demand.

Table 14. Alternative water sources

Alternative Source Considered	Source and/or Installation Location (approximate)	Estimated Amount of Future Demand (%)	Timeframe to Implement (YYYY)	Potential Partners	Benefits	Challenges
<input type="checkbox"/> Groundwater	N/A					
<input type="checkbox"/> Surface Water	N/A					
<input type="checkbox"/> Reclaimed stormwater	N/A					
<input type="checkbox"/> Reclaimed wastewater	N/A					
<input type="checkbox"/> Interconnection to another supplier	N/A					

PART 2. EMERGENCY PREPAREDNESS PROCEDURES

The emergency preparedness procedures outlined in this plan are intended to comply with the contingency plan provisions required by MDH in the WHP and SWP. Water emergencies can occur as a result of vandalism, sabotage, accidental contamination, mechanical problems, power failings, drought, flooding, and other natural disasters. The purpose of emergency planning is to develop emergency response procedures and to identify actions needed to improve emergency preparedness. In the case of a municipality, these procedures should be in support of, and part of, an all-hazard emergency operations plan. Municipalities that already have written procedures dealing with water emergencies should review the following information and update existing procedures to address these water supply protection measures.

A. Emergency Response Plan

Section 1433(b) of the Safe Drinking Water Act, (Public Law 107-188, Title IV- Drinking Water Security and Safety) requires community water suppliers serving over 3,300 people to prepare an Emergency Response Plan. MDH recommends that Emergency Response Plans are updated annually.

Do you have an Emergency Response Plan? Yes ☒ No ☐

Have you updated the Emergency Response Plan in the last year? Yes ☒ No ☐

When did you last update your Emergency Response Plan? Currently being updated

Complete Table 15 by inserting the noted information regarding your completed Emergency Response Plan.

Table 15. Emergency Response Plan contact information

Emergency Response Plan Role	Contact Person	Contact Phone Number	Contact Email
Emergency Response Lead	RAY HANSON	952-472-0614	RAYHANSON@CITYOFMOUND.COM
Alternate Emergency Response Lead	ERIC HOVERSTEN	952-472-0609	ERICHOVERSTEN@CITYOFMOUND.COM

B. Operational Contingency Plan

All utilities should have a written operational contingency plan that describes measures to be taken for water supply mainline breaks and other common system failures as well as routine maintenance.

Do you have a written operational contingency plan? Yes ☒ No ☐

At a minimum, a water supplier should prepare and maintain an emergency contact list of contractors and suppliers.

C. Emergency Response Procedures

Water suppliers must meet the requirements of MN Rules 4720.5280. Accordingly, the Minnesota Department of Natural Resources (DNR) requires public water suppliers serving more than 1,000 people to submit Emergency and Conservation Plans. Water emergency and conservation plans that have been

approved by the DNR, under provisions of Minnesota Statute 186 and Minnesota Rules, part 6115.0770, will be considered equivalent to an approved WHP contingency plan.

Emergency Telephone List

Prepare and attach a list of emergency contacts, including the MN Duty Officer (1-800-422-0798), as **Appendix 5**. An [Emergency Contact List template](#) is available at the [MnDNR Water Supply Plans webpage](#).

The list should include key utility and community personnel, contacts in adjacent water suppliers, and appropriate local, state and federal emergency contacts. Please be sure to verify and update the contacts on the emergency telephone list and date it. Thereafter, update on a regular basis (once a year is recommended). In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the Emergency Manager for that community. Responsibilities and services for each contact should be defined.

Current Water Sources and Service Area

Quick access to concise and detailed information on water sources, water treatment, and the distribution system may be needed in an emergency. System operation and maintenance records should be maintained in secured central and back-up locations so that the records are accessible for emergency purposes. A detailed map of the system showing the treatment plants, water sources, storage facilities, supply lines, interconnections, and other information that would be useful in an emergency should also be readily available. It is critical that public water supplier representatives and emergency response personnel communicate about the response procedures and be able to easily obtain this kind of information both in electronic and hard copy formats (in case of a power outage).

Do records and maps exist? Yes ☒ No ☐

Can staff access records and maps from a central secured location in the event of an emergency?

Yes ☒ No ☐

Does the appropriate staff know where the materials are located?

Yes ☒ No ☐

Procedure for Augmenting Water Supplies

Complete Tables 16 – 17 by listing all available sources of water that can be used to augment or replace existing sources in an emergency. Add rows to the tables as needed.

In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the warning point for that community. Municipalities are encouraged to execute cooperative agreements for potential emergency water services and copies should be included in **Appendix 6**. Outstate Communities may consider using nearby high capacity wells (industry, golf course) as emergency water sources.

WSP should include information on any physical or chemical problems that may limit interconnections to other sources of water. Approvals from the MDH are required for interconnections or the reuse of water.

Table 16. Interconnections with other water supply systems to supply water in an emergency

Other Water Supply System Owner	Capacity (GPM & MGD)	Note Any Limitations On Use	List of services, equipment, supplies available to respond
City of Spring Park	1500 GPM 2.1 MGD	NONE	N/A
City of Minnetrista	800 GPM 1.1 MGD	NONE	N/A

GPM – Gallons per minute MGD – million gallons per day

Table 17. Utilizing surface water as an alternative source

Surface Water Source Name	Capacity (GPM)	Capacity (MGD)	Treatment Needs	Note Any Limitations On Use
Insert name of surface water source here	N/A			

If not covered above, describe additional emergency measures for providing water (obtaining bottled water, or steps to obtain National Guard services, etc.)

Bottle water can be obtained from Premium Water by calling 800-332-3332
The MN National Guard can supply non potable water in tanker trucks, and can be contacted through emergency management.

Allocation and Demand Reduction Procedures

Complete Table 18 by adding information about how decisions will be made to allocate water and reduce demand during an emergency. Provide information for each customer category, including its priority ranking, average day demand, and demand reduction potential for each customer category. Modify the customer categories as needed, and add additional lines if necessary.

Water use categories should be prioritized in a way that is consistent with Minnesota Statutes 103G.261 (#1 is highest priority) as follows:

1. Water use for human needs such as cooking, cleaning, drinking, washing and waste disposal; use for on-farm livestock watering; and use for power production that meets contingency requirements.
2. Water use involving consumption of less than 10,000 gallons per day (usually from private wells or surface water intakes)
3. Water use for agricultural irrigation and processing of agricultural products involving consumption of more than 10,000 gallons per day (usually from private high-capacity wells or surface water intakes)

4. Water use for power production above the use provided for in the contingency plan.
5. All other water use involving consumption of more than 10,000 gallons per day.
6. Nonessential uses – car washes, golf courses, etc.

Water used for human needs at hospitals, nursing homes and similar types of facilities should be designated as a high priority to be maintained in an emergency. Lower priority uses will need to address water used for human needs at other types of facilities such as hotels, office buildings, and manufacturing plants. The volume of water and other types of water uses at these facilities must be carefully considered. After reviewing the data, common sense should dictate local allocation priorities to protect domestic requirements over certain types of economic needs. Water use for lawn sprinkling, vehicle washing, golf courses, and recreation are legislatively considered non-essential.

Table 18. Water use priorities

Customer Category	Allocation Priority	Average Daily Demand (GPD)	Short-Term Emergency Demand Reduction Potential (GPD)
Residential	1	442,000	200,000
C/I/I	2	145,000	100,000
Non-Essential	6	0	0
TOTAL	NA	NA	300,000

GPD – Gallons per Day

Tip: Calculating Emergency Demand Reduction Potential

The emergency demand reduction potential for all uses will typically equal the difference between maximum use (summer demand) and base use (winter demand). In extreme emergency situations, lower priority water uses must be restricted or eliminated to protect priority domestic water requirements. Emergency demand reduction potential should be based on average day demands for customer categories within each priority class. Use the tables in Part 3 on water conservation to help you determine strategies.

Complete Table 19 by selecting the triggers and actions during water supply disruption conditions.

Table 19. Emergency demand reduction conditions, triggers and actions (Select all that may apply and describe)

Emergency Triggers	Short-term Actions	Long-term Actions
<input checked="" type="checkbox"/> Contamination <input checked="" type="checkbox"/> Loss of production <input checked="" type="checkbox"/> Infrastructure failure <input checked="" type="checkbox"/> Executive order by Governor <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Supply augmentation through interconnections <input checked="" type="checkbox"/> Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input type="checkbox"/> Water allocation through____ <input type="checkbox"/> Meet with large water users to discuss their contingency plan.	<input checked="" type="checkbox"/> Supply augmentation through interconnections <input checked="" type="checkbox"/> Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input type="checkbox"/> Water allocation through____ <input type="checkbox"/> Meet with large water users to discuss their contingency plan.

Notification Procedures

Complete Table 20 by selecting trigger for informing customers regarding conservation requests, water use restrictions, and suspensions; notification frequencies; and partners that may assist in the notification process. Add rows to the table as needed.

Table 20. Plan to inform customers regarding conservation requests, water use restrictions, and suspensions

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
<input checked="" type="checkbox"/> Short-term demand reduction declared (< 1 year)	<input checked="" type="checkbox"/> Website <input type="checkbox"/> Email list serve <input type="checkbox"/> Social media (e.g. Twitter, Facebook) <input type="checkbox"/> Direct customer mailing, <input type="checkbox"/> Press release (TV, radio, newspaper), <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Annually	
<input checked="" type="checkbox"/> Long-term Ongoing demand reduction declared	<input checked="" type="checkbox"/> Website <input checked="" type="checkbox"/> Email list serve <input type="checkbox"/> Social media (e.g. Twitter, Facebook) <input type="checkbox"/> Direct customer mailing, <input checked="" type="checkbox"/> Press release (TV, radio, newspaper), <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Daily <input checked="" type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Annually	
<input checked="" type="checkbox"/> Governor's critical water deficiency declared	<input checked="" type="checkbox"/> Website <input checked="" type="checkbox"/> Email list serve <input type="checkbox"/> Social media (e.g. Twitter, Facebook) <input type="checkbox"/> Direct customer mailing, <input checked="" type="checkbox"/> Press release (TV, radio, newspaper), <input checked="" type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Daily <input checked="" type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Annually	

Enforcement

Prior to a water emergency, municipal water suppliers must adopt regulations that restrict water use and outline the enforcement response plan. The enforcement response plan must outline how conditions will be monitored to know when enforcement actions are triggered, what enforcement tools will be used, who will be responsible for enforcement, and what timelines for corrective actions will be expected.

Affected operations, communications, and enforcement staff must then be trained to rapidly implement those provisions during emergency conditions.

Important Note:

Disregard of critical water deficiency orders, even though total appropriation remains less than permitted, is adequate grounds for immediate modification of a public water supply authority's water use permit (2013 MN Statutes 103G.291)

Does the city have a critical water deficiency restriction/official control in place that includes provisions to restrict water use and enforce the restrictions? (This restriction may be an ordinance, rule, regulation, policy under a council directive, or other official control) Yes ☒ No ☐

If yes, attach the official control document to this WSP as **Appendix 7**.

If no, the municipality must adopt such an official control within 6 months of submitting this WSP and submit it to the DNR as an amendment to this WSP.

Irrespective of whether a critical water deficiency control is in place, does the public water supply utility, city manager, mayor, or emergency manager have standing authority to implement water restrictions? Yes ☒ No ☐

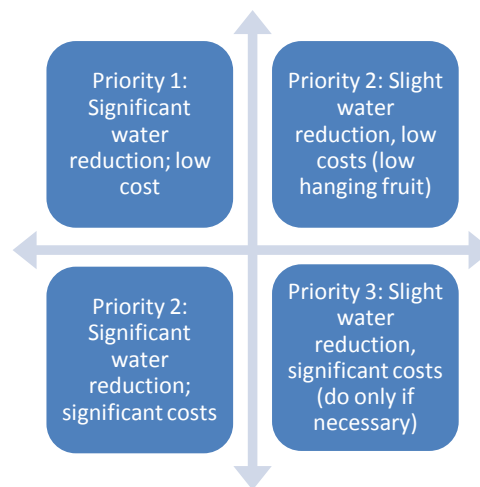
If yes, cite the regulatory authority reference: Sec. 74-49 (b)

If no, who has authority to implement water use restrictions in an emergency?

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PART 3. WATER CONSERVATION PLAN

Minnesotans have historically benefited from the state's abundant water supplies, reducing the need for conservation. There are however, limits to the available supplies of water and increasing threats to the quality of our drinking water. Causes of water supply limitation may include: population increases, economic trends, uneven statewide availability of groundwater, climatic changes, and degraded water quality. Examples of threats to drinking water quality include: the presence of contaminant plumes from past land use activities, exceedances of water quality standards from natural and human sources, contaminants of emerging concern, and increasing pollutant trends from nonpoint sources.



There are many incentives for conserving water; conservation:

- reduces the potential for pumping-induced transfer of contaminants into the deeper aquifers, which can add treatment costs
- reduces the need for capital projects to expand system capacity
- reduces the likelihood of water use conflicts, like well interference, aquatic habitat loss, and declining lake levels
- conserves energy, because less energy is needed to extract, treat and distribute water (and less energy production also conserves water since water is used to produce energy)
- maintains water supplies that can then be available during times of drought

It is therefore imperative that water suppliers implement water conservation plans. The first step in water conservation is identifying opportunities for behavioral or engineering changes that could be made to reduce water use by conducting a thorough analysis of:

- Water use by customer
- Extraction, treatment, distribution and irrigation system efficiencies
- Industrial processing system efficiencies
- Regulatory and barriers to conservation
- Cultural barriers to conservation
- Water reuse opportunities

Once accurate data is compiled, water suppliers can set achievable goals for reducing water use. A successful water conservation plan follows a logical sequence of events. The plan should address both conservation on the supply side (leak detection and repairs, metering), as well as on the demand side (reductions in usage). Implementation should be conducted in phases, starting with the most obvious and lowest-cost options. In some cases, one of the early steps will be reviewing regulatory constraints to water conservation, such as lawn irrigation requirements. Outside funding and grants may be available for implementation of projects. Engage water system operators and maintenance staff and customers in brainstorming opportunities to reduce water use. Ask the question: "How can I help save water?"

Progress since 2006

Is this your community's first Water Supply Plan? Yes ☐ No ☒

If yes, describe conservation practices that you are already implementing, such as: pricing, system improvements, education, regulation, appliance retrofitting, enforcement, etc.

If no, complete Table 21 to summarize conservation actions taken since the adoption of the 2006 water supply plan.

Table 21. Implementation of previous ten-year Conservation Plan

2006 Plan Commitments	Action Taken?
Change water rates structure to provide conservation pricing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water supply system improvements (e.g. leak repairs, valve replacements, etc.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Educational efforts	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
New water conservation ordinances	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Rebate or retrofitting Program (e.g. for toilet, faucets, appliances, showerheads, dish washers, washing machines, irrigation systems, rain barrels, water softeners, etc.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Enforcement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Describe other	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

What are the results you have seen from the actions in Table 21 and how were results measured?

Starting in 2007 both Residential gallons/capita/day and Total gallons/capita/day began to significantly decrease. The past 5 years has been fairly steady in both measurement categories. The lower usage rates can be correlated with increased conservation efforts. These results were a simple measurement of water sold versus population.

A. Triggers for Allocation and Demand Reduction Actions

Complete table 22 by checking each trigger below, as appropriate, and the actions to be taken at various levels or stages of severity. Add in additional rows to the table as needed.

Table 22. Short and long-term demand reduction conditions, triggers and actions

Objective	Triggers	Actions
Protect surface water flows	<input type="checkbox"/> Low stream flow conditions <input checked="" type="checkbox"/> Reports of declining wetland and lake levels <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Increase promotion of conservation measures <input checked="" type="checkbox"/> Evaluation of WHPP
Short-term demand reduction (less than 1 year)	<input checked="" type="checkbox"/> Extremely high seasonal water demand (more than double winter demand) <input checked="" type="checkbox"/> Loss of treatment capacity <input checked="" type="checkbox"/> Lack of water in storage <input type="checkbox"/> State drought plan <input type="checkbox"/> Well interference <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Adopt (if not already) and enforce the critical water deficiency ordinance to restrict or prohibit lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input checked="" type="checkbox"/> Supply augmentation through interconnections <input type="checkbox"/> Water allocation through _____ <input type="checkbox"/> Meet with large water users to discuss user's contingency plan.
Long-term demand reduction (>1 year)	<input checked="" type="checkbox"/> Per capita demand increasing <input type="checkbox"/> Total demand increase (higher population or more industry). Water level in well(s) below elevation of _____ <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Develop a critical water deficiency ordinance that is or can be quickly adopted to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input checked="" type="checkbox"/> Enact a water waste ordinance that targets overwatering (causing water to flow off the landscape into streets, parking lots, or similar), watering impervious surfaces (streets, driveways or other hardscape areas), and negligence of known leaks, breaks, or malfunctions. <input type="checkbox"/> Meet with large water users to discuss user's contingency plan. <input checked="" type="checkbox"/> Enhanced monitoring and reporting: audits, meters, billing, etc.
Governor's "Critical Water Deficiency Order" declared	<input checked="" type="checkbox"/> Governor declares "Critical Water Deficiency Order"	<input checked="" type="checkbox"/> Adopt (if not already) and enforce the critical water deficiency ordinance to restrict or prohibit lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input checked="" type="checkbox"/> Supply augmentation through interconnections

B. Conservation Objectives and Strategies – Key benchmark for DNR

This section establishes water conservation objectives and strategies for eight major areas of water use.

Objective 1: Reduce Unaccounted (Non-Revenue) Water loss to Less than 10%

The Minnesota Rural Water Association, the Metropolitan Council and the Department of Natural Resources recommend that all water uses be metered. Metering can help identify high use locations and times, along with leaks within buildings that have multiple meters.

It is difficult to quantify specific unmetered water use such as that associated with firefighting and system flushing or system leaks. Typically, water suppliers subtract metered water use from total water pumped to calculate unaccounted or non-revenue water loss.

Is your five-year average (2010-2015) unaccounted Water Use in Table 2 higher than 10%?

Yes ☐ No ☒

What is your leak detection monitoring schedule? (e.g. Monitor 1/3rd of the city lines per year)

Annual detection

Water Audits - are designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. The American Water Works Association (AWWA) has a recommended water audit methodology which is presented in [AWWA's M36 Manual of Water Supply Practices: Water Audits and Loss Control Programs](#). AWWA also provides a free spreadsheet-based water audit tool that water suppliers can use to conduct their own water audits. This free water audit tool can be found on AWWA's [Water Loss Control webpage](#). Another resource for water audit and water loss control information is [Minnesota Rural Water Association](#).

What is the date of your most recent water audit? N/A

Frequency of water audits: ☐ yearly ☒ other (specify frequency) periodic as needed

Leak detection and survey: ☒ every year ☐ every other year ☐ periodic as needed

Year last leak detection survey completed: 2016

If Table 2 shows annual water losses over 10% or an increasing trend over time, describe what actions will be taken to reach the <10% loss objective and within what timeframe

The City of Mound has been working on decreasing annual water losses, and this can be seen in the trend of unaccounted water over the last few years. Over the last few years the average percent of unaccounted water has been about 5%. This can be contributed to a focus on more accurate reporting, increased tracking of water supplier services, and major water infrastructure repairs with updated meters. The City is going to continue with this process and will continually be repairing any leaks or breaks as they are found.

Metering -AWWA recommends that every water supplier install meters to account for all water taken into its system, along with all water distributed from its system at each customer's point of service. An effective metering program relies upon periodic performance testing, repair, maintenance or replacement of all meters. Drinking Water Revolving Loan Funds are available for purchase of new meters when new plants are built. AWWA also recommends that water suppliers conduct regular water audits to account for unmetered unbilled consumption, metered unbilled consumption and source water and customer metering inaccuracies. Some cities install separate meters for interior and exterior water use, but some research suggests that this may not result in water conservation.

Complete Table 23 by adding the requested information regarding the number, types, testing and maintenance of customer meters.

Table 23. Information about customer meters

Customer Category	Number of Customers	Number of Metered Connections	Number of Automated Meter Readers	Meter testing intervals (years)	Average age/meter replacement schedule (years)
Residential	3618	3618	3618	As Needed	25 / As Needed
Commercial	136	136	136	As Needed	25 / As Needed
Industrial	1	1	1	As Needed	25 / As Needed
Public facilities	7	1	1	As Needed	25 / As Needed
TOTALS				NA	NA

For unmetered systems, describe any plans to install meters or replace current meters with advanced technology meters. Provide an estimate of the cost to implement the plan and the projected water savings from implementing the plan.

Table 24. Water source meters

	Number of Meters	Meter testing schedule (years)	Number of Automated Meter Readers	Average age/meter replacement schedule (years)
Water source (wells/intakes)	2	As Needed	2	10 / As Needed
Treatment plant	N/A	As Needed	N/A	10 / As Needed

Objective 2: Achieve Less than 75 Residential Gallons per Capita Demand (GPCD)

The 2002 average residential per capita demand in the Twin Cities Metropolitan area was 75 gallons per capita per day.

Is your average 2010-2015 residential per capita water demand in Table 2 more than 75? Yes ☐ No ☒

What was your 2010 – 2015 five-year average residential per capita water demand? 47 g/person/day

Describe the water use trend over that timeframe:

The water use trend has been fairly steady from 2008-2015. During that time period, average residential per capita water demand only slightly fluctuated between 43-48 gallons/capita/day. During the period of 2005-2008, the average residential per capita water demand declined from a high of 63 gallons/capita/day. This can be contributed to implementing water conservation efforts and more accurate reporting that was part of the previous water supply plan.

Complete Table 25 by checking which strategies you will use to continue reducing residential per capita demand and project a likely timeframe for completing each checked strategy (Select all that apply and add rows for additional strategies):

Table 25. Strategies and timeframe to reduce residential per capita demand

Strategy to reduce residential per capita demand	Timeframe for completing work
<input type="checkbox"/> Revise city ordinances/codes to encourage or require water efficient landscaping.	
<input type="checkbox"/> Revise city ordinance/codes to permit water reuse options, especially for non-potable purposes like irrigation, groundwater recharge, and industrial use. Check with plumbing authority to see if internal buildings reuse is permitted	
<input type="checkbox"/> Revise ordinances to limit irrigation. Describe the restricted irrigation plan:	
<input type="checkbox"/> Revise outdoor irrigation installations codes to require high efficiency systems (e.g. those with soil moisture sensors or programmable watering areas) in new installations or system replacements.	
<input checked="" type="checkbox"/> Make water system infrastructure improvements	11/2020
<input type="checkbox"/> Offer free or reduced cost water use audits) for residential customers.	
<input checked="" type="checkbox"/> Implement a notification system to inform customers when water availability conditions change.	Currently using the Code Red notification system
<input type="checkbox"/> Provide rebates or incentives for installing water efficient appliances and/or fixtures indoors (e.g., low flow toilets, high efficiency dish washers and washing machines, showerhead and faucet aerators, water softeners, etc.)	
<input type="checkbox"/> Provide rebates or incentives to reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	
<input type="checkbox"/> Identify supplemental Water Resources	
<input type="checkbox"/> Conduct audience-appropriate water conservation education and outreach.	
<input type="checkbox"/> Describe other plans	

Objective 3: Achieve at least 1.5% annual reduction in non-residential per capita water use
(For each of the next ten years, or a 15% total reduction over ten years.) This includes commercial, institutional, industrial and agricultural water users.

Complete Table 26 by checking which strategies you will used to continue reducing non-residential customer use demand and project a likely timeframe for completing each checked strategy (add rows for additional strategies).

Where possible, substitute recycled water used in one process for reuse in another. (For example, spent rinse water can often be reused in a cooling tower.) Keep in mind the true cost of water is the amount on the water bill PLUS the expenses to heat, cool, treat, pump, and dispose of/discharge the water. Don't just calculate the initial investment. Many conservation retrofits that appear to be prohibitively expensive are actually very cost-effective when amortized over the life of the equipment. Often

reducing water use also saves electrical and other utility costs. Note: as of 2015, water reuse, and is not allowed by the state plumbing code, M.R. 4715 (a variance is needed). However, several state agencies are addressing this issue.

Table 26. Strategies and timeframe to reduce institutional, commercial industrial, and agricultural and non-revenue use demand

Strategy to reduce total business, industry, agricultural demand	Timeframe for completing work
<input type="checkbox"/> Conduct a facility water use audit for both indoor and outdoor use, including system components	
<input checked="" type="checkbox"/> Install enhanced meters capable of automated readings to detect spikes in consumption	Ongoing process of updating meters citywide
<input type="checkbox"/> Compare facility water use to related industry benchmarks, if available (e.g., meat processing, dairy, fruit and vegetable, beverage, textiles, paper/pulp, metals, technology, petroleum refining etc.)	
<input type="checkbox"/> Install water conservation fixtures and appliances or change processes to conserve water	
<input checked="" type="checkbox"/> Repair leaking system components (e.g., pipes, valves)	11/2020
<input type="checkbox"/> Investigate the reuse of reclaimed water (e.g., stormwater, wastewater effluent, process wastewater, etc.)	
<input type="checkbox"/> Reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	
<input type="checkbox"/> Train employees how to conserve water	
<input type="checkbox"/> Implement a notification system to inform non-residential customers when water availability conditions change.	
<input type="checkbox"/> Nonpotable rainwater catchment systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, industrial processes, water features, vehicle washing facilities, cooling tower makeup, and similar uses shall be approved by the commissioner. Plumbing code 4714.1702, Published October 31, 2016	
<input type="checkbox"/> Describe other plans:	

Objective 4: Achieve a Decreasing Trend in Total Per Capita Demand

Include as **Appendix 8** one graph showing total per capita water demand for each customer category (i.e., residential, institutional, commercial, industrial) from 2005-2014 and add the calculated/estimated linear trend for the next 10 years.

Describe the trend for each customer category; explain the reason(s) for the trends, and where trends are increasing.

Residential per capita demand has been decreasing over the last 10 years and is projected to decrease over the next 10 years. By 2025, a residential per capita demand of less than 30 is projected. However, it is not possible to achieve much lower per capita demands since the population is expected to begin increasing and a per capita that low is not realistic. It is most likely that the per capita demand will reach a terminal point and level off. Water conservation measures coupled with a slightly decreasing population has helped decrease water demand.

The total per capita demand has also decreased over the last 10 years to approximately 65 gpcd. Future projections indicate the linear trend has the demand at less than 50 gpcd by 2025. Similar to the residential demand, the total demand should level off as population increases faster than water conservation. Water conservation measures coupled with a stable population has helped decrease water demand.

The C/I/I demand has remained fairly consistent over the last 10 years. There is a projected slight increase to nearly 20 gpcd by 2025. This could be due to increased industrial demands as the community grows.

Objective 5: Reduce Ratio of Maximum day (peak day) to the Average Day Demand to Less Than 2.6

Is the ratio of average 2005-2014 maximum day demand to average 2005-2014 average day demand reported in Table 2 more than 2.6? Yes ☐ No ☒

Calculate a ten-year average (2005 – 2014) of the ratio of maximum day demand to average day demand: 1.8

The position of the DNR has been that a peak day/average day ratio that is above 2.6 for in summer indicates that the water being used for irrigation by the residents in a community is too large and that efforts should be made to reduce the peak day use by the community.

It should be noted that by reducing the peak day use, communities can also reduce the amount of infrastructure that is required to meet the peak day use. This infrastructure includes new wells, new water towers which can be costly items.

Objective 6: Implement Demand Reduction Measures

Water Conservation Program

Municipal water suppliers serving over 1,000 people are required to adopt demand reduction measures that include a conservation rate structure, or a uniform rate structure with a conservation program that achieves demand reduction. These measures must achieve demand reduction in ways that reduce water demand, water losses, peak water demands, and nonessential water uses. These measures must be approved before a community may request well construction approval from the Department of Health or before requesting an increase in water appropriations permit volume ([Minnesota Statutes, section 103G.291, subd. 3 and 4](#)). Rates should be adjusted on a regular basis to ensure that revenue of the system is adequate under reduced demand scenarios. If a municipal water supplier intends to use a Uniform Rate Structure, a community-wide Water Conservation Program that will achieve demand reduction must be provided.

Current Water Rates

Include a copy of the actual rate structure in **Appendix 9** or list current water rates including base/service fees and volume charges below.

Volume included in base rate or service charge: 0 gallons

Frequency of billing: ☐ Monthly ☐ Bimonthly ☒ Quarterly ☐ Other: _____

Water Rate Evaluation Frequency: ☒ every year ☐ every ___ years ☐ no schedule

Date of last rate change: January 2017

Table 27. Rate structures for each customer category (Select all that apply and add additional rows as needed)

Customer Category	Conservation Billing Strategies in Use *	Conservation Neutral Billing Strategies in Use **	Non-Conserving Billing Strategies in Use ***
Residential	<input type="checkbox"/> Monthly billing <input checked="" type="checkbox"/> Increasing block rates (volume tiered rates) <input type="checkbox"/> Seasonal rates <input type="checkbox"/> Time of use rates <input checked="" type="checkbox"/> Water bills reported in gallons <input type="checkbox"/> Individualized goal rates <input type="checkbox"/> Excess use rates <input type="checkbox"/> Drought surcharge <input checked="" type="checkbox"/> Use water bill to provide comparisons <input checked="" type="checkbox"/> Service charge not based on water volume <input type="checkbox"/> Other (describe)	<input type="checkbox"/> Uniform <input type="checkbox"/> Odd/even day watering	<input type="checkbox"/> Service charge based on water volume <input type="checkbox"/> Declining block <input type="checkbox"/> Flat <input type="checkbox"/> Other (describe)
Commercial/ Industrial/ Institutional	<input type="checkbox"/> Monthly billing <input checked="" type="checkbox"/> Increasing block rates (volume tiered rates) <input type="checkbox"/> Seasonal rates <input type="checkbox"/> Time of use rates <input checked="" type="checkbox"/> Water bills reported in gallons <input type="checkbox"/> Individualized goal rates <input type="checkbox"/> Excess use rates <input type="checkbox"/> Drought surcharge <input checked="" type="checkbox"/> Use water bill to provide comparisons <input checked="" type="checkbox"/> Service charge not based on water volume <input type="checkbox"/> Other (describe)	<input type="checkbox"/> Uniform	<input type="checkbox"/> Service charge based on water volume <input type="checkbox"/> Declining block <input type="checkbox"/> Flat <input type="checkbox"/> Other (describe)
<input type="checkbox"/> Other			

*** Rate Structures components that may promote water conservation:**

- **Monthly billing:** is encouraged to help people see their water usage so they can consider changing behavior.
- **Increasing block rates (also known as a tiered residential rate structure):** Typically, these have at least three tiers: should have at least three tiers.
 - The first tier is for the winter average water use.

- The second tier is the year-round average use, which is lower than typical summer use. This rate should be set to cover the full cost of service.
- The third tier should be above the average annual use and should be priced high enough to encourage conservation, as should any higher tiers. For this to be effective, the difference in block rates should be significant.
- **Seasonal rate:** higher rates in summer to reduce peak demands
- **Time of Use rates:** lower rates for off peak water use
- **Bill water use in gallons:** this allows customers to compare their use to average rates
- **Individualized goal rates:** typically used for industry, business or other large water users to promote water conservation if they keep within agreed upon goals. **Excess Use rates:** if water use goes above an agreed upon amount this higher rate is charged
- **Drought surcharge:** an extra fee is charged for guaranteed water use during drought
- **Use water bill to provide comparisons:** simple graphics comparing individual use over time or compare individual use to others.
- **Service charge or base fee that does not include a water volume** – a base charge or fee to cover universal city expenses that are not customer dependent and/or to provide minimal water at a lower rate (e.g., an amount less than the average residential per capita demand for the water supplier for the last 5 years)
- **Emergency rates** -A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

****Conservation Neutral****

- **Uniform rate:** rate per unit used is the same regardless of the volume used
- **Odd/even day watering** –This approach reduces peak demand on a daily basis for system operation, but it does not reduce overall water use.

***** Non-Conserving *****

- **Service charge or base fee with water volume:** an amount of water larger than the average residential per capita demand for the water supplier for the last 5 years
- **Declining block rate:** the rate per unit used decreases as water use increases.
- **Flat rate:** one fee regardless of how much water is used (usually unmetered).

Provide justification for any conservation neutral or non-conserving rate structures. If intending to adopt a conservation rate structure, include the timeframe to do so:

N/A

Objective 7: Additional strategies to Reduce Water Use and Support Wellhead Protection Planning

Development and redevelopment projects can provide additional water conservation opportunities, such as the actions listed below. If a Uniform Rate Structure is in place, the water supplier must provide a Water Conservation Program that includes at least two of the actions listed below. Check those actions that you intend to implement within the next 10 years.

Table 28. Additional strategies to Reduce Water Use & Support Wellhead Protection

<input type="checkbox"/>	Participate in the GreenStep Cities Program, including implementation of at least one of the 20 “Best Practices” for water
<input type="checkbox"/>	Prepare a master plan for smart growth (compact urban growth that avoids sprawl)
<input type="checkbox"/>	Prepare a comprehensive open space plan (areas for parks, green spaces, natural areas)

<input checked="" type="checkbox"/>	Adopt a water use restriction ordinance (lawn irrigation, car washing, pools, etc.)
<input type="checkbox"/>	Adopt an outdoor lawn irrigation ordinance
<input type="checkbox"/>	Adopt a private well ordinance (private wells in a city must comply with water restrictions)
<input type="checkbox"/>	Implement a stormwater management program
<input type="checkbox"/>	Adopt non-zoning wetlands ordinance (can further protect wetlands beyond state/federal laws- for vernal pools, buffer areas, restrictions on filling or alterations)
<input type="checkbox"/>	Adopt a water offset program (primarily for new development or expansion)
<input type="checkbox"/>	Implement a water conservation outreach program
<input type="checkbox"/>	Hire a water conservation coordinator (part-time)
<input checked="" type="checkbox"/>	Implement a rebate program for water efficient appliances, fixtures, or outdoor water management
<input type="checkbox"/>	Other

Objective 8: Tracking Success: How will you track or measure success through the next ten years?

The City of Mound will continue to track success of the next 10 years by continually monitoring water demands (both total and residential) to determine trends. Currently the City is trending in the right direction, and this is expected to continue as the City continues to improve reporting and monitoring procedures.

Tip: The process to monitor demand reduction and/or a rate structure includes:

- a) The DNR Hydrologist will call or visit the community the first 1-3 years after the water supply plan is completed.
- b) They will discuss what activities the community is doing to conserve water and if they feel their actions are successful. The Water Supply Plan, Part 3 tables and responses will guide the discussion. For example, they will discuss efforts to reduce unaccounted for water loss if that is a problem, or go through Tables 33, 34 and 35 to discuss new initiatives.
- c) The city representative and the hydrologist will discuss total per capita water use, residential per capita water use, and business/industry use. They will note trends.
- d) They will also discuss options for improvement and/or collect case studies of success stories to share with other communities. One option may be to change the rate structure, but there are many other paths to successful water conservation.
- e) If appropriate, they will cooperatively develop a simple work plan for the next few years, targeting a couple areas where the city might focus efforts.

C. Regulation

Complete Table 29 by selecting which regulations are used to reduce demand and improve water efficiencies. Add additional rows as needed.

Copies of adopted regulations or proposed restrictions or should be included in **Appendix 10** (a list with hyperlinks is acceptable).

Table 29. Regulations for short-term reductions in demand and long-term improvements in water efficiencies

Regulations Utilized	When is it applied (in effect)?
<input type="checkbox"/> Rainfall sensors required on landscape irrigation systems	<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Water efficient plumbing fixtures required	<input type="checkbox"/> New development <input type="checkbox"/> Replacement <input type="checkbox"/> Rebate Programs
<input type="checkbox"/> Critical/Emergency Water Deficiency ordinance	<input type="checkbox"/> Only during declared Emergencies
<input checked="" type="checkbox"/> Watering restriction requirements (time of day, allowable days, etc.)	<input checked="" type="checkbox"/> Odd/even <input type="checkbox"/> 2 days/week <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Water waste prohibited (for example, having a fine for irrigators spraying on the street)	<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Limitations on turf areas (requiring lots to have 10% - 25% of the space in natural areas)	<input type="checkbox"/> New development <input type="checkbox"/> Shoreland/zoning <input type="checkbox"/> Other
<input checked="" type="checkbox"/> Soil preparation requirements (after construction, requiring topsoil to be applied to promote good root growth)	<input checked="" type="checkbox"/> New Development <input checked="" type="checkbox"/> Construction Projects <input type="checkbox"/> Other
<input type="checkbox"/> Tree ratios (requiring a certain number of trees per square foot of lawn)	<input type="checkbox"/> New development <input type="checkbox"/> Shoreland/zoning <input type="checkbox"/> Other
<input type="checkbox"/> Permit to fill swimming pool and/or requiring pools to be covered (to prevent evaporation)	<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Ordinances that permit stormwater irrigation, reuse of water, or other alternative water use (Note: be sure to check current plumbing codes for updates)	<input type="checkbox"/> Describe

D. Retrofitting Programs

Education and incentive programs aimed at replacing inefficient plumbing fixtures and appliances can help reduce per capita water use, as well as energy costs. It is recommended that municipal water

suppliers develop a long-term plan to retrofit public buildings with water efficient plumbing fixtures and appliances. Some water suppliers have developed partnerships with organizations having similar conservation goals, such as electric or gas suppliers, to develop cooperative rebate and retrofit programs.

A study by the AWWA Research Foundation (Residential End Uses of Water, 1999) found that the average indoor water use for a non-conserving home is 69.3 gallons per capita per day (gpcd). The average indoor water use in a conserving home is 45.2 gpcd and most of the decrease in water use is related to water efficient plumbing fixtures and appliances that can reduce water, sewer and energy costs. In Minnesota, certain electric and gas providers are required (Minnesota Statute 216B.241) to fund programs that will conserve energy resources and some utilities have distributed water efficient showerheads to customers to help reduce energy demands required to supply hot water.

Retrofitting Programs

Complete Table 30 by checking which water uses are targeted, the outreach methods used, the measures used to identify success, and any participating partners.

Table 30. Retrofitting programs (Select all that apply)

Water Use Targets	Outreach Methods	Partners
<input type="checkbox"/> Low flush toilets, <input type="checkbox"/> Toilet leak tablets, <input type="checkbox"/> Low flow showerheads, <input type="checkbox"/> Faucet aerators;	<input type="checkbox"/> Education about <input type="checkbox"/> Free distribution of <input type="checkbox"/> Rebate for <input type="checkbox"/> Other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input type="checkbox"/> Watershed organization
<input type="checkbox"/> Water conserving washing machines, <input type="checkbox"/> Dish washers, <input type="checkbox"/> Water softeners;	<input type="checkbox"/> Education about <input type="checkbox"/> Free distribution of <input type="checkbox"/> Rebate for <input type="checkbox"/> Other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input type="checkbox"/> Watershed organization
<input checked="" type="checkbox"/> Rain gardens, <input type="checkbox"/> Rain barrels, <input checked="" type="checkbox"/> Native/drought tolerant landscaping, etc.	<input checked="" type="checkbox"/> Education about <input type="checkbox"/> Free distribution of <input type="checkbox"/> Rebate for <input type="checkbox"/> Other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input checked="" type="checkbox"/> Watershed organization

Briefly discuss measures of success from the above table (e.g. number of items distributed, dollar value of rebates, gallons of water conserved, etc.):

E. Education and Information Programs

Customer education should take place in three different circumstances. First, customers should be provided information on how to conserve water and improve water use efficiencies. Second, information should be provided at appropriate times to address peak demands. Third, emergency notices and educational materials about how to reduce water use should be available for quick distribution during an emergency.

Proposed Education Programs

Complete Table 31 by selecting which methods are used to provide water conservation and information, including the frequency of program components. Select all that apply and add additional lines as needed.

Table 31. Current and Proposed Education Programs

Education Methods	General summary of topics	#/Year	Frequency
Billing inserts or tips printed on the actual bill			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Consumer Confidence Reports	Annual report on MDH water testing results	1	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Press releases to traditional local news outlets (e.g., newspapers, radio and TV)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Social media distribution (e.g., emails, Facebook, Twitter)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Paid advertisements (e.g., billboards, print media, TV, radio, web sites, etc.)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Presentations to community groups			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Staff training			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies

Education Methods	General summary of topics	#/Year	Frequency
Facility tours			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Displays and exhibits			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Marketing rebate programs (e.g., indoor fixtures & appliances and outdoor practices)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Community news letters	Conservation tips and Maintenance tips	4	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Direct mailings (water audit/retrofit kits, showerheads, brochures)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Information kiosk at utility and public buildings			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Public service announcements			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Cable TV Programs			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Demonstration projects (landscaping or plumbing)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
K-12 education programs (Project Wet, Drinking Water Institute, presentations)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Community events (children's water festivals, environmental fairs)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Community education classes			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies

Education Methods	General summary of topics	#/Year	Frequency
Water week promotions			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Website http://www.cityofmound.com/			<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Targeted efforts (large volume users, users with large increases)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Notices of ordinances			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Emergency conservation notices			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Other:			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies

Briefly discuss what future education and information activities your community is considering in the future:

Increase presence in Social Media to reach a broader network of community members.

PART 4. ITEMS FOR METROPOLITAN AREA COMMUNITIES

Minnesota Statute 473.859 requires WSPs to be completed for all local units of government in the seven-county Metropolitan Area as part of the local comprehensive planning process.



Much of the information in Parts 1-3 addresses water demand for the next 10 years. However, additional information is needed to address water demand through 2040, which will make the WSP consistent with the Metropolitan Land Use Planning Act, upon which the local comprehensive plans are based.

This Part 4 provides guidance to complete the WSP in a way that addresses plans for water supply through 2040.

A. Water Demand Projections through 2040

Complete Table 7 in Part 1D by filling in information about long-term water demand projections through 2040. Total Community Population projections should be consistent with the community's system statement, which can be found on the Metropolitan Council's website and which was sent to the community in September 2015.

Projected Average Day, Maximum Day, and Annual Water Demands may either be calculated using the method outlined in *Appendix 2* of the *2015 Master Water Supply Plan* or by a method developed by the individual water supplier.

B. Potential Water Supply Issues

Complete Table 10 in Part 1E by providing information about the potential water supply issues in your community, including those that might occur due to 2040 projected water use.

The [Master Water Supply Plan](#) provides information about potential issues for your community in *Appendix 1 (Water Supply Profiles)*. This resource may be useful in completing Table 10.

You may document results of local work done to evaluate impact of planned uses by attaching a feasibility assessment or providing a citation and link to where the plan is available electronically.

C. Proposed Alternative Approaches to Meet Extended Water Demand Projections

Complete Table 12 in Part 1F with information about potential water supply infrastructure impacts (such as replacements, expansions or additions to wells/intakes, water storage and treatment capacity, distribution systems, and emergency interconnections) of extended plans for development and redevelopment, in 10-year increments through 2040. It may be useful to refer to information in the community's local Land Use Plan, if available.

Complete Table 14 in Part 1F by checking each approach your community is considering to meet future demand. For each approach your community is considering, provide information about the amount of

future water demand to be met using that approach, the timeframe to implement the approach, potential partners, and current understanding of the key benefits and challenges of the approach.

As challenges are being discussed, consider the need for: evaluation of geologic conditions (mapping, aquifer tests, modeling), identification of areas where domestic wells could be impacted, measurement and analysis of water levels & pumping rates, triggers & associated actions to protect water levels, etc.

D. Value-Added Water Supply Planning Efforts (Optional)

The following information is not required to be completed as part of the local water supply plan, but completing this can help strengthen source water protection throughout the region and help Metropolitan Council and partners in the region to better support local efforts.

Source Water Protection Strategies

Does a Drinking Water Supply Management Area for a neighboring public water supplier overlap your community? Yes ☒ No ☐

If you answered no, skip this section. If you answered yes, please complete Table 32 with information about new water demand or land use planning-related local controls that are being considered to provide additional protection in this area.

Table 32. Local controls and schedule to protect Drinking Water Supply Management Areas

Local Control	Schedule to Implement	Potential Partners
<input checked="" type="checkbox"/> None at this time		
<input type="checkbox"/> Comprehensive planning that guides development in vulnerable drinking water supply management areas		
<input type="checkbox"/> Zoning overlay		
<input type="checkbox"/> Other:		

Technical assistance

From your community's perspective, what are the most important topics for the Metropolitan Council to address, guided by the region's Metropolitan Area Water Supply Advisory Committee and Technical Advisory Committee, as part of its ongoing water supply planning role?

- ☒ Coordination of state, regional and local water supply planning roles
- ☐ Regional water use goals
- ☒ Water use reporting standards
- ☐ Regional and sub-regional partnership opportunities
- ☐ Identifying and prioritizing data gaps and input for regional and sub-regional analyses
- ☐ Others: _____

GLOSSARY

Agricultural/Irrigation Water Use - Water used for crop and non-crop irrigation, livestock watering, chemigation, golf course irrigation, landscape and athletic field irrigation.

Average Daily Demand - The total water pumped during the year divided by 365 days.

Calcareous Fen - Calcareous fens are rare and distinctive wetlands dependent on a constant supply of cold groundwater. Because they are dependent on groundwater and are one of the rarest natural communities in the United States, they are a protected resource in MN. Approximately 200 have been located in Minnesota. They may not be filled, drained or otherwise degraded.

Commercial/Institutional Water Use - Water used by motels, hotels, restaurants, office buildings, commercial facilities and institutions (both civilian and military). Consider maintaining separate institutional water use records for emergency planning and allocation purposes. Water used by multi-family dwellings, apartment buildings, senior housing complexes, and mobile home parks should be reported as Residential Water Use.

Commercial/Institutional/Industrial (C/I/I) Water Sold - The sum of water delivered for commercial/institutional or industrial purposes.

Conservation Rate Structure - A rate structure that encourages conservation and may include increasing block rates, seasonal rates, time of use rates, individualized goal rates, or excess use rates. If a conservation rate is applied to multifamily dwellings, the rate structure must consider each residential unit as an individual user. A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

Date of Maximum Daily Demand - The date of the maximum (highest) water demand. Typically this is a day in July or August.

Declining Rate Structure - Under a declining block rate structure, a consumer pays less per additional unit of water as usage increases. This rate structure does not promote water conservation.

Distribution System - Water distribution systems consist of an interconnected series of pipes, valves, storage facilities (water tanks, water towers, reservoirs), water purification facilities, pumping stations, flushing hydrants, and components that convey drinking water and meeting fire protection needs for cities, homes, schools, hospitals, businesses, industries and other facilities.

Flat Rate Structure - Flat fee rates do not vary by customer characteristics or water usage. This rate structure does not promote water conservation.

Industrial Water Use - Water used for thermonuclear power (electric utility generation) and other industrial use such as steel, chemical and allied products, paper and allied products, mining, and petroleum refining.

Low Flow Fixtures/Appliances - Plumbing fixtures and appliances that significantly reduce the amount of water released per use are labeled “low flow”. These fixtures and appliances use just enough water to be effective, saving excess, clean drinking water that usually goes down the drain.

Maximum Daily Demand - The maximum (highest) amount of water used in one day.

Metered Residential Connections - The number of residential connections to the water system that have meters. For multifamily dwellings, report each residential unit as an individual user.

Percent Unmetered/Unaccounted For - Unaccounted for water use is the volume of water withdrawn from all sources minus the volume of water delivered. This value represents water “lost” by miscalculated water use due to inaccurate meters, water lost through leaks, or water that is used but unmetered or otherwise undocumented. Water used for public services such as hydrant flushing, ice skating rinks, and public swimming pools should be reported under the category “Water Supplier Services”.

Population Served - The number of people who are served by the community's public water supply system. This includes the number of people in the community who are connected to the public water supply system, as well as people in neighboring communities who use water supplied by the community's public water supply system. It should not include residents in the community who have private wells or get their water from neighboring water supply.

Residential Connections - The total number of residential connections to the water system. For multifamily dwellings, report each residential unit as an individual user.

Residential Per Capita Demand - The total residential water delivered during the year divided by the population served divided by 365 days.

Residential Water Use - Water used for normal household purposes such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens. Should include all water delivered to single family private residences, multi-family dwellings, apartment buildings, senior housing complexes, mobile home parks, etc.

Smart Meter - Smart meters can be used by municipalities or by individual homeowners. Smart metering generally indicates the presence of one or more of the following:

- Smart irrigation water meters are controllers that look at factors such as weather, soil, slope, etc. and adjust watering time up or down based on data. Smart controllers in a typical summer will reduce water use by 30%-50%. Just changing the spray nozzle to new efficient models can reduce water use by 40%.
- Smart Meters on customer premises that measure consumption during specific time periods and communicate it to the utility, often on a daily basis.
- A communication channel that permits the utility, at a minimum, to obtain meter reads on demand, to ascertain whether water has recently been flowing through the meter and onto the premises, and to issue commands to the meter to perform specific tasks such as disconnecting or restricting water flow.

Total Connections - The number of connections to the public water supply system.

Total Per Capita Demand - The total amount of water withdrawn from all water supply sources during the year divided by the population served divided by 365 days.

Total Water Pumped - The cumulative amount of water withdrawn from all water supply sources during the year.

Total Water Delivered - The sum of residential, commercial, industrial, institutional, water supplier services, wholesale and other water delivered.

Ultimate (Full Build-Out) - Time period representing the community's estimated total amount and location of potential development, or when the community is fully built out at the final planned density.

Unaccounted (Non-revenue) Loss - See definitions for "percent unmetered/unaccounted for loss".

Uniform Rate Structure - A uniform rate structure charges the same price-per-unit for water usage beyond the fixed customer charge, which covers some fixed costs. The rate sends a price signal to the customer because the water bill will vary by usage. Uniform rates by class charge the same price-per-unit for all customers within a customer class (e.g. residential or non-residential). This price structure is generally considered less effective in encouraging water conservation.

Water Supplier Services - Water used for public services such as hydrant flushing, ice skating rinks, public swimming pools, city park irrigation, back-flushing at water treatment facilities, and/or other uses.

Water Used for Nonessential Purposes - Water used for lawn irrigation, golf course and park irrigation, car washes, ornamental fountains, and other non-essential uses.

Wholesale Deliveries - The amount of water delivered in bulk to other public water suppliers.

Acronyms and Initialisms

AWWA – American Water Works Association
C/I/I – Commercial/Institutional/Industrial
CIP – Capital Improvement Plan
GIS – Geographic Information System
GPCD – Gallons per capita per day
GWMA – Groundwater Management Area – North and East Metro, Straight River, Bonanza,
MDH – Minnesota Department of Health
MGD – Million gallons per day

MG – Million gallons
MGL – Maximum Contaminant Level
MnTAP – Minnesota Technical Assistance Program (University of Minnesota)
MPARS – MN/DNR Permitting and Reporting System (new electronic permitting system)
MRWA – Minnesota Rural Waters Association
SWP – Source Water Protection
WHP – Wellhead Protection

APPENDICES TO BE SUBMITTED BY THE WATER SUPPLIER

Appendix 1: Well records and maintenance summaries

Go to [Part 1C](#) for information on what to include in appendix

Appendix 2: Water level monitoring plan

Go to [Part 1E](#) for information on what to include in appendix

Appendix 3: Water level graphs for each water supply well

Go to [Part 1E](#) for information on what to include in appendix

Appendix 4: Capital Improvement Plan

Go to [Part 1E](#) for information on what to include in appendix

Appendix 5: Emergency Telephone List

Go to [Part 2C](#) for information on what to include in appendix

Appendix 6: Cooperative Agreements for Emergency Services

Go to [Part 2C](#) for information on what to include in appendix

Appendix 7: Municipal Critical Water Deficiency Ordinance

Go to [Part 2C](#) for information on what to include in appendix

Appendix 8: Graph of Ten Years of Annual Per Capita Water Demand for Each Customer Category

Go to [Objective 4 in Part 3B](#) for information on what to include in appendix

Appendix 9: Water Rate Structure

Go to [Objective 6 in Part 3B](#) for information on what to include in appendix

Appendix 10: Ordinances or Regulations Related to Water Use

Go to [Objective 7 in Part 3B](#) for information on what to include in appendix

Appendix 11: Implementation Checklist

Provide a table that summarizes all the actions that the public water supplier is doing, or proposes to do, with estimated implementation dates.

Appendix 12: Sources of Information for Table 10

Provide links or references to the information used to complete Table 10. If the file size is reasonable, provide source information as attachments to the plan.

Appendix 1

Well Records and Maintenance Summaries

206993

County Hennepin
Quad Mound
Quad ID 105B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 01/12/2016
Received Date

Well Name MOUND 1						Township 117		Range 24		Dir Section W 13		Subsection CCCBBD		Well Depth 285 ft.				Depth Completed 285 ft.				Date Well Completed 02/27/1934																			
Elevation 942 ft.						Elev. Method 7.5 minute topographic map (+/- 5 feet)						Drill Method Cable Tool				Drill Fluid																									
Address Well 2321 MARION MOUND MN 55364 Contact MOUND MN 55364														Use public supply/non-community				Status Sealed																							
Stratigraphy Information														Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>				From To																							
Geological Material														Casing Type Single casing				Joint																							
CLAY														Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>				Above/Below																							
MUDDY GRAVEL														Casing Diameter 10 in.				Weight 278 ft.				lbs./ft.																			
CLAY														Open Hole				From				ft.				To				ft.											
FINE GRAY SAND &														Screen? <input checked="" type="checkbox"/>				Type				Make JOHNSON																			
CLAY														Diameter				Slot/Gauze				Length				Set				ft.											
BROKEN ROCK, SAND														in.				100				8				ft.				ft.											
FINE GRAVEL														Static Water Level				31				ft.				land surface				Measure				02/27/1934							
COARSE WATER														Pumping Level (below land surface)				71				ft.				hrs.				Pumping at				670				g.p.m.			
Wellhead Completion														Pitless adapter manufacturer				Model																							
At-grade (Environmental Wells and Borings ONLY)														Casing Protection				12 in. above grade				At-grade (Environmental Wells and Borings ONLY)																			
Grouting Information														Well Grouted?				Yes				No				Not Specified															
Nearest Known Source of Contamination														feet				Direction				Type																			
Well disinfected upon completion?														Yes				No																							
Pump <input checked="" type="checkbox"/> Not Installed														Date Installed																											
Manufacturer's name														Model Number				HP				Volt																			
Length of drop pipe														ft				Capacity				g.p.				Typ															
Abandoned														Does property have any not in use and not sealed well(s)?				Yes				No																			
Variance														Was a variance granted from the MDH for this well?				Yes				No																			
Miscellaneous														First Bedrock				Aquifer				Quat. buried				ft															
Last Strat														gravel (+larger)				Depth to Bedrock				ft																			
Located by														Minnesota Department of Health																											
Locate Method														GPS SA On (averaged)																											
System														UTM - NAD83, Zone 15, Meters				X 447469				Y 4976086																			
Unique Number Verification														Information from				Input Date				10/01/1999																			
Angled Drill Hole														Well Contractor				Keys Well Co.				62012				MILBRANDT, C.															
Licensee Business														Lic. or Reg. No.				Name of Driller																							
Remarks INTERSECTION OF SHORELINE BL. & COMMERCE BL. S.E. CORNER IN PARK BEHIND POST OFFICE. MGS BUL. 27 P. 156. SEALED 10-9-2008 BY 1691; PREVIOUS USE: PC														Minnesota Well Index Report				206993				Printed on 09/19/2017				HE-01205-15															

WELL OR BORING LOCATION
County Name

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING SEALING RECORD
Minnesota Statutes, Chapter 103/

Minnesota Well and Boring
Sealing No.
Minnesota Unique Well No.
or W-series No.
(Leave blank if not known)

H 274421
206993

Hennepin

Township Name Mound Township No. 117 Range No. 24 Section No. 13 Fraction (sm. → lg.) N 1/4 SW 1/4

Date Sealed 9 OCT 08

Date Well or Boring Constructed

GPS LOCATION: Latitude _____ degrees _____ minutes _____ seconds
Longitude _____ degrees _____ minutes _____ seconds

Depth Before Sealing 285' ft.

Original Depth _____ ft.

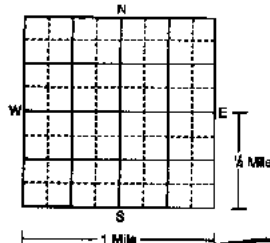
Numerical Street Address or Fire Number and City of Well or Boring Location
2321 Marion Lane, Mound

AQUIFER(S)
☒ Single Aquifer ☐ Multiaquifer
WELL/BORING
☒ Water-Supply Well ☐ Monit. Well
☐ Env. Bore Hole ☐ Other _____

STATIC WATER LEVEL
☒ Measured ☐ Estimated Date Measured SAME DAY
47' ft. ☒ Below ☐ above land surface

Show exact location of well or boring
in section grid with "X."

Sketch map of well or boring
location, showing property
lines, roads, and buildings.



CASING TYPE(S)
☒ Steel ☐ Plastic ☐ Tile ☐ Other _____

WELLHEAD COMPLETION
Outside: ☒ Well House ☒ At Grade ☐ Pitless Adapter/Unit ☐ Well Pit ☐ Other _____
Inside: ☐ Basement Offset ☐ Well Pit ☐ Buried ☐ Other _____

PROPERTY OWNER'S NAME/COMPANY NAME
City of Mound
Property owner's mailing address if different than well location address indicated above
5341 Maywood Rd
Mound, MN 55364

CASING(S)
Diameter 10" in. from 0' to 278' ft. Set in oversize hole? ☐ Yes ☒ No Annular space initially grouted? ☐ Yes ☐ No ☐ Unknown
_____ in. from _____ to _____ ft. ☐ Yes ☐ No ☐ Yes ☐ No ☐ Unknown
_____ in. from _____ to _____ ft. ☐ Yes ☐ No ☐ Yes ☐ No ☐ Unknown

WELL OWNER'S NAME/COMPANY NAME
Well owner's mailing address if different than property owner's address indicated above

SCREEN/OPEN HOLE
Screen from 278' to 285' ft. Open Hole from _____ to _____ ft.

OBSTRUCTIONS
☒ Rods/Drop Pipe ☐ Check Valve(s) ☐ Debris ☐ Fill ☐ No Obstruction
Type of Obstructions (Describe) 6" INNER PIPE WITH BOLTS
Obstructions removed? ☒ Yes ☐ No Describe _____

GEOLOGICAL MATERIAL COLOR HARDNESS OR FORMATION FROM TO
If not known, indicate estimated formation log from nearby well or boring.

PUMP
Type TURBINE Pump
☒ Removed ☐ Not Present ☐ Other _____

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE:
☒ No Annular Space Exists ☐ Annular Space Grouted with Tremie Pipe ☐ Casing Perforation/Removal
_____ in. from _____ to _____ ft. ☐ Perforated ☐ Removed
_____ in. from _____ to _____ ft. ☐ Perforated ☐ Removed
Type of Perforator _____
☐ Other _____

ROUTING MATERIAL(S) (One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)
Grouting Material NEAT CEMENT from _____ to _____ ft. 6 yards _____ bags
_____ from _____ to _____ ft. _____ yards _____ bags
_____ from _____ to _____ ft. _____ yards _____ bags

OTHER WELLS AND BORINGS
Other unsealed and unused well or boring on property? ☐ Yes ☒ No How many? _____

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION
This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

don Stodola Well Drilling Co., Inc. 1691
Licensee Business Name License or Registration No.
Certified Representative Signature Date 10-13-08
Name of Person Sealing Well or Boring Jim Antonson

MINN. DEPT. OF HEALTH COPY H 274421

206928

County Hennepin
Quad Mound
Quad ID 105B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 02/11/2016
Received Date

Well Name MOUND 2				Township 117	Range 24	Dir Section W 23	Subsection AACADA	Well Depth 509 ft.		Depth Completed 509 ft.		Date Well Completed 05/25/1939																																																																																																																
Elevation 940 ft.		Elev. Method 7.5 minute topographic map (+/- 5 feet)		Drill Method Cable Tool								Drill Fluid																																																																																																																
Address Contact MOUND MN 55364 Well MOUND MN 55364								Use community supply(municipal)				Status Active																																																																																																																
Stratigraphy Information <table><thead><tr><th>Geological Material</th><th>From</th><th>To (ft.)</th><th>Color</th><th>Hardness</th></tr></thead><tbody><tr><td>LOAM</td><td>0</td><td>5</td><td rowspan="10">BLUE</td><td rowspan="10"></td></tr><tr><td>SILTY SAND</td><td>5</td><td>17</td></tr><tr><td>SAND & GRAVEL</td><td>17</td><td>41</td></tr><tr><td>SAND & GRAVEL</td><td>41</td><td>64</td></tr><tr><td>SAND & GRAVEL</td><td>64</td><td>66</td></tr><tr><td>SANDY CLAY</td><td>66</td><td>68</td></tr><tr><td>COARSE SANDY CLAY</td><td>68</td><td>87</td></tr><tr><td>COARSE SANDY CLAY</td><td>87</td><td>95</td></tr><tr><td>COARSE SAND &</td><td>95</td><td>105</td></tr><tr><td>SAND & GRAVEL, CLAY</td><td>105</td><td>113</td></tr><tr><td>FINE SAND SOME</td><td>113</td><td>148</td><td rowspan="10">YELLOW</td><td rowspan="10"></td></tr><tr><td>SANDY CLAY SOME</td><td>148</td><td>162</td></tr><tr><td>FIRM SAND COARSE</td><td>162</td><td>164</td></tr><tr><td>LOOSE FINE SAND</td><td>164</td><td>183</td></tr><tr><td>VERY FINE SAND</td><td>183</td><td>185</td></tr><tr><td>SILTY SAND & CLAY</td><td>185</td><td>198</td></tr><tr><td>SANDY CLAY</td><td>198</td><td>220</td></tr><tr><td>FINE SAND</td><td>220</td><td>230</td></tr><tr><td>SAND & GRAVEL</td><td>230</td><td>240</td></tr><tr><td>SAND</td><td>240</td><td>245</td></tr><tr><td>SAND & GRAVEL</td><td>245</td><td>252</td><td rowspan="10">GREEN</td><td rowspan="10"></td></tr><tr><td>SANDSTONE</td><td>252</td><td>254</td></tr><tr><td>SHALE</td><td>254</td><td>255</td></tr><tr><td>LIMESTONE</td><td>255</td><td>265</td></tr><tr><td>SAND & GRAVEL</td><td>265</td><td>275</td></tr><tr><td>LIMESTONE</td><td>275</td><td>282</td></tr><tr><td>LIMESTONE & GREEN</td><td>282</td><td>286</td></tr><tr><td>SANDY SHALE</td><td>286</td><td>300</td></tr><tr><td>SANDY SHALE</td><td>300</td><td>390</td></tr><tr><td>SHALES RED & GREEN</td><td>390</td><td>429</td></tr><tr><td>SANDSTONE</td><td>429</td><td>434</td></tr><tr><td>SANDSTONE</td><td>434</td><td>485</td></tr><tr><td>SANDY GREEN SHALE</td><td>485</td><td>500</td></tr><tr><td>SHALES RED & GREEN</td><td>500</td><td>509</td></tr></tbody></table>								Geological Material	From	To (ft.)	Color	Hardness	LOAM	0	5	BLUE		SILTY SAND	5	17	SAND & GRAVEL	17	41	SAND & GRAVEL	41	64	SAND & GRAVEL	64	66	SANDY CLAY	66	68	COARSE SANDY CLAY	68	87	COARSE SANDY CLAY	87	95	COARSE SAND &	95	105	SAND & GRAVEL, CLAY	105	113	FINE SAND SOME	113	148	YELLOW		SANDY CLAY SOME	148	162	FIRM SAND COARSE	162	164	LOOSE FINE SAND	164	183	VERY FINE SAND	183	185	SILTY SAND & CLAY	185	198	SANDY CLAY	198	220	FINE SAND	220	230	SAND & GRAVEL	230	240	SAND	240	245	SAND & GRAVEL	245	252	GREEN		SANDSTONE	252	254	SHALE	254	255	LIMESTONE	255	265	SAND & GRAVEL	265	275	LIMESTONE	275	282	LIMESTONE & GREEN	282	286	SANDY SHALE	286	300	SANDY SHALE	300	390	SHALES RED & GREEN	390	429	SANDSTONE	429	434	SANDSTONE	434	485	SANDY GREEN SHALE	485	500	SHALES RED & GREEN	500	509	Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>		From To	
								Geological Material	From	To (ft.)	Color	Hardness																																																																																																																
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SAND & GRAVEL	265	275																																																																																																																										
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SANDY GREEN SHALE	485	500																																																																																																																										
SHALES RED & GREEN	500	509																																																																																																																										
Casing Type Telescoping				Joint																																																																																																																								
Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>				Above/Below																																																																																																																								
Casing Diameter 6 in. To 255 ft. lbs./ft. 5 in. To 285 ft. lbs./ft.																																																																																																																												
Open Hole From 285 ft. To 509 ft.																																																																																																																												
Screen? <input type="checkbox"/>								Type Make																																																																																																																				
Static Water Level 30 ft. land surface Measure 05/25/1939																																																																																																																												
Pumping Level (below land surface) 44 ft. hrs. Pumping at 0 g.p.m.																																																																																																																												
Wellhead Completion Pitless adapter manufacturer Model <input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																																																																																																																												
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To well grouted, type unknown ft. 250 ft.																																																																																																																												
Nearest Known Source of Contamination feet Direction Type Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No																																																																																																																												
Pump <input type="checkbox"/> Not Installed Date Installed Manufacturer's name Model Number HP Volt Length of drop pipe ft Capacity 250 g.p. Typ Turbine																																																																																																																												
Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No																																																																																																																												
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No																																																																																																																												
Miscellaneous First Bedrock Jordan Sandstone Aquifer multiple Last Strat Eau Claire Formation Depth to Bedrock 252 ft Located by Minnesota Geological Survey Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table) System UTM - NAD83, Zone 15, Meters X 447194 Y 4975680 Unique Number Verification Information from Input Date 01/01/1990																																																																																																																												
Angled Drill Hole																																																																																																																												
Well Contractor Layne Well Co. 27010 HOLLAND, L. Licensee Business Lic. or Reg. No. Name of Driller																																																																																																																												
Remarks GAMMA LOGGED 6-26-1985. LANGDON LAKE NO.5, ALSO KNOWN AS PILOT WELL NO.4, OR MOUND NO.2.						206928		Printed on 09/19/2017 HE-01205-15																																																																																																																				

206994

County Hennepin
Quad Mound
Quad ID 105B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 03/10/2014
Received Date

Well Name MOUND 3					Township 117	Range 24	Dir W	Section 13	Subsection DCCDAB	Well Depth 317 ft.		Depth Completed 317 ft.		Date Well Completed 10/00/1947			
Elevation 995 ft.					Elev. Method 7.5 minute topographic map (+/- 5 feet)		Drill Method Cable Tool								Drill Fluid		
Address Well 2355 CHATEAU MOUND MN 55364 Contact MOUND MN 55364										Use community supply(municipal)				Status Active			
Stratigraphy Information										Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To							
Geological Material										Casing Type Single casing Joint							
CLAY										Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/> Above/Below 3 ft.							
CLAY										Casing Diameter Weight							
CLAY										20 in. To 164 ft. lbs./ft.							
HARDPAN										Open Hole From 164 ft. To 317 ft.							
SHAKOPEE										Screen? <input type="checkbox"/> Type Make							
SHAKOPEE &																	
SANDROCK																	
SANDROCK																	
SANDROCK & SHALE																	
										Static Water Level							
										85 ft. land surface Measure 10/00/1947							
										Pumping Level (below land surface)							
										93.5 ft. hrs. Pumping at 609 g.p.m.							
										Wellhead Completion							
										Pitless adapter manufacturer Model							
										<input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade							
										<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)							
										Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified							
										Nearest Known Source of Contamination							
										feet Direction Type							
										Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No							
										Pump <input checked="" type="checkbox"/> Not Installed Date Installed							
										Manufacturer's name							
										Model Number HP Volt							
										Length of drop pipe ft Capacity g.p. Typ							
										Abandoned							
										Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No							
										Variance							
										Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No							
										Miscellaneous							
										First Bedrock Prairie Du Chien Group Aquifer Prairie Du Chien-							
										Last Strat Jordan Sandstone Depth to Bedrock 161 ft							
										Located by Minnesota Department of Health							
										Locate Method GPS SA On (averaged)							
										System UTM - NAD83, Zone 15, Meters X 448423 Y 4975984							
										Unique Number Verification Information from Input Date 10/01/1999							
										Angled Drill Hole							
										Well Contractor							
										Keys Well Co. 62012							
										Licensee Business Lic. or Reg. No. Name of Driller							
Remarks CHATEAU & WOODRIDGE, UNDER W.T.																	
Minnesota Well Index Report										206994		Printed on 09/19/2017 HE-01205-15					

208866

County Hennepin
Quad Mound
Quad ID 105B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 01/12/2016
Received Date

Well Name MOUND 4					Township 117		Range 24		Dir Section W 13		Subsection BBCCAA		Well Depth 729 ft.			Depth Completed 729 ft.			Date Well Completed 11/06/1962		
Elevation 952 ft.					Elev. Method 7.5 minute topographic map (+/- 5 feet)					Drill Method					Drill Fluid						
Address Well 5549 THREE POINTS RD MOUND MN 55364 Contact MOUND MN 55364												Use community supply(municipal) Status Active									
Stratigraphy Information												Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To									
Geological Material												Casing Type Step down Joint									
												Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/> Above/Below 2.7 ft.									
												Casing Diameter Weight Hole Diameter									
CLAY 0 108 BROWN												10 in. To 600 ft. lbs./ft. 10 in. To 729 ft.									
SAND 108 190 TAN												12 in. To 270 ft. lbs./ft.									
CLAY 190 243 BROWN																					
CLAY 243 250 BROWN																					
SHALE 250 266 LT. BLU																					
SHALE 266 277 LT. BLU																					
JORDAN SANDSTONE 277 298 GRAY												Open Hole From 600 ft. To 729 ft.									
JORDAN SANDSTONE 298 303 GRAY												Screen? <input type="checkbox"/> Type Make									
ST. LAWRENCE 303 439 GREEN																					
ST. LAWRENCE 439 440 GREEN																					
FRANCONIAN 440 485												Static Water Level									
FRANCONIAN 485 505												65.3 ft. land surface Measure 03/04/1980									
DRESBACH 505 567												Pumping Level (below land surface)									
DRESBACH 567 600												120 ft. hrs. Pumping at 625 g.p.m.									
MT. SIMON 600 700												Wellhead Completion									
HINCKLEY 700 719 RED												Pitless adapter manufacturer Model									
RED CLASTICS 719 729 RED												<input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade									
												<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)									
												Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified									
												Nearest Known Source of Contamination									
												feet Direction Type									
												Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No									
												Pump <input checked="" type="checkbox"/> Not Installed Date Installed									
												Manufacturer's name									
												Model Number HP Volt									
												Length of drop pipe ft Capacity g.p. Typ									
												Abandoned									
												Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No									
												Variance									
												Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No									
												Miscellaneous									
												First Bedrock Jordan Sandstone Aquifer Mt.Simon-Red									
												Last Strat Solor Church Formation Depth to Bedrock 243 ft									
												Located by Minnesota Geological Survey									
												Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)									
												System UTM - NAD83, Zone 15, Meters X 447572 Y 4977247									
												Unique Number Verification Information from Input Date 01/01/1990									
												Angled Drill Hole									
												Well Contractor									
												Renner E.H. & Sons 27015									
												Licensee Business Lic. or Reg. No. Name of Driller									
Remarks DNR OBWELL 27043. M.G.S. NO.251. GAMMA LOGGED 12-18-1982.																					

232167

County Hennepin
Quad Mound
Quad ID 105B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 02/08/2016
Received Date

Well Name MOUND 5	Township 117	Range 23	Dir W	Section 19	Subsection BDDDC	Well Depth 140 ft.	Depth Completed 140 ft.	Date Well Completed 04/02/1957
Elevation 965 ft.	Elev. Method 7.5 minute topographic map (+/- 5 feet)					Drill Method	Drill Fluid	
Address Well TUXEDO BL MOUND MN 55364 Contact MOUND MN 55364						Use community supply(municipal)	Status Active	
Stratigraphy Information						Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>	From	To
						Casing Type Single casing	Joint	
						Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>	Above/Below	
Geological Material						Casing Diameter	Weight	
						8 in.	To 125 ft.	lbs./ft.
CLAY								
CLAY & BOULDERS								
CLAY								
GRAVEL								
CLAY & GRAVEL								
CLAY & SAND								
CLAY								
CLAY & STONES								
GRAVEL								
GRAVEL								
						Open Hole	From	To
						Screen? <input checked="" type="checkbox"/>	Type	other
						Diameter	Slot/Gauze	Length
						8 in.	40	5 ft.
						8 in.	20	10 ft.
						Static Water Level		
						63 ft.	land surface	Measure 04/02/1957
						Pumping Level (below land surface)		
						72 ft.	hrs.	Pumping at 132 g.p.m.
						Wellhead Completion		
						Pitless adapter manufacturer	Model	
						<input type="checkbox"/> Casing Protection	<input type="checkbox"/> 12 in. above grade	
						<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
						Grouting Information	Well Grouted?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified
						Nearest Known Source of Contamination		
						feet	Direction	Type
						Well disinfected upon completion?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
						Pump <input type="checkbox"/> Not Installed	Date Installed	04/01/1957
						Manufacturer's name	MEYERS	
						Model Number	HP 5	Volt
						Length of drop pipe	105 ft	Capacity 60 g.p.
						Typ Submersible		
						Abandoned		
						Does property have any not in use and not sealed well(s)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
						Variance		
						Was a variance granted from the MDH for this well?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
						Miscellaneous		
						First Bedrock	Aquifer	Quat. buried
						Last Strat	gravel (+larger)-brown	Depth to Bedrock
						Located by	Minnesota Geological Survey	
						Locate Method	Digitized - scale 1:24,000 or larger (Digitizing Table)	
						System	UTM - NAD83, Zone 15, Meters	X 449779 Y 4975148
						Unique Number Verification	Information from	Input Date 01/01/1990
						Angled Drill Hole		
						Well Contractor		
						Renner E.H. & Sons	27015	
						Lic. or Reg. No.	Name of Driller	

Minnesota Unique Well Number

112215

County Hennepin
Quad Mound
Quad ID 105B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 01/12/2016
Received Date

Well Name				Township		Range		Dir Section		Subsection		Well Depth		Depth Completed		Date Well Completed	
MOUND 6				117		24		W 24		BABADB		175 ft.		174 ft.		03/30/1976	
Elevation		961 ft.		Elev. Method		7.5 minute topographic map (+/- 5 feet)											
Address																	
Contact				5143 MAYWOOD RD MOUND MN 55364													
Well				5341 MAYWOOD RD MOUND MN 55364													
Stratigraphy Information																	
Geological Material				From		To (ft.)		Color		Hardness							
CLAY				0		40											
SANDY CLAY				40		57											
CLAY				57		90											
DIRTY SAND				90		125											
WATER SAND				125		174											
CLAY				174		175											
Use public supply/non-community Status Sealed																	
Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To																	
Casing Type Step down Joint																	
Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Above/Below 2 ft.																	
Casing Diameter Weight																	
20 in. To				145 ft.				lbs./ft.									
24 in. To				75 ft.				100 lbs./ft.									
Open Hole From ft. To ft.																	
Screen? <input checked="" type="checkbox"/> Type stainless Make JOHNSON																	
Diameter				Slot/Gauze				Length				Set					
16 in.								30 ft.				144 ft. 174 ft.					
Static Water Level																	
70 ft.				land surface				Measure				03/30/1976					
Pumping Level (below land surface)																	
103. ft.				24 hrs.				Pumping at				1425 g.p.m.					
Wellhead Completion																	
Pitless adapter manufacturer Model																	
<input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade																	
<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																	
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified																	
Material				Amount				From				To					
neat cement				8 Cubic yards				0 ft.				75 ft.					
Nearest Known Source of Contamination																	
feet				Direction								Type					
Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No																	
Pump <input checked="" type="checkbox"/> Not Installed Date Installed																	
Manufacturer's name																	
Model Number				HP				Volt									
Length of drop pipe				ft				Capacity				g.p. Typ					
Abandoned																	
Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No																	
Variance																	
Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No																	
Miscellaneous																	
First Bedrock				Aquifer				Quat. buried									
Last Strat				clay				Depth to Bedrock				ft					
Located by Minnesota Department of Health																	
Locate Method GPS SA On (averaged)																	
System				UTM - NAD83, Zone 15, Meters				X 448006				Y 4975841					
Unique Number Verification				Information from				Input Date				10/01/1999					
Angled Drill Hole																	
Well Contractor																	
Bergerson-Caswell				27058				HENRICH, E.									
Licensee Business				Lic. or Reg. No.				Name of Driller									
Minnesota Well Index Report												112215				Printed on 09/19/2017 HE-01205-15	

✓

12/90 R

240756

County Hennepin
Quad Mound
Quad ID 105B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 11/29/2016
Received Date

Well Name MOUND 7					Township 117	Range 24	Dir Section W 13	Subsection BBCBDD	Well Depth 194 ft.			Depth Completed 194 ft.			Date Well Completed 02/11/1977					
Elevation 944 ft.					Elev. Method Calc from DEM (USGS 7.5 min or equiv.)					Drill Method Cable Tool			Drill Fluid							
Address									Use community supply(municipal)						Status Active					
Well 5549 WILSHIRE BL MOUND MN 55364									Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>						From		To			
Contact MOUND MN 55364									Casing Type Single casing						Joint					
Stratigraphy Information									Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>						Above/Below					
Geological Material									From		To (ft.)		Color		Hardness					
CLAY									0		58		BROWN							
CLAY & GRAVEL									58		110		GRAY							
CLAY & SAND									110		118		GRAY							
FINE DIRTY SAND									118		132									
SAND									132		194									
									Open Hole		From		ft.		To		ft.			
									Screen? <input checked="" type="checkbox"/>		Type stainless		Make JOHNSON							
									Diameter		Slot/Gauze		Length		Set					
									16 in.				60 ft.		133 ft.		193 ft.			
									Static Water Level											
									58.5 ft.		land surface				Measure		08/15/1988			
									Pumping Level (below land surface)											
									79.9 ft.		hrs.		Pumping at		750		g.p.m.			
									Wellhead Completion											
									Pitless adapter manufacturer						Model					
									<input type="checkbox"/> Casing Protection		<input checked="" type="checkbox"/> 12 in. above grade									
									<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)											
									Grouting Information											
									Well Grouted?		<input type="checkbox"/> Yes		<input type="checkbox"/> No		<input type="checkbox"/> Not Specified					
									Nearest Known Source of Contamination											
									feet		Direction						Type			
									Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No											
									Pump <input checked="" type="checkbox"/>		Not Installed		Date Installed							
									Manufacturer's name											
									Model Number			HP			Volt					
									Length of drop pipe			ft		Capacity		g.p.		Typ		
									Abandoned											
									Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No											
									Variance											
									Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No											
									Miscellaneous											
									First Bedrock			Aquifer			Quat. buried					
									Last Strat			sand			Depth to Bedrock			ft		
									Located by Minnesota Department of Health											
									Locate Method Digitization (Screen) - Map (1:24,000)											
									System			UTM - NAD83, Zone 15, Meters			X 447571		Y 4977261			
									Unique Number Verification			Information from			Input Date		10/01/1999			
									Angled Drill Hole											
									Well Contractor											
									Tri-state Well Co.			27118			BENEKE, R.					
									Licensee Business			Lic. or Reg. No.			Name of Driller					

Appendix 2

Water Level Monitoring Plan

Water Level Monitoring

The City of Mound is currently working towards establishing a water level monitoring plan utilizing their SCADA systems. The proposed plan is to monitor the static and pumping water levels of each well, each time the well cycles. This is going to be implemented in the near future.

Appendix 3

Water Level Graphs

Water Level Hydrographs

The City of Mound does not have any records of water levels in their wells. The City is planning on implementing a water level monitoring program.

Appendix 4

Capital Improvement Plan

working 5-YEAR CAPITAL IMPROVEMENT PLAN (CIP): 2018-2022

WATER FUND PROJECT COSTS

9/19/2017

(Includes 30% Indirect Cost and Street Replacement Cost [If Not Assessable Project])

LOCATION	FUNDING SOURCE	2017	2018	2019	2020	2021	2022
Maywood (Wilshire to Fairview)/Hidden Vale Wilshire (Shoreline to Bartlett) Tuxedo (Brighton to Clyde) Lynwood Blvd/Fairview Ln	Water Fund	\$971,254					
Westedge Blvd (Bartlett to Halstead)	Water Fund		\$506,042				
Westedge Blvd (Sinclair to Bartlett)	Water Fund		\$343,731				
Wilshire Boulevard Trunk Watermain*	Water Fund	\$972,364					
Island Park Watermain Loop*	Water Fund	\$282,264					
Commerce Boulevard Watermain (Shoreline to Three Points)	Water Fund			\$445,553			
Island Park (IVD) CIP Watermain Replacement	Water Fund				\$528,439		
Booster Pump Station Demolition	Water Fund						\$50,000
Devon Lane Standpipe Demolition	Water Fund						\$100,000
Well 7 Closure	Water Fund						\$50,000
Three Points Area 4" WM Upsize	Water Fund					\$635,783	
Cast Iron Pipeline Assessment	Water Fund						\$75,000
TOTALS		\$971,254	\$849,773	\$445,553	\$528,439	\$635,783	\$275,000

*BONDED FOR IN 2016 (2017 TOTAL DOES NOT INCLUDE THESE COSTS)

\$1,254,628

Appendix 5

Emergency Telephone List



Section 4. Emergency Notification

Notification call-up lists - Use these lists to notify first responders of an emergency.

Emergency Notification List				
Organization or Department	Name & Position	Telephone	Night or Cell Phone	Email
Local Law Enforcement	Correy Farniok, Orono Police Chief	(952) 258-5321	9-1-1	cfarniok@ci.orono.mn.us
Fire Department	Gregory Pederson, Fire Chief	(952) 472-3533		gpederson@moondfire.com
Emergency Management	Stewart B. Simon, Field Officer	(952) 472-0605	(952) 292-6410	fieldops@cityofmound.com
Emergency Medical Services	Ridgeview Medical Center	(952) 442-2191	9-1-1	None Provided
Water Operator (if contractor)	Ray Hanson, PW Superintendent	(952) 472-0614	(612) 247-6269	rayhanson@cityofmound.com
Hazmat Hotline	State Duty Officer	(800) 442-0798	(800) 442-0798	None Provided

Priority Customers				
Organization or Department	Name & Position	Telephone	Night or Cell Phone	Email
Public or Private Schools	Kevin Borg, Superintendent	(952) 491-8001	None Provided	

Organization or Department	Name & Position	Telephone	Night or Cell Phone
Electric Utility Co.	Xcel Energy	(800) 895-1999	
Gas/Propane Supplier	UFC Waconia	(952) 442-2126	(952) 442-7333
Water Testing Lab.	MN Valley Testing	(800) 782-3557	
Sewer Utility Co.	M.C.E.S	(651) 602-4511	
Telephone Co.	Frontier	(800) 921-8104	
Pump Supplier	T.L. Stevens	(763) 479-2272	
“Call Before You Dig”	Gopher State 1-Call	8-1-1	
Rental Equipment Supplier	Ziegler Cat	(952) 888-4121	

Appendix 6

Cooperative Agreements for Emergency Services

Cooperative Agreements for Emergency Water Services

The City of Mound does not currently have any Cooperative Agreements for Emergency Water Services. The City of Mound however has interconnections with the City of Spring Park and the City of Minnetrista for emergency uses.

Appendix 7

Municipal Critical Water Deficiency Ordinance

UTILITIES

Chapter 74

UTILITIES

ARTICLE III. WATER SYSTEM

DIVISION 1. GENERALLY

Sec. 74-44. Violations—Termination of service.

For a violation of any of the rules and for nonpayment of charges or violations of rules, water may be shut off and it will not be turned on again until all charges, penalties, and fines are paid together with the expense of shutting off and turning on of such water as established by the city, and the City Council may order that no water shall be furnished to any person who is indebted to the city on account of any such charges, penalties, or fines.

(Code 1987, § 610.60; Ord. No. 57-1992, 7-6-1992; Ord. No. 01-2001, 2-25-2001)

Sec. 74-45. Same—By plumbers.

For violation of the provisions of this article by plumbers or for the introduction either voluntarily or at the request of any consumer of any pipe or fixture for which a permit has not been granted by the city, the plumber shall forfeit and pay to the city a sum as established by the city, and any damages that may be sustained through loss of water fees, which may be recordable on his bond or direct action.

(Code 1987, § 610.65; Ord. No. 01-2001, 2-25-2001)

Sec. 74-46. Service contract.

The city reserves the right to make any such further rules and regulations and to change the rates from time to time as may be necessary for the preservation, protection, and proper operation of the water system. The rules, regulations, and water rates hereinafter to be named shall be considered a part of the contract with every person who are supplied with water through the water system of the city, and any persons, company, or corporation, by taking water, shall be considered to express their consent to be bound thereby; and whenever any of them or such others as may be hereafter duly adopted by the Council be violated, the water shall be shut off from the place of such violation, even though two or more parties are receiving water through the same pipe and shall not again be turned on except by order of the city and the payment of a penalty as provided in section 74-127.

(Code 1987, § 610.25)

Sec. 74-47. Service reservations and limitations.

The city reserves the right at any time to shut off the water for the purpose of extending, replacing, repairing, or cleaning mains and appurtenances, and the city shall not be held liable for any damage arising therefrom. No claim shall be made against the city by reason of breaking of any service pipe or connection.

(Code 1987, § 610.30)

Sec. 74-48. General regulations.

(a) *No unauthorized connection.* No person shall without authority from the city lay any mains or service or take water from the city supply.

(b) *No unauthorized usage.* No person, authorized to take water from any main or service pipe from any specified premises or specified purpose, shall without authority use such

UTILITIES

water for other than such specified purpose for such premises.

(c) *Interference with operation of water system.* No person shall willfully and without authority from the city injure or remove any property under the control of said city or interfere in any way with the operation, construction, or repairing of the waterworks.

(d) *Tampering with valves and hydrants.* No person shall unlawfully and without authority from the city operate any valve or hydrant.

(e) *Trespassing.* No person shall enter any building of said water system, unless authorized by the city to do so.

(f) *Connections performed only by registered plumber.* No persons other than duly registered plumbers will be allowed to do any work on the service pipes or fixtures connected with the water system, and only a duly registered plumber may make the connections from main to curb box.

(g) *Preservice inspections.* The water will not be turned on to any premises until the work is inspected and found to be in accordance with the rules and regulations.

(h) *Tampering with stopcocks.* No plumber shall turn on or off the water supply at any stopcock at main or curb box nor allow any person in his employ to do so, except for testing purposes and with the approval of the city.

(i) *No shared service connections.* Two or more services must not be connected together except upon special permission from the city.

(j) *Service to building front only.* Services must enter the front of the building nearest to the sidewalks wherever this is practicable.

(k) *Location of service branches.* No branches will be allowed to be connected to the service except on the house side of the meter.

(l) *Safety precautions during excavation.* Excavations for water service connections or repairs shall be done in such manner as to occasion the least inconvenience to the public. The trench shall be properly guarded at all times, and during the night warning lights shall be maintained at any excavation lying within the street lines. The provisions of this article are supplemental to, not in lieu of, all other requirements.

(m) *Water service outside of city.* The city is authorized to furnish water to places outside of the boundaries of the city under the same rules and regulations and at the same or greater rates as fixed for the consumption of water within the city, provided that such furnishing may not be detrimental to the supply of water within the city.

(n) *Temporary connections to hydrants.* The city may permit water to be used temporarily from any fire hydrant by attaching a reducer to one of the hydrant openings and controlling the supply by means of a small valve.

(o) *Seasonal restrictions on lawn sprinkling.* From May 15 to September 1 of each year, an odd/even lawn sprinkling regulation shall be in effect for all lawn sprinkling systems supplied by water from the city. Properties with even-numbered addresses may sprinkle lawns only on days with even-numbered dates. Properties with odd-numbered addresses may sprinkle only on days with odd-numbered dates. A one month exception from the odd/even sprinkling restriction may be granted for newly planted sod, grass or landscaping upon registering for exemption and recommendation of the city. Other exemptions may be granted upon evaluation and recommendation of the city.

(Code 1987, § 610.50; Ord. No. 10-2002, 6-23-2002)

UTILITIES

Sec. 74-49. Declared water shortage or water pressure emergency.

(a) *Prohibition.* No person shall draw or use water from the city water mains or city water works system for the purpose of sprinkling or watering lawns or gardens, or use any connection with the said system to sprinkle or water lawns or gardens in the city during the period of emergency caused by shortage or water supply or lowering of water pressure in the city water mains, and when such emergency is found, determined, or declared by the city as provided in subsection (b) of this section. Except as is herein provided, such sprinkling or watering shall not be prohibited.

(b) *Declaration of emergency.* The city may, with recommendation of the public works superintendent, declare the existence of such emergency as and when it may become necessary to enforce the restrictions provided by subsection (a) of this section. The city shall determine and declare the necessary period and conditions of such emergency prohibition and the termination thereof. The city shall further determine and order in said resolution proper notification of consumers during such period of prohibition.

(Code 1987, § 610.55; Ord. No. 04-2001, 7-15-2001)

Sec. 74-50. Special offenses; penalty.

Any person who shall maliciously or willfully divert the water or shall corrupt or render the same impure shall be guilty of a misdemeanor.

(Code 1987, § 610.75)

Sec. 74-51. Recovery of damages.

If any person, through unlawful manipulation or tampering with the water system, shall destroy or injure any property, public or private, the damages so caused may be recovered in a civil action brought by the city, including the cost of the suit.

(Code 1987, § 610.80)

Secs. 74-52—74-75. Reserved.

DIVISION 2. CONNECTIONS

Sec. 74-76. Mandatory connection to system.

The owner of any house, building, or property used for human occupation, employment, recreation, or other purpose, situated within the city and abutting any street, alley, or right-of-way in which there is now located a public water main, is hereby required at their expense to connect such property directly with the proper water main in accordance with provisions of this article within 20 days after date of official notice to do so. The city shall be charged with the responsibility of enforcing the connection of all the aforesaid houses, buildings, or properties to the public water system. If any of the aforesaid houses, buildings, or properties are determined to not be connected to the public water system within 90 days of the date on which the public water system available to service such house, building, or property, the city shall serve notice of the intent of the city to make such connection by mailing a written notice to the last known address of the record owner of said property by certified mail, postage prepaid, which notice shall advise said record owner of the provisions of this article, and that the city will install the same, assess the cost thereof against the property after 20 days from the date of mailing of said notice unless prior to said time the owner takes out a permit for such connection, and such connection is actually commenced. In the event such owner fails to comply with said notice, the city shall secure such connection to the public water system and shall have the cost thereof assessed as a special assessment against said property in accordance with the provisions of Minn. Stats. § 412.221, subds. 31 and 32, and Minn. Stats. ch. 429.

UTILITIES

(Code 1987, § 610.85)

Sec. 74-77. Installation.

(a) *Location of curb boxes.* Curb boxes shall be located at the city right-of-way line. If a sidewalk is present that extends across the right-of-way line and a boulevard exists between the sidewalk and curb, then the curb box may be located within this boulevard as far behind the curb as possible. At all times, the top of the curb box shall be level with the ground surface.

(b) *Separate service connection; multiple dwellings.* Every separate building and each unit in a duplex, twin home, double bungalow, or townhouse supplied with water must have its own service connection directly with the mains and each unit must be provided with a shut-off and drip valve in the cellar from an independent riser pipe. Each water service shall be at least one inch in diameter or larger for single-family homes and for each unit in a duplex, twin home, double bungalow, or townhouse. Each water service serving commercial buildings shall be at least one inch in diameter for buildings containing up to 1,500 square feet of floor area; any building which has more than 1,500 square feet of floor area shall have a minimum service of at least 1½ inches in diameter. These provisions shall apply to all new construction and for any units which connect to the city's water mains hereafter; existing units which do not have separate services as of the effective date of the ordinance from which this section is derived and which are now connected to the city's mains are excepted from these provisions except as set forth below. Two or more adjacent buildings owned by the same person shall be supplied through the same connection only so long as the single ownership continues and provided that the owner agrees to pay all charges for water consumed on the entire premises. Upon the termination of such single ownership, a separate connection shall be made immediately to the building or premises theretofore having the indirect connection, provided that in case there is not water main on any street on which said premises abut, the city may permit such connection to remain until the water main is laid in such abutting street.

(c) *Remote readers required.* Every service shall be metered and shall have remote readers included as a part of the installation. Only meters and readers furnished by the city shall be installed, and they shall remain the property of the city.

(Code 1987, § 610.35; Ord. No. 01-2001, 2-25-2001; Ord. No. 02-2002, 1-20-2002)

Secs. 74-78—74-97. Reserved.

DIVISION 3. SERVICE APPLICATIONS

Sec. 74-98. Required.

Property owners desiring service connections made to their premises must file an application with the city on forms provided for this purpose. Each application must be accompanied by the payment of the charge specified in section 74-127. Upon payment of such charge and allowance of the application, the city shall allow the connection from the main or curb box to be installed by a duly registered plumber.

(Code 1987, § 610.10)

Sec. 74-99. Contents.

Applications must state the purpose for which the water is to be used, together with a proper description and location of the property and must be signed by the owner or their authorized agent. The application must state distinctly the point on the property line where the service is to enter the premises.

(Code 1987, § 610.20)

UTILITIES

Secs. 74-100—74-126. Reserved.

DIVISION 4. RATES AND CHARGES

Sec. 74-127. Water service.

(a) *Gallonge.* Rates and charges for water service shall be as established by the city.

(b) *Water trunk area charge (WTAC).* The city operates a water service system that serves the needs of the community. A water trunk area charge (WTAC) is needed to establish, construct, repair, replace, maintain, enlarge and improve said system. The WTAC is payable by every lot, parcel or piece of property that will connect to the water service system, or an expansion of an existing use caused added consumption of water, whether residential, commercial, or industrial. The amount of this area charge shall be established by the city and shall be calculated according to the current guidelines of the Metropolitan Council Environmental Services.

(c) *Service connection fee.* No permit shall be issued to tap or connect with any water main of the city either directly or indirectly from any lot, tract, or parcel of land unless a water service connection fee has been paid. The amount of this connection fee shall be as established by the city.

(Code 1987, § 610.45; Ord. No. 01-2001, 2-25-2001; Ord. No. 02-2002, 1-20-2002)

Sec. 74-128. Meters.

(a) *One meter per service account.* Except as otherwise provided, the supply of water through each separate service must be recorded by one meter only for which only one account will be rendered by the city. If additional meters are desired for recording the subdivision of the water supply on the premises, they must be furnished and set by the owner or consumer at their expense. A meter must be installed on all service lines.

(b) *Meters; access and repairs.* Meters must at all times be easily accessible so that they may be examined and read by city employees. Damage due to the carelessness or neglect of the owner or occupants of the premises must be paid for by such owner or occupants. The cost of ordinary maintenance and repairs will be borne by the city. Meters owned by consumers will be under the control of the city. In case of breakage, stoppage, or other irregularity in the meter, the owner or consumer is to notify the city immediately. City employees shall, at all reasonable times, have access to premises for readings of meter or inspecting of plumbing. Any person that refuses to allow current or updated meter reading to be installed by appointment inspected within a five-day notice by the city shall be immediately subject to the surcharge herein provided in subsection (h) of this section. This surcharge may be appealed to the City Council within 30 days of the final notice of the surcharge. In the event that the City Council denies the appeal, the surcharge becomes retroactive to the original date. If no appeal is received in writing by the city within 30 days of the final notice, the surcharge will be considered uncontested and will be applied.

(c) *Testing for faulty meters.* At the written request of any owner or consumer, the city will test the meter supplying their premises. A deposit in an amount as established by the city, will be required, and this will be returned if the meter is not found to be registering correctly within two percent on a flow equal to one-sixth of the diameter of the service or in favor of the consumer. Otherwise, the deposit will be retained by the city to cover the cost of the test.

(d) *Faulty meters; refunds of previous consumption charges.* If the testing of a meter as herein provided shows that it fails to register correctly, the charge for water consumed shall be based on the corresponding period of the previous year, or may be otherwise equitably adjusted

UTILITIES

by the city. Any other adjustment of charges for water supplied shall be made only by resolution of the City Council.

(e) *Arrears; service disconnections.* If the supply to any premises has been shut off except for repairs, the service will not be reestablished unless a written order is given to the city by the owner or authorized agent, nor until all arrears are paid.

(f) *Remote readers; modification of existing meters.* No charge will be made for the installation of a water meter with the capability of having a remote reader assembly attached. All water users who do not have a remote reader assembly shall be charged the cost of modification, not to exceed a per meter charge as established by the city. The water user may pay the entire cost or if not paid in a lump sum, the charges shall be spread over four quarterly billings and added to their water bill.

(g) *Meters for new home construction.* Two water meters are required for all homes constructed on or after January 1, 2005. The main meter records water usage inside the home, which results in sewer charges from that usage. The secondary, or deduct meter is designed for connection to an existing or proposed outdoor sprinkling system and all outside water faucet connections. The deduct meter records outdoor water usage only and there is no sewer charge from that usage. Both meters and meter readers shall be furnished by the city at the expense of the consumer, shall be installed inside the residence, and shall remain the property of the city. The provisions of subsections (b), (c) and (f) of this section will also apply to the installation and maintenance of the deduct meter.

(h) *Surcharge.* A surcharge of \$100.00 per month is hereby imposed on every water bill on or after property owners who are not in compliance with this section or have refused to allow their property to be inspected to determine if there is compliance. All properties found to be in noncompliance with or in violation of this section will be subject to the \$100.00 per month penalty for all months between the two most recent inspections.

(Code 1987, § 610.40; Ord. No. 01-2001, 2-25-2001; Ord. No. 01-2005, 1-30-2005; Ord. No. 04-2007, 2-27-2007; Ord. No. 12-2007, 10-23-2007)

Sec. 74-129. Delinquent accounts, penalty, assessment.

In order to defray the city's increased administrative costs caused by water account delinquencies, a ten percent penalty will be added to water bills not paid within 30 days after the date of billing. On or before November 1 of each year, the water superintendent shall have listed and transmitted to the Council the total unpaid charges for water service against each separate lot or parcel to which such is attributable. The Council may then spread the unpaid charges against the property serviced to the county auditor for collection as other taxes are collected under Minn. Stats. § 444.075. In addition to the assessment, a certification fee in an amount as established by the city, may be certified to the county auditor for collection as other taxes are collected.

(Code 1987, § 610.70; Ord. No. 01-2001, 2-25-2001)

**CITY OF MOUND
ORDINANCE XX-2017**

**AN ORDINANCE AMENDING CHAPTER 74 OF THE MOUND CITY CODE AS IT RELATES
TO THE WATER SYSTEM**

The City Council of the City of Mound does ordain:

That Chapter 74 Utilities, Article III Water System, Division 1 Generally, Section 74-49 of the Mound City Code is hereby amended to read as follows:

Sec. 74-49. Declared water shortage or water pressure emergency.

(a) *Prohibition.* No person shall draw or use water from the city water mains or city water works system ~~for the purpose of sprinkling or watering lawns or gardens,~~ or use any connection with the said system to sprinkle or water lawns or gardens, wash vehicles, irrigate golf courses and parks, or for any other nonessential use, in the city during the period of emergency caused by shortage or water supply or lowering of water pressure in the city water mains, and when such emergency is found, determined, or declared by the city as provided in subsection (b) of this section. Except as is herein provided, such ~~sprinkling or watering uses~~ shall not be prohibited.

(b) *Declaration of emergency.* The city may, with recommendation of the public works superintendent, declare the existence of such emergency as and when it may become necessary to enforce the restrictions provided by subsection (a) of this section. The city shall determine and declare the necessary period and conditions of such emergency prohibition and the termination thereof. The city shall further determine and order in said resolution proper notification of consumers during such period of prohibition.

Sec. 74-50. Special offenses; penalty.

Any person who shall maliciously or willfully divert the water, not adhere to restrictions during emergency prohibition periods, or shall corrupt or render the same impure shall be guilty of a misdemeanor.

Passed by the City Council this ____ day of _____, 2017

Mark Wegscheid, Mayor

Attest: Catherine Pausche, Clerk

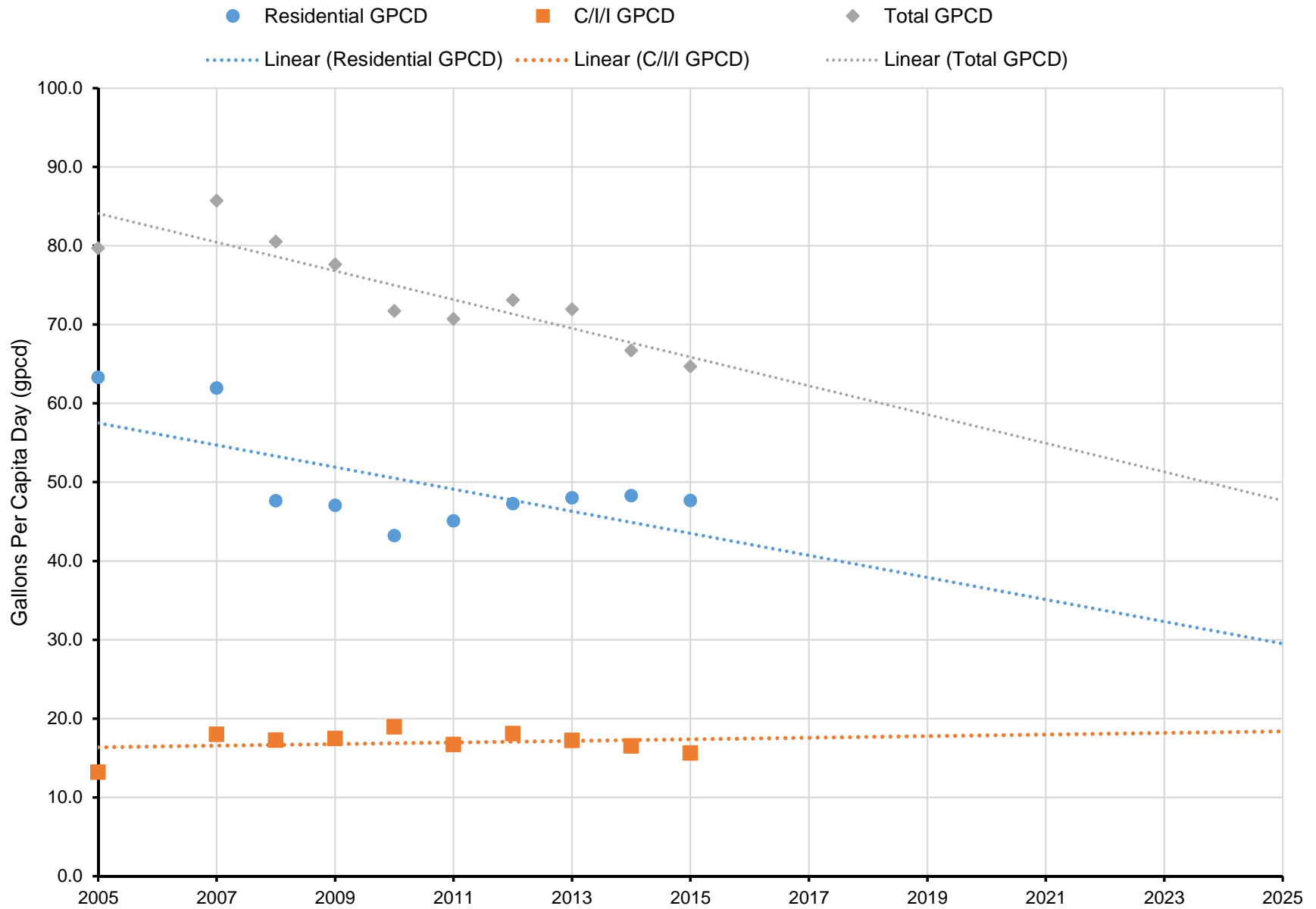
Published in the Laker the ____ day of _____, 2017.

Effective the ____ day of _____, 2017.

Appendix 8

Water Demand Graph

Mound Water Usage



Appendix 9

Water Rate Structure

CITY OF MOUND
2017 Utility Rate Schedule

WATER RATES

RESIDENTIAL	QUARTERLY CHARGES	
Quarterly Base Rate Charge	\$	56.73
TIER 1 Per 1,000 gallons (1,000 - 5,000 gallons)	\$	4.92
TIER 2 Per 1,000 gallons (5,001 - 25,000 gallons)	\$	5.66
TIER 3 Per 1,000 gallons (25,001 gallons +)	\$	6.50
COMMERCIAL	MONTHLY CHARGES	
Monthly Base Rate Charge	\$	18.91
TIER 1 Per 1,000 gallons (1,000 - 2,000 gallons)	\$	4.92
TIER 2 Per 1,000 gallons (2,001 - 15,000 gallons)	\$	5.66
TIER 3 Per 1,000 gallons (15,001 gallons +)	\$	6.50

SEWER RATES

RESIDENTIAL	QUARTERLY CHARGES	
Quarterly Minimum up to 10,000 gallons	\$	102.62
Per 1,000 gallons used over 10,000 gallons	\$	6.36
Minimum Quarterly Bill:	\$	102.62
Sewer Only (per Quarter):	\$	6.36
Connection to sewer, but not water	\$	156.71
COMMERCIAL/INDUSTRIAL/MULTI-UNIT	MONTHLY CHARGES	
Monthly Minimum up to 3,000 gallons	\$	34.21
Per 1,000 gallons used over 3,000 gallons	\$	6.36
Minimum Monthly Bill Per Apartment Unit:	\$	34.21

STORM WATER RATES

Quarterly Household Storm Water Charge	\$	30.58
Monthly Commercial Storm Water Charge	Charged per acre based on use	

RECYCLING RATES

Quarterly Household Recycling Charge	\$	12.00
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STREET LIGHTING FEE

Quarterly Household Street Lighting Fee	\$	4.50
Monthly Commercial Street Lighting Fee	\$	1.50

STATE WATER FEE

Quarterly Household State Water Fee	\$	1.59
Monthly Household State Water Fee	\$	0.53

MOVE IN FEE

Move in fee	\$	50.00
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Appendix 10

Adopted Regulations to Reduce Demand or Improve Water Efficiency

UTILITIES

Chapter 74

UTILITIES

ARTICLE III. WATER SYSTEM

DIVISION 1. GENERALLY

Sec. 74-44. Violations—Termination of service.

For a violation of any of the rules and for nonpayment of charges or violations of rules, water may be shut off and it will not be turned on again until all charges, penalties, and fines are paid together with the expense of shutting off and turning on of such water as established by the city, and the City Council may order that no water shall be furnished to any person who is indebted to the city on account of any such charges, penalties, or fines.

(Code 1987, § 610.60; Ord. No. 57-1992, 7-6-1992; Ord. No. 01-2001, 2-25-2001)

Sec. 74-45. Same—By plumbers.

For violation of the provisions of this article by plumbers or for the introduction either voluntarily or at the request of any consumer of any pipe or fixture for which a permit has not been granted by the city, the plumber shall forfeit and pay to the city a sum as established by the city, and any damages that may be sustained through loss of water fees, which may be recordable on his bond or direct action.

(Code 1987, § 610.65; Ord. No. 01-2001, 2-25-2001)

Sec. 74-46. Service contract.

The city reserves the right to make any such further rules and regulations and to change the rates from time to time as may be necessary for the preservation, protection, and proper operation of the water system. The rules, regulations, and water rates hereinafter to be named shall be considered a part of the contract with every person who are supplied with water through the water system of the city, and any persons, company, or corporation, by taking water, shall be considered to express their consent to be bound thereby; and whenever any of them or such others as may be hereafter duly adopted by the Council be violated, the water shall be shut off from the place of such violation, even though two or more parties are receiving water through the same pipe and shall not again be turned on except by order of the city and the payment of a penalty as provided in section 74-127.

(Code 1987, § 610.25)

Sec. 74-47. Service reservations and limitations.

The city reserves the right at any time to shut off the water for the purpose of extending, replacing, repairing, or cleaning mains and appurtenances, and the city shall not be held liable for any damage arising therefrom. No claim shall be made against the city by reason of breaking of any service pipe or connection.

(Code 1987, § 610.30)

Sec. 74-48. General regulations.

(a) *No unauthorized connection.* No person shall without authority from the city lay any mains or service or take water from the city supply.

(b) *No unauthorized usage.* No person, authorized to take water from any main or service pipe from any specified premises or specified purpose, shall without authority use such

UTILITIES

water for other than such specified purpose for such premises.

(c) *Interference with operation of water system.* No person shall willfully and without authority from the city injure or remove any property under the control of said city or interfere in any way with the operation, construction, or repairing of the waterworks.

(d) *Tampering with valves and hydrants.* No person shall unlawfully and without authority from the city operate any valve or hydrant.

(e) *Trespassing.* No person shall enter any building of said water system, unless authorized by the city to do so.

(f) *Connections performed only by registered plumber.* No persons other than duly registered plumbers will be allowed to do any work on the service pipes or fixtures connected with the water system, and only a duly registered plumber may make the connections from main to curb box.

(g) *Preservice inspections.* The water will not be turned on to any premises until the work is inspected and found to be in accordance with the rules and regulations.

(h) *Tampering with stopcocks.* No plumber shall turn on or off the water supply at any stopcock at main or curb box nor allow any person in his employ to do so, except for testing purposes and with the approval of the city.

(i) *No shared service connections.* Two or more services must not be connected together except upon special permission from the city.

(j) *Service to building front only.* Services must enter the front of the building nearest to the sidewalks wherever this is practicable.

(k) *Location of service branches.* No branches will be allowed to be connected to the service except on the house side of the meter.

(l) *Safety precautions during excavation.* Excavations for water service connections or repairs shall be done in such manner as to occasion the least inconvenience to the public. The trench shall be properly guarded at all times, and during the night warning lights shall be maintained at any excavation lying within the street lines. The provisions of this article are supplemental to, not in lieu of, all other requirements.

(m) *Water service outside of city.* The city is authorized to furnish water to places outside of the boundaries of the city under the same rules and regulations and at the same or greater rates as fixed for the consumption of water within the city, provided that such furnishing may not be detrimental to the supply of water within the city.

(n) *Temporary connections to hydrants.* The city may permit water to be used temporarily from any fire hydrant by attaching a reducer to one of the hydrant openings and controlling the supply by means of a small valve.

(o) *Seasonal restrictions on lawn sprinkling.* From May 15 to September 1 of each year, an odd/even lawn sprinkling regulation shall be in effect for all lawn sprinkling systems supplied by water from the city. Properties with even-numbered addresses may sprinkle lawns only on days with even-numbered dates. Properties with odd-numbered addresses may sprinkle only on days with odd-numbered dates. A one month exception from the odd/even sprinkling restriction may be granted for newly planted sod, grass or landscaping upon registering for exemption and recommendation of the city. Other exemptions may be granted upon evaluation and recommendation of the city.

(Code 1987, § 610.50; Ord. No. 10-2002, 6-23-2002)

UTILITIES

Sec. 74-49. Declared water shortage or water pressure emergency.

(a) *Prohibition.* No person shall draw or use water from the city water mains or city water works system for the purpose of sprinkling or watering lawns or gardens, or use any connection with the said system to sprinkle or water lawns or gardens in the city during the period of emergency caused by shortage or water supply or lowering of water pressure in the city water mains, and when such emergency is found, determined, or declared by the city as provided in subsection (b) of this section. Except as is herein provided, such sprinkling or watering shall not be prohibited.

(b) *Declaration of emergency.* The city may, with recommendation of the public works superintendent, declare the existence of such emergency as and when it may become necessary to enforce the restrictions provided by subsection (a) of this section. The city shall determine and declare the necessary period and conditions of such emergency prohibition and the termination thereof. The city shall further determine and order in said resolution proper notification of consumers during such period of prohibition.

(Code 1987, § 610.55; Ord. No. 04-2001, 7-15-2001)

Sec. 74-50. Special offenses; penalty.

Any person who shall maliciously or willfully divert the water or shall corrupt or render the same impure shall be guilty of a misdemeanor.

(Code 1987, § 610.75)

Sec. 74-51. Recovery of damages.

If any person, through unlawful manipulation or tampering with the water system, shall destroy or injure any property, public or private, the damages so caused may be recovered in a civil action brought by the city, including the cost of the suit.

(Code 1987, § 610.80)

Secs. 74-52—74-75. Reserved.

DIVISION 2. CONNECTIONS

Sec. 74-76. Mandatory connection to system.

The owner of any house, building, or property used for human occupation, employment, recreation, or other purpose, situated within the city and abutting any street, alley, or right-of-way in which there is now located a public water main, is hereby required at their expense to connect such property directly with the proper water main in accordance with provisions of this article within 20 days after date of official notice to do so. The city shall be charged with the responsibility of enforcing the connection of all the aforesaid houses, buildings, or properties to the public water system. If any of the aforesaid houses, buildings, or properties are determined to not be connected to the public water system within 90 days of the date on which the public water system available to service such house, building, or property, the city shall serve notice of the intent of the city to make such connection by mailing a written notice to the last known address of the record owner of said property by certified mail, postage prepaid, which notice shall advise said record owner of the provisions of this article, and that the city will install the same, assess the cost thereof against the property after 20 days from the date of mailing of said notice unless prior to said time the owner takes out a permit for such connection, and such connection is actually commenced. In the event such owner fails to comply with said notice, the city shall secure such connection to the public water system and shall have the cost thereof assessed as a special assessment against said property in accordance with the provisions of Minn. Stats. § 412.221, subds. 31 and 32, and Minn. Stats. ch. 429.

UTILITIES

(Code 1987, § 610.85)

Sec. 74-77. Installation.

(a) *Location of curb boxes.* Curb boxes shall be located at the city right-of-way line. If a sidewalk is present that extends across the right-of-way line and a boulevard exists between the sidewalk and curb, then the curb box may be located within this boulevard as far behind the curb as possible. At all times, the top of the curb box shall be level with the ground surface.

(b) *Separate service connection; multiple dwellings.* Every separate building and each unit in a duplex, twin home, double bungalow, or townhouse supplied with water must have its own service connection directly with the mains and each unit must be provided with a shut-off and drip valve in the cellar from an independent riser pipe. Each water service shall be at least one inch in diameter or larger for single-family homes and for each unit in a duplex, twin home, double bungalow, or townhouse. Each water service serving commercial buildings shall be at least one inch in diameter for buildings containing up to 1,500 square feet of floor area; any building which has more than 1,500 square feet of floor area shall have a minimum service of at least 1½ inches in diameter. These provisions shall apply to all new construction and for any units which connect to the city's water mains hereafter; existing units which do not have separate services as of the effective date of the ordinance from which this section is derived and which are now connected to the city's mains are excepted from these provisions except as set forth below. Two or more adjacent buildings owned by the same person shall be supplied through the same connection only so long as the single ownership continues and provided that the owner agrees to pay all charges for water consumed on the entire premises. Upon the termination of such single ownership, a separate connection shall be made immediately to the building or premises theretofore having the indirect connection, provided that in case there is not water main on any street on which said premises abut, the city may permit such connection to remain until the water main is laid in such abutting street.

(c) *Remote readers required.* Every service shall be metered and shall have remote readers included as a part of the installation. Only meters and readers furnished by the city shall be installed, and they shall remain the property of the city.

(Code 1987, § 610.35; Ord. No. 01-2001, 2-25-2001; Ord. No. 02-2002, 1-20-2002)

Secs. 74-78—74-97. Reserved.

DIVISION 3. SERVICE APPLICATIONS

Sec. 74-98. Required.

Property owners desiring service connections made to their premises must file an application with the city on forms provided for this purpose. Each application must be accompanied by the payment of the charge specified in section 74-127. Upon payment of such charge and allowance of the application, the city shall allow the connection from the main or curb box to be installed by a duly registered plumber.

(Code 1987, § 610.10)

Sec. 74-99. Contents.

Applications must state the purpose for which the water is to be used, together with a proper description and location of the property and must be signed by the owner or their authorized agent. The application must state distinctly the point on the property line where the service is to enter the premises.

(Code 1987, § 610.20)

UTILITIES

Secs. 74-100—74-126. Reserved.

DIVISION 4. RATES AND CHARGES

Sec. 74-127. Water service.

(a) *Gallonge.* Rates and charges for water service shall be as established by the city.

(b) *Water trunk area charge (WTAC).* The city operates a water service system that serves the needs of the community. A water trunk area charge (WTAC) is needed to establish, construct, repair, replace, maintain, enlarge and improve said system. The WTAC is payable by every lot, parcel or piece of property that will connect to the water service system, or an expansion of an existing use caused added consumption of water, whether residential, commercial, or industrial. The amount of this area charge shall be established by the city and shall be calculated according to the current guidelines of the Metropolitan Council Environmental Services.

(c) *Service connection fee.* No permit shall be issued to tap or connect with any water main of the city either directly or indirectly from any lot, tract, or parcel of land unless a water service connection fee has been paid. The amount of this connection fee shall be as established by the city.

(Code 1987, § 610.45; Ord. No. 01-2001, 2-25-2001; Ord. No. 02-2002, 1-20-2002)

Sec. 74-128. Meters.

(a) *One meter per service account.* Except as otherwise provided, the supply of water through each separate service must be recorded by one meter only for which only one account will be rendered by the city. If additional meters are desired for recording the subdivision of the water supply on the premises, they must be furnished and set by the owner or consumer at their expense. A meter must be installed on all service lines.

(b) *Meters; access and repairs.* Meters must at all times be easily accessible so that they may be examined and read by city employees. Damage due to the carelessness or neglect of the owner or occupants of the premises must be paid for by such owner or occupants. The cost of ordinary maintenance and repairs will be borne by the city. Meters owned by consumers will be under the control of the city. In case of breakage, stoppage, or other irregularity in the meter, the owner or consumer is to notify the city immediately. City employees shall, at all reasonable times, have access to premises for readings of meter or inspecting of plumbing. Any person that refuses to allow current or updated meter reading to be installed by appointment inspected within a five-day notice by the city shall be immediately subject to the surcharge herein provided in subsection (h) of this section. This surcharge may be appealed to the City Council within 30 days of the final notice of the surcharge. In the event that the City Council denies the appeal, the surcharge becomes retroactive to the original date. If no appeal is received in writing by the city within 30 days of the final notice, the surcharge will be considered uncontested and will be applied.

(c) *Testing for faulty meters.* At the written request of any owner or consumer, the city will test the meter supplying their premises. A deposit in an amount as established by the city, will be required, and this will be returned if the meter is not found to be registering correctly within two percent on a flow equal to one-sixth of the diameter of the service or in favor of the consumer. Otherwise, the deposit will be retained by the city to cover the cost of the test.

(d) *Faulty meters; refunds of previous consumption charges.* If the testing of a meter as herein provided shows that it fails to register correctly, the charge for water consumed shall be based on the corresponding period of the previous year, or may be otherwise equitably adjusted

UTILITIES

by the city. Any other adjustment of charges for water supplied shall be made only by resolution of the City Council.

(e) *Arrears; service disconnections.* If the supply to any premises has been shut off except for repairs, the service will not be reestablished unless a written order is given to the city by the owner or authorized agent, nor until all arrears are paid.

(f) *Remote readers; modification of existing meters.* No charge will be made for the installation of a water meter with the capability of having a remote reader assembly attached. All water users who do not have a remote reader assembly shall be charged the cost of modification, not to exceed a per meter charge as established by the city. The water user may pay the entire cost or if not paid in a lump sum, the charges shall be spread over four quarterly billings and added to their water bill.

(g) *Meters for new home construction.* Two water meters are required for all homes constructed on or after January 1, 2005. The main meter records water usage inside the home, which results in sewer charges from that usage. The secondary, or deduct meter is designed for connection to an existing or proposed outdoor sprinkling system and all outside water faucet connections. The deduct meter records outdoor water usage only and there is no sewer charge from that usage. Both meters and meter readers shall be furnished by the city at the expense of the consumer, shall be installed inside the residence, and shall remain the property of the city. The provisions of subsections (b), (c) and (f) of this section will also apply to the installation and maintenance of the deduct meter.

(h) *Surcharge.* A surcharge of \$100.00 per month is hereby imposed on every water bill on or after property owners who are not in compliance with this section or have refused to allow their property to be inspected to determine if there is compliance. All properties found to be in noncompliance with or in violation of this section will be subject to the \$100.00 per month penalty for all months between the two most recent inspections.

(Code 1987, § 610.40; Ord. No. 01-2001, 2-25-2001; Ord. No. 01-2005, 1-30-2005; Ord. No. 04-2007, 2-27-2007; Ord. No. 12-2007, 10-23-2007)

Sec. 74-129. Delinquent accounts, penalty, assessment.

In order to defray the city's increased administrative costs caused by water account delinquencies, a ten percent penalty will be added to water bills not paid within 30 days after the date of billing. On or before November 1 of each year, the water superintendent shall have listed and transmitted to the Council the total unpaid charges for water service against each separate lot or parcel to which such is attributable. The Council may then spread the unpaid charges against the property serviced to the county auditor for collection as other taxes are collected under Minn. Stats. § 444.075. In addition to the assessment, a certification fee in an amount as established by the city, may be certified to the county auditor for collection as other taxes are collected.

(Code 1987, § 610.70; Ord. No. 01-2001, 2-25-2001)

**CITY OF MOUND
ORDINANCE XX-2017**

**AN ORDINANCE AMENDING CHAPTER 74 OF THE MOUND CITY CODE AS IT RELATES
TO THE WATER SYSTEM**

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(b) *Declaration of emergency.* The city may, with recommendation of the public works superintendent, declare the existence of such emergency as and when it may become necessary to enforce the restrictions provided by subsection (a) of this section. The city shall determine and declare the necessary period and conditions of such emergency prohibition and the termination thereof. The city shall further determine and order in said resolution proper notification of consumers during such period of prohibition.

Sec. 74-50. Special offenses; penalty.

Any person who shall maliciously or willfully divert the water, not adhere to restrictions during emergency prohibition periods, or shall corrupt or render the same impure shall be guilty of a misdemeanor.

Passed by the City Council this ____ day of _____, 2017

Mark Wegscheid, Mayor

Attest: Catherine Pausche, Clerk

Published in the Laker the ____ day of _____, 2017.

Effective the ____ day of _____, 2017.

Appendix 11

Implementation Checklist

Summary of Actions

- Update outdated watermain infrastructure
- Replace failing watermain infrastructure
- Expand watermain infrastructure to capture additional City population, in efforts to decrease well use
- Remove Well 7, Booster Pump Station, and Devon Lane Standpipe
- Increase conservation efforts through implementation of water conserving ordinances
- Continue with water audits as needed
- Continue yearly leak detection surveys
- Include water availability changes in the Code Red notification system
- Continue to provide water conservation tips to residents via billing
- Continue to provide consumer confidence reports
- Increase social media presence to reach a broader network of community members

APPENDIX D. MOUND 2018 SUMMARY OF LIFT STATION PUMP DATA

**CITY OF MOUND
SUMMARY OF LIFT STATION CAPACITIES
UPDATED SEPTEMBER 2018**

ID	LOCATION	DESIGN CAPACITY GPM	YEAR INSTALLED	FORCEMAIN DIAMETER (IN)	STATION DIAMETER (FT)
A1	CLOVER	210	1994	6	7
A2	GRANDVIEW BLVD	325	2014	6	8
A3	SUNSET	100	1983	4	7
B1	HIGHLAND BLVD	170	2010*	4	8
B2	HIGHLAND BLVD	100	1985	4	7
B3	SINCLAIR ROAD	342	2007	6	8
C1	THREE POINTS BLVD.	296	2013	6	8
C2	SUMACH LN.	125	2015	4	6
C3	BAYWOOD SHORES DR.	606	2007	8	8
C4	WOODLAND	100	1994	4	7
C5	COMMERCE BLVD	124	2017	4	6
C6	SHOREWOOD LANE	108	2018	4	6
C7	MAPLE MANORS	80	1998	4	6
D1	WATERSIDE LANE	147	2009	4	6
D2	LYNWOOD BLVD	117	2017	4	6
D3	ARBOR LANE	111	2007	4	7
D4	NORTHERN ROAD	221	2010	4/10	8
E1	MOUND BAY PARK	262	2008	6	8
E2	BARTLETT BLVD	179	2011	4	8
E3	WILSHIRE BLVD	340	2013	4	8
E4	LAKEWOOD LANE	131	2008	4	8
F1	LAKEWINDS	200	1991	6	7
I1	SHERVEN PARK	260	2010	6	8
J1	ISLAND VIEW DRIVE	250	1991	6	7
K1	CARLOW ROAD	115	2012	4	8
L1	DEVON LANE	376	2009	6	8
N1	WATERBURY ROAD	198	2011	4	6
P1	DEVON COMMONS	100	1990	4	7
R1	ISLAND VIEW DRIVE	100	1992	4	8
S1	WINDSOR ROAD	111	2016	4	6

APPENDIX E. MOUND SUMP PUMP ORDINANCES

UTILITIES

Chapter 74

UTILITIES

ARTICLE I. IN GENERAL

Secs. 74-1—74-18. Reserved.

ARTICLE II. FRANCHISE FEES

Sec. 74-19. Imposed.

The Franchise Ordinances and setting of Franchise Fees are found in Appendix A.

Secs. 74-20—74-43. Reserved.

ARTICLE III. WATER SYSTEM

DIVISION 1. GENERALLY

Sec. 74-44. Violations—Termination of service.

For a violation of any of the rules and for nonpayment of charges or violations of rules, water may be shut off and it will not be turned on again until all charges, penalties, and fines are paid together with the expense of shutting off and turning on of such water as established by the city, and the City Council may order that no water shall be furnished to any person who is indebted to the city on account of any such charges, penalties, or fines.

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Sec. 74-45. Same—By plumbers.

For violation of the provisions of this article by plumbers or for the introduction either voluntarily or at the request of any consumer of any pipe or fixture for which a permit has not been granted by the city, the plumber shall forfeit and pay to the city a sum as established by the city, and any damages that may be sustained through loss of water fees, which may be recordable on his bond or direct action.

(Code 1987, § 610.65; Ord. No. 01-2001, 2-25-2001)

Sec. 74-46. Service contract.

The city reserves the right to make any such further rules and regulations and to change the rates from time to time as may be necessary for the preservation, protection, and proper operation of the water system. The rules, regulations, and water rates hereinafter to be named shall be considered a part of the contract with every person who are supplied with water through the water system of the city, and any persons, company, or corporation, by taking water, shall be considered to express their consent to be bound thereby; and whenever any of them or such others as may be hereafter duly adopted by the Council be violated, the water shall be shut off from the place of such violation, even though two or more parties are receiving water through the same pipe and shall not again be turned on except by order of the city and the payment of a penalty as provided in section 74-127.

(Code 1987, § 610.25)

Sec. 74-47. Service reservations and limitations.

The city reserves the right at any time to shut off the water for the purpose of extending, replacing, repairing, or cleaning mains and appurtenances, and the city shall not be held liable for any damage arising therefrom. No claim shall be made against the city by reason of breaking of any service pipe or connection.

(Code 1987, § 610.30)

Sec. 74-48. General regulations.

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(b) *No unauthorized usage.* No person, authorized to take water from any main or service pipe from any specified premises or specified purpose, shall without authority use such water for other than such specified purpose for such premises.

(c) *Interference with operation of water system.* No person shall willfully and without authority from the city injure or remove any property under the control of said city or interfere in any way with the operation, construction, or repairing of the waterworks.

(d) *Tampering with valves and hydrants.* No person shall unlawfully and without authority from the city operate any valve or hydrant.

(e) *Trespassing.* No person shall enter any building of said water system, unless authorized by the city to do so.

(f) *Connections performed only by registered plumber.* No persons other than duly registered plumbers will be allowed to do any work on the service pipes or fixtures connected with the water system, and only a duly registered plumber may make the connections from main to curb box.

(g) *Preservice inspections.* The water will not be turned on to any premises until the work is inspected and found to be in accordance with the rules and regulations.

(h) *Tampering with stopcocks.* No plumber shall turn on or off the water supply at any stopcock at main or curb box nor allow any person in his employ to do so, except for testing purposes and with the approval of the city.

(i) *No shared service connections.* Two or more services must not be connected together except upon special permission from the city.

(j) *Service to building front only.* Services must enter the front of the building nearest to the sidewalks wherever this is practicable.

(k) *Location of service branches.* No branches will be allowed to be connected to the service except on the house side of the meter.

(l) *Safety precautions during excavation.* Excavations for water service connections or repairs shall be done in such manner as to occasion the least inconvenience to the public. The trench shall be properly guarded at all times, and during the night warning lights shall be maintained at any excavation lying within the street lines. The provisions of this article are supplemental to, not in lieu of, all other requirements.

(m) *Water service outside of city.* The city is authorized to furnish water to places outside of the boundaries of the city under the same rules and regulations and at the same or greater rates as fixed for the consumption of water within the city, provided that such furnishing may not be detrimental to the supply of water within the city.

(n) *Temporary connections to hydrants.* The city may permit water to be used

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temporarily from any fire hydrant by attaching a reducer to one of the hydrant openings and controlling the supply by means of a small valve.

(o) *Seasonal restrictions on lawn sprinkling.* From May 15 to September 1 of each year, an odd/even lawn sprinkling regulation shall be in effect for all lawn sprinkling systems supplied by water from the city. Properties with even-numbered addresses may sprinkle lawns only on days with even-numbered dates. Properties with odd-numbered addresses may sprinkle only on days with odd-numbered dates. A one month exception from the odd/even sprinkling restriction may be granted for newly planted sod, grass or landscaping upon registering for exemption and recommendation of the city. Other exemptions may be granted upon evaluation and recommendation of the city.

(Code 1987, § 610.50; Ord. No. 10-2002, 6-23-2002)

Sec. 74-49. Declared water shortage or water pressure emergency.

(a) *Prohibition.* No person shall draw or use water from the city water mains or city water works system for the purpose of sprinkling or watering lawns or gardens, or use any connection with the said system to sprinkle or water lawns or gardens in the city during the period of emergency caused by shortage or water supply or lowering of water pressure in the city water mains, and when such emergency is found, determined, or declared by the city as provided in subsection (b) of this section. Except as is herein provided, such sprinkling or watering shall not be prohibited.

(b) *Declaration of emergency.* The city may, with recommendation of the public works superintendent, declare the existence of such emergency as and when it may become necessary to enforce the restrictions provided by subsection (a) of this section. The city shall determine and declare the necessary period and conditions of such emergency prohibition and the termination thereof. The city shall further determine and order in said resolution proper notification of consumers during such period of prohibition.

(Code 1987, § 610.55; Ord. No. 04-2001, 7-15-2001)

Sec. 74-50. Special offenses; penalty.

Any person who shall maliciously or willfully divert the water or shall corrupt or render the same impure shall be guilty of a misdemeanor.

(Code 1987, § 610.75)

Sec. 74-51. Recovery of damages.

If any person, through unlawful manipulation or tampering with the water system, shall destroy or injure any property, public or private, the damages so caused may be recovered in a civil action brought by the city, including the cost of the suit.

(Code 1987, § 610.80)

Secs. 74-52—74-75. Reserved.

DIVISION 2. CONNECTIONS

Sec. 74-76. Mandatory connection to system.

The owner of any house, building, or property used for human occupation, employment, recreation, or other purpose, situated within the city and abutting any street, alley, or right-of-way in which there is now located a public water main, is hereby required at their expense to connect such property directly with the proper water main in accordance with provisions of this article within 20 days after date of official notice to do so. The city shall be charged with the responsibility of enforcing the connection of all the aforesaid houses, buildings, or properties to

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the public water system. If any of the aforesaid houses, buildings, or properties are determined to not be connected to the public water system within 90 days of the date on which the public water system available to service such house, building, or property, the city shall serve notice of the intent of the city to make such connection by mailing a written notice to the last known address of the record owner of said property by certified mail, postage prepaid, which notice shall advise said record owner of the provisions of this article, and that the city will install the same, assess the cost thereof against the property after 20 days from the date of mailing of said notice unless prior to said time the owner takes out a permit for such connection, and such connection is actually commenced. In the event such owner fails to comply with said notice, the city shall secure such connection to the public water system and shall have the cost thereof assessed as a special assessment against said property in accordance with the provisions of Minn. Stats. § 412.221, subds. 31 and 32, and Minn. Stats. ch. 429.

(Code 1987, § 610.85)

Sec. 74-77. Installation.

(a) *Location of curb boxes.* Curb boxes shall be located at the city right-of-way line. If a sidewalk is present that extends across the right-of-way line and a boulevard exists between the sidewalk and curb, then the curb box may be located within this boulevard as far behind the curb as possible. At all times, the top of the curb box shall be level with the ground surface.

(b) *Separate service connection; multiple dwellings.* Every separate building and each unit in a duplex, twin home, double bungalow, or townhouse supplied with water must have its own service connection directly with the mains and each unit must be provided with a shut-off and drip valve in the cellar from an independent riser pipe. Each water service shall be at least one inch in diameter or larger for single-family homes and for each unit in a duplex, twin home, double bungalow, or townhouse. Each water service serving commercial buildings shall be at least one inch in diameter for buildings containing up to 1,500 square feet of floor area; any building which has more than 1,500 square feet of floor area shall have a minimum service of at least 1½ inches in diameter. These provisions shall apply to all new construction and for any units which connect to the city's water mains hereafter; existing units which do not have separate services as of the effective date of the ordinance from which this section is derived and which are now connected to the city's mains are excepted from these provisions except as set forth below. Two or more adjacent buildings owned by the same person shall be supplied through the same connection only so long as the single ownership continues and provided that the owner agrees to pay all charges for water consumed on the entire premises. Upon the termination of such single ownership, a separate connection shall be made immediately to the building or premises theretofore having the indirect connection, provided that in case there is not water main on any street on which said premises abut, the city may permit such connection to remain until the water main is laid in such abutting street.

(c) *Remote readers required.* Every service shall be metered and shall have remote readers included as a part of the installation. Only meters and readers furnished by the city shall be installed, and they shall remain the property of the city.

(Code 1987, § 610.35; Ord. No. 01-2001, 2-25-2001; Ord. No. 02-2002, 1-20-2002)

Secs. 74-78—74-97. Reserved.

DIVISION 3. SERVICE APPLICATIONS

Sec. 74-98. Required.

Property owners desiring service connections made to their premises must file an application with the city on forms provided for this purpose. Each application must be accompanied by the

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payment of the charge specified in section 74-127. Upon payment of such charge and allowance of the application, the city shall allow the connection from the main or curb box to be installed by a duly registered plumber.

(Code 1987, § 610.10)

Sec. 74-99. Contents.

Applications must state the purpose for which the water is to be used, together with a proper description and location of the property and must be signed by the owner or their authorized agent. The application must state distinctly the point on the property line where the service is to enter the premises.

(Code 1987, § 610.20)

Secs. 74-100—74-126. Reserved.

DIVISION 4. RATES AND CHARGES

Sec. 74-127. Water service.

(a) *Gallonage.* Rates and charges for water service shall be as established by the city.

(b) *Water trunk area charge (WTAC).* The city operates a water service system that serves the needs of the community. A water trunk area charge (WTAC) is needed to establish, construct, repair, replace, maintain, enlarge and improve said system. The WTAC is payable by every lot, parcel or piece of property that will connect to the water service system, or an expansion of an existing use caused added consumption of water, whether residential, commercial, or industrial. The amount of this area charge shall be established by the city and shall be calculated according to the current guidelines of the Metropolitan Council Environmental Services.

(c) *Service connection fee.* No permit shall be issued to tap or connect with any water main of the city either directly or indirectly from any lot, tract, or parcel of land unless a water service connection fee has been paid. The amount of this connection fee shall be as established by the city.

(Code 1987, § 610.45; Ord. No. 01-2001, 2-25-2001; Ord. No. 02-2002, 1-20-2002)

Sec. 74-128. Meters.

(a) *One meter per service account.* Except as otherwise provided, the supply of water through each separate service must be recorded by one meter only for which only one account will be rendered by the city. If additional meters are desired for recording the subdivision of the water supply on the premises, they must be furnished and set by the owner or consumer at their expense. A meter must be installed on all service lines.

(b) *Meters; access and repairs.* Meters must at all times be easily accessible so that they may be examined and read by city employees. Damage due to the carelessness or neglect of the owner or occupants of the premises must be paid for by such owner or occupants. The cost of ordinary maintenance and repairs will be borne by the city. Meters owned by consumers will be under the control of the city. In case of breakage, stoppage, or other irregularity in the meter, the owner or consumer is to notify the city immediately. City employees shall, at all reasonable times, have access to premises for readings of meter or inspecting of plumbing. Any person that refuses to allow current or updated meter reading to be installed by appointment inspected within a five-day notice by the city shall be immediately subject to the surcharge herein provided in subsection (h) of this section. This surcharge may be appealed to the City Council within 30 days of the final notice of the surcharge. In the event that the City Council denies the appeal, the

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surcharge becomes retroactive to the original date. If no appeal is received in writing by the city within 30 days of the final notice, the surcharge will be considered uncontested and will be applied.

(c) *Testing for faulty meters.* At the written request of any owner or consumer, the city will test the meter supplying their premises. A deposit in an amount as established by the city, will be required, and this will be returned if the meter is not found to be registering correctly within two percent on a flow equal to one-sixth of the diameter of the service or in favor of the consumer. Otherwise, the deposit will be retained by the city to cover the cost of the test.

(d) *Faulty meters; refunds of previous consumption charges.* If the testing of a meter as herein provided shows that it fails to register correctly, the charge for water consumed shall be based on the corresponding period of the previous year, or may be otherwise equitably adjusted by the city. Any other adjustment of charges for water supplied shall be made only by resolution of the City Council.

(e) *Arrears; service disconnections.* If the supply to any premises has been shut off except for repairs, the service will not be reestablished unless a written order is given to the city by the owner or authorized agent, nor until all arrears are paid.

(f) *Remote readers; modification of existing meters.* No charge will be made for the installation of a water meter with the capability of having a remote reader assembly attached. All water users who do not have a remote reader assembly shall be charged the cost of modification, not to exceed a per meter charge as established by the city. The water user may pay the entire cost or if not paid in a lump sum, the charges shall be spread over four quarterly billings and added to their water bill.

(g) *Meters for new home construction.* Two water meters are required for all homes constructed on or after January 1, 2005. The main meter records water usage inside the home, which results in sewer charges from that usage. The secondary, or deduct meter is designed for connection to an existing or proposed outdoor sprinkling system and all outside water faucet connections. The deduct meter records outdoor water usage only and there is no sewer charge from that usage. Both meters and meter readers shall be furnished by the city at the expense of the consumer, shall be installed inside the residence, and shall remain the property of the city. The provisions of subsections (b), (c) and (f) of this section will also apply to the installation and maintenance of the deduct meter.

(h) *Surcharge.* A surcharge of \$100.00 per month is hereby imposed on every water bill on or after property owners who are not in compliance with this section or have refused to allow their property to be inspected to determine if there is compliance. All properties found to be in noncompliance with or in violation of this section will be subject to the \$100.00 per month penalty for all months between the two most recent inspections.

(Code 1987, § 610.40; Ord. No. 01-2001, 2-25-2001; Ord. No. 01-2005, 1-30-2005; Ord. No. 04-2007, 2-27-2007; Ord. No. 12-2007, 10-23-2007)

Sec. 74-129. Delinquent accounts, penalty, assessment.

In order to defray the city's increased administrative costs caused by water account delinquencies, a ten percent penalty will be added to water bills not paid within 30 days after the date of billing. On or before November 1 of each year, the water superintendent shall have listed and transmitted to the Council the total unpaid charges for water service against each separate lot or parcel to which such is attributable. The Council may then spread the unpaid charges against the property serviced to the county auditor for collection as other taxes are collected under Minn. Stats. § 444.075. In addition to the assessment, a certification fee in an amount as established by the city, may be certified to the county auditor for collection as other taxes are collected.

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(Code 1987, § 610.70; Ord. No. 01-2001, 2-25-2001)

Secs. 74-130—74-156. Reserved.

ARTICLE IV. SEWERS AND SEWAGE DISPOSAL

DIVISION 1. GENERALLY

Sec. 74-157. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Building sewer means the extension from the building plumbing to the public sewer or other place of disposal.

Garbage means solid wastes from the preparation, cooking, and dispensing of food, and from the handling, storage, and sale of produce.

Industrial wastes means the liquid wastes from industrial processes as distinct from sanitary sewage.

Public sewer or *municipal sewer* means a sewer in which all owners of abutting properties have equal rights and is controlled by public authority.

Sewage means a combination of the water-carried wastes from residences, business buildings, institutions, and industrial establishments.

Sewer means a pipe or conduit for carrying sewage.

(Code 1987, § 600.05)

Sec. 74-158. Applicability of article.

The entire 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 article. The city, through its designated representative, shall supervise all sewer connections made to the municipal sanitary sewer system and all excavations for the purpose of installing or repairing the same.

(Code 1987, § 600.01)

Sec. 74-159. Variances.

The City Council may permit variations from the strict appliance of any of the provisions of this article if it is satisfied that there are special circumstances or conditions affecting the premises for which the variance is requested and that the granting of such variation will not materially affect adversely the health, safety, or general welfare of public or private property. Any variation permitted under this provision must be noted on the permit.

(Code 1987, § 600.70)

Sec. 74-160. Entry upon private property.

The city inspector, so designated, and any other duly authorized employee of the city bearing proper credentials and identification, shall at reasonable times be permitted to enter upon all properties for the purpose of inspection, observation, measurement, sampling and testing in connection with the operation of the municipal sanitary sewer system.

(Code 1987, § 600.40)

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Sec. 74-161. Service to properties outside of city.

No buildings located on property lying outside the limits of the city shall be connected to the municipal sanitary sewer system unless there is a proper contract between the city and the municipality in which the building is located.

(Code 1987, § 600.35)

Secs. 74-162—74-190. Reserved.

DIVISION 2. CONNECTIONS

Sec. 74-191. Sewage disposal and connections with sewer.

(a) *General rule.* It shall be unlawful for any person to place, deposit, or permit to be deposited in an unsanitary manner upon public or private property within the city or in any area under the joint jurisdiction of the city, any human or animal excrement, garbage, or other objectionable waste.

(b) *Discharge into natural outlets prohibited.* It shall be unlawful for any person to discharge into any natural outlet within the city or in any area under the jurisdiction of the city, any sanitary sewage, industrial wastes, or other polluted waters.

(c) *Mandatory connection to public sewer system.* The owner of any house, building, or property used for human occupation, employment, recreation, or other purposes, situated within the city and abutting any street, alley, or right-of-way in which there is now located a public sanitary sewer of the city, is hereby required at their expense to install suitable toilet facilities therein, and to connect such facilities directly to the proper public sewer in accordance with provisions of this subdivision within 20 days after date of official notice to do so. The City Manager shall be charged with the responsibility of enforcing the connection of all the aforesaid houses, buildings, or properties to the public sewer system. If any of the aforesaid houses, buildings, or properties are determined to be not connected to the public sewer system within 90 days of the date on which the public sewer system is available to service such houses, buildings, or properties, the City Manager shall serve notice of the intent of the city to make such connection by mailing a written notice to the last known address of the record owner of said property by certified mail, postage prepaid, which notice shall advise said record owner of the provisions of this article, and that the city will install the same, assess the cost thereof against the property after 20 days from the date of mailing of said notice unless prior to said time the owner takes out a permit for such connection and such connection is actually commenced. In the event such owner fails to comply with said notice, the City Manager shall secure such connection to the public sewer system and shall have the cost thereof assessed as a special assessment against said property in accordance with the provisions of Minn. Stats. § 412.221, subs. 31 and 32, and Minn. Stats. ch. 429.

(Code 1987, § 600.10)

Sec. 74-192. Certificate; payment of fee in lieu of assessment.

(a) No permit shall be issued to tap or connect with any municipal sewer system of the city either directly or indirectly from any lot, tract, or parcel of land unless the City Clerk shall have certified:

- (1) That such lot or tract of land to be served by such connection or tap has been assessed for the cost of construction of the sewer main with which the connection is to be made;
- (2) If no assessment has been levied for such construction cost, that proceedings for levying such assessment have been or will be

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commenced in due course;

- (3) That the cost of construction for said sewer main has been paid by the developer, owner, or builder platting said lot or tract of land; this shall not include lots, parcels, or tracts served by the municipal sewer system and which were not a part of the plat or tract developed; or
- (4) If no assessment has been levied and no assessment proceedings will be completed in due course, and the developer, owner, or builder of the lot, tract, or parcel has not paid the cost of improving said lot, tract, or parcel of land, that a sum equal to the portion of the cost of constructing said sewer which would be assessable against said lot or tract has been paid to the city.

(b) If no such certificate can be issued by the clerk, no such permit to tap or connect to said sewer main shall be issued unless the applicant shall pay an additional connection fee which shall be equal to the portion of cost of construction of said main which would be assessable against said lot, tract, or parcel, to be served by such tapping or connection. Said assessable cost is to be determined by the City Manager and the city assessor who may obtain the assistance of an engineer, and said costs shall be on the same basis per front foot as any assessment previously levied against other property for the said main or, if no such assessment has been levied, upon the basis of the uniform charge per front foot which may have been or which shall be charged for similar tapping or connection with said main, determined on the basis of the total assessable costs of said main allocated on a frontage basis; where the assessable cost cannot be so determined, the charge is as established by the city, per front foot of the property in accordance with the minimum frontage requirements of chapter 129. Any sum received by the city under this section shall be paid into a special escrow account until it shall be determined by the City Council whether the property served by said connection under said permit will be assessable for any other sewer main; if it shall be determined that no other main shall be so assessable, then said fee shall be credited to the fund for the sewer main for which the connection was made, but if the lot, tract, or parcel served by the connection is subsequently assessed for another sewer main, such sum shall be transferred to the sum for said main, and credited against the amount assessable against said tract or lot. The City Council may, by its resolution and upon receipt of a consent to assessment form signed by all owners, provide that any charge for sewer connection, as provided by this section, be transmitted to the county auditor to be extended on the proper tax lists of the county to be payable in not more than 20 annual installments, and to provide further that all assessments and interest collected by the county treasurer therefrom shall be paid over to the Finance Director in the same manner as other municipal taxes.

(Code 1987, § 600.50; Ord. No. 01-2001, 2-25-2001)

Sec. 74-193. Permits; licenses; fees; bond and insurance.

(a) *Application required; permit fees; double fee penalty.* Any person desiring to make connection to the municipal sanitary sewer system shall comply with this Code. The application shall be submitted on forms furnished by the city, and shall be accompanied by plans, specifications, and such other information as is desired by the city inspector, together with a permit and inspection fee as established by the city. All costs and expenses incidental 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. Any person who shall commence work of any kind for which a permit is required under this article or under chapter 105, article II of this Code, pertaining to the state building code, without first having received the necessary permit therefor, shall, when subsequently securing such permit, be required to pay double the fees

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provided by this article for such permit and shall be subject to all the penal provisions of this article. Any application for a connection permit shall state the legal description of the premises as originally assessed, the zoning use classification of the property at the time of the application, and the zoning use classification of the subject premises at the time when assessed.

(b) *Registered plumber required; duties of city inspector.* Permits shall only be issued when the applications show that the work is to be done by persons who have been duly registered pursuant to chapter 105, article II of this Code, pertaining to the state building code. No permit shall be issued until the plumbing in the building to be served is inspected by the city inspector and altered, if necessary, to conform to the state building code to the extent necessary to permit a proper and safe connection to the municipal sanitary sewer system. Upon completion of the work, a copy of the permit shall be signed and dated by the person making the sewer installation and delivered to the city inspector at the time he makes his final inspection of the work. The city inspector shall sign the permit to show that the work and material conform to this Code. The permit shall also be filled out showing the kind and size of pipe, the kind of joint used, the length of the building sewer connection, the depth at the street, the depth at the house, the distance from either side of the house where the connection is made to the house plumbing, and any other information listed on the permit form or required by the city inspector.

(Code 1987, § 600.55; Ord. No. 01-2001, 2-25-2001; Ord No. 01-2002, 1-20-2002)

Sec. 74-194. Excavation permit required.

Installation and excavation shall be done in accordance with the provisions of chapter 62, article III. All excavations shall be open-trench work unless otherwise authorized by the city inspector. The foundation in the trench shall be formed to prevent any subsequent settlement of the pipes. If the foundation the pipe is to be laid on is good and firm, the earth shall be pared or molded to give a full support to the lower third of each pipe. Bell holes shall be dug to provide ample space for pouring of joints. Care must be exercised in backfilling below the centerline of the pipe in order to give it proper support. Backfilling shall not be done until the section to be backfilled has been inspected and approved by the city inspector.

(Code 1987, § 600.60)

Sec. 74-195. Independent system for each building.

(a) *No shared service connections.* The drainage and plumbing system of each new building and of new work installed to an existing building shall be separate from and independent of any other building except as provided in subsection (b) of this section and every building shall have an independent connection with a public sewer when such is available.

(b) *Land locked lots.* Where one building stands to the rear of another building on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, the building sewer from the front building may be extended to the rear building only with the approval of the City Council. Where such a building sewer is extended, a cleanout shall be provided immediately inside the rear wall of the front building, and at the property line.

(Code 1987, § 600.65)

Secs. 74-196—74-213. Reserved.

DIVISION 3. DISCHARGE RESTRICTIONS AND LIMITATIONS

Sec. 74-214. Types of wastes prohibited.

(a) *Unlawful discharge.* Except upon issuance of a written permit by the Council, it shall be unlawful to discharge any of the following described waters or wastes into the municipal

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sanitary sewer system:

- (1) Any liquid or vapor having a temperature higher than 180 degrees Fahrenheit.
- (2) Any waters or wastes containing more than 100 parts per million by weight, of fat, oil, or grease.
- (3) Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
- (4) Any garbage that has not been shredded so that the garbage particles are smaller than one-half inch in their largest dimension.
- (5) Any ashes, cinders, sand, and straw shavings, metal, glass, rages, feathers, plastic wood, paunch 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.
- (6) Any waters or wastes containing an acid or a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment processes or which constitutes a hazard to humans or animals or creates any hazard in the receiving waters of the sewage treatment plant.
- (7) Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant.
- (8) Any noxious or malodorous gas or substance capable of creating a public nuisance.
- (9) Radioactive wastes of any kind.
- (10) Any waters or wastes having a five-day biochemical oxygen demand greater than 500 parts per million by weight.
- (11) Any waters or wastes containing more than 500 parts per million by weight of suspended solids.
- (12) Any waters or wastes having an average daily flow greater than two percent of the average daily sewage flow of the municipal sewer system.

(b) *Pretreatment required.* The Council may, as a condition to any permit issued pursuant to subsection (a) of this section, require the applicant to provide, at his expense, such preliminary treatment as may be necessary to:

- (1) Reduce biochemical oxygen demand to 500 parts per million and suspended solids to 500 parts per million by weight;
- (2) Reduce objectionable characteristics or constituents to within the maximum limits provided for in subsections (a)(1) through (8) of this section; and
- (3) Control the quantities and rates of discharge of such waters or wastes.

Plans, specifications, and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for approval of the City Council and of the Minnesota Pollution Control Agency (MPCA), and no construction of such facilities shall be commenced until said approvals are obtained in writing. Any preliminary treatment facilities shall be maintained continuously in satisfactory and effective operation, by the owner at his expense. His

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failure to do so shall be construed as a public nuisance and the city reserves the right to discontinue service. The owner of any property served by a building sewer carrying industrial wastes shall install a suitable control manhole in the building sewer line to facilitate observation, sampling, and measurement of the wastes. Such manhole, when required, shall be accessibly and safely located, and shall be constructed in accordance with plans approved by the City Council. The manhole shall be installed by the owner at his expense, and shall be maintained by him so as to be safe and accessible at all times. All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in this section shall be determined in accordance with methods employed by the state department of health or the state pollution control agency and shall be determined at the control manhole provided for herein, or upon suitable samples taken at said control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected.

(c) *Special user contracts.* Nothing contained in this section shall be construed as preventing any special agreement or arrangement between the city and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the city for treatment, subject to payment therefor by the industrial concern. Any such agreement must be in accord with the terms of the contract between the city and the City of Spring Park.

(Code 1987, § 600.15)

Sec. 74-215. Discharge of industrial wastes.

It shall be unlawful to discharge into the municipal sanitary sewer system any industrial wastes unless prior approval of the Metropolitan Council Environmental Services (MCES) is obtained. The MCES shall approve the discharge of industrial wastes when, in their opinion, the proposed wastes will not be of an unusual amount or character, and are not in excess of the limitation of this article. The MCES shall continue to review the amount and character of the industrial waste, and shall revoke their approval of such discharge into the municipal sanitary sewer system when in his opinion the wastes are unusual in amount or character and in excess of the limitations of this article. Notice of revocation of approval shall be mailed by certified mail to the last known address of the owner. The owner shall have ten days from the date of mailing of said notice within which to file an appeal therefrom by filing a notice of intent to appeal with the City Manager, whereupon the City Council shall within 30 days review the decision of the MCES to revoke approval.

(Code 1987, § 600.20)

Sec. 74-216. Prohibiting discharges into the sanitary sewer system.

(a) *Purpose.* The discharge of water from roof, surface, groundwater sump pump, footing tile, swimming pool, air conditioning, or other natural precipitation into the city sewerage system results in flooding and overloading of the sewerage system. When this water is discharged into the sanitary sewer system, it is treated at the sewage treatment plant. This results in very large and needless expenditures. The City Council, therefore, finds it in the best interest of the city to prohibit such discharges.

(b) *Discharge prohibited.* No water from any roof, surface, groundwater sump pump, footing tile, swimming pool, or other natural precipitation shall be discharged into the sanitary sewer system. Dwellings and other buildings and structures which require, because of infiltration of water into basements, crawl spaces, and the like, a sump pump discharge system shall have a permanently installed discharge line which shall not at any time discharge water into the sanitary sewer system, except as provided herein. A permanent installation shall be one which provides for year round discharge capability to either the outside of the dwelling, building, or structure, or

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is connected to city storm sewer or discharge through the curb and gutter to the street. It shall consist of a rigid discharge line, without valving or quick connections for altering the path of discharge, and if connected to the city storm sewer line, include a check valve and an air gap located in a small diameter structure as shown in the city's standard plates.

(c) *Disconnection.* Before April 1, 1997, any person having a roof surface, groundwater sump pump, footing tile, or swimming pool now connected and/or discharging into the sanitary sewer system shall disconnect or remove same. Any disconnects or openings in the sanitary sewer system shall be closed or repaired in a manner, as approved by city public works or its designated agent.

(d) *Inspection.* Every person owning improved real estate that discharges into the city's sanitary sewer system shall allow an employee of the city or a designated representative of the city to inspect the buildings to confirm that there is no sump pump or other prohibited discharge into the sanitary sewer system. In lieu of having the city inspect their property, any person may furnish a certificate from a licensed plumber certifying that their property is in compliance with this section. Any person refusing to allow their property to be inspected or refusing to furnish a plumber's certificate within 14 days of the date city employees or their designated representatives are denied admittance to the property, shall immediately become subject to the surcharge hereinafter provided for. Any property found to violate this section shall make the necessary changes to comply with this section and furnish proof of the changes to the city.

(e) *Future inspections.* Each sump pump connection identified will be reinspected periodically.

(f) *New construction.* All new dwellings that require sumps shall have sumps piped to the outside of the dwelling and comply with the provisions of this section before a certificate of occupancy is issued.

(g) *Surcharge.* A surcharge of \$100.00 per month is hereby imposed on every sewer bill mailed to property owners who are not in compliance with this section or who have refused to allow their property to be inspected to determine if there is compliance. All properties found during reinspection to have violated this section will be subject to the \$100.00 per month penalty for all months between the two most recent inspections.

(Code 1987, § 600.25; Ord. No. 88-1997, 3-15-1997)

Secs. 74-217—74-240. Reserved.

DIVISION 4. RATES AND CHARGES

Sec. 74-241. Established.

(a) *Council action.* Rates and charges for the collection and treatment of sewage shall be established by the city. All availability charges, area charges and connection fees shall be paid at the time a building permit is obtained, unless a subdivision agreement, development agreement, or resolution provides otherwise.

(b) *Service availability charge.* In addition to, and not in lieu of, all other charges imposed from time to time by the city for building permits, sewer connection permits, sewage usage rates, and sewer area charges, the then prevailing Metropolitan Council Environmental Services agency service availability charge (SAC) shall be paid to the city at the time a building permit for new construction is issued, or at the time a sewer connection permit is issued for the connection of an existing building to the city sanitary sewer system. The amount of the service availability charge shall be established by the Metropolitan Council Environmental Services agency.

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(c) *Sewer trunk area charge (STAC).* The city operates a sewage collection system to serve the needs of the community. A sewer trunk area charge (STAC) is needed to establish, construct, repair, replace, maintain, enlarge and improve said system. The STAC is payable by every lot, parcel or piece of property that will connect to the sewage collection system, or cause additional use or excessive discharge of sewage, whether residential, commercial or industrial, or the construction of additional units upon land already connected to the system. The amount of this area charge shall be as established by ordinance and shall be calculated according to the current guidelines of the Metropolitan Council Environmental Services agency.

(d) *Service connection fee.* No permit shall be issued to tap or connect with any municipal sewer system of the city either directly or indirectly from any lot, tract, or parcel of land unless a sewer service connection fee has been paid. The amount of this connection fee shall be as established by the city.

(e) *Unusual wastes; special rates.* As to any sewage or industrial waste which is unusual in either character or amount, the City Council reserves the right to impose such supplemental sewage rate charge as said City Council shall determine is reasonable and warranted on the basis of all relevant factors, in addition to all applicable charges hereunder.

(Code 1987, § 600.45; Ord. No. 01-2001, 2-25-2001; Ord. No. 01-2002, 1-20-2002)

Sec. 74-242. Strength charge.

(a) *Recitals.* The Metropolitan Council Environmental Services, a metropolitan WCES organized and existing under the laws of the state (WCES), in order to receive and retain grants in compliance with the Federal Water Pollution Control Act Amendments of 1972 and regulations thereunder (the Act), has determined to impose an industrial user sewer strength charge upon users of the metropolitan disposal system (as defined in Minn. Stats. § 473.121, subd. 24) to recover operation and maintenance costs of treatment works attributable to the strength of the discharge of industrial waste, such sewer strength charge being in addition to the charge based upon the volume of discharge. In order for the city to pay such costs based upon strength of industrial discharge and allocated to it each year by the MCES, it is hereby found, determined and declared to be necessary to establish sewer strength charges and a formula for the computation thereof for all industrial users receiving waste treatment services within or served by the city. Furthermore, Minn. Stats. § 444.075, subd. 3, empowers the city to make such 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) *Establishment.* For the purpose of paying the costs allocated to the city each year by the commission that are based upon the strength of discharge of all industrial users receiving waste treatment services within or served by the city, there is hereby approved, adopted, and established, in addition to the sewer charge based upon the volume of discharge, a sewer charge upon each 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 strength charge).

(c) *Establishment of formula.* For the purpose of computation of the strength charge established in subsection (b) of this section, there is hereby established, approved, and adopted in compliance with the Act the same strength charge formula designated by resolution of the Metropolitan Council Environmental Services, such formula being 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 services provided by the commission.

(d) *Payment.* It is hereby approved, adopted and established that the strength charge established in subsection (b) of this section shall be paid by each industrial user receiving waste

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treatment services and subject thereto before the 20th day next succeeding the date of billing thereof to such user by or on behalf of the city, and such payment thereof shall be deemed to be delinquent if not so paid to the building entity before such date. Furthermore, it is hereby established, approved, and adopted that if such payment is not paid before such date, an industrial user shall pay interest compounded monthly at the rate of two-thirds of one percent per month on the unpaid balance due.

(e) *Establishment of tax lien.* As provided in Minn. Stats. § 444.075, subd. 3e, it is hereby approved, adopted and established that if payment of the strength charge established in subsection (b) of this section is not paid before the 60th day next succeeding the date of billing thereof to the industrial user by or on behalf of the city, said delinquent sewer strength charge, plus accrued interest established pursuant to subsection (d) of this section, shall be deemed to be a charge against the owner, lessee, and occupant of the property served, and the city or its agent shall certify such unpaid delinquent balance to the county auditor with taxes against the property served for collection as other taxes are collected; provided, however, that such certification shall not preclude the city or its agent from recovery of such delinquent sewer strength charge and interest thereon under any other available remedy.

(Code 1987, § 600.80)

Sec. 74-243. Delinquent accounts, penalty, assessment.

In order to defray the city's increased administrative costs caused by water account delinquencies, a ten percent penalty will be added to sewer bills not paid within 30 days after the date of billing. On or before November 1 of each year, the water superintendent shall have listed and transmitted to the Council the total unpaid charges for water service against each separate lot or parcel to which such is attributable. The Council may then spread the unpaid charges against the property serviced to the county auditor for collection as other taxes are collected under Minn. Stats. § 444.075. In addition to the assessment, a certification fee as established by the city may be certified to the county auditor for collection as other taxes are collected.

(Code 1987, § 600.85; Ord. No. 59-1992, 9-14-1992; Ord. 01-2001, 2-25-2001)

Secs. 74-244—74-264. Reserved.

ARTICLE V. STORM DRAINAGE SYSTEMS

DIVISION 1. GENERALLY

Sec. 74-265. Drainage and erosion control.

(a) *Drainage plan.* In the development, improvement or alteration of land, the direction, quantity or quality of drainage shall not be changed unless plans for the development are submitted to the city engineer. Runoff shall be properly channeled into a storm drain, watercourse, ponding area or other public facility.

(b) *Erosion and sediment control plan.* Prior to the issuance of a building or grading permit for any development, improvement or alteration of land, a plan for erosion and sedimentation control shall be presented with the site plan. The erosion and sedimentation control plan shall specify the measures to be used before, during and after construction until the soil and slope are stabilized by permanent cover. These control measures shall be maintained in good working order until site stabilization occurs.

(c) *Plan approval.* In areas which are susceptible to erosion hazard or sedimentation damage, the city may require the erosion and sedimentation control plan to be approved by the appropriate water management organization prior to the issuance of a permit.

(d) *Approval.* Plans and provisions required for compliance with this article must be

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submitted to the city engineer for approval.

(Code 1987, § 650.45; Ord. No. 98-1998, 6-20-1998; Ord. No. 03-2016, 3-20-2016)

Secs. 74-266—74-293. Reserved.

DIVISION 2. STORMWATER UTILITY

Sec. 74-294. Storm sewer system; statutory authority.

Minn. Stats. § 444.075, authorizes cities to impose just and reasonable charges for the use and availability of storm sewer facilities (charges). By this article, the city elects to exercise such authority.

(Code 1987, § 650.01; Ord. No. 03-2016, 3-20-2016)

Sec. 74-295. Findings and determinations.

In providing for such charges, the findings and determinations set out in this article are made as follows:

- (1) In the exercise of its governmental authority and in order to promote the public health, safety, convenience and general welfare, the city has constructed, operated and maintained a storm sewer system (the system). This article is adopted in the further exercise of such authority and for the same purposes.
- (2) The system, as constructed, heretofore has been financed and paid for through the imposition of special assessments and ad valorem taxes. Such financing methods were appropriate to the circumstances at the time they were used. It is now necessary and desirable to provide an alternative method of recovering some or all of the future costs of improving, maintaining and operating the system through the imposition of charges as provided in this article.
- (3) In imposing charges, it is necessary to establish a methodology that undertakes to make them just and equitable. Taking into account the status of completion of the system, past methods of recovering system costs, the topography of the city and other relevant factors, it is determined that it would be just and equitable to assign responsibility for some or all of the future costs of operating, maintaining and improving the system on the basis of the expected stormwater runoff from the various parcels of land within the city during a standard one-year rainfall event.
- (4) Assigning costs and making charges based upon expected typical stormwater runoff cannot be done with mathematical precision but can only be accomplished within reasonable and practical limits. The provisions of this article undertake to establish a reasonable and practical methodology for making such charges.

(Code 1987, § 650.05; Ord. No. 03-2016, 3-20-2016)

Sec. 74-296. Rates and charges.

(a) *Residential equivalent factor.* Rates and charges for the use and availability of the system shall be determined through the use of a residential equivalent factor (REF). For the purposes of this article, one REF is defined as the ratio of the average volume of surface water runoff coming from one acre of land and subjected to a particular use, to the average volume of

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runoff coming from one acre of land subjected to typical single-family residential use within the city during a standard one-year rainfall event.

(b) *Determination of REFs for land uses.* The REFs for the following land uses within the city and the billing classifications for such land uses are as follows:

<i>Land Uses</i>	<i>REF</i>	<i>Classification</i>
Cemeteries	0.25	1
Parks and railroads	0.75	2
Two-family residential	1.00	3
Single-family residential	1.00	4
Public and private schools and institutional use	1.25	5
Multiple-family residential uses and churches	3.00	6
Commercial, industrial and warehouse uses	5.00	7

(c) *Other land uses.* Other land uses not listed in the table in subsection (b) of this section shall be classified by the City Manager by assigning them to the classes nearly like the listed uses, from the standpoint of probable hydrologic response. Appeals from the City Manager's determination of the proper classifications may be made to the City Council in the same manner as other appeals from administrative determinations under section 129-32.

(Code 1987, § 650.10)

Sec. 74-297. Establishing basic rate.

In determining charges, the Council shall, from time to time, by resolution, establish a basic system rate to be charged against one acre of land having an residential equivalent factor REF of one. The charge to be made against each parcel of land shall then be determined by multiplying the REF for the parcel's land use classification times the parcel's acreage times the basic system rate.

(Code 1987, § 650.15)

Sec. 74-298. Standardized acreage.

For the purpose of simplifying and equalizing charges against property used for single-family and two-family residential purposes, each of such properties shall be considered to have an acreage of one-fifth acre.

(Code 1987, § 650.20)

Sec. 74-299. Adjustments of charges.

The City Council may by resolution, from time to time, adopt policies providing for the adjustment of charges for parcels or groups of parcels, based upon hydrologic data supplied by affected property owners, demonstrating an actual hydrologic response substantially different from the residential equivalent factor REF being used for the parcel or parcels. Such adjustment shall be made only after receiving the recommendation of the City Manager and shall not be made effective retroactively. If the adjustment would have the effect of changing the REF for all or substantially all of the land uses in a particular classification, however, such adjustment shall be accomplished by amending the REF table in section 74-296(b).

(Code 1987, § 650.25)

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Sec. 74-300. Excluded lands.

No charge for system availability or service shall be made against land which is either:

- (1) Public street right-of-way; or
- (2) Vacant and unimproved with substantially all of its surface having vegetation as ground cover.

(Code 1987, § 650.30)

Sec. 74-301. Supplying information.

The owner, occupant or person in charge of any premises shall supply the city with such information as the city may reasonably request related to the use, development and area of the premises. Willful failure to provide such information or to falsify it is a violation of this article.

(Code 1987, § 650.35)

Sec. 74-302. Estimated charges.

If the owner, occupant or person in charge of any premises fails or refuses to provide the information requested, as provided in section 74-301, the charge for such premises shall be estimated and billed in accordance with such estimate, based upon information then available to the city.

(Code 1987, § 650.40)

DIVISION 3. STORMWATER ILLICIT DISCHARGE DETECTION AND ELIMINATION

Sec 74-303. Purpose and Objectives.

The purpose of this Article is to provide for the health, safety, and general welfare of the citizens of the City of Mound through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable as required by state and federal law. This Article establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) MS4 permit process. The objectives of this Article are:

- (a) To regulate the contribution of pollutants to the municipal separate storm sewer system by stormwater discharges by any user;
- (b) To prohibit Illicit Connections and Discharges to the municipal separate storm sewer system; and
- (c) To establish legal authority to carry out all inspection, surveillance, and monitoring procedures necessary to ensure compliance with this Article.

Sec 74-304. Definitions.

For the purposes of this Article, the following terms shall have the following meanings:

Authorized Enforcement Agency means employees or designees of the City of Mound or the Minnesota Pollution Control Agency as designated to enforce this Article.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly into stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control

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site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

City means the City of Mound

Clean Water Act means the federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity means activities subject to NPDES Construction Permits. These include construction projects resulting in land disturbance of 1 acre or more and projects that disturb less than 1 acre if they are part of a larger common plan of development. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Hazardous Materials means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment, when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Discharge means any direct or indirect non-stormwater discharge to the storm drain system, except as exempted in Section 74-309 of this Article.

Illicit Connections means an illicit connection is defined as either of the following: (i) Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including, but not limited to, any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by the City or, (ii) any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the City.

Industrial Activity means activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b) (14).

Minnesota Pollution Control Agency (MPCA).

Municipal Separate Storm Sewer System (MS4) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned and operated by the City and designed or used for collecting or conveying Storm Water.

National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit means a permit issued by EPA (or by the State of Minnesota under authority delegated pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to Waters of the State, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-Stormwater Discharge means any discharge to the storm drain system that is not composed entirely of storm water.

Person means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

Pollutant means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquids, solid wastes, and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

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Premises means any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and boulevards.

Storm Drainage System means publicly-owned facilities by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, infiltration, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Stormwater means any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Stormwater Pollution Prevention Plan (SWPPP) means a document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to Stormwater, Stormwater Conveyance Systems, and/or Receiving Waters to the maximum extent practicable.

Wastewater means any water or other liquid, other than uncontaminated stormwater, discharged from a facility or property.

Waters of the State means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state of Minnesota or any portion thereof.

Sec 74-305. Applicability.

This Article shall apply to all water entering the storm drain system generated on any developed or undeveloped lands unless explicitly exempted by an authorized enforcement agency.

Sec 74-306. Responsibility for Administration.

The City of Mound shall administer, implement, and enforce the provisions of this Article. Any powers granted or duties imposed upon by the MPCA may be delegated in writing by the Director of Public Works of the City of Mound to persons or entities acting in the beneficial interest of or in the employ of the City.

Sec 74-307. Severability.

The provisions of this Article are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Article or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Article.

Sec 74-308. Ultimate Responsibility.

The standards set forth herein and promulgated pursuant to this Article are minimum standards; therefore this Article does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

Sec 74-309. Discharge Prohibitions.

- (d) *Prohibition of Illegal Discharges and Connections.* No person shall discharge or cause to be discharged into the municipal storm drain system or Waters of the State any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited:

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- (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 Article if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.
 - (4) Connection of private sump pump and/or drain tile lines to public storm sewers is prohibited unless a Right of Way permit is obtained from the City Engineer.
- (e) *Exemptions.* Except as otherwise provided herein, the following discharges are exempt from discharge prohibitions established by this Article: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising groundwater, groundwater infiltration to storm drains, uncontaminated pumped groundwater, foundation or footing drains that discharge uncontaminated water, crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wetland flows, swimming pools (if de-chlorinated - typically less than one PPM chlorine), fire-fighting activities, street cleaning activities and any other water source not containing pollutants.
- (1) Discharges specified in writing by the MPCA as being necessary to protect public health and safety.
 - (2) Dye testing is an allowable discharge, but requires a verbal notification to the Director of Public Works 48-hours prior to the start of the test.
 - (3) Any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the MPCA or Federal Environmental Protection Agency, provided that the discharger is in full 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.

Sec 74-310. Suspension of MS4 Access.

(a) *Suspension due to Illicit Discharges in Emergency Situations.* The City of Mound may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or Waters of the State. If the violator fails to comply with a suspension order issued in an emergency, the City may take such steps as deemed necessary to prevent or minimize damage to the MS4 or Waters of the State, or to minimize danger to persons.

(b) *Suspension due to the Detection of Illicit Discharge.* Any person discharging to the MS4 in violation of this Article may have their MS4 access terminated if such

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termination would abate or reduce an illicit discharge. The City will notify a violator of the proposed termination of its MS4 access.

(c) A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this Section, without the prior approval of the City.

Sec 74-311. Industrial or Construction Activity Discharges.

Any person subject to an Industrial or Construction Activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the City prior to the allowing of discharges to the MS4.

Sec 74-312. Monitoring of Discharges:

(a) Applicability. This section applies to all facilities that have stormwater discharges *associated with industrial activity, including construction activity.*

(b) *Access to Facilities.*

- (1) The City shall be permitted to enter and inspect facilities subject to regulation under this Article as often as may be necessary to determine compliance with this Article. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the authorized enforcement agency.
- (2) Facility operators shall allow the City ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of the NPDES permit to discharge stormwater, and the performance of any additional duties as defined by state and federal law.
- (3) The City shall have the right to set up on any permitted facility such devices as are necessary in the opinion of the City to conduct monitoring and/or sampling of the facility's stormwater discharge.
- (4) The City has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy per manufacturer's recommendations.
- (5) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the City and shall not be replaced. The costs of clearing such access shall be borne by the operator.
- (6) Unreasonable delays in allowing the City access to a permitted facility is a violation of the stormwater discharge permit and of this Article. A person who is the operator of a facility with a NPDES permit to discharge stormwater associated with industrial activity commits an offense if the person denies the City reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this Article.

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- (7) If the City has been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this Article, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this Article or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the City may seek issuance of a search warrant from any court of competent jurisdiction.

Sec 74-313. REQUIREMENT TO PREVENT, CONTROL, AND REDUCE STORMWATER POLLUTANTS BY THE USE OF BEST MANAGEMENT PRACTICES:

The City of Mound has adopted requirements identifying Best Management Practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the storm drain system, or Waters of the State. The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or Waters of the State through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise, which 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 municipal separate storm sewer system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed compliant with the provisions of this section. These BMPs shall be part of a stormwater pollution prevention plan (SWPPP) as necessary for compliance with requirements of the NPDES permit.

Sec 74-314. 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, excessive vegetation, and other obstacles (including grass clippings, leaves or any other organic material) 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.

Sec 74-315. NOTIFICATION 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 stormwater, the storm drain system, or Waters of the State, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such a 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 by calling 911. In the event of a release of non-hazardous materials, said person shall notify the City in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the City of Mound within three business days of the phone notice. 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. Such records shall be retained for at least three years.

Sec 74-316. ENFORCEMENT:

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Whenever the City finds that a person has violated a prohibition or failed to meet a requirement of this Article, the City may order compliance by written Notice of Violation to the responsible person. Such notice may require without limitation:

- (a) The performance of monitoring, analyses, and reporting;
- (b) The elimination of illicit connections or discharges;
- (c) The violating discharges, practices, or operations shall cease and desist;
- (d) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property; and
- (e) Payment of a fine to cover administrative and remediation costs;
- (f) The implementation of source control or treatment BMPs; and
- (g) The deadline within which to remedy the violation.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

Sec 74-317. APPEAL OF NOTICE OF VIOLATION:

Any person receiving a Notice of Violation may appeal the determination of the City. The notice of appeal must be received by the City within 15 days from the date of the Notice of Violation. The appeal shall be heard by the City Council within 30 days from the date of receipt of the notice of appeal. The decision of the City Council shall be final.

Sec 74-318. ENFORCEMENT MEASURES AFTER APPEAL:

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or, in the event of an appeal, within the deadline extended by the decision of the City Council, then representatives of the City shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent, or person in possession of any premises to refuse to allow the City or its designated contractor to enter upon the premises for the purposes set forth above.

Sec 74-319. COST OF ABATEMENT OF THE VIOLATION:

Within 30 days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs and the deadline to pay the abatement costs. The property owner may file a written protest objecting to the costs and payment terms of the abatement within 15 days. The appeal shall be heard by the City Council within 30 days from the date of receipt of the notice of appeal. If the amount due is not paid within a timely manner as determined by the decision of the City Council after hearing the appeal, the charges will be filed with Hennepin County and shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

Sec 74-320. INJUNCTIVE RELIEF:

UTILITIES

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Article. If a person has violated or continues to violate the provisions of this Article, the authorized enforcement agency may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

Sec 74-321. COMPENSATORY ACTION:

In lieu of enforcement proceedings, penalties, and remedies authorized by this Article, the authorized enforcement agency may impose upon a violator alternative compensatory action, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

Sec 74-322. 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 Article 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.

Sec 74-323 CRIMINAL PROSECUTION:

Any person that violates this Article shall be deemed guilty of a misdemeanor and upon conviction thereof, may be subject to the maximum fine and imprisonment allowed by State law. Each such violation shall constitute a separate offense punishable to the maximum extent of the law. The authorized enforcement agency may recover all attorneys' fees court costs and other expenses associated with enforcement of this Article, including sampling and monitoring expenses.

(Ord. No. 03-2016, 3-20-2016)

APPENDIX F. MOUND 2019- 2023 CAPITAL IMPROVEMENT PLAN

5-YEAR CAPITAL IMPROVEMENT PLAN (CIP): 2019-2023**SUMMARY****10/9/2018**

PROJECT	FUNDING SOURCE	2019	2020	2021	2022	2023
STREET PROJECT COST	Special Assessment	\$120,586				
	City (1/3), Bonds	\$60,293				
	Road Maint. Cap. Reserve (427)	\$190,550	\$191,975	\$206,500	\$67,000	\$122,570
SEWER FUND PROJECT COST	Sewer Fund	\$395,000	\$525,000	\$611,500	\$680,365	\$712,875
WATER FUND PROJECT COST	Water Fund	\$480,773	\$264,219	\$264,219	\$400,759	\$400,759
STORM SEWER FUND PROJECT COST	Storm Water Utility Fund	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
RETAINING WALL FUND PROJECT COST	Retaining Wall Fund	\$122,500	\$150,000	\$75,000	\$75,000	\$75,000
GRAND TOTAL		\$1,419,702	\$1,181,194	\$1,207,219	\$1,273,124	\$1,361,204

5-YEAR CAPITAL IMPROVEMENT PLAN (CIP): 2019-2023**STREETS****10/9/2018****(Includes 30% Indirect Cost and Deduct for Utility Street Replacement Cost)**

LOCATION	FUNDING SOURCE	2019	2020	2021	2022	2023
Windsor Rd (2011 Limits to Cul-De-Sac)	Special Assessment	\$120,586.07				
Kildare Rd (Kerry to Cul-De-Sac)	City (1/3), Bonds	\$60,293.04				
Sherwood Ln (Commerce to Cul-De-Sac)	Extra Section Cost (City)					
Crack Seal and Seal Coat	Road Maint. Cap. Reserve (427)	\$190,550.00	\$191,975.00	\$206,500.00	\$67,000.00	\$122,570.00
TOTAL SPECIAL ASSESSMENTS		\$120,586				
TOTAL CITY STREET COSTS		\$250,843	\$191,975	\$206,500	\$67,000	\$122,570
GRAND TOTAL		\$371,429	\$191,975	\$206,500	\$67,000	\$122,570

5-YEAR CAPITAL IMPROVEMENT PLAN (CIP): 2018-2022**SEWER FUND PROJECT COSTS****10/9/2018****(Includes 30% Indirect Cost and Street Replacement Cost [If Not Assessable Project])**

LOCATION	FUNDING SOURCE	2019	2020	2021	2022	2023
Fernside Forcemain	Sewer Fund	\$175,000				
LS J-1 (IVD)	Sewer Fund		\$310,000			
LS R-1 (IVD) & Forcemain	Sewer Fund			\$371,500		
LS C-4 (Woodland/Dove) & Forcemain	Sewer Fund				\$407,365	
LS F-1 (Lakewinds) & Forcemain	Sewer Fund					\$527,875
Devon Lane Standpipe Radio Tower (SCADA)	Sewer Fund				\$50,000	
Generator Upgrades	Sewer Fund	\$40,000	\$35,000	\$35,000	\$35,000	\$40,000
LS Pump Replacement(s)	Sewer Fund			\$15,000	\$30,000	\$25,000
MH Repairs - Island Park	Sewer Fund	\$75,000				
CIPP - Island Park	Sewer Fund	\$75,000				
MH Investigate - The Highlands	Sewer Fund	\$30,000				
MH Repairs - The Highlands	Sewer Fund		\$73,000			
CIPP - The Highlands	Sewer Fund		\$75,000			
MH Investigate - Dutch Lake	Sewer Fund		\$32,000			
MH Repairs - Dutch Lake	Sewer Fund			\$83,000		
CIPP - Dutch Lake	Sewer Fund			\$75,000		
MH Investigate - Tonkawood	Sewer Fund			\$32,000		
MH Repairs - Tonkawood	Sewer Fund				\$83,000	
CIPP - Tonkawood	Sewer Fund				\$75,000	
CIPP & MH Repair - Three Points	Sewer Fund					\$120,000
TOTALS		\$395,000	\$525,000	\$611,500	\$680,365	\$712,875

5-YEAR CAPITAL IMPROVEMENT PLAN (CIP): 2018-2022

WATER FUND PROJECT COSTS

10/9/2018

(Includes 30% Indirect Cost and Street Replacement Cost [If Not Assessable Project])

LOCATION	FUNDING SOURCE	2019	2020	2021	2022	2023
Commerce Boulevard Watermain (Shoreline to Three Points)	Water Fund	\$480,773				
Island Park (IVD) CIP Watermain Replacement (1)	Water Fund		\$264,219			
Island Park (IVD) CIP Watermain Replacement (2)	Water Fund			\$264,219		
Three Points Area 4" WM Upsize (2)	Water Fund				\$325,759	
Three Points Area 4" WM Upsize (2)	Water Fund					\$325,759
Cast Iron Pipeline Assessment	Water Fund				\$75,000	\$75,000
TOTALS		\$480,773	\$264,219	\$264,219	\$400,759	\$400,759

5-YEAR CAPITAL IMPROVEMENT PLAN (CIP): 2019-2023

STORM WATER FUND PROJECT COSTS

10/9/2018

(Includes 30% Indirect Cost and Street Replacement Cost [If Not Assessable Project])

LOCATION	FUNDING SOURCE	2019	2020	2021	2022	2023
Annual Outlet Cleaning - 10 Locations	Storm Water Utility Fund	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
Annual Repairs & Pond Cleaning	Storm Water Utility Fund	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
TOTALS		\$50,000	\$50,000	\$50,000	\$50,000	\$50,000

5-YEAR CAPITAL IMPROVEMENT PLAN (CIP): 2019-2023

RETAINING WALLS

10/9/2018

(Includes 30% Indirect Cost)

LOCATION	FUNDING SOURCE	2019	2020	2021	2022	2023
Piper & Warner	Retaining Wall Fund	\$47,500				
4724 Hanover	Retaining Wall Fund		\$75,000			
Emergency Wall Repair	Retaining Wall Fund	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
TOTALS		\$122,500	\$150,000	\$75,000	\$75,000	\$75,000

APPENDIX G. MOUND LOCAL SURFACE WATER MANAGEMENT PLAN



**BOLTON
& MENK**

Real People. Real Solutions.

SURFACE WATER MANAGEMENT PLAN CITY OF MOUND, MN

December 2018

Submitted by:

Bolton & Menk, Inc.

2638 Shadow Lane, Suite 200

Chaska, MN 55318

P: 952-448-8838

Surface Water Management Plan

Mound, Minnesota

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

By: 

Robert Bean, P.E.
Registration No. 40410

Date: December 4, 2018

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1. EXECUTIVE SUMMARY

1.1. Introduction

The City of Mound has prepared this Surface Water Management Plan (SWMP) to provide City staff and its residents with direction concerning the administration and implementation of surface water management activities within the community. The SWMP inventories land and water resources within the City and presents water management policies and goals that address known surface water-related problems and concerns about future development activities. The SWMP also addresses the requirements of the various regulatory agencies involved in surface water management.

1.2. Surface Water Management Plan Content

The City of Mound's SWMP has been developed to meet the needs of the community and address the management planning requirements of the Metropolitan Surface Water Management Act. The SWMP has been prepared in general accordance with Minnesota Rules Chapter 8410 and follows the plan outline identified in the rules. The following paragraphs identify the major sections of the SWMP and where information can be located in the plan document.

SECTION 1: EXECUTIVE SUMMARY

This section presents an introduction for the local water management plan, a summary of City objectives, regulatory requirements included in the plans preparation, and a general overview of the plan contents. This section also summarizes strategic recommendations for consideration by the City in implementing the SWMP.

SECTION 2: SURFACE WATER MANAGEMENT PLAN PURPOSE

This section outlines the purpose of this plan.

SECTION 3: WATER RESOURCES MANAGEMENT RESPONSIBILITIES AND RELATED AGREEMENTS

This section identifies any surface water-related agreements between the city and adjacent communities, organizations or government agencies.

SECTION 4: LAND AND WATER RESOURCES INVENTORY

This section categorizes a wide range of information under the subsections entitled Physical Environment, Human Environment, Surface Water System and Groundwater Resource Data. The subsections provide information and references regarding water resource and physical factors within the City of Mound, including the following:

- Climate and Precipitation data.
- Topographic, geologic and groundwater information.
- Surface soils information
- Fish and wildlife habitat
- Unique features and scenic areas
- Land use and public utility services
- Potential pollutant sources
- Surface water, wetlands, flood studies and water quality data
- Groundwater resource data

SECTION 5: GOALS AND POLICIES

This section outlines goals and policies addressing water resource management needs of the City and their relationship with Regional, State, and Federal goals and programs. Goals and policies relating to the following issues are presented:

- Water quality
- Water quantity
- Erosion and sedimentation
- Wetlands
- Public ditch systems
- Groundwater
- Recreation and ecological integrity
- Education and Public Involvement
- Training, Inspection and Enforcement
- Low impact development, natural area preservation and water resource protection
- Municipal Housekeeping

SECTION 6: ASSESSMENT OF ISSUES AND CORRECTIVE ACTIONS

This section provides an assessment of existing or potential water resource related issues within the City. This section also describes potential structural, nonstructural and programmatic solutions to the identified problems. Assessments of the following issues are included:

- Excessive nutrient levels and MCWD phosphorus reduction
- Construction site erosion and sediment control
- Increase in runoff discharge rates from new and redevelopment
- General Storm System Maintenance
- Street and Utility Improvement Project Coordination
- Stormwater Runoff Management and Treatment Project Opportunities

SECTION 7: IMPLEMENTATION PRIORITIZATION and FINANCIAL CONSIDERATIONS

This section ranks the policies and corrective actions from Sections 5 and 6 in an effort to associate a prioritization schedule with the items identified. The section also includes a summary of funding sources available to the city.

SECTION 8: ADMINISTRATION

This section presents the process for making amendments and procedures for coordination with MCWD.

2. SURFACE WATER MANAGEMENT PLAN PURPOSE

This Surface Water Management Plan (SWMP) meets the requirements of Minnesota Statute 103B.235 and Minnesota Rule 8410. Minnesota Statute 103B.201 states that the purposes of the water management programs are to:

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

The City of Mound is situated entirely within the Minnehaha Creek watershed, with its drainage ultimately being directed to Lake Minnetonka. Figure 1 shows the City, adjacent communities and Lake Minnetonka.

3. WATER RESOURCES MANAGEMENT RESPONSIBILITIES AND RELATED AGREEMENTS

The City of Mound is responsible for construction, maintenance, and other projects in or along the City's storm water management systems (i.e., ponds, pipes, channels, etc.). With regards to land disturbance, stormwater management, and antidegradation policy, the City of Mound must comply with the Minnehaha Creek Watershed District (MCWD) Rules, NPDES General Stormwater Permit for Construction Activity (MN R100001), NPDES Permit for Municipal Separate Storm Sewer Systems (MS4), and the NPDES Multi-Sector General Permit for Industrial Activity.

Water Resource Agreements

- With MCWD regarding land use or related project improvements permitting to meet District rules within City boundaries shall be performed by the District.

Agreements for the Downtown Redevelopment:

- Phase 1: Villas on Lost Lake: Funding Agreement (ex. 01/2006): Incorporates: Exhibit B (Maintenance Declaration), Exhibit C (License Agreement), and Attachment A (Stormwater Access Areas). Funding Agreement expires after 5 years except paragraphs 3 and 5 which survive expiration
- Phase IV: Transit Station: Maintenance Declaration (ex. 01/2007)
- Phase IV: Cooperative Agreement (ex. 08/2006) between Church of Our Lady of the Lake, City of Mound and MCWD. Incorporated Exhibit B: Easement executed 08/2006 w/Attachment A: Site Plan of Easement and Exhibit C: Operations and Maintenance Plan. Filed and recorded 08/29/2006
- Phase IV: Cooperative Agreement between City of Mound, Upper Tonka Little League, Inc. and MCWD (ex. 09/2006 and 02/2007, resigned correction on porous concrete (not asphalt) 04/2013. Attachment A: Maintenance Declaration (09/60) and incorporated Attachment B: Operation and Maintenance Plan. Recorded Declaration 06/2013
- Cooperative Agreement with Minnehaha Creek Watershed District for the Centerview Park Shoreline Demonstration Project, executed January 20, 2009

The regulations outlined in this plan do not supersede those put forth by the Minnehaha Creek Watershed District or other Local, State, or Federal agencies. If a discrepancy exists between regulations contained in this plan and other agencies, the more restrictive requirement shall govern.

4. LAND AND WATER RESOURCE INVENTORY

4.1. Physical Environment

4.1.1. Climate and Precipitation

Mound has a Humid Continental Climate, typified by considerable seasonal temperature differences, hot and humid summers, and cold to extremely cold winters, and is located in USDA Plant Hardiness Zone 4b. Native vegetation has a seven month growing season (April to October) and crops have a five month growing season (May to September). Two-thirds of the precipitation occurs during the crop growing season, with a total of almost 31 inches annually. Refer to the links provided below for the 30-year average of temperature and precipitation data and the Point Precipitation Frequency Estimates provided by the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 for estimated precipitation amounts for specific frequencies, durations, and locations.

<https://www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/climate-normals/1981-2010-normals-data>

https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=mn

4.1.2. Geology

The general geology of Hennepin County and the City of Mound has been compiled by the Minnesota Geological Survey in a document titled Geologic Atlas of Hennepin County Minnesota (N.H. Balaban, Editor, 1989). The proposed Hennepin County Groundwater Plan (Hennepin Conservation District, 1994) also provides details of the geology and hydrogeology of the County and the City of Mound. Copies of these documents can be viewed at the Hennepin Conservation District Office.

The general surficial geology in the City consists of Des Moines Lobe clayey glacial till. In the southwest part of the city, between Langdon Lake and Halstad Bay, the glacial till deposits are sandy or loamy. Post-glacial deposits of peat and muck occur mainly along the edge of the lakes and bays, but also in low land basins throughout the City. A ridge of sand and gravel (an esker) runs along the southwest corner of the city between Halstad Bay and Priest Bay. These surficial glacial deposits are generally more than 50 feet thick and overlay St. Croix Moraine (Superior Lobe) glacial deposits.

Bedrock is generally at a depth of 150 to 400 feet throughout the City. A buried river valley system crosses the City. In the buried valleys the depth of bedrock is as much as 400 feet. Below the majority of the City the first bedrock contact consists of the Jordan Sandstone Formation. The Jordan Sandstone was eroded in an area from Cooks Bay, to Dutch Lake, to Jennings Bay, exposing the under lying St. Lawrence and Franconia Formations which are fine-grained glauconitic sandstone and shale. The shallowest bedrock occurs in the eastern part of the City from Phelps Bay north to West Arm. The first bedrock contact in this area is the Prairie du Chien Group. The Franconia formation is generally considered an aquitard which separates the Jordan sandstone from the lower aquifer formations. Additional information regarding District geology can be found in the District's Watershed Management Plan.

4.1.3. Topography

The City of Mound consists of gently to steeply rolling hills, separated by several bays or lakes connected to Lake Minnetonka. The Des Moines Lobe till covers the surface but the topography is a general reflection of the underling St. Croix End Moraine. Surface elevations range from 1010 feet above sea level on the west side of the City to 930 feet above sea level along Lake Minnetonka.

4.1.4. Soils

The Natural Resource Conservation Service prepared the Soil Survey for Hennepin County in 1974. This reference shows the location of specific soil types throughout the City of Mound and provides detailed data on the typical characteristics of each soil type (this information is readily viewable on the Hennepin County website).

In general, the soils in the City of Mound have been grouped into the two soils associations as shown on **Figure 4**. Site specific conditions may vary from the general descriptions below especially where development has altered the surface by cutting or filling.

The Erin-Kilkenny-Peaty Muck Association predominates the City. This association consists of gently undulating to hilly, well drained soils on hills with very poorly drained soils in depressions which are commonly connected by drainage-ways. The soils in this association have severe limitations for on-site sewage disposal due to slow percolation rates and/or a high water table. Erosion control on the sloping soils is a significant management concern.

The Hayden-Cordova-Peaty Muck Association dominates the southwest corner of the City. This association consists of undulating to rolling soils on low hills and knolls that are separated by nearly level soils in broad drainage-ways. These soils have moderate to severe limitations for residential and commercial development due to slopes, wetness, and/or frost heaving. Erosion control on the sloping soils is a significant management concern.

4.1.5. Unique Features and Scenic Areas

Dutch Lake, Langdon Lake, Lake Minnetonka and surrounding wetlands provide scenic views and water-based recreational opportunities in Mound. Thirty-one parks and six beaches are scattered throughout the City. A complete listing of parks and beaches, including links to interactive maps, is located on the City's website at the following location:

http://www.cityofmound.com/index.asp?Type=B_BASIC&SEC={0F104A4F-AA36-4390-B573-EAB95D9FF75B}

4.2. Biological Environment

4.2.1. Land Cover

All land within Hennepin County was mapped using the Minnesota Land Cover Classification System (MLCCS). Refer to **Figure 5** for the portion of area in and around Mound. The MLCCS was developed by the Minnesota Department of Natural Resources (MnDNR), and categorizes all areas by type of land cover into two categories. Natural/Semi-natural areas consist of forests, grasslands, wetlands, etc., and Cultural areas consist of urban and agricultural areas. The two categories are further subdivided on the basis of plant types, soil hydrology, plant species, and amount of impervious surface. At this point the city has no goals or policies relating to these classifications. Additional information regarding land use and land cover can be found in MCWD's Watershed Management Plan.

4.2.2. Rare, Threatened, and Endangered Species

The Department of Natural Resources' Natural Heritage and Nongame Research Program maintains a database listing rare plant and animal observations. Currently, no instance of rare plant or animal species is listed within City boundaries.

4.2.3. Fish and Wildlife Habitat

Within Mound, Dutch Lake, Langdon Lake, Lake Minnetonka, and multiple wetlands and woodlands provide habitat for a wide variety of fish, birds, and animals. Fish species include Black Bullhead, Black Crappie, Bluegill, Bowfin, Brown Bullhead, Common Carp, Golden Shiner, Green Sunfish, Hybrid Sunfish, Largemouth Bass, Muskellunge, Northern Pike, Pumpkin Seed, Rock Bass, Smallmouth Bass, Walleye, Yellow Bullhead, and Yellow Perch. Bird species include several of both migratory and non-migratory varieties. Animal species include badger, bat, beaver, chipmunk, coyote, ermine, fox (Gray and Red), Heather vole, Least shrew, Long-tailed weasel, mink, mole, muskrat, Plains pocket mouse, porcupine, rabbit (Eastern Cottontail and White-tailed Jack), raccoon, river otter, Striped skunk, squirrel (Fox, Gray, Red, and Thirteen-lined Ground), Virginia Opossum, and white-tailed deer. Additional information regarding District fish and wildlife habitat can be found in the District's Watershed Management Plan.

4.3. Human Environment

4.3.1. Land Use

The City of Mound is bounded by the Cities of Minnetrista and Spring Park, and very little developable space remains. Land use is an important factor in estimating surface water runoff, as the impervious surface associated with each land use greatly affects the amount of runoff generated. **Figure 2** exhibits existing land uses in Mound, and **Figure 3** exhibits the projected land uses for the year 2040. Land cover consists of mostly residential development, with a few pockets of wetlands and forest. Commercial and industrial land uses are mainly concentrated along County Roads 15 and 110.

4.3.2. Metropolitan Urban Service Area (MUSA)

Mound is located within the MUSA. The Metropolitan Urban Service Area is defined as the area in which the Metropolitan Council oversees the planning, installation, and maintenance of regional facilities, such as sewers and highways.

4.3.3. Open Space and Recreation

Dutch Lake, Langdon Lake, and Lake Minnetonka provide opportunities for sport fishing and water recreational activities during the summer. In the winter, lakes are used for cross-country skiing, snowmobiling, and ice fishing. Numerous city parks provide outdoor recreational opportunities, and the Dakota Rail Trail provides a location for walking, running, and biking. Also, several regional parks, trails and wildlife management areas are located within the county.

Lake Minnetonka has public access from boat launches in Mound at Harrison Bay, Phelps Bay, and Cooks Bay. In addition, there are many public locations for snowmobile access to Lake Minnetonka. Dutch Lake is used for fishing, boating and swimming; the YMCA has a swimming beach on the north central side of the lake (in the City of Minnetrista). Public access and boat launches to the lake are available from City of Mound property on the southeastern side of the lake and on the south side of the lake. Langdon Lake is used for fishing and non-contact recreational activities. There is a

public access from city property on the eastern side of the lake but no public boat launches are located on the lake. Additional information on City parks, trails, and water based recreational areas can be found in the City's Comprehensive Plan.

4.3.4. Potential Pollutant Sources

Potential environmental hazards within the City include known and potential sources of soil and groundwater contamination listed by the Minnesota Pollution Control Agency (MPCA) and wells.

Known and Potential Sources of Soil and Groundwater Contamination: The MPCA maintains a database of sites with known or potential soil and groundwater contamination, including Superfund candidate sites, contaminated soil treatment facilities, leak sites, petroleum brownfields, state assessment sites, and voluntary investigation and cleanup sites. The database contains sites that have already been investigated and cleaned up, sites currently enrolled in MPCA cleanup programs, and sites suspected of contamination but found to be clean after investigation. A complete listing of sources and interactive map is provided at the following link:

<https://www.pca.state.mn.us/data/contaminated-sites-data>

Wells: When properly installed, wells pose no threat for potential contamination of groundwater. However, if improperly installed or abandoned, wells can provide a conduit for pollutants to enter groundwater. The County maintains an Index of known wells, some of which have been properly abandoned and sealed. However, those still in operation or abandoned but not properly sealed may allow for contamination of aquifers.

4.4. Hydrologic System

4.4.1. Public Waters and Wetlands

The MDNR currently lists 11 protected waters, wetlands and water courses within the City of Mound of 2.5 acres or larger. Minnesota Chapter 103G provides specific criteria for protected status and the MDNR Protected Waters and Wetlands (PWI) maps identify the protected waters. In addition to the MDNR PWI Maps, National Wetlands Inventory (NWI) Maps have been prepared by the U.S. Fish and Wildlife Service. **Figure 6** shows NWI mapping and public waters in and around Mound. Also, Mosquito Wetland Inventory Maps have been prepared by The Metropolitan Mosquito Control District. These maps are available at the following link.

<https://www.mmcd.org/>

The Minnehaha Creek Watershed District has completed a Functional Assessment of Wetlands (FAW), which includes those within the District in the City of Mound. The assessment identifies the locations of wetlands and provides a functional classification to all wetlands greater than ¼ acre in size. The categories are based on the function and value as determined in the field and include Preserve, Manage 1, Manage 2 and Manage 3. These categories are used to assist in managing water resources and applying buffer standards. The City will utilize the wetlands assessment as part of the site plan review process for individual projects, as well as for “global” planning activities. The City relies on the District for administration of its wetland protection rule. Refer to the following link for more information on MCWD's FAW. The City has accepted responsibility as the Local Government Unit under the Minnesota Wetlands Conservation Act and will review projects impacting wetlands per WCA requirements on a case-by-case basis in accordance with State wetland laws and rules.

<http://www.minnehahacreek.org/41-integration-past-planning-efforts/412-functional-assessment-wetlands>

4.4.2. Flood Insurance Studies

The current Flood Insurance Study (FIS) applicable for the City is dated November 4, 2016. The Federal Emergency Management Agency (FEMA) Community Number for the City of Mound is 270176. The Firm Panel Number is 0005B. The FIRM identifies areas within the City as being within Zone A: 100-year floodplain (flood elevation not determined); Zone A2: 100-year flood plain (flood elevation determined); Zone B: 100-year to 500-year flood plain; or Zone C: Areas of minimal flooding. The FIRM generally identifies flood levels but only the approximate extent of flooding since it is not based on accurate topography. The City currently uses the floodplain information to review development proposals based upon the extent of flood plains identified in the FIRM. For determination of specific flow rates and floodplain elevations, a detailed hydrologic/hydraulic analysis may be required utilizing survey-accurate topographic data. Refer to the following link for more information regarding the FEMA 100-year floodplain areas around the City.

<https://msc.fema.gov/portal/advanceSearch#>

4.4.3. Stormwater Management System

As shown on the City's Storm Sewer Map (Figure 8), the City of Mound has an extensive storm sewer system for surface water management. The existing system generally operates efficiently removing stormwater from City property and roadways, with the majority of the system discharging directly into City water bodies and lakes. The major subwatershed areas within the City are shown on the Subwatershed Maps in Appendix B.

As part of the SWMP preparation, a hydrologic analysis was conducted for the major subwatershed areas. The hydrologic modeling utilized the XPSWMM software to determine runoff from design events using the Soil Conservation Service (SCS) TR-20 methodology. It provides a technical planning tool to address risk, along with a mechanism to consider various stormwater-related alternatives. However, the results should not be used for design-level detail. The analysis included subwatershed delineation from USGS topography, available 2' aerial contours, and field reconnaissance. The analysis determined subwatershed areas, hydrologic conditions, and peak discharge rates for the 1-year, 10-year and 100-year, 24-hour storm events.

4.4.4. Known Flooding Issues

The modeling done here, along with information from city staff, indicates that there are sewer pipes, drainage ways, ponds, and wetlands within the city that must be adequately maintained to keep surface flooding to a minimum. These areas may experience minor inconvenience flooding during extreme events and may not be within the FEMA 100 year floodplains. The city will continue to add pretreatment measures to improve quality of runoff discharged and maintain conveyances and basins as necessary to limit flooding potential.

4.4.5. Water Quality Data & Monitoring Sites

MCWD monitors and collects water quality data in many of the lakes and streams in the District, and the data is publicly available through the Minnesota Pollution Control Agency's Lake and Stream Information Tool at the following link:

<https://cf.pca.state.mn.us/water/watershedweb/wdip/index.cfm>

4.4.6. Impaired Waters

The Federal Clean Water Act requires states to establish water quality standards, to test surface waters, and formally list those as "impaired" that do not meet the water quality standards. Subsequent sections present more detail on the impaired waters program and its relationship to Mound's stormwater management program. A Total Maximum Daily Load (TMDL) study is the next step for an impaired water, although it can be delayed years after identification of the impairment. The TMDL study can result in very specific water quality obligations for Cities. Once the TMDL Study is accepted by the MPCA, an Implementation Plan must be developed, and MS4 Cities must develop an approach to meet the obligations identified in the TMDL Study.

Currently, several water bodies located partially or entirely within the City boundary are listed as impaired, and three different TMDL Studies and Implementation Plans have been completed. The Minnesota State Mercury TMDL addresses impairment due to high levels of mercury. The Twin Cities Metropolitan Area Chloride TMDL address impairment due to high levels of chlorides. The Upper Minnehaha Creek Watershed Nutrient and Bacteria TMDL address impairments due to high levels of nutrients and bacteria. Impaired waters in Mound, or those receiving discharge from Mound, are summarized in **Table 4.1**.

Table 4.1: Impaired Waters

Waterbody/ Watercourse	AUID#	Listed Pollutant	Impaired Use	Year Listed	Year TMDL Approved	Existing Wasteload (TP)	Allowable Wasteload (TP)
Dutch	27-0181-00	Nutrient/ Eutrophication	Aquatic Recreation	2010	2014	29 lbs/yr	10 lbs/yr
Langdon Lake	27-0182-00	Nutrient/ Eutrophication	Aquatic Recreation	2010	2014	92 lbs/yr	58 lbs/yr
Lake Minnetonka (Halsted's Bay)	27-0133-09	Nutrient/ Eutrophication	Aquatic Recreation	2008	2014	11 lbs/yr	5 lbs/yr
Lake Minnetonka (Jennings Bay)	27-0133-15	Nutrient/ Eutrophication	Aquatic Recreation	2008	2014	31 lbs/yr	8 lbs/yr
Lake Minnetonka (West Arm)	27-0133-14	Nutrient/ Eutrophication	Aquatic Recreation	2008	2014	53 lbs/yr	4 lbs/yr

4.4.7. Shoreland and Flood Plain Ordinances

The City of Mound has prepared and adopted a shoreland ordinance in accordance with MnDNR requirements to provide for the development of shorelands of public waters. The City's Shoreland District is an overlay zoning district existing within 1,000 feet or less of a MnDNR protected water. The district applies restrictions above and beyond the underlying zoning district of the affected property based on the classification of the protected water body. The water body/shoreland classifications determined by the MnDNR are shown in Table 4.2.

Table 4.2: Public Waters Classification for Lakes

		OHWL (feet)	Protected Waters Inventory I.D. #
(1)	Natural Environment (NE) lakes		
	Saunders Lake	944.3	27-185
(2)	Recreational Development (RD) lakes		
	Dutch Lake	939.2	27-181P
	Langdon Lake	932.1	27-182P
(3)	General Development (GD) lakes		
	Lake Minnetonka	929.4	27-133P
	Lost Lake	929.4	27-180

The Shoreland District Ordinance (Sec. 129, Article VIII) identifies allowable uses, lot areas, setbacks and impervious coverage limits for properties adjacent to the protected waters. In addition, the ordinance identifies other development criteria including allowable lowest floor elevations, shoreland alterations, bluff impact zones and agriculture use standards.

To maintain Mound's eligibility in the National Flood Insurance program and to minimize potential losses due to periodic flooding, the City has prepared and adopted a flood management ordinance (Sec 113) in accordance with MnDNR requirements. The floodplain zoning district is an overlay zoning district to existing land use regulations of the city. The ordinance adopts by reference The Flood Insurance Rate Map developed by the Federal Emergency Management Agency and identifies permitted uses, standards, and evaluation criteria for improvements proposed in floodplains. The Shoreland District and Floodplain Management ordinances can be reviewed at the following link:

https://www.cityofmound.com/index.asp?Type=B_BASIC&SEC={C3A02DAE-80D8-4004-B135-482DA4529B14}

4.4.8. Groundwater Resources

Water quality of surface waters can have great effect on groundwater due to the interaction via groundwater recharge and discharge. Mound relies strictly on groundwater (aquifers) for drinking water, and therefore, groundwater quality is equally as important as surface water quality. Multiple aquifers exist within Hennepin County, but the majority of wells are finished in the Prairie du Chien-Jordan Aquifer.

Wellhead Protection

The Safe Drinking Water Act requires states to implement protection programs to prevent contamination of public drinking water sources. Therefore, the Minnesota Department of Health requires public water suppliers to delineate and manage Wellhead Protection Areas (WHPA) surrounding public water sources. Additional information regarding groundwater resources can be found in the City's Water Supply Plan.

5. **ESTABLISHMENT OF GOALS AND POLICIES**

The City of Mound has developed the goals and policies contained in this section to conform to the water resource purposes specified in Minnesota Statute Section 103B.201. They have been developed to avoid conflict with existing State, Regional, and County goals and policies, and to be generally consistent with the MCWD Plan. The City regulates erosion control, wetlands, floodplain alteration, and stormwater management for all land development within the City limits in accordance with City Ordinance, the NPDES Permit, and the Wetland Conservation Act. The City relies on the Watershed to administer and enforce its Rules.

Additionally, the City's MS4 Storm Water Pollution Prevention Plan (SWPPP) contains information related to the required Best Management Practices (BMPs) and how the City intends to meet the overall goals of the SWPPP, which are directly related to the goals and policies listed here.

The goals and policies developed by the City address:

- Water quality
- Water quantity
- Erosion and sediment control
- Wetlands
- Public ditch systems
- Groundwater
- Recreation, fish and wildlife
- Education and public participation

Outlined below are the goals and policies developed for each of the above items.

5.1. **Water Quality**

Goal:

To maintain or improve water quality of surface waters throughout the City by reducing sediment and nutrient loads.

Policies:

1. As an MS4 community the City has developed a Storm Water Pollution Prevention Plan (SWPPP) outlining many of the municipal BMPs and associated actions being taken by the City. The SWPPP is referenced here and contains additional information on many of the following topics.
2. In the design and construction of new and redevelopment, treatment of stormwater runoff is required prior to discharge to a surface water or wetland. The City will continue to review and approve construction plans for conformance with the requirements of NPDES permitting.
3. The City will rely on MCWD to administer their rules regarding water quality and will require verification that District permit requirements are met.
4. The City will continually evaluate opportunities to reduce the phosphorus load to the area surface waters. Additionally, the City contributes runoff to multiple public waters currently on the State's

- 303(d) list of impaired waters for excessive nutrient concentrations. Therefore, the City will implement nutrient reduction BMPs as necessary to meet wasteload allowances approved. Additional information regarding TMDL requirements and tracking can be found in the City's SWPPP, which can be obtained at City Hall.
5. The City will make water resource protection a priority for city property, including: parks, open space, and other recreational areas. Areas are swept as needed and buffer establishment or other retrofit treatment techniques may be incorporated into future projects within these areas, when feasible.
 6. The City annually inspects and maintains its public stormwater management facilities to ensure their continued effectiveness. When feasible, the City may require stormwater management measures to be contained within outlots; however, many facilities will remain private and maintenance agreements will be required for stormwater management facilities used to meet governmental requirements from the appropriate entity responsible for overall property maintenance.
 7. The City will continue to sweep paved public streets within the community as outlined in the City's SWPPP and the Housekeeping section, section 5.11 below.
 8. The City will continue to implement Best Management Practices (BMPs) on city-owned land as necessary to retain and prevent pollutants from leaving the site.
 9. The City requires the preparation and implementation of water resources management and erosion and sediment control plans for construction and land development activities in accordance with NPDES requirements.
 10. The City will disperse public education information to foster responsible water quality management practices by city residents and businesses. The public information will include proper lawn fertilizing and other lawn chemical use, disposal of lawn waste and solid, liquid, and household hazardous waste products, as well as many other surface water enhancement educational items.

5.2. Water Quantity

Goal:

To minimize downstream impacts by maintaining peak runoff discharge rates and providing runoff volume reduction.

Policies:

1. The City requires that proposed stormwater discharge rates as a result of development be consistent with the requirements of NPDES Permitting.
2. The City will rely on MCWD to administer their rules regarding peak runoff rates and volume control and will require verification that District permit requirements are met.
3. The City will review downstream stormwater-related impacts (within the community) of development proposals and proactively address water resource-related concerns.

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4. The City recognizes the potential environmental impacts associated with constructing new outlets to existing landlocked areas; therefore, the outletting of landlocked areas shall be done only as a last resort and shall be coordinated with the MCWD.
 5. The design of new stormwater storage facilities will accommodate the 100-year storm event, providing the required freeboard and avoiding structure flooding. Storm sewers will be designed to pass the 10-year rainfall event without the hydraulic grade line extending above the ground at any location, as long as downstream restrictions do not require a reduced-capacity design.
 6. Stormwater facilities receiving discharges from adjacent communities will be designed to accommodate existing runoff rates and anticipated volumes.
 7. Lowest floor elevations for new buildings shall be at or above the elevations as indicated in the City's floodplain ordinance, as well as meet the requirements of MCWD's Rules. Wetlands or water bodies without regulatory floodplain elevations or defined ordinary high water levels, but with outlets, shall have low opening elevations a minimum 2 feet above the 100-year high water level and a minimum 1 foot above the emergency overflow elevation. Structures around landlocked basins shall have low opening elevations 2 feet above the back-to-back 100-year events.
 8. The City will encourage the use of natural drainageways for conveying stormwater where the drainageway can accommodate or be improved to accommodate proposed flows and volumes.
 9. Enhanced infiltration practices will be encouraged, where feasible, in areas where the present or future land use does not have a significant potential to contaminate groundwater.

5.3. Erosion and Sedimentation Control

Goal:

To prevent erosion and sedimentation to the maximum extent practical through construction site permitting, inspection and good municipal housekeeping.

Policies:

1. The City requires the preparation and implementation of erosion and sediment control plans and best management practices for construction and land development activities in accordance with NPDES permit requirements with the ultimate goal of eliminating sediment discharge from the site.
2. The City will enforce the erosion and sediment control plan and best management practices on construction sites through the review and inspection process. Areas adjacent to water bodies and wetlands may require additional BMPs due to their environmental sensitivity.
3. The City will continue to sweep paved public streets as identified in the SWPPP. Areas with direct discharge into lakes, wetlands, and streams will be given first priority and areas requiring additional attention will be swept more on an as-needed basis.

5.4. Wetlands

Goal:

To protect wetland value and ensure conformance with the requirements of the Minnesota Wetlands Conservation Act (WCA), MCWD Rules, and other State and Federal regulations.

Policies:

1. The City administers the review and approval duties associated with the Wetland Conservation Act (WCA). The city defers administrative responsibility to MCWD for conformance with their wetland protection rules.
2. The City will notify parties proposing land disturbing activities (i.e.: altering, dredging, filling, and draining) to verify with MCWD for their wetland protection rules requirements, as well as possible permit requirements from the MDNR and US Army Corps of Engineers (COE).
3. The city contains a large amount of wetland areas that are critical to stormwater drainage throughout the city. The city manages the wetlands as necessary to minimize the potential for structure flooding and maximize public safety. As such, the city must occasionally remove sediment buildup from wetlands and, as in the past, will work with the appropriate agencies on a case-by-case basis.
4. The City will cooperate with interested private or governmental parties on wetland restoration projects and may participate in the State's wetland banking program.

5.5. Public Ditch Systems

Comment:

There are no known county or judicial public ditch systems within the City.

5.6. Groundwater

Goal:

To protect groundwater through prudent management of surface waters and areas of potential contamination.

Policies:

1. The City will cooperate as necessary with County and State agencies to inventory and seal abandoned wells and notify its residents of State standards on well abandonment.
2. The City will consider the significance of sensitive geologic areas when making land use decisions, when reviewing development proposals, or when proposing construction of stormwater facilities. Activities that may have significant contamination potential will be required to include groundwater protection measures.
3. The City will encourage the use of infiltration methods to promote groundwater recharge where groundwater will not be significantly impacted by the land use or stormwater runoff.

5.7. Recreation and Ecological Integrity

Goal:

To protect and enhance recreational facilities, fish and wildlife habitat, and overall ecological continuity.

Policies:

1. The City will support the efforts of Local, State, and Federal agencies promoting public enjoyment, and the protection of fish, wildlife, and recreational resource values in the City.
2. The City will protect wetlands in accordance with the goals and policies of this plan.
3. The City will encourage its residents to retain existing wetlands, vegetation buffers, and open spaces for the benefit of wildlife habitat.

5.8. Education and Public Involvement

Goal:

To educate and inform the decision makers and general public on water resources management issues; and to increase public participation in water management activities.

Policies:

1. The City will continue to promote best management practices for its residents. Public education will include topics such as: fertilizer use and the limited need for phosphorus in fertilizer; lawn care and lawn chemical use; solid, liquid and household hazardous waste disposal; illicit discharge detection; and natural water resource systems and protection methods.
2. The City will distribute educational information or notices regarding various water resources management and protection documents.

5.9. Training, Inspection and Enforcement

Staff training, inspection of City facilities, illicit discharges, and construction sites, and enforcement responses are done in accordance with the City's MS4 Permit requirements. Further information regarding training, inspection and enforcement can be found in the City's SWPPP located at City Hall.

5.10. Low Impact Development/Redevelopment, Natural Area Preservation & General Water Resource Protection

Goal:

To promote Low Impact Development (LID) techniques, preserve natural areas and protect surface water resources.

Policies:

1. The City is aware of the environmental benefits associated with LID and general natural area preservation and will work with development/redevelopment to implement these practices when feasible. These may include, but are not be limited to:
 - Impervious area reduction

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- Impervious area disconnection
 - Decentralized stormwater management
 - Street width reduction
 - Rural street sections
 - Reduced setbacks
 - Ecological/pedestrian corridors
 - Natural space preservation and incorporation into site design
 - Site disturbance minimization
 - Pervious pavement
 - Green Roofs
 - Increased stormwater abstraction (infiltration, filtration, irrigation reuse, etc.)
2. The City currently does not plan to adjust its codes to address LID specifically; however, the codes will continue to be flexible and allow for variance to accommodate LID designs on a case-by-case basis.
 3. The City is continually looking for ways to enhance protection of its surface water resources, including the integration of improvement techniques into municipal projects.

5.11. Municipal Housekeeping

Goal:

To conduct operations and maintenance of City facilities and infrastructure as necessary to keep systems operating adequately and limit potential for discharge of pollutants. Additional information regarding municipal housekeeping can be found in the City's MS4 Storm Water Pollution Prevention Plan (SWPPP).

Policies:

1. The City will continue to sweep all paved streets as outlined in the SWPPP.
2. The City will continue to inspect stormwater management facilities, stockpiles, and material handling areas as outlined in the SWPPP.
3. The City will continue to document inspections and maintenance activities as outlined in the SWPPP.
4. The City requires Operation and Maintenance Plans for all stormwater management facilities used to meet governmental requirements. The plans are required to outline operation, maintenance, and inspection schedules and reporting requirements.

6. ASSESSMENT OF ISSUES AND CORRECTIVE ACTIONS

This section contains an assessment of existing and potential water resource related issues presently known within the City, as well as a description of structural, non-structural, or programmatic solutions that are proposed to address or correct the issues. These issues and concerns have been identified by City staff as part of the preparation of this SWMP. Many of the general issues listed here are addressed by policies set forth in Section 5 of this plan, while site-specific issues may have specific proposed solutions.

6.1. Excessive Nutrient Levels and Phosphorus Reduction

Issue:

The City of Mound discharges stormwater runoff directly into Langdon Lake, Dutch Lake and the following bays of Lake Minnetonka: Cooks, Harrisons, Jennings, Phelps, Priests, Seton, Spring Park and West Arm. Runoff carrying nutrients, primarily phosphorus, from developed/undeveloped land to these water bodies ultimately causes elevated nutrient concentration in the waters. High nutrient loads will lead to reduced clarity, excessive algal growth and overall decreased public value of the affected water bodies.

Corrective Action:

The City requires new and redevelopment to apply permanent stormwater treatment measures meeting the requirements of Watershed District and NPDES permitting. In addition, the City must reduce its discharge of phosphorus as outlined in the Upper Minnehaha Creek Watershed Nutrient and Bacteria TMDL (see Section 4 for allowable wasteload for identified impaired waters). In order to achieve the phosphorus wasteload reduction required, the City will employ a variety of BMPs, which may include the following:

- Require development abstraction of additional runoff volume (above that required)
- Evaluate municipal projects for incorporation of additional abstraction
- Evaluate street sweeping effectiveness and adjust as needed
- Natural area preservation
- Partnering with the MCWD for capital projects

Since management of allowable wasteloads defined by TMDLs is required per the MS4 permit, planning of potential BMPs and tracking of pollutant loading is administrated through the City's SWPPP, and the SWPPP should be referred to for the most current information regarding pollutant removal practices and management.

Timeframe:

Ongoing:	Site plan review for permit compliance
Ongoing:	Evaluation of treatment opportunities to decrease pollutant loads
Ongoing:	Reduction of phosphorus discharge to meet wasteload allowed by TMDLs

6.2. Construction Site Erosion and Sediment Control

Issue:

Sediment leaving construction sites pollutes, fills and degrades surface waters, wetlands and conveyance systems.

Corrective Action:

The City will continue to monitor appropriate use of sediment and erosion control practices, as required by NPDES permitting, through the review and inspection process currently in place.

Timeframe:

Ongoing: Plan review and construction site inspection.

6.3. Runoff discharge from new and redevelopment

Issue:

The increased percentage of impervious area typically seen with new and redevelopment can cause a corresponding increase in flowrate and volume discharging from the area. These increases can lead to downstream erosion, flooding and/or decreased water quality if not properly mitigated.

Corrective Action:

The City requires new- and redevelopment to apply permanent stormwater rate and volume attenuation measures meeting the requirements of MCWD and NPDES permitting.

Timeframe:

Ongoing: Site plan review for permit compliance.

6.4. General Storm System Maintenance

Issue:

The existing storm drainage system is performing adequately to convey runoff, although, system maintenance will be required annually.

Corrective Action:

Storm drainage system maintenance required includes pond assessment and cleaning, street sweeping, sewer televising, and GIS/mapping.

Timeframe:

Ongoing: Storm system maintenance.

6.5. Street and Utility Improvement Projects

Issue:

The existing storm drainage system is performing adequately to convey runoff, although, system maintenance will be required annually.

Corrective Action:

As street, sanitary sewer, and water main improvement projects are scheduled, project areas will also be reviewed for potential stormwater management and treatment improvements that were not previously identified. Potential improvements include, but are not limited to, conveyance improvements, stormwater treatment devices, bioretention basins, wet retention ponds, slope stabilizations, and native vegetation restoration.

Timeframe:

Ongoing: Storm system improvements.

6.6. Stormwater Runoff Management and Treatment Projects

Issue:

The existing storm drainage system is performing adequately to convey runoff, although, system maintenance will be required annually.

Corrective Action:

Correct flooding issues on City property as necessary to protect public safety and minimize potential for property damage. Also, collaborate as necessary with the Watershed District and willing private landowners to install stormwater treatment measures (i.e. rain gardens, stormwater treatment devices, etc.) throughout the City to provide additional runoff storage capacity, reduce runoff rates and volumes, and/or reduce pollutant loads. Coordinate stormwater treatment improvements to treat stormwater from areas with inadequate or no treatment and improve the quality of runoff reaching area surface waters.

Timeframe:

Ongoing: Storm system improvements.

7. **IMPLEMENTATION PRIORITIZATION & FINANCIAL CONSIDERATIONS**

7.1. **Implementation Prioritization**

Provided below is a generalized ranking of the *policies* and *corrective actions* identified in sections 5 and 6. The High, Medium, and Low format has been selected over a numerical format to emphasize the need for flexibility and the inherent inexactness of trying to quantify something that is fairly subjective. This prioritization is meant as a guide for future planning. Funding appropriations and projects may switch levels at any time given new information/circumstances.

All of the goals and associated policies identified in Section 5 are of high priority. Rather than restate each policy, the following policies are highlighted because they pertain to more recent developments.

Table 7.1: Policy Prioritization

Policy Description	Ranking
Administer and maintain the City MS4 Storm Water Pollution Prevention Plan (SWPPP)	HIGH
Address Total Maximum Daily Load waste load allocations as they are developed (refer to SWPPP for TMDL management)	HIGH
Continued promotion of low impact development techniques, infiltration and general runoff volume reduction	HIGH
Maintain existing storm sewer system to provide adequate treatment and conveyance of runoff	HIGH
Evaluate street and utility improvement projects for potential stormwater management and treatment improvements	HIGH
Correct flooding issues on City property as necessary and collaborate with MCWD and Private Landowners to install stormwater treatment measures	MED
Expand public education program to make wider use of City website	LOW

7.2. **Funding Sources**

The City currently has a number of funding sources available to pay for the regulatory controls, management program, and capital improvements identified in this SWMP. They include general tax revenue, special assessments and the City's stormwater utility fee. While general tax revenues and the stormwater utility fee can likely fund the regulatory and management programs, as well as smaller projects, special assessments will generally be required to fund the larger capital improvements projects. The existing City stormwater utility fee generates approximately \$110,000 annually for general system maintenance and stormwater management and treatment related improvements. As projects are

identified, the stormwater utility fee may be supplemented with the general fund, and if the project provides treatment beyond what is required, grant funding may also be pursued.

7.3. Capital Improvements Program

The City manages capital expenditures for surface water management as part of the Capital Improvement Plan (CIP). The CIP provides long-term planning and management of infrastructure throughout the City. The CIP is a planning document that presents a 5+ year overview of scheduled capital projects to address the City's goals for public infrastructure. The CIP includes a long-term financing plan that allows the City to allocate funds for these projects based on assigned priorities. The 5+ year horizon of the CIP provides the City with an opportunity to evaluate project priorities annually and to adjust the timing, scope and cost of projects as new information becomes available. Changes in community priorities, infrastructure condition and inflation rates require that adjustments be made on a routine basis.

The City does not currently have any potential projects appropriate for a stormwater-oriented CIP. Instead, potential Stormwater Management projects will be evaluated as part of the Street and Utilities CIP, with funding provided from the stormwater utility fee for the stormwater management portions of the project.

8. AMENDMENT PROCEDURES

8.1. Review and Approval

It is the City's intention to have this SWMP reviewed and approved by the Minnehaha Creek Watershed District (MCWD) in accordance with Minnesota Statutes, Section 103B.235. The plan will also be sent to Metropolitan Council for review and comment, with ultimate adoption as the water resources component of the City's Comprehensive Plan.

8.2. City Amendments

If the City proposes changes to this SWMP, the changes and their impacts will be determined by the City as either a "minor" change or a "major" change. The general descriptions of minor or major changes and the associated review and approval requirements are presented as follows:

Minor Changes would include small adjustments to subwatershed or subdistrict boundaries or other minor changes that would not significantly affect the rate or quality of stormwater runoff discharged across the municipal boundary or significantly affect high water levels within the City. Minor changes also include revisions made to the stormwater related Capital Improvements Program to best meet the City's water resource needs and financial considerations. For proposed minor changes, the City will prepare a document which defines the change and includes information on the scope and impacts of the change. The document will be forwarded to the MCWD for their records. The minor change will be implemented after the document is adopted by the City Council.

Major Changes are those that could have significant impacts on the rates, volumes, water qualities and water levels of stormwater runoff within the City or across its municipal boundaries. For proposed major changes, the City will prepare a document that defines the change and includes information on the scope and impacts of the change. The document will be forwarded to the MCWD for their review and approval. The MCWD shall have 60 days to comment on the proposed revisions. Failure to respond within 60 days will constitute approval. After MCWD approval, the City will adopt the amendment as part of the SWMP.

8.3. Plan Coordination

Early coordination and collaboration between entities is the key to maximizing shared water resource goals and community goals for private redevelopment and public capital improvements. It is the intent of the City to leverage this coordination to efficiently manage water quality, natural resource threats and opportunities that arise through land use change, our shared interest in conservation, and overall maximize the asset value of the City's natural resources in the future.

Coordination Plan

The following coordination plan will be adjusted and expanded as deemed appropriate by the City and MCWD during implementation. The City Manager is the primary City contact and the District Administrator will be the District contact for the coordination plan.

1. Annual meeting – City and MCWD staff will meet during the first quarter of each year to review the following:

-
- a. National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer Systems (MS4) reports and activity from the previous year
 - b. Draft Capital Improvement Plans (CIP) for each organization for the upcoming year. The City will focus coordination of the Streets, Stormwater and Park CIPs with MCWD.
 - c. Opportunities for early or improved coordination and review of land use change applications
 - d. Regulatory coordination to identify areas of collaboration
 - e. Areas for improved coordination and process improvement.
 - f. Public Education plans, resources and opportunities.
 2. Land Use Planning and Regulatory Coordination- The City of Mound staff will continue to route requests for land use approvals to the District in an effort to maximize water resource benefits and streamline regulatory processes. Specific areas of regulatory coordination include the following:
 - a. The City will continue to rely on MCWD to maintain authority for reviewing and approving applications for compliance with MCWD's rules and enforcing those rules as necessary. The City will rely on the water resource management standards set forth by MCWD in Mound.
 - b. The City will require documentation of required MCWD permits in advance of issuing applicable City permits. Approved MCWD permits will be stored with other project documentation for future reference.
 - c. Pre-application meetings and permit reviews will be coordinated with MCWD early in the planning process as necessary.
 - d. The City will continue to collaborate with MCWD on construction site inspections and compliance.
 - e. MCWD will keep the City apprised of water resource violations and expectations for compliance.
 - f. Key Conservation areas- The City will assist MCWD in the preservation of those areas identified by MCWD by considering them in land use and zoning decisions.
 - g. The primary person responsible for regulatory coordination at the City of Mound is the City Manager and the Permitting Program Manager at MCWD
 - h. The City and MCWD will include each other in the notification protocols for Illicit Discharges.
 3. Public Infrastructure Improvements. The City of Mound staff will continue to route significant infrastructure improvements (streets, stormwater and parks in particular) to the MCWD as early in the planning as possible in order to maximize resourcing opportunities, reduce any regulatory process delays and solicit any best practice expertise/ experience.
 - a. Infrastructure and land improvements that require MCWD permits will be coordinated early in the planning and design process so that the regulatory process may be efficient and integrated water and natural resource improvements may be explored.
 - b. The City will brief the MCWD on the Streets, Stormwater and Parks CIPs each year at the annual meeting. The City intends to coordinate applicable projects at the concept stage of project development partner, on competitive grant programs and leverage MCWD technical resources and planning assistance.
 4. Education coordination and partnership. The City will provide support and assistance to MCWD with the District's educational programs in the form of information sharing and help with promotion materials. The City will identify target audiences and educational needs and collaborate with MCWD to create educational opportunities to meet these needs.

Appendix A

Figures

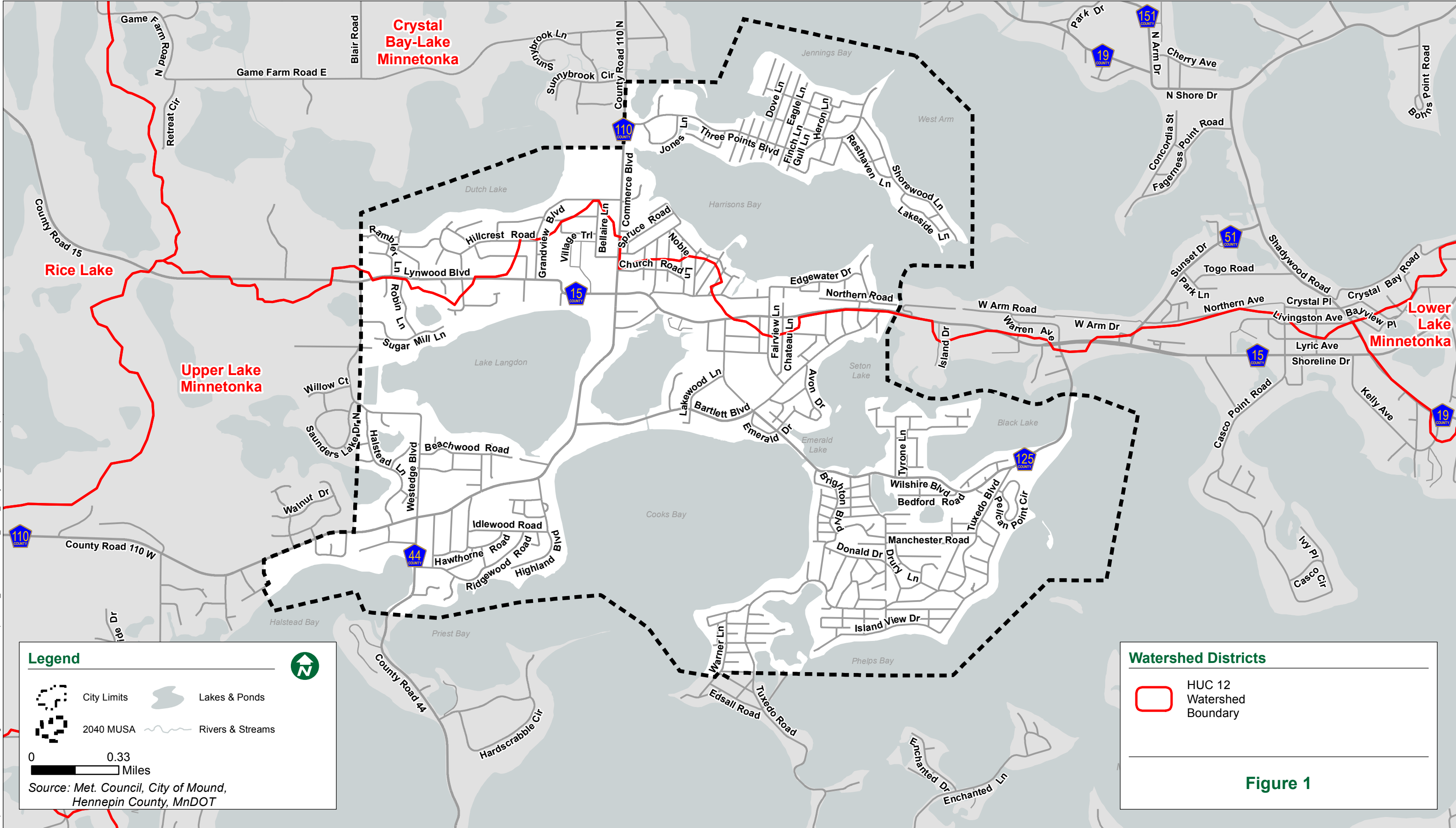


2040 Comprehensive Plan

Mound, MN

Study Area

August 2018



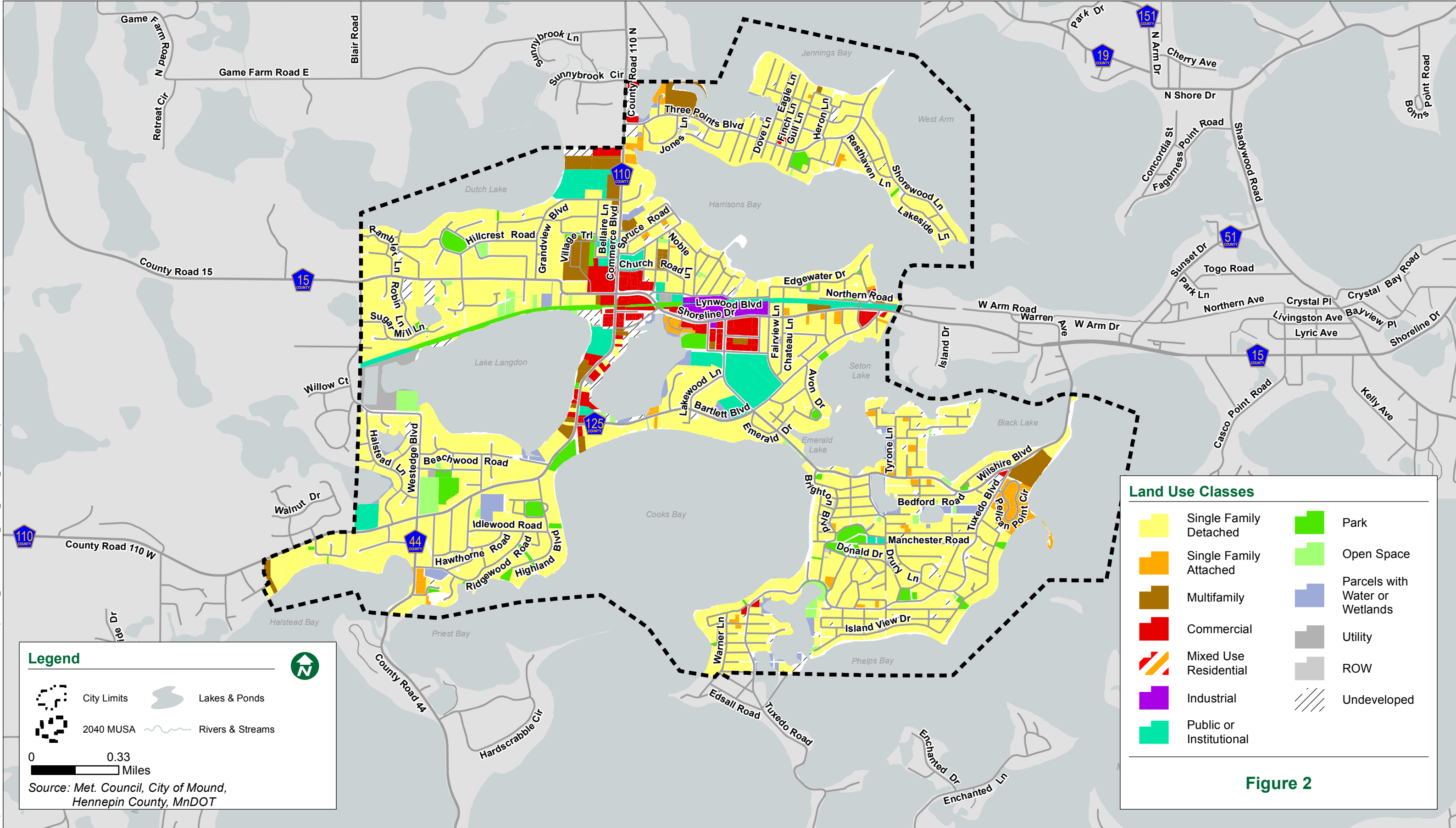


2040 Comprehensive Plan

Mound, MN

Existing Land Use

August 2018



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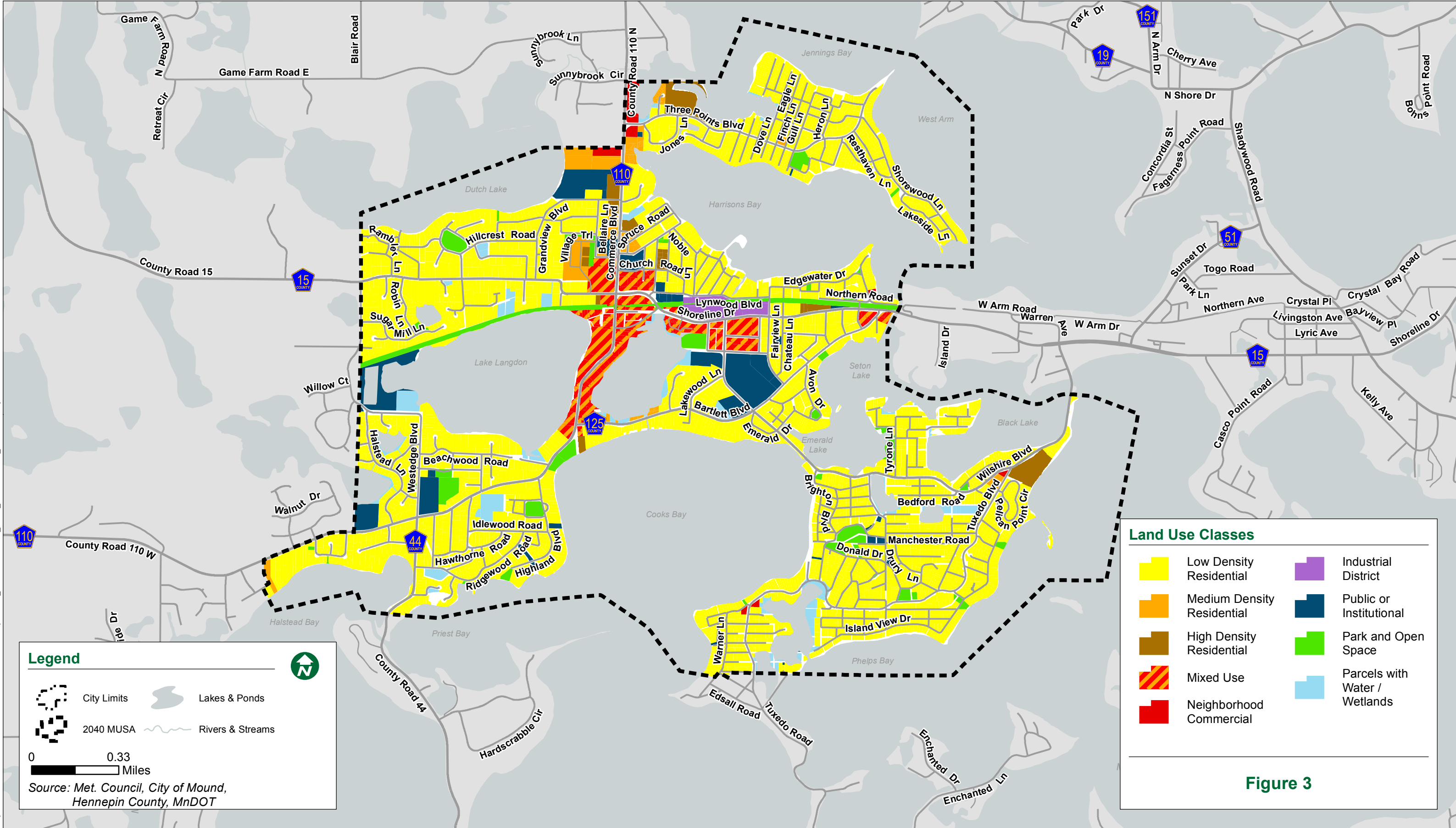


2040 Comprehensive Plan

Mound, MN

Future Land Use

August 2018





2040 Comprehensive Plan

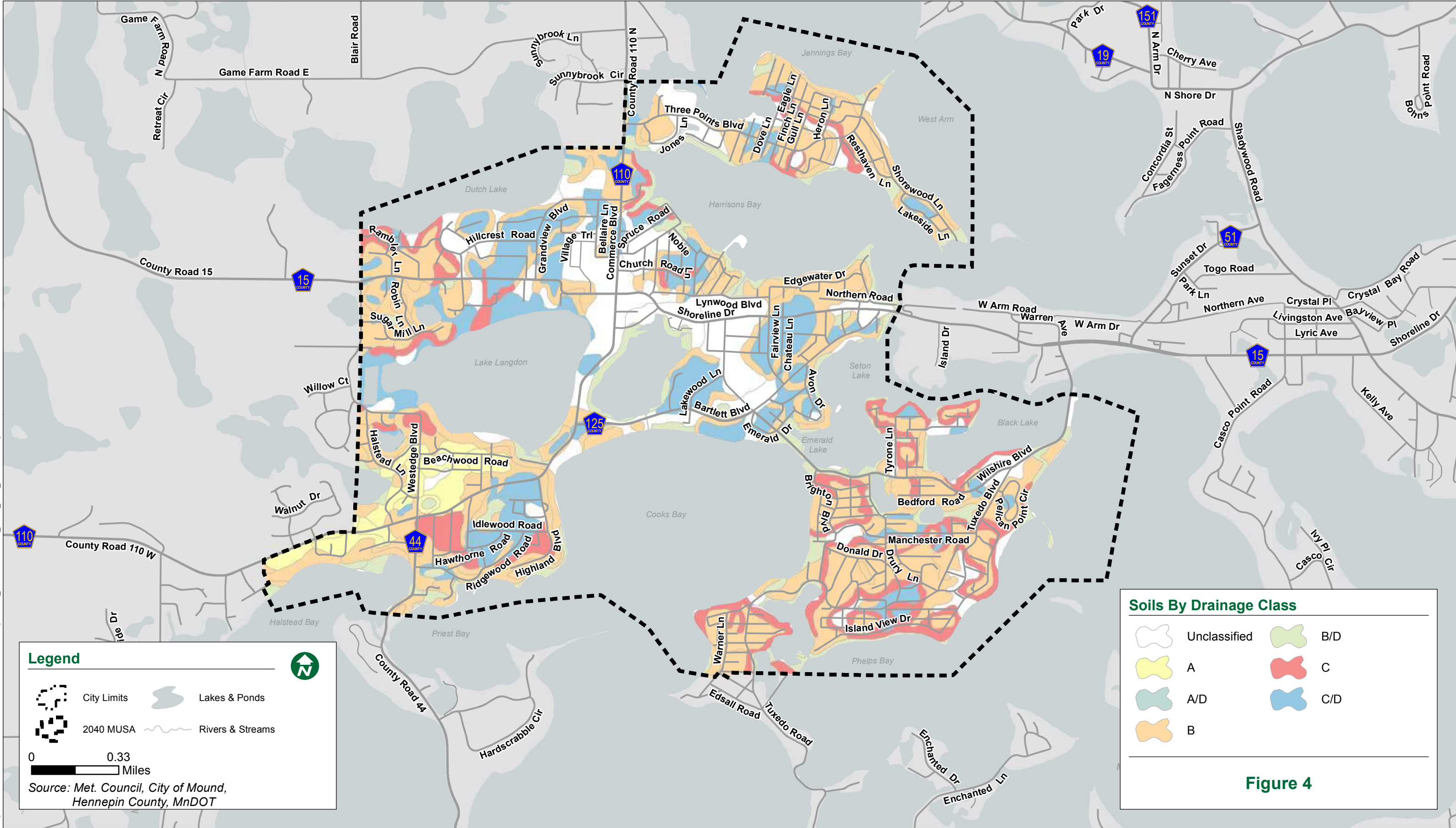
Mound, MN

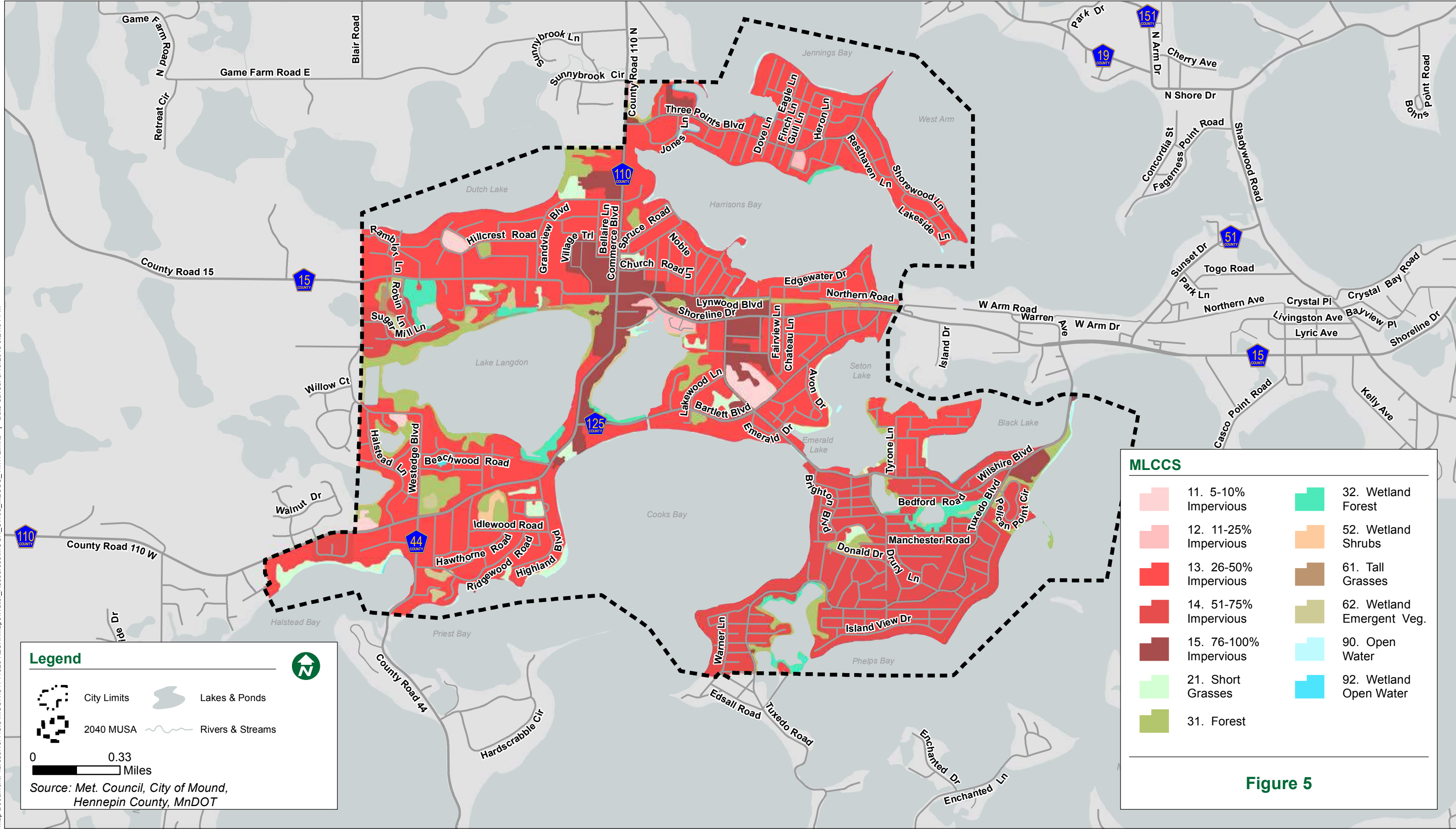
Soils

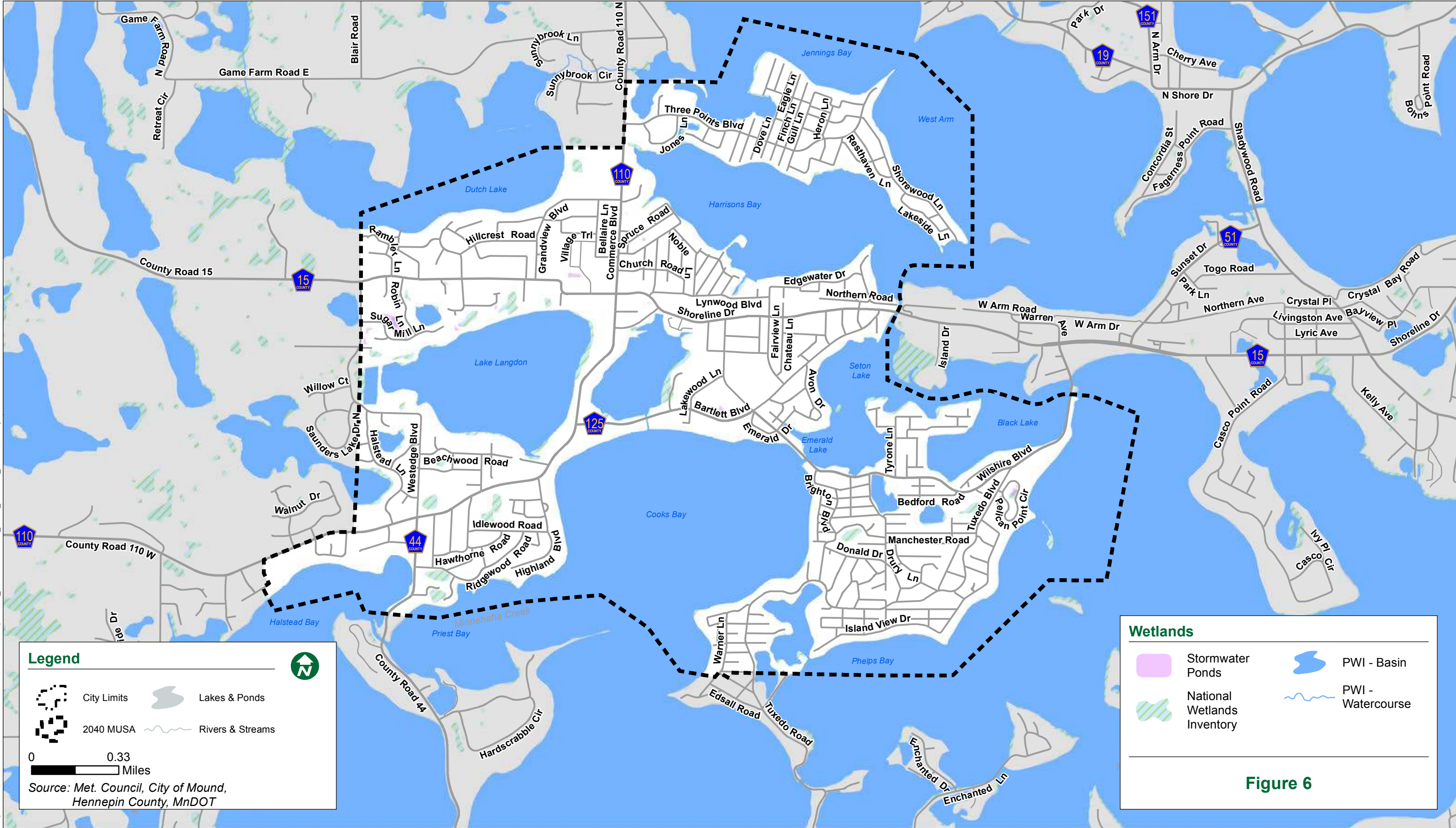
August 2018



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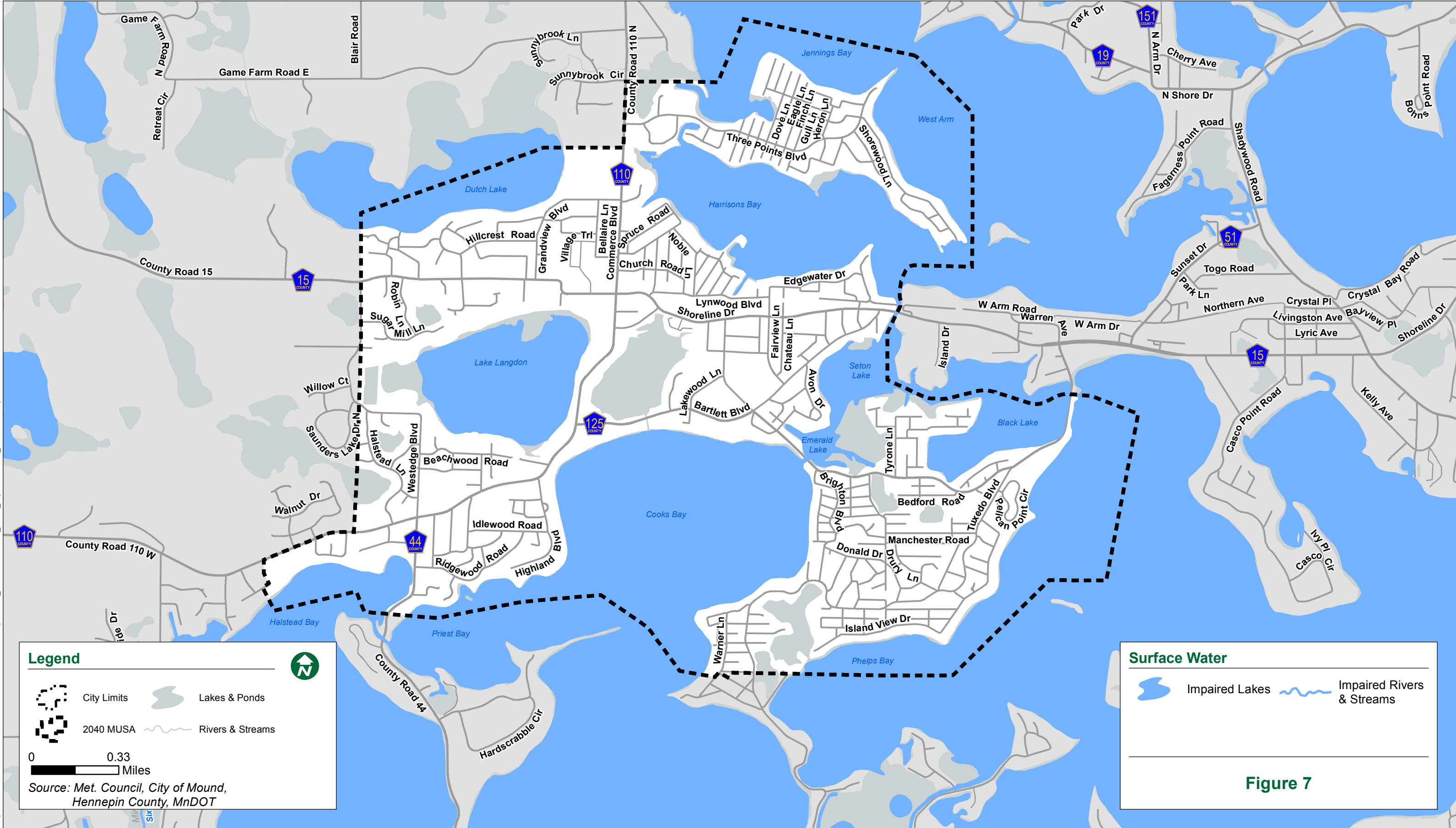


2040 Comprehensive Plan

Mound, MN

Impaired Waters

August 2018



Legend

- City Limits
- 2040 MUSA
- Lakes & Ponds
- Rivers & Streams

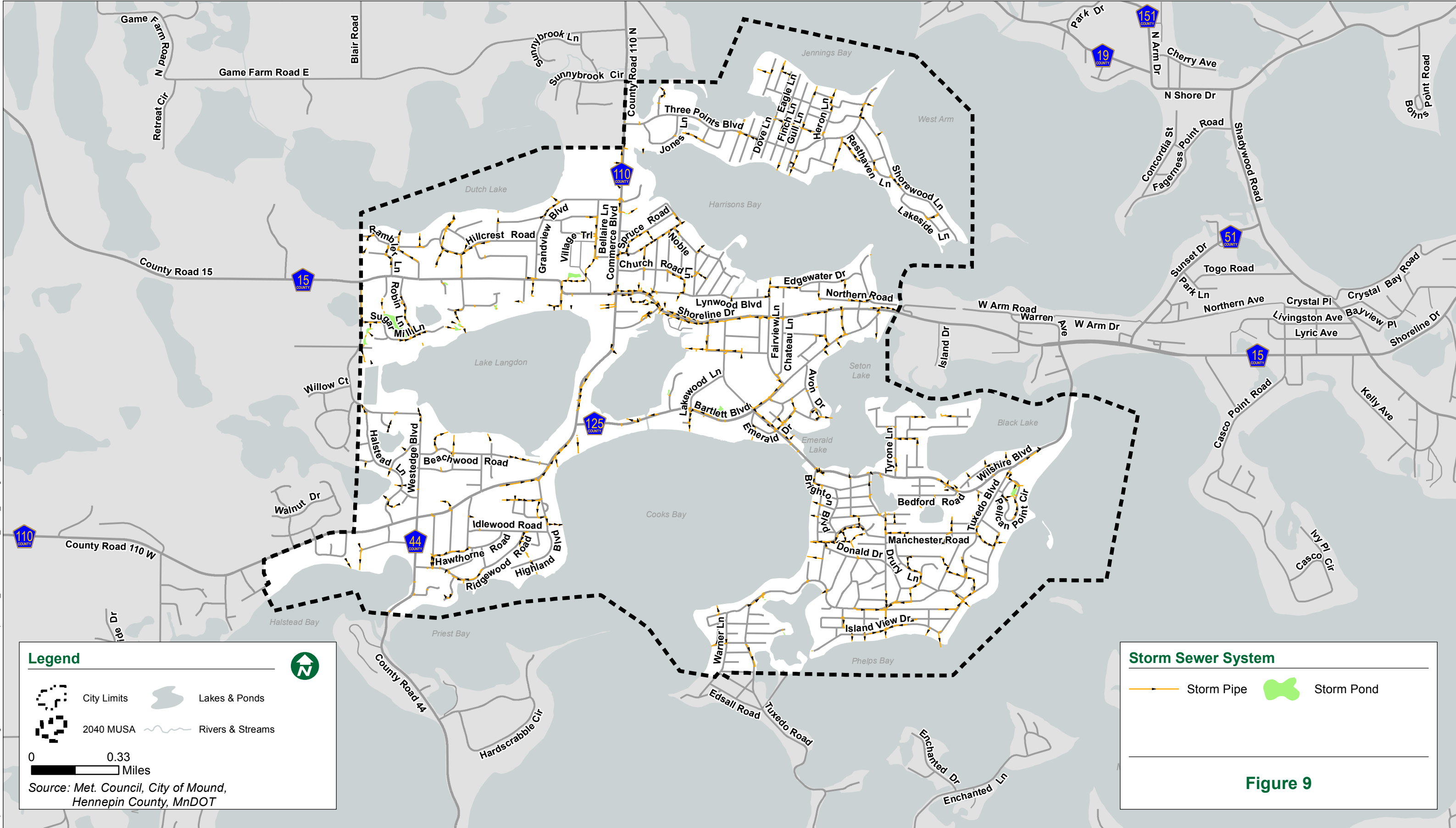
0 0.33 Miles

Source: Met. Council, City of Mound, Hennepin County, MnDOT

Surface Water

- Impaired Lakes
- Impaired Rivers & Streams

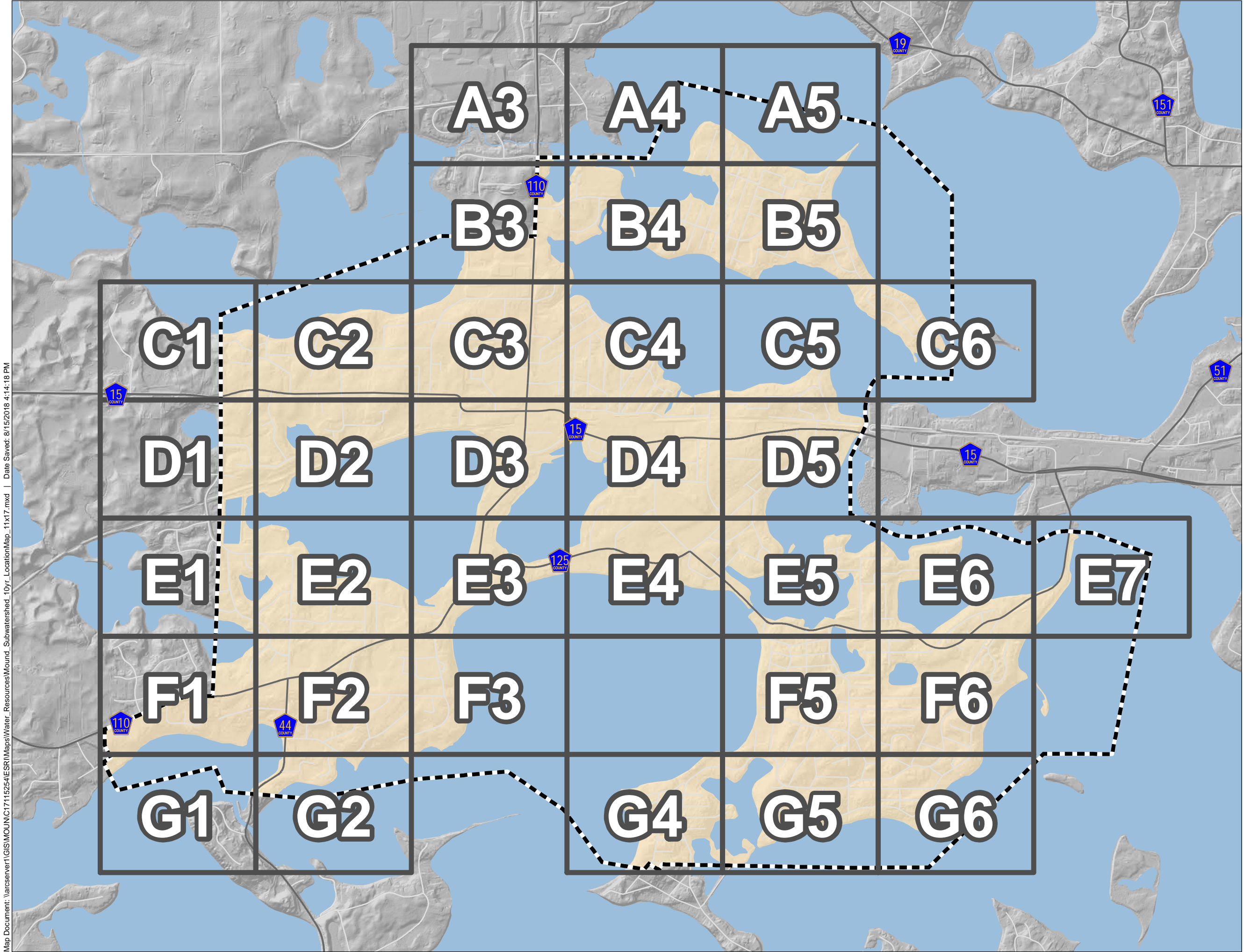
Figure 7




Appendix B

Subwatershed Maps

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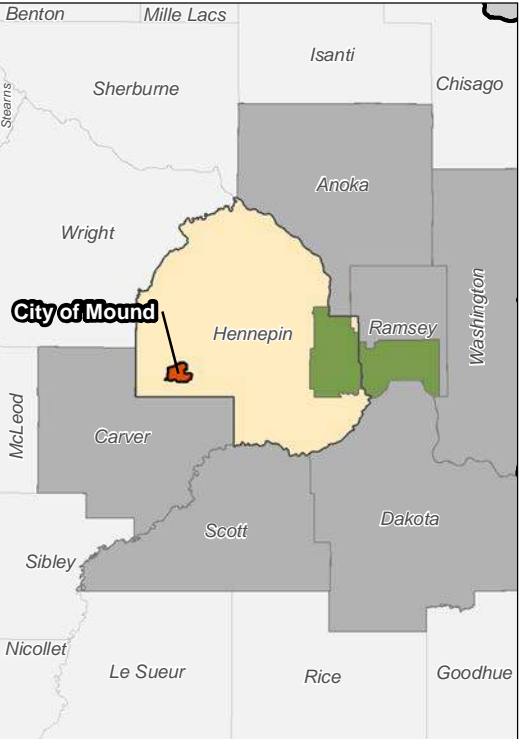




SURFACE WATER
MANAGEMENT PLAN

10-YEAR EXISTING
CONDITION

LOCATION MAP




Legend

- Grid
- City Limits
- Interstate
- U.S. Highways
- State Highways
- County Roads
- Local Roads
- Protected Waters - Basin
- Protected Waters - Watercourse

0 1,500 Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT

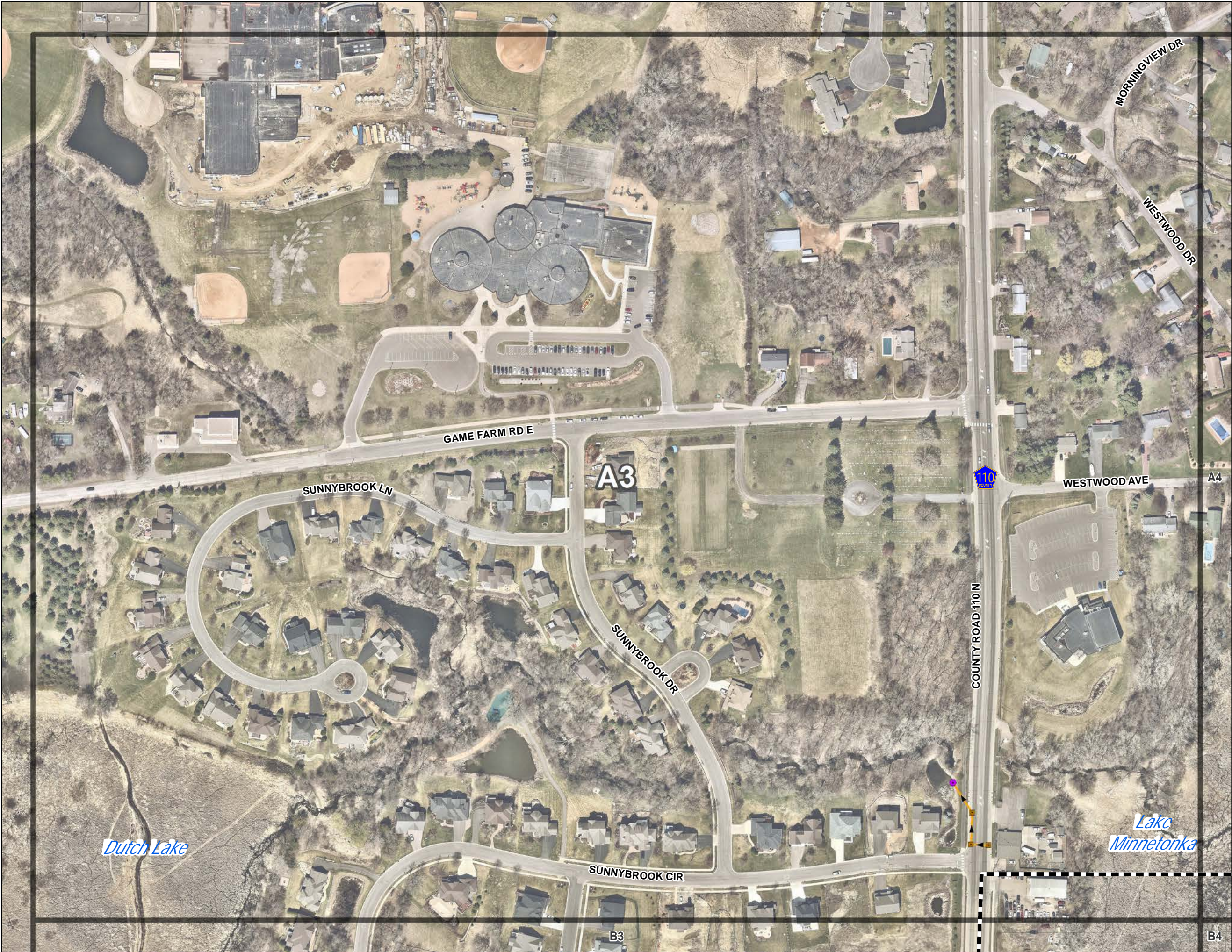


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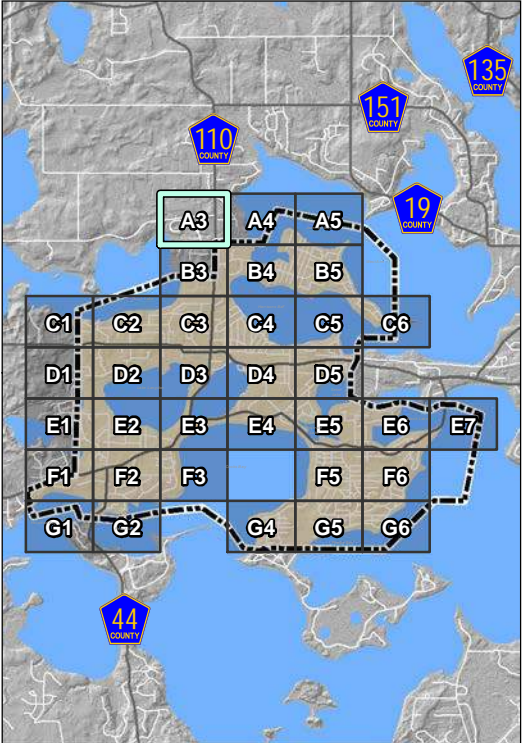
September 2018

Page of
















Map Document: \\arcserver1\GIS\MOUND\17115254\ESRI\Maps\Water_Resources\Mound_Subwatershed_10yr_MapBook_11x17.mxd | Date Saved: 9/5/2018 9:38:20 AM



LOCATION MAP



Legend

- | | |
|---|---|
|  Storm Outfall | 10-year Event Flooding Depths |
|  Storm Manhole |  No Flooding |
|  Storm Control Structure |  0-1 Ft |
|  Catch Basin |  1-2 Ft |
|  Storm Culvert |  >2 ft |
|  Storm Pipe |  Grid |
|  Watersheds |  Parcels |
|  Stormwater Ponds |  City Limits |

0 200
Feet


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



A3

Map Document: \\arcserver1\GIS\MOUNC17115254\ESRI\Maps\Water_Resources\Mound_Subwatershed_10yr_MapBook_11x17.mxd | Date Saved: 9/5/2018 9:38:20 AM

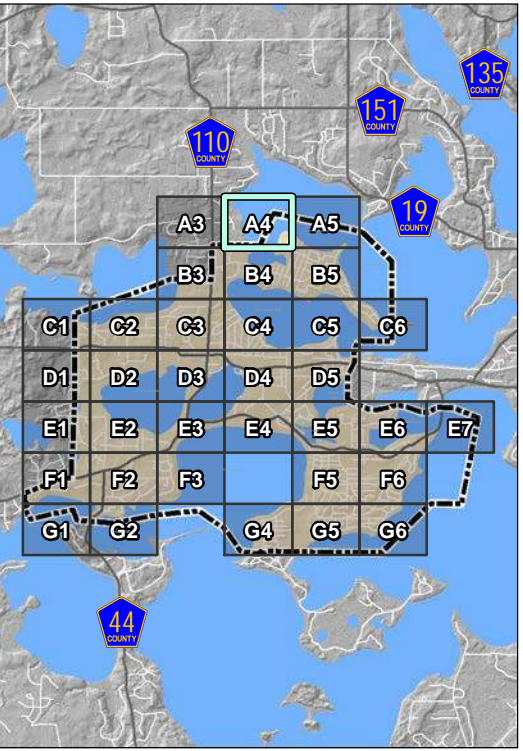





SURFACE WATER
MANAGEMENT PLAN


10-YEAR EXISTING
CONDITION


LOCATION MAP





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


10-year Event
Flooded Depths


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft

 Grid

 Parcels


 City Limits

0

200

Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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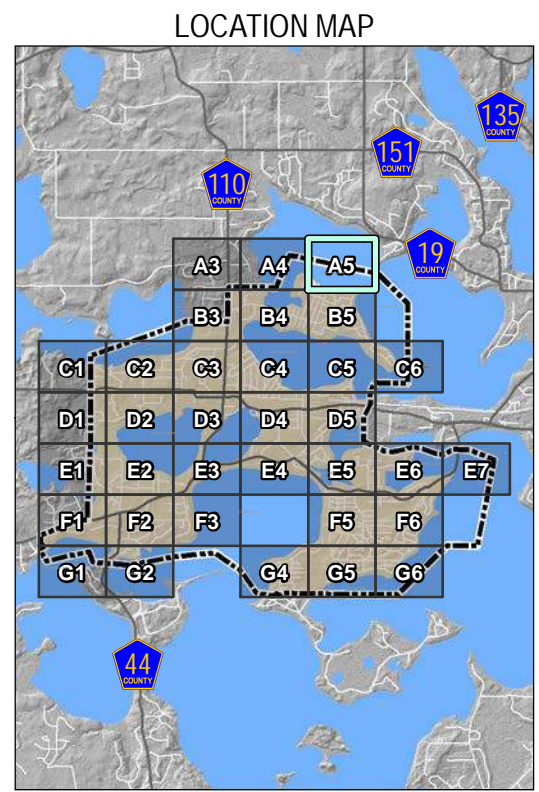
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A4


September 2018


Page 2 of 34


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

 >2 ft

 Grid

 Parcels

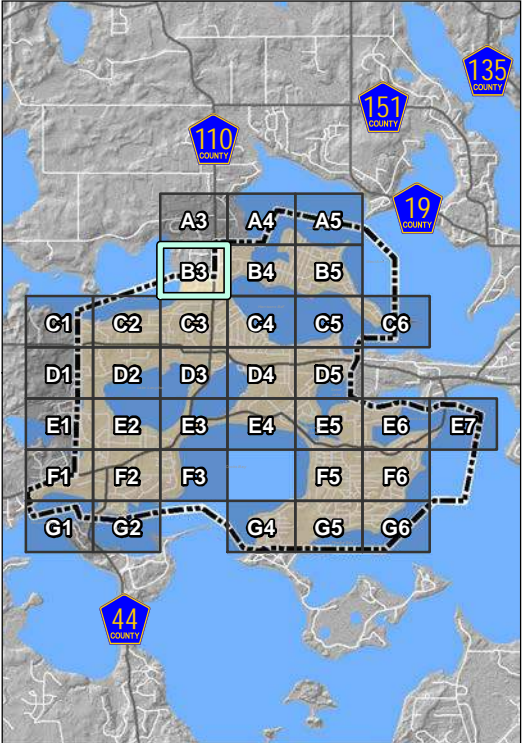
 City Limits



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LOCATION MAP



Legend

- | | | | |
|--|-------------------------|--|-------------|
| | Storm Outfall | | No Flooding |
| | Storm Manhole | | 0-1 Ft |
| | Storm Control Structure | | 1-2 Ft |
| | Catch Basin | | >2 ft |
| | Storm Culvert | | Grid |
| | Storm Pipe | | Parcels |
| | Watersheds | | City Limits |
| | Stormwater Ponds | | |

0 200
Feet

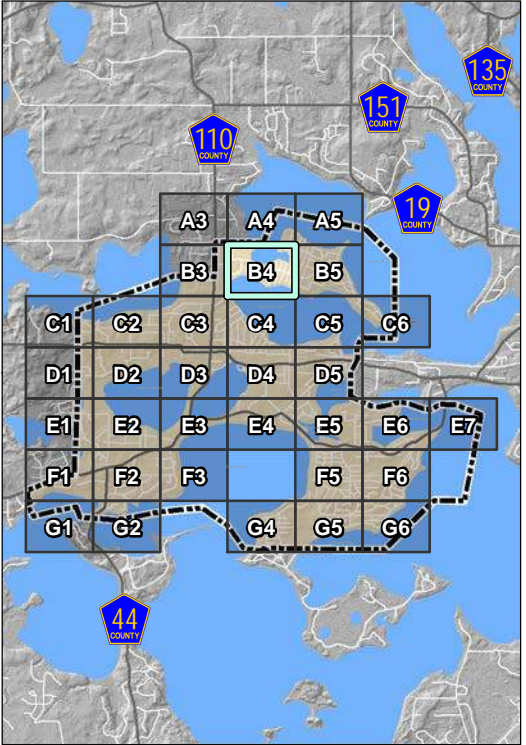
Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap




B3





LOCATION MAP





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds

 Stormwater Ponds


**10-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

>2 ft symbol" data-bbox="915 635 930 650"/> >2 ft

 Grid

 Parcels

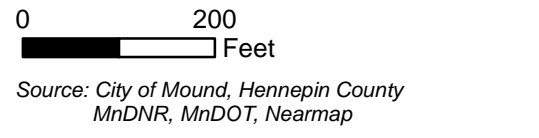
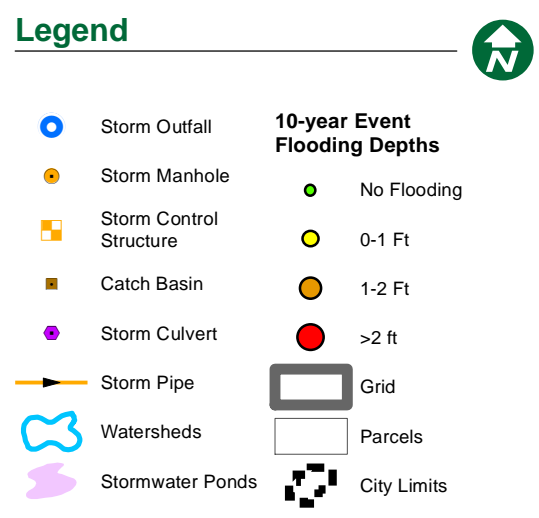
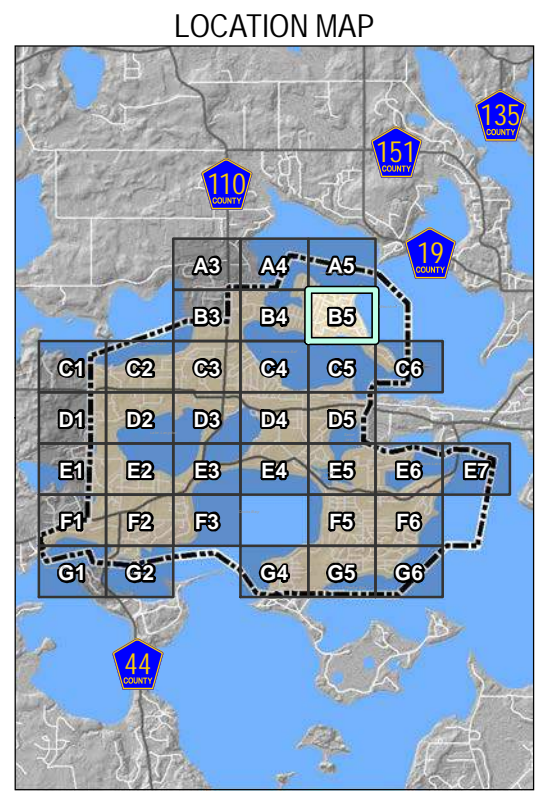
 City Limits



0200


Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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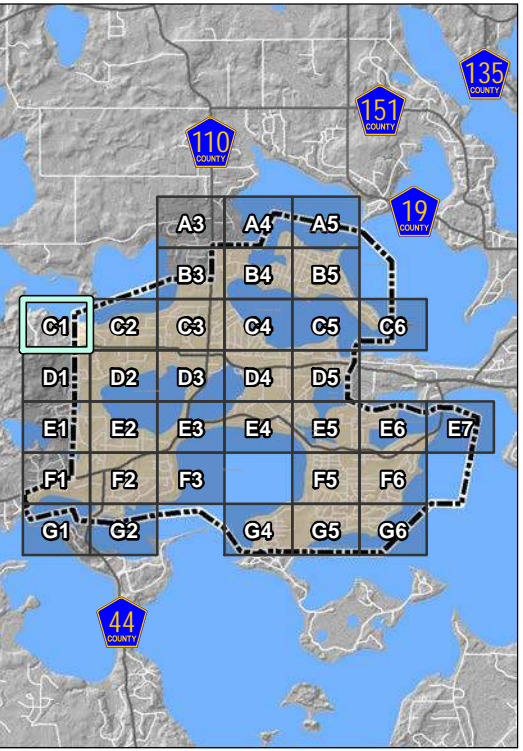





SURFACE WATER
MANAGEMENT PLAN


10-YEAR EXISTING
CONDITION


LOCATION MAP





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooded Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft


 Grid

 Parcels

 City Limits

0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



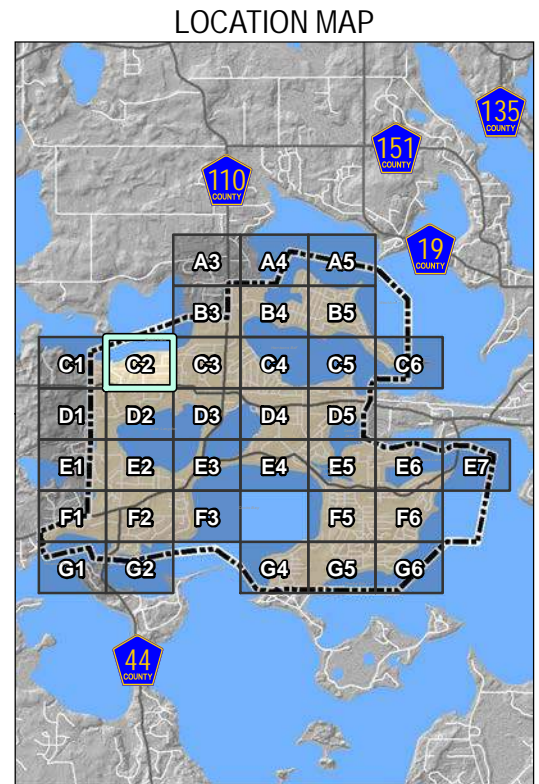
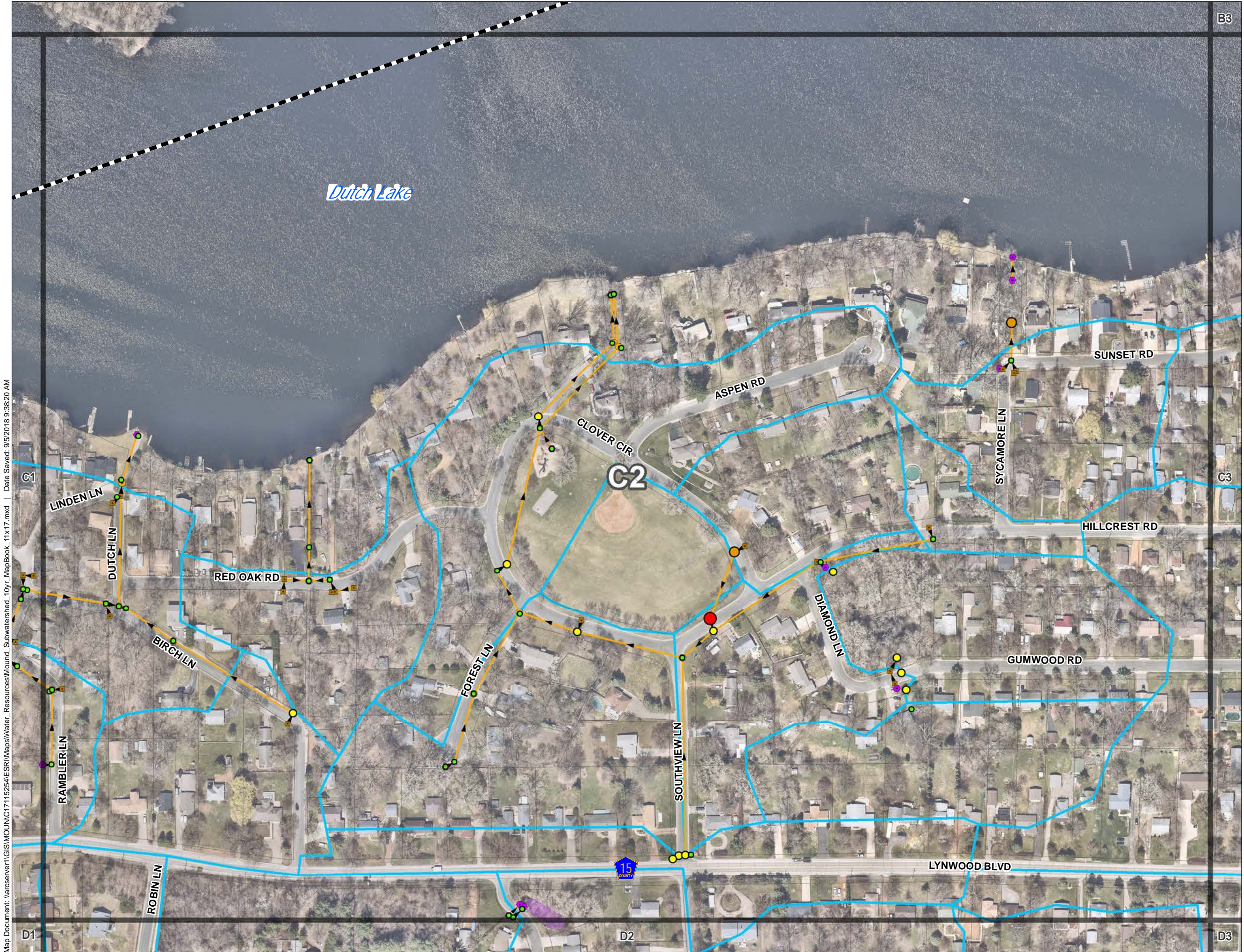
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C1


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Page 7 of 34


Map Document: \\arcserver1\GIS\MOUNC17115254\ESRI\Maps\Water_Resources\Mound_Subwatershed_10yr_MapBook_11x17.mxd | Date Saved: 9/5/2018 9:38:20 AM





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

 >2 ft

 Grid

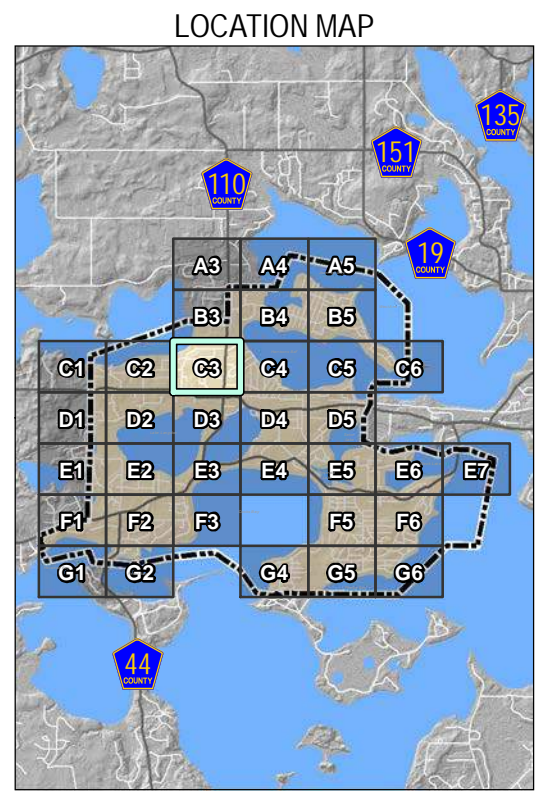
 Parcels

 City Limits





0 200 Feet


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooding Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft

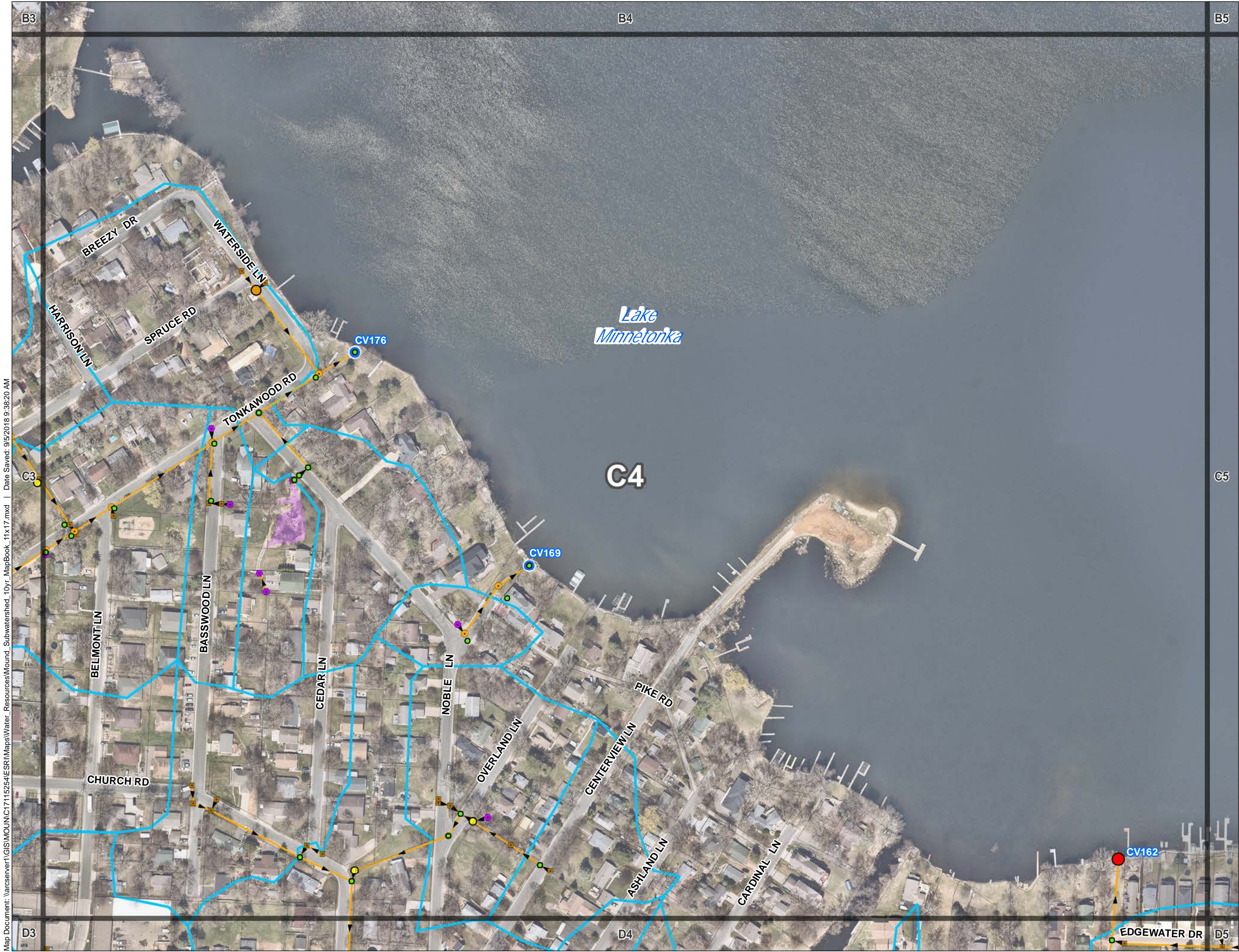
 Grid

 Parcels

 City Limits

0 200 Feet

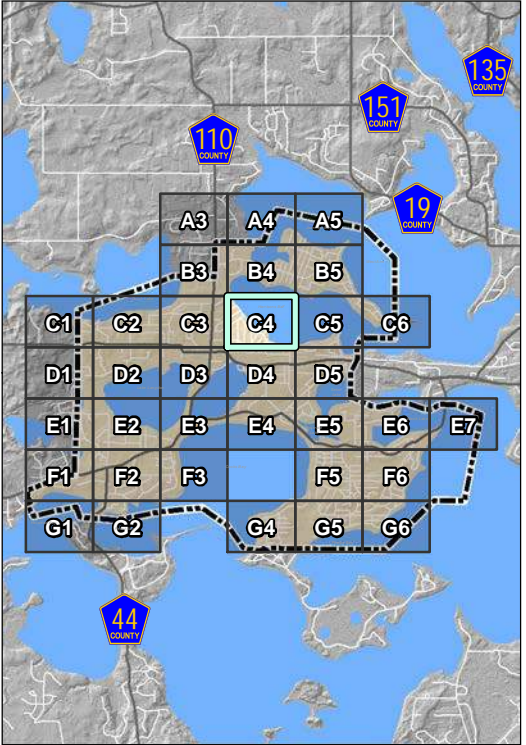
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MnDNR, MnDOT, Nearmap



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LOCATION MAP



Legend

- | | | |
|--|----------------------------|---|
| | Storm Outfall | 10-year Event
Flooded Depths |
| | Storm Manhole | No Flooding |
| | Storm Control
Structure | 0-1 Ft |
| | Catch Basin | 1-2 Ft |
| | Storm Culvert | >2 ft |
| | Storm Pipe | Grid |
| | Watersheds | Parcels |
| | Stormwater Ponds | City Limits |

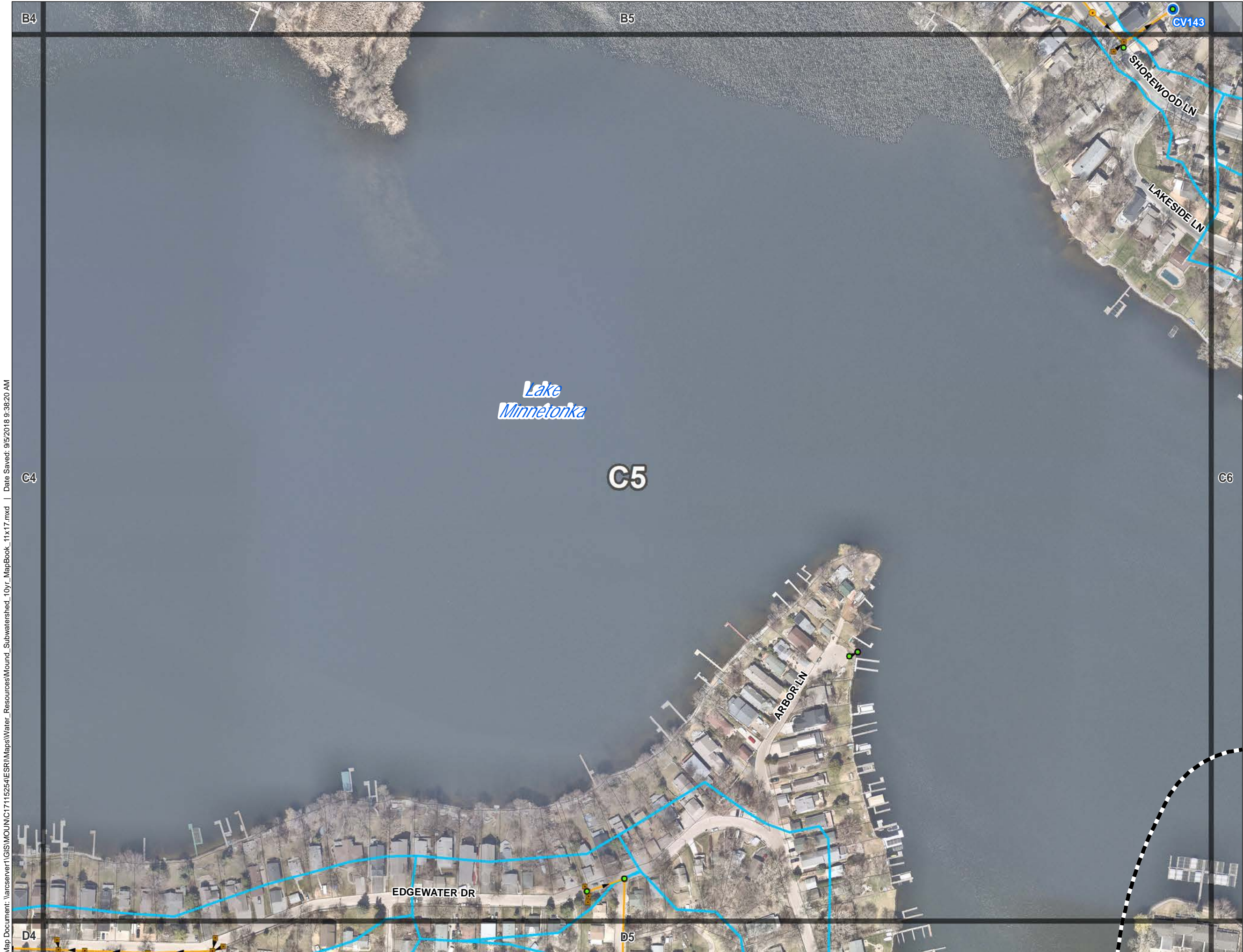
0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

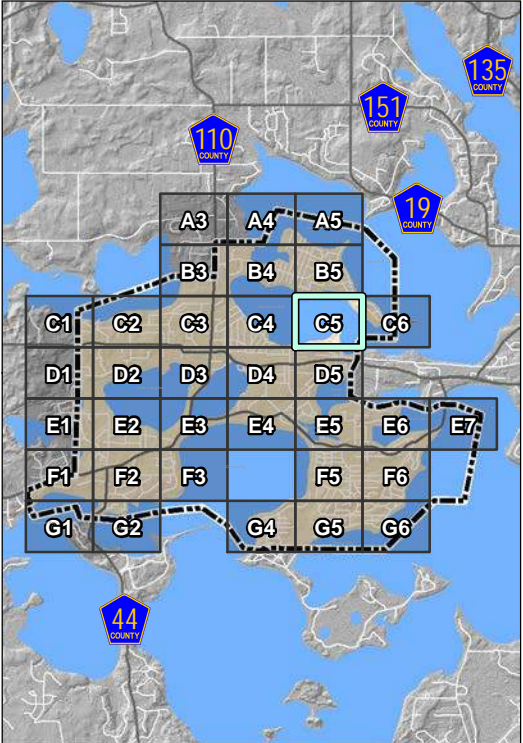


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LOCATION MAP



Legend



- | | | | | |
|--|-------------------------|--------------------------------------|-------------|-------------|
| | Storm Outfall | 10-year Event Flooding Depths | | No Flooding |
| | Storm Manhole | | 0-1 Ft | |
| | Storm Control Structure | | 1-2 Ft | |
| | Catch Basin | | >2 ft | |
| | Storm Culvert | | Grid | |
| | Storm Pipe | | Parcels | |
| | Watersheds | | City Limits | |
| | Stormwater Ponds | | | |

0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

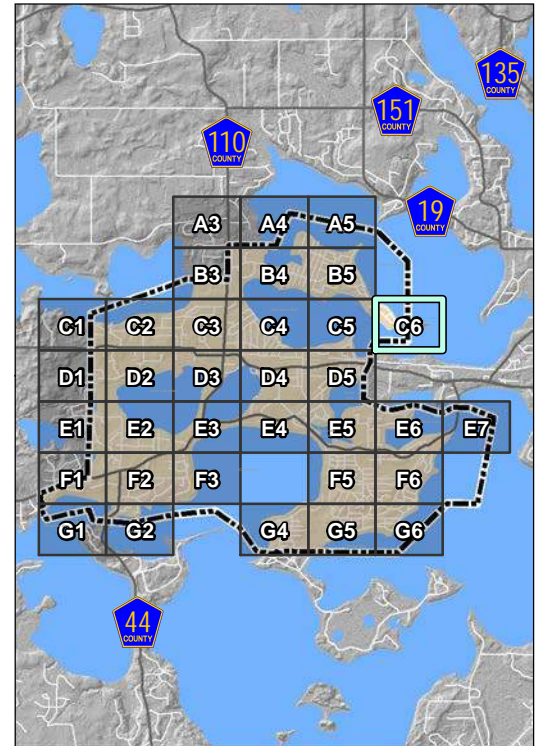


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LOCATION MAP





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

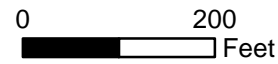
 >2 ft

 Grid

 Parcels

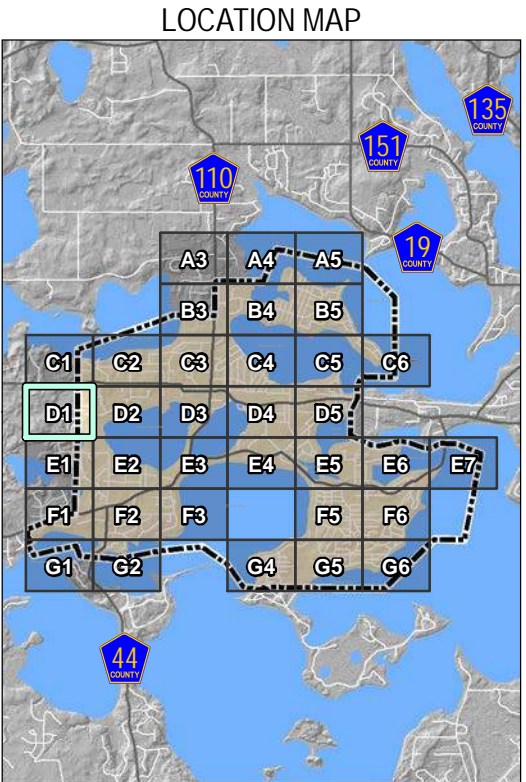
 City Limits







Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooded Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft


 Grid

 Parcels

 City Limits

0200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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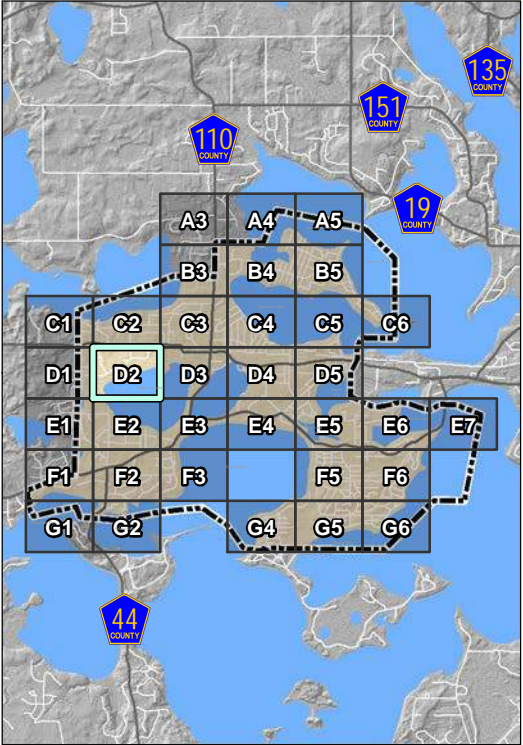
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LOCATION MAP



Legend

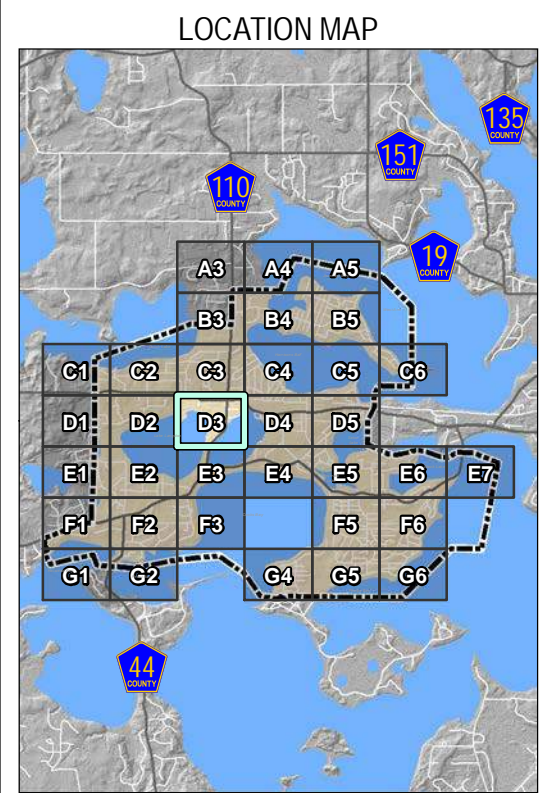
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|--|-------------------------|--|-------------|
| | Storm Outfall | | No Flooding |
| | Storm Manhole | | 0-1 Ft |
| | Storm Control Structure | | 1-2 Ft |
| | Catch Basin | | >2 ft |
| | Storm Culvert | | Grid |
| | Storm Pipe | | Parcels |
| | Watersheds | | City Limits |
| | Stormwater Ponds | | |

0 200
Feet


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap





D2





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

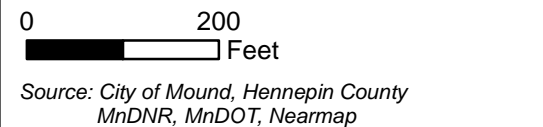
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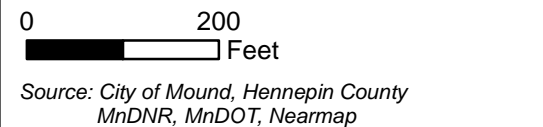
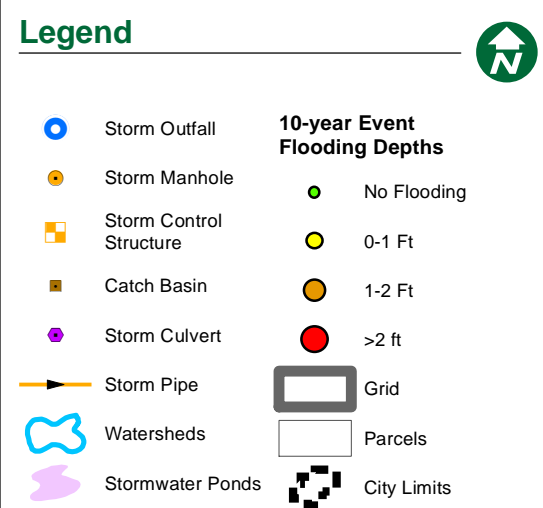
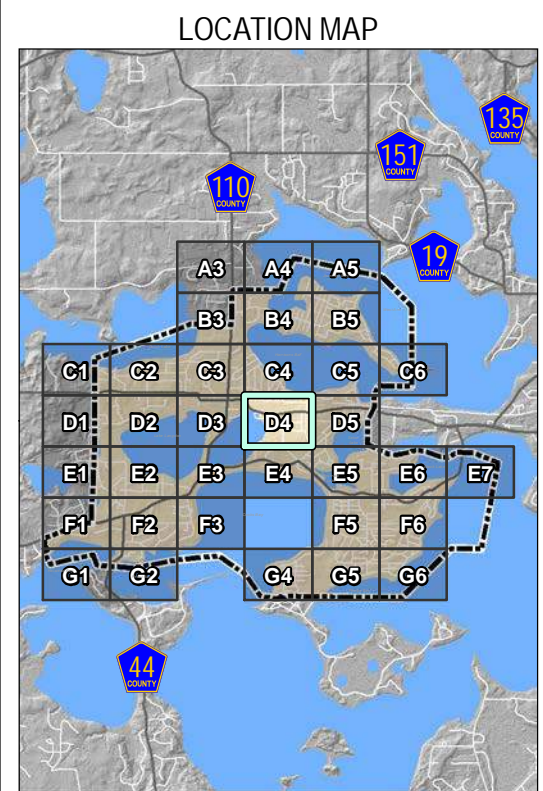
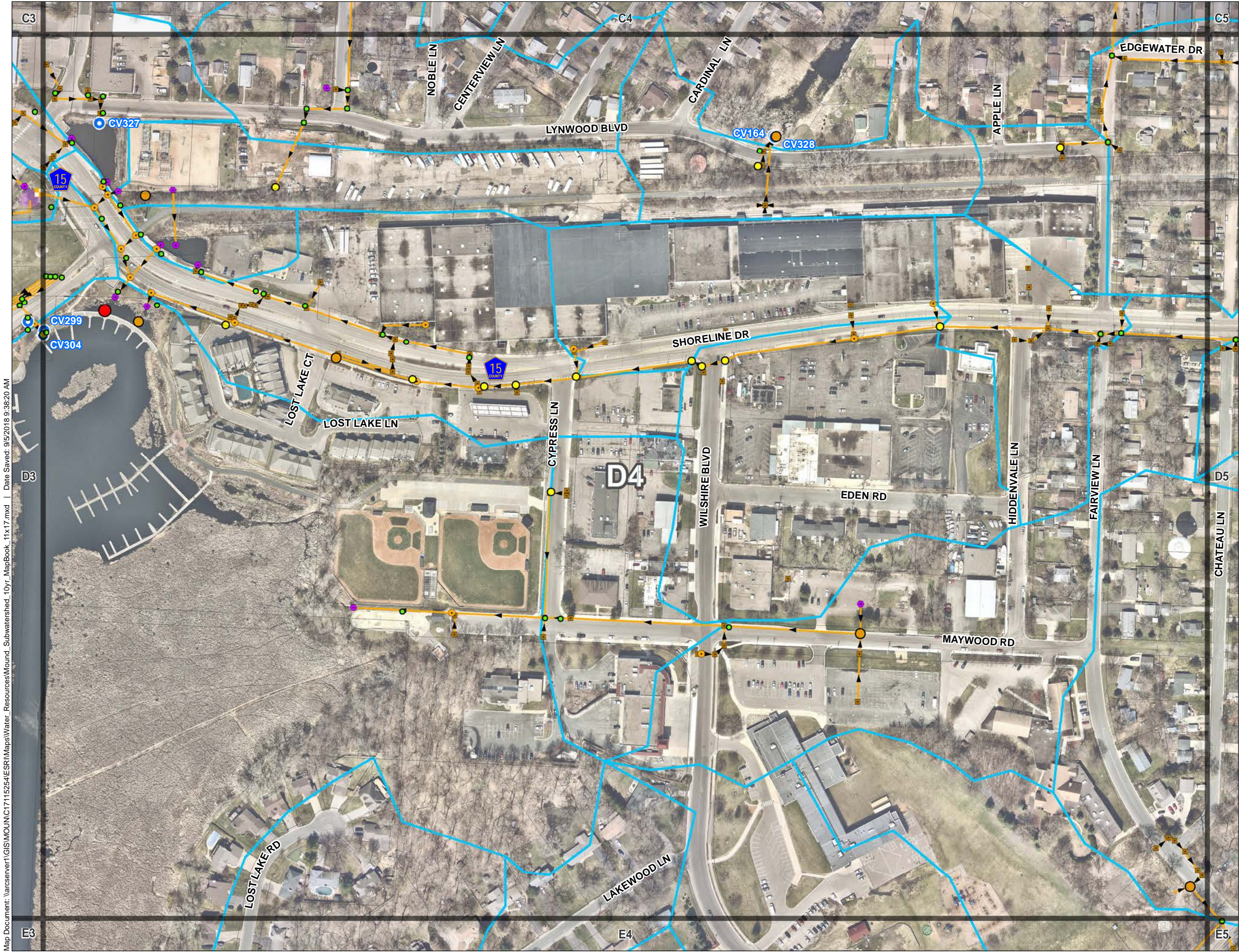
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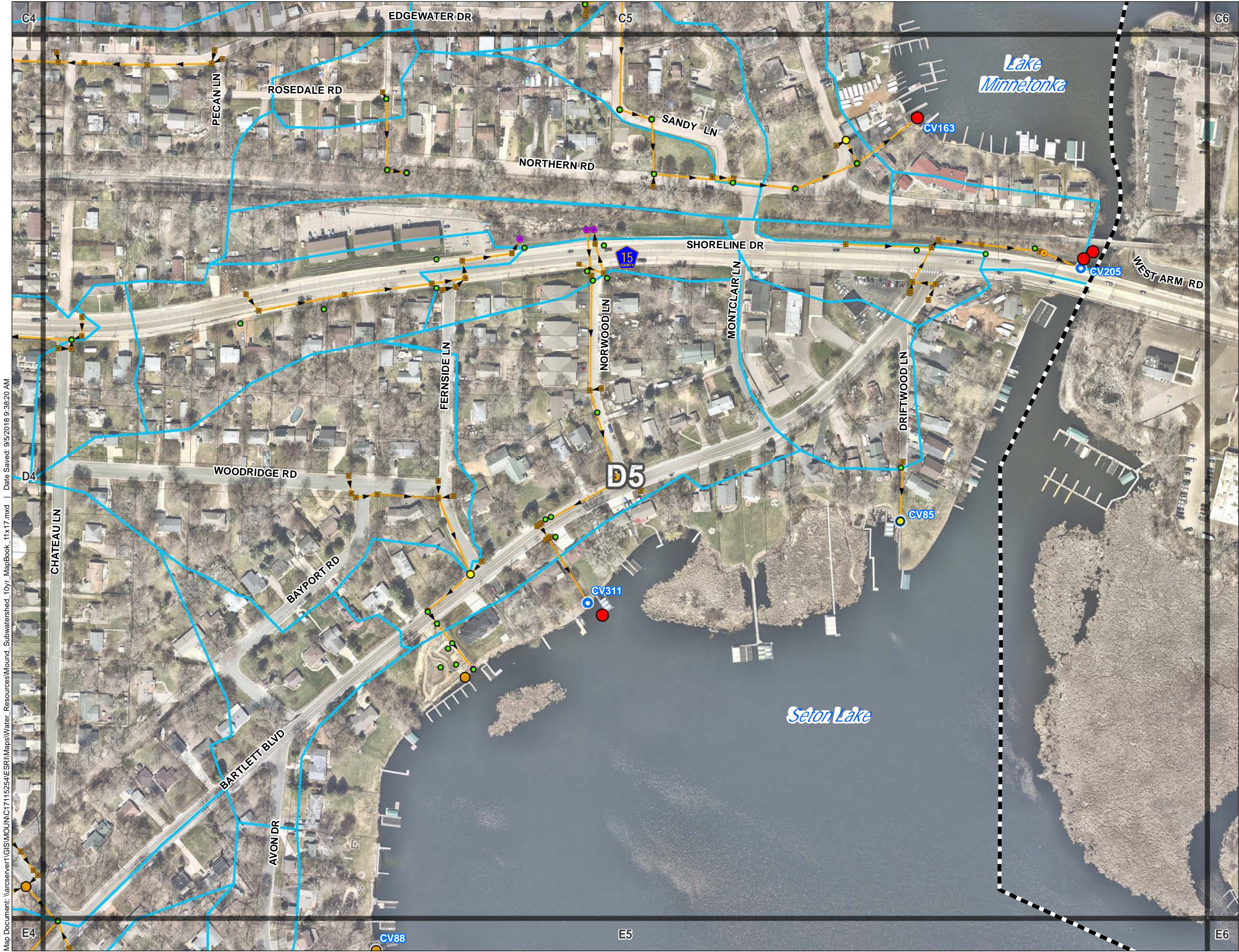
 Parcels

 City Limits

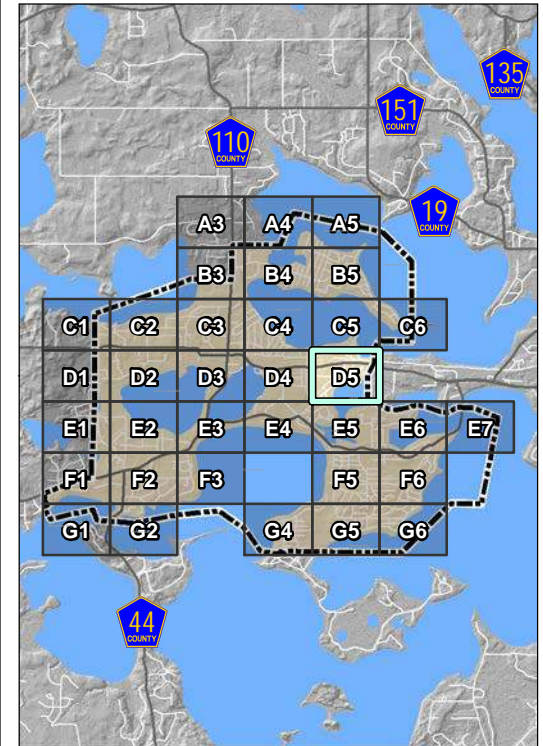























LOCATION MAP



Legend

- | | |
|---|---|
|  Storm Outfall | 10-year Event
Flooding Depths |
|  Storm Manhole |  No Flooding |
|  Storm Control Structure |  0-1 Ft |
|  Catch Basin |  1-2 Ft |
|  Storm Culvert |  >2 ft |
|  Storm Pipe |  Grid |
|  Watersheds |  Parcels |
|  Stormwater Ponds |  City Limits |

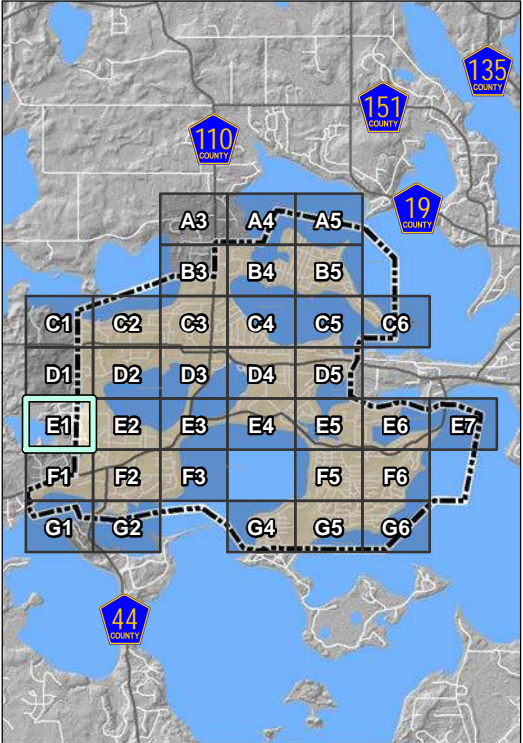
0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

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LOCATION MAP



Legend

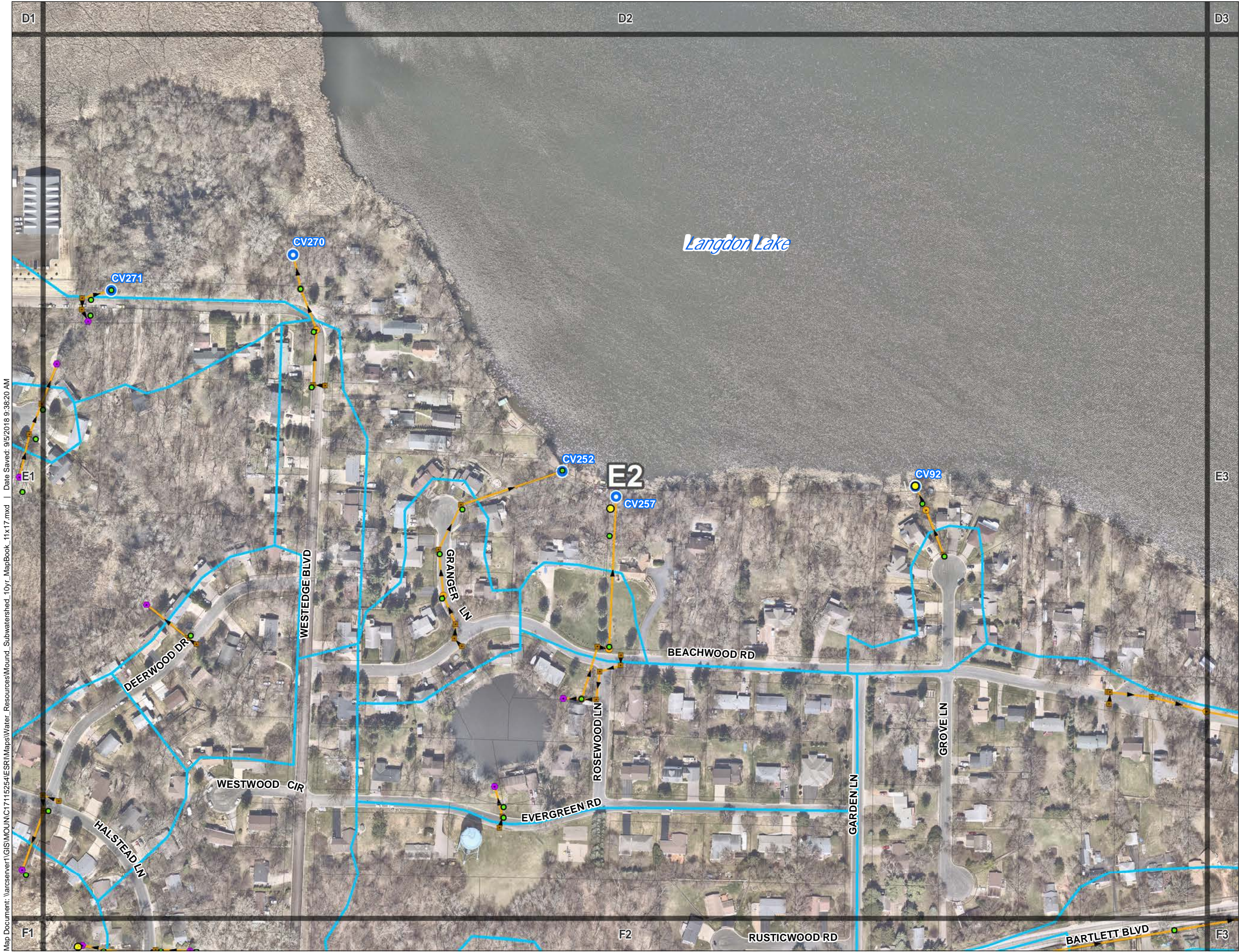
- | | | |
|--|----------------------------|--|
| | Storm Outfall | 10-year Event
Flooding Depths |
| | Storm Manhole | No Flooding |
| | Storm Control
Structure | 0-1 Ft |
| | Catch Basin | 1-2 Ft |
| | Storm Culvert | >2 ft |
| | Storm Pipe | Grid |
| | Watersheds | Parcels |
| | Stormwater Ponds | City Limits |

0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



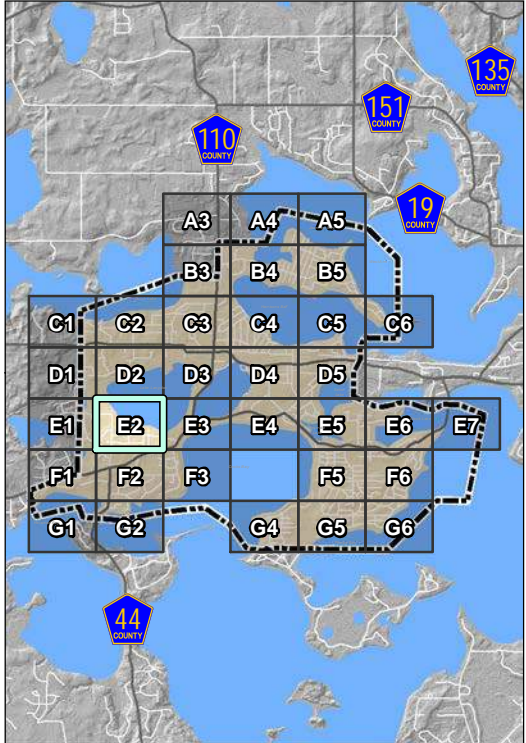
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LOCATION MAP



Legend

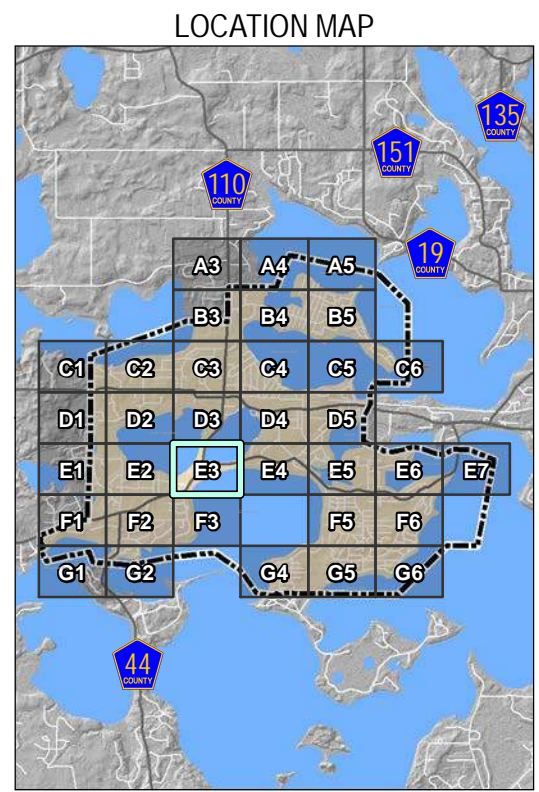
- | | |
|-------------------------|--------------------------------------|
| Storm Outfall | 10-year Event Flooding Depths |
| Storm Manhole | No Flooding |
| Storm Control Structure | 0-1 Ft |
| Catch Basin | 1-2 Ft |
| Storm Culvert | >2 ft |
| Storm Pipe | Grid |
| Watersheds | Parcels |
| Stormwater Ponds | City Limits |

0 200
Feet


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap





E2





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

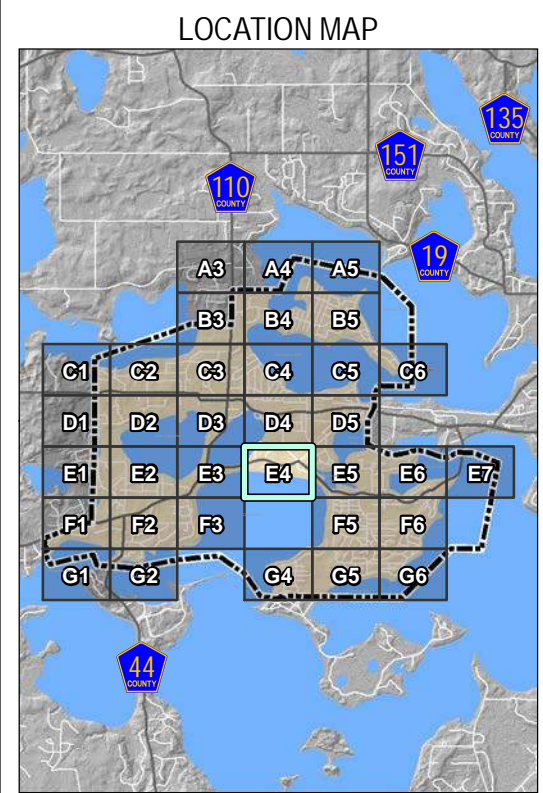
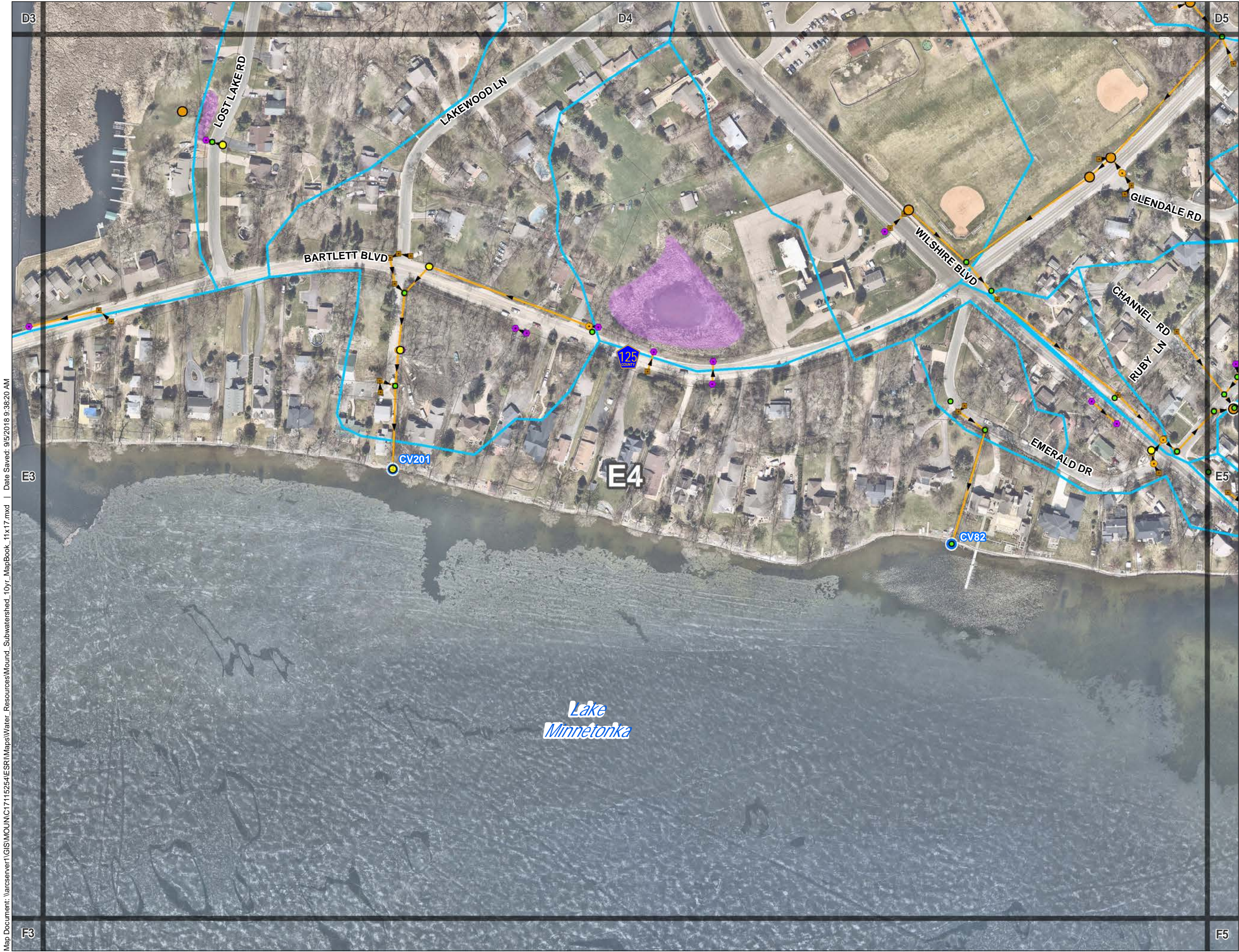
 >2 ft

 Grid


 Parcels


 City Limits








Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooded Depths**


 No Flooding


 0-1 Ft

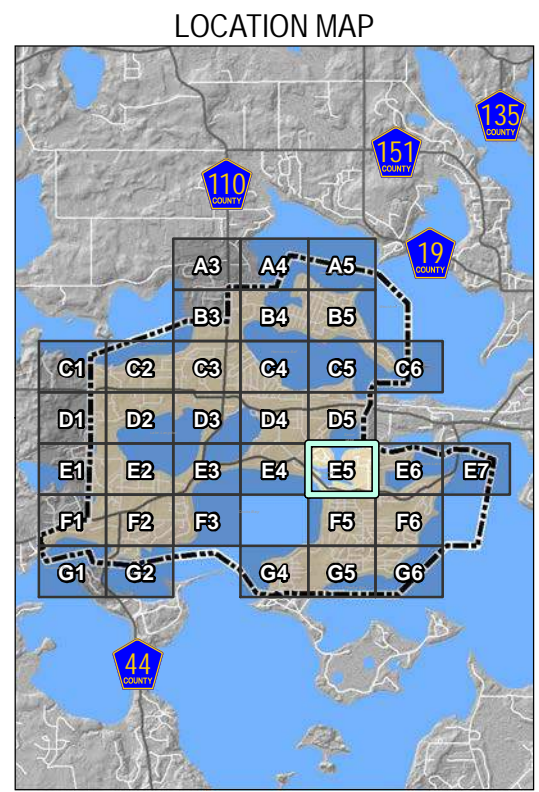
 1-2 Ft

 >2 ft

 Grid

 Parcels

 City Limits



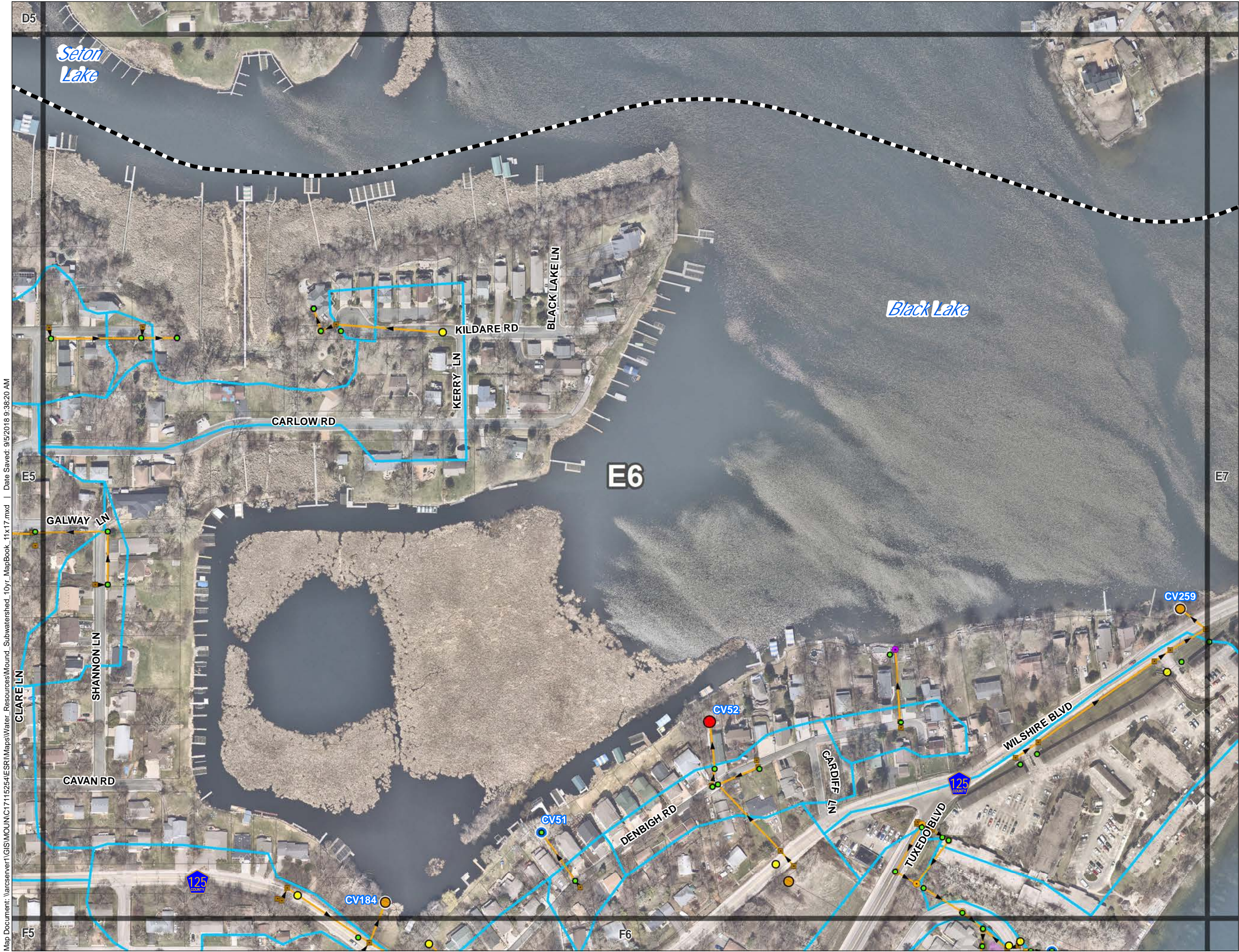
Legend

- Storm Outfall
- Storm Manhole
- Storm Control Structure
- Catch Basin
- Storm Culvert
- Storm Pipe
- Watersheds
- Stormwater Ponds

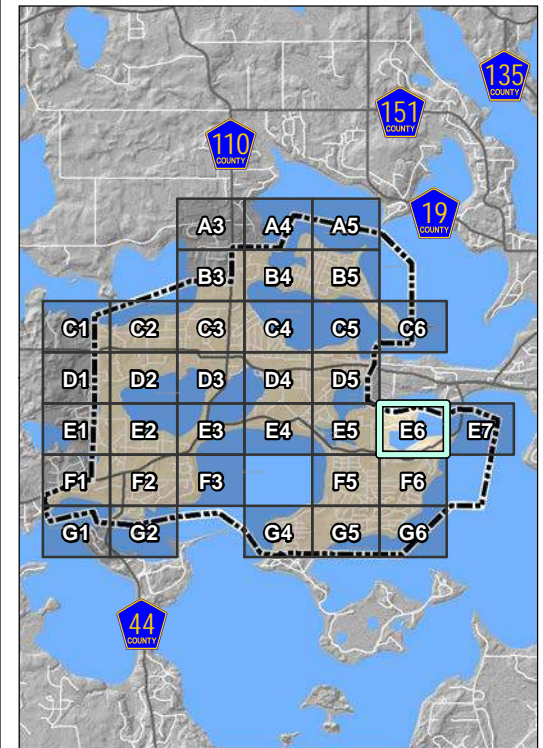
10-year Event Flooding Depths

- No Flooding
- 0-1 Ft
- 1-2 Ft
- >2 ft
















- Grid
- Parcels
- City Limits



LOCATION MAP



Legend

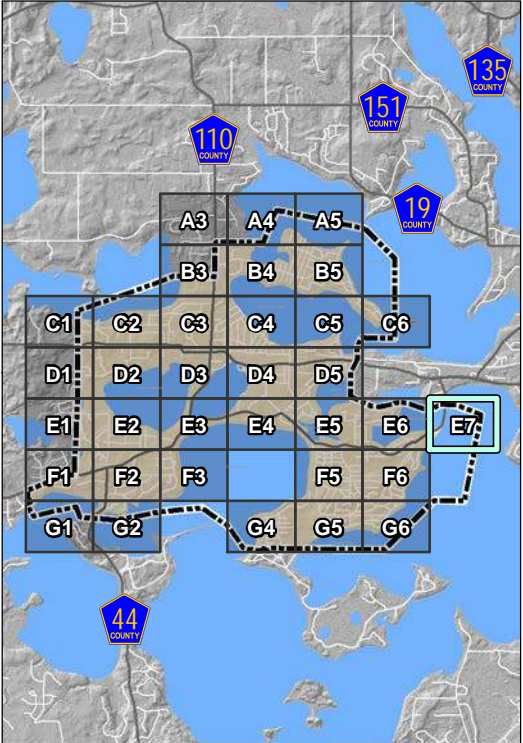
	Storm Outfall		No Flooding
	Storm Manhole		0-1 Ft
	Storm Control Structure		1-2 Ft
	Catch Basin		>2 ft
	Storm Culvert		Grid
	Storm Pipe		Parcels
	Watersheds		City Limits
	Stormwater Ponds		

10-year Event Flooding Depths

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LOCATION MAP



Legend



- | | |
|-------------------------|--------------------------------------|
| Storm Outfall | 10-year Event Flooding Depths |
| Storm Manhole | No Flooding |
| Storm Control Structure | 0-1 Ft |
| Catch Basin | 1-2 Ft |
| Storm Culvert | >2 ft |
| Storm Pipe | Grid |
| Watersheds | Parcels |
| Stormwater Ponds | City Limits |

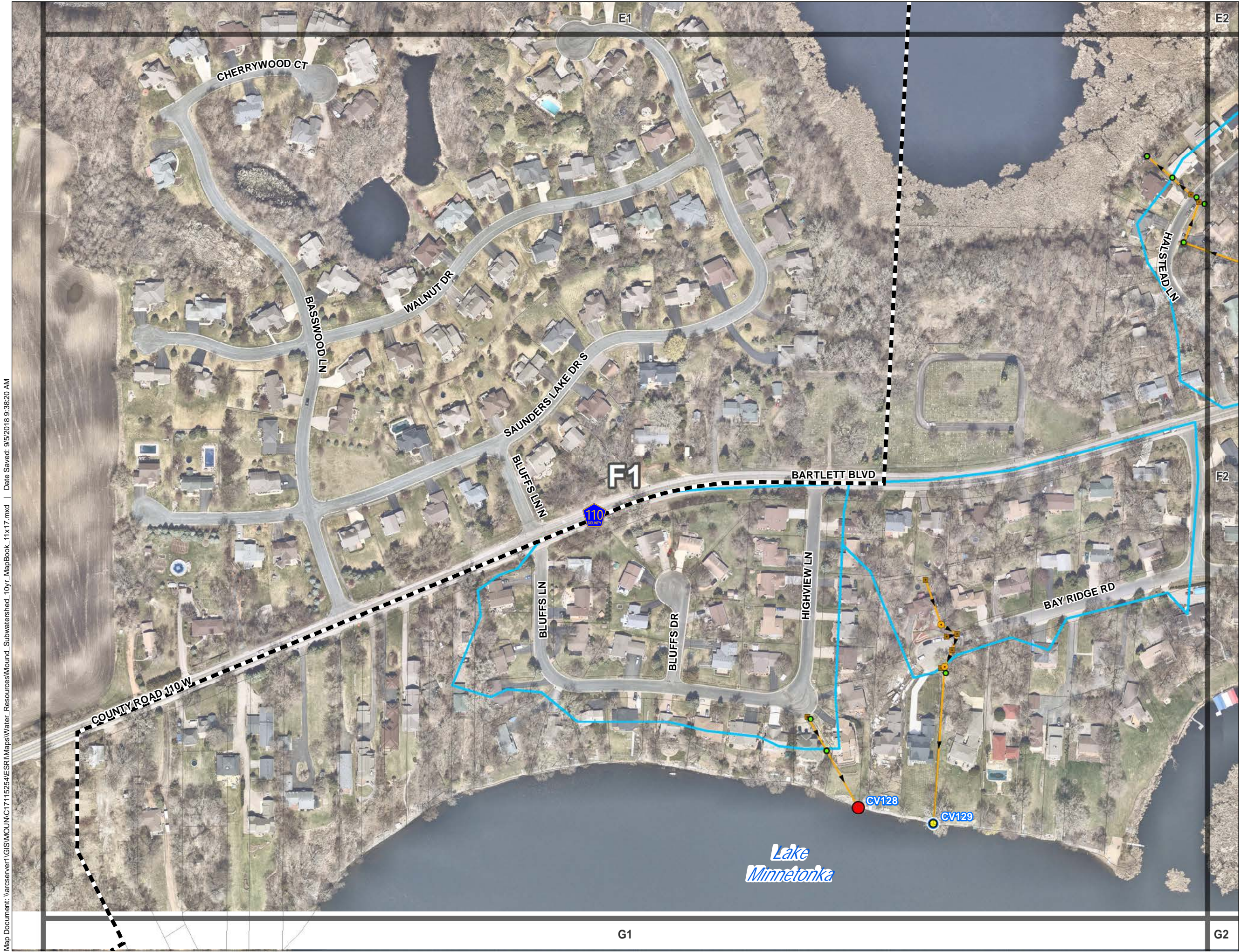
0 200
Feet


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



E7

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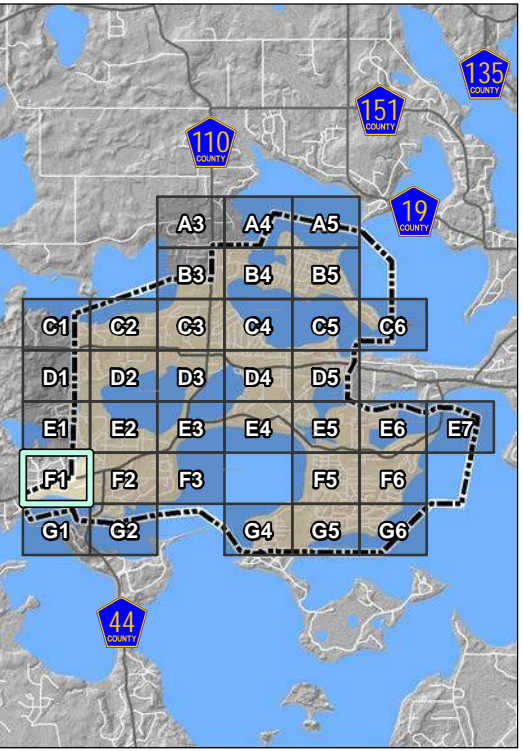



















**SURFACE WATER
MANAGEMENT PLAN**

10-YEAR EXISTING
CONDITION

LOCATION MAP




Legend


	Storm Outfall		No Flooding
	Storm Manhole		0-1 Ft
	Storm Control Structure		1-2 Ft
	Catch Basin		>2 ft
	Storm Culvert		Grid
	Storm Pipe		Parcels
	Watersheds		City Limits
	Stormwater Ponds		

0 200 Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



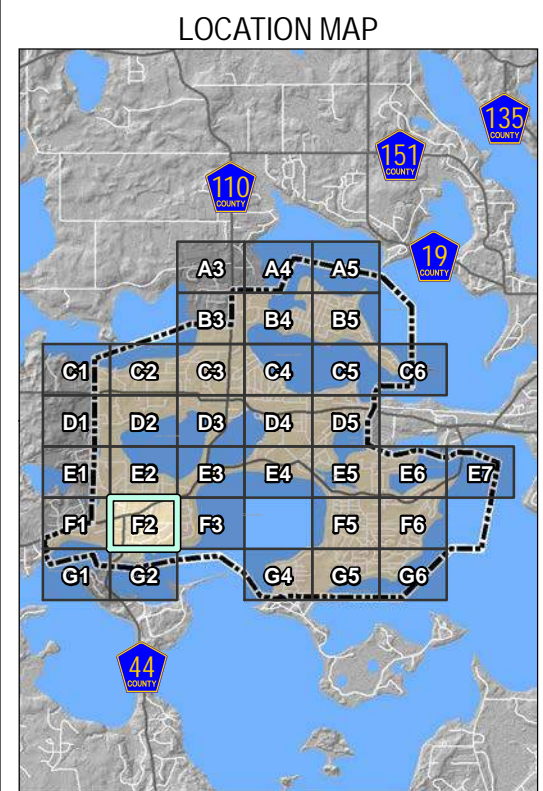
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F1


September 2018


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooding Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft

 Grid

 Parcels

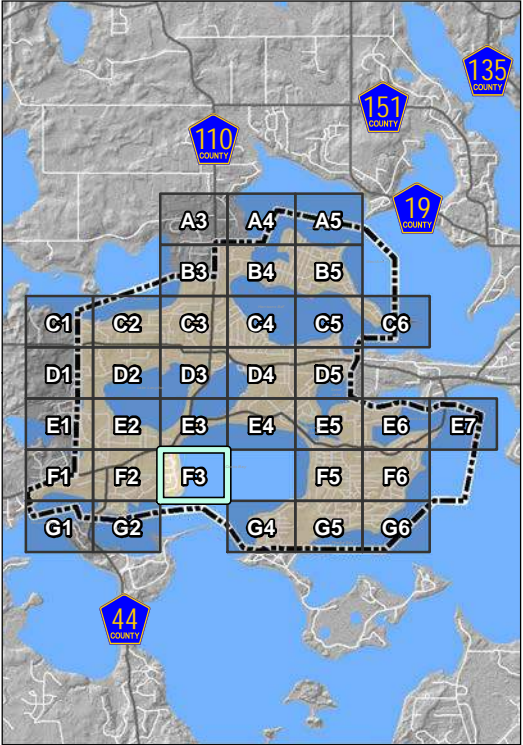
 City Limits



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LOCATION MAP



Legend

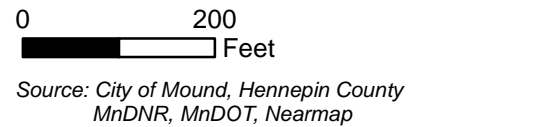
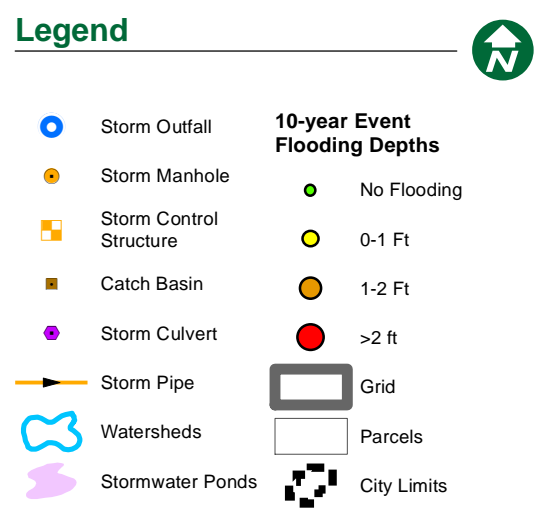
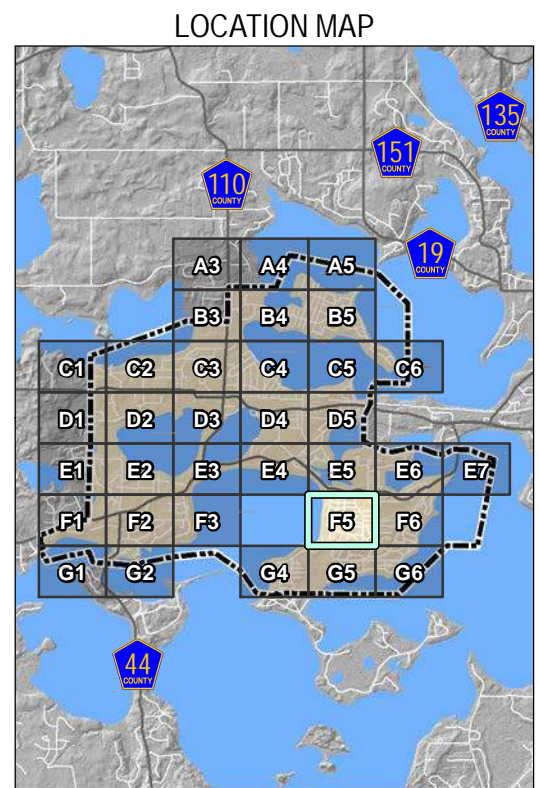
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|-------------------------|---|
| Storm Outfall | 10-year Event
Flooded Depths |
| Storm Manhole | |
| Storm Control Structure | |
| Catch Basin | |
| Storm Culvert | |
| Storm Pipe | No Flooding |
| Watersheds | 0-1 Ft |
| Stormwater Ponds | 1-2 Ft |
| | >2 ft |
| | Grid |
| | Parcels |
| | City Limits |

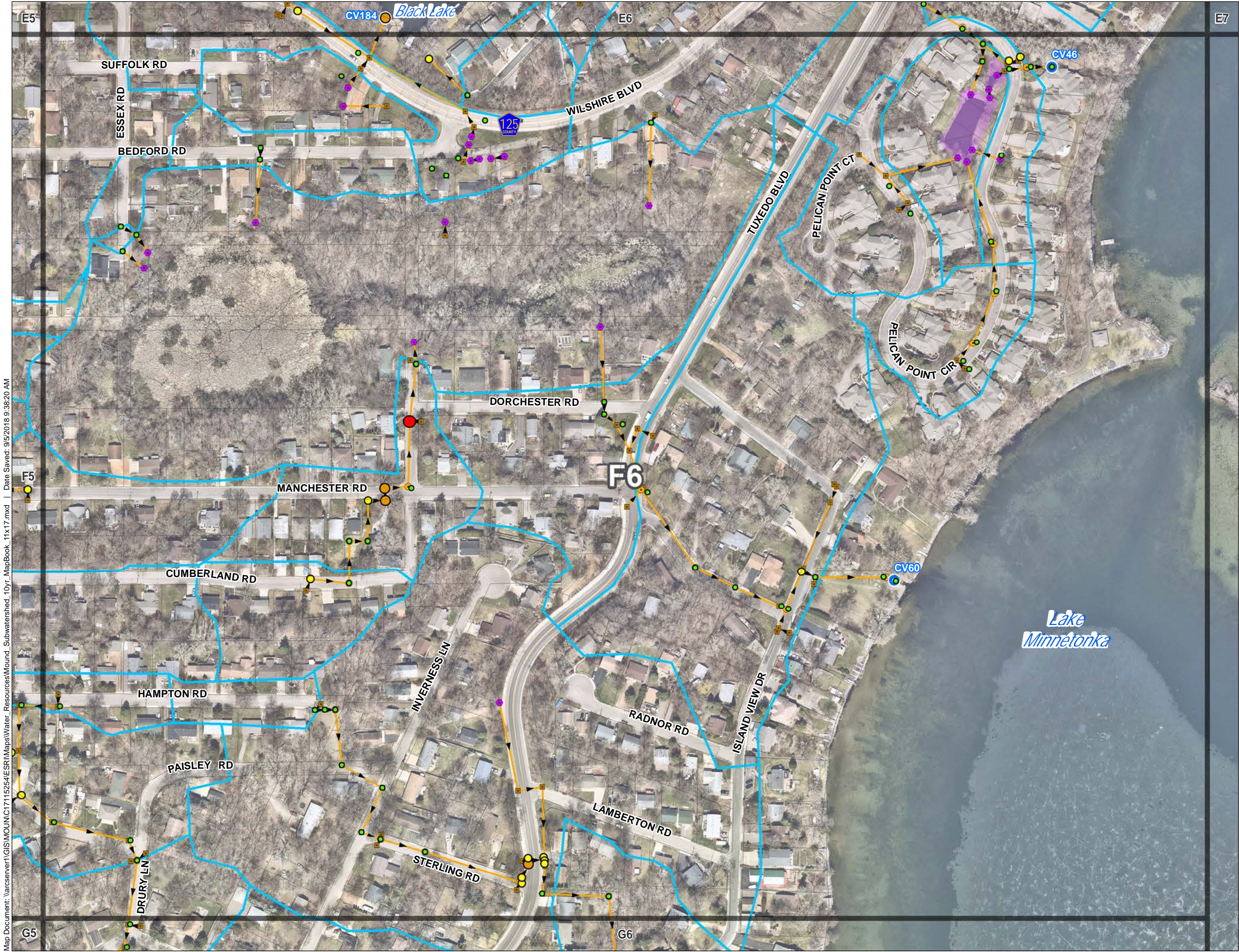
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Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

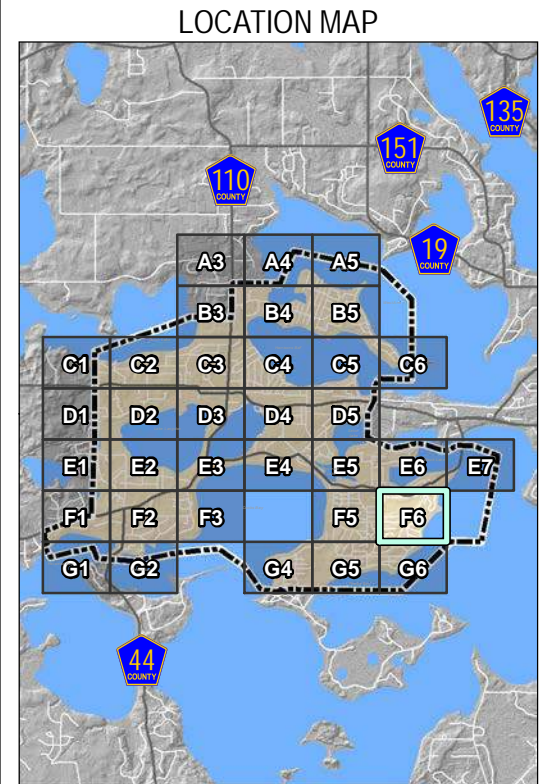


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Legend

- Storm Outfall
- Storm Manhole
- Storm Control Structure
- Catch Basin
- Storm Culvert
- Storm Pipe
- Watersheds
- Stormwater Ponds

**10-year Event
Flooded Depths**

- No Flooding
- 0-1 Ft
- 1-2 Ft
- >2 ft

- Grid
- Parcels
- City Limits



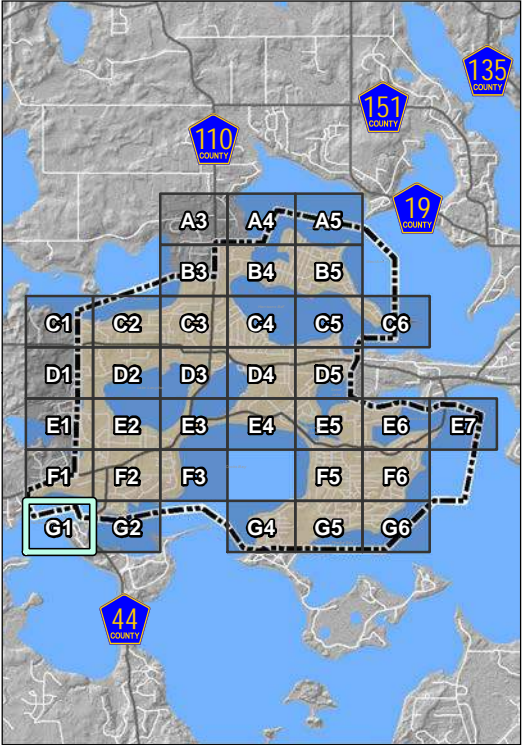
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Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap
















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LOCATION MAP



Legend

- | | |
|---|---|
|  Storm Outfall | 10-year Event Flooding Depths |
|  Storm Manhole |  No Flooding |
|  Storm Control Structure |  0-1 Ft |
|  Catch Basin |  1-2 Ft |
|  Storm Culvert |  >2 ft |
|  Storm Pipe |  Grid |
|  Watersheds |  Parcels |
|  Stormwater Ponds |  City Limits |



0 200
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Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

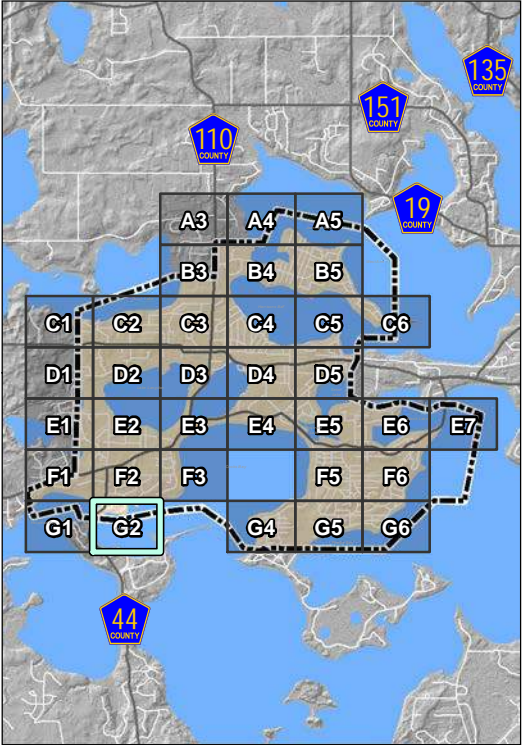




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LOCATION MAP



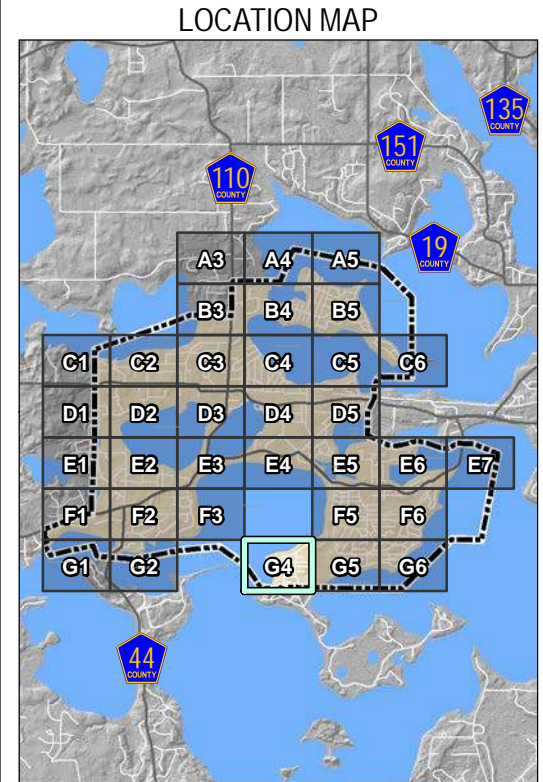
Legend

- | | | | |
|--|-------------------------|--|-------------|
| | Storm Outfall | | No Flooding |
| | Storm Manhole | | 0-1 Ft |
| | Storm Control Structure | | 1-2 Ft |
| | Catch Basin | | >2 ft |
| | Storm Culvert | | Grid |
| | Storm Pipe | | Parcels |
| | Watersheds | | City Limits |
| | Stormwater Ponds | | |


0 200
Feet


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap








Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

 >2 ft

 Grid

 Parcels

 City Limits

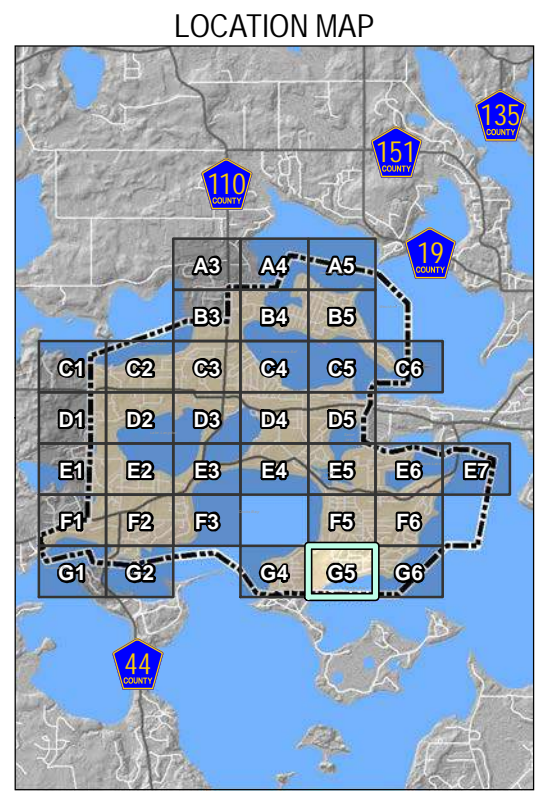


0200


Feet


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**10-year Event
Flooded Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

 >2 ft

 Grid

 Parcels

 City Limits

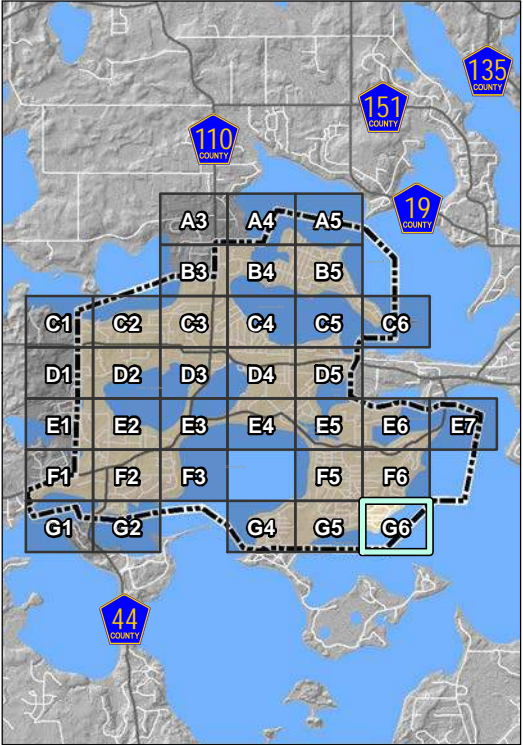




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LOCATION MAP



Legend

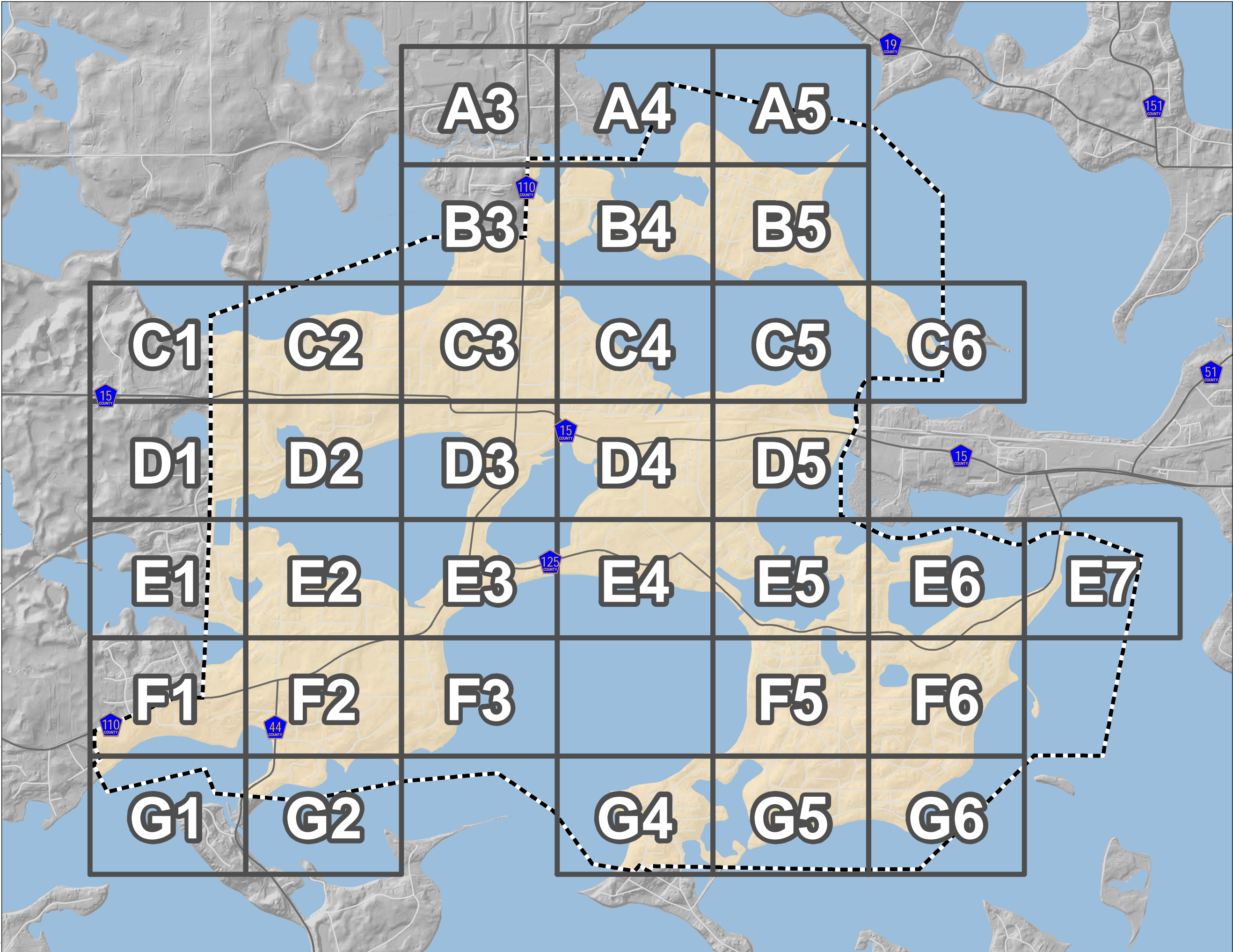
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|--|-------------------------|--|-------------|
| | Storm Outfall | | No Flooding |
| | Storm Manhole | | 0-1 Ft |
| | Storm Control Structure | | 1-2 Ft |
| | Catch Basin | | >2 ft |
| | Storm Culvert | | Grid |
| | Storm Pipe | | Parcels |
| | Watersheds | | City Limits |
| | Stormwater Ponds | | |


0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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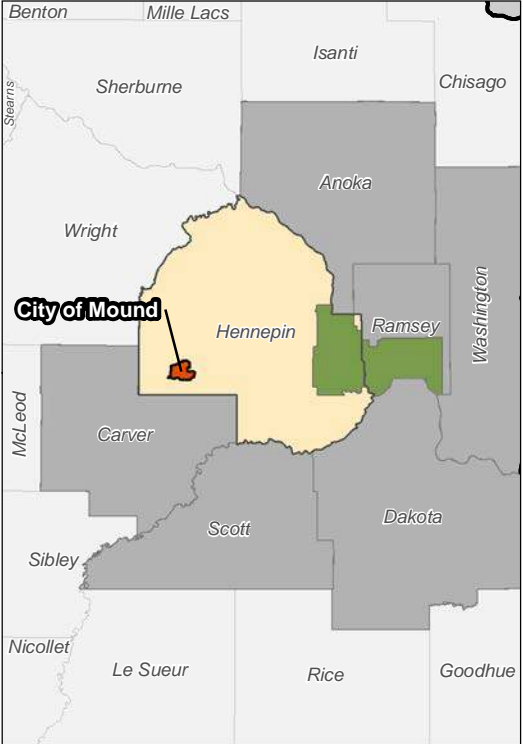













SURFACE WATER
MANAGEMENT PLAN

100-YEAR EXISTING
CONDITION

LOCATION MAP



Legend


-  Grid
-  City Limits
-  Interstate
-  U.S. Highways
-  State Highways
-  County Roads
-  Local Roads
-  Protected Waters - Basin
-  Protected Waters - Watercourse

0

1,500

Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT



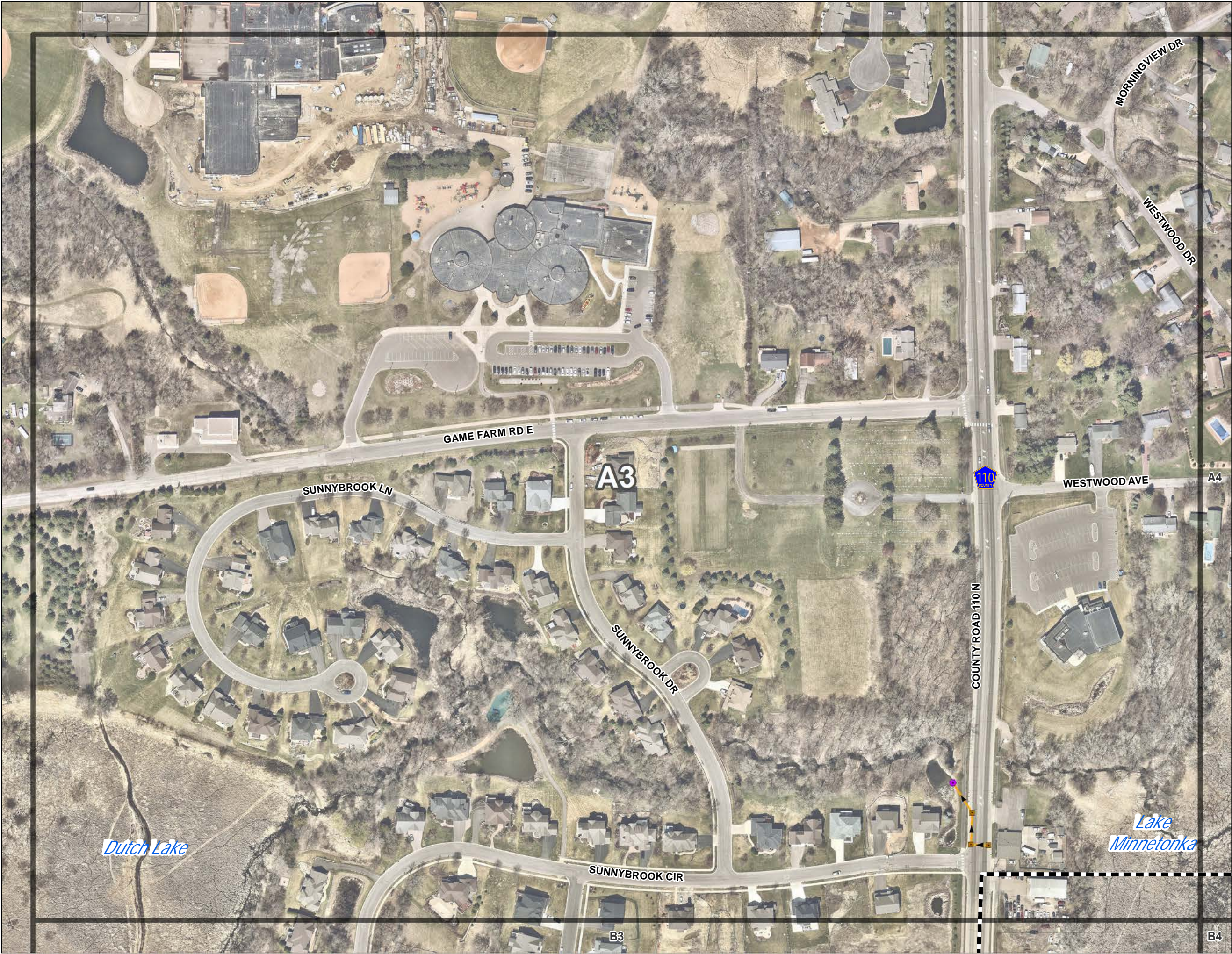
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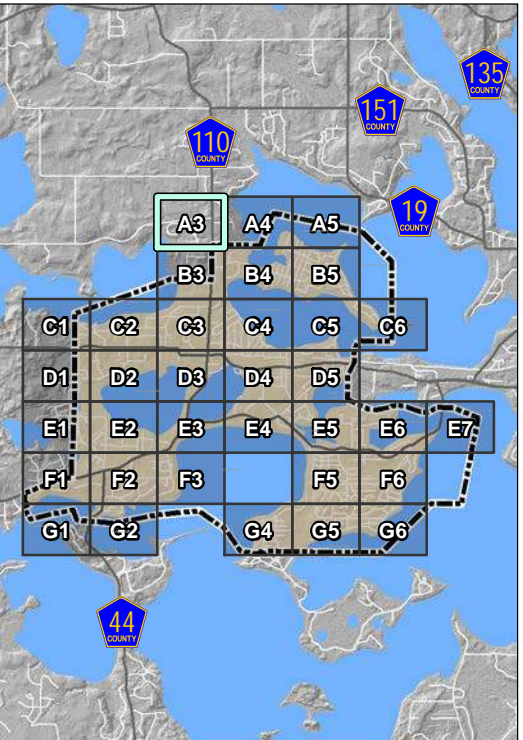





SURFACE WATER
MANAGEMENT PLAN


100-YEAR EXISTING
CONDITION


LOCATION MAP





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooded Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft


 Grid

 Parcels

 City Limits

0 200 Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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A3

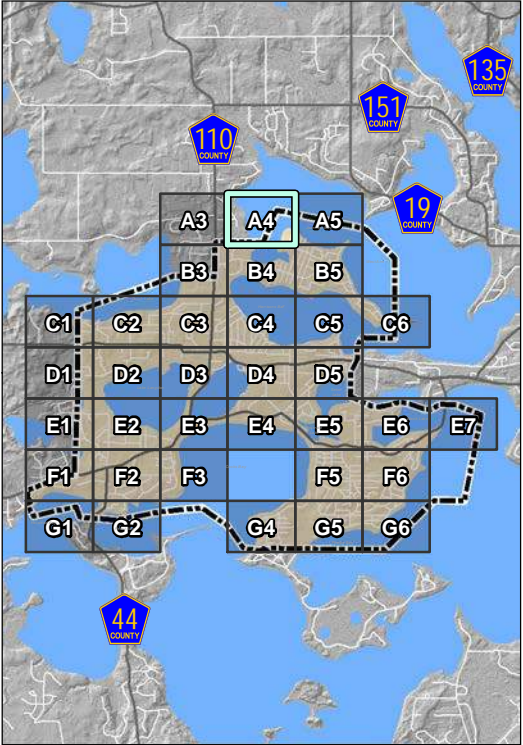
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LOCATION MAP



Legend

- | | | | |
|--|-------------------------|--|-------------|
| | Storm Outfall | | No Flooding |
| | Storm Manhole | | 0-1 Ft |
| | Storm Control Structure | | 1-2 Ft |
| | Catch Basin | | >2 ft |
| | Storm Culvert | | Grid |
| | Storm Pipe | | Parcels |
| | Watersheds | | City Limits |
| | Stormwater Ponds | | |

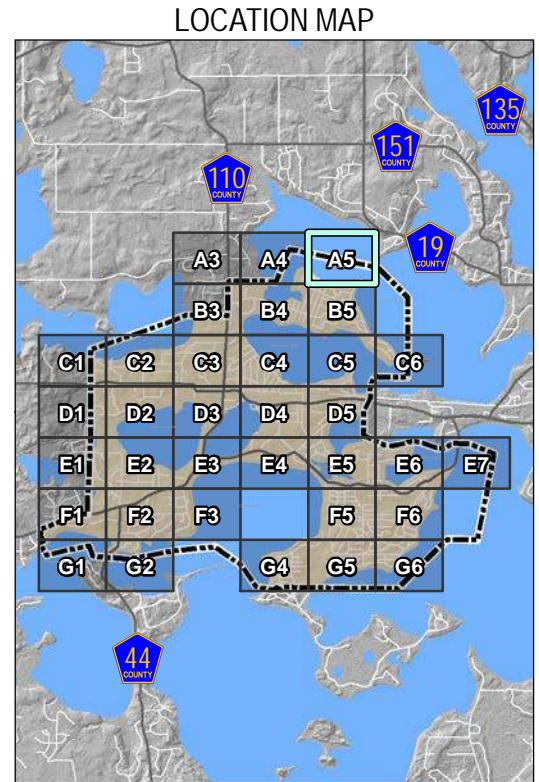
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Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap





A4


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

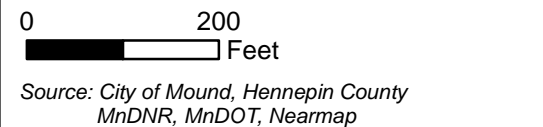
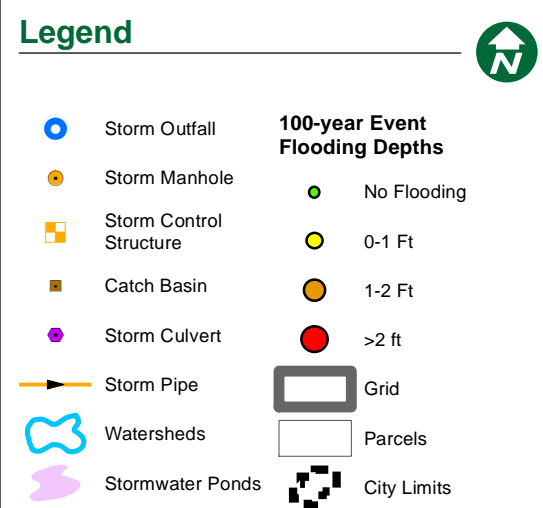
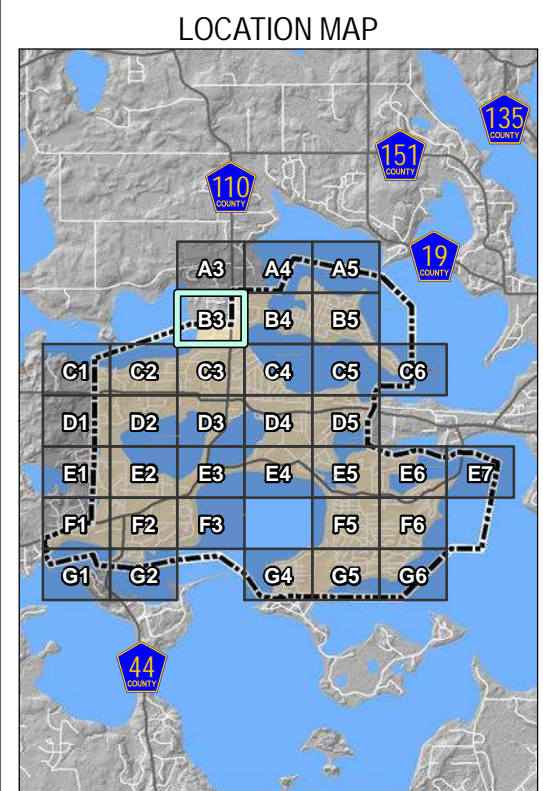
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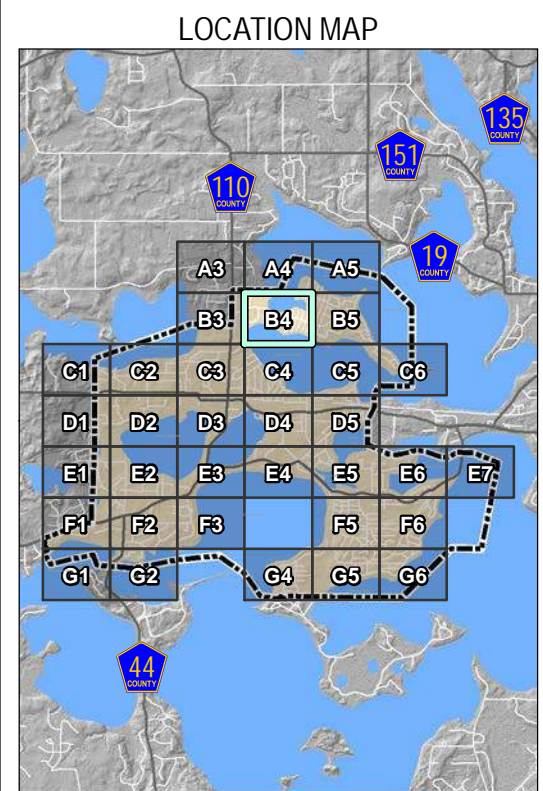
 Grid

 Parcels


 City Limits


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds

 Stormwater Ponds


100-year Event
Flooded Depths


 No Flooding


 0-1 Ft

 1-2 Ft

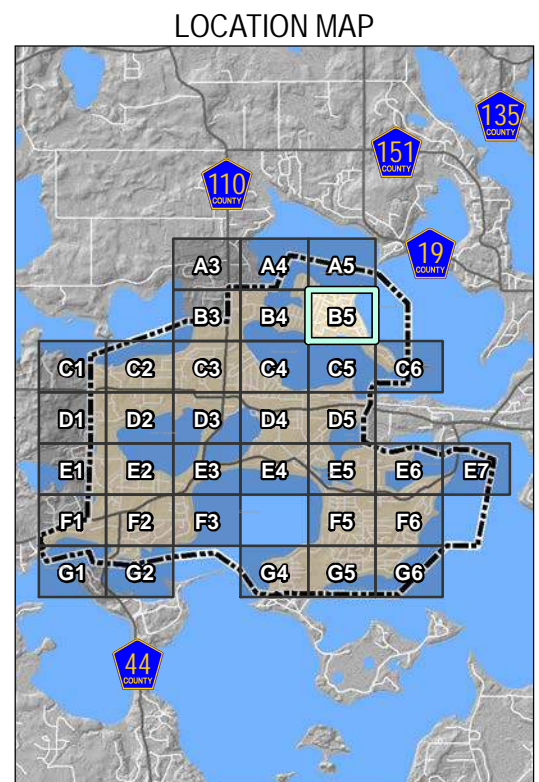
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 Grid


 Parcels


 City Limits


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

 >2 ft

 Grid

 Parcels


 City Limits



0200

Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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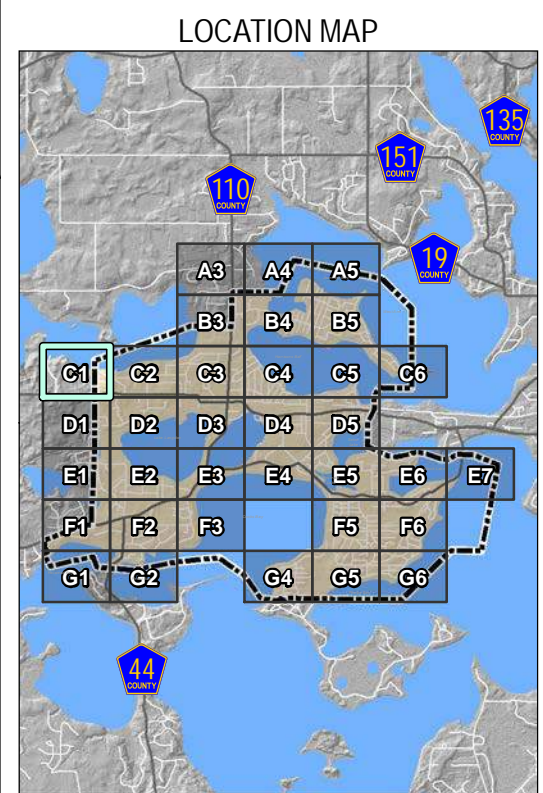
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B5

September 2018


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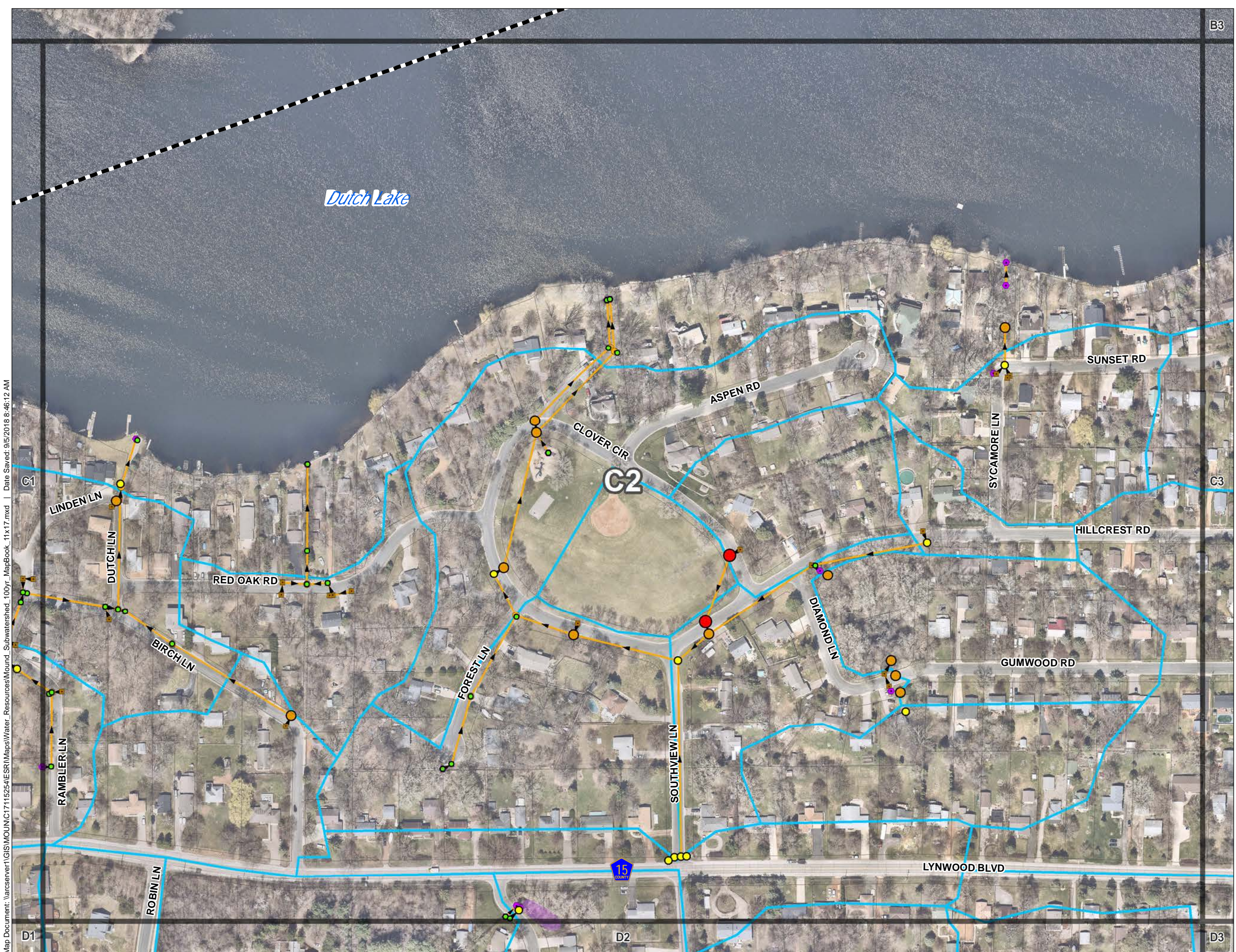
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	Storm Manhole		
	Storm Control Structure		
	Catch Basin		
	Storm Culvert		
	Storm Pipe		No Flooding
	Watersheds		0-1 Ft
	Stormwater Ponds		1-2 Ft
			>2 ft
			Grid
			Parcels
			City Limits




0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

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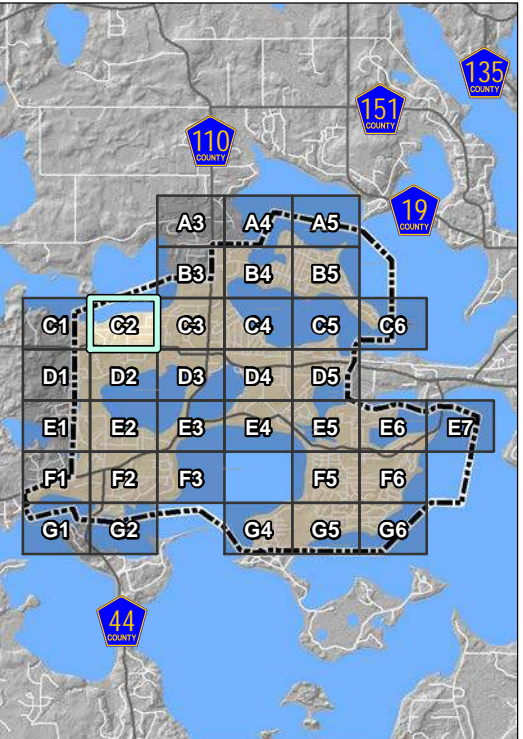



















**SURFACE WATER
MANAGEMENT PLAN**

100-YEAR EXISTING
CONDITION

LOCATION MAP




Legend


	Storm Outfall		No Flooding
	Storm Manhole		0-1 Ft
	Storm Control Structure		1-2 Ft
	Catch Basin		>2 ft
	Storm Culvert		Grid
	Storm Pipe		Parcels
	Watersheds		City Limits
	Stormwater Ponds		

0 200 Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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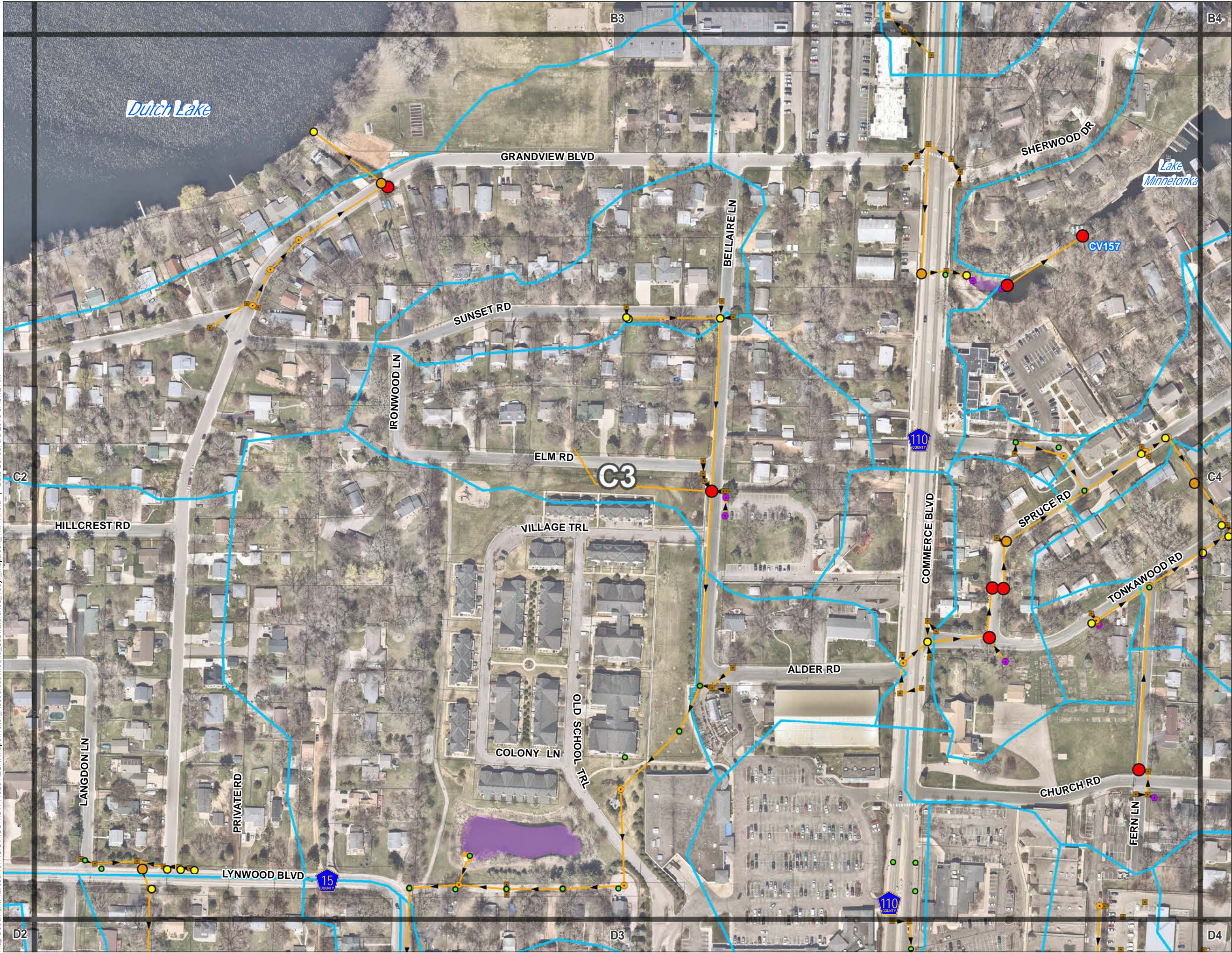


C2

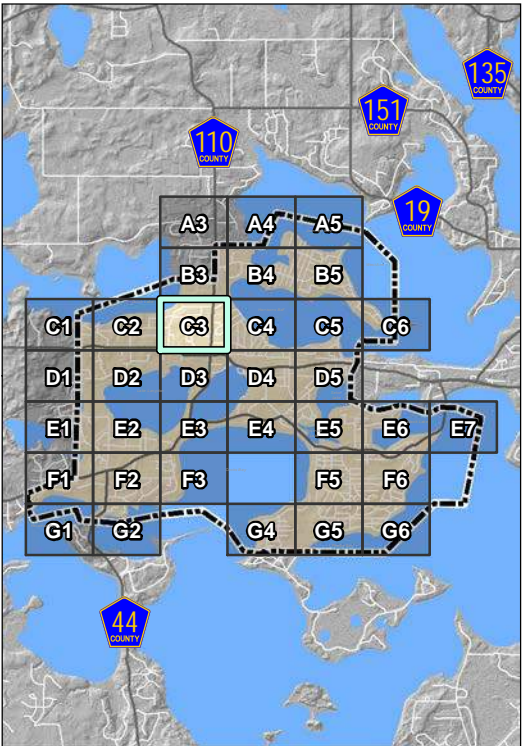
September 2018

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LOCATION MAP



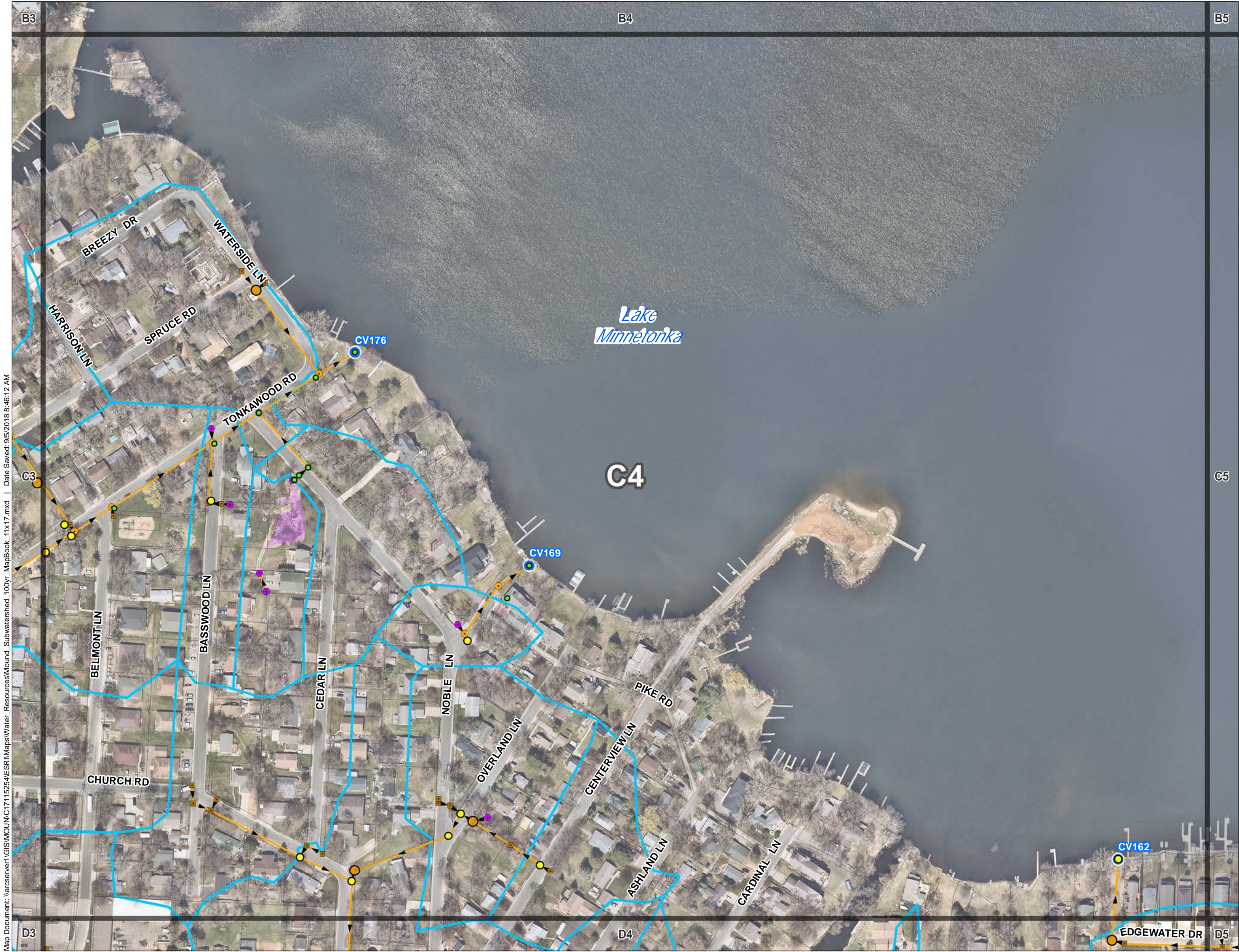
Legend

- Storm Outfall
 - Storm Manhole
 - Storm Control Structure
 - Catch Basin
 - Storm Culvert
 - Storm Pipe
 - Watersheds
 - Stormwater Ponds
- 100-year Event Flooding Depths**
- No Flooding
 - 0-1 Ft
 - 1-2 Ft
 - >2 ft
- Grid
- Parcels
- City Limits

0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

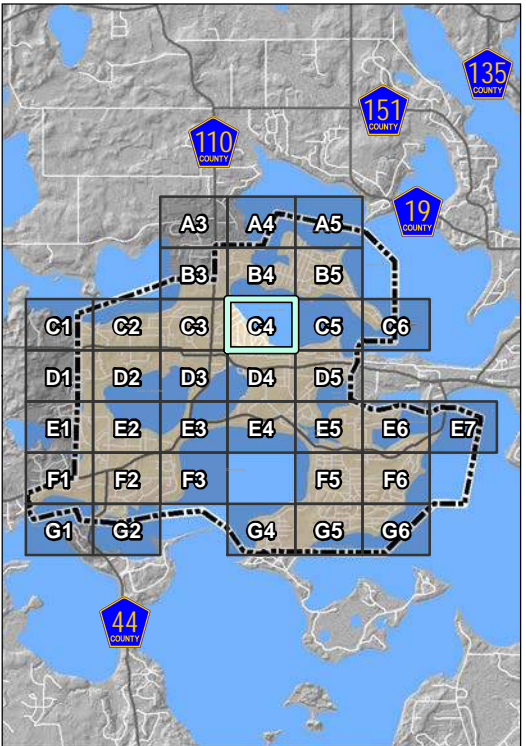




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LOCATION MAP



Legend

- | | | | |
|--|----------------------------|--|-------------|
| | Storm Outfall | 100-year Event
Flooded Depths | |
| | Storm Manhole | | No Flooding |
| | Storm Control
Structure | | 0-1 Ft |
| | Catch Basin | | 1-2 Ft |
| | Storm Culvert | | >2 ft |
| | Storm Pipe | | Grid |
| | Watersheds | | Parcels |
| | Stormwater Ponds | | City Limits |

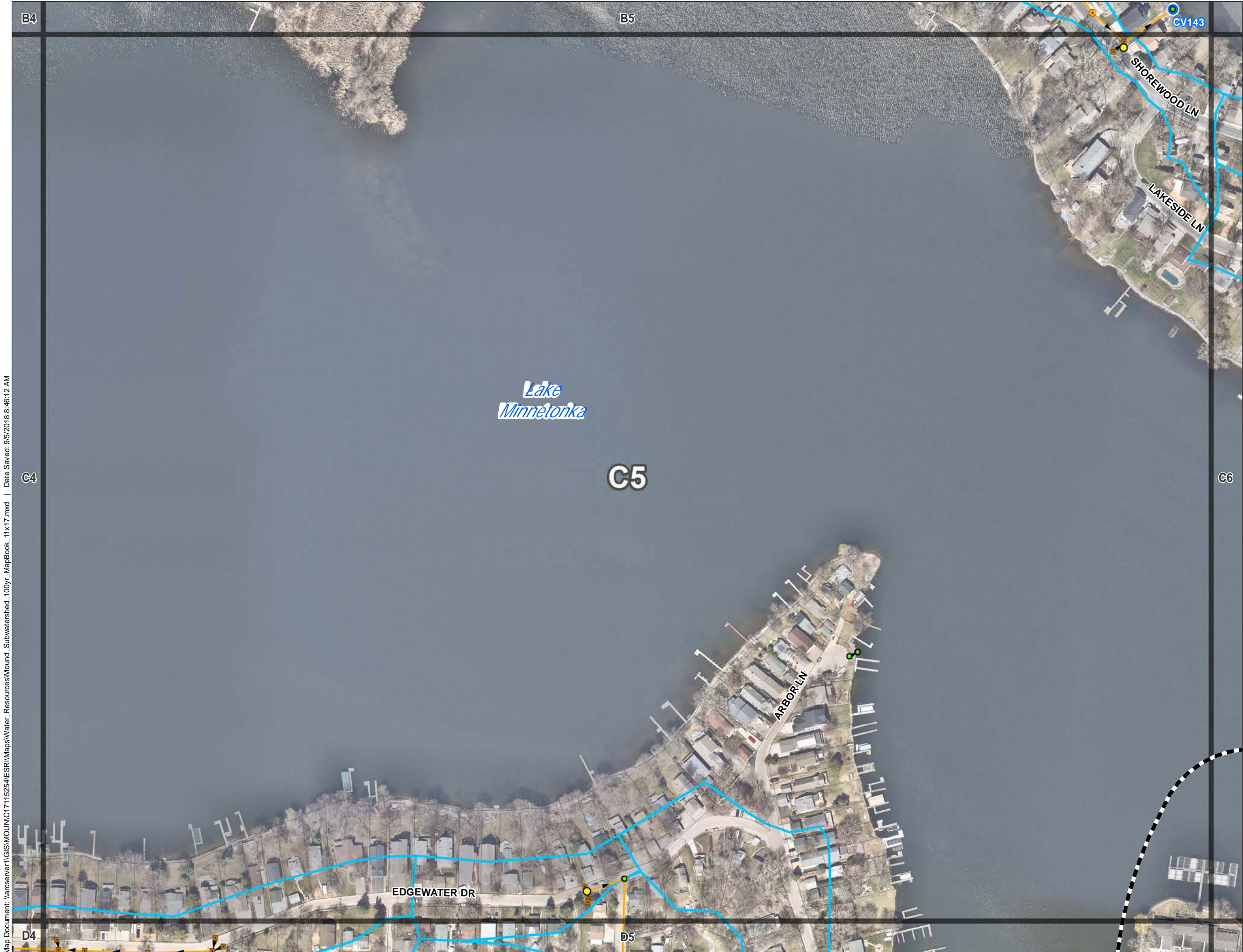
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Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

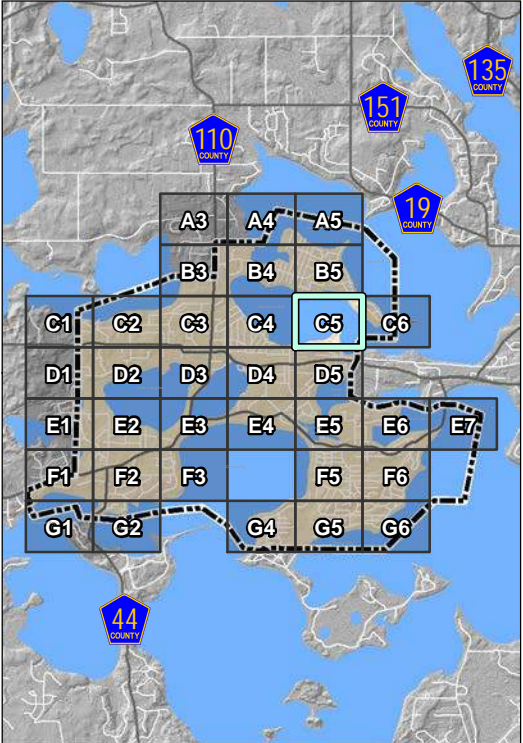


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LOCATION MAP



Legend

- | | | | |
|--|-------------------------|--|-------------|
| | Storm Outfall | | No Flooding |
| | Storm Manhole | | 0-1 Ft |
| | Storm Control Structure | | 1-2 Ft |
| | Catch Basin | | >2 ft |
| | Storm Culvert | | Grid |
| | Storm Pipe | | Parcels |
| | Watersheds | | City Limits |
| | Stormwater Ponds | | |



0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

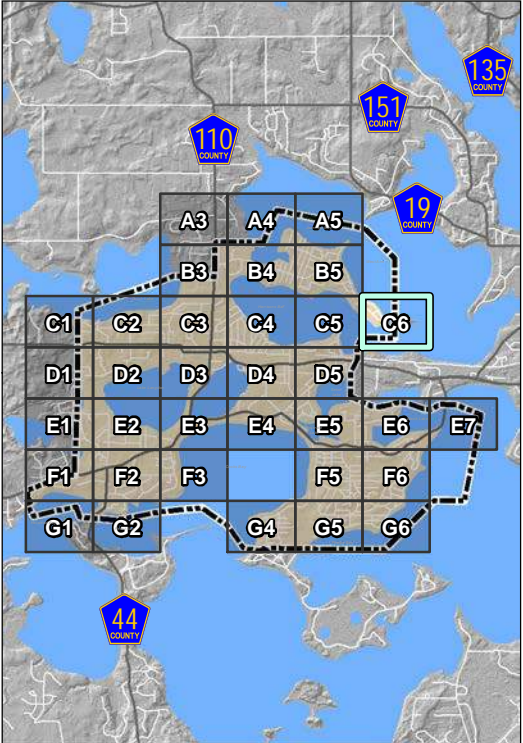


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LOCATION MAP



Legend


- | | | | |
|--|-------------------------|--|-------------|
| | Storm Outfall | | No Flooding |
| | Storm Manhole | | 0-1 Ft |
| | Storm Control Structure | | 1-2 Ft |
| | Catch Basin | | >2 ft |
| | Storm Culvert | | Grid |
| | Storm Pipe | | Parcels |
| | Watersheds | | City Limits |
| | Stormwater Ponds | | |

0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

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SURFACE WATER
MANAGEMENT PLAN


100-YEAR EXISTING
CONDITION


LOCATION MAP


Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft


 Grid

 Parcels


 City Limits

0 200 Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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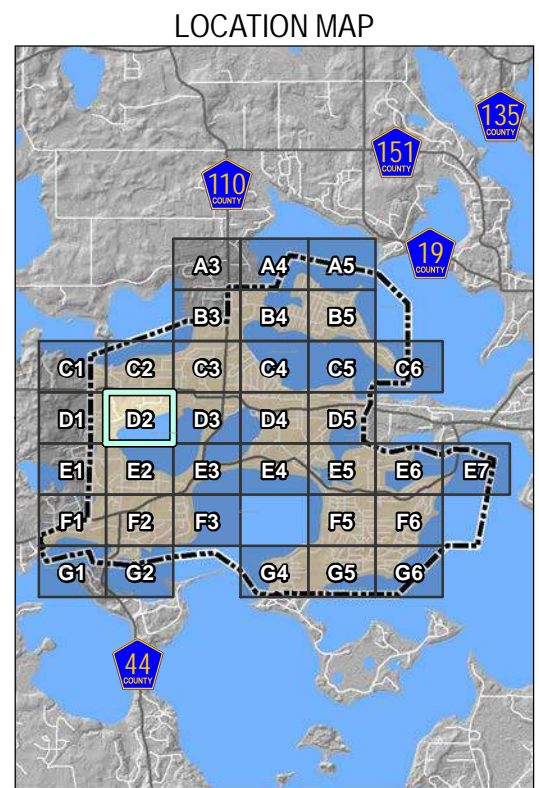


D1


September 2018


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

 >2 ft

 Grid

 Parcels

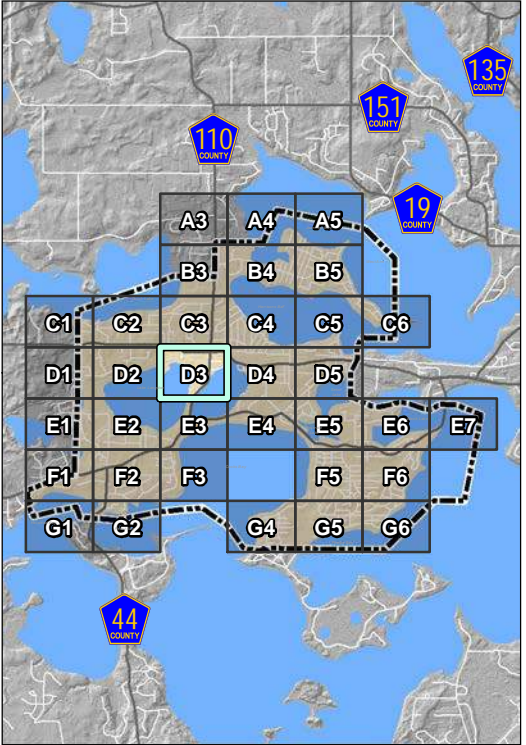
 City Limits



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LOCATION MAP



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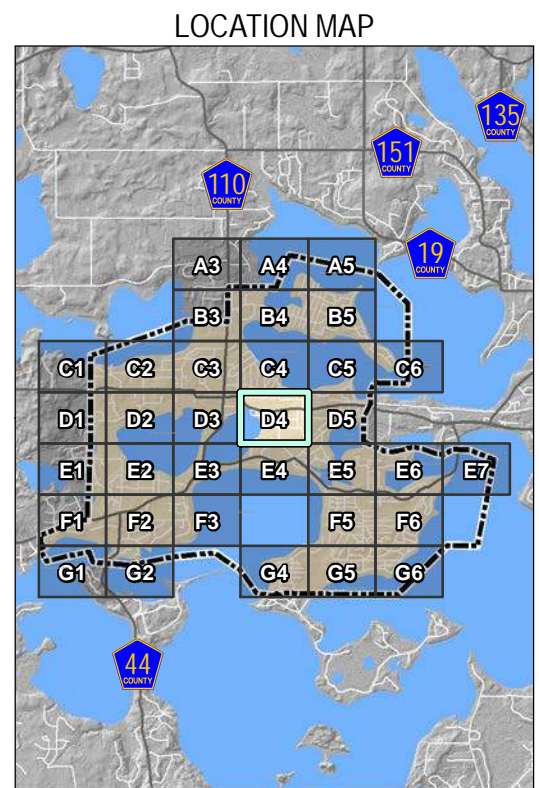
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|-------------------------|---------------------------------------|
| Storm Outfall | 100-year Event Flooding Depths |
| Storm Manhole | No Flooding |
| Storm Control Structure | 0-1 Ft |
| Catch Basin | 1-2 Ft |
| Storm Culvert | >2 ft |
| Storm Pipe | Grid |
| Watersheds | Parcels |
| Stormwater Ponds | City Limits |

0 200
Feet


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap





D3





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft

 Grid

 Parcels

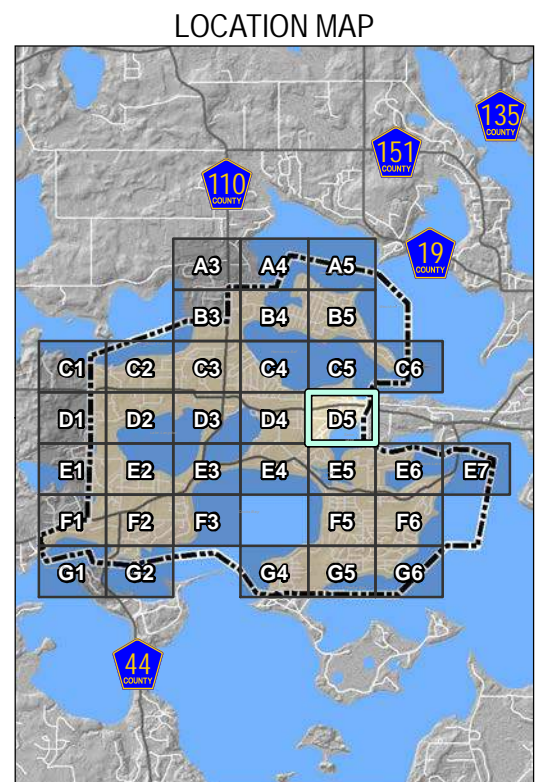
 City Limits

0200

Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

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Legend

Storm Outfall

Storm Manhole

Storm Control Structure

Catch Basin

Storm Culvert

Storm Pipe

Watersheds

Stormwater Ponds

100-year Event Flooding Depths

No Flooding

0-1 Ft

1-2 Ft

>2 ft

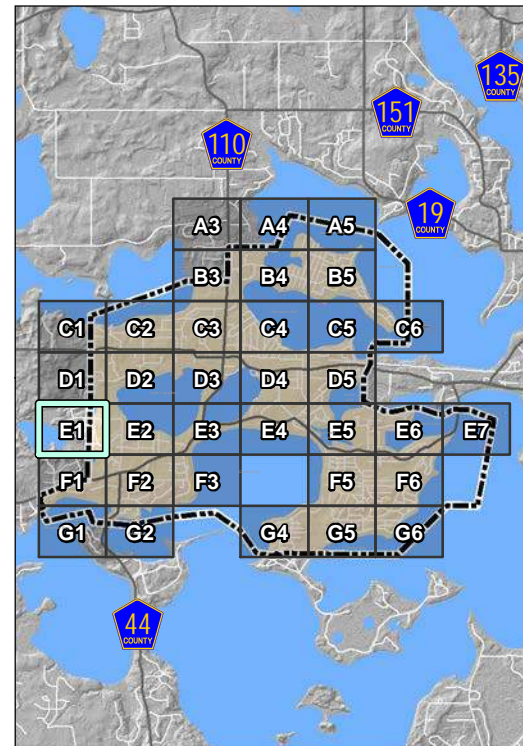
Grid

Parcels

City Limits
















0200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



Legend



- | | | 100-year Event Flooding Depths | |
|---|-------------------------|---|-------------|
|  | Storm Outfall |  | No Flooding |
|  | Storm Manhole |  | 0-1 Ft |
|  | Storm Control Structure |  | 1-2 Ft |
|  | Catch Basin |  | >2 ft |
|  | Storm Culvert | | |
|  | Storm Pipe |  | Grid |
|  | Watersheds |  | Parcels |
|  | Stormwater Ponds |  | City Limits |

0 200 Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



E1

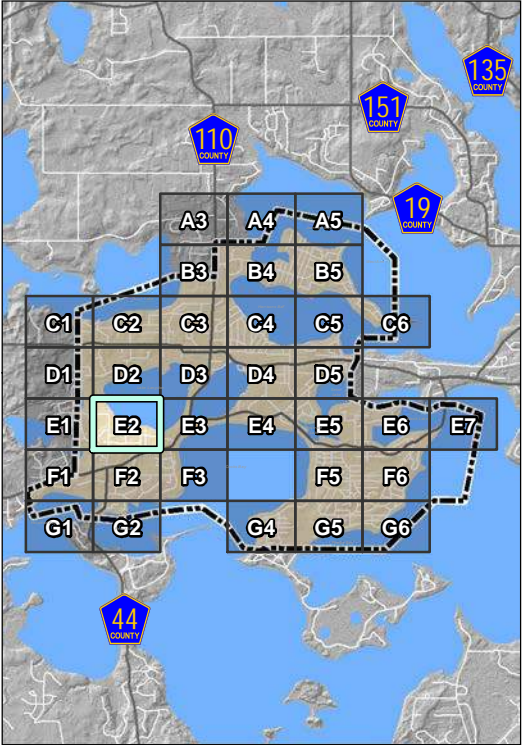




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LOCATION MAP



Legend

- | | | | |
|--|-------------------------|--|-------------|
| | Storm Outfall | | No Flooding |
| | Storm Manhole | | 0-1 Ft |
| | Storm Control Structure | | 1-2 Ft |
| | Catch Basin | | >2 ft |
| | Storm Culvert | | Grid |
| | Storm Pipe | | Parcels |
| | Watersheds | | City Limits |
| | Stormwater Ponds | | |

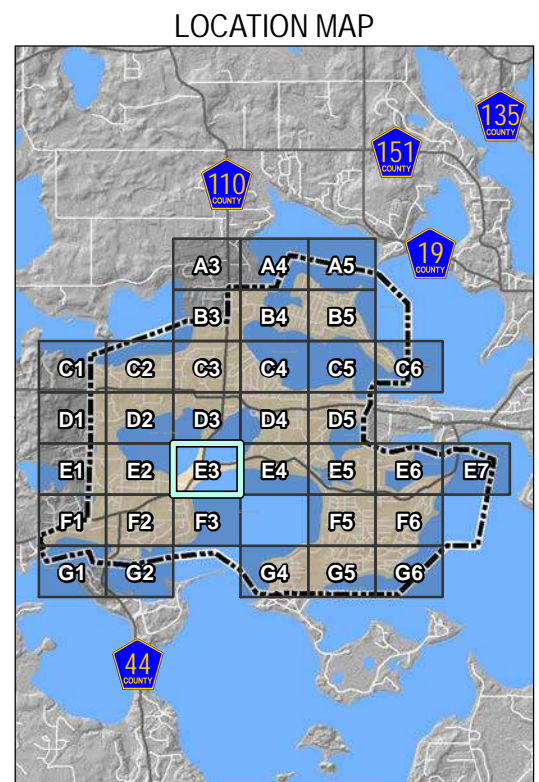
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Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap





E2


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

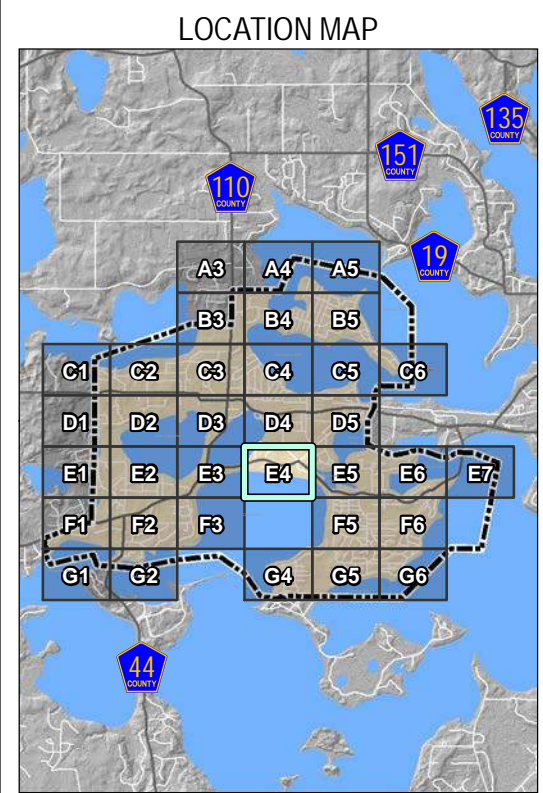
 >2 ft

 Grid


 Parcels


 City Limits








Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

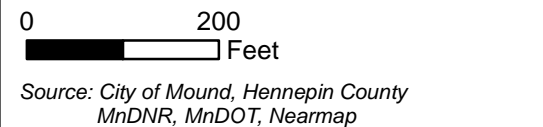
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 Grid

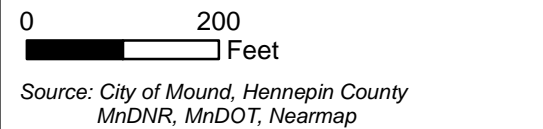
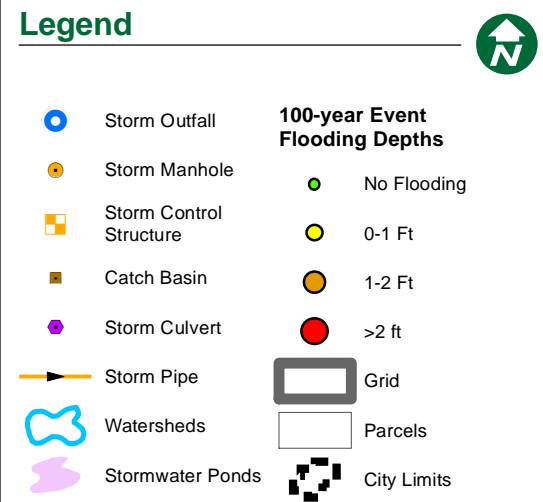
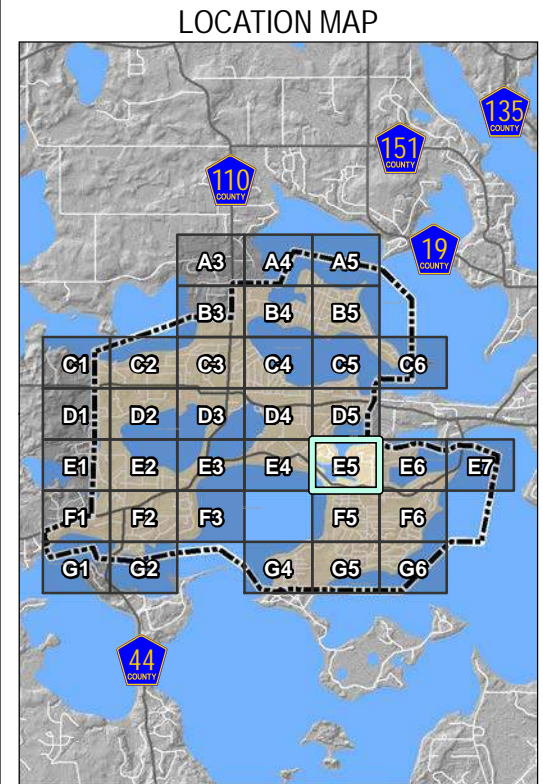
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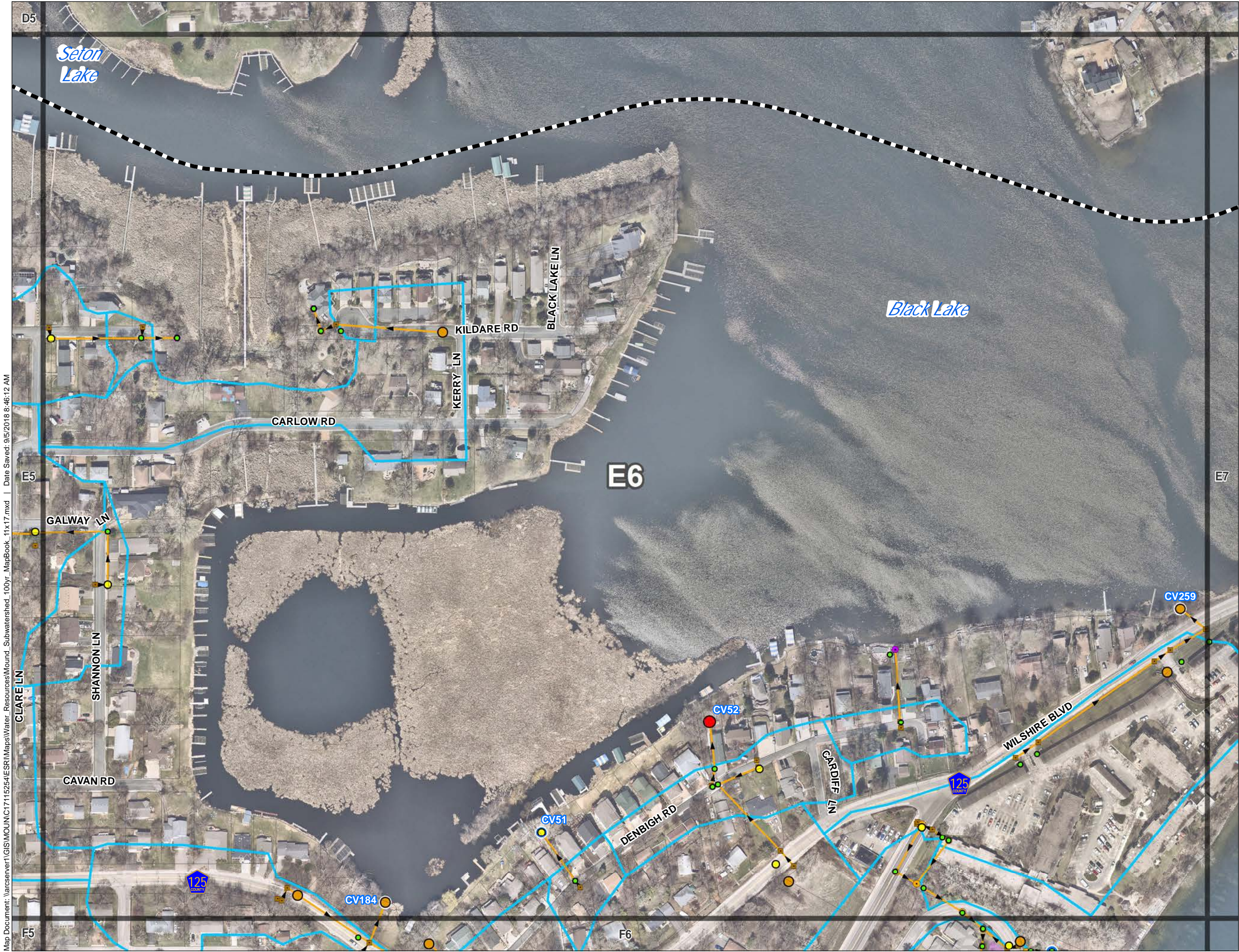
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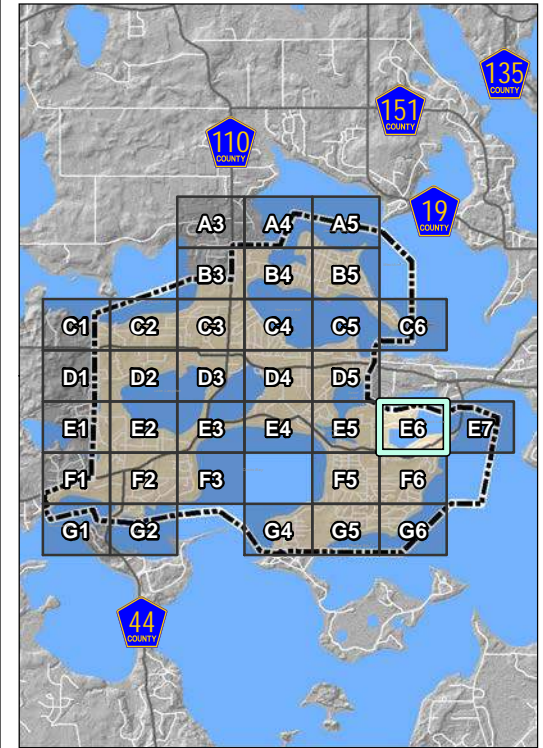


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LOCATION MAP





Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

 >2 ft


 Grid

 Parcels

 City Limits



Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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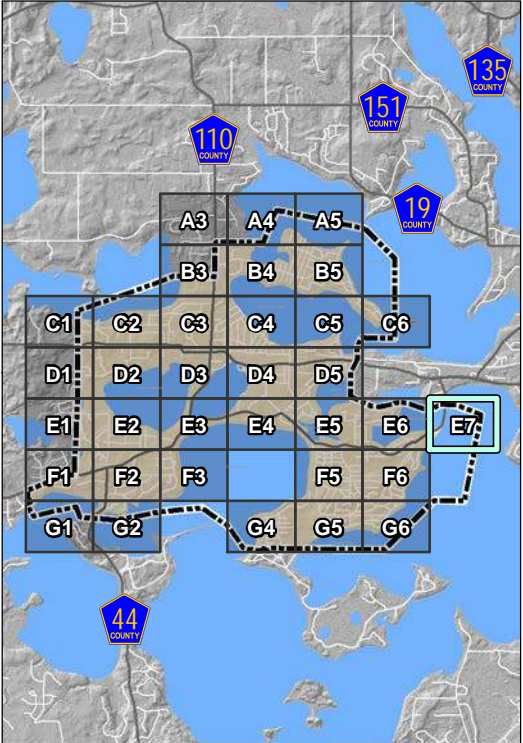
September 2018

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LOCATION MAP



Legend



- | | |
|-------------------------|---------------------------------------|
| Storm Outfall | 100-year Event Flooding Depths |
| Storm Manhole | No Flooding |
| Storm Control Structure | 0-1 Ft |
| Catch Basin | 1-2 Ft |
| Storm Culvert | >2 ft |
| Storm Pipe | Grid |
| Watersheds | Parcels |
| Stormwater Ponds | City Limits |

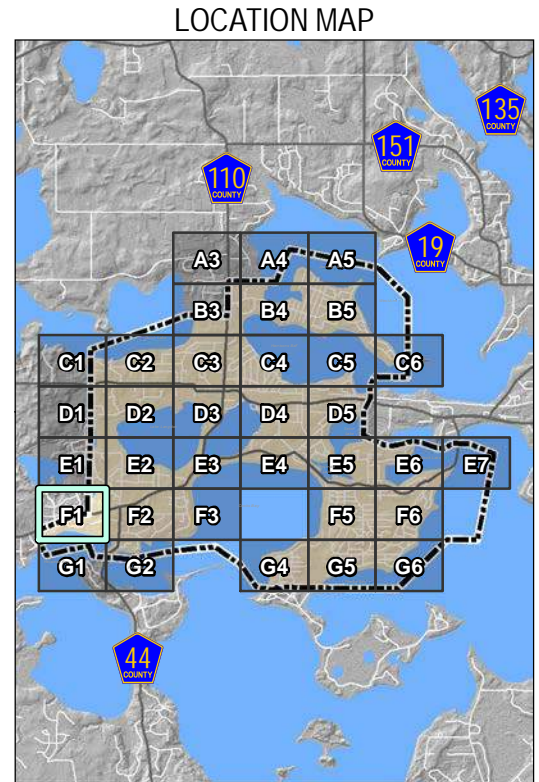
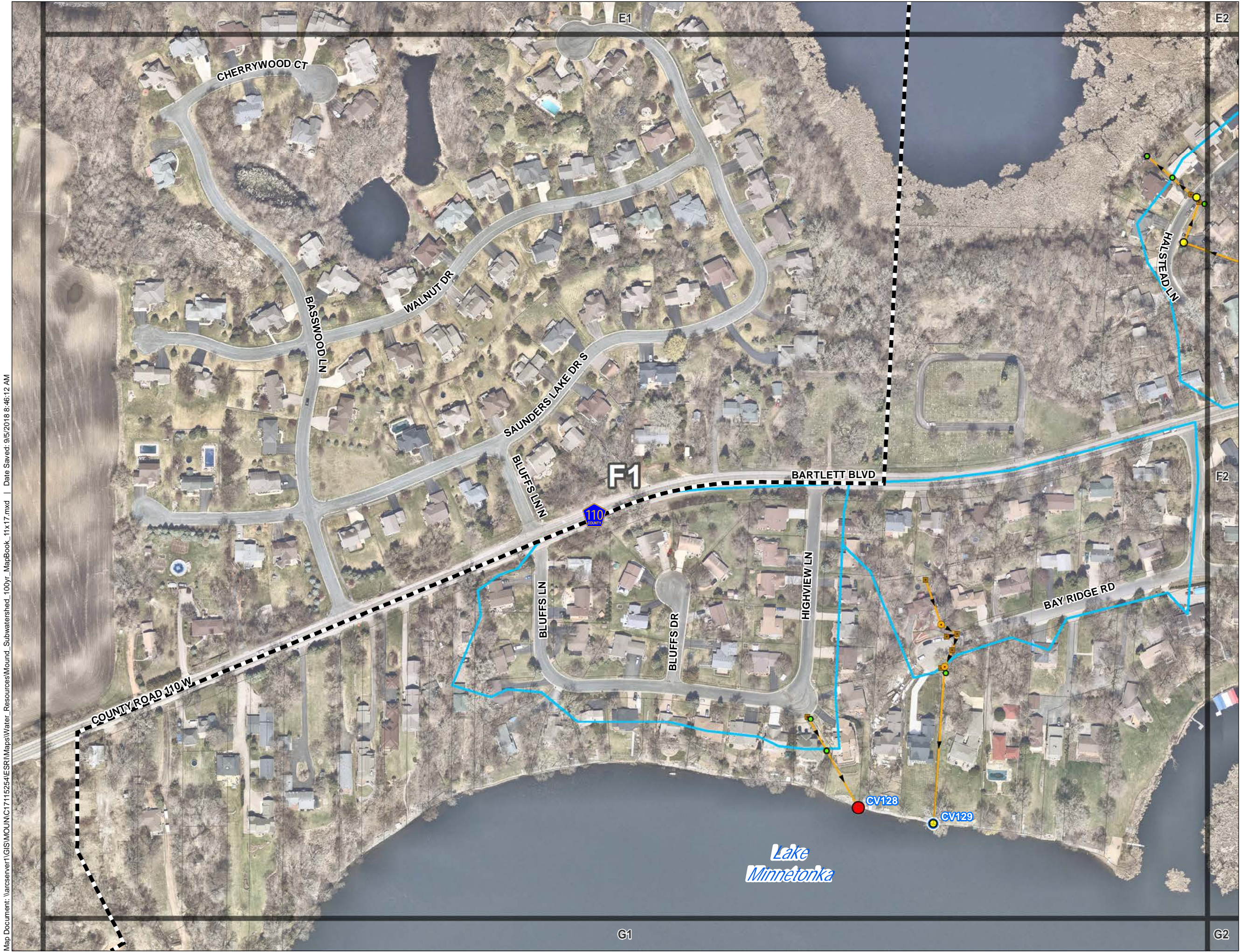
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Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap





E7


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

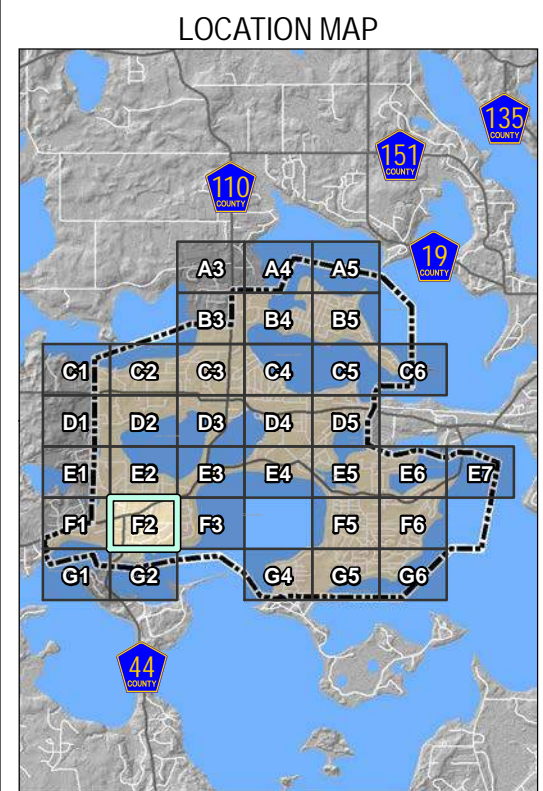
 >2 ft

 Grid


 Parcels


 City Limits








Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flooding Depths**


 No Flooding


 0-1 Ft


 1-2 Ft

 >2 ft

 Grid

 Parcels

 City Limits

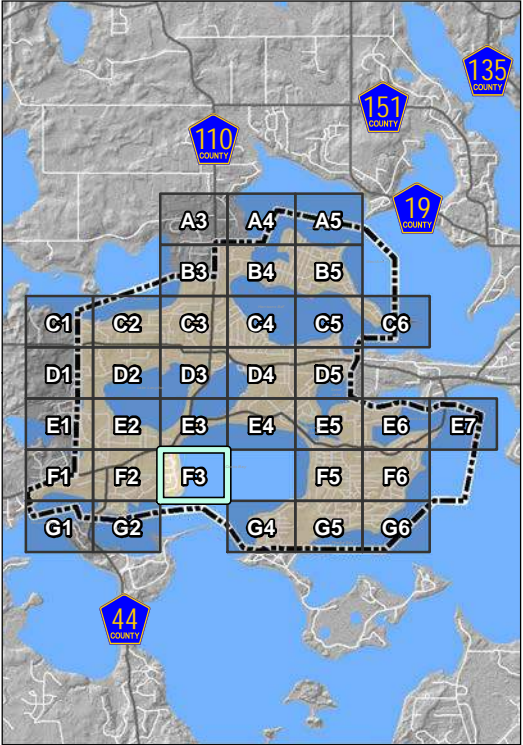




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LOCATION MAP



Legend

- Storm Outfall

Storm Manhole

Storm Control Structure

Catch Basin

Storm Culvert

Storm Pipe

Watersheds

Stormwater Ponds
- 100-year Event Flooding Depths

0-1 Ft

1-2 Ft

>2 ft

Grid

Parcels

City Limits

0 200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap

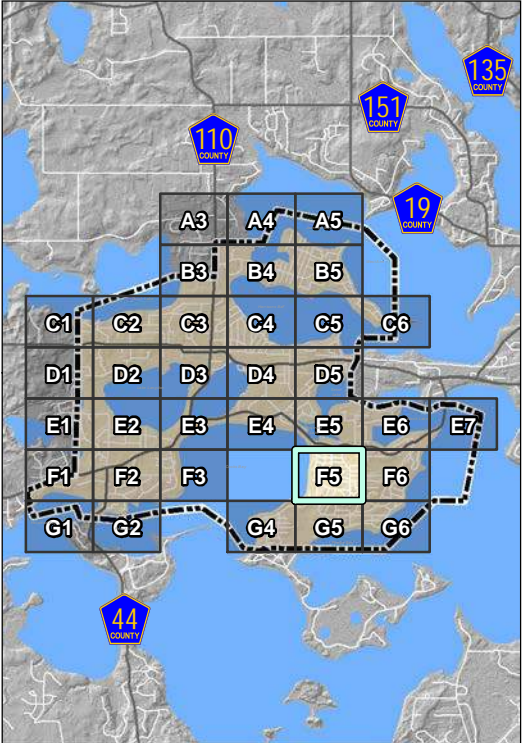


F3

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LOCATION MAP



Legend

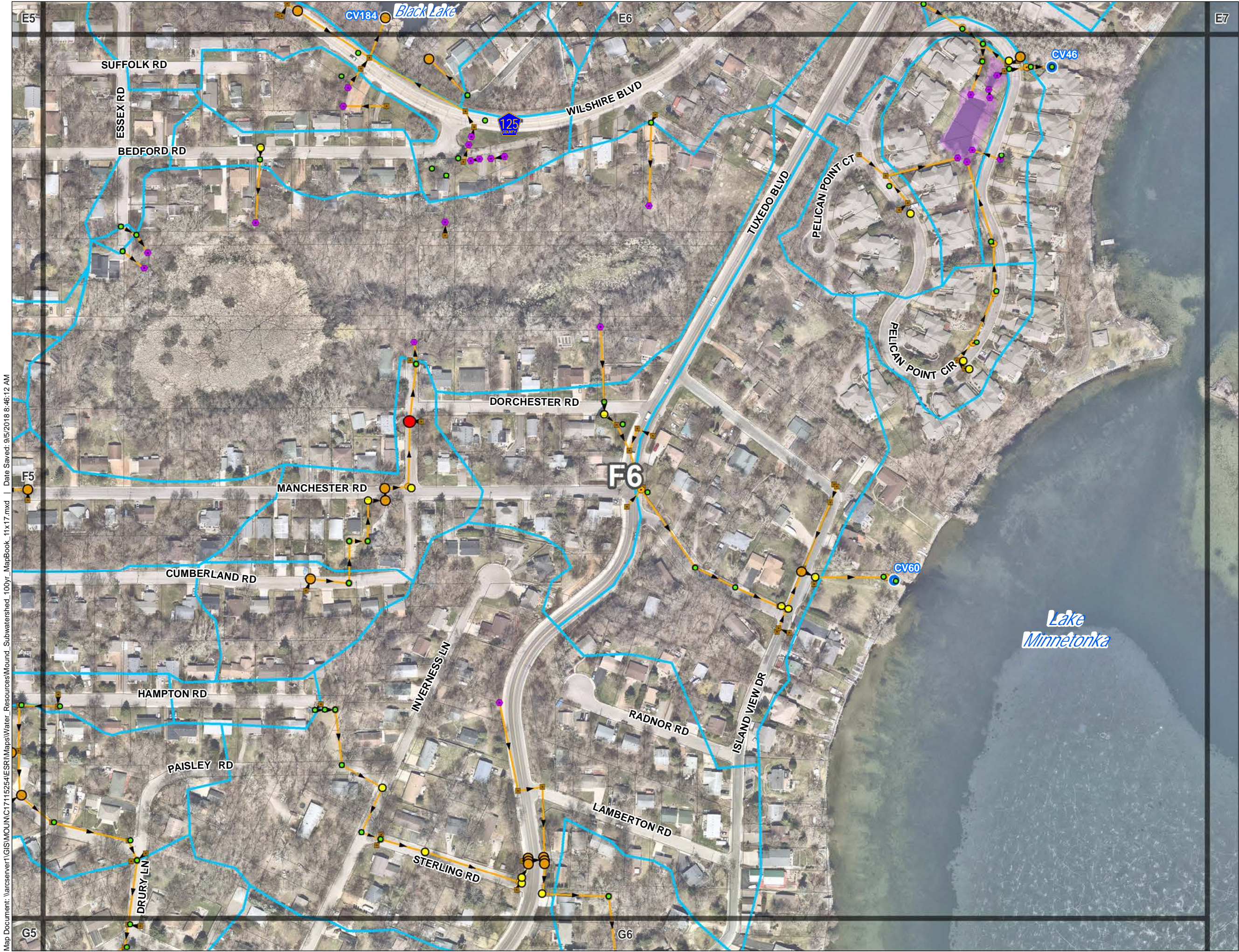
- | | | | |
|--|-------------------------|--|-------------|
| | Storm Outfall | | No Flooding |
| | Storm Manhole | | 0-1 Ft |
| | Storm Control Structure | | 1-2 Ft |
| | Catch Basin | | >2 ft |
| | Storm Culvert | | Grid |
| | Storm Pipe | | Parcels |
| | Watersheds | | City Limits |
| | Stormwater Ponds | | |

0 200
Feet

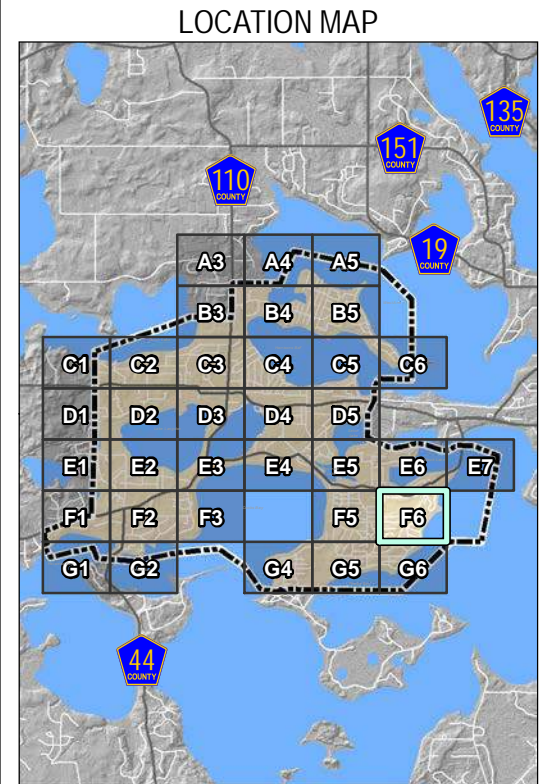
Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap




F5





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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure


 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft


 Grid

 Parcels

 City Limits

0200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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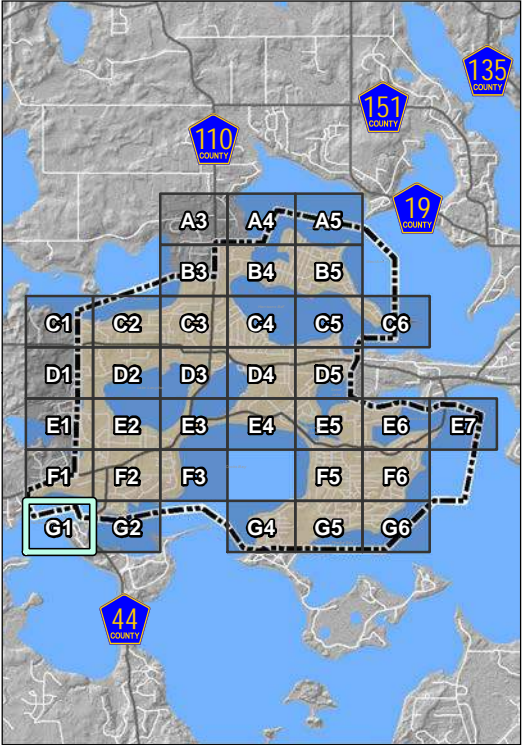
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LOCATION MAP



Legend

- | | | | |
|--|-------------------------|---------------------------------------|-------------|
| | Storm Outfall | 100-year Event Flooding Depths | |
| | Storm Manhole | | No Flooding |
| | Storm Control Structure | | 0-1 Ft |
| | Catch Basin | | 1-2 Ft |
| | Storm Culvert | | >2 ft |
| | Storm Pipe | | Grid |
| | Watersheds | | Parcels |
| | Stormwater Ponds | | City Limits |



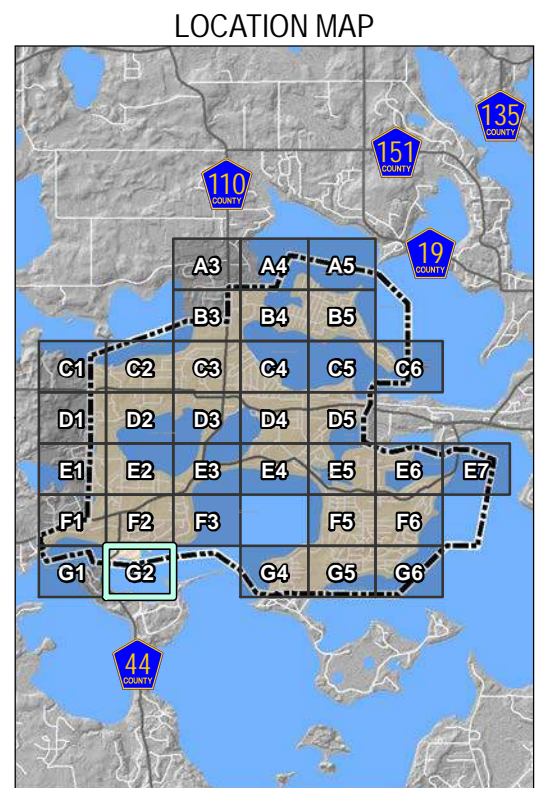
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Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



G1

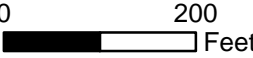

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Legend

	Storm Outfall		No Flooding
	Storm Manhole		0-1 Ft
	Storm Control Structure		1-2 Ft
	Catch Basin		>2 ft
	Storm Culvert		Grid
	Storm Pipe		Parcels
	Watersheds		City Limits
	Stormwater Ponds		

100-year Event Flooding Depths

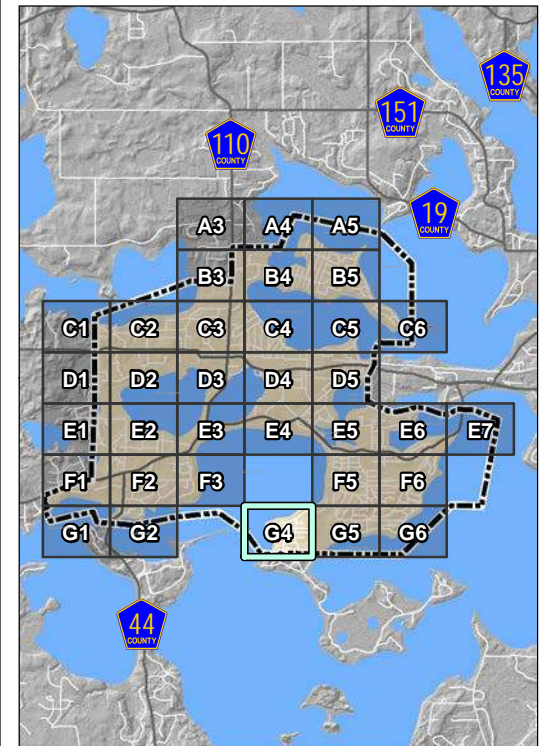


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap











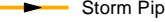




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LOCATION MAP



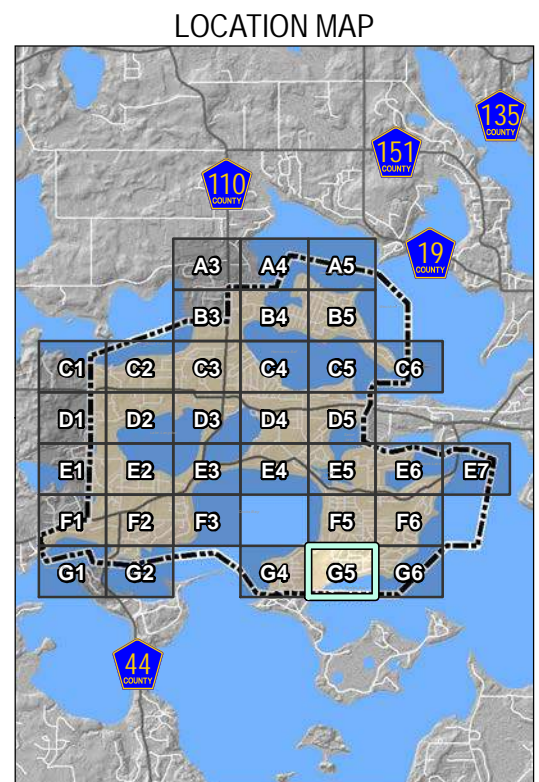
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	Storm Manhole		0-1 Ft
	Storm Control Structure		1-2 Ft
	Catch Basin		>2 ft
	Storm Culvert		Grid
	Storm Pipe		Parcels
	Watersheds		City Limits
	Stormwater Ponds		


0 200
Feet


Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds

 Stormwater Ponds


**100-year Event
Flooded Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

>2 ft symbol" data-bbox="915 650 930 665"/> >2 ft


 Grid

 Parcels

 City Limits


0200
Feet

Source: City of Mound, Hennepin County
MnDNR, MnDOT, Nearmap



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& MENK

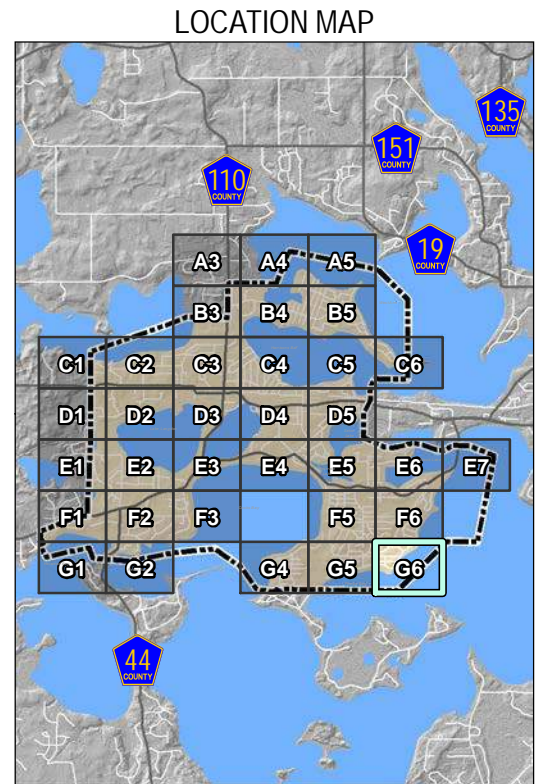
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September 2018


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Legend


 Storm Outfall


 Storm Manhole


 Storm Control Structure

 Catch Basin


 Storm Culvert


 Storm Pipe


 Watersheds


 Stormwater Ponds


**100-year Event
Flood Depths**


 No Flooding


 0-1 Ft

 1-2 Ft

 >2 ft

 Grid

 Parcels

 City Limits

Appendix C

Modeling Methodology

MODELING METHODOLOGY AND MAPPING

1. The general procedure used in the runoff modeling aspects of this analysis has been performed using the XPSWMM modeling software. The typical analysis is based on Soil Conservation Service, Technical Release No. 20 (SCS TR-20). The SCS procedure is based on a standard synthetic rainfall hydrograph, which is modified by local parameters (i.e., rainfall, soil type, time to peak flow, etc.) and is widely accepted among drainage engineers across the United States.
2. For purposes of this report and using precipitation depths from Atlas 14, typical 24-hour rainfall events of 2.48", 4.23" and 7.24" have been chosen to analyze runoff/development interaction. These events are best described as those having probabilities of 100%, 10%, and 1% of occurring in any given year, respectively.
3. The probabilities of occurrence do not imply that a 2.48", 4.23" and 7.24" rainfall cannot occur multiple times within the same year; they simply say that on the average a 2.48" rainfall has a 100% probability of occurring in any given year, a 4.23" rainfall has a 10% probability of occurring in any given year, and a 7.24" rainfall has a 1% probability of occurring in any given year.

Appendix D

Modeling Results – Available upon Request