NORTH BRANCH

Minnesota

COMPREHENSIVE PLAN
2018

NORTH BRANCH
COMPREHENSIVE PLAN

Contents

The purpose of the Comprehensive Plan is to serve as a vision and roadmap for where the community is headed.

1

Introduction

Purpose of the Plan

The purpose of the Comprehensive Plan is to serve as a vision and roadmap for where the community is headed. The ideas and goals expressed in this plan are intended to be a reflection of the community's values and the desire for what North Branch is to become. Each chapter of the Comprehensive Plan provides the "big picture" of several important topics that are intertwined and have an impact on quality of life in North Branch.

It is the intention that this plan will be used on a day-to-day basis by city staff, the City Council, and other commissions and stakeholders to help inform important policy decisions, such as decisions involving infrastructure and development, the acquisition and sale of public land, capital improvements, zoning and regulatory changes, and communicating a consistent vision. It is anticipated that residents may use the plan to determine property use, understand decisions made by the City, and make improvements to property in a manner consistent with the plan. Developers may use the plan as a way to make decisions based on the goals and identified improvements.

The city of North Branch was formed in 1994 from the consolidated cities of Branch and North Branch. Shortly after consolidation, the city undertook a comprehensive planning process. Resulting from that process was the Comprehensive Plan adopted in 1995 for the consolidated city of North Branch comprised of 36 square miles in Chisago County, Minnesota. The plan was updated in 2003 and again in 2009. The comprehensive plan approach is intended to cover approximately a 10 - 20 year time period and may be amended and updated from time to time as conditions change. Time has passed and current growth and development necessitated a comprehensive update to the plan.

Planning Process

This Comprehensive Plan update was initiated and completed in 2018. Valuable input was gathered from those in the community through a series of four community cafes, in person and on-line surveys, and various public meetings conducted by the Planning Commission, Economic Development Authority (EDA), Parks Trails and Open Spaces (PTOS), and the City Council. A booth was held at the community's Expo and Job Fair event in April 2018, and a survey was administered to 7th and 8th graders at the North Branch Middle School as a way to gather input from younger stakeholders with regard to the city's parks and amenities.

As the plan evolved, drafts were available on the city's website and were presented and commented on at Planning Commission, PTOS, EDA and/or City Council meetings. Comments were also received via the project website, emails, and through the project Social Pinpoint page. The plan was reviewed by both the Planning Commission and City Council at their respective regular meetings in August, 2018. A public hearing was held before the Planning Commission on September 20, 2018, and adopted by the City Council on October 23, 2018.

Organization of the Plan

The Comprehensive Plan provides a "big picture" look at several important areas that have an impact on quality of life for North Branch. The Comprehensive Plan covers the following chapters:

Chapter 1: Introduction

This chapter provides an overview of what the Comprehensive Plan is and its purpose. It discusses the process for developing the plan and how it is organized.

Chapter 2: Vision and Values

This chapter outlines the vision and values for the community that is intended to be expressed through all other chapters.

Chapter 3: Land Use

This chapter establishes an existing and future land use for all property in the City. It also identifies future growth areas.

Chapter 4: Housing

This chapter provides an overview of existing housing conditions and a plan for maintaining and developing a quality future housing stock.

Chapter 5: Economic Development

This chapter provides an analysis of the existing economic climate and opportunities for economic growth and redevelopment areas.

Chapter 6: Transportation

This chapter analyzes the existing transportation system and future improvements, mostly as it relates to auto-oriented transportation. Non-motorized transportation is discussed further in Chapter 8: Natural Environment, Parks, Trails, and Recreation.

Chapter 7: Utilities

This chapter examines the existing system and future improvements to public utilities as it relates to the water, wastewater, and stormwater systems.

Chapter 8: Natural Environment, Parks, Trails, and Recreation

This chapter examines the city's natural resources, including open space and natural habitats, existing park and trail system, as well as recreational opportunities and establishes planning criteria, guidelines and standards for protecting the natural environments and future development of various amenities.

Implementing the Plan

Summary of Land Use Implementation Strategies

The North Branch Comprehensive Plan is a flexible document working to the advantage of the community. The Plan Goals and Objectives should be reviewed every three years ensuring relevancy to current conditions and priorities. The Planning Agency should advocate use of the plan, review various projects for consistency with the Plan, and advise the City Council in matters related to implementation. In addition, any projects implemented should detail a timeline and have a funded budget. The Plan encourages interaction with governmental agencies, non-profits, and local citizens. Capital Improvement Programs (CIPs) shall be reviewed and updated annually.

Summary of Non-Land Use Implementation Strategies

North Branch, like most cities having faced financial difficulties, faces a number of challenges towards expanding affordable housing, replacing aging infrastructure and attracting new development and administrators to involve a variety of organizations. Additional difficulties include finding funding sources to address those issues over time and seeking to provide maximum flexibility in the planning and timing of needed public improvements. The Plan recognizes that North Branch has limited financial resources and vast human resources. The citizens of North Branch, through their involvement with government and various civic and charitable organizations, will be a key component of the actions necessary to implement the Comprehensive Plan. The City should involve other City Boards and Commissions, volunteer groups, local non-profit organizations such as the Chamber of Commerce, and other governmental agencies in planning and funding these future projects.

ACKNOWLEDGEMENTS

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And an extra special thanks to Brian Voss for his fantastic photos and to all of the residents, students and business owners who participated in community surveys, attended community cafes, and provided valuable input to the comprehensive plan update, our supporters and to the team that helped get the word out about the comprehensive plan input sessions, including the North Branch Dominos and the North Branch Area Chamber.

2

Values and Vision

Values

Residents and other stakeholders were asked what they loved about North Branch at the Community Expo, at a chamber meeting, and at the first community café. The values expressed most often were:

- The strong sense of community
- A home town feel
- The city's commitment to its parks and trails
- A community that encourages biking and walking
- Quality schools

These values were reiterated at each of the other three community cafes and served as the foundation for the vision statements expressed below.

Vision for North Branch in 10 years .....

North Branch is a growing and safe community with outstanding natural and recreational amenities and opportunities for all, and well maintained infrastructure, vibrant business districts and neighborhoods, and provides residents with an excellent quality of life.

Vision for Land Use

The City of North Branch is a complete community that provides a well-balanced and wide range of places to live, work, shop and play. Land uses make efficient use of existing infrastructure, contribute to a strong local economy, preserve natural resources and contribute to a high quality of life.

Residential Uses

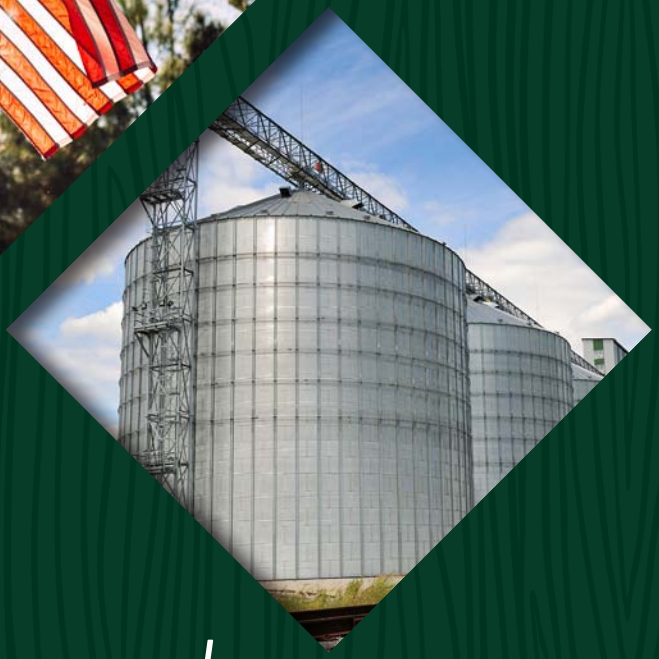
A diverse housing stock allows people at any stage in their life to be able to find a home in North Branch. Older housing is well maintained while new development expands housing options to complement existing neighborhoods.

Commercial and Industrial Uses

A significant amount of commercial and industrial uses can be found within the City that allow residents to work in North Branch, while also being able to meet all of their day-to-day needs. Commercial and industrial uses are compatible with their surrounding land uses.

Public/Institutional

Public and institutional uses are viewed as valued resources to the community and contribute to making North Branch a better place to live and do business.



North Branch is a growing and safe community with outstanding natural and recreational amenities and opportunities for all, and well maintained infrastructure, vibrant business districts and neighborhoods, and provides residents with an excellent quality of life.

Parks, Open Spaces and Trails

Quality parks and open space are within close proximity to all residents, providing recreational opportunities to encourage an active lifestyle. A wide variety of community facilities are provided to serve a range of interests. The City of North Branch has a proposed trail system that will allow bicycle and pedestrian access to most of the major pedestrian generators within the city, including schools, shopping areas, and parks. Many of the proposed trails are destinations in themselves, offering scenic walks or rides around many of the city's scenic views. With recreational activities such as running, bicycling, and walking increasing in popularity, the city's trail system will not only offer a recreational opportunity in itself, but will also help to connect the community's parks with the neighborhoods.

Vision for Economic Development

A strong business community is the cornerstone of a vibrant city. Economic development encompasses the policies and activities that improve the long term economic and social wellbeing of the community. Communities with strong economies have financial resources to support the levels of service that their residents need and desire. Successful communities realize that economic development is about bringing together social, natural, infrastructure, and economic assets in the community to sustain the "whole" community.

Vision for Municipal Utilities

The City of North Branch, individually and in collaboration with the North Branch Water & Light Utility, has a significant investment in its existing public utilities systems (water, wastewater and stormwater). The continued expansion and development within the Urban Service Area will require the extension of public utilities. In general, the existing infrastructure system is well-positioned and of adequate size to support expansion. However, coordination will be required between community development and the required expansion of the utility system. In some cases, the cost of providing utility service may dictate where and when future growth will occur.

Vision for Transportation

North Branch is located at the cross roads of I35 and TH95, providing for ease in and out of the city. Within the city limits, however, these features will require a coordinated approach to providing movement of traffic through the city to local destinations, safe pedestrian and bike corridors, and improved intersections to safely serve the increasing number of commercial vehicles passing through North Branch.

Vision for the Environment and Sustainability

Natural infrastructure includes all systems that relate to natural resources and contribute to an improved public life. Natural infrastructure considers the full range of natural resource uses including economic, environmental, health, cultural, and aesthetic. This broad view leads us to include surface water, groundwater, stormwater, wastewater, drinking water, geology, topography, soils, natural areas, open space, green spaces, urban forest, habitat, vegetation, scenic views, and parks and trails in natural infrastructure.

Natural infrastructure is a key element in planning where development should or should not take place within a city. This element is important to communities and development as it avoids certain development hazards, provides health benefits to citizens, protects ecological systems and enhances biological diversity, and offers communities unique quality of life components. Consideration of natural infrastructure ensures that homes are built upon stable dry soils, provides clean drinking water, accounts for resource based economic activities, provides scenic views and open spaces, and plans development that respect the integrity of natural systems and incorporate natural features into development.

Minnesota GreenStep City

In 2018, the Mayor and City Council approved a resolution to make North Branch a GreenStep City through the MPCA and League of Minnesota Cities' program. Minnesota GreenStep Cities is a voluntary challenge, assistance and recognition program to help cities achieve their sustainability and quality-of-life goals. This free continuous improvement program, managed by a public-private partnership, is based upon 29 best practices. Each best practice can be implemented by completing one or more actions at a 1, 2 or 3-star level, from a list of four to eight actions. These actions are tailored to all Minnesota cities, focus on cost savings and energy use reduction, and encourage civic innovation. North Branch is currently a Step 1 City. As North Branch plans for the future, it will continue to consider GreenStep City Best Management Practices as they relate to the goals and objectives of this comprehensive plan.

3
Land Use & Growth

Introduction

The Land Use & Growth Management Chapter is a roadmap that helps guide City officials and staff on how to make policy decisions related to land use and future growth. These policies may influence the type, location and density of future development within the community. This chapter is intended to result in orderly and efficient development that utilizes land efficiently and makes the most of the community's resources. It offers guidance on key initiatives for the community which is consistent with the City's vision and goals.

In this chapter is a description of existing land use patterns, as well as an overview of how the City anticipates land will be used and developed in the future. It accommodates growth and applies the desired qualities of the community.

Another important aspect of this chapter is that it also serves as the foundation for reviewing the City's Zoning Ordinances, Zoning Map, Subdivision Regulations and other implementation tools. Implementation of the Land Use Plan produces several important implications:

Uses

Every parcel is placed into a specific land use category. Each category includes a description of the type of land use or uses intended for that category. This description should match with the types and forms of development currently found in North Branch and desired for the future.

Relationships

Much like a jigsaw puzzle, the true picture comes from how each piece fits together into a whole. The Land Use Plan guides how elements of the built and natural environment come together in North Branch. These relationships will determine how North Branch will look, function and feel.

Actions

The Land Use Plan sets the framework for public actions and investments. Utilities, streets, parks, and facilities are all influenced by the form and pace of development.

Figure 3-1: Existing Land Use

Identifies the location, amount, and types of existing land uses in the City of North Branch in 2018. The inventory as conducted as part of this planning process reflects general development patterns and is intended for general planning purposes only.

The City of North Branch is a complete community that provides a well-balanced and wide range of places to live, work, shop and play.

Table 3-A: Summary of Existing Land Use - 2018 summarizes the amount and type of existing land uses designated (whether or not fully developed) in North Branch.

Table 3 – A: Summary of Existing Zoning 2018		
Existing Land Use Designation	*Gross Acres**	*Net Percent of City*
Agriculture (AG1 and AG2)	*8,680.2*	*37.6%*
Rural Residential (RR)	*9,961*	*43%*
Low Density Residential (R1 and R1A)	*1,869.7*	*8.1%*
Medium Density Residential (R2)	*403.4*	*1.7%*
High Density Residential (R3)	*216.6*	*.9%*
Manufactured Home Residential (R4)	*27.2*	*.11%*
Central Business District (CBD)	*43*	*.18%*
Limited Business District (B2)	*214.8*	*.9%*
Regional Business District (B3)	*437.3*	*1.9%*
General Industrial District (I2)	*858.1*	*3.7%*
Planned Industrial District (I3)	*21.6*	*.09%*
Industrial District (I4)	*158.6*	*.7%*

**Gross acres of use determined by GIS mapping data.*

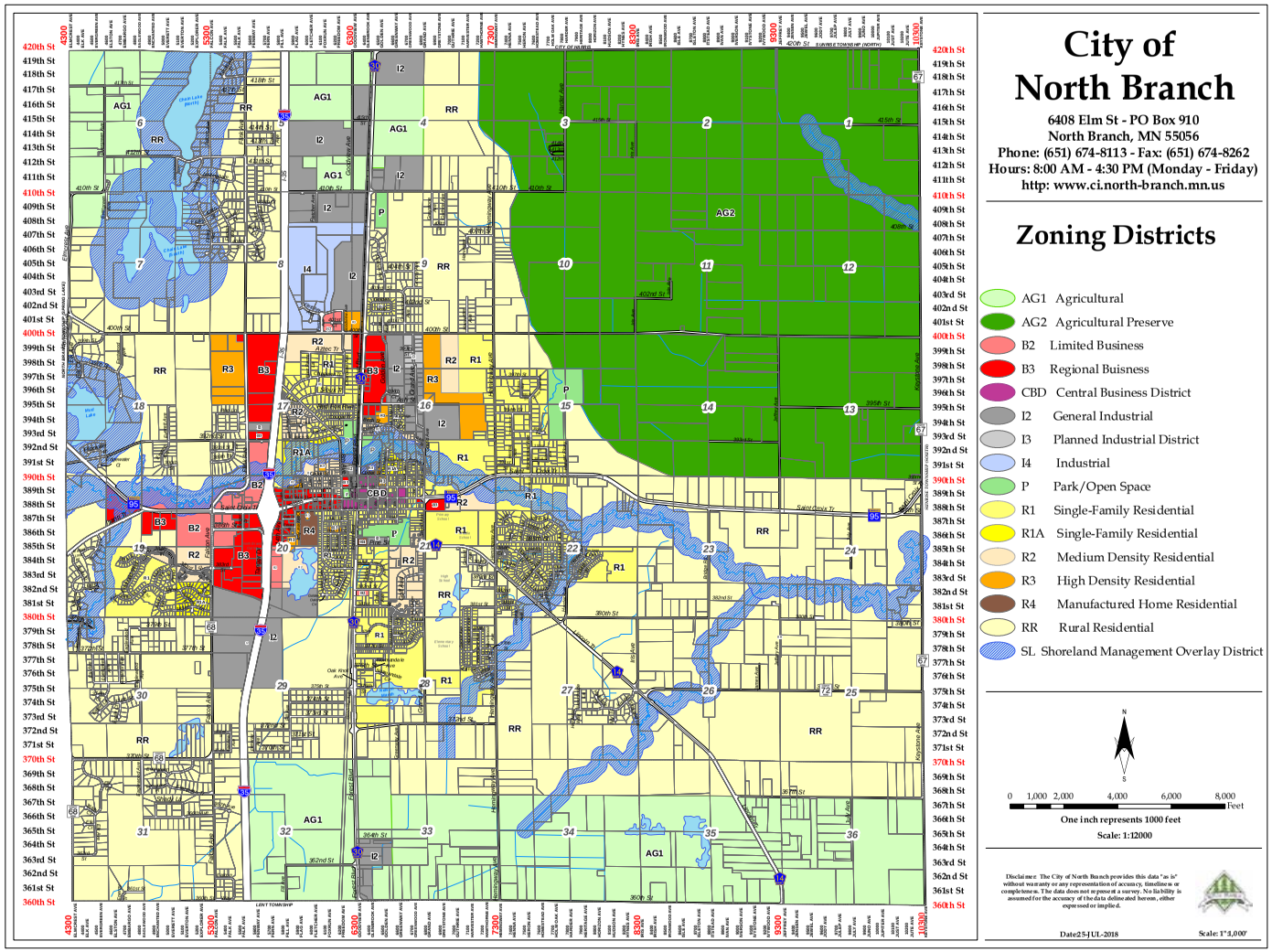


Figure 3-1:
Existing Zoning

Existing Zoning

Agriculture (AG1 and AG2)

Over one-third of the city's land area (37.6%) is currently used for agricultural purposes. Housing densities are low, and this zoning is characterized by active farms, hobby farms and homes on large lots. The northeast corner of the city is the historic river bottom of the St. Croix River and is framed by the historic river bluff line. Soils are well suited for sod farming and the production of produce. By maintaining a low density of development, it is the City's intent to preserve and protect the many natural resources found in this part of North Branch, including lakes, streams, wetlands and woodlands.

Rural Residential (RR)

Rural Residential makes up 9,961 acres or 43% of the total acreage in the City of North Branch. This land use is largely characterized by single family residences set on larger lot sizes to accommodate on-site sewage treatment systems. Some of these areas are located within the city's designated Urban Service Area and no new development is allowed within this zoning district without connecting to municipal services. Areas located outside of the Urban Service Area must meet a minimum buildable acre standard so as to ensure that there is sufficient land area with the appropriate soil separation to support both a primary and a future secondary on-site sewage treatment system.

Low Density Residential (R1 and R1A)

Low Density Residential makes up 1,869.7 acres or 8.1% of the total acreage in the City of North Branch. This land use is largely characterized by single-family homes with densities of 1 to 4 dwelling units per acre in those areas served by municipal utilities. Older areas of the city were platted before municipal utilities were established, resulting in larger lot sizes to accommodate on-site sewage treatment systems. The city has a limited inventory of older, historic homes that are located primarily in the one square mile area that had been the original city of North Branch. The areas around the historic center feature homes built approximately 50 years ago, with new development happening neighborhood by neighborhood since that time. 2017 marked the start of a new housing boom with new single family homes being constructed on existing lot inventory and multiple developments platted for the purpose of constructing even more single family homes. The new development that is planned or in process as of the writing of this plan is intended to provide the city with a more diverse mix of housing styles and at a wider range of price points.

Medium Density Residential (R2)

Medium Density Residential makes up 403.4 acres or 1.7% of the total acreage in the City of North Branch. Medium Density Residential is characterized by single family homes on smaller lots that required for R1, townhome style development, and two-family attached homes densities of 1 to 6 dwelling units per acre.

High Density Residential (R3)

High Density Residential makes up 216.6 acres or .9% of the total acreage in the City of North Branch. High Density Residential is characterized by land use that consists of all forms of multi-family attached housing units such as two-family attached homes, townhomes and apartment buildings.

High density residential has densities of up to 18 dwelling units per acre.

Manufactured Home Residential (R4)
The Manufactured Home Residential zoning classification only exists for the benefit of the four established manufactured home parks. It currently makes up 27.2 acres or .1% of the total acreage in the City of North Branch. Changes in Minnesota laws now allow manufactured homes in any zoning district that allows twin homes, subject to all applicable lot standards, such as lot size, frontage, road widths, etc. The new land use map and updates to the zoning map will include areas previously zoned at R4 within either an R2 or R3 zoning class.

Central Business District (CBD)
The Central Business District is a unique classification intended to provide for a planned, unified development of the City's historical downtown area. This zoning classification makes up 43 acres or .18% of the total acreage in the City of North Branch. Permitted uses include service based businesses, office uses, retail uses, apartments and hotel uses, among other things, in close proximity to one another to promote pedestrian movement between businesses. The area offers a mix of street and lot parking, with the parking lots being located behind buildings at various locations throughout the district. The existing land use is primarily commercial buildings, many of which are vacant and in need of rehabilitation. The area is dotted with existing single family homes which were intended to be phased out of use and converted to commercial uses over time. The area is adjacent to TH95, with sidewalks that provide pedestrian passage, but pedestrian movement across TH95 is difficult and poses a significant challenge to the goal of this area being an inviting public space offering a "range of retail and civic experiences" as hoped by the authors of the 2009 Comprehensive Plan.

Limited Business District (B2)
The Limited Business District makes up 214.8 acres or .9% of the total acreage in the City of North Branch. This land use is characterized by business uses and services, lodging, and retail that are also permitted in the CBD, but that are dependent on automobile traffic. Additionally, the area is intended to serve as a transition zone between the CBD and the Regional Business District (B3).

Regional Business District (B3)
The Regional Business District makes up 437.3 acres or 1.9% of the total acreage in the City of North Branch. This land use is characterized by business uses and services, lodging, and retail that are also permitted in the CBD and B2, but also provide for the location of commercial activities that serve primarily regional or nonlocal market. The lot sizes are larger so as to provide the area needed for retail and commercial activities that require very large buildings.

Light Industrial/Office District (I1)
The Light Industrial/Office District is defined as a region characterized by office, manufacturing and warehousing uses, but currently no part of the city is zoned for this use.

General Industrial District (I2)
The General Industrial District makes up 858.1 acres or 3.7% of the total acreage in the City of North Branch. This land use is characterized by manufacturing, assembly, warehousing, storage, showrooms and contractor shops.

Planned Industrial District (I3)
The Planned Industrial District is similar to I1, and makes up 21.6 acres or .09% of the total acreage in the city.

Industrial District (I4)
The Industrial District makes up 158.6 acres or .7% of the total acreage in the City of North Branch. This land use is characterized by manufacturing, assembly, warehousing, storage, showrooms and contractor shops as can be found in I2, but its location adjacent to I35 makes this area highly visible and is subject to stricter design standards. Currently, over 200 acres in the I2 and I4 zoning classifications are vacant but ready for development in the industrial park owned by the City through its Economic Development Authority.

Overlay Districts
Sensitive areas, such as those adjacent to bodies of water or within a designated flood plain or flood fringe are managed by the City in accordance with applicable Minnesota Statutes. Setbacks, design standards and other restrictions on use within the overlay district are imposed so as to limit ecological impact and loss.

Analysis of Existing Land Use
With over 36 square miles of land, an analysis of the existing land use illustrates several important issues about current and future development:

The largest land use category in terms of area in the City is agriculture. Followed by the rural residential land use category. It is anticipated that the agricultural areas will continue to be used for agricultural production due to its geologic characteristics and the community's desire to support its rich agricultural heritage and industry. The rural residential areas, which are served by private wells and septic systems, will also have agricultural or hobby farm uses. The total land areas for these two uses will not likely change, but development within these areas will occur at a much slower pace than the low density residential uses served by municipal utilities.

The second largest residential land use category is low density residential. It is anticipated that expanded development within this zoning classification will continue to grow throughout the life of this plan, resulting in greater intensity of the use without increasing the overall land area designated for this use. The three primary residential categories (R1 and R2) account for 9.8% of the total land use in the City.

The Central Business District is characterized by a development style common among other older downtowns. It is pedestrian oriented in nature with buildings built to the sidewalk. Parking for these uses is typically on street, in the rear of buildings, or shared among several users. The transition from residential uses to commercial uses did not occur as anticipated when the zoning district was created. There are numerous vacant buildings and the area is ripe for redevelopment.

The City, through its Economic Development Authority, owns over 200 acres of land zoned for industrial uses. Until this land is sold and developed, no additional industrial zoned land is needed within the Urban Service Area. If the city were to allow for heavy industrial uses, consideration should be given for compatibility with adjacent land uses. Controls should be in place that protect against negative impacts to neighboring property.

The nation's third largest solar farm is partially located within the City's limits. Other smaller solar installations are located entirely within the City. The solar installations feature native plantings intended to re-establish prairie habitat and support pollinator species, such as the Monarch butterfly.

The City benefits from existing park facilities, trails and open spaces. Approximately .6% of the total acreage in the City of North Branch is utilized as city owned park and open space uses. The City is also home to the Janet Johnson WMA, owned and managed by Minnesota Department of Natural Resources. The Sunrise Prairie Regional Trail and other city sidewalks and trails serve the city's goal of being walkable and bikeable, but it is the goal of the city to expand those opportunities and consideration should be given to identify areas for preservation for these purposes.

There are significant residential development opportunities in the northwest portion of the city. Large tracts of land are currently undeveloped and the opportunity exists to establish traffic corridors without the need for redevelopment.

Vision for Land Use

The City of North Branch is a complete community that provides a well-balanced and wide range of places to live, work, shop and play. Land uses make efficient use of existing infrastructure, contribute to a strong local economy, preserve natural resources and contribute to a high quality of life.

Residential Uses

A diverse housing stock allows people at any stage in their life to be able to find a home in North Branch, which may include housing options suitable to multigenerational households. Older housing is well maintained while new development expands housing options to complement existing neighborhoods.

Commercial and Industrial Uses

A significant amount of commercial and industrial uses can be found within the City that allow residents to work in North Branch, while also being able to meet all of their day-to-day needs. Commercial and industrial uses are compatible with their surrounding land uses.

Public/Institutional

Public and institutional uses are viewed as valued resources to the community and contribute to making North Branch a better place to live and do business.

Parks, Open Spaces and Trails

Quality parks and open space are within close proximity to all residents, providing recreational opportunities to encourage an active lifestyle. A wide variety of community facilities are provided to serve a range of interests. The City of North Branch has a proposed trail system that will allow bicycle and pedestrian access to most of the major pedestrian generators within the city, including schools, shopping areas, and parks. Many of the proposed trails are destinations in themselves, offering scenic walks or rides around many of the city's scenic views. With recreational activities such as running, bicycling, and walking increasing in popularity, the city's trail system will not only offer a recreational opportunity in itself, but will also help to connect the community's parks with the neighborhoods.

GOAL 1

Maximize the use of land within the City of North Branch in a way that strengthens the local economy, preserves natural resources, and ensures a high-quality of life for all residents.

Goals, Objectives, and Policies

The following is the primary goal for land use followed by a series of objectives and policies intended to influence future land use decisions in a direction that is aligned with the Vision Statement.

Objective 1.1

Preserve and enhance the small business environment of the downtown.

Policy 1.1.1
Encourage and promote the renovation and rehabilitation of existing buildings within the downtown.

Policy 1.1.2
Connect businesses with façade improvement grants and loans.

Policy 1.1.3
Make infrastructure improvements that enhance the pedestrian realm such as lighting and seating and gathering places for community activities.

Objective 1.2

Use land in a manner that strengthens the economy of North Branch.

Policy 1.2.1
Strive for a balance of areas guided for industrial uses and areas guided for commercial uses.

Policy 1.2.2
Continue to identify all areas prime for redevelopment and analyze the best use for each property. Work to re-zone these properties and amend this plan as appropriate.

Policy 1.2.3
Increase the number of residential housing units in the City to attract new residents to increase the workforce and thereby improve the local market for commercial and industrial opportunities.

Policy 1.2.4
Actively work to infill vacant land within the Urban Service Area that will be connected to municipal services, while preserving a network of functional ecologic areas.

Policy 1.2.5
Allow for mixed uses within some zoning districts to accommodate commercial, retail and residential uses.

Policy 1.2.6
Discourage "leapfrog" patterns of development on municipal utilities.

Objective 1.3
Protect and preserve natural resources for long term environmental sustainability and the enjoyment of residents.

Policy 1.3.1
Work with landowners and other governmental entities to either obtain property or ensure protection of natural areas with high ecological value.

Policy 1.3.2
Discourage patterns of development that would stress existing infrastructure and ecosystems.

Objective 1.4: Use land in a manner that ensures a high quality of life for residents.

Policy 1.4.1
Expand parks, trails, sidewalks and other amenities as the City's population continues to grow.

Policy 1.4.2
Review and encourage methods of development which promote linkages among residential, civic, commercial, industrial and recreational facilities using trails and sidewalks for safe and enjoyable pedestrian uses and provides pedestrian connections between complementary land uses.

Policy 1.4.3
Review and encourage street and sidewalk designs to provide for easy access by police, fire and ambulance services, school buses, and plowing.

Land Use Plan

The land use plan provides the framework for the growth and development of the City. The land use plan serves as a guide for the character and intensity of development and will be supported by other land use controls and public actions taken pursuant to the Comprehensive Plan.

The land use map appears in Figure 3-2: Future Land Use. The plan illustrated by this map evolved from inputs and evaluations received through the planning process. The Plan builds on the existing community pattern to achieve the desired vision for the future of North Branch. Where the Future Land Use map guides property for something different than the existing zoning, zoning approvals such as variances and conditional use permits should not be considered inconsistent with the comprehensive plan if otherwise deemed appropriate.

Table 3 – B: Summary of Future Land Use		
Future Land Use by Designation	*Gross Acres**	*Net Percent of City*
Agriculture (AG)	*5,271.4*	*22.9%*
Rural Residential (RR)	*9,992.6*	*43.3%*
Low Density Residential (R1)	*3,492.5*	*15.1%*
Medium Density Residential (R3)	*577.2*	*2.5%*
High Density Residential (R3)	*330.8*	*1.4%*
Central Business District (CBD)	*71.4*	*.3%*
General Business District (B)	*802.2*	*3.5%*
Industrial District (I)	*1,123.7*	*4.9%*

*Gross acres of use determined by GIS mapping data and does not include public and institutional areas which are separately defined under the proposed land use map.

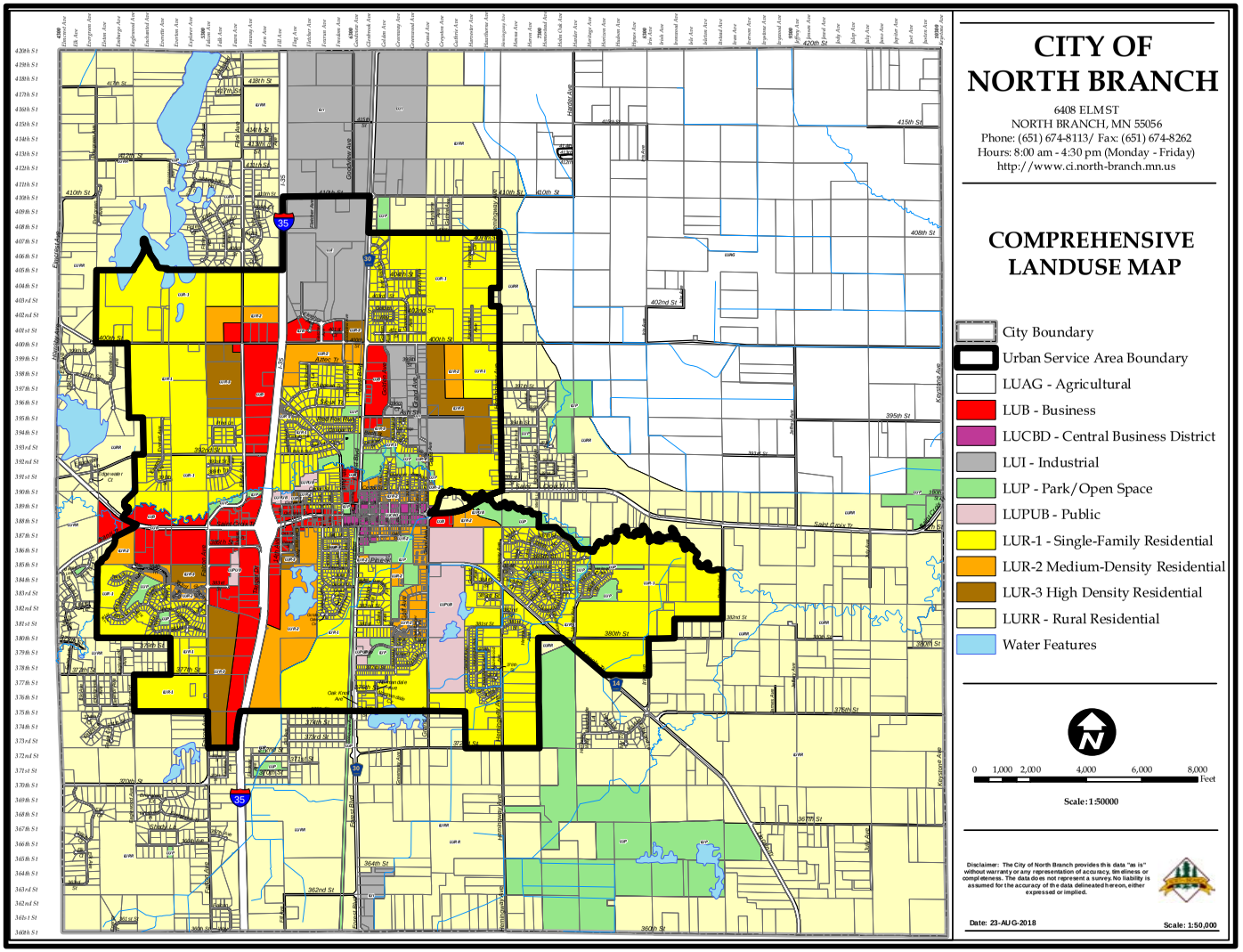


Figure 3-2:
Future Land Use

Residential

Rural Residential

The land use in this category is hobby farms and homes on large lots. The area is outside of the designated Urban Service Area and will be served by wells and individual septic systems. Individual lots must be a minimum size of one acre buildable, and the presence of wetlands and other natural features may result in actual lot sizes much larger than one acre in order to achieve the required one acre buildable standard. This lowest density of residential development is intended to reduce demands on the rural roads and protect the natural resources found in North Branch. The primary zoning district that would generally correspond to this land use designation would be the LURR Rural Residential District.

Low Density Residential

The land use in this category is single-family detached homes served by municipal utilities. This plan anticipates that this is where the majority of new housing units will be added over the next 20 years. One of the biggest strengths of the City of North Branch is its attractiveness to young families. Part of this attraction is due to the anticipated development of quality affordable single-family homes, and the existing parks and trails system, school district and proximity to the metropolitan areas of Minneapolis and St. Paul. Continuing to add new housing units will provide more opportunities for all families to locate in North Branch, while making older housing more affordable. Densities targeted in this category are limited to no more than 4 dwelling units per acre. The primary zoning district that would generally correspond to this land use designation would be the LUR-1 Single Family District.

Medium Density Residential

Medium density residential uses are typically in the form of single family homes on smaller lot sizes, townhomes, duplexes, and small scale apartment and condo buildings and served by municipal utilities. Advantages of these types of housing are that less property maintenance may be required since yards are smaller and some medium density developments may have associations that handle lawn care and snow removal. As a result, these types of housing tend to be very attractive to seniors and professionals. Densities targeted in this category are up to 6 dwelling units per acre. The primary zoning district that would generally correspond to this land use designation would be the LUR-2 Medium Density District.

High Density Residential

The High Density Residential land use category consists of multiple family attached housing oriented in a vertical fashion, more commonly referred to as apartments and condominiums and served by municipal utilities. Housing units may be owner or renter occupied. High density housing is an efficient land use because it contains more dwelling units per acre than other residential uses.

High density residential uses are located in places with compatible adjacent land uses and where the local street system will accommodate the traffic. Ideally, they are located near commercial uses or employment centers to maximize the number of people who can walk or use alternative modes of transportation.

The densities targeted in this category are over 6 dwelling units per acre. The primary zoning district that would correspond to this land use designation would be the LUR-3 High Density Residential.

Agriculture

Agriculture

The city's strong agricultural heritage is clearly visible in the farm fields located in the northeast corner of the city. The fields, bordered by the historic St. Croix River bluff line, are dotted with artesian wells, have deep pockets of organic soils generally not conducive to development, and are linked by a series of more traditional farm style roads. Single family homes are present and seem accessory to the commercial operations of the farms. Non-agricultural uses will be limited and densities targeted in this category are no more than one dwelling unit per 10 acres. The primary zoning district that would correspond to this land use designation would be the LUAG Agriculture.

Commercial

Downtown Business

Although a number of single family homes currently exist in the Central Business District, new residential development should be part of a mixed use plan with a balance of housing and commercial uses within a single building or complex. Replacing single family homes with mixed use structures and redeveloping existing commercial buildings will help support a healthy business environment and allow more people to be able to walk to their destinations.

Buildings should be located close to the street but with ample space for sidewalks. Parking should generally remain in the rear of the property when on-premise parking is offered. Streetscape improvements that enhance the pedestrian realm, such as planters, hanging baskets, street trees, outdoor seating, public art, street lighting, should be prioritized here. The City should continue to work with business owners and encourage façade improvements by connecting them to grant and funding opportunities. The primary zoning district that would correspond to this land use designation would be the LUCBD Central Business District.

General Business

The General Business guiding designation allows a wide variety of uses including those for convenience oriented, neighborhood-oriented, community-oriented and bulk retail-oriented markets and consumers. These areas provide a wide range of goods and services to serve many of the shopping and dining needs of people who live, work in or visit the City. Certain commercial uses, such as those devoted to motor vehicle-oriented retail or service activities (e.g., vehicle service and fuel sales, drive-through businesses and sales of motor vehicles) depend on access to major transportation routes and often have characteristics that are incompatible with residential areas. Other commercial uses, such as those involving wholesale and retail trade of large volume or bulk commercial items with on-site storage and warehousing, may have both commercial and industrial characteristics.

This guiding designation also allows a variety of uses including professional offices, administrative offices, research and laboratory facilities, wholesale showrooms, service facilities (e.g., conference

centers, lodging and reception halls), and business uses having limited contact with the general public. These areas may provide for limited retail sale of convenience-type products and services for the immediate surrounding area.

Commercial uses in this classification are expected to develop with the highest standards of design and performance, with a higher level of amenities such as landscaping, preservation of natural features, architectural controls, pedestrian trails and other features. Office parks and campus-style developments are encouraged in these areas. Commercial office uses can also serve as, and provide for, an orderly and progressive transition between higher and lower intensity land uses. Locations adjacent to the Central Business District, TH95 and I35 may be subject to stricter design standards so as to achieve an attractive, inviting and high quality retail shopping and commercial services in areas of high visibility and sensitivity to surrounding uses. The primary zoning district that would correspond to this land use designation would be the LUB General Business District.

Industrial
Industrial uses include all forms of businesses with manufacturing, distribution, warehousing or other industrial uses that may have consequences typically associated an industrial activity such as noise, odor, dust or low quality aesthetics. As a result, when these uses are in close proximity to residential, park and open space uses, additional restrictions may be appropriate. These uses may generate truck traffic and may involve outdoor storage. Locations adjacent to residential uses, I35, TH95 or other high visibility areas may be subject to additional design standards. The primary zoning district that would correspond to this land use designation would be the LUI Industrial District.

Public/Institutional
Public, semi-public or institutional uses are comprised of churches, schools, city offices, public works facilities, fire stations, public utilities, and other governmental or non-profit entities. This use may also include parks, designated open spaces and regional storm water management, such as publicly maintained storm water management ponds. This land use classification is intended to differentiate these sites as providing a common amenity or service and not land that is intended to be developed. The primary zoning district that would correspond to this land use designation would be the LUPUB Public/Institutional District.

Required Zoning Changes
The City has adopted zoning regulations for the purpose of carrying out the policies and goals of the land use plan element of the Comprehensive Plan. The application of zoning districts and the specific regulations should support the objectives of the Plan. As a result, an outcome of adopting the plan will be the review and modification of the Zoning Ordinance and Zoning Map as necessary.

The land use plan provides the basis for guiding zoning decisions that will be made by the City and private property owners. Minnesota Statutes Section 462.357 states that "…..the planning agency shall study and propose to the governing body reasonable and practical means for putting the plan into effect. Subject to the limitations of the following sections, such means include, but not limited to, zoning regulations, for the subdivision of land, an official map….." This statute anticipates that the

zoning regulations will be reviewed and updated to ensure implementation of the land use plan. In a broad sense, this review of the zoning ordinance should examine the following:

- The regulations for each zoning district should be reviewed to determine if they fit with the intent of the Comprehensive Plan.
- Zoning districts should be examined in relationship to the land use designation. Changes in zoning districts may be needed to match zoning with land use.
- The City will need to thoroughly review and update its Ordinances to address inconsistencies and conflicts to integrate the concepts described in this Comprehensive Plan. Updating the Zoning Ordinance will be a large undertaking that will require significant input, time and energy.

One of the policy decisions the City will need to make is how to implement the land use plan through the zoning map. Unlike the Metropolitan Land Planning Act (Minnesota Statutes Section 473), which requires consistency between the land use plan and zoning in cities within the Twin Cities metropolitan area, North Branch may choose to take a number of implementation strategies. Each has varying implications for existing property uses and current zoning. The strategies include, but are not limited to, the following:

- Keep current zoning in place until such time as the use terminates or redevelopment is initiated.
- Rezone property to a zoning district compatible with a land use plan category.
- Develop an interim strategy to address current use situations as they relate to long term objectives.

4
Housing

Introduction

Housing is an important component of all communities. Not only do the quality, availability, affordability, and diversity of housing enhance the quality of life in the City, it also supports economic development and contributes to a community's sense of place.

Housing is not a single, one size fits all, commodity. Personal housing needs change as life passes from young, single adults to family, to empty nesters to elderly. This chapter provides an inventory and analysis of North Branch's existing housing and paints a broad picture of future residential development.

North Branch has experienced significant population growth since 2000. The US Census estimated the city's population at 8,023 in 2000 and 10,125 in 2010, representing a 26.2% increase. The Minnesota State Demographer estimates North Branch's population at 10,608 as of April 1, 2017, representing another increase in population of approximately 5% despite the effects of the recession. The population is expected to continue to increase over the next 10 years, resulting in a projected population of 11,934 by 2030, with the 75-84 age group growing the fastest, at a projected rate of 40% according to the recent Maxfield Research and Consulting Comprehensive Housing Needs Analysis for Chisago County, dated June, 2018 (the "Maxfield Study"). Over this same period of time, the number of households has grown from 2,815 in 2000, 3,604 in 2010 and 3,801 as of 2017 and the projected number of households is 4,276 by 2030.

Housing Supply

Quantity and Types of Housing Units

As of April 1, 2017, the number of households is estimated at 3,801 according to the state demographer's office. Data describing the household type, as shown in Table 4-A, is based on data available as an estimate. Refer to Table 4-A: Housing Supply by Type, for more information.

Table 4-A Housing Supply by Type/Units Per Structure	Number Units	Percentage of units
Single-Family detached	*3,040*	*80%*
Single-Family Attached	*164*	*4%*
2-4 Unit multi-family	*129*	*3%*
5 + Unit multi-family	*305*	*8%*
Mobile home	*177*	*5%*
TOTAL UNITS	*3815*	*100%*

By US Census 2016

Comparison of Owner-Occupied and Renter-Occupied Units

It is important for communities to have a mixture of both owner-occupied and renter-occupied units. In general, many communities strive to have roughly 65-70% of their housing units owner-occupied. As of 2016, approximately 84.1% of the housing units in North Branch were owner-occupied, significantly higher than the national average (63.6%).

Table 4-B Housing Tenure by occupied	Number Units	Percentage of units
Owner-Occupied	*3094*	*84.10%*
Renter-Occupied	*585*	*15.90%*
TOTAL	*3679*	*100%*

By US Census 2016

According to the US Census Bureau, the median gross rent (2012 – 2016) was $872.00. Refer to Table 4-C: Rental Rates – 2016, for additional information.

Table 4-C Occupied Units Paying Rent - 2016	Number Units	Percentage of units
Less than $500	*53*	*9%*
$500 to $999	*313*	*54%*
$1,000 to $1,499	*165*	*29%*
$1,500 to $1,999	*24*	*4%*
$2,000 to $2,499	*7*	*1%*
$2,500 to $2,999	*0*	*0%*
$3,000+	*13*	*2%*
TOTAL	*575*	*100%*
Median Dollars	*$872*	

By US Census 2016

Few owner occupied houses are sold and converted to rentals, leaving a significant shortage of single family homes for rental. In addition, the existing multi-tenant properties experience a very low vacancy rate. The Maxfield Study (as commissioned by the Chisago County HRA/EDA in 2018) estimated the rental vacancy rate for North Branch and the immediate surrounding area at 2.4%. The US Census data from 2016 estimates the vacancy rates for North Branch specifically at 1.2% for owner occupied homes and 0% for rental units. Policies encouraging and promoting rental housing, whether traditional apartment style or via townhome-style construction, targeting all age groups and incomes, should be considered.

Value of Housing

According to the US Census Bureau, the median value of owner-occupied housing units in North Branch (2012 - 2016) was $163,000. Refer to Table 4-D: Owner- Occupied Housing by Value, for additional information. According to the US Census Bureau, a median selected monthly owner cost with a mortgage (2012 – 2016) was $1,500.00 and median selected monthly owner costs without a mortgage (2012 – 2016) was $500.00.

Table 4 – D Owner-Occupied Housing Units by Value	Number Units	Percentage of units
Less than $50,000	*151*	*5%*
$50,000 to $99,999	*236*	*8%*
$100,000 to $149,999	*823*	*27%*
$150,000 to $199,999	*959*	*31%*
$200,000 to $299,999	*673*	*22%*
$300,000 to $499,999	*210*	*7%*
$500,000 to $999,999	*25*	*1%*
$1,000,000 +	*17*	*1%*
TOTAL	*3094*	*100%*
Median Dollars	*$163,000*	

By US Census 2016

Residential Construction

1,219 new housing units were added in North Branch between 2000 and 2017. This includes 80 multifamily units and 1,139 single family homes.

At the peak of the past 18 years (from 2000 – 2005), single family home construction averaged about 150 homes per year. During the early years of the recession (from 2006 – 2011), the average number of new homes was only 13 homes per year, meaning some new housing growth, but in very limited numbers. The last 6 years of this period (from 2012 – 2017) has seen on average 41 new homes per year, demonstrating that North Branch remained a viable new housing market when other communities saw little or no growth for the past ten years.

Table 4-E Building Permit Trends 2000 thru 2017			
Year	*Single Family Dwellings*	*Multi-Family Dwellings*	*TOTAL*
2000	*200*		*200*
2001	*156*		*156*
2002	*132*	*24*	*156*
2003	*153*		*153*
2004	*87*	*56*	*143*
2005	*90*		*90*
2006	*29*		*29*
2007	*27*		*27*
2008	*8*		*8*
2009	*5*		*5*
2010	*2*		*2*
2011	*5*		*5*
2012	*31*		*31*
2013	*41*		*41*
2014	*36*		*36*
2015	*45*		*45*
2016	*50*		*50*
2017	*42*		*42*

Tenure by Age of Householder

Demand is great for affordable owner-occupied homes. Demand overall is calculated for approximately 1,000 new for-sale units over the next 10 years. Existing lot supply is low, therefore new lots will need to be platted soon to meet the growing demand for new construction over the next decade. Price points to accommodate a range of incomes and desired amenities will need to be balanced and future new housing inventory should be offered in a variety of layouts and styles, at a variety of different prices, and in locations throughout the city to address demand from all age groups and income brackets.

The city has a relatively small number of senior housing facilities, with a county wide vacancy rate of 1.7% based on the Maxfield Study. The Maxfield Study also indicated that market equilibrium is typically 3%. Consequently, the Maxfield Study concluded that there is a strong demand for senior housing (2017 – 2030), with the majority of demand in the form of independent/active living housing (i.e. no services). The Maxfield Study recommended several new senior housing concepts including a senior co-operative, active adult rental, affordable rental, independent living with some services, a memory care units.

Life-Cycle Housing and Profile of Households

The housing needs of a community relate to the demographic profile of the household. Typically,

The City of North Branch has a high quality housing stock and variety of affordable options that allow residents to find housing at all stages of life.

households move through several life-cycle stages; including entry-level households, first time homeowners, move-up buyers, empty nesters/young seniors, and older seniors. The following describes each of these household types and the effect that they have on housing demands in North Branch.

Entry-Level Households

People in the 19 to 24 year old age group typically leave their childhood home and establish their own household. They often rent a house or an apartment because they generally do not have the income and savings needed to buy a home. In addition, many people in this age group move frequently, so they are hesitant to buy a house. They are also more apt to share housing with other unrelated people of similar age.

The entry-level household population in North Branch will fluctuate annually. Many North Branch residents that graduate from high school move to other communities to attend a university or to pursue other job opportunities. In the long term, unless current conditions and trends change, North Branch will not see a significant increase in the 19 to 24 year old age group.

First Time Homeowners

First time homeowners are typically in their 20s and 30s. They are usually "move-up" renters, meaning they "move up" from an apartment to a home. They are often married with young children and prone to moving within a few years of buying their first home for several reasons; including, increased salaries allowing them to move to more expensive housing, an increased number of children may require larger housing, and job opportunities may require that they move to another community.

Move-Up Buyers

Move-up buyers are typically in their 30s and 40s. They move up from the smaller, less expensive house that they had purchased earlier. From an economic growth perspective, this is an important age group of people.

Typically, move-up buyers have children in school and an established job. They are less apt to move to another community and start over. Also, professionals who are moving to a community to advance their career are generally looking to move to a more expensive house than what they had in their previous community. North Branch should continue to ensure that it has adequate choices for those who are looking for move-up housing that will satisfy their needs until they are in their late 50s and beyond.

Empty Nesters and Young Seniors

Empty nesters and young seniors are generally in their 50s and 60s. Often, their children have moved out of their house and left them with a larger house than needed. Empty nesters

and young seniors often want to live in a smaller house, like a townhouse, that has less maintenance. As the baby boom generation moves into this age group, this population will likely increase in North Branch and there may also be a shift in this population group from their homes into apartments. There has already been a notable increase in demand for apartment and townhome style rentals in North Branch by members of the baby boom generation.

Advanced Seniors

Those in their 80s and older are often looking for low maintenance or assisted living housing. As the population ages, North Branch should continually ensure that it has adequate housing to meet the needs of seniors, including the opportunity for multi-generational housing options, such as "senior or mother-in-law apartments".

Special Needs

Housing for those with special needs includes housing for older adults and individuals with mental and/or physical disabilities or health issues whether it be temporary care, transitional housing, or long term care. The number of people with special housing needs is expected to increase as the population of North Branch continues to age. Ecumen offers a range of housing options at its North Branch facility. Bickford of North Branch offers assisted living and memory care. Apartment complexes including Shields Plaza and Splittstoser Apartments are tailored to the 55+ population and those needed wheel chair accessibility. A new supportive housing, 20 unit apartment complex intended for individuals with mental illness, called Willow Grove, is in development and construction is anticipated in 2019. North Branch is also home to Karcher Services, Provide Care and Progressive Living Solutions that offer a variety of care options.

Affordable Housing

The United States Department of Housing and Urban Development (HUD) generally defines housing as affordable if it costs less than thirty (30) percent of a household's income. However, HUD's Section 8 Income Guidelines are the basis for most affordable housing programs. Section 8 guidelines define low and moderate incomes on a sliding scale, depending on the number of persons in the family. For example, a four person household is considered "moderate income" if their family income is eighty (80) percent of the area's median family income.

It is noted most housing affordability programs and data place emphasis on creating owner-occupied units at eighty (80) percent of the median family income (moderate income) and rental units at fifty (50) percent of the median family income (low income). Since low income persons are typically renters, the definition of "low income" is tied to the number of persons in each unit. This plan identifies "affordable owner occupied units" as those affordable for moderate income families (eighty (80) percent of median income). Affordable rental units are based on fifty (50) percent of the median income and reflected on a per capita and per family basis. While there are no units of designated as "subsidized" under HUD standards, there are 49 housing units that are subsidized under the USDA subsidy program in North Branch.

A new 48 unit, townhome style, affordable housing project is planned for construction in 2019. This workforce rental housing project will feature homes with 1 – 3 bedrooms, garages and on-site management an amenities.

Income by Age of Householder in North Branch.
Looking at income data is also important when predicting future housing demands in the City of North Branch. As of 2000 US Census, the median household income was $50,924. By 2016, the median household income increased to approximately $69,419 and the top employment industries, according to Data USA (2016), are health care and social service (912), manufacturing (680) and construction (656). The total population in 2017 age 16 and over was approximately 7,690, of which approximately 71.6% were considered to be in the labor force (US Census). The unemployment rate in the City of North Branch in September 2015 was approximately 3.4%. During this same time, Minnesota had an unemployment rate of about 3.2% (City-Data.com).

Income distributions as reported by the U.S. Census Bureau can be compared to affordability standards to determine how many households and families in the City of North Branch may require affordable housing. An estimated 1,144 households (30%) have annual household incomes of less than 80% of the median household income reported by the American Community Survey in 2016.

Table 4 - F Household income and benefits	*Number Units*	*Percentage of units*
Less than $10,000	*214*	*6%*
$10,000 to $14,999	*147*	*4%*
$15,000 to $24,999	*128*	*3%*
$25,000 to $34,999	*306*	*8%*
$35,000 to $49,999	*349*	*9%*
$50,000 to $74,999	*921*	*25%*
$75,000 to $99,999	*754*	*20%*
$100,000 to $149,999	*631*	*17%*
$150,000 to $199,999	*199*	*5%*
$200,000 +	*30*	*1%*
TOTAL HOUSEHOLDS	*3679*	*100%*
Median Household Income (dollars)	*$ 69,419.00*	
Mean Household Income (dollars)	*$ 73,436.00*	

By US Census Bureau, 2012-2016 American Community Survey

Table 4 -G Owner Monthy Costs as Percent of Household Income - 2016	*Number Units*	*Percentage of units*
Less than 20.0%	*810*	*34%*
20.0 to 24.9%	*677*	*28%*
25.0 to 29.9%	*223*	*9%*
30.3 to 34.9%	*233*	*10%*
35.0 % +	*461*	*19%*
Total	*2404*	*100%*

By US Census 2016

Table 4-H Gross Rent as a Percentage of Household Income	*Number Units*	*Percentage of units*
Less than 15%	*58*	*10%*
15.0 to 19.9%	*37*	*6%*
20.0 to 24.9%	*50*	*9%*
25.0 to 29.9%	*23*	*4%*
30.0 to 34.9%	*88*	*15%*
35.0% +	*319*	*55%*
Total	*575*	*100%*

By US Census 2016

Future Population and Household Projections

The future housing projections reported in the Maxfield Study assume that approximately 1,000 new housing units are needed to be constructed over the next 10 years to address pent up demand. The City recognizes that there are many factors and demographic trends that influence the number of housing units constructed and household size and that these numbers will likely change from year to year.

Vision for Housing

The City of North Branch has a high quality housing stock and variety of affordable options that allow residents to find housing at all stages of life. Quality housing is available for all income and age ranges. Existing homes have been well maintained and renovated, as the unique character of each neighborhood is preserved. The City is open to creatively seeking opportunities to meet our housing needs and responsibly providing our share of affordable housing. Housing in North Branch continues to be a strength in attracting young families to the area and supporting the desires of existing residents to find alternative housing options for their senior years that allows them to transition from their large single family homes into something more manageable with the amenities they desire all while remaining in North Branch.

Goals, Objectives, and Policies

The following is a series of goals, objectives, and policies intended to achieve the vision for housing stated above.

GOAL 1

Allow all people the opportunity to call North Branch their home.

Objective 1.1

Provide a full range of housing choices that meet residents' needs at every stage of their lives.

Policy 1.1.1

Attract a variety of residential developers to ensure a diversity of housing styles, layouts and costs.

Policy 1.1.2

Provide a variety of different residential zoning districts that have varying regulations with regard to setbacks, height, density, lot coverage and possible opportunity for accessory dwelling units.

Policy 1.1.3

Ensure that land is available in applicable zoning districts to allow for senior living options for all abilities (independent to assisted).

Policy 1.1.4

Encourage projects that include amenities to build and encourage active lifestyles.

Objective 1.2

Provide quality and sufficient affordable housing that meets the area's demand.

Policy 1.2.1

Work with developers on providing affordable market rate housing.

Policy 1.2.2

Develop policies for naturally occurring affordable multi-family housing that encourage the maintenance and upgrading of aging apartment buildings, while maintaining affordability and preventing displacement of residents.

Policy 1.2.3

Promote additional housing diversity to serve families at all stages of their life cycle through housing finance programs and possible public-private partnerships.

GOAL 2

Provide attractive and desirable residential properties.

Objective 2.1

Provide residential neighborhoods that are well designed.

Policy 2.2.1

For new development or redevelopment, consider streetscape improvements such as attractive street lighting, boulevards, sidewalks on at least one side of the street, landscaping and vegetation, and other amenities that enhance the visual appearance of neighborhoods. Consider similar opportunities in existing neighborhoods as street reconstruction projects occur.

Policy 2.2.2

Seek opportunities to provide additional green space and recreation amenities in residential areas that may be lacking them.

Policy 2.2.3

Promote moderate and higher density housing, such as apartment style and townhome style units, in areas where appropriate, such as within and near downtown, commercial areas, and along arterial roadways. Promote development practices that result in low traffic volumes near low density residential areas.

Policy 2.2.4

Promote residential development that occurs in an orderly manner consistent with the future land use plan and that makes efficient and responsible use of municipal utilities and infrastructure expansion and incentivizes (for example, through access to technical assistance) construction of more energy efficient and water efficient housing).

Policy 2.2.5

Implement housing codes and support programs which lead to a housing stock that reflects the City's commitment to sustainability and healthy living.

5
Economic Development

Introduction

A strong business community is the cornerstone of a vibrant city. Economic development encompasses the policies and activities that improve the long term economic and social wellbeing of the community. Communities with strong economies have financial resources to support the levels of service that their residents need and desire. Successful communities realize that economic development is about bringing together social, natural, infrastructure, and economic assets in the community to sustain the "whole" community.

The City's Economic Development Authority recently adopted a strategic plan to guide and inform its decision making over the next 3 – 5 years. The EDA identified the following strategic priorities:

- Expansion of broadband (high speed internet)
- Business growth, including continued land sales and development
- Transportation
- Community
- Housing

Inventory and Analysis

Existing Characteristics of the Economy

A significant number of North Branch residents commute to work, but have indicated via survey and other tools, that they would prefer to work in the city if comparable jobs were available. Therefore, retaining and attracting jobs is an ongoing objective for the City of North Branch. As of 2018 Assessment Year, non-residential property values amounted to $146,754,700, as follows: commercial $91,277,300, industrial $22,953,100 and apartments $32,524,300. The Minnesota Department of Employment and Economic Development estimates the unemployment rate in Chisago County at 3 percent, higher than the state average of 2.9 percent.

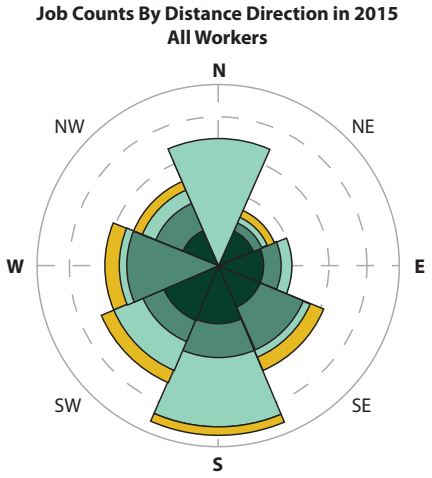
Table 5-A shows the employment and business profile of North Branch. The highest employment industry is health care and social assistance which provides 17.5 percent of all jobs in North Branch. Educational services is the second highest source of employment (13.1 percent), and construction, and other services provide about 12.6 percent each of the community's total jobs. (Data-USA.com)

Table 5 -A Business and Employment Statistics		
Name	*Industry*	*Approximate # of Employees*
North Branch School District	*Education*	*388*
Villages of North Branch	*Elder Care*	*185*
Andersen Windows	*Manufacturing*	*180*
Lakes Region EMS	*Emergency Medical Services*	*92*
County Market	*Retail*	*90*
Fairview Health System	*Health Care*	*85*
Branch Manufacturing	*Manufacturing*	*72*
Environmental Stoneworks	*Manufacturing*	*69*
Zinpro	*Manufacturing*	*62*
ShopKo	*Retail*	*60*
Wisconsin Coil Spring	*Manufacturing*	*56*

Commuting

According to the US Census as of 2015, 59.4 percent of North Branch residents commute more than 10 miles to work, resulting in an average commute time of 32.3 minutes trip.

Figure 5-1: Commute Distances



Jobs by Distance | Work Census Block to Home Census Block

	2015	
	Count	*Share*
Total Primary Jobs	*3,366*	*100.0%*
Less than 10 miles	*1,368*	*40.6%*
10 to 24 miles	*1,148*	*34.1%*
25 to 50 miles	*614*	*18.2%*
Greater than 50 miles	*236*	*7.0%*

Finance Tools

Community development actions require a framework for financial decision-making. The investment of public dollars to achieve community development objectives should be guided by several key principles:

- Financial resources are limited. The city has limited funding to apply to community development initiatives, so the use of resources must be targeted to achieve the greatest effect on community needs.
- Financial decisions require a long-term perspective. The current use of financial resources may reduce monies available in the future. In evaluating short-term opportunities, it is important to question the long-term impact on community development.
- Public funds should lead to private investment. While this section focuses on public finance actions, the Comprehensive Plan cannot become reality without private investment. The use of public funds should be targeted to actions that encourage private investment in North Branch.

The area of North Branch located north of TH95 received Opportunity Zone designation by the US Department of Treasury. While the tax credit opportunities that this designation allows are a private sector concern, the City will promote this designation as a tool for land sales and development in the City's Interstate Business Park as well as the other undeveloped portions of the City within the designated Opportunity Zone census tract.

Tax Increment Financing

Tax increment financing (TIF) is the primary development finance tool available to Minnesota cities (Minnesota Statutes, Sections 469.174 through 469.179). TIF is simple in concept, but complex in its application. Through tax increment financing, the property taxes created by new development (or redevelopment) are captured and used to finance activities needed to encourage the development. The challenge in using TIF lies with the complex and ever-changing statutory limitations.

Tax Abatement

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

Special Assessments

Public improvements are often financed using the power to levy special assessments (Minnesota Statutes Chapter 429). A special assessment is a means for benefiting properties to pay for all or part of the costs associated with improvements, and to spread the impact over a period of years. This tool can be applied to both the construction of new improvements and the rehabilitation of existing improvements.

Grant Programs

Cities can leverage funding from various grant programs to help take on economic development initiatives. There are numerous grant programs available to cities provided by various state and federal agencies related to economic development and downtown redevelopment. The Community Development Block Grant program (CDBG) administered by the U.S. Department of Housing and Urban Development (HUD) provides grants on an annual basis to states and eligible local governments for community development activities. In some cases, communities may choose to use these dollars for business retention and job growth activities. The City should also explore the use of these dollars for downtown redevelopment. The Minnesota Department of Employment and Economic Development is another agency with financial assistance available to local governments for business development, infrastructure, community development and site cleanup and redevelopment. Many other funding sources exist and city staff should monitor and pursue these opportunities when appropriate.

A significant number of North Branch residents commute to work, but have indicated via survey and other tools, that they would prefer to work in the city if comparable jobs were available.

GOAL 1

Encourage economic growth to meet the demand for commercial and industrial development.

Vision for Economic Development

The City of North Branch will remain focused on retaining a high quality of life, while at the same time working to encourage and facilitate job growth in its commercial and industrial sectors.

Goals, Objectives, and Policies

The following section outlines the primary goals for economic development, followed by a series of objectives and policies intended to influence future economic development efforts that align with the community visions in this plan.

Objective 1.1
Develop the Interstate Business Park.

Policy 1.1.1

Strive to maximize the community's strategic location as a valuable resource, promoting the Opportunity Zone designation whenever possible.

Policy 1.1.2

Actively target companies, both large and small, that offer good employment prospects, draw from the local labor pool, and are good corporate citizens.

Policy 1.1.3

Work to maintain a labor force in the immediate area that supports the growth of business and industry in the Interstate Business Park, including but not limited to expanding the inventory of affordable housing, providing transportation alternatives and encouraging expansion of services.

Policy 1.1.4

Coordinate with stakeholders and regional partners to identify users of rail and support development of rail spur adjacent to the Interstate Business Park.

Objective 1.2

Revitalize the historic downtown areas of North Branch.

Policy 1.2.1
Address unique development challenges including the reuse and redevelopment of vacant buildings in the historic downtown areas.

Policy 1.2.2
Explore and implement plans to enhance pedestrian friendly features, promote available parking, and collaborate with Minnesota Department of Transportation to establish safe pedestrian crossings at intersections within the downtown area.

GOAL 2

Balance the use of undeveloped land and infill development throughout the City.

Objective 2.1

Continue and expand redevelopment efforts.

Policy 2.1.1

Foster private investment and economic activity without compromising community objectives to maintain and enhance North Branch's natural environment.

Policy 2.1.2

Promote the areas north of TH95 as being designated for Opportunity Zone tax treatment to further enhance private investment in those areas.

GOAL 3

Enhance North Branch's reputation as a resource to new and expanding businesses.

Objective 3.1

Retain and support local business and industry.

Policy 3.1.1

Set attracting new, and retention of existing, businesses and industries as a priority of the City's economic development plan.

Policy 3.1.2

Continue outreach by City Staff and Elected Officials whereby the City representatives meet periodically on an individual basis with businesses and industries to listen to concerns and discuss opportunities for success. During these meetings, identify any perceived or real barriers or obstacles (such as overly restrictive ordinances) that the City could potentially remove or minimize to help industries and businesses prosper, while still protecting the overall health, safety and welfare of the community.

Policy 3.1.3

Coordinate with regional organizations, the North Branch School District, higher education institutions, and others in their efforts to promote training opportunities that can help businesses and industries prosper. If appropriate, co-sponsor and/or offer City facilities and/or meeting space for employee training programs.

Policy 3.1.4

Continue to promote North Branch's high quality of life as a means to help attract new businesses and industries.

Policy 3.1.5

Continue to work with local businesses and industries to ensure needs for expansion and development are adequately met.

Policy 3.1.6

Pursue ways to streamline the development approval process while still maintaining high quality development standards, by using consistent work flow practices, checklists, and hosting developer information sessions regularly.

Policy 3.1.7

Periodically review and promote economic development incentive programs such as Tax Increment Financing (TIF), Tax Abatement, utility energy and water efficiency design and improvement programs, county and state waste and pollution prevention assistance and other regional, state and national loan, grant and incentive programs to support business growth and development.

6

Transportation

Introduction

The purpose of the Transportation chapter of the Comprehensive Plan is to provide guidance to the City of North Branch, as well as existing and future landowners in preparing for future growth and development. As such, whether an existing roadway is proposed for upgrading or a land use change is proposed on a property, this Plan provides the framework for decisions regarding the nature of roadway infrastructure improvements necessary to achieve safety, adequate access, mobility, and performance of the existing and future roadway system. The primary goal of this Plan is to establish local policies, standards, and guidelines to guide major transportation investments and policy decisions.

Transportation System Principles And Standards

The transportation system principles and standards included in this Plan create the foundation for developing the transportation system, evaluating its effectiveness, determining future system needs, and implementing strategies to fulfill the goals and objectives identified.

Functional Classification

It is recognized that individual roads and streets do not operate independently in any major way. Most travel involves movement through a network of roadways. It becomes necessary to determine how this travel can be channelized within the network in a logical and efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of trips through a roadway network. Functional classification is the process by which streets and highways are grouped into classes according to the character of service they are intended to provide. Functional classification involves determining what functions each roadway should perform prior to determining its design features, such as street widths, speed, and intersection control.

The Minnesota Department of Transportation (MnDOT) has developed definitions and criteria for roadway classification based on function. The functional classification system typically consists of four major classes of roadways: Principal Arterials, Minor Arterials, Major Collectors, and Minor Collectors. Roadways are classified as either arterials, collectors, or local streets based on several criteria including (but not limited to) geographic units connected, types of streets connected, length of trip served, distance between streets of the same classification, volume of traffic carried by the facility, speed limit and design (right-of-way width and access provisions).

This Plan provides the framework for decisions regarding the nature of roadway infrastructure improvements necessary to achieve safety, adequate access, mobility, and performance of the existing and future roadway system

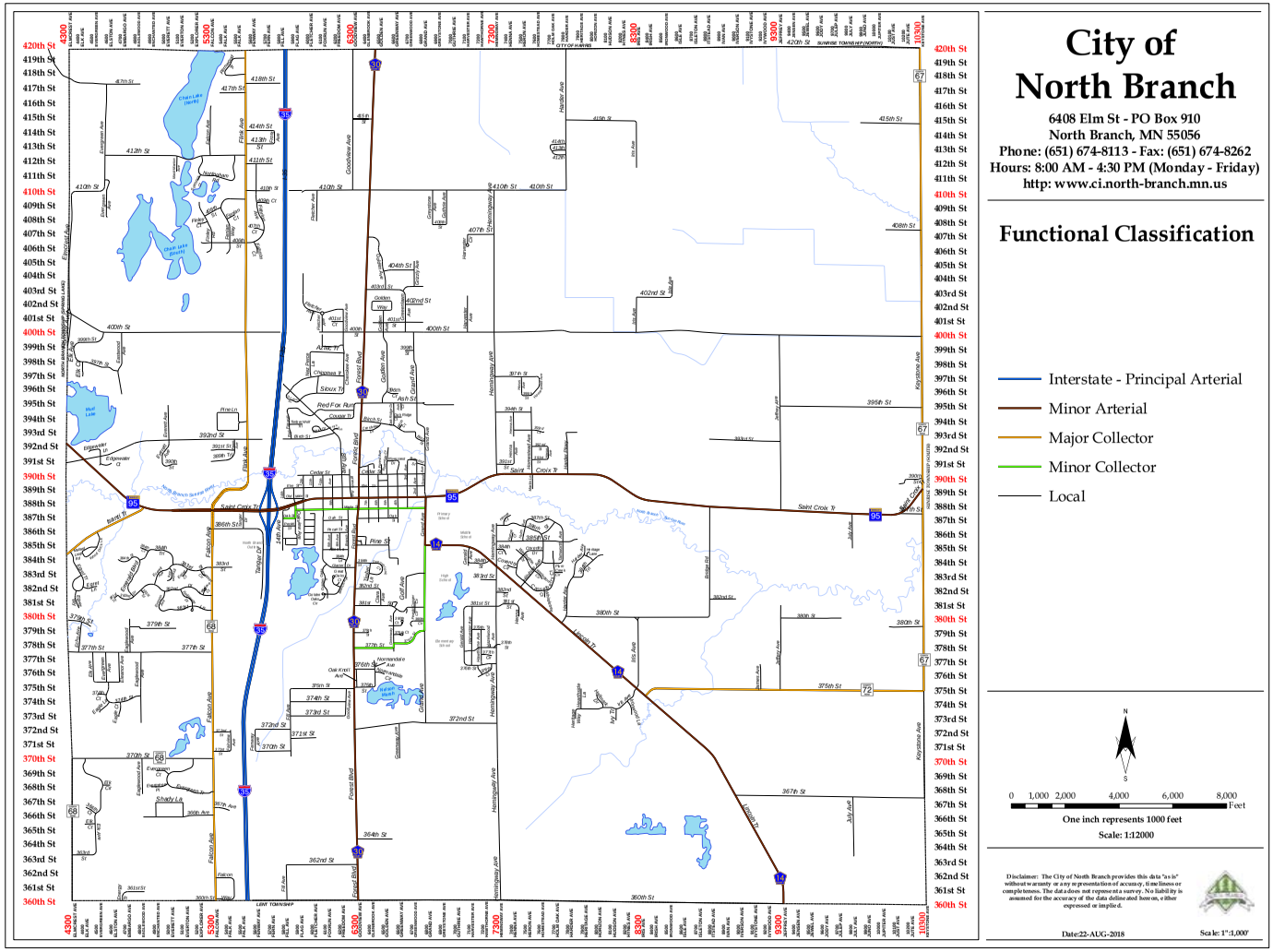


Figure 6-1: Functional Classification Map

The existing roadway classifications in North Branch are described below.

A. Principal Arterials

Roadways of this classification typically connect large urban areas to other large urban areas or they connect metro centers to regional business concentrations via a continuous roadway without stub connections. They are designed to accommodate the longest trips. Their emphasis is focused on mobility rather than access. They connect only with other Principal Arterials, interstate freeways, and select Minor Arterials and Collector Streets. There is one Principal Arterial roadway in the City of North Branch, Interstate 35 that runs north/south through the state of Minnesota and extending to Texas.

B. Minor Arterials

Roadways of this classification typically link urban areas and rural Principal Arterials to larger towns and other major traffic generators capable of attracting trips over similarly long distances. Minor Arterials service medium length trips, and their emphasis is on mobility as opposed to access in urban areas. They connect with Principal Arterials, other Minor Arterials, and Collector Streets. Connections to Local Streets should be avoided if possible. Minor Arterials are responsible for accommodating thru-trips, as well as trips beginning or ending outside the North Branch area. Minor Arterial roadways are typically spaced approximately ½ to 1 mile in developed areas and approximately 1 to 2 miles in developing areas. TH95, which runs east-west from the Wisconsin boarder on the east end and St. Cloud on the west end, Chisago County Rd. 14 and Chisago County Rd. 30 are identified as Minor Arterial roadways in North Branch.

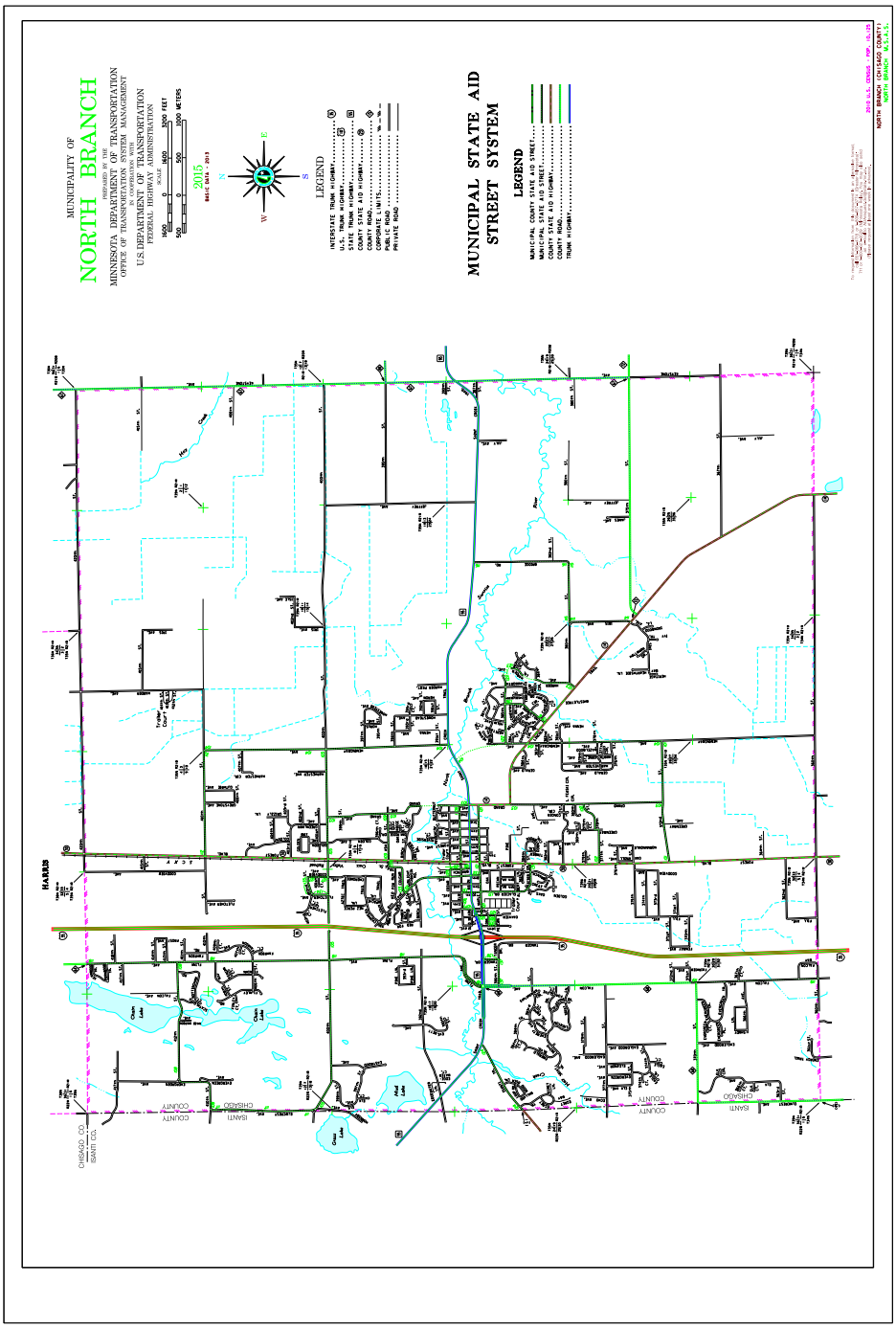
C. Major Collectors

Roadways of this classification typically link neighborhoods together within a city or they link neighborhoods to business concentrations. In highly urban areas, they also provide connectivity between major traffic generators. A trip length of less than 5 miles is most common for Major Collector roadways. A balance between mobility and access is desired. Major Collector street connections are predominately to Minor Arterials, but they can be connected to any of the other four roadway functional classes. Local access to Major Collectors should be provided via public streets and individual property access should be avoided. Generally, Major Collector streets are predominantly responsible for providing circulation within a city. However, the natural features associated with wetland and drainage complexes and parks, and location of principal arterials through the community results in circulation within North Branch being reliant on a combination of the Minor Arterial and Major Collector roadways. Major Collectors are typically spaced approximately ¼ to ¾ mile in developed areas and approximately ½ to 1 mile in developing areas. Flink Ave., Falcon Ave., portions of Keystone and Chisago County Rd. 72, and Isanti Trail are functionally classified as Major Collector roadways in the North Branch area.

D. Minor Collector Streets

Roadways of this classification typically include city streets and rural township roadways, which facilitate the collection of local traffic and convey it to Major Collectors and Minor Arterials. Minor Collector streets serve short trips at relatively low speeds. Their emphasis is focused on access rather than mobility. Minor Collectors are responsible for providing connections between neighborhoods and the Major Collector/Minor Arterial roadways. These roadways should be designed to discourage short- cut trips through the neighborhood by creating jogs in the roadway (i.e. not direct, through routes). Portions of Oakview, Oak, Maple, Grand, 378th, 377th and Greenway are functionally classified as Minor Collector roadways in the North Branch area.

Figure 6-2:
Municipal State Aid
Street System Map



Roadway Capacity
Capacities of roadway systems vary based on the roadway's functional classification. Based on accepted standards, roadway capacity per lane for divided arterials is 700 to 1,000 vehicles per hour and 600 to 900 vehicles per hour for undivided arterials. These values tend to be around 10% of the daily physical roadway capacity.

Principal and Minor Arterials
Based on the per lane capacity figures cited above, a two-lane arterial roadway has a daily capacity of 12,000 to 18,000 vehicles per day, a four-lane divided arterial street has a daily capacity of 28,000 to 40,000 vehicles per day, and a four-lane freeway has a daily capacity of approximately 70,000 vehicles per day. The variability in capacities are directly related to many roadway characteristics including access spacing, traffic control, adjacent land uses, as well as traffic flow characteristics, such as percentage of trucks and number of turning vehicles. Therefore, it is important that the peak hour conditions are reviewed to determine the actual volume-to-capacity on roadway segments with average daily traffic volumes approaching these capacity values.

Major Collectors and Minor Collector Streets
Major Collector and Minor Collector streets have physical capacities similar to those of a two-lane arterial street, however the acceptable level of traffic on a residential street is typically significantly less than the street's physical capacity. The acceptable level of traffic volumes on Major Collectors and Minor Collector streets vary based on housing densities and setbacks, locations of parks and schools, and overall resident perceptions. Typically, traffic levels on Major Collector streets in residential/ educational areas are acceptable when they are at or below 50% of the roadway's physical capacity, resulting in an acceptable capacity of 6,000 to 9,000 vehicles per day. Acceptable traffic levels on Minor Collector streets are considerably less. Typically, a daily traffic volume of 1,000 to 1,500 vehicles per day is acceptable on Minor Collector streets in residential areas.

Table 6-A: Roadway Types and Capacities, identifies various roadway types and the estimated daily capacities that the given roadway can accommodate.

Table 6-A: Roadway Types and Capacity	
Roadway Type	*Daily Capacities*
Minor Collector Street	*Up to 1,000*
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 to 40,000*
4-Lane Freeway	*Up to 70,000*

The capacity of a transportation facility reflects its ability to accommodate a moving stream of people or vehicles. It is a measure of a supply side of transportation facilities. Level of Service (LOS) is a measure of the quality of flow. The concept of LOS uses qualitative measures that characterize

operational conditions with a traffic stream and their perception by motorists. Six LOS are defined for roadways. They are LOS A, B, C, D, E, and F. LOS A represents the best operating conditions and LOS F represents the worst. The LOS of a multilane roadway can be dictated by its volume-to-capacity (v/c) ratio. The LOS of a two-lane roadway is defined in terms of both percent time-spent-following and average travel speed. LOS F is determined when v/c ratio is over 1.00. The criteria for LOS and general v/c ratio for multilane highways and speed for two-lane highways are provided in Table 6-B below:

Table 6-B: Highway Level of Service		
LOS	*Multilane*	*Two-Lane*
	v/c Ratio	*Avg. Travel Speed (mph)*
A	*<0.28*	*>55*
B	*>0.28 – 0.45*	*>50-55*
C	*>0.45 – 0.65*	*>45-50*
D	*>0.65 – 0.86*	*>40-45*
E	*>0.86 – 1.00*	*≤40*
F	*> 1.00*	*v/c >1.00*

For roadways in urban sections, the urban street class and average travel speed determine the LOS. This is generally similar to the LOS for two-lane highways but takes into account the free flow speed of the facility (average speed achieved with no other vehicles present on roadway) and the addition of traffic control.

This criterion is established in Table 6-C below:

Table 6-C: Urban Street Level of Service				
Range of Free-Flow Speed	55 to 45	45 to 35	35 to 30	35 to 25
LOS	Avg. Travel Speed (mph)			
A	>42	>35	>30	>25
B	>34-42	>28-35	>24-30	>19-25
C	>27-34	>22-28	>18-24	>13-19
D	>21-27	>17-22	>14-18	>9-13
E	>16-21	>13-17	>10-14	>7-9
F	≤16	≤13	≤10	≤7

Generally, the City of North Branch should consider capacity improvements on roadways with a LOS D or worse and volume-to-capacity ratios over 0.75 during the peak hours.

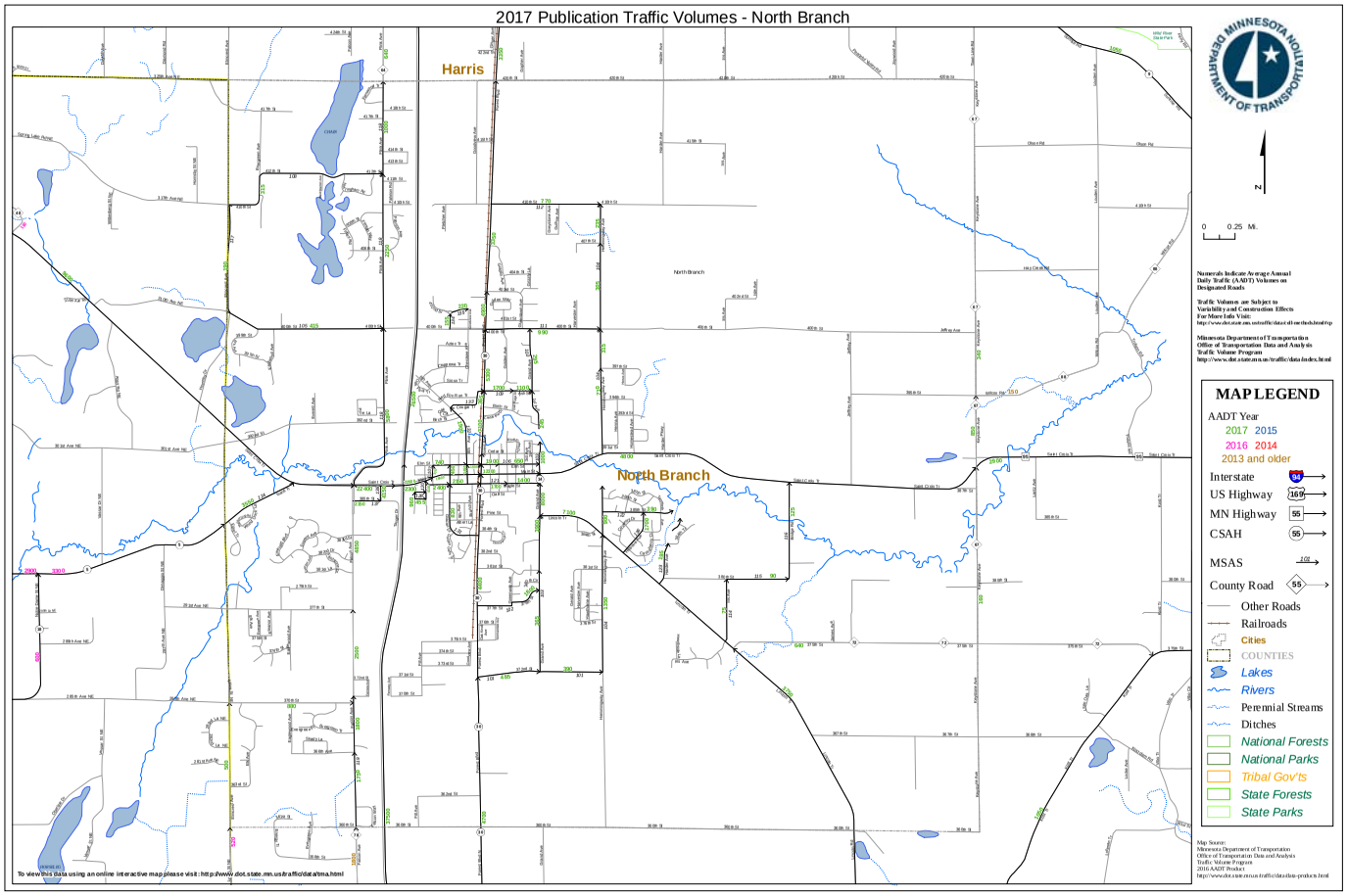


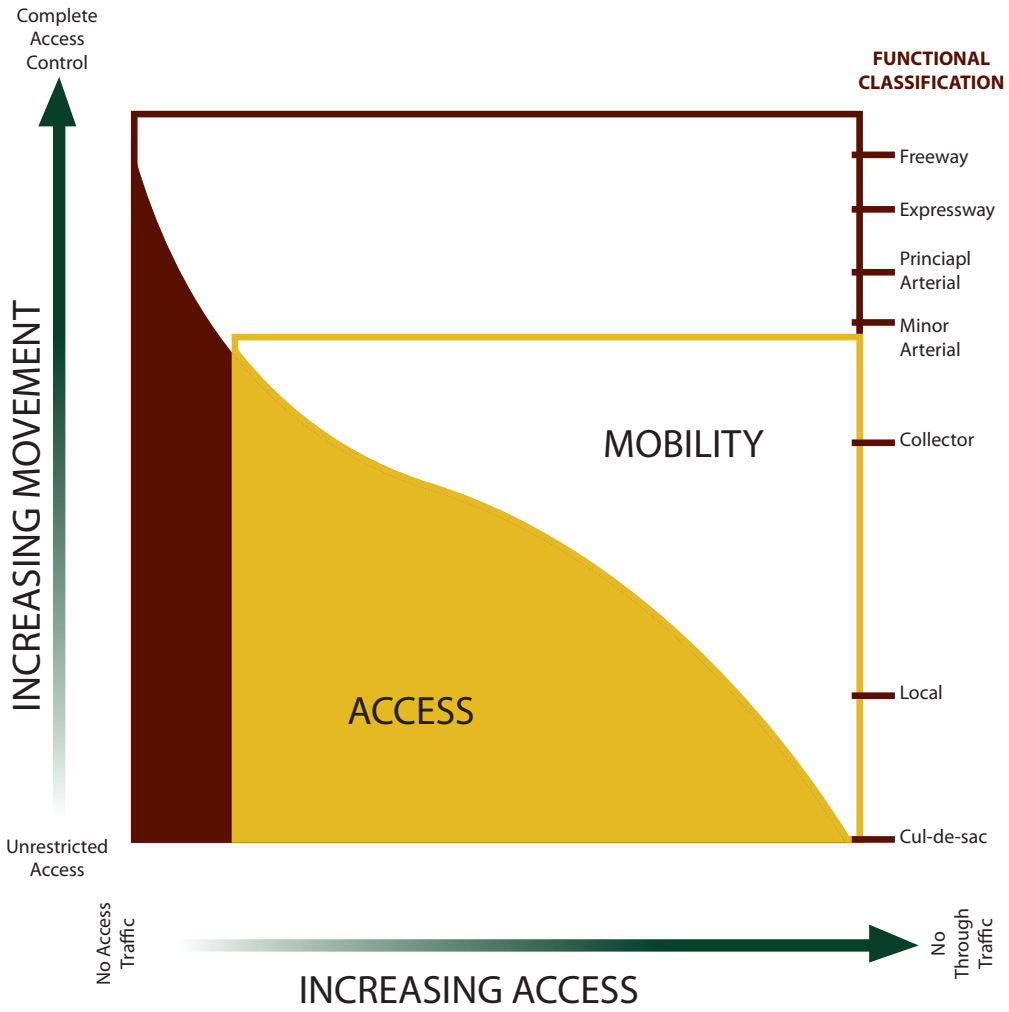
Figure 6-3: MNDOT Traffic Volumes

Access Management Guidelines

Access management guidelines are developed to maintain traffic flow on the network so each roadway can provide its functional duties, while providing adequate access for private properties to the transportation network. This harmonization of access and mobility is the keystone to effective access management.

Mobility, as defined for this Transportation Plan, is the ability to move people, goods, and services via a transportation system component from one place to another. The degree of mobility depends on a number of factors, including the ability of the roadway system to perform its functional duty, the capacity of the roadway, and the operational level of service on the roadway system.

Access, as applied to the roadway system in North Branch, is the relationship between local land use and the transportation system. There is an inverse relationship between the amount of access provided and the ability to move through-traffic on a roadway. As higher levels of access are provided, the ability to move traffic is reduced. The graphic below illustrates the relationship between access and mobility.



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 deceleration 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.
Accordingly, the safe speed of a road, the ability to move traffic on that road, and safe access to cross streets and properties adjacent to the roadway all diminish as the number of access points increase along a specific segment of roadway. Because of these effects, there must be a balance between the level of access provided and the desired function of the roadway.

Roadway Width
Right-of-way width is directly related to the roadway's width and its ability to carry vehicular and pedestrian traffic in a safe and efficient manner. For Minor Collector streets in residential areas, a minimum right-of-way width of 80 feet is recommended for the added roadway width, as well as to provide added setback distance between the roadway and homes along the roadway. Right-of-way widths of 80 feet to greater than 100 feet may be required on Minor Arterials and Major Collector roadways within commercial areas to accommodate the potential for higher traffic volumes and the need for additional lanes.

For the City of North Branch, geometric design standards for the reconstruction or construction of new Minor Arterial, Major Collector, and Minor Collector Streets will be based on MnDOT State- Aid standards.

Table 6-D: Access Spacing Guidelines for Collector Roadways in North Branch (1) (2)

Type of Access by Land Use Type	Minor Arterial/Major Collector	Minor Collector
Low & Medium Density Residential		
Private Access	Not Permitted (3)	As Needed (4)
Minimum Corner Clearance from a Collector Street	660'	300'
Commercial, Industrial or High Density Residential		
Private Access	Not Permitted (3)	As Needed (4)
Minimum Corner Clearance from a Collector Street	660'	660'

(1) Some existing City streets that are currently functionally classified as Minor Arterial, Major Collector, or Minor Collector do not meet these criteria. These guidelines should be used for new streets and roadways that will functionally classified as Minor Arterial, Major Collector, or Minor Collector
(2) These guidelines apply to City streets only. Chisago County and MnDOT have access authority for roadways under their jurisdiction.

(3) Access to Minor Arterials and Major Collectors should be limited to public street access. Steps should be taken to redirect private accesses on Major Collectors to other local streets. New private access to Major Collectors is not permitted unless deemed necessary.
(4) Private access to Minor Collectors is to be evaluated by other factors. Whenever possible, residential access should be directed to non-continuous streets rather than Minor Collector roadways. Commercial/Industrial properties are encouraged to provide common accesses with adjacent properties when access is located on the Minor Collector system. Cross-traffic between adjacent compatible properties is to be accommodated when feasible. A minimum spacing between accesses of 660' in commercial, industrial, or high density residential areas is encouraged for the development of turn lanes and driver decision reaction areas.

Geometric Design Standards

Geometric design standards are directly related to a roadway's functional classification and the amount of traffic that the roadway is designed to carry. The following is a discussion of various geometric design elements and how each element relates to a particular roadway's ability to perform its function in the roadway network.

Roadway Width

Roadway and travel lane widths are directly associated with a roadway's ability to carry vehicular traffic. On Minor Arterial roadways, Major Collector roadways, Minor Collector streets and local streets, a 12-foot lane is required for each direction of travel unless the road meets the criteria for a more flexible design based on environmental factors as per the most recent State-Aid Operations Guide. The 24-foot total travel width is needed to accommodate anticipated two-way traffic volumes without delay. In addition to the travel width, minimum shoulder/parking lane widths are also required to accommodate parked or stalled vehicles. Roadway widths not meeting the Geometric Design Standards will result in decreased performance of the particular roadway and additional travel demand on the adjacent roadway network components. For example, a substandard Major Collector roadway may result in additional travel demand on an adjacent Minor Collector street resulting in an overburden for adjacent landowners. Similarly, additional local circulation may result on an adjacent Minor Arterial resulting in reduced mobility for regional trips.

Sidewalk/Trail

Sidewalks and/or trails are recommended to be adjacent to all Minor Arterial, Major Collector and Minor Collector roadways within North Branch to accommodate pedestrian, bicycle, and other non-motorized travel in a safe and comfortable manner. These roadways are expected to carry a significant amount of vehicular traffic and separation of travel modes is necessary. In commercial and industrial areas, the requirements for trails and sidewalks may vary to accommodate additional pedestrian and bicycle traffic.

Along Minor Arterials and Major Collector roadways, an 8-10 foot wide bituminous or concrete trail and/or 6-foot wide concrete sidewalk is recommended on either side of the roadway to accommodate local pedestrian and bicycle travel. The pedestrian facilities on both sides of these roadways allow

for pedestrian travel within the corridor without introducing excessive crossing demand on Minor Arterials and Major Collectors. A sidewalk and trail will accommodate pedestrian and bicycle travel along the corridor, as well as provide a safe, comfortable link between lower volume residential streets and the other pedestrian and trail facilities within the community. A 10-foot wide trail would be more desirable as the 10-foot width would better accommodate two-way bicycle traffic. The City of North Branch's comprehensive trail plan will be utilized to determine where bike trails are required.

Along Minor Collector roadways, a 6-foot concrete sidewalk is recommended on at least one side of the roadway both sides being preferred. With the anticipated vehicular volumes on Minor Collector streets, pedestrians can safely cross the roadway, however, pedestrian travel along the roadway may become uncomfortable.

Design Speed

The design speed of a roadway is directly related to the roadway's function in the roadway system. The focus of Minor Arterial roadways is mobility; therefore these roadways should be designed to accommodate higher travel speeds. Likewise, Minor Collector roadways are more focused on accessibility and should be designed to accommodate lower travel speeds. The function of Major Collectors is balanced between mobility and accessibility; therefore these roadways should be designed accordingly. Table 6-F below presents the recommended design speed for the North Branch roadway network.

Table 6-E: Roadway Design Speed Guidelines

Functional Classification	*Design Speed (1)*
Minor Collector Street	*30 mph*
Major Collector Roadway	*35 - 40 mph*
Minor Arterial Roadway	*45 - 55 mph*

At the discretion of the City Engineer for City roadways, with approval by the City Council.

Roadway Jurisdiction

Roadway jurisdiction directly relates to functional classification of roadways. Generally, roadways with higher mobility functions (such as arterials) fall under the jurisdiction of the State of Minnesota or Chisago County. Recognizing that these roadways serve greater areas resulting in longer trips and higher volumes, jurisdiction of Principal Arterial and Minor Arterial roadways should remain under the jurisdiction of the state and county, respectively. Similarly, roadways with more emphasis on local circulation and access (such as collectors) will likely fall under the jurisdiction of the local government unit. These roadways serve more localized areas and result in shorter trip lengths and lower volumes. Major Collector and Minor Collector roadways should fall under the jurisdiction of the City of North Branch.

As roadway segments are considered for turn-back to the City, efforts will be taken to evaluate the roadway features for conformance to current standards, structural integrity, and safety. This effort will help the City develop short and long-range programs to assume the responsibilities of jurisdictional

authority.

Current Transportation Conditions

The City is located at the cross roads of I35 and TH95. TH95 also intersects with several Chisago County roads, including Co 30, formerly known as Hwy. 61, the historic highway that runs along the eastern border of Minnesota spanning from the Iowa border and running up along the north shore of Lake Superior. Based 2017 MnDOT traffic data, daily traffic counts along I35 heading north to North Branch average 37,500. An estimated 22,400 cars move west from I35 along TH95 each day. The daily traffic count is estimated at 22,500 cars moving east from I35 along TH95. An estimated 15,400 cars pass through the intersection of TH95 and Co. 30, making this intersection an area of concern due to ineffective turn lanes and a reduced turning radius for large vehicles such as fifth wheel RV's, passenger vehicles with trailers and semi's needing to turn from or onto TH95 at that intersection.

Truck and passenger vehicle traffic also pose an issue with regard to the city's minor arterial and collector roads. The City's industrial park, located north of 400th Street, could benefit from more direct access to I35, reducing truck traffic at the intersection of TH95 and Co. 30, relieving pressure on the existing bridge at I35 and providing for movement east/west through the City. As and when appropriate, the City should engage MnDOT about a new bridge and interchange on I35 at 400th Street.

The city of North Branch has 105 miles of local streets and road infrastructure to maintain. This consists of 70 miles of asphalt pavement, and 35 miles of gravel. Of the 70 miles that are currently paved, 17.1 are state aid and 52.9 are non-state aid. Assuming streets are overlaid once every 20 years, the city of North Branch should be overlaying 2.65 miles per year so all 52.9 miles of the currently paved non-state aid street system is overlaid once every 20 years. As more streets are constructed, the number of paved streets increases adding to the total of streets that should be overlaid on a regular schedule. There are currently 17.9 miles of paved local streets that are over 20 years old, and have never been overlaid.

Issues facing the City include:

- Lack of effective controls at various intersections between City/County Roads and TH95, including the intersections at 392nd and Isanti Trail.
- Existing intersection controls at TH95 and Grand and along Lincoln (Co. Rd. 14) at Grand and Hemingway are inefficient and pose significant accident hazards because of the volume and number of traffic movements.
- The intersection at TH95 and Co. 30 is not adequate for truck/trailer movement, lacking adequate area of turns, poor sight lines and lacking adequate stacking for vehicles waiting to turn.
- TH 95 passes through the historic downtown area and pedestrian crossings are difficult at best.
- Several intersections have cross traffic approaching the intersection at a 45° approach, impairing sight lines at the intersections.
- There are only limited marked pedestrian crossings along Co. 30.
- High pedestrian roads, such as Maple Street, do not have sidewalks, forcing pedestrians to walk in the street.

Pavement Management Plan

Local Streets (non-State Aid Streets)

Funding local street rehabilitation is not a one-time need. It's a permanent need that must be addressed in order to preserve this huge asset. Assuming streets are overlaid once every 20 years, the city of North Branch should be overlaying 2.65 miles per year so all 52.9 miles of the currently paved non-state aid street system is overlaid once every 20 years. This equates to a cost of approximately $1,250,000 per year. As more streets are constructed, the number of paved streets increases adding to the total of streets that should overlaid on a regular schedule.

There are currently 17.9 miles of paved local streets that are over 20 years old, and have never been overlaid. See attached map. As the years pass, more streets will reach that 20 year mark thereby adding to the total that should be overlaid.

All cities need to have a continuous program for maintaining streets. The typical program includes rehabilitating a number of streets each year to keep the overall pavement condition at an acceptable level, spreading out the cost of maintenance over a long period of time. Funding PMP's vary across the state, but the goal for each one is to have a continuous long-term funding plan.

Street Rehabilitation Funding

Funding PMP's typically involve tax levies, assessments, franchise fees, local option sales tax or a combination thereof.

- Tax rates are very competitive for attracting business and using 100% property taxes puts an undue burden on moderate to higher-valued businesses and homes to pay for a street system that serves the entire City. Nonprofit organizations do not pay property tax and would not pay their share of the improvement cost if general taxes are solely used for this purpose.
- Special assessments are a common way to fund improvements and maintenance as the City can spread the cost to property owners over a period of time. However, there is a limit to the amount that can be levied. Assessments can be highly controversial and often are unanticipated costs by the property owner. As such, it can be difficult to enact an assessment roll and effectively collect the necessary funding to pay for the improvements. Often, the projects will not move forward until the street is in complete failure, adding to the cost of the repair.
- Franchise fees spread costs out to everyone over a longer period of time and provide a dedicated fee to ensure local control of the revenue and that repairs stay on schedule with the Pavement Management Plan.
- Local Option Sales Taxes (LOST) can also be used to fund pavement management programs.

Pavement Management Program

As mentioned above, funding PMP's vary considerably and many times include a variety of funding sources. As with all PMP programs, funding sources can be changed and modified as situations and conditions change in the future.

In addition to researching how best to fund a PMP, staff also reviewed the city's standard details for road construction to determine if changes should be made that would extend the life of new roads. Staff reviewed standards from other cities and the life expectancy results these cities were experiencing, and determined a few changes should be made to the city's road standards. These changes are as follows:

- Increase the bituminous thickness from 3.5 to 4.5 inches.
- Use a flexible sealer between the bituminous and concrete curbing to eliminate water infiltration.
- In areas where there is the potential for bad soil conditions, require soil borings and a geological report/recommendation for the pavement section.

PMP Plan 2019-2044

All city streets will be evaluated based on the following criteria:

- Age and condition of street surface
- Type of street usage
- Volume of traffic
- Annual maintenance costs
- Relationship to other construction or projects
    - Planned county road improvements
    - Planned MnDOT improvements (if any)
    - Utility projects
    - Planned new construction
    - Public safety considerations

Those roads demonstrating the greatest need for Paving or resurfacing projects for those roads demonstrating the greatest need based on the above mentioned criteria will be designed and constructed to the extent of available funding until all city non-state aid streets have completed one full cycle of resurfacing. Phase 1 of the project will consist of overlays to the 17.9 miles that have never been overlaid. See attached map. Phase 2 of the project will consist of paving high traffic gravel roads. If funding is available phases 1 and 2 will be undertaken concurrently. Once Phases 1 and 2 have been completed, funds will be used for Phase 3 with consists of overlaying the remaining 35 miles of city streets existing as of the date of the plan.

Future Transportation System

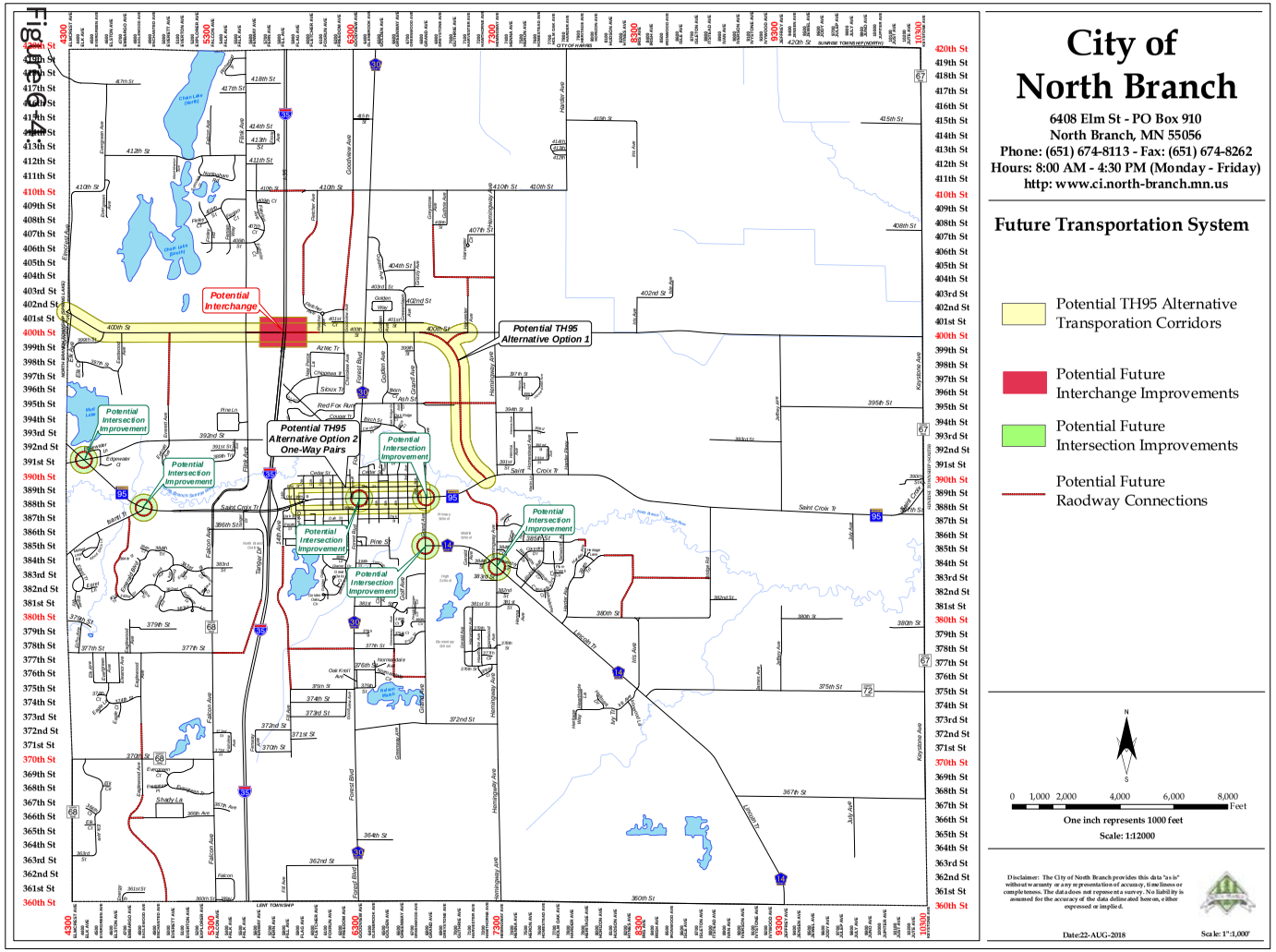
The City will monitor traffic and upgrade roads and intersections based on new housing and commercial development. Several intersections were identified by residents, staff, appointed committee members and elected officials as needing upgraded traffic controls utilizing best management practices such as roundabouts. Future growth and development will likely require roundabouts for efficient and safe movement in and through high volume intersections.

North Branch is located at the crossroads of I35 and TH95, but the current route of TH95 extends through the historic downtown of North Branch creating congestion and conflict between pedestrian, passenger vehicles and truck traffic at the intersection of TH95 and Co. 30 and extending west to

the existing overpass at I35. Citizens, staff and elected officials recognize that traffic volume and additional development within the community have created a need for alternatives to the existing TH95 corridor. Two possible options were mentioned at the city's community café relative to transportation concerns.

The first option is to plan for a new interchange on I35 at 400th Street, diverting traffic from Main Street north to 400th, crossing and accessing I35, and then extending to the west into Isanti County along 400th on the west side of I35. This option was considered by a citizen committee in 2016 and it remains a viable option, subject to funding, construction of a bridge overpass and the dedication of land for the new public rights of way. A second option is to utilize a split pair approach, diverting east or west bound TH95 traffic onto a parallel street. Additionally, expanding development in the Interstate Business Park, congestion along TH95 and current traffic volumes at the existing interchange at TH95 and I35 will drive the need for a new interchange at 400th and I35. [insert future transportation system map]

Fig 5.1



Future Transportation System Map

GOAL 1

Implement and enforce standards for new streets and roadways within identified growth areas.

Transportation System Goals, Objectives, And Policies

The following section outlines the primary goals for the transportation system followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

Objective 1.1

Assign appropriate functional classification to existing and new streets and roadways.

Policy 1.1.1

Monitor traffic and other transportation characteristics of existing streets and roadways and make recommendations regarding changes to the functional classification of the existing streets and roadways.

Objective 1.2

Implement and enforce standards for existing and new streets and roadways.

Policy 1.2.1

Incorporate standards related to complete street standards and geometric design standards as outlined herein into the City's zoning ordinances related to new streets and roadways insuring developers are aware of City standards.

Policy 1.2.2

Monitor best practices and incorporate new standards related to complete streets and geometric design as outlined herein into the reconstruction of existing streets and roadways and implement to the extent practical.

Policy 1.2.3

Prevent the creation of "private streets" or alleys or the like unless in full compliance with the street detail sheets in effect at the time; internal driveways should be constructed and maintained by an association.

Policy 1.2.4

Periodically, review and assess road design standards, including those set forth in the Big Book of Ideas, version 1.1 as may be amended or updated, prepared by ch2m:Team for Chisago County as a result of the Towards Zero Deaths initiative, Complete Streets Implementation Guide for Minnesota Local Agencies (MnDOT, MN Local Roads Research Board:2013) and incorporate new engineering techniques to extend the useful life of the road surface and promote public safety.

GOAL 2

Establish a transportation plan to more effectively move traffic in and through the city.

Objective 2.1

Identify a possible corridor for moving traffic east/west through the city via a by-pass or split pairs

Policy 2.1.1

Zone developable land near the corridor that is compatible with a future truck by-pass.

Policy 2.1.2

Work with developers along the corridor for future dedications of public right of way for this purpose.

Policy 2.1.3

Restrict new driveways or other access onto Elm Street, from Grand Ave. west to 14th Ave. to preserve Elm Street as a possible path for a split pair approach to managing increasing traffic counts TH95

Objective 2.2

Identify locations for future through streets and connectors to more efficiently move traffic within the city

Policy 2.2.1

Develop a master plan for connecting existing streets to loop traffic and provide for alternative routes throughout existing developments.

Policy 2.2.2

Work with developers to obtain dedications of public right of way for construction of future through streets.

GOAL 3

Develop, implement and promote alternative transportation modes in order to achieve a walkable and bikeable community.

Objective 3.1

Expand bike and pedestrian plans to promote safe and efficient movement along streets, local and regional trails, bike paths and sidewalks.

Policy 3.1.1
Encourage walking as a healthy mode of transportation for short trips, within neighborhoods and to nearby commercial areas.

Policy 3.1.2
Create more complete networks of pedestrian facilities, and improve the quality of the pedestrian environment, by connecting to neighborhoods, regional and community parks, preserves, facilities, schools, and commercial areas and by connecting to destinations and pedestrian/bicycle facilities in neighboring communities.

Policy 3.1.3
Improve pedestrian safety, accessibility, and convenience for people of all ages and abilities for example, use neighborhood context and Complete Streets Policies to guide the design of trail and sidewalk projects

Policy 3.1.4
Expand bicycle transportation options that are safe, comfortable, and accessible to people of all ages and abilities, including other surface transportation models, such as bike lanes.

Policy 3.1.5
Use traffic calming tools, traffic diversion and other available tools and methods to create and maintain sufficiently low automotive volumes and speeds on city streets to improve bicycle and pedestrian safety.

Objective 3.2

Create a safe, multi-purpose and all season trail system.

Policy 3.2.1
Sign paved shoulders when utilized to supplement the non-motorized system, transitioning to off-road facilities or bike lanes where and when possible.

Policy 3.2.2
Add system wayfinding and signage at key locations.

Policy 3.2.3
Consider options for hiking, biking, walking, skating and cross-country skiing.

Policy 3.2.4
Update the Snow and Ice Control Policy on an annual basis to ensure the appropriate prioritization of the network.

Objective 3.3

Development and implement options for mass transit.

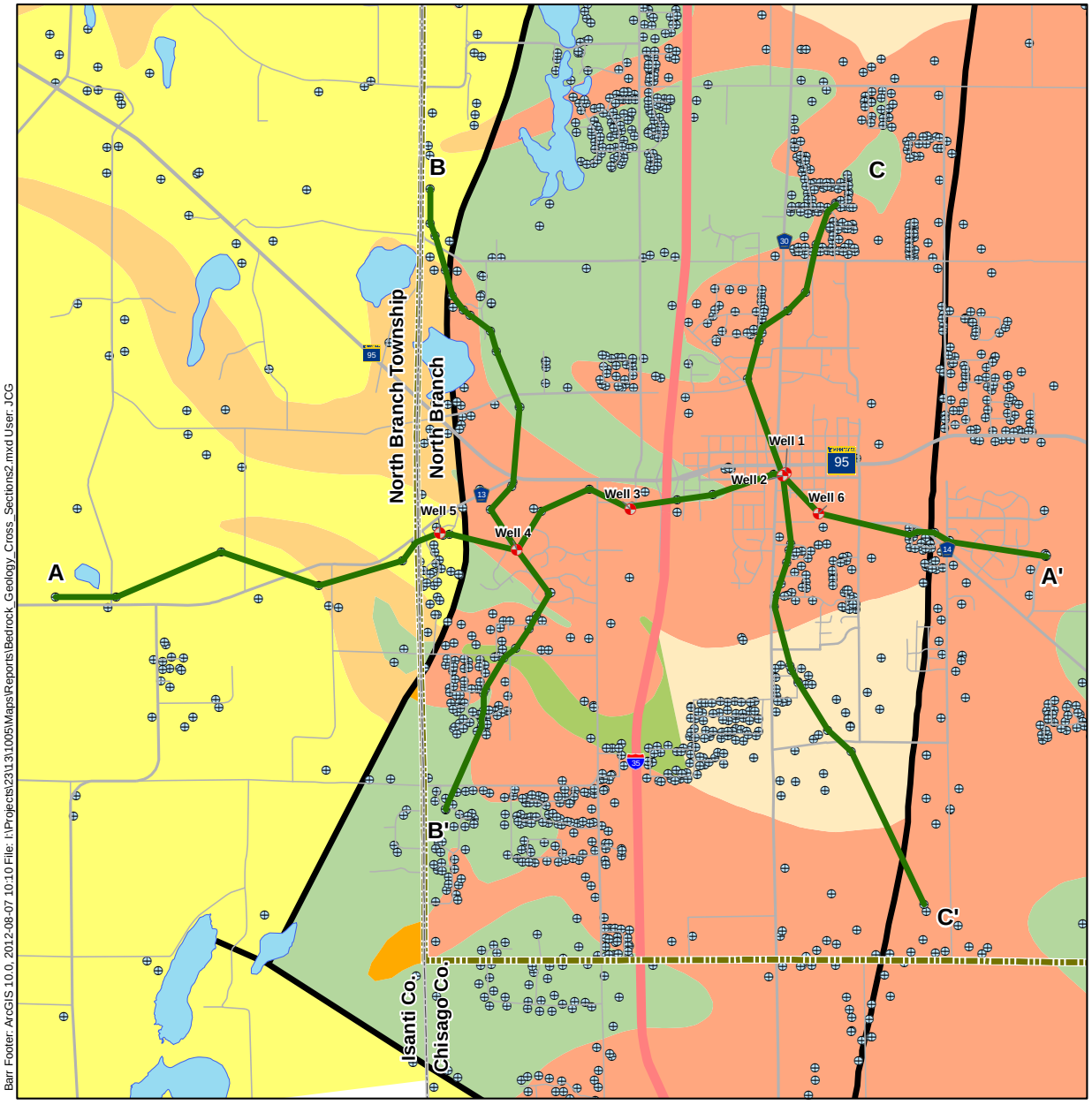
Policy 3.3.1
Support a public transit system and regional transportation to provide increased mobility options and access.

Policy 3.3.2
Support regional efforts to expand transit options, such as bus rapid transit, park and ride lots, ride sharing and express bus service to Minneapolis and St. Paul.

7
Utilities
Introduction

Water System
Existing Systems
The City's water system is operated and managed by a separate municipal utility, North Branch Water & Light (NBWL). NBWL has six municipal water supply wells including Well 1 (unique number 217922), Well 2 (unique number 112244), Well 3 (unique number 522767), Well 4 (unique number 706844), Well 5 (unique number 749383), and Well 6 (unique number 593584). Wells 1, 2, and 6 pump water from the Middle Proterozoic sedimentary aquifer and the Mount Simon – Hinckley aquifer. Well 3 and Well 5 pump water from the Mount Simon–Hinckley aquifer. Well 4 pumps from a buried Quaternary sand and gravel aquifer. Well locations are shown on Figure 7-A and well construction data are presented in Table 7-A.

Figure 7-1: Well Locations



Bedrock Geology

CAMBRIAN

- *Tunnel City Group*
- *Wonewoc Sandstone*
- *Eau Claire Formation*
- *Mt. Simon Sandstone*

MESOPROTEROZOIC

- *Sandstone, Siltstone, Shale (St. Croix Horst Sandstone)*
- *Chengwatana Volcanic Group*

- Geologic Cross Section
- North Branch Water & Light Well
- County Boundaries - Line.lyr
- Muncipal Boundary
- Water Body
- Well - County Well Index
- Fault

Miles

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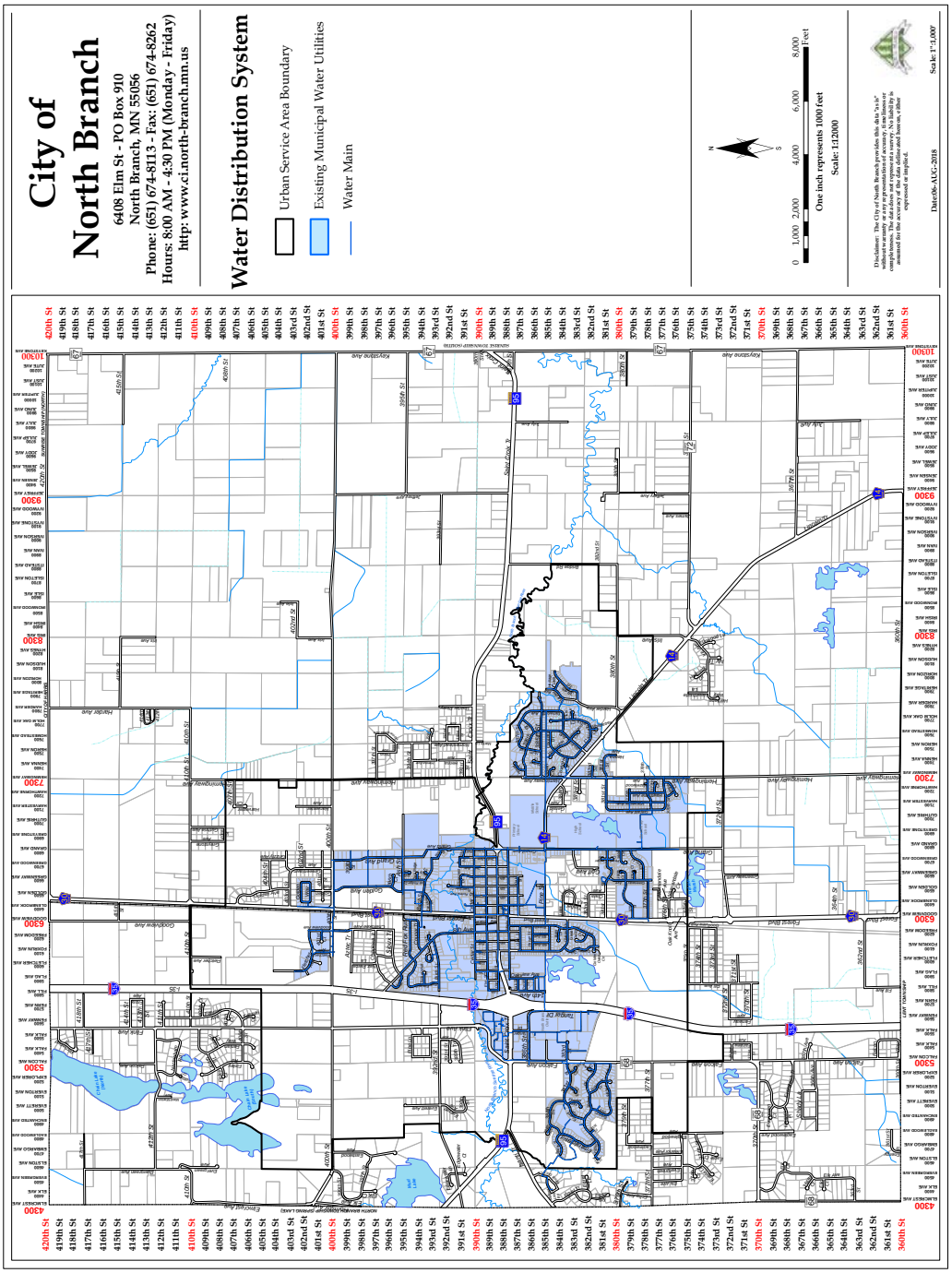
Figure 1

BEDROCK GEOLOGY
WHPP Part 1
North Branch Municipal
Water and Light
Chisago County, MN

Figure 7-2:
Water Distribution
System Map



In response to the 2003 Comprehensive Water System Plan study (2002 thru the year 2043), based on land use, gross development acreages, and potential ultimate service area, the utility built two new water treatment plants, added new wells, raw water lines to the water system and storage capacity, this to meet the growing need of our community. The study also considered the quantity and timing of future water demands with estimated land use planning maps, estimated developable acreage, and water demand per acre for each land use type. Both average and peak day demands were estimated. The resulting projected average water demand is 1.9 mgd, 3.3 mgd and 7.2 mgd in 10, 20 and 40 years, respectively. See Table 7-B for pumping capacity and projections. Today, the treatment capacity is 3,500 gpm and the storage capacity is 2,000,000 gallons; average residential customer use as of 2016 is 4.22 thousand gallons of water per month. As areas develop in the community going forward, there will need to be new infrastructure added, including new trunk lines and elevated storage. However, Well No. 5 was found to produce water in quantities much greater than originally anticipated. It is likely that Well No. 5 would be expanded to produce the necessary amount of water to meet consumer demand before a new well would be drilled. See Figure 7-3 ad 7-4 for anticipated Trunk Water Main locations and phasing.

The Utility will continue to supply sufficient water quantity for system users and emergency needs.

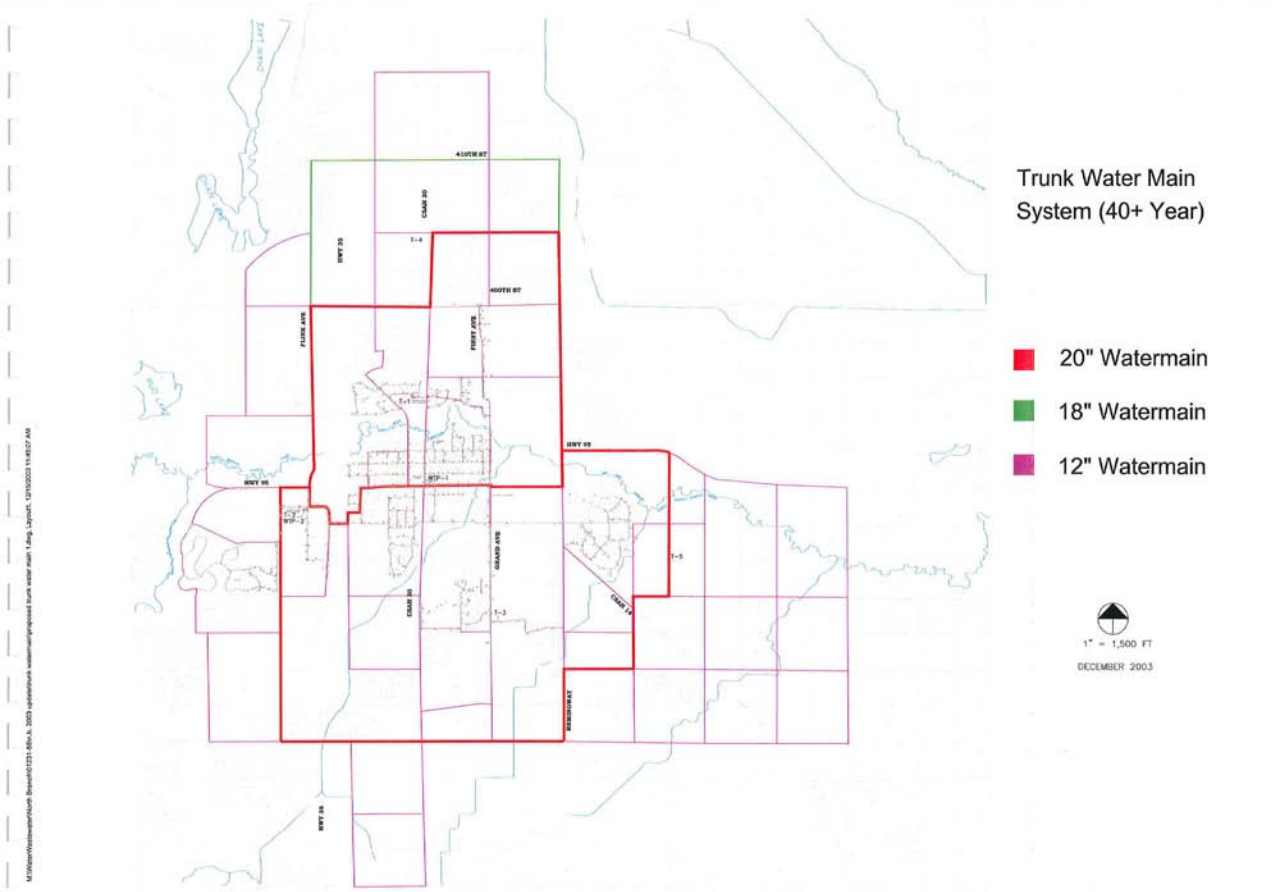


Figure 7-3:
Trunk Water Main
System Map

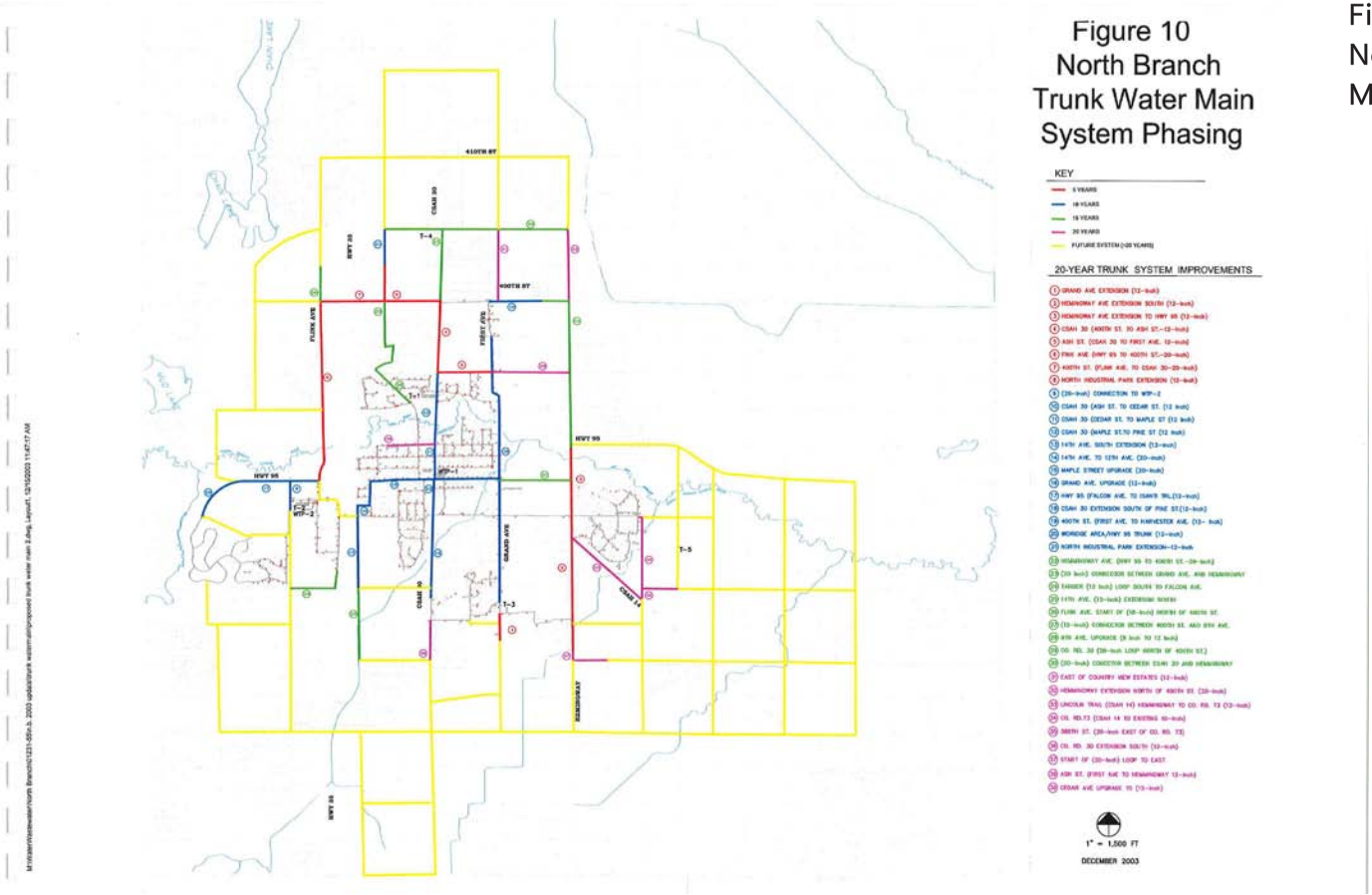


Figure 7-4:
North Branch Trunk Water Main System Phasing

NBWL has an approved wellhead protection plan that addresses municipal water supply wells used by North Branch (6 municipal wells) and the associated source water aquifers (the Middle Proterozoic Sedimentary Aquifer, the Mount Simon – Hinckley Aquifer and Buried Quaternary Sand and Gravel Aquifer– the aquifers from which the municipal wells pump water). Part 1 of the Plan was completed and approved by the Minnesota Department of Health (MDH) in August of 2012. The WHP Plan Part 1 presented the delineation of the Wellhead Protection Area (WHPA), the Drinking Water Supply Management Area (DWSMA), and the vulnerability assessments for the system's wells and aquifers within the DWSMA. The vulnerability assessment for the aquifers within the DWSMA was performed using available information and indicates that the vulnerability of the aquifers used by the system is classified as low. In 2015, the plan was updated to include Part 2. In Part 2, NBWL acknowledged that while water utility has jurisdiction over the drinking water system within the City, it does not have jurisdiction over land use planning within the City. NBWL indicated its desire to work collaboratively with the City as to future development. The goals for water quality adopted by NBWL included the following:

Goal 1
The Utility will maintain or improve the current level of water quality so that the municipal water supply will continue to meet or exceed all applicable state and federal water quality standards.

Goal 2
The Utility will continue to supply sufficient water quantity for system users and emergency needs.

Goal 3
The Utility will provide and promote activities that protect the source water aquifer that provides water to the municipal system.

Goal 4
The Utility will continue to collect data to support future wellhead and source water protection efforts.

Table 7-A: Well Construction Data					
Local Well Name	*nique Number*	*Aquifer*	*Casing Depth (ft)*	*Well Depth (ft)*	*Date*
NB 1	*217922*	*Middle Proterozoic Sedimentary and Mt. Simon-Hinckley*	*263 feet*	*762 feet*	*03/13/1947*
NB 2	*112244*	*Middle Proterozoic Sedimentary and Mt. Simon-Hinckley*	*261 feet*	*733 feet*	*10/06/1978*
NB 3	*522767*	*Mt. Simon-Hinckley*	*186 feet*	*304 feet*	*1993*
NB 4 or "Water & Light"	*706844*	*Buried Quaternary Sand and Gravel*	*171 feet*	*240 feet*	*02/10/2004*
NB 5	*749383*	*Mt. Simon-Hinckley*	*329 feet*	*467 feet*	*09/14/2007*
NB 6 or "NB Golf Course"	*593584*	*Middle Proterozoic Sedimentary and Mt. Simon-Hinckley*	*300 feet*	*410 feet*	*4/22/1999*

Table 7-B: Annual and Projected Pumping Rates for North Branch Wells						
		Total Annual Withdrawal (gal/yr)				
Unique Number	*Well Name*	*2006*	*2007*	*2008*	*2009*	*2010*
217922	*1*	*159,891,000*	*158,063,000*	*91,027,000*	*3,942,000*	*209,000*
112244	*2*	*36,396,000*	*50,106,000*	*12,814,000*	*350,000*	*0*
522767	*3*	*5,872,000*	*3,352,000*	*65,103,000*	*129,316,000*	*124,964,000*
706844	*4*	*28,112,000*	*27,832,000*	*43,557,000*	*81,604,000*	*74,783,000*
749383	*5*	*0*	*0*	*0*	*13,254,000*	*806,000*
593584	*6*	*0*	*0*	*0*	*0*	*15,390*
TOTALS		*230,271,000*	*239,353,000*	*212,501,000*	*228,466,000*	*200,777,390*

Source: MN DNR SWUDS Database

		Percentage of Annual Withdrawal					Average Annual % of Withdrawal
Unique Number	Well Name	2006	2007	2008	2009	2010	
217922	1	69.4%	66.0%	42.8%	1.7%	0.1%	36.0%
112244	2	15.8%	20.9%	6.0%	0.2%	0.0%	8.6%
522767	3	2.6%	1.4%	30.6%	56.6%	62.2%	30.7%
706844	4	12.2%	11.6%	20.5%	35.7%	37.2%	23.5%
749383	5	0.0%	0.0%	0.0%	5.8%	0.4%	1.2%
593584	6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

		Projected Water Use (2015)			Maximum Total Pumping for Model Input[2]		
Unique Number	Well Name	Total1 (gal/yr	% of Total Projected	Projected Well Pumpage Based on % (gal/yr)	gal/yr	gal/day	m3/day
217922	1		36.0%	105,372,000	159,891,000	438,058	1,658
112244	2		8.6%	25,172,200	50,106,000	137,277	520
522767	3		30.7%	89,858,900	129,316,000	354,290	1,341
706844	4		23.5%	68,784,500	81,604,000	223,573	846
74938	5		1.2%	3,512,400	13,254,000	36,312	137
593584	6		0.0%	0	21,000,000	57,534	218
	TOTALS	292,700,000		292,700,000	455,171,000	1,247,044	4,720

1 Percentages for Wells 1 through 6 are based the average annual % of annual withdrawal for the period 2005 through 20009.
2 Well 6 rate of 21 mg/yr represents sum of estimated pumping for irrigation (17 mg/yr) and municipal peak demand (4 mg/yr) that was provided by WSB & Associates

GOAL 1

Expand existing wastewater system infrastructure to meet the demands generated by continued development.

Water System Goals, Objectives, and Policies

The following section outlines the primary goals for the water system followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

Objective 1.1

Expand the trunk watermain system within the Urban Service Area.

Policy 1.1.1

Implement the expansion of the trunk watermain system within the Urban Service Area through orderly development.

Policy 1.1.2

The trunk watermain system within the future growth areas should generally follow the configuration as shown in Figure 7-4 Final trunk watermain sizes and locations should be based on the type, location and sequence of development within the projected growth areas.

Policy 1.1.3

Develop a financing strategy for funding the expansion of the trunk watermain system.

GOAL 2

Monitor, evaluate and improve the condition of the City's existing wastewater system infrastructure.

Objective 2.1

Replace aging water distribution system infrastructure.

Policy 2.1.1
Prepare a study to document the condition of deficient watermains based on age, materials and history of breaks, leaks, freezing and other deficiencies.

Policy 2.1.2
Utilize the information from the watermain condition study, in conjunction with the condition information for other infrastructure elements, to develop, expand and prioritize projects to be included in the capital improvements.

Objective 2.2

Monitor the condition of existing water supply, treatment, and storage infrastructure and replace as required.

Policy 2.2.1
Monitor the condition of the existing wells and related equipment and continue with regular inspections, maintenance and miscellaneous equipment replacement as required.

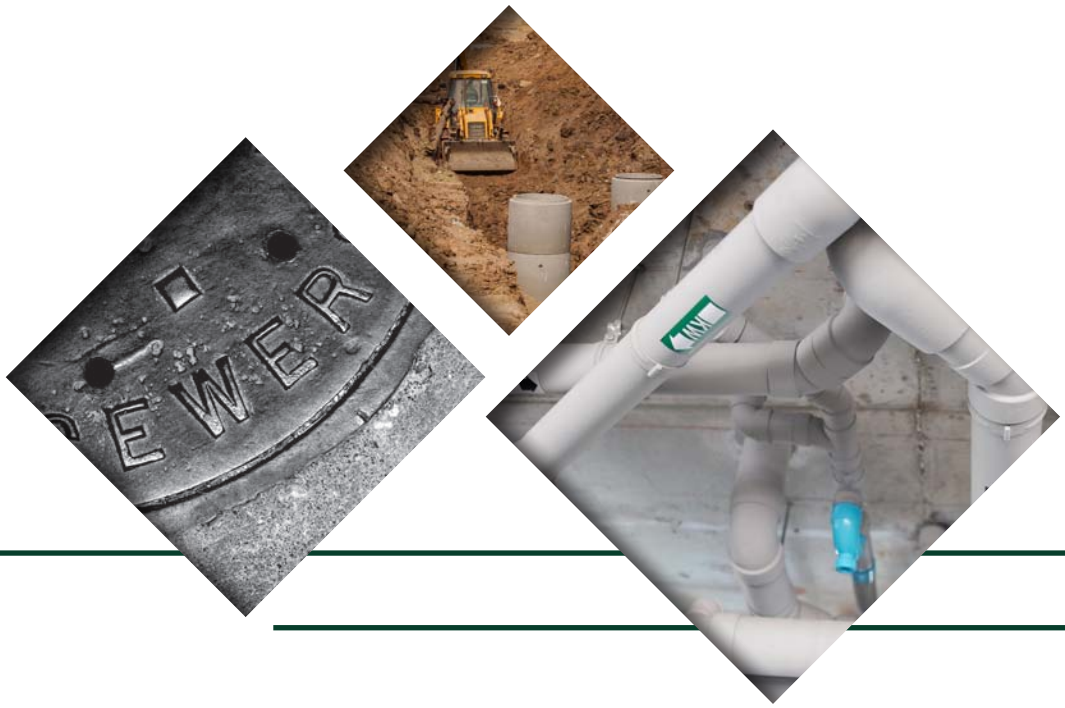
Policy 2.2.2
Monitor the condition of the water storage facilities and related equipment and continue with regular inspections, maintenance and miscellaneous equipment replacement as required.

Policy 2.2.3
Support planning intended to provide well head protection for wells supplying the municipal water system.

Wastewater System

Existing Systems

The existing wastewater collection system within the City of North Branch consists of a network of sanitary sewers ranging in size from 8 inches to 30 inches in diameter, totaling 40 miles of sanitary sewer pipe line throughout the city. There are also 12 wet well lift stations located throughout the City which collect and pump the wastewater from those areas which cannot be served by gravity sewers. The sanitary sewers and lift stations throughout the City collect into 2 main trunk sewers. The interconnected systems of lift stations pump all of the wastewater generated within the City North Branch to the City of North Branch's wastewater treatment facility. The City of North Branch has a mechanical treatment plant that came on line in 2004. The type of plant is an activated sludge extended aeration with aerated ash holding tanks and sludge storage tanks. The plant has an effluent phosphorus limit of 1 mg/l and the effluent is disinfected before being discharged into the North Branch of the Sunrise River. Figure No. 7-5 shows the trunk sewers system.



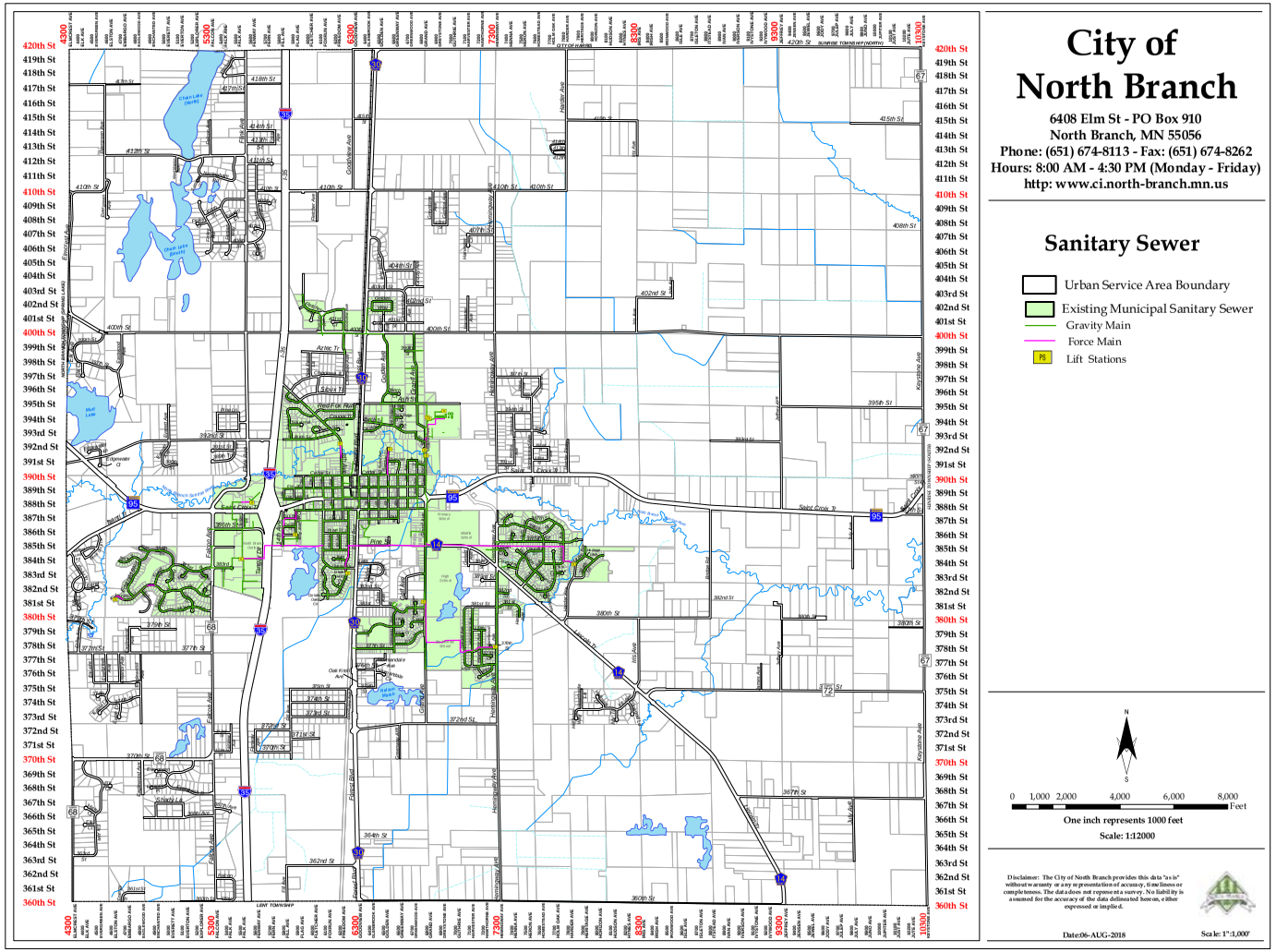


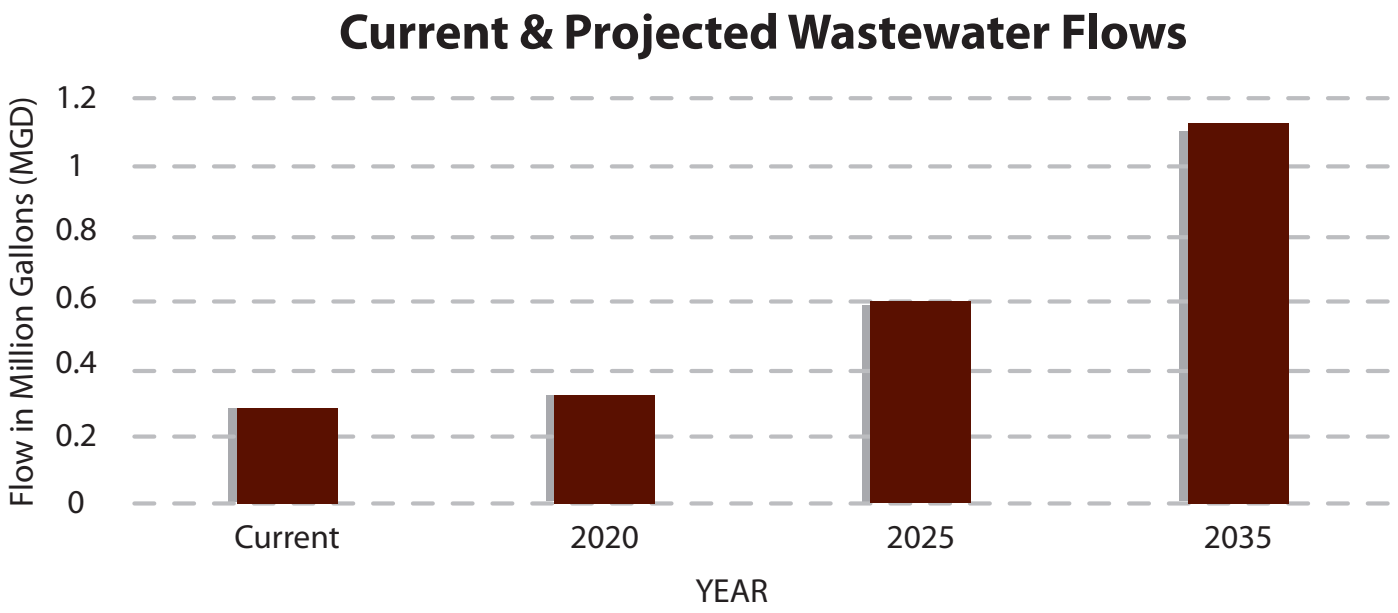
Figure 7-5: Existing Sanitary Sewer Map

The capacity of the existing wastewater collection system is controlled, for the most part, by the capacity of the existing lift stations, trunk sewers, and the City's wastewater treatment plant. The treatment plant capacity is .812 MGD wet weather flow, and has a current flow of .290 MGD. The sanitary sewer system and the lift stations within the City of North Branch are well maintained and well managed. Lift stations are cleaned every six months and the complete sanitary sewer system is cleaned annually. The sanitary sewer system is televised to verify the pipe condition and assure reliability of the system. Older segments of the municipal sanitary sewer pipes segments should be replaced as street construction projects are implemented using newer materials less susceptible to inflow and infiltration of ground water and surface water into the system. The City will continue to implement an on-going lift station maintenance and equipment replacement program to maximize the useful lives of the lift stations. Periodic repairs and replacements will be performed as required.

Future Improvements

The following table shows the current and projected wastewater flows from the City of North Branch:

Table 7-E:



The average daily wastewater flow is the total annual volume of wastewater collected within the City of North Branch and pumped to the North Branch Wastewater Treatment Plant divided by 365 days. The average wet weather wastewater flow is average daily flow for the 30 consecutive days that have the highest total flow during that 30-day period in each year.

The capacity of the existing wastewater collection system is controlled, for the most part, by the capacity of the existing lift stations, trunk sewers, and the City's wastewater treatment plant.

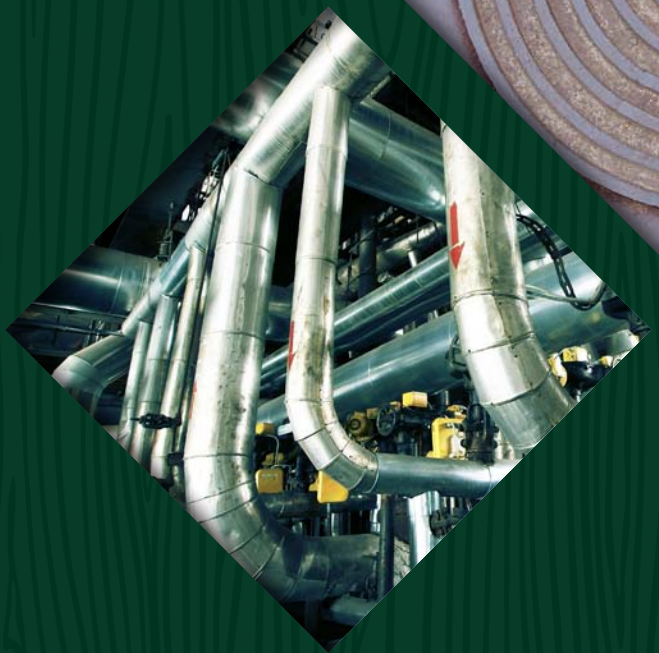


Figure 7-6:
Future Trunk Wastewater

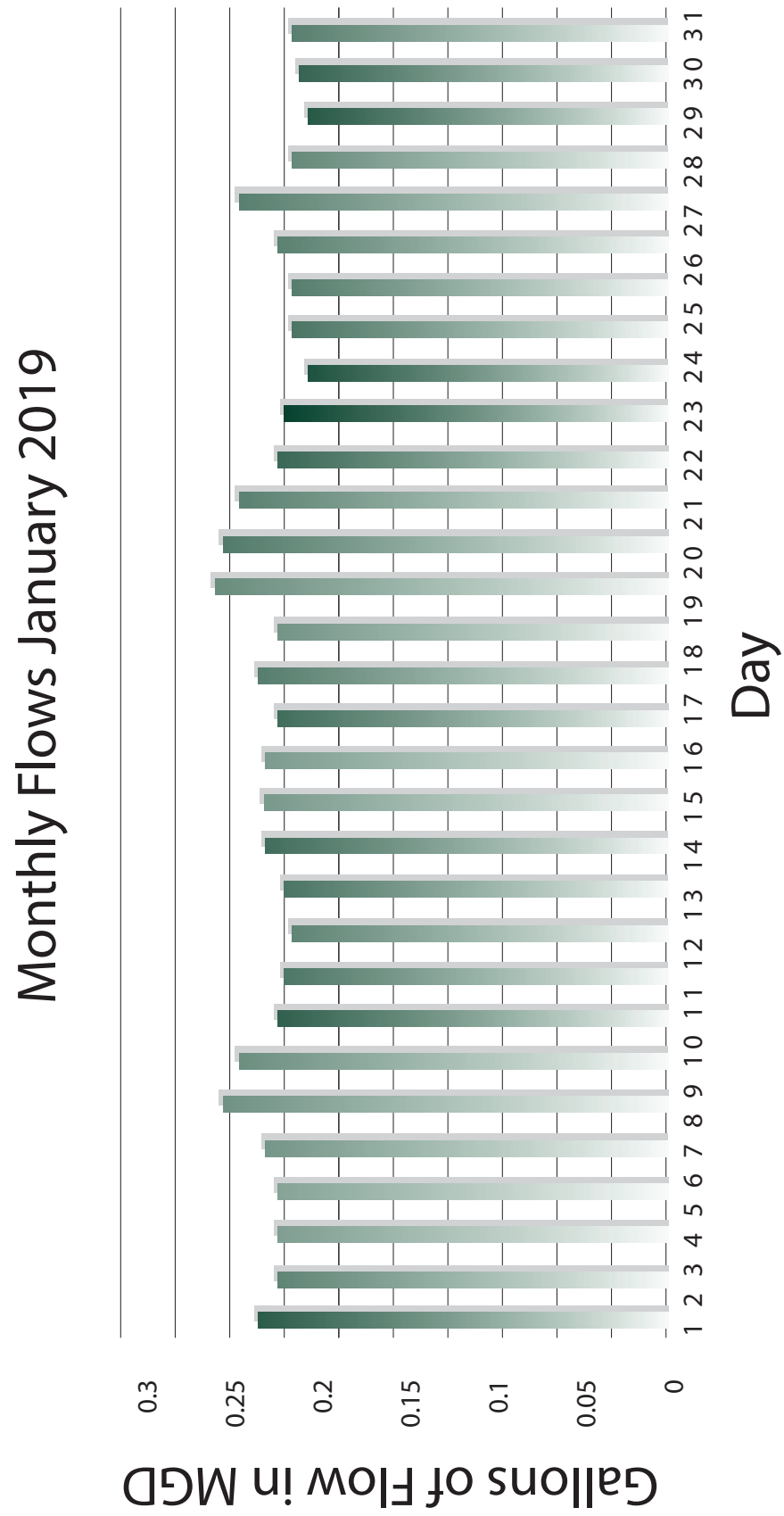
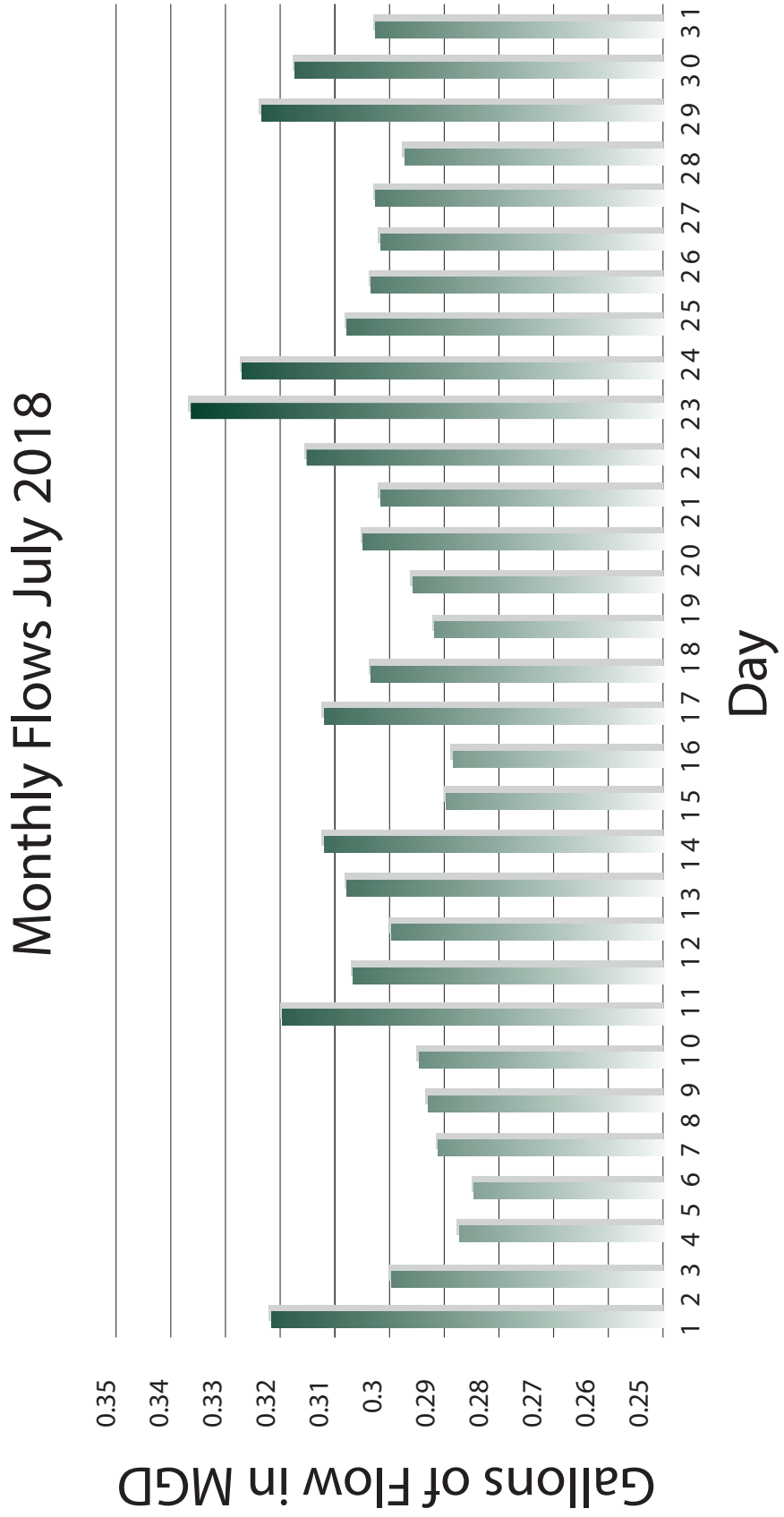


Figure 7-7:
Trunk Wastewater System



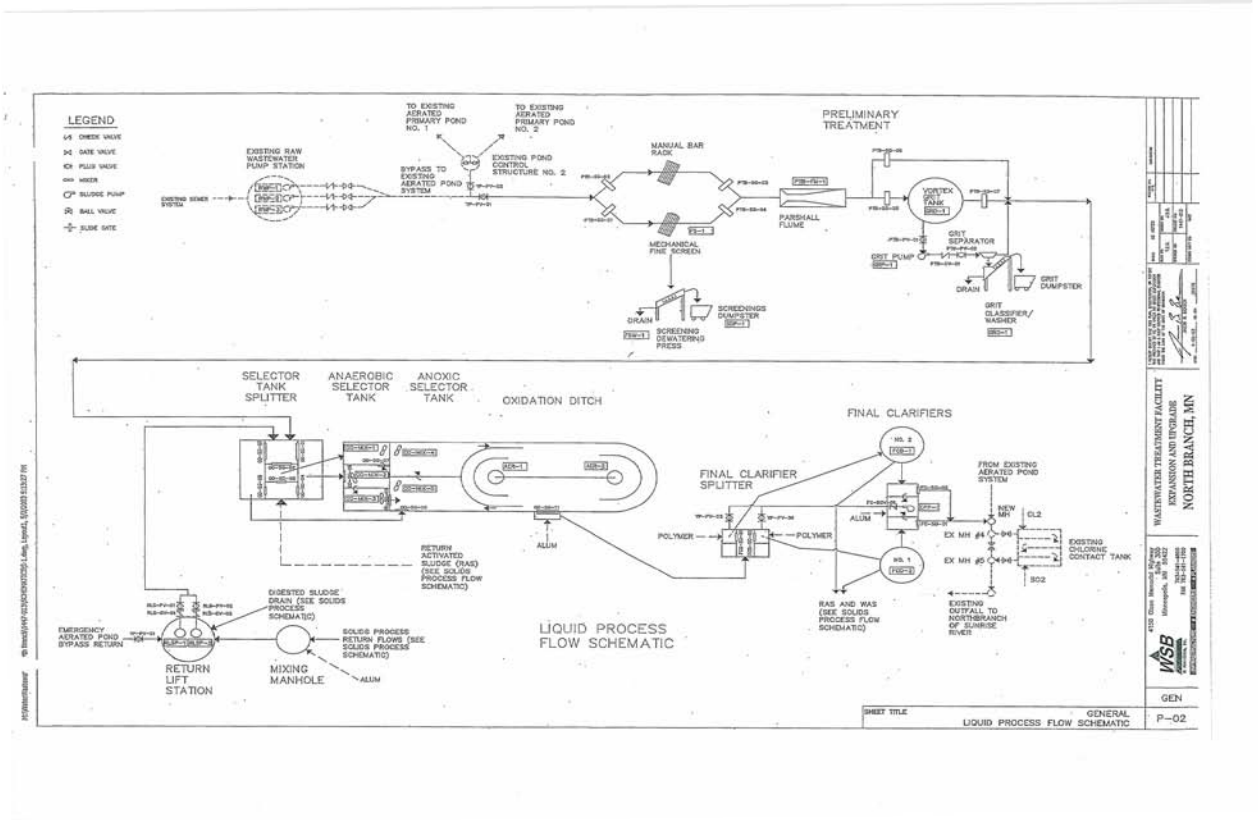


Figure 7-8:
Wastewater Treatment Facility Expansion & Upgrade

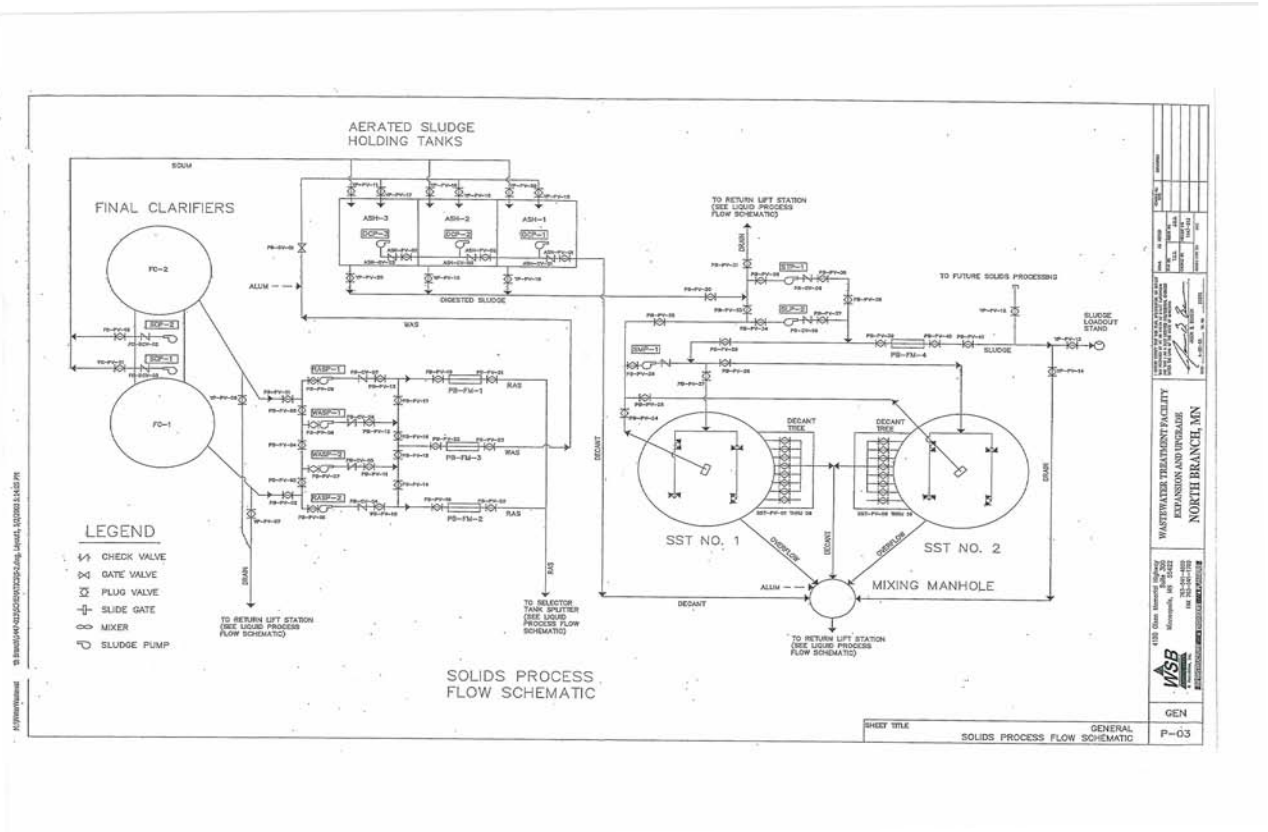


Figure 7-9:
Wastewater Treatment Facility Expansion & Upgrade

A system of sanitary sewers will be extended from the trunk sewer into the development areas. These trunk sewers will range in size from 8 inches to 15 inches in diameter. The exact size and configuration of the sanitary sewer system will be dependent on the type and density of development, existing and proposed topography, and in the case of commercial and industrial areas, the extent of water usage/ wastewater discharged. The approximate configuration of the primary network of sanitary sewers and lift stations within the projected development areas is shown in Figures 7-5.

The following section outlines the primary goals for the wastewater system followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

Wastewater System Goals, Objectives, and Policies

Objective 1.1

Expand the trunk wastewater system into future growth areas.

Policy 1.1.1
Implement the expansion of the trunk sanitary sewer system as areas within the Urban Service Area are developed.

Policy 1.1.2
The trunk wastewater collection system within the future growth areas should generally follow the configuration as shown in Figures 7-6. Final trunk sanitary sewer and lift station sizes and locations should be based on the type, location and sequence of development within the projected growth areas.

Policy 1.1.3
Develop a financing strategy for funding the expansion of the trunk sanitary sewer system; monitor sewer access and trunk fees being assessed to insure that they reflect the costs of the system as it expands; explore assistance programs to reduce demands on the waste water system, resulting in reduced energy and other costs.

GOAL 1

Expand existing wastewater system infrastructure to meet the demands generated by continued development.

GOAL 2

Monitor, evaluate and improve the condition of the City's existing wastewater system infrastructure.

Objective 2.1

Replace aging sanitary sewer system infrastructure.

Policy 2.1.1

Prepare a study to document the condition of deficient sanitary sewers and collection system lift stations based on age, materials and deficiencies identified in sewer televising reports.

Policy 2.1.2

Utilize the information from the sanitary sewer condition study, in conjunction with the condition information for other infrastructure elements, to develop, expand and prioritize projects to be included in the capital improvements.

Objective 2.2

Monitor the condition of existing wastewater pumping and treatment infrastructure and replace as required

Policy 2.2.1

Monitor NPDES wastewater quality standards and identify possible changes to the treatment processes currently utilized by the City.

Policy 2.2.2

Monitor the condition of the City's main lift stations, including the pumps, and continue with regular inspections, maintenance and miscellaneous equipment replacement, with emphasis on higher efficiency equipment, as required to accommodate existing and new users of the system.

Policy 2.2.3

Remove old wastewater ponds/infrastructure to accommodate future expansion as needed.

Stormwater System

General

The goal of the plan is to maintain and improve surface water quality and minimize impacts of increased water quantity through appropriate planning, policy enforcement and capital improvement projects.

Most Minnesota cities have existing pipe networks that were designed to relieve ponding within the original platted city limits. When these systems were designed, the concern for the downstream properties was not a consideration. The goal was the efficient and cost effective removal of stormwater runoff from developed areas. In North Branch's case, this meant the construction of direct pipelines to the Sunrise River with eventual transfer to the St. Croix River.

As little as 20 years ago, the urban storm sewer pipe design recommended by the Minnesota Department of Transportation (MnDOT) on County State Aid Highways for cities the size of North Branch was a 3-year design storm. That is, the pipe system was designed to handle less than a typical 3.5-inch rainfall. Now, as rainfall intensities appear to be increasing and construction costs are increasing faster than material costs, the recommended design is for the pipes to handle a 10-year storm while ensuring that overflow spillway routes prevent property damage for larger storms.

Based on the existing system, the effects of unmitigated growth on the downstream systems can be devastating and can lead to legal action against the governing authority. One of the best methods of mitigating the effects of growth is through the construction of stormwater retention basins. These basins are designed to store excess runoff at elevations where there is no adjacent property damage. The runoff is stored until the existing storm sewer system can take it away. Studies have shown that these basins not only provide flood protection, but can also help to remove stormwater pollutants.

Typically, the most efficient and most economical retention basins serve larger areas. Hence, an effort has been made to locate regional retention ponds as opposed to scattering smaller, localized development basins throughout the City. However, topography and available space must provide optimum locations for regional ponds. Regional ponds cannot be located in an existing wetland without the costly mitigation of the impacted wetland. They are also not recommended in floodplains. Recently, a Minnesota suburb was fined by the Minnesota Pollution Control Agency (MPCA) for illicit discharge of sediment into the Minnesota River associated with its floodplain stormwater treatment pond having its containment bank eroded away by the flooded river. This comprehensive plan considers these factors when recommending Best Management Practices (BMPs). It also considers information from long term residents of North Branch and City staff regarding the observation of the natural ponding associated with heavy rainfalls when siting regional basins.

One drawback associated with regional pond planning is finding a funding mechanism to purchase the land needed and finding ways to have new development assist in their construction. Ideal planning of regional basins includes the purchase of the needed land while constructing the basin with funding generated from area charges on the new developments that generate the excess runoff. The trouble is that the land acquisition should be made before the development occurs, but the development fees are used to pay for the land and regional pond. Greater Minnesota cities are also reluctant to

impose development charges, because their goal is to attract new businesses with low cost, and not to burden them with additional fees.

Although regional ponds are the most cost effective method of hydraulically managing flooding, they are not necessarily the best method of handling the new water quality regulations for stormwater. The water quality regulations for stormwater are ever changing. For example, since 2007, the City of North Branch has been required to obtain a permit for its Municipally Separate Storm Sewer System (MS4).

This MS4 permit is renewed every 5 years and the permit rules continue to evolve. The MS4 permit and in the coincidental Construction Stormwater Permit, municipalities and developers are required to reduce the runoff volume from new construction sites by removing the first 1-inch of runoff. To accomplish this, each new construction site having more than 1-acre of new impervious surfacing must take all appropriate measures to reduce the additional runoff volume created by the proposed new impervious surfaces (roofs and pavement).

Typically the most cost effective ways of accomplishing the required volume reduction is through infiltration or rainwater harvesting. Infiltration practices have the benefit of using the soil to assist in filtering the runoff. They also reduce runoff volumes from a developed area by taking a portion of the runoff and recharging the ground water. As such, they are often touted by surface water management agencies and review authorities. However, they must also be strategically placed to prevent the potential for contamination of City wells. Many cities have restricted the use of infiltration practices inside their wellhead protection area or well capture zone.

Filtration practices, such as filtration basins, biofilters, iron infused sand filters, etc., are similar to the more common infiltration practices, but are designed so that the stormwater filters through plants and filter media before draining into a storm sewer and not infiltrating into the ground. Filtration basins are recommended to manage stormwater runoff and improve water quality within the 1-year Wellhead Protection Area (WHPA). Filtration basins are recommended wherever they will fit into the designs and encouraged wherever local private property owners might request retrofitting them into their landscaping. Any private filtration basins that are installed will help lessen the load on the existing storm sewer system and improve water quality.

The northwest quadrant of North Branch is ideally suited for infiltration because the underlying soils are predominately sandy. On the other hand, much of the southern portion of North Branch has clay soils that are not conducive to infiltration. Because of these water quality regulation changes, it may be advantageous to plan regional ponds for flood prevention associated with extreme rainfall events, while planning smaller water quality BMPs on a neighborhood or individual development scale.

Wetlands

In 1991, the Minnesota Legislature passed the Wetlands Conservation Act (WCA). The WCA is administered according to Minnesota Rules Chapter 8420 to implement the purpose of the Act, which is to:

1. Achieve no net loss in the quantity, quality, and biological diversity of Minnesota's existing wetlands;
2. Increase the quantity, quality and biological diversity of Minnesota wetlands by restoring or enhancing diminished or drained wetlands;
3. Avoid direct and indirect impacts from activities that destroy or diminish the quantity, quality, or biological diversity of wetlands;
4. Replace wetland values where avoidance of activities is not feasible and prudent.

Pretreatment of all stormwater from new developments is required prior to discharge into any wetlands. Wetlands may be, and are currently being used for stormwater storage for larger rainfall events. They may continue to be used for this purpose even after upstream development, provided that:

1. There is acceptable Best Management Practice pretreatment of the runoff in accordance with the MPCA NPDES/ SDS Construction Permit, Section III.D., Permanent Stormwater Management System.
2. The bounce from the normal water level to the high water level does not exceed two feet.

The Minnesota Wetland Conservation Act (WCA) requires the designated Local Governmental Unit (LGU) in charge of administering the WCA to generate a Notice of Wetland Conservation Act Decision for any impact to wetlands within the City of North Branch. For North Branch, the wetland LGU is Chisago County. In all but minor decisions, the LGU will call for a Technical Evaluation Panel (TEP) review of the application or impact prior to issuing a decision. The LGU must give notice of proposed actions affecting wetlands to all of the following:

1. The Minnesota Board of Water and Soil Resources
2. The Soil and Water Conservation District
3. The Minnesota Department of Natural Resources
4. The City of North Branch
5. The U.S. Army Corps of Engineers
6. Interested citizens requesting notification of such actions

If a TEP meeting is required, all listed parties are invited to review the proposed action. However, it is not uncommon for a TEP meeting to consist of only a small contingent of this list, as some invitees may have no jurisdiction over the proposed action.

NPDES Phase II Considerations

General City Permits

In 1987, the US Congress amended the Clean Water Act to include stormwater pollution and directed the Environmental Protection Agency (EPA) to initiate rulemaking. The first round of EPA rules were implemented in 1991 when NPDES Phase I permits were required for all cities exceeding 100,000 in population. Phase II was implemented in 2003 and targeted all cities with populations exceeding 10,000. In 2008, the Phase II rulemaking expanded the list of targeted cities to include cities with

populations exceeding 5,000 and that discharge into an impaired water. The Minnesota Pollution Control Agency (MPCA) assumed responsibility for implementing the rules and issuing all Phase II permits. The NPDES Phase II rules apply to all construction disturbances of one acre or more.

The federal mandates are intended to regulate these sources of continued environmental degradation. New developments have become increasingly targeted. All new developments, creating more than one acre of impervious surfacing, are required to have some form of stormwater treatment. In general, this need can be satisfied by properly designed infiltration/ filtration basins or wet retention basins. The following is a listing of the available stormwater quality and quantity systems currently being designed to handle the water quality/quantity issue:

a. Regional Wet Retention Basins
Numerous studies have been done on the water quality treatment afforded by wet retention basins, most notably one by William Walker Jr. for the Vadnais Lake Area Water Management Area (1987). The Walker study found that properly sized wet retention basins can effectively remove pollutants through sediment removal. When properly sized, these ponds can significantly reduce the contaminant levels, including phosphorus, commonly found in urban stormwater runoff. According to the MPCA's Stormwater Manual, on average wet retention basins can remove 84% of suspended solids, 50% of total phosphorus, and 30% of total nitrogen. Wet retention basins also provide flood storage. Wet retention basins are also well known for their stormwater quantity handling capabilities and work well for areas with Hydrologic Soil Group Type D (clay) soils.

b. Bioretention Systems
Another method of managing stormwater runoff is to install bioretention practices in strategic locations where stormwater will be collected and allowed to filtrate through the planting media or be taken up by vegetation before entering the storm sewer.

c. Infiltration/Filtration Bioretention Basins
According to the MPCA's Stormwater Manual 2, bioretention facilities capture rainwater runoff to be filtered through a prepared soil medium. Pollutants are removed by a number of processes including adsorption, filtration, volatilization, ion exchange and decomposition (Prince George's County, MD, 1993). Filtered runoff from bioretention basins can either be allowed to infiltrate into the surrounding soil (functioning as an infiltration basin or rainwater garden), or collected by an under-drain system and discharged to the storm sewer system or directly to receiving waters ("filtration only" bioretention basin). Due to the groundwater vulnerability and the WHPA covering a portion of lower North Branch, lined filtration basins are recommended for the areas of North Branch within the 1-year WHPA. Runoff from larger storms is generally allowed to bypass the filled bioretention basin and flow directly to the storm drain system. Infiltration/filtration basins are typically designed for treating the water quality and not for the water quantity of urban stormwater runoff.

That is, the MPCA requirement for water quality is to treat the first 1 inch of runoff from a site (water

quality volume). This is in contrast to the larger amount of runoff that may be actually leaving the site for a 3 to 6 inch rainfall (water quantity). Because stormwater quality has become a greater issue, bioretention basins have become a significant design tool for municipal stormwater systems. Bioretention basins can remove 85% of suspended solids, 100% of total phosphorus, and 50% of total nitrogen.

NPDES Phase II Construction Permits

The NPDES Phase II construction stormwater permit requirements have also taken effect. As of August 1, 2013 a new NPDES permit is in effect. A construction permit is required for any disturbance of more than 1 acre. The permit process is best summarized in the following table:

Table 7-E: Construction Stormwater Permit Requirements	
Item	*Requirement*
Minimum Disturbance Triggering a permit	*1 acre*
New Homes	*Permit required if part of the larger development*
Permit Fee	*$400*
Stormwater Pollution Prevention Plan (SWPPP)	*1. Must be on file* *2. Must be submitted if over 50 acres and is within 1 mile and discharges into a Special Water*
Responsibility for compliance	*Contractor is responsible for erosion controls.*
Responsibility after land sale	*Owner is responsible for implementation of the SWPPP*
	Transferred with the property until Notice of Termination

SWPPP for Construction Permits

The construction permit also requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP) for the disturbed site. The SWPPP requirements are as follows:

a. Must be designed prior to permit application and available on site.

b. Should typically use BMPs that are recognized as effective.

c. Unique innovative designs may be used, but have formal review and monitoring requirements.

d. Owner must identify a person with approved training in accordance with the Permit who will oversee the implementation of the SWPPP.

e. Owner must identify a person with approved training in accordance with the Permit that will be responsible for long-term operation and maintenance of the permanent BMPs.

f. Owner must develop a chain of responsibility to ensure that the SWPPP will be implemented and stay in effect until termination. The SWPPP must have the following:

1. Location and type of all temporary and permanent erosion controls and sediment control BMPs.

2. Standard plates and specifications for the BMPs.
3. A site map with existing and final grades, subwatershed limits and direction of flow for both the pre and post development drainage areas. The site map must include existing and proposed impervious surfaces and soil types.
4. Locations of areas not to be disturbed (construction limits).
5. Locations of areas of phased construction to minimize duration of exposed soil.
6. All surface waters and wetlands within 1 mile that can be identified on a quadrangle map and will receive runoff from the site.
7. Methods used for final stabilization of exposed soils.
8. The range of soil particles expected to be present at the site.

Permanent Sedimentation Pond Requirements

If more than one acre of new impervious surface is created by the construction, permanent water quality BMPs are required as part of the permanent SWPPP. If the filtration or infiltration alternatives listed above are not possible, a permanent wet retention basin is the most utilized method of meeting the requirements. The new construction stormwater permit requires that the stormwater volume equivalent of 1 inch over any new impervious surface area be retained on site through infiltration or other volume reduction practices. There are some exceptions to this requirement, including projects that have Hydrologic Soil Group D (clay) soils. In the case of D soils, a permanent stormwater pond is a good option. The permanent pond requirements are summarized as follows:

a. A permanent volume (dead storage) of 1,800 cubic feet per acre draining to the basin.
b. A water quality volume (equal to 1 inch multiplied by the new impervious surface) that cannot be discharged at a rate exceeding 5.66 cfs per acre of pond surface area (when the pond has both the permanent volume and water quality volume in it).
c. A 3 foot minimum depth and a 10 foot maximum depth.
d. Outlets placed to minimize short circuiting and designed to skim floating debris.
e. An emergency overflow.
f. Adequate public access (typically 8 feet wide).

Regional Pond Considerations

An area regional pond may be used provided that:

a. The regional pond is not a wetland.
b. Must be designed to meet the treatment pond criteria for all impervious surfaces.
c. Regional pond owner's authorization must be secured as part of the permitting process.

Existing Systems

The City of North Branch is a Municipally Separate Storm Sewer System (MS4). The City of North Branch ultimately drains to the Sunrise River. The City of North Branch operates an extensive stormwater treatment system, serving residential, commercial and industrial users. There are several stormwater ponds in the City's stormwater system.

All areas served by public ditches are subject to the rules governed by Minnesota Statute 103E and

under the governance of Nicollet County. Minnesota Statute 103E states that all connections to the ditch, or in this case, the County Tile, must be petitioned to the County Auditor.

There is no other record that the City has entered into any water resource management related agreements with its neighboring cities, the county, watershed district, lake associations or the state of Minnesota. The City of North Branch has been responsible for construction, maintenance, and other projects in or along the City's stormwater collection systems outside of the mainline County ditch and tile systems.

In 1998, the Minnesota Pollution Control Agency (MPCA) listed the North Branch of the Sunrise River as an impaired water for excessive E. coli fecal coliform TMDL under section 303 (d) of the Clean Water Act. The river, from its headwaters near Weber in Isanti County to its confluence with the main stem of the Sunrise River near Hay Creek in Chisago County, was listed as impaired for primary contact recreation swimming. The North Branch of the Sunrise River is located in east central Minnesota. It is a tributary of the Sunrise River and is part of the larger St. Croix River basin.

Future Improvements

Generally, the City will work to ensure erosion control and surface water quality standards are met through enforcement of the City's permitting requirements and implementation of Best Management Practices (BMPs) such as regional stormwater ponds. The City will ensure compliance with the National Pollutant Discharge Elimination System (NPDES) Phase II permits for municipal operations and for construction activity greater than 1 acre. City cooperation with the Minnesota Pollution Control Agency (MPCA) is key to maintaining the relevance of the City's plan.

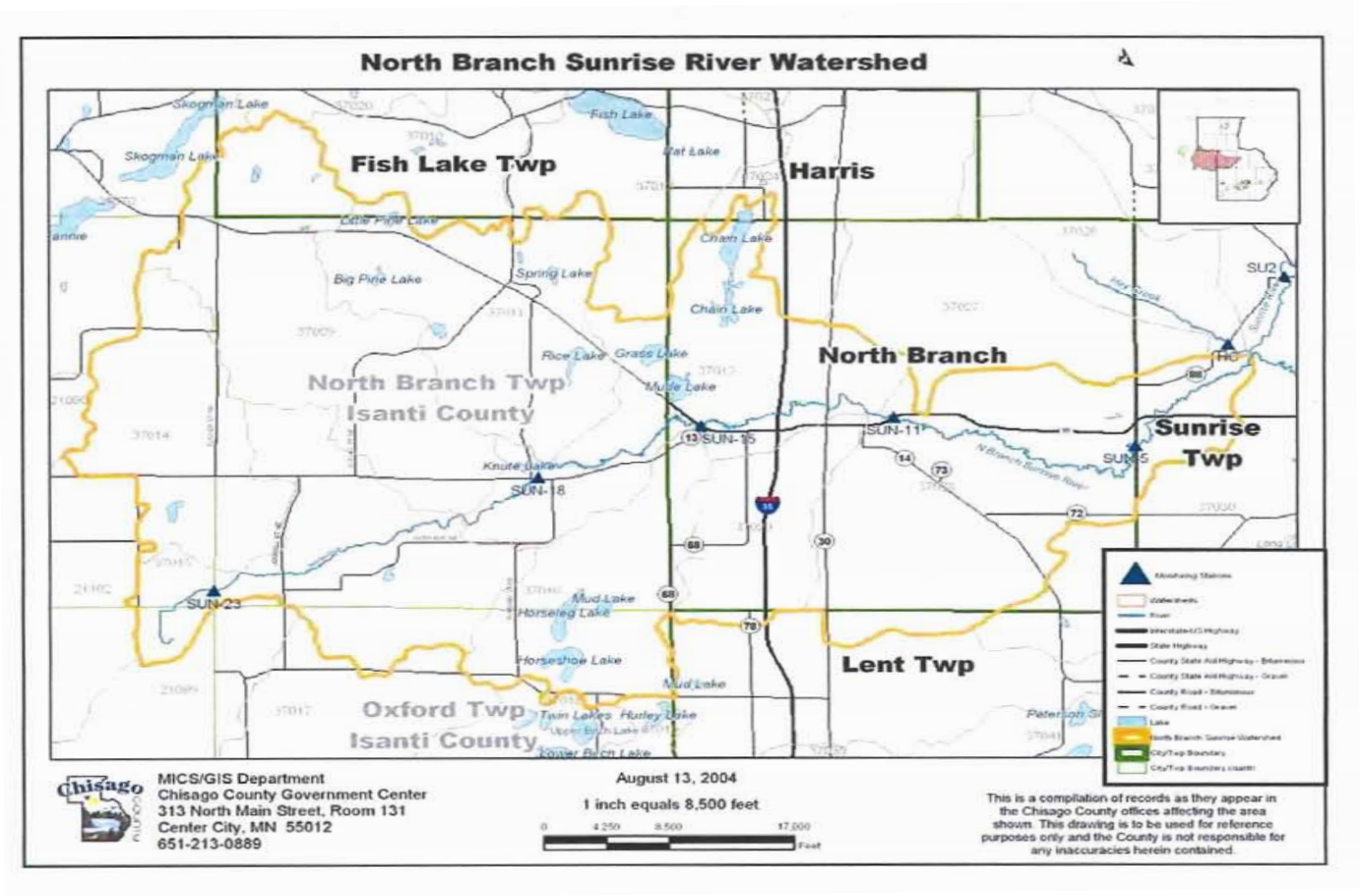


Figure 7-10:
Map of the North Branch of the Sunrise River Watershed

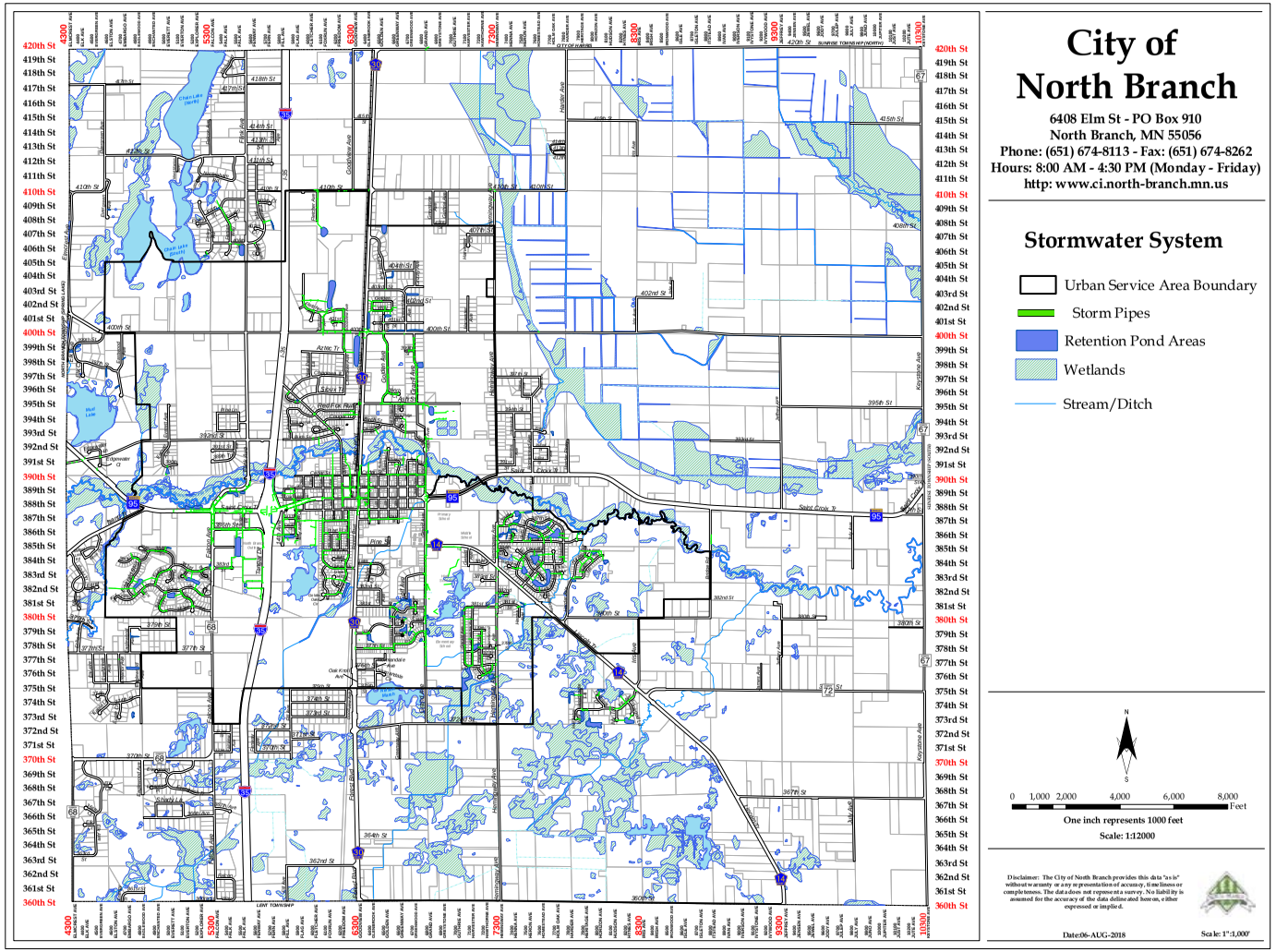


Figure 7-11: Storm Sewer Existing Map

GOAL 1

Expand existing stormwater management system infrastructure to meet the demands generated by continued development.

Stormwater System Goals, Objectives, and Policies

The following section outlines the primary goals for the stormwater system followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

Objective 1.1

Expand the stormwater collection, treatment and outfall system into future growth areas.

Policy 1.1.1

Include in existing stormwater system maps the locations of culverts serving the rural areas of the city (with dates of installation) so as to better anticipate repairs, replacements and future maintenance of the public ditch systems.

Policy 1.1.2

Implement the expansion of the stormwater collection, treatment and outfall system as areas outside the limits of the existing stormwater collection system are developed, with a focus on regional stormwater ponds, where possible and infiltration Minimal Impact Design Standards (green infrastructure).

Policy 1.1.3

Final collection, treatment and outfall sizes and locations should be based on the type, location and sequence of development within the projected growth areas.

Policy 1.1.4

Develop a financing strategy for funding the expansion of the stormwater collection, treatment and outfall system.

GOAL 2

Monitor, evaluate and improve the condition of the City's existing stormwater system infrastructure.

Objective 2.1

Replace aging storm sewer system infrastructure.

Policy 2.1.1: Prepare a study to document the condition of deficient storm sewers and ponds based on age, materials and other known deficiencies.

Policy 2.1.2: Utilize the information from the storm sewer condition study, in conjunction with the condition information for other infrastructure elements, to develop, expand and prioritize projects, including those to implement green infrastructure science practices, to be included in the capital improvements.

Objective 2.2

Address sedimentation issues in the City's existing stormwater treatment ponds.

Policy 2.2.1
Develop a study to determine the levels and characteristics of sediment in the City's existing stormwater ponds.

Policy 2.2.2
Develop a plan for cleaning sediment from ponds and for disposal of sediment.

8

Natural Environment, Parks, Trails, and Recreation

Introduction

Natural resources are beneficial to the social, environmental, and economic vitality of a community. To ensure their quality and benefits, it is essential to plan and manage natural resources and areas as we do residential and commercial areas. The City of North Branch will promote, preserve and enhance the natural resources within the city and protect them from adverse effects occasioned by poorly sited development or incompatible activities by regulating land disturbances or development activities that would have an adverse and potentially irreversible impact on water quality and unique and fragile environmentally sensitive land; by minimizing conflicts and encouraging compatibility between land disturbing and development activities and water quality and environmentally sensitive land; and by requiring detailed review standards and procedures for land disturbing or development activities proposed for such areas, thereby achieving a balance between urban growth and development and protection of water quality and natural areas.

Wildlife Corridor

The Minnesota DNR has identified a regional greenway corridor in North Branch as part of the Metro Wildlife Corridors project (a 12-county metro area). The project, "ensuring that people and nature in the Twin Cities Area can grow together for generations to come" seeks to protect and restore key natural lands in the metro area by:

- Focusing pro-actively on strategic areas, of which North Branch is a part
- Efficiently leveraging private and public partners and resources
- Building upon prior investments in public lands, and
- Enhancing the cost-effectiveness of conservation efforts by coordinating them within a regional framework.

This corridor is specifically designed to incorporate, the high quality natural areas such as those identified in the Natural Resource Inventory or mapped by the MnDNR, natural corridors such as the Sunrise River, and areas that connect these features.

The City of North Branch supports the preservation of natural and open spaces along the north branch of the Sunrise River, the city's name sake. It has also identified a conceptual greenway corridor, and as much as possible, development within the greenway corridor, should be encouraged to use conservation design strategies, conservation easements, park dedication, parcel evaluation, and the strategic siting of open space and natural areas parks to develop and improve habitat quality and connectivity within the greenways. Strategies to avoid fragmentation of existing natural areas are especially important for maintaining ecological function of the natural areas.

The City of North Branch will promote, preserve and enhance the natural resources within the city

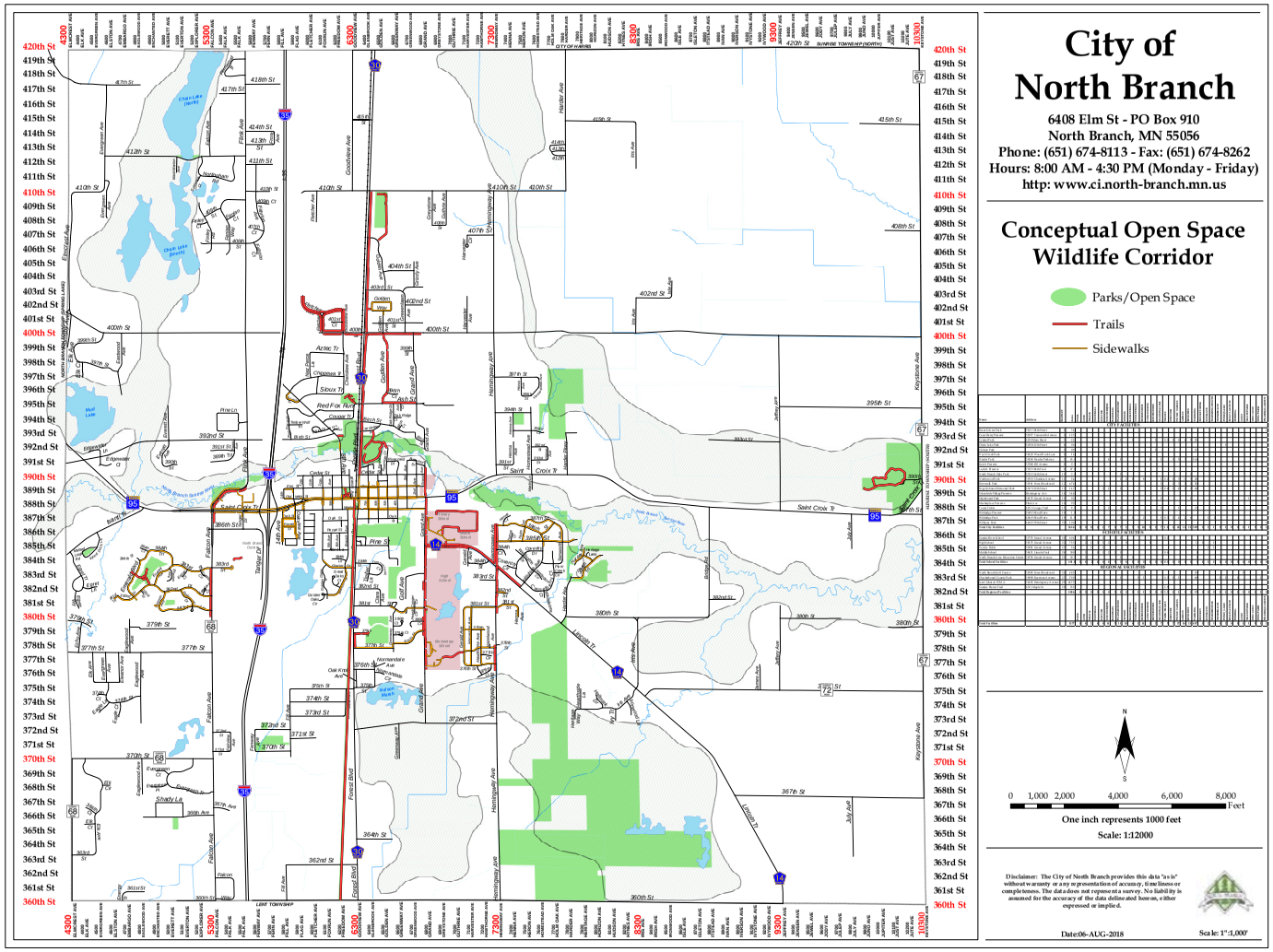


Figure 8-1:
Conceptual Open
Space Wildlife Corridor

Tree Preservation

The City's tree preservation ordinance acknowledges the benefits and amenities trees offer to the community and acknowledges that trees are part of a more complex, interrelated system. Trees protect the environment by moderating climate, improving air quality, reducing erosion and stormwater runoff, and harboring wildlife. The ordinance focuses on protection of quality wooded areas rather than of individual trees. To preserve wooded areas in the City, each new development is required to submit a Tree Preservation Plan. The regulation also provides guidance for permitted tree removal, mitigation procedures, and tree replacement provisions.

Minnesota GreenStep City

In 2018, the Mayor and City Council approved a resolution to make North Branch a GreenStep City through the Minnesota Pollution Control Agency and League of Minnesota Cities' program. Minnesota GreenStep Cities is a voluntary challenge, assistance and recognition program to help cities achieve their sustainability and quality-of-life goals. This free continuous improvement program, managed by a public-private partnership, is based upon 29 best practices. Each best practice can be implemented by completing one or more actions at a 1, 2 or 3-star level, from a list of four to eight actions. These actions are tailored to all Minnesota cities, focus on cost savings and energy use reduction, and encourage civic innovation. North Branch is currently a Step 1 City. As North Branch plans for the future, it will continue to consider GreenStep City Best Management Practices as they relate to the goals and objectives of this comprehensive plan.

Parks, Trails and Recreation

The comprehensive parks and recreation plan is the first planning document devoted to establishing park, recreation, and trail planning criteria, guidelines, and standards, for future development of these amenities within the City of North Branch. The existing park system is already fairly developed with a strong emphasis and need placed on youth recreation opportunities. The community has done a good job of including sidewalks in various neighborhoods, but currently lacks a comprehensive trail system along TH 95 and the Sunrise Prairie Trail needs to be extended from 410th north to the city limits. Pedestrian and bike crossings are needed throughout the City. In addition, alternative transportation and exercise options through the use of trails should continue to be expanded and enhanced.

North Branch is part of the Metro Wildlife Corridors project (a 12-county metro area)

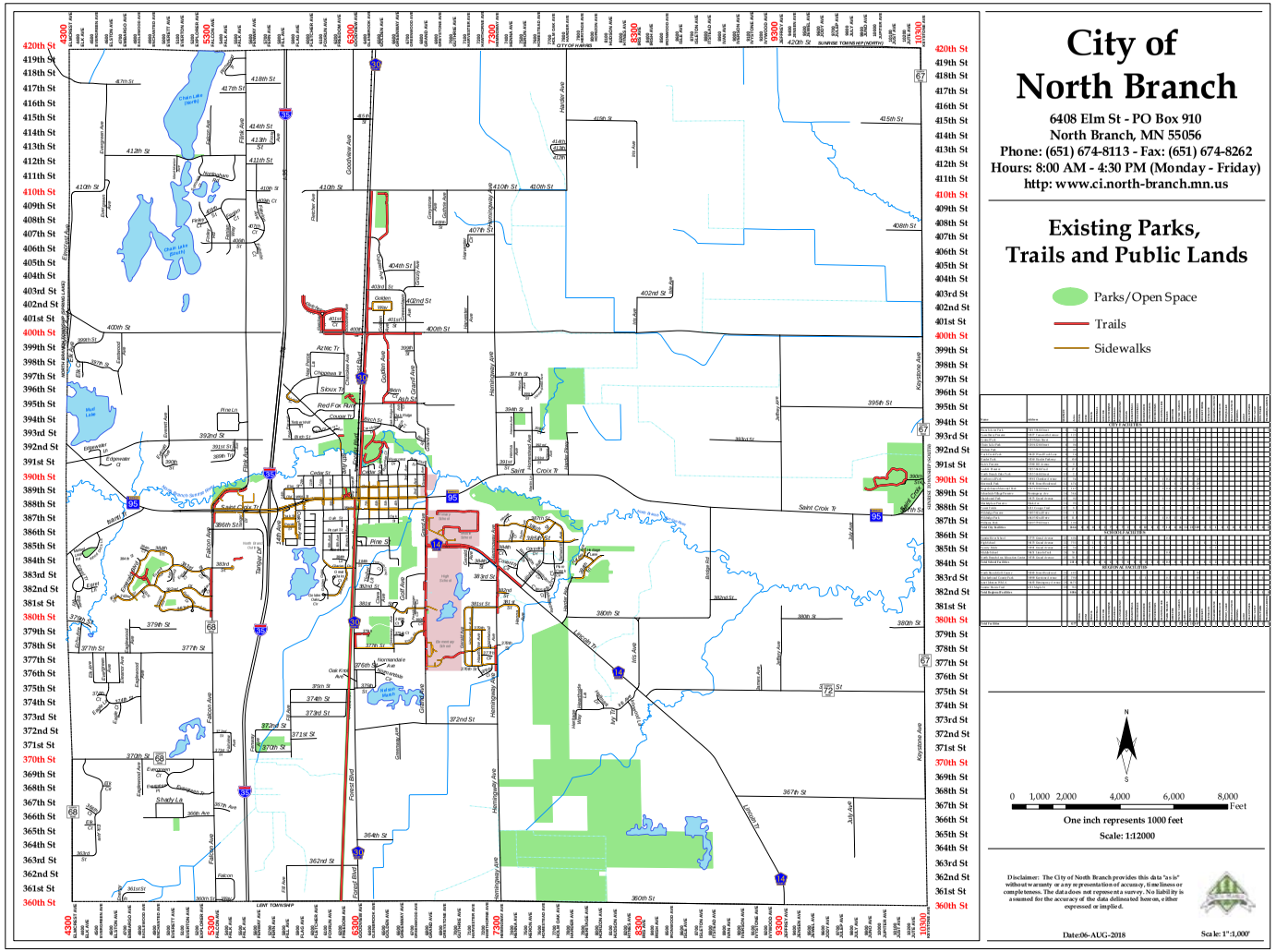


Figure 8-2:
Existing Parks, Trails & Public Lands

Vision for Natural Environment

Natural infrastructure includes all systems that relate to natural resources and contribute to an improved public life. Natural infrastructure considers the full range of natural resource uses including economic, environmental, health, cultural, and aesthetic. This broad view leads us to include surface water, groundwater, stormwater, wastewater, drinking water, geology, topography, soils, natural areas, open space, green spaces, urban forest, habitat, vegetation, scenic views, and parks and trails in natural infrastructure.

Natural infrastructure is a key element in planning where development should or should not take place within a city. This element is important to communities and development as it avoids certain development hazards, provides health benefits to citizens, protects ecological systems and enhances biological diversity, supports economic activities such as mining and forestry, and offers communities unique quality of life components. Consideration of natural infrastructure ensures that homes are built upon stable dry soils, provides clean drinking water, accounts for resource based economic activities, provides scenic views and open spaces, and plans development that respect the integrity of natural systems and incorporate natural features into development.

GOAL 1

Develop an integrated plan that balances community growth, natural resources, cultural and historical features.

Objective 1.1
Preserve open space and wildlife corridor.

Policy 1.1.1
Build upon the Metro Area Green Corridor System within North Branch incorporating the wooded edge while maintaining the rural character of the City's major natural amenities into the Open Space System.

Policy 1.1.2
Identify and conserve critical wildlife habitat including nesting sites, foraging areas, and migration corridors within or adjacent to natural areas, open spaces, and the developing urban areas, preserve sensitive habitat sites that support threatened species and urban wildlife habitat.

Policy 1.1.3
Identify and conserve forested and woodland cover and the scenic attributes provide between rural and urban land uses, preserve and protect significant environmental features including unique wetlands, open spaces, woodlands, shorelines, waterfronts and other characteristics that support wildlife and reflect the cities resource heritage.

Policy 1.1.4
Develop Partnerships with other organizations, institutions, and local units of government on planning and zoning, land use, preservation and conservation related issues, capitalize on the development and promotion of the North Branch of the Sunrise River and take ownership and promote the advantages of the City's relationship to the Saint Croix National Scenic Riverway and the importance the North Branch of the Sunrise River has to the river's federally protected status.

Objective 1.2

Maintain healthy urban forest and park system.

Policy 1.2.1

Continue high standards of park and public land maintenance, and management by continued investment in personnel, equipment, and methods, expand sustainable practices and invasive species management (i.e. the Emerald Ash Borer, buckthorn, etc.) and obtain the information, training and resources needed to effectively address planning, preservation and conservation issues.

Policy 1.2.2

Undertake citizen-based planning designed to manage growth and build needed infrastructure, while at the same time preserving the natural qualities with which the region is blessed.

Policy 1.2.3

Increase natural areas and open space linkages within the developing urban areas

Objective 1.3

Foster natural park development.

Policy 1.3.1

Promote native landscaping and greening initiatives, support use of best management practices and reduction of chemical use, establish community gardens, and encourage the use and planting of pollinator friendly habitats.

Objective 1.4

Identify, preserve, and enhance North Branch's multicultural heritage, traditions, and cultural features within historical sites, buildings, artwork, parks, open space, and trails to preserve interest and provide a balanced social experience.

Policy 1.4.1

Identify, designate and protect significant historic structures and sites, establish history and heritage preservation programs utilizing existing resources to help increase knowledge and promote the history and heritage of North Branch.

Policy 1.4.2

Implement natural resources and environmental educational and interpretive programs.

Vision for Parks, Trails, and Recreation

To provide a comprehensive and balanced system of parks, greenways, trails, and support for providers of recreation- orientated activities / programs for city residents in an as cost effective manner as possible.

Park Goals, Objectives, and Policies

The following section outlines the primary goals for parks followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan.

GOAL 1

Plan for a sustainable park and trail system.

Objective 1.1

Plan and design parks, trails, sidewalks, and bike paths in a way that ensures their long term viability.

Policy 1.1.1

All park properties that are set aside (and/or are proposed in the future) must take into account the long-term commitments required to develop, operate, and maintain across their lifecycles, with buildings constructed to the state's SB2030 performance standards for on-going cost reductions, when feasible.

Policy 1.1.2

Balance maintained turf areas with natural areas to add aesthetic appeal, control maintenance costs, infiltrate stormwater, eliminate toxic chemical use and provide wildlife habitat, and reduce carbon emissions.

Policy 1.1.3

Update parks plan every 5-10 years depending on the amount of change and development within the city.

Policy 1.1.4

Explore alternative methods for parkland dedication that will assure sufficient park facilities well into the future.

Policy 1.1 5

Phase Improvements based on replacement needs and available funding. Manage system investments through analysis of applicable data.

Objective 1.2

Understand current trends and community issues, opportunities, and needs as related to parks within the city.

Policy 1.2.1
Discuss local and regional park and trails issues and opportunities with the Department of Natural Resources, Chisago County, adjacent communities, environmental organizations, and others.

Policy 1.2.2
Master plans should be prepared for each park prior to their development to ensure that the right mix of amenities are provided and the park's design is cohesive and complementary to the design for other parks and public spaces.

Policy 1.2.3
Ensure public participation in the master planning process is included for each park development project.

Policy 1.2.4
Analyze the placement and use of "nature play" equipment in existing and proposed parks.

Objective 1.3

Use Sustainable Design Practices.

Policy 1.3.1
Use renewable energy where possible (i.e. solar lights for trails, solar power at athletic facilities).
Policy 1.3.2: Consider use of recycled materials and promote recycling in all park areas.

Objective 1.4

Identify alternative, sustainable revenue sources.

Policy 1.4.1
Expand grassroots parks and recreation advocacy.

Policy 1.4.2
Pursue alternative revenue sources such as program fees, community funds, grants, charitable gaming, memorials, commemoratives, and donations, etc.

Policy 1.4.3
Encourage business involvement, sponsorship, and naming rights of parks, recreation facilities and events.

Policy 1.4.4
Apply marketing strategies to increase income potential and broaden awareness.

GOAL 2

Provide additional park and recreation opportunities in areas of new development throughout the city.

Objective 2.1

Service local park and recreation needs by providing neighborhood and community parks as residential growth occurs.

Policy 2.1.1
Ensure neighborhood parks are developed as part of new residential neighborhoods with buildings constructed to the state's SB2030 performance standards for on-going cost reductions, when feasible.

Policy 2.1.2
Explore the possibility of including a community park in appropriate areas of the City.

Policy 2.1.3
Locate new parks based on how they can be best integrated with the new development that the park will serve.

GOAL 3

Adhere to Park Master Planning and Facility Design Quality / Development Standards.

Objective 3.1

Ensure the quality standard for built features within the park system is consistent with industry standards for safety, durability, and accessibility.

Policy 3.1.1

Periodically inspect and repair all parks, trails, and recreation facilities for hazardous conditions, including unsafe play equipment, fallen vegetation, etc.

Policy 3.1.2

The design of individual parks should be of a consistent quality, with buildings constructed to the state's SB 2030 performance standards for on-going cost reductions, when feasible.

GOAL 4

North Branch's parks meet the diverse recreation needs of the community.

Objective 4.1

Create and sustain critical partnership.

Policy 4.1.1
Partner with the North Branch School District, local athletic organizations, private enterprises, surrounding communities, and others to address those community and regional needs that cannot be met exclusively by the city or others.

Policy 4.1.2
Cultivate and support public/private partnerships with organizations like the YMCA, Park Trail Council and similar non-governmental organizations whose mission is to promote active living and recreation.

Policy 4.1.3
Involve representatives from the North Branch School District, athletic organizations, and others when developing new parks that may be co-located with educational and daycare facilities.

Policy 4.1.4
Consider the desire of the community to offer a multi-use athletic facility to the residents and attract regional tournaments and events.

Policy 4.1.5
Explore the impacts of developing such facilities, including impacts to adjacent neighborhoods.

Policy 4.1.6:
New facilities should provide year-round activities and programs for all age groups and all income levels.

Policy 4.1.7
Identify and build relationships with local special interest groups, such as scouting programs, Chisago County Master Gardeners, North Branch Monarch Strategy Group, North Branch Garden Club, North Branch Arts Group, Lions, Rotary, etc.

Policy 4.1.8
Identify and build relationships with regional organizations, such as Chisago County Parks and Recreation Department, Chisago Soil & Water Conservation District, Friends of Wild River State Park and association with the St. Croix River National Scenic Riverway and the Lower St Croix Management Commission, Chisago County Historical Society, etc.

Objective 4.2
Promote the City's parks and recreation activities and opportunities

Policy 4.2.1
Utilize diverse methods of communication, including social and digital media, and highlight youth, families, volunteers, etc. Provide information on the City's website and in outside publications about parks, facilities and programming that is accessible to all people.

Policy 4.2.2
Highlight the quality of life benefits of parks, trails, recreation and open space.

GOAL 5

Provide a welcoming and safe parks and recreation system.

Objective 5.1

Use park design to make them welcoming.

Policy 5.1.1

Ensure visible and legible signage at park entrances, use recognizable branding to indicate that parks are open to all people, provide entrances on public streets, and utilize vegetation that does not obscure views into and through the parks.

Objective 5.2

Improve the perception of public safety.

Policy 5.2.1

Utilize planning techniques, designs and site planning to improve safety, such as cluster compatible activities to avoid conflicts and increase social observation, locate parking lots and facilities near streets so they are easily observable at night, locate restrooms and playgrounds in areas that are easily observable, and use the principles of Crime Prevention Through Environmental Design (CPTED) in the design of parks.

Objective 5.3

Ensure safety through regular maintenance and equipment upgrades.

Policy 5.3.1

Conduct annual inspections of parks, buildings, restrooms, shelters, ballfields, play courts, skate park, outdoor ice rinks, parking lots, trails, and nature areas. Input annual inspections into asset management system and use to analyze and prioritize system investments.