

Norwood Young America Comprehensive Plan

August 2020



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Chapter 1 – Introduction

This comprehensive plan sets forth the basic guiding principles the City of Norwood Young America has embraced to shape its future. The community planning process began in the summer of 2017 and concluded in December of 2018. The purpose of this document is to update the City of Norwood Young America's prior comprehensive plan completed in 2008.

The comprehensive plan is broken into nine chapters, each providing existing conditions, policy guidance and implementation measures to guide growth and development in Norwood Young America into 2040. This chapter provides an introduction into the overall comprehensive plan. The following eight chapters cover specific topic areas and are summarized below:

- **Inventory and Analysis** – Chapter 2 provides an inventory of existing conditions and describes demographic characteristics of the community.
- **Goals and Objectives** – Chapter 3 contains a detailed expression of the community's desire for the future, with specific goals and objectives tied to the various plan elements. This chapter is truly the heart of the comprehensive plan. Everything that precedes it is background information and input used to provide a clear picture of the current state of conditions in the Norwood Young America area from which the issues, needs and opportunities facing the community were identified.
- **Land Use** – Chapter 4 explores the land use and development policies that will be used to guide development decisions over the next 30 years.
- **Transportation** – Chapter 5 reviews the existing and future condition of the city's transportation system, including vehicles, freight, transit, bikes, and pedestrians.
- **Natural and water Resources** – Chapter 6 reviews the existing natural resources within Norwood Young America and the city's municipal services.
- **Parks and Trails** – Chapter 7 contains an inventory of the existing park and trail facilities in the city and highlights policies and guidance for future development and maintenance.
- **Housing** – Chapter 8 provides a review of the existing housing stock and future housing needs to support the growing population. Additionally, considerations and policies for affordable housing are included.
- **Implementation** – Chapter 9 describes how the city intends to execute this plan. It includes a description of the tools available to the city to implement the plan, along with strategies that may be used to meet the aspiration of the community.

Planning Process

Comprehensive planning is a systematic, ongoing, forward-looking process of analyzing opportunities and constraints to accomplish a community's goals and objectives. The planning process included the following components:

- Inventory and Analysis
- Goal, Policy and Plan Development
- Plan Preparation and Approval

The initial data gathering effort of the comprehensive plan update included analyzing existing conditions, participating in public engagement activities and identifying needs and opportunities for Norwood Young America. Planning typically begins with the development of a vision for the community that the city seeks

CHAPTER 1 - INTRODUCTION

to achieve through the planning process. Thus, community engagement activities were conducted to elicit public views on the issues facing Norwood Young America as well as their vision for the city's future. Public engagement efforts included soliciting feedback during local events, such as the annual Stiftungfest and holiday craft fair, surveys and a newsletter.

In addition to creating a vision for the city's future, it is also important at the onset of the project to assemble and evaluate objective facts about the community. Data related to demographics, land use and growth, economic development, and community facilities was collected, analyzed, mapped where appropriate and compiled into the Inventory and Analysis Chapter of this plan update.

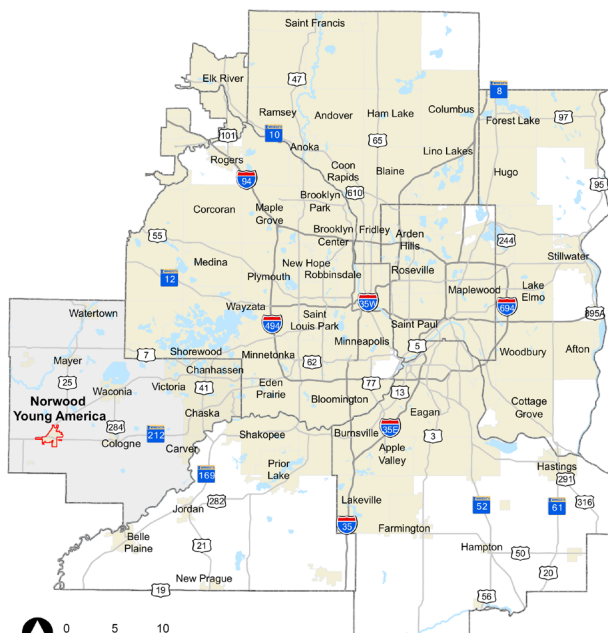
Plan Setting

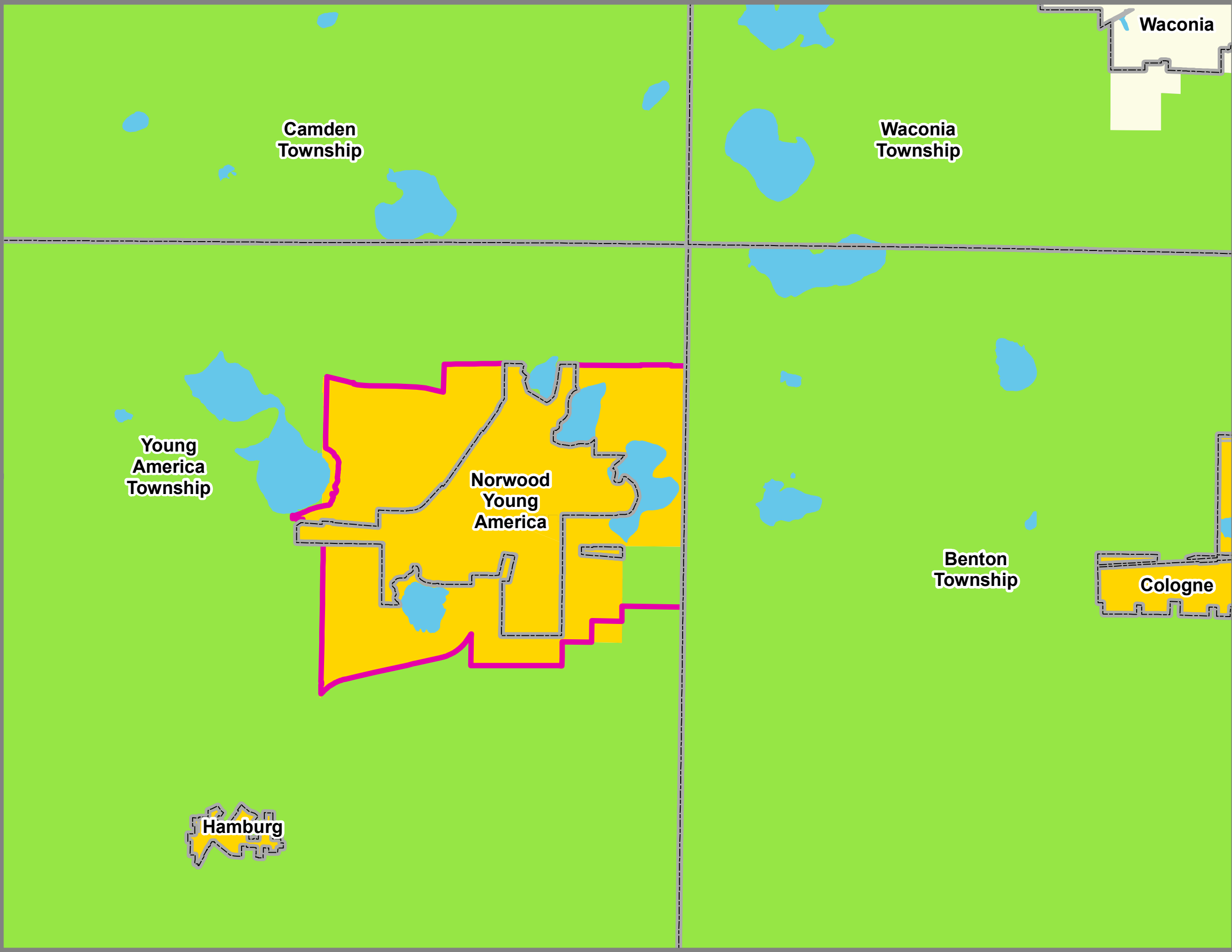
Norwood Young America is a community of 3,549 people (2010 U.S. Census) located in the southwest region of Carver County. The city is bordered by Young America Township. Located on US Highway 212 (US TH 212) and MN Highway 5 (MN TH 5), it lies approximately 35 miles southwest of Minneapolis (see Figure 1).

Norwood Young America is located within the seven-county Twin Cities Metropolitan Area (TCMA) and thus falls under the jurisdiction of the Metropolitan Council (Council). The Council is the chief policy maker for regional systems such as highways, airports and parks, and coordinates these systems with the land use plans of the 188 local governments located in the seven-county area. In addition, the Council operates the region's transit system and wastewater system. Norwood Young America is not part of the Council's regional wastewater system, but rather operates its own facilities. Fundamental decisions regarding development and ways in which regional systems should support this growth are determined by the Council.

The Council classifies Norwood Young America as a Rural Center (see Figure 2). It is surrounded by areas classified as Agricultural. Rural Centers are described in the Council's 2015 Norwood Young America System Statement as the *small towns surrounded by agricultural lands that serve as centers of commerce for the surrounding rural areas. The region's Rural Centers include residential neighborhoods surrounding a center that provides basic consumer services and community activities. Many Rural Centers are older communities that were established more than a century ago to serve surrounding farms.* Rural Center communities are expected to plan for development to support the forecasted population and household growth at an average density of 3 to 5 units per acre. Additionally, Rural Center communities are encouraged to guide higher density commercial uses and compatible higher density residential land uses in their commercial core to capitalize on existing infrastructure investments.

Figure 1: Regional Context and Surrounding Communities





Norwood Young America

**Figure 2:
Thrive 2040 Community
Designation**

**Thrive 2040 Community
Designation**

- Urban Center
- Urban
- Suburban
- Suburban Edge
- Emerging Suburban Edge
- Rural Center
- Diversified Rural
- Rural Residential
- Agricultural
- Non-Council Area
- Municipal Boundary
- Orderly Annexation Boundary

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Chapter 2 – Inventory and Analysis

The existing pattern of development in the City of Norwood Young America and the surrounding area has a significant influence on the community's future. Accurate, complete and up-to-date information on existing conditions is essential to a successful comprehensive plan. Background information for this report was gathered and analyzed for five key planning components including:

- Demographic Characteristics
- Land Use & Growth
- Future Land Use Needs
- Community Facilities and Services
- Economic Characteristics

Demographic Characteristics

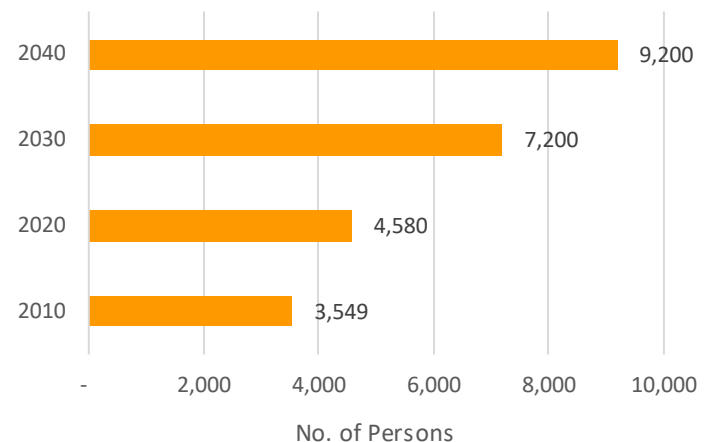
The identification of trends in population growth and other demographic data is a critical component of the comprehensive planning process. It can provide clues to future growth patterns and indicate what types of housing and public facilities may be needed in the future. For example, an increase in young couples with children may require starter housing, new parks and schools, and new or upgraded community facilities; whereas, an increase in the elderly population would lessen the need for schools and increase the need for specialized housing. This section contains information on Norwood Young America's current and forecasted population and household characteristics.

Population and Households

Norwood Young America has historically grown at a steady, but relatively slow pace. According to the U.S. Census, Norwood Young America's population grew from 3,108 to 3,549 persons between 2000 and 2010 representing a 14 percent increase.

The Metropolitan Council prepares 30-year population forecasts for each jurisdiction within the 7-county metro to inform the comprehensive plan updates (see Figure 3). These projections provide guidance for the people, households and employment that the city should be prepared to accommodate. Based on the Council's projections, it is anticipated that the city's population will increase to 4,580 by 2020 (a 29 percent increase from 2010) 7,200 by 2030 (a 57 percent increase from 2020), and 9,200 by 2040 (a 28 percent increase from 2030). There forecasts represent an overall population increase of 162 percent over the next 30 years.

Figure 3: 2000 – 2040 Population Growth Forecasts

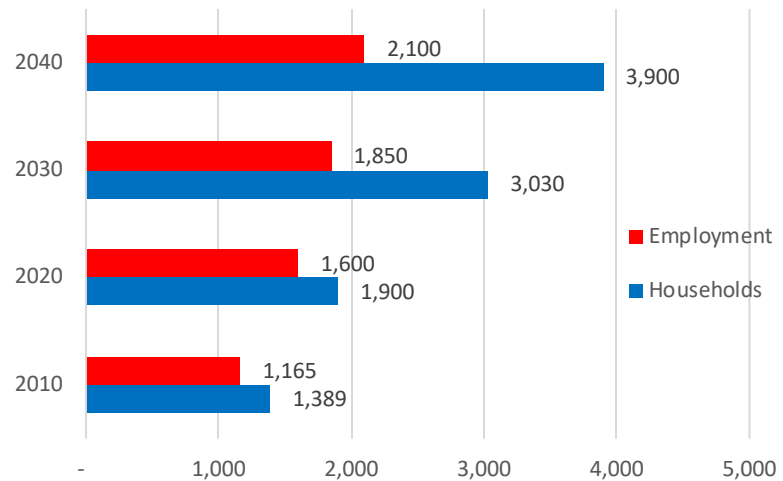


Source: Metropolitan Council
2015 System Statement - Norwood Young America

CHAPTER 2 – INVENTORY AND ANALYSIS

The Council also provides forecasts for household and employment growth over the plan horizon (see Figure 4). These growth figures help to inform the additional improvements that need to be made to accommodate development or redevelopment in the community. The number of households in the city increased by 19 percent between 2000 and 2010, from 1,171 to 1,389. By 2040, the number of households in Norwood Young America is projected to reach 3,900 (a 181 percent increase over the next 30 years). The number of jobs or employment is projected to increase a steady pace. By 2040 a total of 2,100 jobs are anticipated in Norwood Young America; representing an increase of 80 percent.

Figure 4: Household and Employment Growth Trends, 2000 – 2040



Source: Metropolitan Council
2015 System Statement - Norwood Young America

The Council's forecasts for Norwood Young America are set forth within the city's 'System Statement' (see Table 1). Actual population, household and employment totals are shown for the year 2010 based on U.S. 2010 Census data.

Table 1: Metropolitan Council Forecasts

Year	Households	% Change	Population	% Change	Employment	% Change
2010 ¹	1,389	-	3,549	-	1,165	-
2020 ²	1,900	36.8%	4,580	29.1%	1,600	37.3%
2030 ²	3,030	59.5%	7,200	57.2%	1,850	15.6%
2040 ²	3,900	28.7%	9,200	27.8%	2,100	13.5%

¹2010 U.S. Census

²Metropolitan Council, 2015 System Statement

Age

Trends in age impact a community's planning needs. It gives clues as to the types of housing, parks and community facilities, and services that may be needed in the future. It also indicates what demands may be placed on the school system in the future.

According to the 2010 U.S. Census, the median age of Norwood Young America residents is 35.8 (see Table 2). This is comparable to the surrounding cities and Carver County. The median age for Young America Township is ten years older than the city at 45.8 years old. The city's median age is slightly younger than the Minneapolis/St. Paul Metro (36.0) and the State of Minnesota (37.4).

CHAPTER 2 – INVENTORY AND ANALYSIS

The population in Minnesota and the nation is steadily aging as the baby boomer generation reaches maturity. There has also been a recent increase in the younger age groups in many communities— known as the baby boomer echo. This trend is replicated in Norwood Young America.

Table 2: Median Age of Population of Norwood Young America and Surrounding Communities, 2010

Community	Median Age
City of Norwood Young America	35.8
City of Cologne	32.0
City of Glencoe	37.7
Young America Township	45.9
Carver County	36.3
Minneapolis--St. Paul Metropolitan Area	36.0
Minnesota	37.4

Source: 2010 U.S. Census

A review of the age breakdown of residents provides insight into how a population is likely to change in the future and explores the needs from the changing demographics. Based on 2010 U.S. Census data, the largest age cohort in Norwood Young America is the under 10-year-old age group (see Table 3). The 45 to 55-year-olds and 25 to 35-year-old age groups are the next largest. These groups, combined, comprise 45 percent of the city's population. From 2000 to 2010, Norwood Young America saw its largest population gains in the 55 to 64 and 45 to 54-year-old cohorts. During the same time, there was a decline in the 10 to 24-year-olds, 18 to 24-year-olds, 35 to 44-year-olds and the 65 to 74-year-olds age groups.

Table 3: Population by Age 2000 and 2010

Age Cohort	2000		2010		2000 – 2010	
	Number	Percent	Number	Percent	Change	Percent Change
Under 10	448	14%	545	15%	97	21.7%
10-17	465	15%	420	12%	-45	-9.7%
18-24	309	10%	258	7%	-51	-16.5%
25-34	412	13%	522	15%	110	26.7%
35-44	550	18%	484	14%	-66	-12.0%
45-54	382	12%	542	15%	160	41.9%
55-64	177	6%	371	10%	194	109.6%
65-74	177	6%	174	5%	-3	-1.7%
75+	188	6%	233	7%	45	23.9%
Total	3,108	100%	3,549	100%	441	14.2%

Source: US Census, QT-P1, Age Groups and Sex, Summary File 1

Age Cohort Analysis

It is beneficial to examine age groupings within the community in terms of both the change of age group distribution and change of age cohorts over a comparative period (i.e. from Census 2000 to Census 2010). Age groupings can provide useful and thought-provoking information regarding age ranges and changes, whereas, age cohort comparisons can help explain why age ranges have changed over time.

The reduction and influx in various age cohorts is likely related to the type of housing and jobs available within Norwood Young America. For example, younger persons may be moving into Norwood Young America as they migrate from rural counties toward the Twin Cities Metropolitan Area seeking employment opportunities post-graduation. First time home buyers may be moving to Norwood Young America due to available new housing at lower costs than those closer to the heart of the metro area.

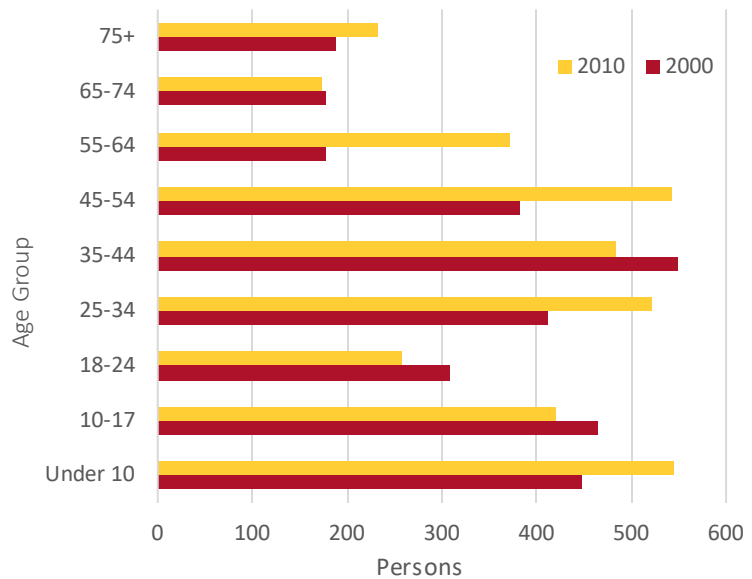
The number households by age of the householder for Norwood Young America is shown in Table 4. As shown in the table, households with a householder between 55 and 64 are the largest group in Norwood Young America, while those with householders aged 15 to 24 are the smallest.

Table 4: Households by Age of Householder 2000 - 2010

	2000		2010		2000 - 2010	
	Number	Percent	Number	Percent	Change	Percent Change
15 to 24	61	5%	55	4%	-6	-9.8%
25 to 34	193	16%	242	17%	49	25.4%
35 to 44	321	27%	275	20%	-46	-14.3%
45 to 54	226	19%	309	22%	83	36.7%
55 to 64	109	9%	216	16%	107	98.2%
65 to 74	117	10%	105	8%	-12	-10.3%
75+	144	12%	187	13%	43	29.9%
Total	1,171	100%	1,389	100%	218	18.6%

Source: US Census, PCT012, Household Type by Age of Householder, Summary File 2

Figure 5: Age Distribution, 2000 – 2010



Source: US Census, QT-P1, Age Groups and Sex, Summary File 1

Land Use and Growth

The purpose of a land use inventory is to quantify and analyze existing development in the city. An examination of current land uses reveals development patterns, densities and other land use scenarios that can provide direction for future development and redevelopment. This inventory, combined with other background information, is used to suggest where, at what intensity, and in some cases, when growth should occur. The inventory can also help to classify areas that should remain undeveloped or preserved. The kind of development and how that development is allowed to progress should be a reflection of the community's needs and desires.

Norwood Young America's urban amenities and small-town character, along with its direct access to US TH 212 and MN TH 5, make it an attractive place to live and work. Due to these factors and its proximity within the Twin Cities Metropolitan Area, Norwood Young America has experienced steady growth over the past decades. This makes careful consideration of the city's future land use very important.

Continued urban growth in Norwood Young America will pose many land use challenges. The strain between the demands of an urban community and the agricultural character of the surrounding township will be at the forefront of this struggle. Although the area surrounding the city is predominantly agricultural, as vacant developable land in the city decreases, urban land uses will continue to extend into the neighboring township, putting development pressure on the surrounding agricultural areas. As residential, industrial and commercial development expands, there will be increased pressure on the city to closely scrutinize land for development. Environmental preservation and annexation dynamics will also become increasingly important.

Existing Land Use

Existing land uses in Norwood Young America are broken into nine categories (see Table 5) below, as of May 2018. Residential land uses represent the largest land use category in the city. Agricultural uses are the second-largest land use category within Norwood Young America. The location of existing land uses in Norwood Young America are shown in Figure 6. As shown, commercial businesses are concentrated along the US TH 212 corridor and the north and south downtowns. Manufacturing is located along the railroad and US TH 212. Existing land uses were based on parcel information obtained from Carver County and confirmed with aerial photography and staff review.

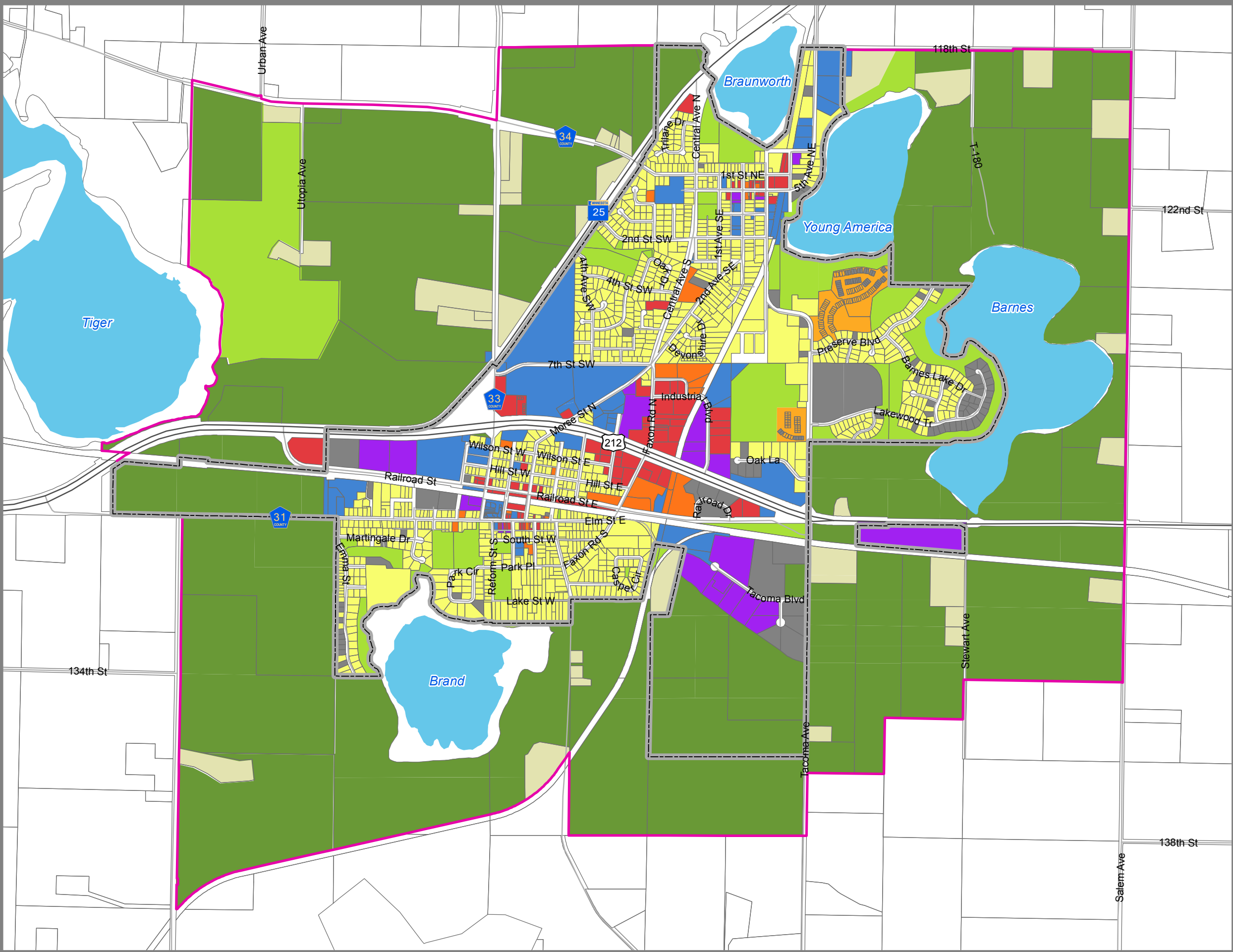
Table 5: Existing Land Use

Land Use Category	Acres	Percent
Commercial	63.6	1.75%
Industrial	90.6	2.49%
Public/ Institutional	148.8	4.09%
Residential	650.9	17.87%
Rural Residential (0 - 1 units/acre)	179	4.92%
Low Density (1 – 8 units/ acre)	416.5	11.44%
Medium Density (8 – 12 units/ acre)	27.6	0.76%
High Density (12 – 18 units/ acre)	27.8	0.76%
Vacant	103.9	2.85%
Agricultural	2,261.7	62.11%
Park and Open Space	322.1	8.85%
TOTAL	3,641.6	100%

Norwood Young America

Figure 6:
Existing Land Use

- Commercial
- Industrial
- Public/Institutional
- Park and Open Space
- Low Density Residential - 1 to 7 units/acre
- Medium Density Residential - 8 to 12 units/acre
- High Density Residential - 12 to 18 units/acre
- Vacant
- Agricultural
- Orderly Annexation Boundary
- Municipal Boundary
- Railroad



Commercial

Commercial land uses include retail and wholesale trade, services and entertainment, and make up a relatively small portion of Norwood Young America's total land area. There are approximately 64 acres of commercial land use or 1.7 percent of the total land area. Commercial uses are concentrated in three areas of the city; in the north and south downtowns and along US TH 212.

Industrial

Industrial land uses include warehousing, transportation and manufacturing, and make up a relatively small portion of the city's land area. Approximately 91 acres or 2.5 percent of the total area of the city is used for industrial purposes. Industry is located largely along the rail line and US TH 212.

Public/Institutional

Public and Semi-Public land uses include educational, religious, health care, cemetery, government and other public uses. This land use comprises approximately 4.1 percent of the city's total area or 149 acres. Public and Semi-Public land uses are important to the city as it provides space for community services and uses of a non-business nature. A large area devoted to public land uses is located in the central area of the city and houses the school district offices, the high school, the middle school and the elementary school.

Parks

Park land uses include a variety of programmed parks and open space or natural areas. Norwood Young America has 322 acres of defined park and open space land uses, accounting for 9.4 percent of the city. Seven public parks scattered throughout the city. There are also two large open space and natural areas which are maintained within a homeowner's association for common use. The developed parks range from mini and neighborhood parks to community parks and the Sports Complex.

Residential

Residential land uses are broken into four categories and include most forms of housing development (single-family, twin homes, apartments, etc.). Comprising 17.9 percent of the city's total area, residential development is the largest developed land use type in the city. The city's 651 acres of residential land is primarily located in the central, northeast and southwest areas of the city. The four residential categories group the various together based on housing characteristics, primarily density:

- **Rural Residential (0 to 1 units/acre):** Single-family homes located outside of the existing city limits. These properties are located on lots of at least 1 acre and are serviced by an onsite septic system.
- **Low Density (1 to 7 units/ acre):** Single-family homes consume the vast majority, 63.9 percent, of the city's residential land.
- **Medium Density (8 to 12 units/ acre):** Multi-family housing includes approximately 4.2 percent of residential land within Norwood Young America.
- **High Density (12 to 18 units/ acre):** High density multi-family housing comprises approximately 4.2 percent of the city's residential land.

Agricultural Uses

CHAPTER 2 – INVENTORY AND ANALYSIS

The agricultural land use describes land that is current in use for agricultural production (i.e., crop farming, livestock pasture or farmsteads). There are 2,262 acres of land used for agricultural purposes within the study area.

Vacant Land

Vacant land areas shown on the existing land use plan represent areas of the city that are undeveloped or underutilized and are not identified as an open space. These areas are open for (re)development of new uses in the future. There are 104 acres of vacant land in the city.

Solar Access Protection

The city recognizes the importance of protecting access for solar collectors from potential interference by adjacent structures and vegetation. The existing zoning ordinance is consistent with state law and defined 'undue hardship (variance criteria) as including non-adequate access for solar collectors.

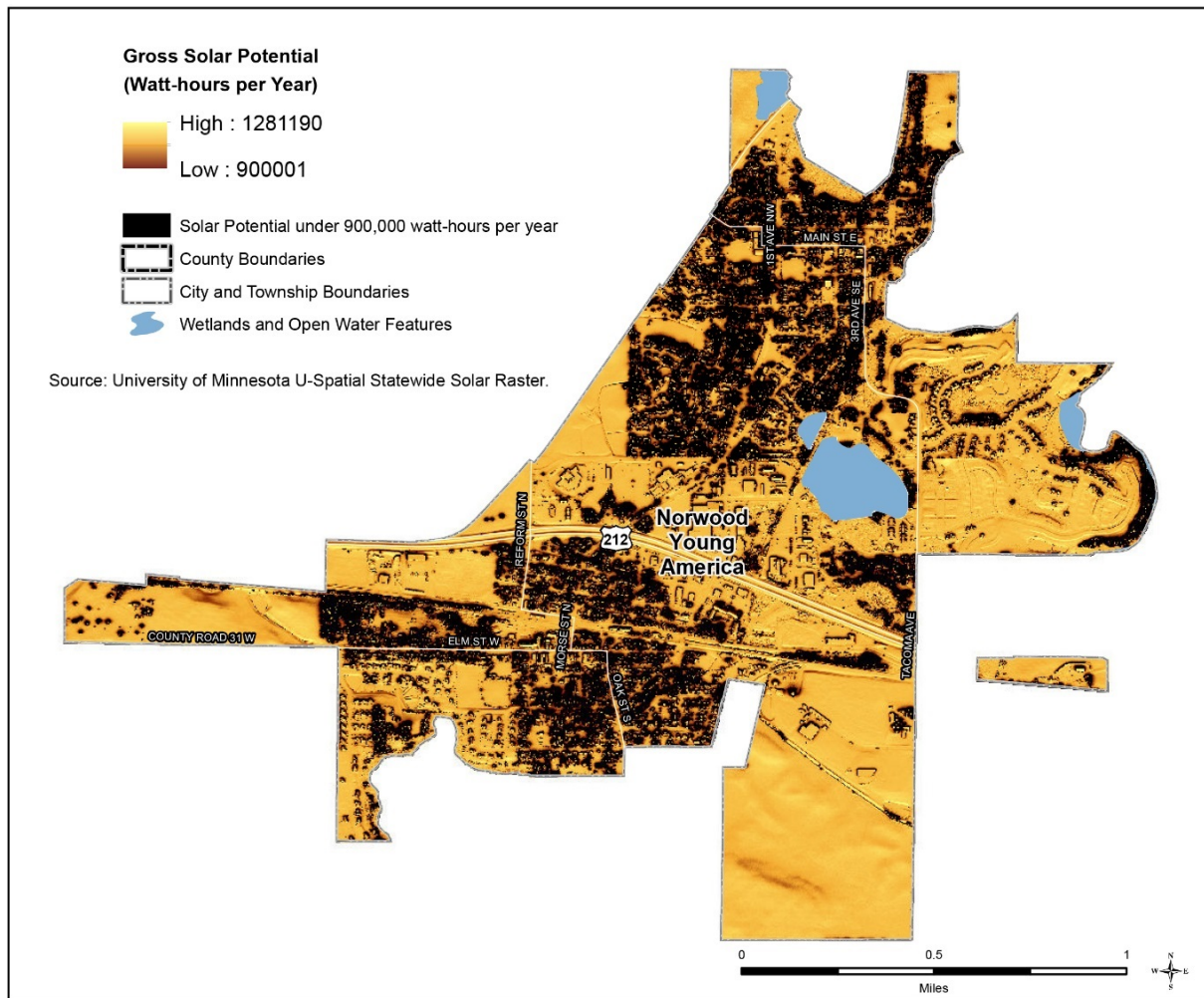
The University of Minnesota completed a solar suitability analysis, mapping the solar potential on a large scale across Minnesota. This effort included the analysis of solar potential within Norwood Young America (see Figure 7). According to this study, many of the identified growth areas for Norwood Young America have good to optimal solar potential, particularly due to the lack of trees with the current agricultural uses. The solar suitability analysis also identifies the gross and rooftop solar resources potential vs generation potential per year within the city (see Table 6). These solar and rooftop general potential figures estimate how much electricity could be generated using existing technology. As technology improves, these numbers could be improved.

Table 6: Gross and Rooftop Solar Resource

Gross Potential (Mwh/yr)	Rooftop Potential (Mwh/yr)	Gross Generation Potential (Mwh/yr)	Rooftop Generation Potential (Mwh/yr)
4,759,212	231,522	475,921	23,152

The City of Norwood Young America has adopted ordinances that support the development of rooftop solar generation within the city. This ordinance establishes regulations for the placement of solar panels on rooftops of residential and commercial buildings. The city will continue to monitor and promote this ordinance to ensure it meets the needs of the changing industry and its residents. Interest and the establishment of solar farm development has occurred near the city's planning boundary. As Carver County and Young America Township review future development proposals near the city's growth area, Norwood Young America will collaborate with the two jurisdictions to provide input on the impact to future growth areas.

Figure 7: Solar Potential



Source: University of Minnesota Solar Potential Analysis

Existing Zoning

Norwood Young America's zoning ordinance establishes regulations pertaining to the location, construction, alteration and use of structures and land within the city. The city's land use plan describes the existing and planned use of the property and may not be consistent with the applicable zoning requirements. The city's current zoning ordinance establishes eight primary categories of zoning districts to meet the city's planning, development and preservation needs (See Appendix A)

Rural/Agricultural Districts

Although largely developed, there is a portion of Norwood Young America zoned for Transition/Agriculture (T/A). The T/A district allows suitable areas of the city and newly annexed land to be retained and utilized by low-density residential, open space and/or agricultural uses until such time as these areas are ready for urban development.

CHAPTER 2 – INVENTORY AND ANALYSIS

The intent of the T/A District is to: (a) To protect such areas against development patterns that may hinder their ultimate transition to the intended urban use; (b) To prohibit those uses and densities, which would require the premature extension of urban public facilities and services; and, (c) to promote logical and orderly development in the best interest of the health, safety, and welfare of the citizens of the community.

Residential Districts

The City of Norwood Young America has established five (5) residential districts.

The Low Density Single Family Residential District (R-1) provides for and preserves areas within the city currently established or primarily designated for low-density residential development by the comprehensive plan. Minimum density is not defined within the zoning ordinance.

The Medium Density Single Family Residential District (R-2) provides and preserves areas within the city currently established for low density residential development by the comprehensive plan at densities slightly higher than the R-1 District.

The Medium Density Mixed Residential District (R-3) is intended to preserve the residential areas established with the city's original plat and provide for a variety of housing types to be developed at densities slightly higher than the traditional single-family dwelling as guided by the comprehensive plan.

The Multiple Family Residential District (R-4) is intended to provide for multifamily residential structures at a maximum net density of 18 dwelling units per acre on land guided for high density residential uses by the city comprehensive plan.

Commercial Districts

The city's commercial uses are located within one of four zoning districts: the Residential/Neighborhood Commercial District, the General Commercial District, the Downtown District and the Business Industrial District.

The Residential/Neighborhood Commercial District (RC-1) provides for the development of specialty service and commercial focusing on neighborhood related businesses in areas where residential dwellings dominate. Permitted uses in this district include a mix of residential and commercial uses ranging from single-family dwellings to retail trade and restaurants.

The General Commercial District (C-2) is intended to recognize development opportunity and the need for commercial establishments fronting on or with direct access to major highways, a frontage road or major street and that serve are residents as well as vehicular traffic.

The Downtown District (C-3) includes the original Norwood Downtown known as "Downtown Business" and the original Young America Downtown known as "Community Uptown" and is intended to serve as the specialized service, retail, employment and public business district. This district allows for a mix of commercial, residential and office uses and serves as a focal point for the community. Development within the district should consider all modes of transportation, with a focus on pedestrian friendly elements.

The Business Industrial District (B-1) is intended to provide an area for light industrial and large-scale office-park development. The uses allowed in this district allow a combination of both commercial and industrial uses.

Industrial District

Norwood Young America's Industrial District (I-1) was created to provide for industrial areas within the city that will be acceptable and will not adversely affect adjacent business or residential neighborhoods. The overall character of the I-1 District is intended to have low impact manufacturing or warehouse character.

Parks and Open Space District

The Parks and Open Space District (P-1) provides for recreational area for the enjoyment of the public, as well as for the preservation of significant natural features and amenities such as lakes, rivers, marshes, steep hills, extensive woodlands, and woodlands in their nature state.

Shoreland District

Norwood Young America's Shoreland Overlay Districts regulate the subdivision, use and development of shoreland areas within the City of Norwood Young America. It is intended to further the state of Minnesota's policies to: a) protect and enhance the quality of surface waters, b) preserve natural environmental values (steep slopes, vegetation and wildlife), c) wisely utilize waters as related to land resources, and d) preserve historical values.

Restrictions are imposed on the design, placement and height of structures and roadways in shoreland districts. Vegetative alteration, topographic alterations, stormwater management, water supply and sewage treatment are also more strictly controlled within shoreland areas.

Planned Unit Development

The city's Planned Unit Development Overlay District offers enhanced flexibility to develop a site through the relaxation of conventional zoning district standards. It allows for a greater variety of uses, internal transfers of density, development phasing and a potential for lower development costs. This district can be applied within any area of the city, with the uses governed by the underlying zoning district.

Land Use Surrounding Norwood Young America

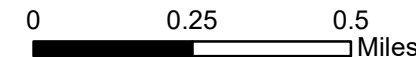
The vacant and agricultural land use categories identify areas with the potential for development within the study area. The city will want to work with landowners, residential developers and others to find out what is needed to encourage subdivision of this land. In addition, the city anticipates further residential, commercial and industrial growth, and it may have to annex land to provide adequate space for that growth.

A joint resolution for orderly annexation area (OAA) has been signed by the City of Norwood Young America and Young America Township. The OAA area is illustrated in Figure 8 and defines the study area for this comprehensive plan.

In October of 2007 the City of Norwood Young America and Young America Township entered into discussion regarding an updated annexation agreement. An updated annexation agreement was executed on June 12, 2008.

Land uses surrounding Norwood Young America are primarily a mix of existing residential parcels and agricultural lands as shown on Figure 5. Rural, non-farm development surrounding Norwood Young America will be an important issue for the city's future growth and development.

**Figure 8:
Orderly Annexation
Boundary, 2020**



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
Another important consideration for the orderly growth and development of the city is the presence of a number of agricultural preserves. The Metropolitan Agricultural Preserves Program (Program) is a program that was established in 1982 to encourage the use and improvement of the metropolitan area's agricultural lands for producing food and other agricultural commodities. It establishes a process for the designation of agricultural areas as a long-term land use. Property owners who enter into the Program are designated with a special tax classification that results in reduced property taxes, as long as an agricultural use of the property is maintained.

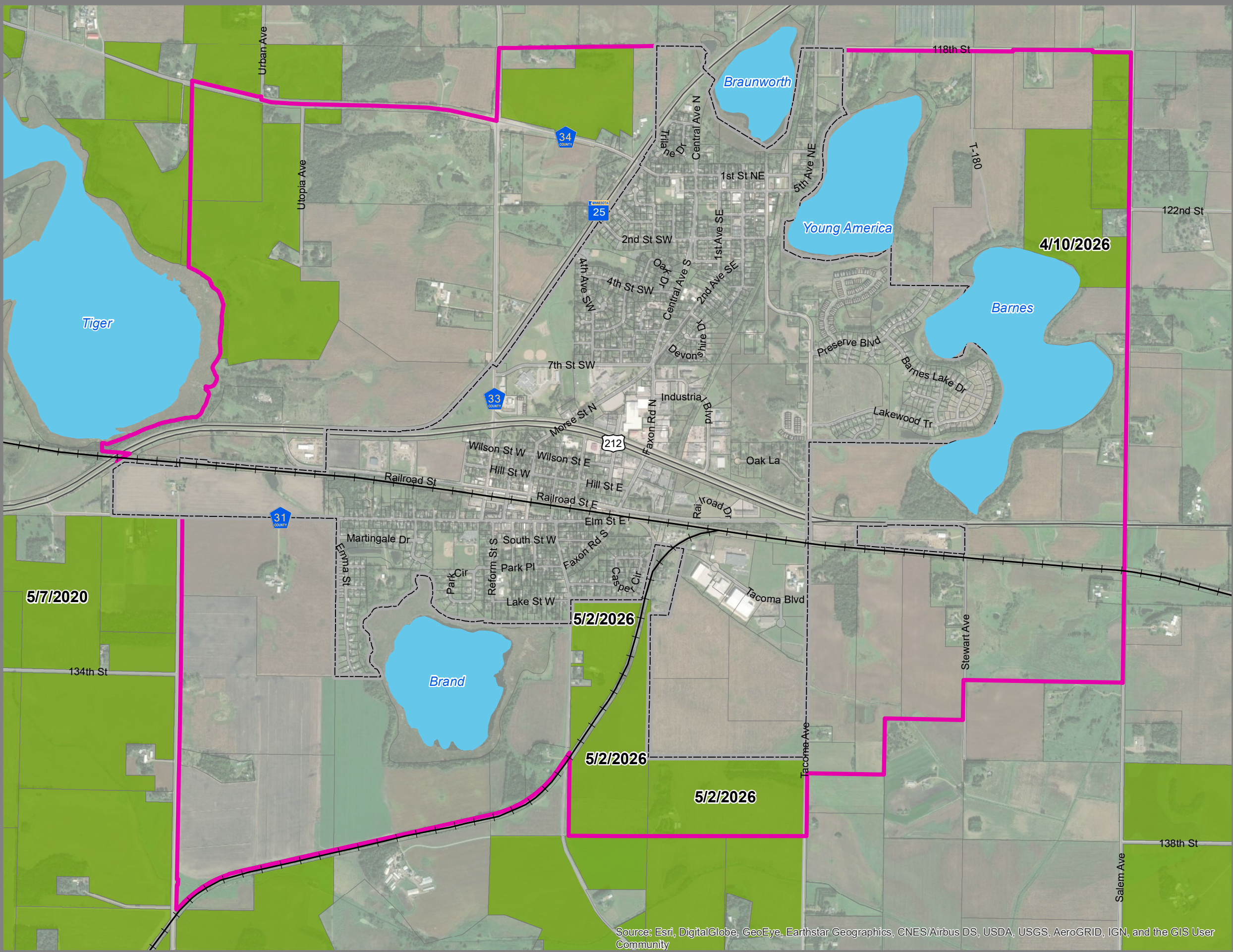
Property owners may enter into the Program voluntarily for any portion of their property (minimum 40 acres). These lands are then restricted for development until eight years after the landowner or local authority initiates an expiration notice. There are 7 parcels with established agricultural preserves within the study area as of 2019 (see Figure 9). The map includes the recorded exit dates (or the date the property will be removed from the Program) for those parcels in which a date has been filed. Multiple properties within the study area exited the program in late 2018 and early 2019, making them available for development in 2020. As growth continues to occur within the region, property owners and the local authority may wish to file an expiration notice to open the land for a change from agricultural use. Until these parcels have expired from the Program, residential development over 1 unit per 40 acres is prohibited.



Norwood Young America

Figure 9:
Agricultural Preserve

-  Agricultural Preserve Areas
-  Orderly Annexation Boundary
-  Municipal Boundary
-  Railroad



*Dates included for each
Agricultural Preserve
represents the expiration
date for each parcel (if
identified).*



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Future Land Use Needs

The following section utilizes the population, household and employment forecasts for 2040 to identify future land uses needs in Norwood Young America.

Residential Acreage Needs

By determining the future population of the city, and more importantly, the number of households likely to be generated by that population, a reasonable estimation of the amount of additional acreage devoted to residential uses can be calculated.

Lot sizes and average household sizes will determine the amount of acreage needed for new residential development. However, different housing types also affect the amount of acreage needed and the average size of each resident household. For instance, a development comprised of single-family homes would display a higher average household size than a new rental apartment complex.

Future residential acreage needs were calculated using the 2040 household forecasts provided by the Metropolitan Council. The average lot sizes of the existing development, paired with the lots sized defined in the current zoning ordinance, were used to determine the future residential acreage needs. Table 7 reviews the calculations used to determine these figures.

To ensure that planning accounts for different housing types for future residents, the total future households were split into future single-family and multifamily units. Based on the current split of households within the community and the desire for housing choice throughout the community, 54 percent of the new households are identified as single-family with the remaining 46 percent as multifamily.

The forecasts employed for the 2040 comprehensive plan Update have been approved by the Metropolitan Council. It is further noted the Metropolitan Council has directed the city to provide 269 affordable housing units by 2040. The forecasts and affordable housing allocation directly impact the volume of acreage needed to accommodate future growth.

For R-1 zoning, the city requires minimum lot sizes of 10,000 square feet. Examining the active residential developments in the city revealed that new homes may be built on much larger lots than the minimum required. To account for fluctuations, a rate of closer to roughly 15,000 square feet per lot, or 3 lots per acre, was applied. Based on the projected growth of 1,356 new single-family homes in Norwood Young America between 2010 and 2040, this would translate to a need for approximately 452 additional acres for single-family/low density development by 2040.

Multifamily housing in Norwood Young America will be built at considerably higher levels of density than single-family homes. While high-density zoning in the city allows for as much as 18 units per acre, the prevailing trends in most exurban communities in the Twin Cities is to provide for increasing levels of medium-density housing types such as townhomes. To account for the fluctuations in building types, a rate of 10 units per acre was used. Applying this rate to the forecasted growth of 1,155 multifamily housing units shows a need for roughly 116 acres to be set aside for multifamily development.

Combined, the projected needs total 568 acres needed to accommodate the projected household growth identified by the Council. Adding in 30 percent for roads, parks and open space preservation, a total need for 738 acres to be set aside for residential development is derived.

Table 7: Norwood Young America 2040 Residential Acreage Demand

Household Projections		
2010 Households	1,389	
2040 Households	3,900	
2010 - 2040 Household Growth	2,511	

	Single-Family	Multi-Family
Growth by Housing Type	1,356	1,155
Average Units/ Acre	3	10
Projected Residential Demand (acres)	452	116
30% for Roads and Reserve (acres)	136	35
2040 Residential Acre Demand by Type (acres)	588	150

2040 Residential acreage Demand Total (acres)	738
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Commercial/Industrial Acreage Needs

In many cases employment forecasts for Norwood Young America will be met with the construction of new businesses and structures throughout the community. Since little land exists to accommodate new commercial construction in either of the more densely-developed downtown districts, new commercial businesses will be located along the major highways (either US TH 212 or MN TH 5) on highly-visible parcels, with room to provide ample parking. In contrast to Metro Area locations, where fully-developed and urban communities are forced to rely more on redevelopment and increased densities in new development, developing communities in rural or exurban locations can accommodate more freestanding commercial spaces with ample adjacent parking space. Thus, it is anticipated that the demand for commercial space in Norwood Young America will be increasingly for less-dense, auto oriented development.

Trends in the industry also have shown that new industrial spaces in suburban and exurban communities are being built as smaller, freestanding buildings. These trends are holding true in the comparative communities of Waconia, Delano and Jordan. Industrial development has tailed-off recently, though interest for smaller, stand-alone facilities remains relatively constant. Each of these communities, however, has set aside industrial property to accommodate either expansion of existing industrial businesses or in the hope that they are able to attract a large-scale user. Norwood Young America should position itself in a similar fashion by setting aside adequate, serviceable land for industrial development, particularly for smaller to medium sized, freestanding industrial facilities. New industrial space should be located on parcels providing relatively convenient access to Highway 212, and near existing rail lines.

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Commercial and industrial land acreage needs were calculated based on the Council's forecasted employee growth projection of an increase of 935 employees between 2010 and 2040. Per a review of recent development trends and guidance from the comprehensive plan Advisory Committee, it was assumed that 40 percent of employment growth would consist of commercial development and 60 percent would consist of industrial development. A rate of 3.4 acres and 5 acres per commercial and industrial unit, respectively, was applied to estimate commercial and industrial land acreage needs (see Table 8). Overall, it is projected that there is a need for approximately 132 acres to accommodate new commercial and industrial space and approximately 135 acres of new industrial development between 2010 and 2040.

Table 8: Norwood Young America 2040 Industrial and Commercial Acreage Demand

Employee Projections		
2010 Employees	1,165	
2040 Employees	2,100	
2010 - 2040 Employee Growth	935	

	Commercial (40%)	Industrial (60%)
Growth by Type	374	561
Density (units/ acre)	3	5
Projected Demand (acres)	110	112
20% for Roads (acres)	22	22
2040 Demand by Type (acres)	132	135

2040 Commerical/Industrial acreage Demand Total (acres)	267
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Community Facilities and Services

The facilities owned and maintained by the City of Norwood Young America vary in size, age and condition. Due to the extent and nature of the services that these public facilities must provide to Norwood Young America's residents, functional structures are a necessity. The purpose of this section is to inventory the various public facilities within the city, focusing on their condition and function. Deficiencies and planned upgrades will also be noted. This analysis will be a useful tool in the city's capital improvements planning.

Since other important public facilities operated by other units of government or organizations are also important assets for Norwood Young America's residents, businesses and visitors, some of these facilities are reviewed as well.

Most of Norwood Young America's public facilities are in good condition. A Comprehensive Public Facilities Plan was prepared for the city by LHB Engineers & Architects in 2001. The 2001 plan contains detailed, technical information on construction methods, mechanical systems and electrical systems that is not repeated in this plan. This Community Facilities section presents a summary of facilities from the 2001 Comprehensive Public Facilities Plan.

Existing Facility Inventory

General Government

City Hall	
Location:	310 Elm Street W
Condition:	The City Hall and Library share one building. (The official Library address is 314 Elm Street W) The building was constructed in 2010 and is in excellent condition. The upper levels of the building provide senior housing for the community.
Function:	<p>The total building footprint is approximately 25,000 sf. A little over half of the first floor is occupied by city offices. The remainder of the first floor is occupied by the Public Library and an entrance for the senior living facility. The city hall includes the Council Chambers, a small conference room and staff offices. The new city hall facility provides additional space to accommodate both staff growth and community participation at meetings within the Council Chambers.</p> <p>The City Hall portion of the building is home to the following departments and personnel (number of personnel is located in parentheses): City Administrator (1); City Clerk/Treasurer (1); Deputy Clerk/Utility Billing (1); and Office Support Representative (1).</p>
Library	
Location:	314 Elm Street W
Condition:	The Library and City Hall share one building. (The official City Hall address is 310 Elm Street W). The building was built in 2010, providing a new space for the library. See additional comments on condition under "City Hall," above.
Function:	The Library occupies a portion of the first-floor space of the City Hall/Library building. The Library houses over 20,000 items for both its Reference and Circulation collections. The circulating items include periodicals, hard and soft cover books, audio-visual materials

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	<p>such as music compact discs, DVD and VHS movies, books on tape and CD, and children's book- cassette combinations.</p> <p>The Carver County Library System includes five Branch libraries and one Law library. All of the branch collections circulate between each library via a courier, with the exception of the Reference materials, which are to be used at each individual Branch. The NYA Library also has personal computers that are available for "check out" with a Library card.</p> <p>The library provides various activities for residents of all ages. These events include activities such as the Family Storytime and games and crafts events.</p>
North Public Works Garage	
Location:	24 Third Avenue SE
Condition:	The North Public Works building was constructed in 1992. The building is in good condition. The building is ADA accessible because it is a one-story building constructed at- grade. However, the threshold into the garage is not accessible.
Function:	<p>The building is a public works garage that is used for storage and light repair of municipal work vehicles. The building also contains the offices of the Public Works Department. The one-story building contains approximately 4,800 sq. ft. plus a mezzanine area.</p> <p>Behind the garage building is a salt and sand storage building. Built in 2003, the 680 sq. ft. building is used for salt storage and a salt and sand mixed storage area.</p>
South Shed Storage Facility	
Location:	221 South Street West
Condition:	Several structures make up this facility. Concrete slab floors are found in approximately one-third of the spaces and gravel floors exist in the remaining spaces. Large cracks exist in the concrete slab. Heating is not available in all spaces. The buildings are not ADA accessible. According to the 2001 plan, the buildings are in rough condition, but there were no immediate structural concerns noted.
Function:	The buildings in this facility are used for the storage of Public Works vehicles, park equipment and other city equipment. The facility is comprised of a 3,200 sq. ft. building and an 1,800 sq. ft. building that are linked by an 80 sq. ft. structure. An adjacent 400 sq. ft. structure is used to store road salt.
Storage Building and Sign Shop	
Location:	216 First Street.
Condition:	Built in the 1940s, this 1,692 sq. ft. cement block building is in good condition.
Function:	The Public Works Department uses this building for storage of trailers and as the sign shop for the Department.
Oak Grove Storage Shed	
Function:	The building is used for material storage and overflow parking by the city's Public Works Department.

Roy Clay Community Center	
Location:	327 West Elm Street
Condition:	The Roy Clay Community Center and the city's South Fire Hall share a two-story building with a common address. The Community Center is located on the second floor of the building.
Function:	The South Fire Hall building contains two stories, the first floor of which contains the Fire Hall and the second floor of which contains the Roy Clay Community Center. Each level contains approximately 3,200 sq. ft.

There are many other public facilities within the community that provide various services and gathering spaces for residents. The city will continue to monitor the use and condition of these facilities to ensure that they are responding to the needs of residents. These facilities include:

- The Pavilion
- The Legion Park Shelter
- The Lion's Shelter
- The History Center
- The Legion Park Pool

Public Schools

Existing Facilities – Independent School District #108

Independent School District #108 operates an elementary school, middle school and high school serving Norwood Young America, Cologne, and Hamburg. School enrollment has fluctuated in past years and is tied to the growth of the 18 years and under age cohorts. The three schools are all located in Norwood Young America.

Central Elementary School | Kindergarten through 5th Grade

Location: 655 7th Street SW

Central Middle School | 6th Grade through 8th Grade

Location: 531 N. Morse St.

Condition: The school was originally built in 1936 and remodeled in 1952 and 1954.

Central High School | 9th Grade through 12th Grade

Location: 531 N. Morse St.

Police and Fire Services

Policing in the City of Norwood Young America is provided by the Carver County Sheriff's Department in Chaska, MN. The county has developed a "Town Cop Policing Model" method to provide service to the City of Norwood Young America.

Fire Stations

Staffed by 35 members, the Norwood Young America volunteer Fire Department provides assistance during emergency situations for the city and the surrounding area. The Fire Department responds out of two stations, one on the north side of town (North Fire Hall) and the second located on the south side of

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town (South Fire Hall). The Department also maintains a storage facility in an old fire hall (the North Fire Hall Annex).

North Fire Hall (Station #1)	
Location:	23 Third Avenue SE
Condition:	The North Fire Hall is in good condition overall. It is comprised of a main building with approximately 4,800 sq. ft. and a mezzanine of approximately 900 sq. ft. that is open to the fire garage. The building is ADA accessible through the overhead doors.
Function:	The building is very close to the street given the need for maneuvering emergency vehicles in and out. There is potentially room for the building to be expanded to the west if the old fire station (now used for storage purposes) were demolished. However, the existing floor plan is not conducive to expansion.
South Fire Hall (Station #2)	
Location:	327 West Elm Street
Condition:	The South Fire Hall and the Roy Clay Community Center share one building with a common address. The second story of the building is ADA accessible via an elevator.
Function:	The South Fire Hall building contains two stories, the first floor of which contains the Fire Hall and the second floor of which contains the Roy Clay Community Center. Each level contains approximately 3,200 sq. ft. The site of the South Fire Hall is located in the Central Business District and is very small, further restricted by the need for emergency vehicle access.

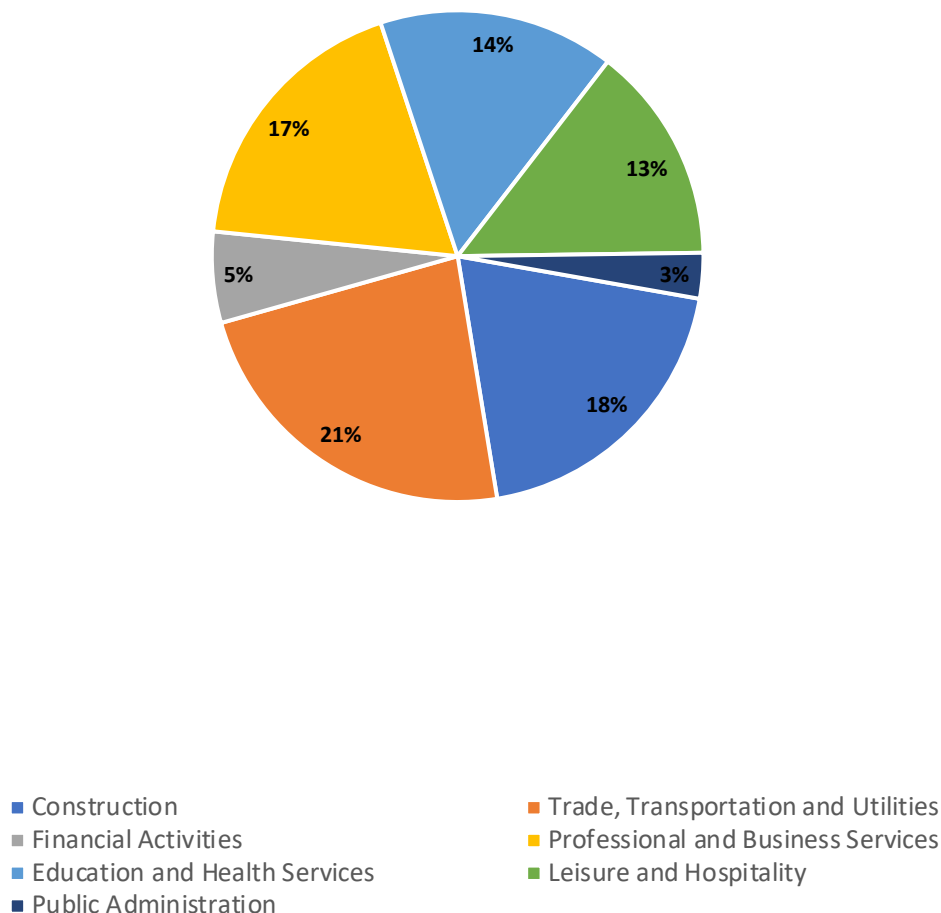
Economic Characteristics

Economic health is a vital component of a healthy and thriving community. A strong commercial and industrial base provides jobs to community residents, contributes to a city's tax base and can be a source of strength to a community.

Existing Economic Conditions

According to the 2017 third quarter Quarterly Census of Employment Wages (QCEW), there are 984 employment positions within the City of Norwood Young America (see Figure 10). Of the employment positions, approximately 35 percent (348 employment positions) and 39 percent (386 employment positions) are associated with commercial and industrial industries, respectively.

Figure 10: Norwood Young America Employment by Industry (2017)

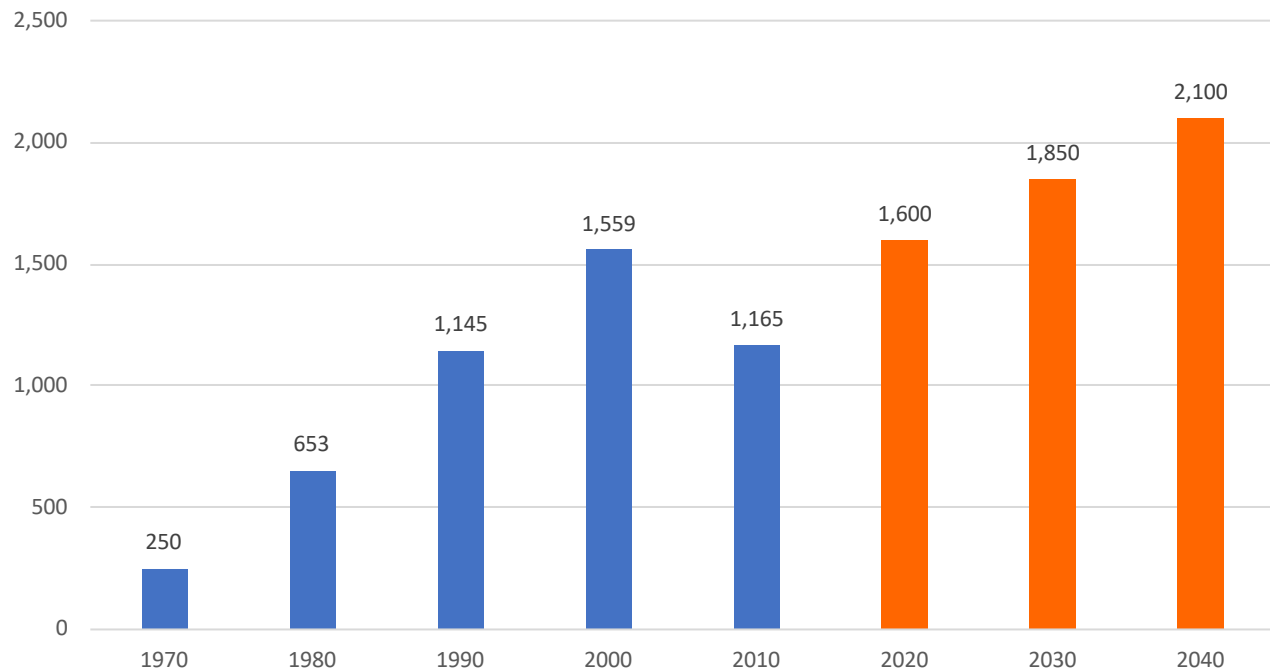


Source: Minnesota Department of Employment and Economic Development; Quarterly Census of Employment and Wages; 2017, Third Quarter; Norwood Young America

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Employment in the City of Norwood Young America experienced steady growth from 1970 through 2000. Employment trends declined from 2000 to 2010 during the economic recession that occurred from the late 2000s to the early 2010s. Based on Metropolitan Council projections, it is anticipated that gradual economic growth will occur from 2020 through 2040 (see Figure 11).

Figure 11: Norwood Young America Historic and Projected Employment Growth (1970 – 2040)



Commercial Districts

A commercial market study was completed in March 2016 by Keith Wicks & Associates for the City of Norwood Young America Economic Development Commission to assess the city's primary commercial trade area, evaluate the local market supply and demand and development commercial development strategies. Based on this study, key commercial districts include:

- **Highway 212 Commercial District:** The Highway 212 commercial district includes the city's strongest mix of local and national retail stores and benefit from direct access to US TH 212, a major regional corridor. The Heritage Pointe strip mall located at the eastern edge of the city along US TH 212 has experienced several vacancies.
- **Historic Downtown Norwood District:** Downtown Norwood extends along Elm Street between Reform Street and Oak street and anchored by the city's new residential and library development. The downtown district has historically been comprised of a mix of commercial uses. Several vacancies are present.
- **Historic Downtown Young America District:** Downtown Young America is located in the northern portion of the city along Main Street. Downtown Young America is smaller than downtown Norwood and is currently home to a restaurant, retail and Willkommen Memorial Park. Several vacancies have occurred.

Economic Development Strategies

The 2016 commercial market study identified several strategies to stimulate economic development within the City of Norwood Young America, which included:

- Aesthetic upgrades to key commercial entities within the Highway 212 Commercial District.
- Redevelopment of gateway sites, such as the property adjacent to the US TH 212/Faxon Road intersection and the “triangle lot” located at the intersection of US TH 212, MN TH 5 and County Road 33.
- Develop a downtown reuse plan.
- Promote expansion of industrial businesses including the Tacoma West Industrial Park.

Additional recommendations and commercial development strategies can be reviewed in the 2016 Norwood Young America Commercial Market Study available on the city’s website.

Chapter 3 – Goals and Objectives

The Goals and Objectives chapter is the heart of the Comprehensive Plan, expressing in detail the community's aspirations for the future. It serves as the bridge between the Inventory and Analysis chapter, which are used in the formulation of the goals and policies, and the actual Long-Range Plan, which describes the City's strategy to implement those policies and thereby achieve its goals.

Definitions

The terms Goal and Objective are subject to a wide range of interpretation and application. In order to provide a common frame of reference, the following definitions are included:

GOAL: A general statement of community aspirations and desired objectives, indicating broad social, economic or physical conditions to which the community officially agrees to try and achieve in various ways, one of which is the implementation of the Comprehensive Plan.

OBJECTIVE: A measure to be used to help achieve the goal statement.

Goals and objectives assign various roles and responsibilities to the City of Norwood Young America.

Vision Statement

The following Vision Statement was developed through input from Comprehensive Plan Advisory Committee and input received through public engagement activities:

Building on its heritage and high quality of life, Norwood Young America will work collaboratively with its residents and engage our youth to shape a strong and diverse economy and quality neighborhoods through planned, economical and sustainable growth. The continued preservation of the City's natural resources, open spaces, recreational opportunities and city services make Norwood Young America a place to call home.

Goal and Objective Statements

Comprehensive Plan Goals and Objectives

Comprehensive Plan Goal #1: Maximize Norwood Young America's potential as a thriving center for business, industry, education and recreation, while maintaining and enhancing its livability.

Objectives:

1. Review and amend the Comprehensive Plan as necessary to ensure its usefulness as a practical guide for current and future development. Adhere to this Plan, which shall guide all zoning changes, as closely as possible to ensure consistent development policy.
2. Formulate and enforce City ordinances to ensure development in accordance with the Comprehensive Plan.
3. Protect both the general welfare and the individual choices of Norwood Young America residents.
4. Encourage a variety of experiences and opportunities in terms of living, working, recreation and social activities for all ages.

CHAPTER 3 – GOALS AND OBJECTIVES

Comprehensive Plan Goal #2: Support strong, ongoing working relationships between Norwood Young America and surrounding cities, townships and counties, and other jurisdictions in all matters related to planning and the provision of public services.

Objectives:

1. Support existing and explore new joint governmental ventures in the delivery of services in the area.
2. Pursue collaborative planning efforts among local governments and organizations to address issues, as they arise with regard to land use, transportation, parks, natural resources, the delivery of services, and other areas of mutual concern.
3. Promote information sharing between the City, Township and County, and encourage their participation in issues of shared concern.
4. Maintain communications, and collaborate where appropriate, with regional and state agencies involved in planning issues that affect the City and region.

Economic Development Goals and Objectives

Economic Development Goal #1: Promote development that creates jobs and increases the City's tax base.

Objectives:

1. Prioritize incentives and initiative to expand and retain industrial developments.
2. Direct economic development tools, resources and programs to attract businesses that would increase job opportunities or address other public community needs.
3. Support initiatives to retain local businesses and talent.
4. Recognize the fundamental linkage between housing and economic development, and work to match housing availability with community employment.
5. Promote redevelopment of vacant businesses within the City's downtown and commercial centers.

Economic Development Goal #2: Encourage efficient, planned development within the City's growth areas that is accessible to public infrastructure and transportation.

Objectives:

1. Identify key commercial and industrial development opportunities within the City's planned growth areas in locations with access to major transportation systems.
2. Encourage and facilitate infill development and mixed-use commercial developments to ensure maximum efficiency of infrastructure and resources.
3. Encourage expansion of automobile and non-motorized traffic connections to commercial centers areas.
4. Encourage the telecommunications and energy industries to continue to provide the most current telecommunication infrastructure to support economic growth.
5. Work with the existing railroads to maintain adequate rail service and access to city businesses and industries.

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Economic Development Goal #3: Enhance the character of the City's core commercial, office and industrial centers.

Objectives:

1. Work to strengthen and maintain the appearance of the City's gateways and key transportation corridors through design standards, trails, lighting, sidewalks, signage and other tools.
2. Support the provision of open/green space within commercial and industrial development.
3. Promote the rehabilitation and redevelopment of older existing industrial and commercial facilities by continuing to pursue and make available various financial programs and assistance.
4. Market downtown commercial districts through gateway signage, lighting and other aesthetic improvements to develop a cohesive identity.

Housing Goals and Objectives

Housing Goal #1: Promote a variety of housing types in Norwood Young America for all of its citizens.

Objectives:

1. Support the development of a variety of life-cycle housing types, sizes and values to accommodate residents within a wide-range of age and income groups.
2. The City shall promote the development of 269 affordable housing units by the year 2030 per Met Council goals. Said housing units may include a variety of life-cycle units but should be marketed to low and moderate-income families.
3. Promote the expansion of affordable and other housing opportunities through intergovernmental efforts and public-private partnerships.
4. Monitor and update local policies, ordinances, and procedures to facilitate the development of a range of housing types and do not unreasonably hinder the provision of affordable housing.
5. Allow multi-family housing within or near employment, commercial areas and public facilities to promote pedestrian commuting and increase opportunities for low and moderate-income persons to have access to such services.

Housing Goal #2: Create a high-quality environment in all residential neighborhoods.

Objectives:

1. Identify or develop methods and funding options to encourage the rehabilitation or redevelopment of substandard housing.
2. Encourage infill housing where appropriate.
3. Encourage the development of housing that respects the natural environment of the community as an amenity to be maintained.
4. Protect low-density residential neighborhoods from encroachment or intrusion of incompatible higher intensity use categories through adequate buffering and separation.
5. Protect residential developments from and located away from sources of adverse environmental impacts including noise, air and visual pollution.

Transportation Goals and Objectives

Transportation Goal #1: Provide a safe, efficient and adequate transportation system that serves and balances both access and mobility needs.

Objectives:

1. Use the functional classification system to define and plan existing and new roadways.
2. Require the provision of safe and adequate access to all properties through the implementation of subdivision regulations and access management guidelines.
3. Encourage a more grid-like street pattern and discourage the use of cul-de-sacs except where unique circumstances exist.
4. Review concept plans for plat and development proposals to evaluate the distribution of Minor Collector roadways to not overburden local streets.
5. Require right-of-way dedication along state, county, and local roads to meet future capacity needs.
6. Work with developers to construct needed improvements prior to development.

Transportation Goal #2: Maintain a transportation system that is coordinated and cost-effective.

Objectives:

1. Continue to work with surrounding jurisdictions, state, regional, and federal agencies to ensure an integrated regional transportation system and reduce traffic congestion and safety concerns on transportation corridors.
2. Schedule transportation projects in a capital improvement program in coordination with other roadway agencies, while exploring cost effective measures to include other needs (e.g., utility improvements and multimodal options).
3. Require trails and/or sidewalks along all new or reconstructed collector and arterial roadways.
4. Proactively work to preserve future transportation corridors both by acquiring needed right-of-way in advance when possible and through the use of official mapping.
5. Continue to explore all federal, state and other funding opportunities for local and regional transportation projects.
6. When traffic from a proposed urban development may exceed 500 ADT the City will work with the developer and township to identify a strategy to upgrade and improve the gravel corridor through a joint agreement with the developer, township, and City.

Transportation Goal #3: Coordinate transportation with land use planning and environmental protection.

Policies:

1. Analyze the traffic generation characteristics of proposed land uses to avoid exceeding the capacity of local, county and regional roadways.
2. Support transportation projects that support the compact, orderly development of the city and region.
3. Consider the impacts to neighborhoods and the environment when planning new or upgrading existing roadways.
4. Create or encourage a transportation system that contributes to the economic vitality of the community by connecting people to work, shopping, and other activity generators/attractions and supports growth of commercial and industrial uses.
5. Plan for connections between housing and centers of employment, education, retail and recreation uses.

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Transportation Goal #4: Promote alternative transportation such as bicycling, walking, transit and rail.

Objectives:

1. Incorporate, where feasible, bicycle and pedestrian infrastructure when planning new, changes to, additions to, or maintenance of roads, sidewalks, bridges, paths or other public facilities.
2. Continue to maintain and seek ways to expand the existing bicycle and pedestrian network to promote connectivity to neighborhoods, commercial centers and community facilities.
3. Evaluate the need for special transit services in conjunction with surrounding communities.
4. Monitor local transit needs as related to increasing traffic and the growth of the transit dependent.
5. Promote safe pedestrian crossings of arterial roadways.

Transportation Goal #5: Ensure airspace is properly protected to support local and regional aviation.

Objectives:

1. Monitor local airports for any possible impacts on the community or development area.
2. Notify MnDOT 30 days in advance of all requests for structures exceeding a height of 200 feet above ground level.

Community Facilities and Services Goals and Objectives

Community Facilities and Services Goal #1: Maintain and improve all community facilities and services.

Objectives:

1. Maintain and improve, as needed, community facilities, utilizing a 5-year Capital Improvements Plan to identify areas of improvement.
2. Continue to implement planned improvements identified in the 2002 Street and Infrastructure Rehabilitation Plan, Five-Year Financial Plan, and 2001 Comprehensive Public Facilities Plan. Monitor these plans and update when necessary.
3. Improve accessibility of all community facilities where necessary and ensure their compliance with ADA requirements.
4. Continue to improve and update, when possible, the City's public service capabilities using training, upgraded facilities and equipment, and improved management practices.

Community Facilities and Services Goal #2: Work to achieve an equitable distribution of the cost of providing City services.

Objectives:

1. Work with the County, Township and nearby cities to avoid the duplication of services and to provide more efficient and economical government services.
2. Guide new residential development within the City in an orderly, compact pattern so that new development can be efficiently and effectively served by public facilities, where available.
3. Ensure that developers pay the costs for public services and capital improvements and large developments are phased when appropriate.
4. Ensure that school facilities meet the needs of the City's population.
5. Continue to seek out funding for capital facility projects.

CHAPTER 3 – GOALS AND OBJECTIVES

Community Facilities and Services Goal #3: Provide recreational and park facilities, bikeways, sidewalk and walking trails to meet the needs of the community.

Objectives:

1. Provide for a variety of recreational amenities and routine maintenance of the park system.
2. Establish and promote high quality design standards in the development of the park system.
3. Ensure equal access to parks and open space areas relative to user population densities.
4. Encourage expanding connections to areas of interest such as commercial areas, parks and residential neighborhoods with an interconnected path/trail system.
5. Identify desired linkages of open space in environmentally sensitive areas to similar areas as a means of preserving a greenspace/wildlife corridor.
6. Collaborate with partners to develop a trail system that links local trail and sidewalk facilities with the regional trail system.
7. Maintain zoning and subdivision regulations allowing for parks and open space and providing for the dedication of parkland or fee in lieu.
8. Acquire land shown on the park and trail plan for public recreational trails where and when feasible.
9. Explore federal and state grant opportunities for park acquisition, development and maintenance.

Community Facilities and Services Goal #4: Work with appropriate agencies to provide and maintain the community facilities necessary to maintain vibrant downtown areas.

Objectives:

1. Provide and maintain adequate infrastructure, including sewer, water, storm sewer, parking, streetscaping and sidewalks within the downtown(s).
2. Encourage key community facilities to locate and/or remain within the downtown(s).
3. Work to provide pedestrian and other non-motorized connections to link the downtown(s) with the City's neighborhoods, area parks and community facilities.
4. Allow parking along collector streets and local roads.

Community Facilities and Services Goal #5: Implement goals and policies contained in the City's Surface Water Management Plan.

Objectives:

1. This section is included in the referenced SWMP and outlines goals and policies addressing water resource management needs of the City and their relationship with Regional, State, and Federal goals and programs. Goals and policies relating to the following issues are presented:
 - Water quantity
 - Water quality
 - Erosion and sedimentation
 - Wetlands
 - Public ditch systems
 - Groundwater
 - Recreation, fish and wildlife
 - Enhancement of public participation
2. 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 the Best Management Practices (BMPs) outlined in the City's Storm Water Pollution Prevention Plan (SWPPP). The City will ensure compliance with the National Pollutant Discharge Elimination System (NPDES) Phase II permit for construction activity greater than 1 acre, as well as the requirements of the CCWMO.

Resource Preservation/Protection Goals and Objectives

Resource Protection/Preservation Goal #1: Protect, conserve, and enhance natural resources and environmentally sensitive areas within and adjacent to the City for the community's long-term benefit.

Objectives:

1. Identify environmentally sensitive areas and strongly support their incorporation into parks and open space areas as an alternative to the destruction of these resources.
2. Discourage development in those areas that are unsuitable or hazardous for urban uses due to topography, geology, soils, wetlands, flooding or other natural conditions.
3. Preserve the quality and quantity of surface water and groundwater resources by the appropriate regulation of all development activities that have the potential of impacting the water resources of the area.
4. Provide, when economically feasible, City sewer and water to existing developed parcels within the City, especially within shoreland or other environmentally sensitive areas.
5. Keep local ordinances and controls up to date and consistent with state and federal standards for shoreland, stormwater and erosion management.
6. Develop strategies to preserve air quality.

Resource Protection/Preservation Goal #2: Recognize local lakes as recreational, environmental, economic and aesthetic assets to the community.

Objectives:

1. Acquire park and trail land adjacent to the lakes in the City and its planned growth areas where feasible.
2. Maintain existing public accesses to the lakes and increase public access in new development.
3. Work to connect the lakes to neighborhoods, parks, community facilities and each other through trails and greenway corridors.

Resource Protection/Preservation Goal #3: Work with local and regional partners to conserve, protect and enhance the region's vital natural resources.

Objectives:

1. Consider completing a local natural resource inventory. Give strong consideration to integrating natural resources, including aggregate, identified in regional and local natural resources inventories into local land use decision-making.
2. Implement surface water management practices geared to protecting and maintaining the quality of local water resources.
3. Collaborate with partners to promote best management practices for agricultural activities of environmentally sensitive development techniques to protect the quality of the local and regional water resources.

Resource Protection/Preservation Goal #4: Encourage the preservation and enhancement of historically significant areas, structures, and archaeological sites.

Objectives:

1. Include consideration of historic, cultural and archaeological concerns and values in the development process.
2. Encourage the preservation of historic sites where practical and economically feasible.
3. Work with owners of historically significant structures to identify potential technical and financial resources for rehabilitating the buildings.
4. Promote public improvements which enhance the historic nature of the areas originally platted.
5. Work with the State Historic Preservation Office (SHPO) to determine whether properties proposed for development contain historically significant resources, which should be preserved.

Land Use and Development Goals and Objectives

Land Use and Development Goal #1: Support the compact and orderly growth of urban development.

Objectives:

1. Identify planned growth areas within and outside the City that have the potential to be served with an appropriate range of public services in a cost-effective manner and utilize the future land use plan to guide growth decisions.
2. Continue to guide growth in a compact, orderly pattern so that new development can be effectively served by public facilities; avoid premature development.
3. Encourage a balanced strategy of “infilling”, or developing vacant land within the City, and annexing and developing new areas.
4. Work with the County and Township to maintain low residential densities (1:40 or lower) within the planned growth areas until such time as they can be developed at sewer, urban densities.
5. Accommodate existing agricultural uses until such time as they can be developed at sewer, urban densities.
6. Work to annex existing development located adjacent to the City and within its planned growth areas, as services can be provided to those properties.
7. Require properties served by public utilities to be located within the city.

Land Use and Development Goal #2: Plan land uses and implement standards to promote quality development and minimize land use conflicts.

Objectives:

1. Prepare and adopt a land use plan that designates land use areas and guide development to appropriate areas in order to ensure desirable land use patterns and minimize conflicts.
2. Require adequate transitions between different land uses through appropriate land use planning, zoning and development standards.
3. Encourage the location of commercial and industrial development in areas that avoid adverse impacts on residential areas and have access to major transportation systems.

Land Use and Development Goal #3: Enhance community character and identity.

Objectives:

1. Work to strengthen and maintain the appearance of the City’s gateways and key transportation corridors through design standards, trails, lighting, sidewalks, signage and other tools.
2. Consider the creation of development and site planning standards, incentives and resources to ensure quality development.

Land Use and Development Goal #4: Enhance community and neighborhood livability.

Objectives:

1. Ensure new developments are connected to existing development through the efficient use of streets, utilities and infrastructure.
2. Encourage quality mixed-use development, particularly within projects 10 acres and larger, and/or the appropriate development of housing, shopping and employment in proximity to each other, including housing above commercial uses.
3. Encourage the integration of multi-modal access including parking, sidewalks and bike paths within new development.
4. Encourage a variety of types of neighborhood designs, including neo-traditional and other alternative designs.
5. Enhance the quality of life and safety of residents by establishing bikeways, walkways and other multi-use paths in developing areas.

Chapter 4 – Land Use

Growth and development in Norwood Young America over the next 25 years is guided by the Comprehensive Plan, specifically the Land Use chapter. It establishes long-term targets for key components of the city, consistent with the goals and objectives outlined in Chapter 3. Additionally, the plan assesses the development and growth needs for the community as its population grows, along with the Metropolitan Region. The Comprehensive Plan is specific enough to guide day-to-day development decisions, with enough guidance for determining long-term policy decisions. It shall also serve as the basis for updating the Zoning Ordinance and other development controls that are enforceable under the city's police powers. Specific recommendations that are flexible enough to allow modification and continued refinement are provided with regard to land use, transportation, parks and trails, and growth areas/annexation.

This chapter discusses the city's approach to historic preservation, land use and growth management as it plans for future development to meet the needs of Norwood Young America's growing population.

Physical Constraints/ Advantages to Growth

While planning for growth within Norwood Young America, the physical features of the community must be assessed to review the development potential as future land uses are explored. A number of factors that will have an important effect in shaping future growth and development of the Norwood Young America area have been identified. These represent tangible and/or measurable factors that will shape the city's future growth potential, pattern and form:

- **Sanitary Sewer Capacity:** The existing wastewater treatment system can be expanded to meet the growing needs of Norwood Young America.
- **Natural Barriers to Development:** There are several wetlands and lakes in the area, but these are not significant barriers to the city's growth, although it will be important to ensure that urban growth occurs in a manner that maintains their natural values.
- **Physical Barriers to Development:** The railroads and highways through Norwood Young America physically "break-up" the city and act as barriers to the physical continuity of the city.

Land Use Framework

The future land use plan focuses on providing additional areas for residential, commercial and industrial growth in the Norwood Young America area while supporting and maintaining the existing developed core of the community. Transportation systems and natural features are used to frame the city's growth and to provide open space amenities for the entire community. In summary, the key features of the land use component are that it:

- Reflects existing development and generalized land use patterns,
- Addresses the need to plan for the orderly expansion of urban development into the neighboring rural areas,
- Supports the continuation of rural land uses in those areas until urban development occurs, and
- Recognizes the natural environment and its relationship to future development.

It is the intent of the land use plan to facilitate or create a community within which these elements exist:

- A variety of housing types
- Maintained parks and community facilities that meet the community's needs
- An efficient transportation system for many modes
- Orderly expansion of municipal utilities
- Ample business and commercial opportunities for residents and visitors of all ages

Preserving Traditional Town Qualities

Before the days of the automobile, the traditional town was specifically sized to support itself. Its center grew to possess the range and variety of merchants, professionals and trades people needed to adequately provide for the basic needs of area residents. The neighborhoods surrounding the center were of a size proportionate to the extent and vitality of the town's commercial and industrial districts.

The traditional town was designed at a pedestrian scale and a person could easily walk from one end of the business district to the other. "Main Street," the heart of the town center, typically consisted of several modestly sized city blocks lined with two- or three-story buildings. The intimacy and variety of traditional town experiences and social interactions owe much of their richness to the town's measured scale.

Parts of Norwood Young America exhibit many of the physical, historical and social elements of a traditional, pedestrian-oriented town, including a grid pattern of local streets in the older sections of the city; compact downtowns with buildings of similar scale, size, and intensity; and a core of compact residential neighborhoods containing a variety of housing styles, types and sizes. These physical elements contribute to Norwood Young America's character and differentiate the city from its rural countryside and other communities in the area. However, the traditional uses of these structures have fluctuated of the years, with changes to vacancy rates and commercial development occurring in other locations.

Norwood Young America possesses its share of modern urban and suburban features as well, including residential cul-de-sacs and curvilinear streets, a highway commercial strip center located on US TH 212 running through the city, and an interdependence on both outside employment centers to provide jobs for Norwood Young America residents and, although to a lesser degree, an outside employment base to fill local jobs as well.

The challenge of the Comprehensive Plan is to maintain and enhance Norwood Young America's traditional town characteristics while attempting to accommodate the new and developing areas, recognizing that the automobile and modern land uses will continue to shape the city's landscape. However, by promoting and extending the physical elements that make Norwood Young America unique, new development can be successfully and sensitively incorporated into the existing urban fabric, allowing Norwood Young America to function as a traditional, yet modern, community.

There are five major elements that define the physical character of a city:

- Development pattern (density, urban vs. rural, and location of major business and industrial centers)
- Major road pattern
- Neighborhood form
- Future growth pattern of major community facilities/open space
- Location and nature of major business and industrial centers

Several guiding principles have been established for each element as follows:

- **Development Pattern**
 - Promote infill development in areas that already have access to city services and roadways.
 - Maintain agricultural areas outside of the city in its planned growth areas until such time as development is imminent and the lands are annexed.
 - Guide commercial expansion primarily to areas along US TH 212, at the intersection of MN TH 5 and US TH 212, and within the city's north and south downtowns.
 - Guide industrial expansion to the industrial park.
 - Locate new multi-family residential areas in strategic areas of the city.
- **Road Pattern**
 - Preserve the existing street pattern throughout residential infill areas.
 - Establish collector streets through the city's planned growth areas.
 - Maintain the grid-like street pattern in older parts of the city.
- **Neighborhood Form**
 - Promote a compact urban development pattern in new residential areas.
 - Maintain low, rural densities within the city's planned growth areas until such time as urban development occurs.
 - Encourage open or green space in new residential neighborhoods.
- **Open Space/ Community Facilities**
 - Strategically locate community and neighborhood sized parks/open space.
 - Plan for bikeways and walkways connecting commercial areas, parks and other points of interest.
 - Continue upgrading and maintaining streets, parks, water/sanitary sewer and other infrastructure.
 - Provide sewer and water infrastructure to the city's planned growth areas as urban development occurs.

Historic Preservation Plan

The preservation of a community's history creates a meaningful connection with the past and helps frame the community's current image. Historic properties are scarce, non-renewable community resources. Historic preservation is an important public service and a legitimate responsibility of city government. Not everything old is worth preserving; however, historic buildings and sites give Norwood Young America local character and community identity. It is acknowledged that some causes of historic property loss are institutional actions, such as residential and commercial development, that are governed by city laws, regulations, and procedures.

Historical Development

Since Norwood Young America was first settled, the community has gone through a series of changes that have shaped it into what it is today. The first settlers to the Norwood Young America area arrived in the 1850's to take advantage of the cheap and fertile land. Most of these settlers were of English, Irish or German descent with a few Swedish, who came later. While Native Americans were present in this area and hunted in and around Norwood Young America.

The village of Young America was platted in 1856 and incorporated in 1879. In 1872, the Hastings and Dakota Railroad came to the area and located its tracks one mile south of the village of Young America. This depot was called Young America Station. Due to the new advantages offered by the railway line, several businesses relocated, and new businesses were built along the railway line. In 1874, Young America Station was renamed Norwood when it was apparent that Young America was not going to annex Young America Station.

Throughout most of their history, Norwood and Young America principally served as centers of a rural farming-oriented community. Up until the 1940's for Norwood and the 1950's for Young America, population remained relatively stable. As transportation systems improved, the western suburbs grew, the trend for long distance commuting increased, and job growth occurred. Norwood and Young America began to see population increases and changes in their economies. Norwood Young America now serves as a rural community as well as a residential center for urban people who have few ties to agriculture. While agricultural commerce continues to be important, the economy has become more diversified.

The first effort to merge the cities of Norwood and Young America was recorded in 1974 as a referendum, but it did not pass in Young America. Another merger attempt in 1976 also failed with not enough support on the ballot. The Chamber of Commerce and the West Carver Partnership resurrected the idea in 1992, which set the motion for the final approval for the merging of the two cities in 1997.

Historic Landmarks throughout the community help to tell the story of the community and contribute to its character.

Historic Landmarks

Landmarks can be described as man-made buildings and structures that reflect the culture, history and/or significant architecture of an area and its people. Norwood Young America has landmarks that are listed on the National Register of Historic Places. Each landmark is identified due to its local significance.

- Harms Bar (227 Elm Street West)
 - Constructed: 1890
 - Original Use: Saloon and meeting hall
- Young America City Hall (102 SE Second Avenue)
 - Constructed: 1909
 - Original Use: City Hall

There are additional historical properties identified within close proximity to the city's growth area that should be monitored. The following landmark has been identified by the National Register of Historic Places and is listed within Norwood Young America within the database.

- Schimmelpfennig, Johann, Farmstead (SW ¼, SW1/4, Section 7, Township 115, Range 25)
 - Original Use: Farm
 - Constructed: 1856 to 1909

Current historic preservation regulations do not prohibit the destruction or alteration of any buildings on the National Register. If the owner of a building conducts mitigation measures, he/she could, in fact, demolish or alter a historically significant building. Such mitigation measures may range from preserving the facade of the building to taking photographs of the historically significant features of the building to be catalogued at the local historical society.

Potential Historic Landmarks

There are other architecturally interesting or historic homes and buildings in Norwood Young America that also contribute to its history. Although they may not warrant inclusion on the National Register, the city may want to examine ways to keep these buildings structurally sound so that future generations may be exposed to the community's past:

- Bank of Norwood (120 Union Street)
- Carl Bachmann House (307 Shady Lane)
- Church of the Ascension (323 Reform Street North)
- Clyde Henning House (114 Railroad Street)
- CO-OP Store (223 Main Street E)
- Eric Pershon House (19 3rd Avenue NE)
- George Bradley House (227 Park Place West)
- Grivelli House (106 Main Street E)
- Humboldt Lodge (*also called Masonic Lodge*) (10 3rd Avenue SE)
- Judge P.W. Morrison House (222 Morse Street)
- Larry and Elaine Pijahn House (320 Railroad Street)
- Mau General Store (201 Main Street E)
- Meat Market (209 Main Street E)
- Old Bank Building (205 Main Street E)
- Old City Hall (24 2nd Avenue SE)
- Palace Drug (224 Elm Street West)
- Paul's Funeral Home (124 Hill Street)
- Pavilion in Willkommen Park (21 Main Street)
- Peter Effertz House (510 Elm Street West)
- Peters Hall (123 Elm Street)
- Singers Hall (101 3rd Avenue SE)
- St. John's Lutheran Church (101 2nd Avenue SE)
- Sylvia Olson House (425 Elm Street West)
- Waetjen House (16 2nd Avenue SE)

The existing structures located within Willkommen Park, including the Pavilion, play an important role in the character of the area. The maintenance of these structures should be monitored and studied to preserve the character of the area. Goals and policies relating to historic preservation are included in Chapter Three of this document.

Land Use Plan

The City of Norwood Young America contains a full range of land uses including residential, commercial, industrial and institutional uses with single-family residential being the dominant land use within the city. Planning for the location and density of future develop allows the city to adequately plan for the health, safety and welfare of current and future residents.

The Land Use Plan contains two components: text and a map. The text provides the policies, standards and principles to guide future land uses within the city and its planned growth areas. The Land Use Plan map illustrates the future growth areas through future land use designations for which the policies will apply. The city's existing orderly annexation boundary, as agreed upon with Carver County and Young America Township, was used to define a study area for the future land use plan (see Figure 12).

The 2040 future land use plan utilizes the existing land use patterns to plan for future develop in a manner that compliments existing uses and development patterns. This plan should be referred to on a regular basis as development is pursued throughout the city. It should be reviewed and updated as needed to reflect changes throughout Norwood Young America.

Future Land Use Categories

The future land use plan uses different land use categories to define growth areas in the city and its growth areas. This section describes the different future land use designations for the city and its growth areas. Ten land use categories have been identified to guide growth in Norwood Young America. Below, each land use designation category is described in detail, along with a description of the growth areas identified in Figure 12. It is recognized that not every parcel of land within each designation will be buildable due to wetlands, floodplains, soils, slopes and other natural site constraints.

Residential Categories

The three residential land use categories represent a majority of the areas where people live within Norwood Young America. These categories include residential development of many types, from single-family homes to multi-family apartments. Future growth of the residential land use categories provides the identified locations for housing growth through the community. The Low Density, Medium Density and High-Density categories provide for residential growth at different densities.

Low Density Residential

The Low Density Residential land use category provides the lowest density residential use within the future land use plan at 1 to 8 units per acre. This category allows for single family homes on a lot of approximately 6,000 square feet to 1 acre. A majority of the existing residential development within the City of Norwood Young America is classified as low density residential, including older single-family areas to the recently constructed Preserve development.

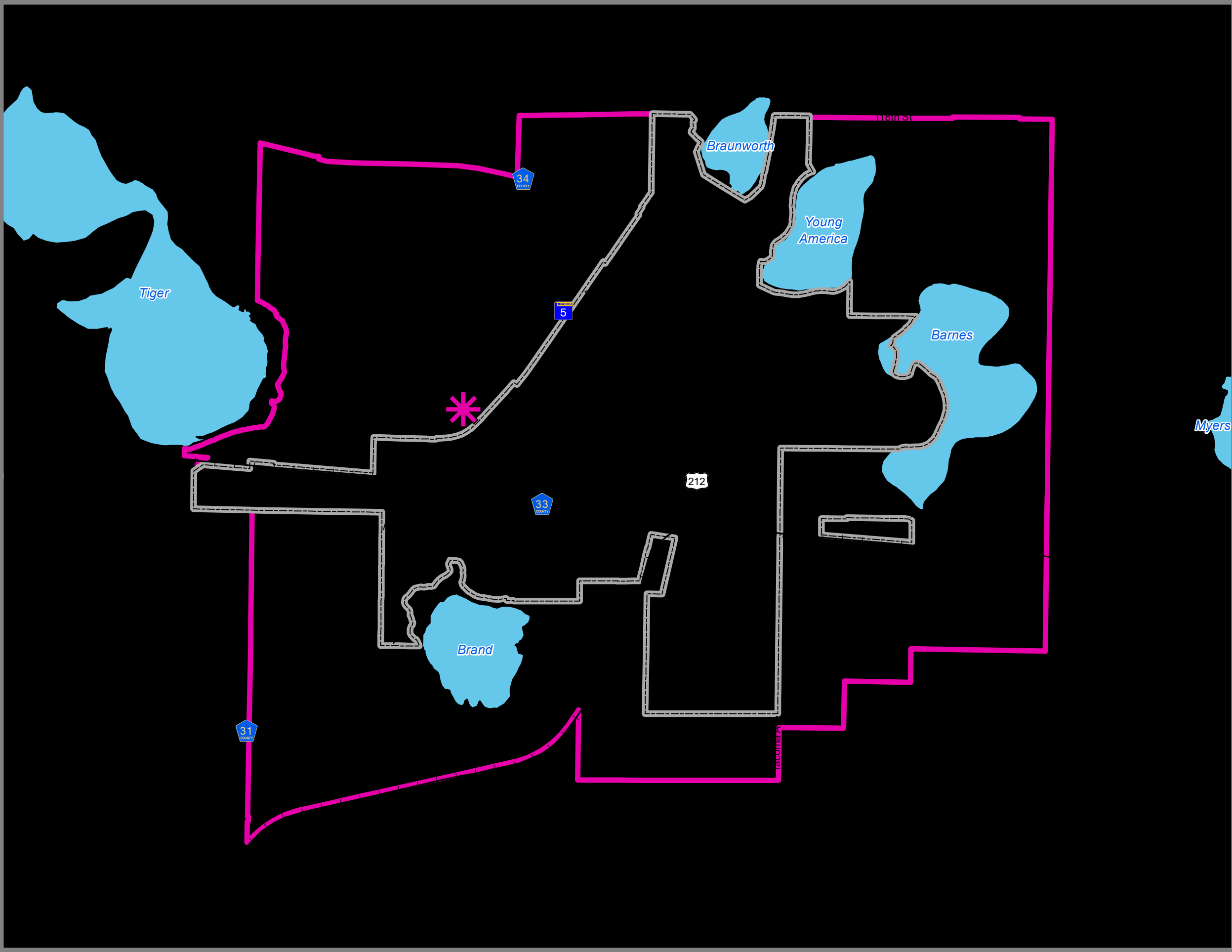
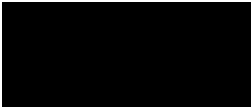
Norwood Young America

Figure 12:
Future Land Use Plan

- Future Land Use**
- Commercial
 - Downtown Mixed-Use - 12 to 18 units/acre
 - Mixed-Use Commercial/Industrial
 - Industrial
 - Public/Institutional
 - Parks and Open Space
 - Low Density Residential - 1 to 8 units/acre
 - Medium Density Residential - 8 to 12 units/acre
 - High Density Residential - 12 to 18 units/acre
 - Planning Reserve
 - Municipal Boundary
 - Orderly Annexation Boundary

* The city should monitor the land uses at this location as the US TH 212, MN TH 5, and CSAH 33 intersection improvement project is pursued. The proximity to existing commercial uses and the US TH 212 corridor make this a prime location for future commercial growth.

0 0.25 0.5 Miles



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Within these areas, it is anticipated that the predominant housing types will be single-family, including single-family detached housing. The existing city zoning districts appropriate for this land use category include R-1, R-2, and R-3. These districts currently accommodate a very wide range of housing types and densities. When designed to meet a lower density, twin home development within the R-2 and R-3 district would also meet the density range of the Low Density Residential category.

There are three primary areas identified for future growth within this land use category: 1) infill development, 2) the northeast quadrant, and 3) the southwest quadrant. Within the existing city limits, there are platted residential lots that have access to utilities that are currently vacant, including recently platted developments. All vacant parcels platted for residential use are identified in the future land use plan within this category. Additionally, future low density residential growth is guided for the northeast and southwest quadrants of the city. These two areas are located near existing residential growth which supports future development of a similar use. The location of existing utilities and transportation infrastructure stubbed into the areas makes it a prime area for development.



Medium Density Residential



The Medium Density residential category provides for an important mix of housing types within the community. The category supports residential developments at a density of 8 to 12 units per acre. Within these areas, it is anticipated that the predominate housing types will be townhomes, smaller scale apartments, manufactured home parks, and other multi-family development. The current requirements for townhomes within the R-2 and R-3 districts would be accommodated within this land use category. The existing townhomes located along Serenity Circle provide an example of Medium Density Development. This category also accommodates

multi-family development on a smaller scale within the R-3 and R-4 zoning districts. For example, a 4-unit apartment building within either district meets the requirements of this district.

There are three areas identified for future Medium Density Residential development within the future land use plan. The location of the growth areas can provide a transition between lower and higher intensity uses, but also benefits from proximity to commercial and industrial development for access to services

CHAPTER 4 – LAND USE

and employment. The first area is located to the east of County Highway 34, south of the Preserve. Medium Density growth is also identified along CSAH 31 to the west of the southern downtown. The designation of Medium Density growth in this area provides for diversified housing options, within close proximity to the downtown and recreational areas near Brand Lake. The final growth area is located to the south of the existing industrial park. This location is in close proximity to future jobs within the industrial park and a few blocks away from downtown uses.

High Density Residential



The High Density Residential land use category also plays an important role in housing diversity throughout the community and provides for the highest residential density development types. Residential development within this category should provide housing at 12 to 18 units per acre. According to the current zoning ordinance, the R-4 zoning district is the only district that allows for this density through the construction of apartment and condominium units. Therefore, the primary development type within this category is apartments and group living quarters. However, other multi-

family and higher density developments, including mobile home parks, could be accommodated within this category. The existing Country Cove Apartments and The Harbor at Peace Village are examples of existing High Density Residential development.

Limited areas of future High Density Residential development have been identified within the future land use plan. The first area is located to the east of Central Avenue and promotes the infill development of a vacant parcel that is adjacent the Young America Apartments. The second area is located to the west of downtown and the City Hall along Elm Street. This area provides well for this type of development due to the close proximity of existing services and access to Highway 212 via Reform Street. As development and growth occurs within the community, the city should assess the needs for additional high density land uses to support the needs of the growing residents.

Planned Unit Developments

Planned Unit Developments (PUD) are a tool that has been used in Norwood Young America to promote neighborhoods with a variety of housing types and densities within a single development. PUDs should be considered as a method of achieving a mix of housing types and densities within a single development. A PUD is a zoning tool, and areas have not been defined within the future land use plan as future PUD areas. As development is pursued within any of the three residential land use categories, the use a PUD can be explored to promote diversity within housing types and densities.

Commercial Categories

Commercial land use designations are a vital component of the city's development fabric, representing places people go to work, shop and play. This category includes a mixture of all retail, sales, and service uses within the community. Additionally, the Downtown Mixed-Use category allows for the inclusion of residential units with commercial development.

Commercial



The Commercial land use category represents a majority of the general commercial development in Norwood Young America. This category includes typical retail and service-oriented uses, including highway-oriented businesses, limited office and service uses. There are two existing zoning districts

where commercial uses are primarily allowed are RC-1, Residential Neighborhood Commercial District and C-2, General Commercial District. The RC-1 district allows commercial that complement the surrounding residential uses within a neighborhood. The C-2 district allows a wide variety of commercial uses ranging from banks to hotels to restaurants. Commercial development can vary in size and intensity, dependent on the specific use. Future development in the commercial district shall abide by the city's requirements of a maximum 80 percent lot coverage for both the building footprint(s) and parking lot. The intensity of commercial development is anticipated to be an average of 40 percent of the lot area, using one-story structures.

The success of certain types of commercial development can be tied its visibility and access from major roadways. Much of the areas designated in the future land use plan for commercial development are located along the US TH 212 or MN TH 5 corridors. Development along these corridors are not likely to received direct access from either highway but will be visible to both residents and travelers through the community. Commercial growth is also shown in the core of the city through the infill of parcels that are currently vacant. The location of commercial land use along the highway corridors also places the development in gateways or entrances to the city. Therefore, the characteristics of this development play into the appearance and perception of the city for travelers moving through the city. Development standards for future development in these areas should be considered to promote the city's desired sense of place.

Transportation projects are being pursued near the intersection of US TH 212, MN TH 5 and CSAH 33 which could increase development potential in the area. As noted by the asterisk on Figure 11, the triangle parcel bordered by the three roadways is currently owned by MnDOT. The proposed transportation project would open this parcel for development with the removal of the MN TH 5 slip ramp. Should this project move forward, the city should identify this area for future commercial development due to its proximity to US TH 212 and existing commercial development.

Downtown Mixed-Use



civic/government, office, and service establishments. Allowing residential with commercial uses helps to establish the town center or downtown by bringing people to the area.

The mix of both commercial and residential uses provides variety to the area and can create gathering spaces within the community. Currently the mix of uses includes ground floor commercial and office uses and upper floor residential. It is intended that this current mix of uses will remain as redevelopment occurs. Future development should strive for a combination of 60 percent commercial and office development and 40 percent residential. The residential development within this Mixed-Use district should mimic that of the High Density Residential district with a density of 12 to 18 units per acre.

The Downtown Mixed-Use category should be used to create uses which are compatible with pedestrian movement and generate pedestrian activity in a compact, high-density environment. The two downtown mixed-use areas are characterized by a grid-like street pattern, alleys and sidewalks. This development pattern should be continued.

The types, size, scale and other development standards such as setbacks, off-street parking requirements, etc., are often different for a downtown or town center area than a highway oriented commercial area. The city should encourage and/or require the following design elements within this land use category:

- Buildings to be constructed at or near the right-of-way line to preserve and enhance the main street character of these areas
- Mixed use of buildings
- Smaller parking lots at the side or rear of buildings as a means to minimize hard surface coverage and reduce the visual impact of parking lots
- Shared parking
- Buildings and signage to be in character, size, scale and density with the historical nature of these areas
- Development that is tied into the overall downtown area, and not as a separate element

The current composition of these downtown areas welcomes both traditional town center access and auto-oriented and industrial uses. The current mixture of these development types plays into the character of the downtown area but should be monitored as future redevelopment opportunities are explored.

Thus, continued and controlled expansion within the Downtown Mixed-Use category should be encouraged, but the City should discourage existing commercial, institutional or residential uses to be

CHAPTER 4 – LAND USE

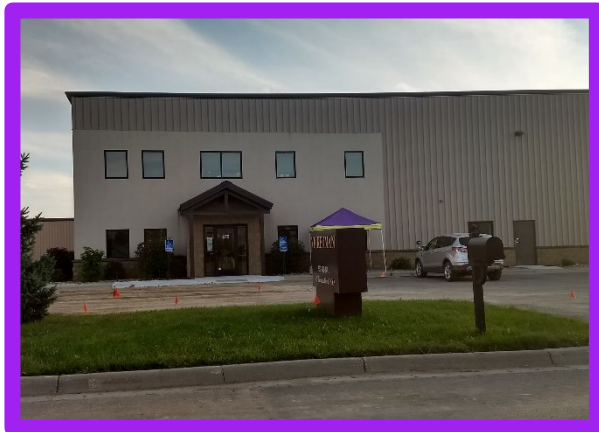
used, removed or replaced by industrial uses or additional auto-oriented uses. Existing auto-oriented and industrial uses may continue to operate within the downtown areas, but should they redevelop or expand, measures should be taken, where possible, to improve their appearance and compatibility with a downtown setting. Outdoor storage should not be increased, nor should they cause substantial noise, dust, odor or vibration.

The function of a downtown is more than just a place for retail and businesses; it often serves as the center of community activity and identity. As such, it provides a function different from that of shopping centers or modern highway commercial strips. The key to the continued viability of Norwood Young America's downtowns is to increase the activity in and around them. The downtowns will find it increasingly difficult to compete with the commercial areas along the highway, making their identification as a destination within the community a key to their future success. Norwood Young America should encourage visitor-oriented uses such as antique stores, restaurants, and small art or gallery spaces. Such activities draw pedestrians to the downtown, which bring life and activity. This, in turn, helps foster an active business climate. In addition, residential units and office space should be allowed to locate above storefronts, where possible.

Industrial Categories

The purpose of the Industrial categories is to provide centers for employment within the community that provide warehouse and manufacturing uses. There are two industrial land use categories within the future land use plan – Industrial and Mixed-Use Industrial/Commercial.

Industrial



The Industrial land use category includes both light and heavy uses. Light industrial uses include warehouse uses and less intensive manufacturing, and includes facilities where offices are a key element to the business or are free standing professional businesses and offices. They may also include limited retail and service uses in support of office uses and employees. Heavy industrial uses include manufacturing, warehousing, assembly, truck terminals, manufacturing, warehousing, assembly, truck terminals, mining, quarries and other businesses that provide goods and services, but not directly to the public. Both types of industrial uses can produce heavier

truck volumes than commercial uses. The existing B-1 and I-I zoning districts align with the intent of this district.

Similar to the Commercial District, industrial development can vary in size and intensity, dependent on the specific use. Future development in the industrial district shall abide by the city's requirements of a maximum 80 percent lot coverage for both the building footprint(s) and parking lot. The intensity of industrial development is anticipated to be an average of 50 percent of the lot area, using one-story structures.

Industrial development can be associated with heavier truck volumes and the potential production of noise, smell or light pollution (as a result of manufacturing). Therefore, the location of future industrial development should be monitored to limit the impacts and potential conflicts with adjacent uses. Future industrial growth has been identified in the future land use plan within the existing industrial park. There

CHAPTER 4 – LAND USE

are current six vacant lots that should be the first locations for industrial development. Additional industrial growth has been identified to the east of the industrial park, south of the railroad tracks. Expansion in this area maintains the use of Tacoma Avenue for industrial traffic and places industrial uses near the active rail line.

Mixed-Use Commercial/Industrial



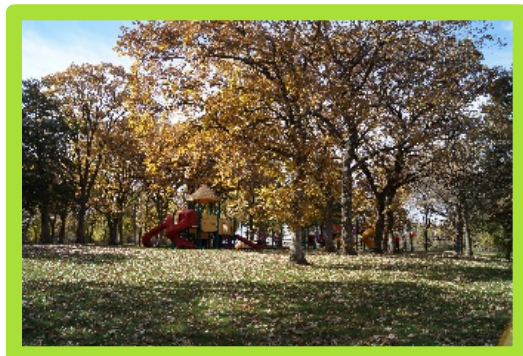
The Mixed-Use Commercial/Industrial category provides a land use district that combines the allowed uses of the Commercial and Industrial uses into one district. The district is intended to provide flexibility for both the city, property owners and developers in an area that can support both use types within one general area. Commercial uses suitable for this category include those less dependent on drive-by traffic,

and light industrial uses may be more appropriate within this district. The Mixed-Use Commercial/Industrial category has been identified in two locations on the future land use map. The first is located along Industrial Blvd in a developed area that includes development of this nature. The second location is in the southeast quadrant of Tacoma Ave and US TH 212. The mixed-use designation in this area provides flexibility for a future developer, due to its location between the industrial park and existing commercial uses. Though a combination of zoning districts accommodates the intended use of this land use district, the B-1, Business Industrial District, provides for a mixture of uses that is similar to those described within this category.

Other Land Use Categories

The purpose of the remaining districts is to identify other land uses that generally provide key services to residents and visitors and are typically developed and owned by a public entity.

Parks / Open Space Category



The Parks and Open Space category identified existing municipal and other public parks and open spaces. This includes areas that are identified as a local park and includes other open spaces that should remain undeveloped. All uses of this district identify existing parks and open space uses. As development occurs the city should assess the needs for additional allocation of this use in cooperation with the findings of the Parks and Trails Chapter of this plan. One area within the Planning Reserve has been identified as Parks and Open Space within the future land use plan. This area was

recently purchased by Pheasants Forever, Inc. and donated to the Minnesota Department of Natural Resources for future recreational use.

This category not only identifies existing programmed park space but should also be used to identify areas of natural resource preservation. An example of the use of this district for preservation is the identification of the recently purchased area within the northwest quadrant of the city. As areas are encountered that the city wishes to preserve for recreational, environmental, or other purposes, this land use category should be used.

Public / Institutional



The Public/Institutional category is used to identify publicly owned properties that provide a service to a public. These can include government buildings, schools, and churches. Existing community facilities are designated as this category within the future land use plan; however, no future Public/Institutional uses are identified. As the city continues to grow and change, the needs for additional public and institutional uses should be analyzed. Existing community facilities should continue to be maintained and preserved at their current location. If a public facility or institution ceases to exist or moves from its present site, that site should be designated as the same use, or the

predominate land use, that surrounds it. For example, if a church surrounded by Low to Medium Density Residential relocates, the church property should either house a new church, or be designated for low-density residential development. In addition, new development should incorporate appropriate public/institutional uses as they are developed.

Planning Reserve

The Future Land Use Plan identifies desired future land uses many years into the future. Many of these areas are currently undeveloped, and some are outside the existing city limits. Prior to urban development, such areas should be protected against development patterns that may hinder their ultimate transition to the intended urban use. The Planning Reserve area identifies future growth areas for the City of Norwood Young America that are not currently needed to meet future population forecasts. However, these areas are located within the city's orderly annexation boundary, where growth should be closely monitored. At this time, agricultural and open space uses are the desired land uses within the Planning Reserve. Low intensity residential uses may be allowed within the area but should be developed in a manner that doesn't impact future growth.



Development in these areas must be minimized to limit impacts for future development. To comply with Minnesota State Law and the requirements of the Agricultural Preserves Program, residential development in this area should be limited to a maximum density of 1 unit per 40 acres. The current City zoning district appropriate for this designation is the T/A, Transition-Agricultural District. The current lot requirements for the district allow farmsteads of 1 unit per 40 acres. Additionally, single-family units are

allowed on a lot size of 2.5 acres; however, only one unit is allowed per quarter, quarter section (40 acres). All properties currently enrolled in the agricultural preserves program are included within the planning reserve category. This category is used on the future land use plan as both a primary land use and as an overlay district. When used as an overlay, there is a second future land use category defined for the parcel. The overlay is only used on parcels with an identified expiration date within the 2040 plan horizon, as shown on Figure 9. In these cases, the planning reserve category must guide development decision while the program is enrolled in the agricultural preserves program. When the property has exited the program, the underlying future land use categories should be used to inform development decisions. If the property owner decides to re-enroll in the program, the Planning Reserve overlay continues to apply.

Though the city has identified future land uses within the Orderly Annexation Boundary agreed upon by the city, county and township, the city should actively monitor development occurring along the gateways to the city and areas adjacent to the annexation boundary. Development in these areas has the potential to result in future conflicts for development.

Redevelopment

Some existing land uses are shown as a different use on the Future Land Use Plan map. These designations are intended to guide future change and redevelopment of those parcels and are not intended to mean that the existing use must cease immediately. For example, an existing residence in a predominantly commercial area may be shown on the Future Land Use Plan map as a commercial use. This does not mean that the people who live in the existing homes would have to immediately move, nor does it mean that owners of these properties could not sell to another person who wants to maintain the property for a residential home. Only when a change in use is proposed does this land use guidance take effect. If a residential unit in these areas is eliminated or substantially altered, the site should be developed with the future planned use, as indicated on the Future Land Use Plan map.

Future Land Use Plan

As previously described, the future land use plan identifies growth areas to meet the future needs of the City of Norwood Young America and its residents. The total acreage for the planned growth of each category is provided in Table 9. This includes a comparison of the allocation of each land use within the future land use plan, the density range, and the net developable acreage (excluding wetlands and natural resource preservation).

Table 9: Future Land Use Growth

Land Use Category	Density Range	Total Future Designation*		Total Need by 2040**		Net Residential Developable Acreage	Potential Units	
		Acres	%	Acres	%		Lowest Density	Highest Density
Commercial	N/A	173.4	4.8%	127.1	5.4%	--	--	--
Industrial	N/A	216.0	5.9%	133.0	5.6%	--	--	--
Mixed-Use Commercial/Industrial	N/A	21.1	0.6%	11.4	0.5%	--	--	--
Downtown Mixed-Use	12 to 18 Units/Acre	34.5	0.9%	7.4	0.3%	2.9	36	53
Public/Institutional	N/A	139.6	3.8%	12.3	0.5%	--	--	--
Low Density Residential	1 to 8 Units/Acre	1,342.5	36.9%	585.7	24.8%	425.1	425	3,401
Medium Density Residential	8 to 12 Units/Acre	206.9	5.7%	170.9	7.2%	160.6	1,285	1,927
High Density Residential	12 to 18 Units/Acre	30.1	0.8%	2.4	0.1%	2.4	29	43
Park and Open Space	N/A	170.0	4.7%	--	--	--	--	--
Planning Reserve	1 Unit/ 40 Acres	1,307.5	35.9%	1,307.5	55.6%	--	--	--
TOTAL	--	3,641.6	100.0%	2,346.6	100.0%	591.0	1,775	5,424

* "Total Future Designation" identifies the total acreage of each land use identified on the future land use plan.

** "Total Need by 2040" identifies the total acreage consumption estimated to be needed by 2040 to align with the 2040 population, job, and household projections (see Future Land Use Needs on Page 18).

Norwood Young America is identified as a Rural Center by the Metropolitan Council. According to the Council's Thrive 2040, Rural Centers should achieve a net density of 3 to 5 units per acre. The net density for Norwood Young America, using the land uses designated in the future land use plan and the acreage projected to be needed by 2040 is within the Met Council range for Rural Centers. It is assumed that

residential development will occur at a range of densities as allowed within each land use category. As the city continues to assess the residential needs of its growing population, the net density may increase as the housing options grow more diverse.

Future Land Use Changes

Following the Great Recession, the city reviewed the previously adopted 2030 future land use plan to make adjustment for growth moving forward. Many aspects or themes of the 2030 land use plan were carried forward into the 2040 plan update; however, the following changes were made:

- The Low-Medium and Medium-High Density Residential District was stratified into three separate land use districts (Low Density, Medium Density and High Density). Generally, the locations for future medium and high density residential growth remained consistent between the two plans.
- The Downtown Commercial and Civic Center land uses were combined into one category (Downtown Mixed-Use). The general location of these districts remained consistent.
- Additional areas were designated as Park and Open Space to accurately identify those areas that should be preserved for recreational or natural resource purposes.
- The amount of Low Density Residential land use was reduced to better reflect the need to accommodate the 2040 forecasts. The remaining area was identified with the Planning Reserve to identify areas that the city should monitor for future development.

Growth Management Plan

The City of Norwood Young America anticipates further residential, commercial and industrial development in and adjacent to the city. In order to accommodate that growth, the city has designated areas outside of the current city limits with future land uses. To identify the staged timing of this development in manner that aligns with future utility extension and follows recent growth trends, a development phase has been defined to each growth area. These areas are where the city plans to grow in the next 25+ years and wants to establish land use plans and policies so that adequate streets, water and sanitary sewer infrastructure and services can be planned for and provided in a cost-effective manner.

In addition, the city wants to work with Carver County and Young America Township to ensure that the growth within the Orderly Annexation Boundary occurs in a manner that is compatible with the city's policies and can eventually become part of the city and be served by a full range of urban services. The planned growth areas should be designated for agricultural or very low density residential uses of 1 per 40 acres or less until such time as development is imminent and services can be provided. Additionally, the city should work regularly with the county and township to review the Orderly Annexation Boundary and make adjustments as needed.

Future Land Needs Analysis

Following is a summary of the projected land use needs in gross acres for the city through 2040. These figures are based on the population, household and employment projections prepared for this plan. More information about these projections and the resulting land use needs in Chapter 2, Inventory and Analysis, of this plan. The land use needs have been determined per ten-year increment to coincide with the specific projections. The Planning Reserve land use category was not included in this analysis, as this use is intended to reserve areas for future growth beyond the planning horizon of this plan.

Table 10: Future Land Needs

Land Use Type	Additional Gross Acres Needed by:				Total Acreage by 2040	Average Acres/ Year	Total Acreage
	Current - 2020	2021 - 2030	2031 - 2040	Beyond 2040			
Commercial	62.6	33.7	30.8	0.0	127.1	6.4	127.1
Industrial	61.8	35.5	35.7	13.7	133.0	6.7	146.6
Mixed-Use Commercial/ Industrial	0.0	0.0	11.4	0.0	11.4	0.6	11.4
Downtown Mixed-Use	7.4	0.0	0.0	0.0	7.4	0.4	7.4
Public/ Institutional	12.3	0.0	0.0	0.0	12.3	0.6	12.3
Low Density Residential	122.7	259.6	203.3	352.9	585.7	29.3	938.5
Medium Density Residential	30.2	74.0	66.9	0.0	171.1	8.6	171.1
High Density Residential	0.0	2.4	0.0	0.0	2.4	0.1	2.4
Total	296.9	405.2	348.1	366.6	1,050.3	52.5	1,416.9

Land Potentially Available for Development

Within the city limits, there exist a number of parcels that are currently vacant or in agricultural use. When planning future land uses, it is important to examine these lands for development, in addition to identifying new lands outside the city. The present of wetlands, soils, or other development restrictions should be analyzed to assess the development suitability of vacant and agricultural parcels in Norwood Young America for residential, commercial or industrial development. These parcels, along with those that are potentially available for development, are shown on Figure 13.

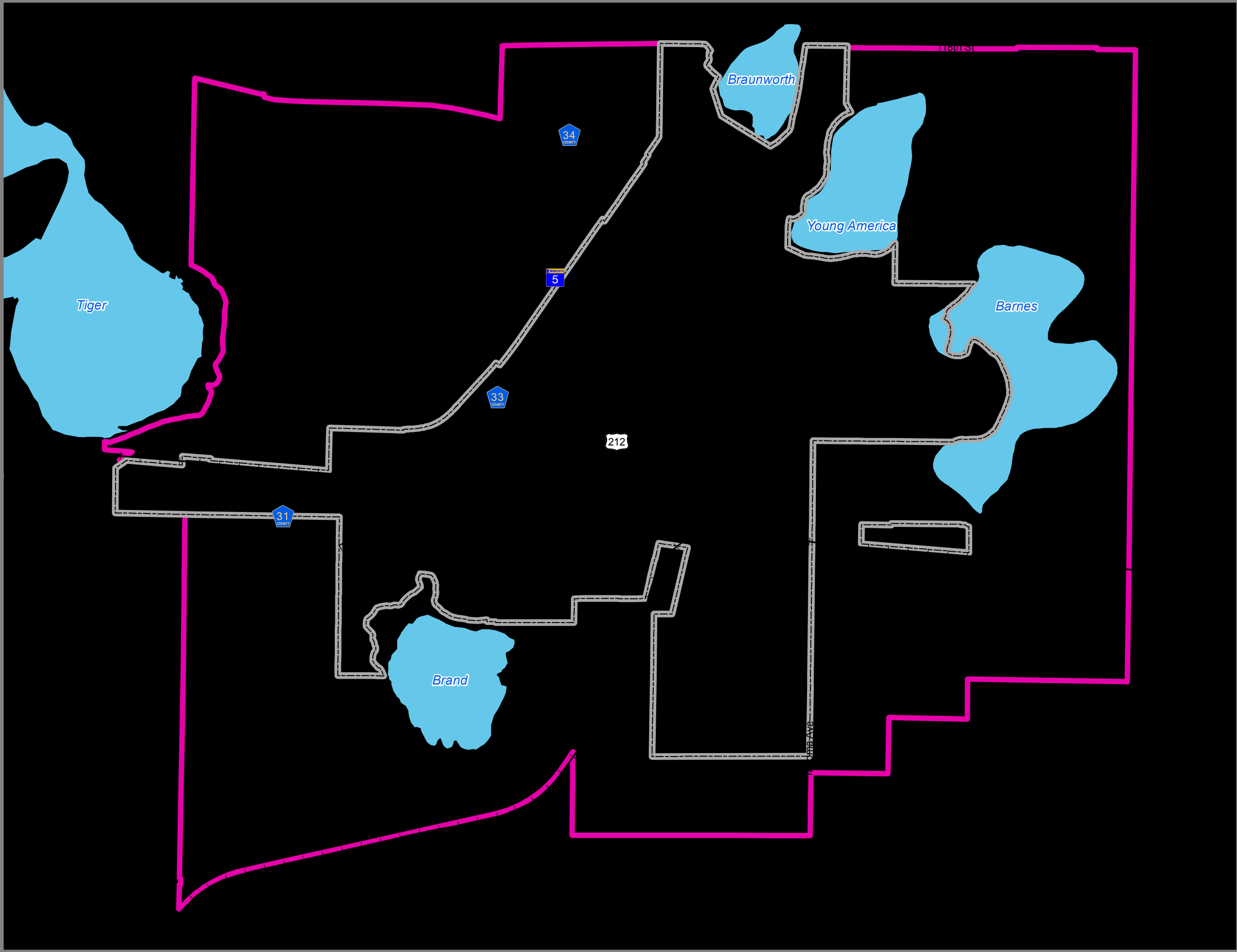
Outside the city limits, but within the potential growth path of the city, there also exist a number of limitations for development. These include wetlands, waterbodies and lands enrolled in the Agricultural Preserves program. Lands within Agricultural Preserves are restricted for development until eight years after the landowner files to exit the program. Figure 9 (Chapter 2) shows agricultural preserves surrounding Norwood Young America. The map includes the dates when the parcels have been scheduled to exit the program. Many parcels within the study area exited the agricultural preserve program in 2018 and 2019. Any parcels shown within the Program may not be developed at a residential density greater than 1 unit per 40 acres until the property owner has removed the property from the Program.

Norwood Young America

Figure 13: Vacant and Agricultural Land

Existing Land Use

- Rural Residential
- Agricultural
- Vacant
- Municipal Boundary
- Orderly Annexation Boundary



0 0.25 0.5 Miles

↑

Land Use Comparison

A comparison of the acreage needed to support household, population and employment forecasts was completed against the growth areas defined in the future land use map (see Table 11).

Table 11: Future Land Needs Comparison

Land Use Type	Acres Needed				Future Land Use Map Acres					Difference
	2020	2030	2040	Total	2020	2030	2040	2040+	Total	
Residential	151	332	256	739	156	336	270	353	1,115	376
Low Density Residential	120	264	204	588	123	260	203	353	939	351
Medium and High Density Residential	31	68	52	151	33	76	67	0	176	25
Commercial	61	35	35	131	67	34	42	0	144	13
Commercial	--	--	--	--	63	34	31	0	128	--
Downtown Mixed-Use	--	--	--	--	4	0	0	0	4	--
Mixed-Use Commercial/Industrial	--	--	--	--	0	0	11	0	11	--
Industrial	63	36	36	135	62	35	36	14	147	12
Total	275	403	327	1,005	285	406	348	367	1,120	400

As shown in the table, the Future Land Use Plan includes more single-family and industrial land than is needed to accommodate the City's growth over the next 25 years. However, while it is important for the City to plan future land uses based on an acreage analysis grounded in realistic projections of future market demands; it is wise to plan conservatively for future needs, providing options and flexibility for development. It is equally important to plan the land uses that make the most long-range sense for any given location based on existing and surrounding land uses, planned roadways, infrastructure availability, environmental features and other geographic considerations.

Thus, when planning for future development, it is difficult to create a land use plan that corresponds precisely with projected land acreage needs. In addition, even the best growth projections are merely a prediction of the future, based on past trends and current conditions.

The Future Land Use Plan map guides the long-term land use desired by the community for any given site. The future land needs analysis provides some insight as to the when the city can anticipate such development and ensures that the general amount of land identified for any given land use category is grounded in realistic projections of future market demands.

Because the Future Land Use Plan identifies significantly more land for future residential development than the needs analysis indicates will be required over the next 25 years, the Staging Concept includes areas for very long-term staging as explained below.

Staging Plan

Not all land within the City's planned growth areas will develop immediately or at the same time, but development in these areas should occur in an orderly, sequential and contiguous fashion to the extent possible. A staging concept has been developed to phase growth over the next 25 years (see Figure 14). However, the city will need to remain flexible in the phasing of these areas if circumstances warrant, market opportunities allow, and development can be provided with appropriate urban services. Additionally, other factors, such as the Agricultural Preservation Program, should be reviewed to ensure that the area is ready for development.

The proposed development phasing areas are expected to provide more than adequate land for development over the next 25 years based on the population projections included in the Inventory and Analysis section of this plan. Existing development that is anticipated to remain is identified in Figure 14 in gray, and Phases 1, 2, and 3 (in shades of red) identify growth areas by 2040. However, the pace at which this land will be consumed will be influenced by two primary factors. First, development of the development phasing areas can be restricted by not having either a willing seller or buyer/developer for any given parcel of land. If a large landowner is not ready to sell his/her land, or if he/she cannot find a willing buyer/developer, it can significantly impact the orderly and full development of the development phasing areas. The relationship between buyer and seller will be greatly influenced by the timing of services, market conditions, topography and other factors. Secondly, future population and market projections are never completely certain and future industrial demand can significantly impact the amount of land consumed and sewer capacity needed.

Figure 14 also shows potential future residential growth areas beyond the 2040 horizon. These are shown as "Phase 4 (Beyond 2040)". Although this land is not expected to be used for urban development for at least the next 20 years, this Plan identifies them now in order to protect them against large lot, unsewered development and other premature development use that will hinder their ultimate transition to urban residential development.

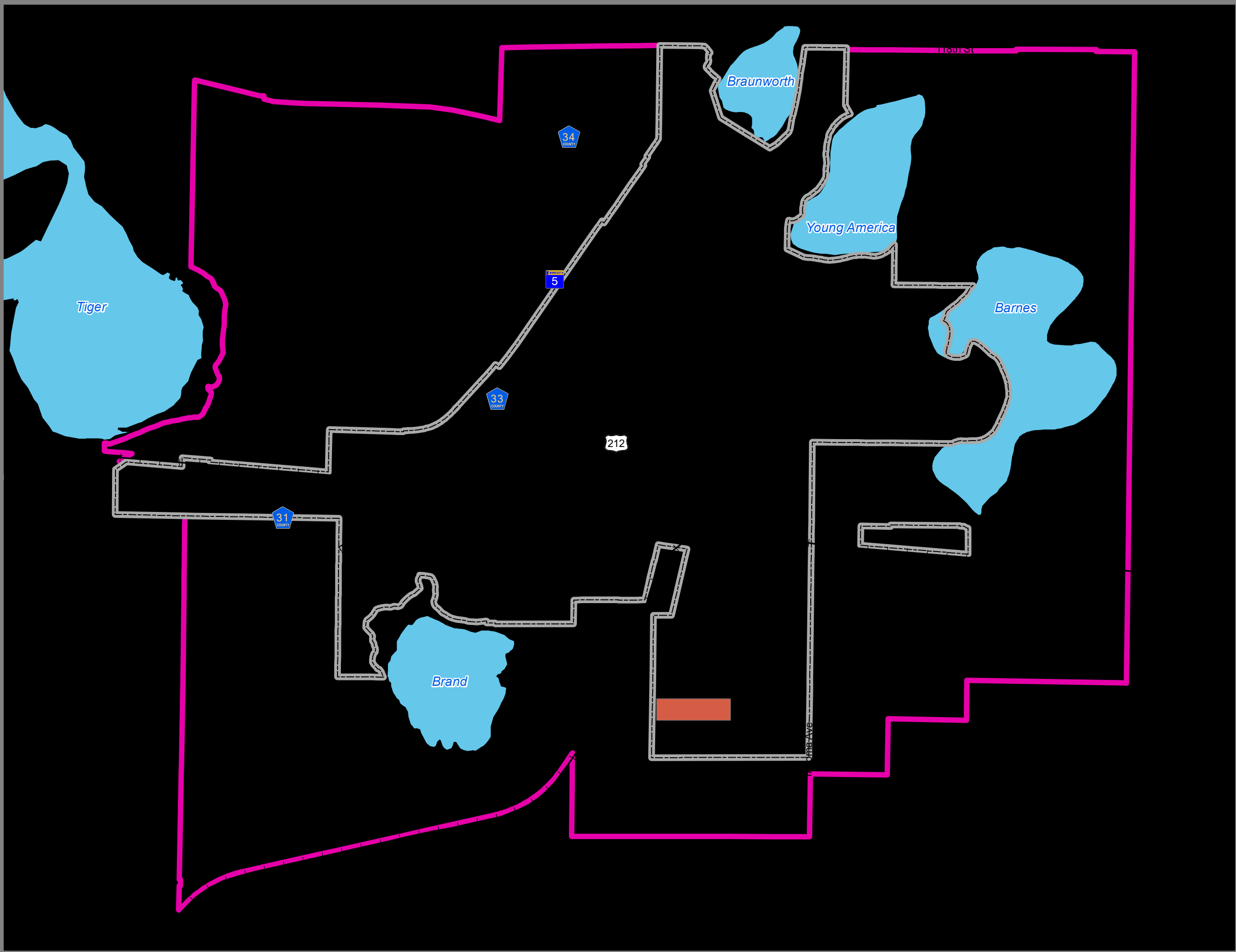
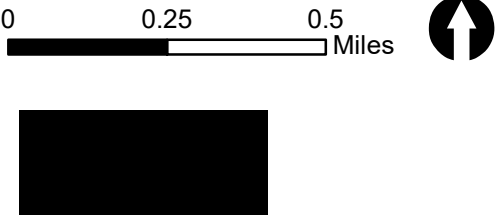
Areas that are not identified as existing development or with a future development phase (Phase 1 through 4) are identified in the future land use plan as the Planning Reserve. At this time, specific future land uses have not been identified in these areas as growth is expected well beyond the 2040 planning horizon. However, planning in these areas may be warranted. For example, the northwest quadrant of the study area has been identified as a future study area for the city since the adoption of the 2030 plan. As the city works with MnDOT and Carver County regarding transportation improvements along US TH 212 and MN TH 5, the city may want to consider the development of a sub-area study to analyze potential development in this area and the impacts to the transportation system.

Planning for future growth is neither a linear nor a static process. Even the best growth projections are merely a prediction of the future, based on past trends and current conditions. The impacts of economic events, such as the Great Recession, are unpredictable and can impact the planning included within the document. Since changes in economic and social variables greatly affect projected outcomes, it will be important for the city to periodically measure actual progress against targeted growth projections and, if necessary, redirect its growth strategies.

Norwood Young America

Figure 14:
Staging Plan

- Development Phasing
- Existing Development
 - Phase 1 (2010 to 2020)
 - Phase 2 (2020 to 2030)
 - Phase 3 (2030 to 2040)
 - Phase 4 (Beyond 2040)
 - Municipal Boundary
 - Orderly Annexation Boundary



Chapter 5 – Transportation

A city's transportation system has a great influence on its future growth and development, as the network of streets in a community is interconnected with the surrounding land use configuration. It is a challenging task for cities to provide access for shoppers and employees to local businesses and industries, provide efficient through transportation for regional travelers, and provide for recreational transportation opportunities. These challenges are further complicated by the need to balance the needs of non-motorized traffic, including pedestrians and bicycles, with motorized traffic.

The principal objective of transportation planning is to provide the information necessary for making decisions on when, where, and what type of improvements should be made in the transportation system to satisfy current and anticipated travel demands; and to promote land development patterns that meet the community's goals and objectives.

The purpose of this chapter is to provide guidance to the City of Norwood Young America, as well as existing and future landowners, in preparing for future growth and development. As such, this chapter provides the framework necessary in aiding the decision-making process regarding roadway infrastructure improvements necessary to achieve safety, adequate access, and mobility within Norwood Young America. This chapter also outlines the performance of the existing roadway system and investigates the most efficient ways in which to develop the future roadway system. Combined, enacting these policies and strategies will allow the City of Norwood Young America to enhance the local economy and quality of life as the transportation system is enhanced.

Transportation System Principles and Standards

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

Functional Classification

The functional classification system defines both the function and role of a roadway within the hierarchy of an overall roadway system. This system is used to create a roadway network that collects and distributes traffic from neighborhoods and ultimately to the State or Interstate highway system. Functional classification planning works to manage mobility, access, and alignment of routes. Functional classification also seeks to align designations that match current and future land uses with the roadway's purpose.

A roadway's functional classification is based on several factors, including:

- Trip characteristics: length of route, type and size of activity centers, and route continuity
- Access to regional population centers, activity centers, and major traffic generators
- Proportional balance of access, ease of approaching or entering a location
- Proportional balance of mobility and ability to move without restrictions
- Continuity between travel destinations
- Relationship with neighboring land uses
- Eligibility for State and Federal funding

CHAPTER 5 – TRANSPORTATION

Within the Twin Cities Metropolitan Area, the Metropolitan Council has established detailed criteria for roadway functional classifications, which are summarized in Table 12.

Table 12: Roadway Functional Classification Criteria

Criteria	Principal Arterial	Minor Arterial	Collector	Local Street
Place Connections	Interconnects metro centers and regional business concentrations	Interconnects major trip generators	Interconnects neighborhoods and minor business concentrations	Interconnects blocks within neighborhoods and land parcels within commercial areas
Spacing	Developed areas: 2-3 miles Developing areas: 3-6 miles	Developed areas: ½-1 mile Developing areas: 1-2 miles	Developed areas: ¼-¾ mile Developing areas: ½-1 mile	As needed to access land uses
Roadway Connections	To interstates, principal arterials and selected minor arterials	To interstates, principal arterials, other minor arterials, collectors and some local streets	To minor arterials, other collectors and local streets	To collectors, other local streets and a few minor arterials
Mobility	Highest	High	Moderate	Low
Access	No direct property access	Limited access to property	Access to properties is common	Unrestricted property access
Percent of Mileage	5-10%	15-25%	5-10%	65-80%
Percent of Vehicle Miles Traveled	40-65%	15-40%	5-10%	10-30%
Intersections	Grade separated or high- capacity intersection controls	Traffic signals and cross- street stops	All-way stops and some traffic signals	As required for safe operation
Parking	None	Restricted as necessary	Restricted as necessary	Permitted as necessary
Large Trucks	No restrictions	No restrictions	Restricted as necessary	Permitted as necessary
Typical Average Daily Traffic	15,000-200,000	5,000-30,000	3,000-15,000	Less than 3,000
Posted Speed Limits	45-65 mph	40-50 mph	30-45 mph	Maximum 30 mph

Criteria	Principal Arterial	Minor Arterial	Collector	Local Street
Right-of-Way Width	100-300 feet	60-150 feet	60-100 feet	50-80 feet
Transit Accommodations	Priority access for transit in peak periods	Preferential treatment where needed	Designed for use by regular route buses	Normally used as bus routes only in non- residential areas

It is recognized that individual roads and streets do not operate independently. Most travel involves movement through a network of roadways. It is necessary to determine how travel patterns can be channelized within the network in a logical and efficient manner. Functional classification defines the nature of the network hierarchy by defining the role 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 level and character of service that they are intended to provide. This process involves determining the functions each roadway should perform prior to determining its overall design. The functional classification system typically consists of five major classes of roadways: Principal Arterials, Minor Arterials, Major Collectors, Minor Collectors, and Local roadways. The existing roadways are described below and illustrated in Figure 15.

Principal Arterials

Principal arterials are part of the Metropolitan Highway System and provide high-speed mobility between the Twin Cities and important locations outside the metropolitan area. They are also intended to connect the central business districts of the two central cities with each other and with other regional business concentrations in the metropolitan area. These roadways, which are typically spaced from three to six miles apart, are generally constructed as limited access freeways in the urban area but may also be constructed as multiple-lane divided highways.

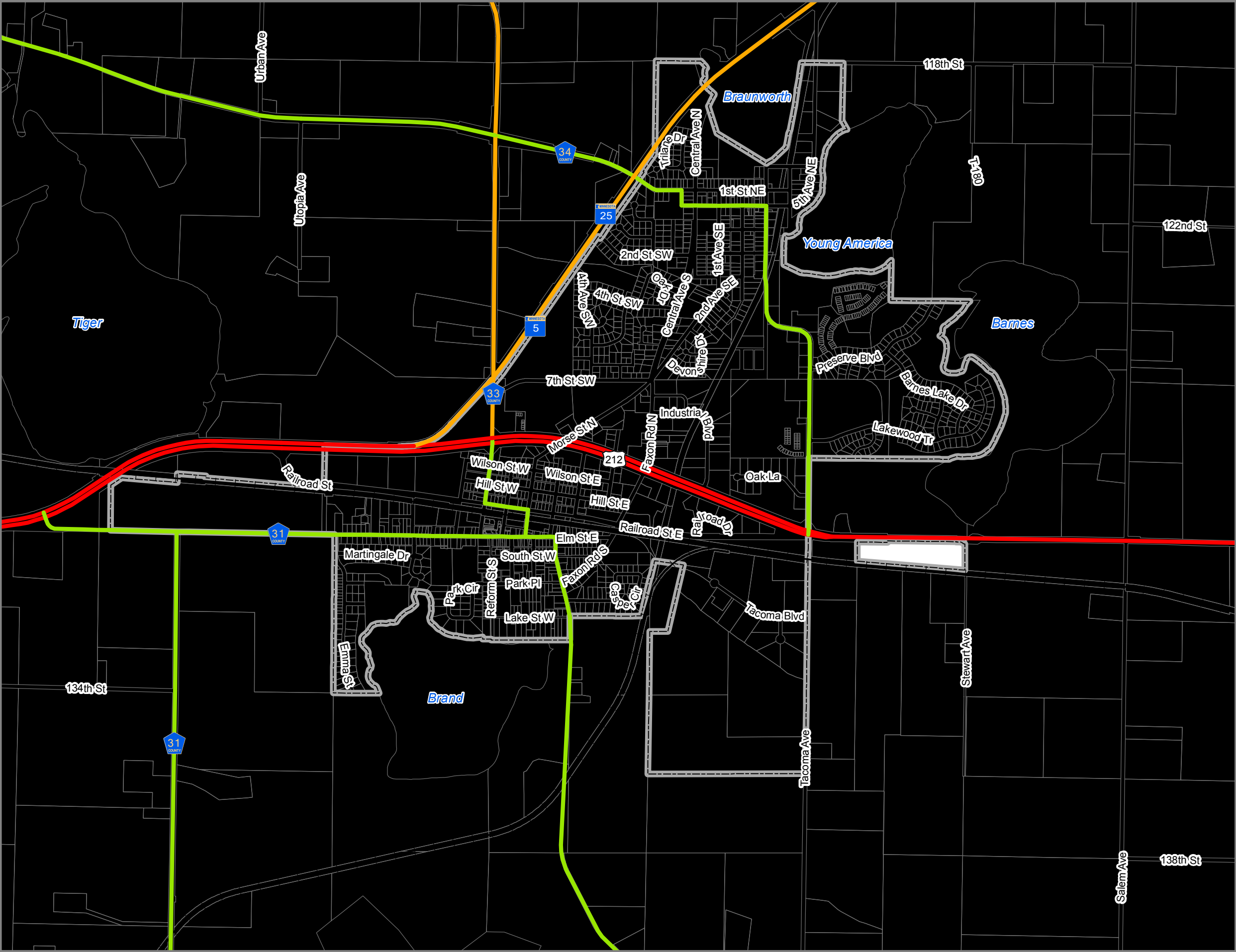
US TH 212 is the only Principal Arterial located within the City of Norwood Young America. The highway is currently a 2-lane section as it approaches Norwood Young America from the east. It then transitions to a 4-lane section at Tacoma Avenue through the remainder of the study area. The city supports the 4-lane expansion effort of the current 2-lane segment of US TH 212. Though the project is not currently funded or included in the 2040 Transportation Policy Plan, Norwood Young America support the identification of funding sources for the implementation of the project. The future expansion of the highway may require the acquisition of additional right-of-way. As development is pursued in this area, the city will monitor future right-of-way needs for the potential expansion of US TH 212. Additionally, the highway is currently listed in the 2040 TPP Revenue Scenario of pavement improvements between 2019 and 2024 through the City of Norwood Young America.

Norwood Young America

Figure 15: Existing Functional Classification

Existing Functional Class

- Principal Arterial
- A Minor Connector
- Major Collector
- Railroad
- Municipal Boundary
- Orderly Annexation Boundary



Minor Arterials

Minor arterials also emphasize mobility over land access, serving to connect cities with adjacent communities and the metropolitan highway system. Major business concentrations and other important traffic generators are usually located on minor arterial roadways. In urbanized areas, one-half to two-mile spacing of minor arterials is considered appropriate, depending upon development density.

A-minor arterials are defined by the Metropolitan Council as roadways of regional significance that are of regional importance because they relieve, expand or complement the principal arterial system. A-minor arterials are categorized into four types, consistent with Metropolitan Council guidelines:

- Relievers: Minor arterials that provide direct relief for metropolitan highway traffic
- Expanders: Routes that provide a way to make connections between urban areas outside the I-494/I-694 beltway.
- Connectors: Roads that provide good, safe connections to and among communities at the edge of the urbanized area and in rural areas.
- Augmenters: Roadways that augment principal arterials within the I-494/I-694 beltway.

A well-planned and adequately designed system of principal and A-minor arterials will allow the city's overall street system to function the way it is intended and will discourage through traffic from using residential streets. Volumes on principal and minor arterial roadways are expected to be higher than on collector or local roadways. Providing the capacity for these higher volumes will keep volumes on other city streets lower.

The City of Norwood Young America is served by two A-minor connector arterials (MN TH 5 and MN TH 25) and one other arterial (CSAH 33). All minor arterial roadways within the City of Norwood Young America include a 2-lane cross-section with no current plans for expansion.

Collectors

Collectors, as the term implies, collect and distribute traffic from neighborhoods and commercial areas and provide a critical link between local streets, which are designed for property access, and minor arterials, which are designed for mobility. Collector streets have an equal emphasis on land access and mobility. This is a category of roadway that the City of Norwood Young America has the greatest share of responsibility with Carver County as the collector roadways include facilities under both jurisdictions' control.

It is this category of roadway that the City of Norwood Young America has the greatest responsibility for since Principal and Minor arterials tend to be under the jurisdiction of either MnDOT or Carver County.

The designation of roadways as collectors should be informed by the following guidelines:

- Collector streets should be designated as those that provide an intermediate path between local streets and minor arterials.
- Collectors should not intersect principal arterials directly but rather first connect to a minor arterial.
- Local streets should not connect to minor arterials directly but rather first connect to a collector.
- Collector streets are spaced $\frac{1}{4}$ to $\frac{3}{4}$ mile apart in fully developed areas and $\frac{1}{2}$ to 1 mile in developing areas.
- Collector streets should intersect other collectors, minor arterials and, if necessary, principal arterials at a location consistent with the spacing guidelines of the higher-level roadways.
- Collectors, individually or as a group, cannot terminate within a neighborhood but should provide a continuous path from one minor arterial to another.

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- Wherever feasible, access to individual parcels should be provided by local roads and not collectors.
- Identification of collectors should not be based on traffic volumes but should consider a roadway's function in the overall roadway network.
- Collectors should be located and designed to minimize the diversion of traffic from principal or minor arterials.
- Collector streets may be sub-divided into minor collectors and major collectors.
 - Minor Collectors: These streets connect local roads to another collector or to a minor arterial.
 - Major Collectors: These streets connect both local roads and minor collectors to a minor arterial.

Table 13 provides a further differentiation between minor and major collectors.

Table 13: Characteristics of Minor and Major Collectors

Criteria	Minor Collector	Major Collector
Length	Short, less than 1.5 miles.	Longer, 1.5 miles to three miles.
Travel Shed	Limited to immediate neighborhood.	Larger area links more than one neighborhood.
Speeds	Low Speed (30-35 MPH)	Medium Speed (35-45 MPH)
Access	Private access permissible	Private access discouraged. Generally, access is provided to higher trip generators (i.e., shopping centers, office buildings.)
Parking	Usually allowed	Some restrictions depending on traffic volumes.
Land Use	Typically serves residential areas.	Residential, commercial or high employment concentrations.
Mobility	Less emphasis on mobility and greater value on access.	More balance between mobility and access.
Transit	May accommodate fixed route transit but less likely to be used as a route.	Should be designed to accommodate fixed route transit.
Spacing	Closer spacing. Contained within homogeneous neighborhoods to distribute trips.	Greater spacing, traverses distinct neighborhoods and land use types.

There are four major collectors and no minor collectors in the planning area. The four major collectors include: County Road 31, Elm Street, Tacoma Avenue/3rd Avenue and Main Street/1st Street/County Road 34.

Local Streets

Local streets are the most common roadway classification type. They typically include city streets that facilitate the collection and dispersion of local traffic to Collectors and Minor Arterials. Their emphasis is to provide local access over mobility at high speeds. All other roadways within the study area are considered local streets.

Roadway Capacity

Capacities of roadway systems vary based on functional classifications, roadway design (number of lanes, divided or undivided), and system connectivity. Generally speaking, a two-lane divided 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. Variability in capacity is directly related to many roadway characteristics. These include access spacing, traffic control, adjacent land uses, as well as traffic flow characteristics. Therefore, it is important that the peak hour conditions are reviewed to determine actual volume-to-capacity on roadway segments with average daily traffic volumes approaching their capacity values.

Major Collector and Minor Collector roadways have physical capacities similar to those of a two-lane arterial street, however, the acceptable level of traffic on a residential street is significantly less than the street's physical capacity. The acceptable volume of traffic on Major Collectors and Minor Collectors varies based on available right-of-way, housing densities and setbacks, locations of parks and schools, and overall resident perceptions.

Typically, traffic volumes on Major Collectors in residential/educational areas are acceptable when they are at or below 50 percent of the roadway's physical capacity. This results in an acceptable capacity of 6,000 to 9,000 vehicles per day. In most communities, acceptable traffic levels on Minor Collectors are considerably less. Daily traffic volumes of 1,000 to 1,500 vehicles per day is acceptable on Minor Collectors in residential areas.

The capacity of a gravel road is physically greater than 500 vehicles per day. However, based on studies conducted by Minnesota counties, it has been determined that an average daily traffic (ADT) over 500 justifies paving the roadway. This is due to the maintenance costs of keeping a gravel road in working condition when ADT is over 500. This is balanced against the pavement costs, pavement life, and maintenance costs of a paved roadway with the same volumes.

Estimated Daily Capacities

The various roadway types and the estimated daily capacities that the given roadway in the City of Norwood Young America can accommodate are provided in Table 14. A capacity deficiency exists when traffic volumes approach or exceed the capacity of the roadway.

Table 14: Roadway Types and Capacities

Roadway Type	Daily Capacity Range
Gravel Roadway	Up to 500
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

Level of Service

Roadway Level of Service (LOS) is used to assign a value to the level of congestion and efficiency of the roadway. The LOS is determined by the ratio of the actual roadway volume to the established capacity. In general, the higher the volume, the lower the LOS. There are six (6) LOS classifications, depending on the extent of congestion and service on the roadway. The LOS are defined in Table 15. Generally, the City of Norwood Young America should consider capacity improvements on roadways with a LOS D or worse and volume-to-capacity ratios over 0.75 during the peak hours.

Table 15: Highway Level of Service

LOS	Multi-Lane V/C Ratio	Two-Lane Average Travel Speed
A	<0.28	>55 mph
B	>0.28-0.45	50-55 mph
C	>0.45-0.65	45-50 mph
D	>0.65-0.86	40-45 mph
E	>0.86-1.00	<40 mph
F	>1.00	V/C >1.0

Access Management Guidelines

Access management is an important aspect of providing a safe and efficient roadway network. Access management measures include:

- Providing adequate spacing between access points and intersecting streets to separate and reduce conflicts.
- Limiting the number of driveway access points to reduce conflicts.
- Aligning access with other existing access points.
- Sharing access points, through internal connectivity between property owners.
- Encouraging indirect access rather than direct access to high volume arterial roads.
- Constructing parallel roads and backage or frontage roads.
- Implementing sight distance guidelines to improve safety.
- Using channelization to manage and control turning movements.

Access review is a major aspect of the city's project review process. The goal is to maintain the safety and capacity of the city's roadways while providing adequate land access.

Access management also involves balancing the access and mobility functions of roadways. Access refers to providing roadway access to properties and is needed at both ends of a trip. Mobility is the ability to get from one place to another. Most roadways serve both functions to some degree based on their functional classification. The four levels of functional classification and their corresponding mobility and access traits are as follows:

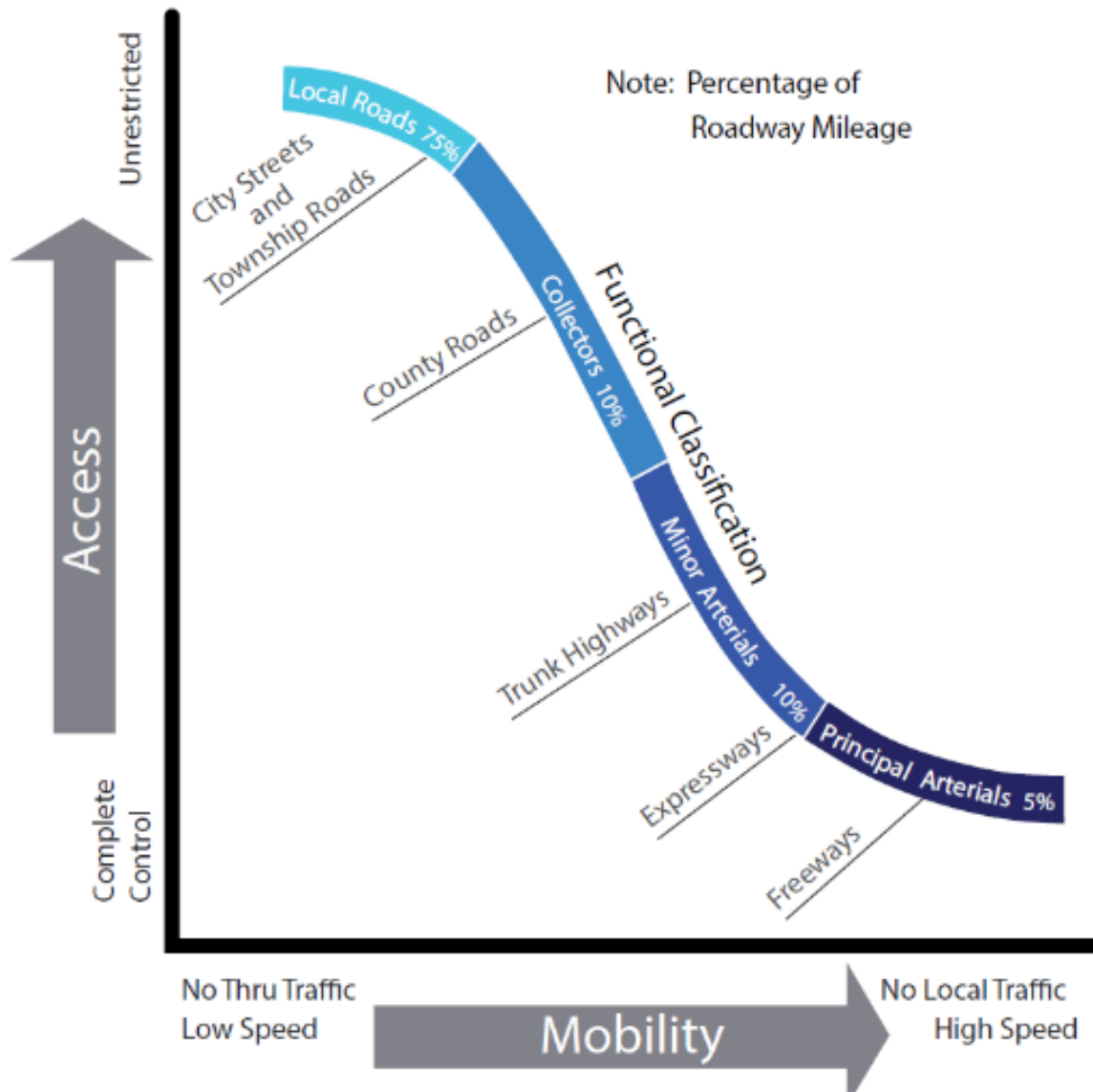
- Principal Arterials have the highest mobility with no direct land access.
- Minor Arterials have a high mobility with limited land access.
- Collector Streets have moderate mobility with some land access.
- Local Streets have low mobility with unrestricted land access.

Access, when looking at the roadway system in Norwood Young America, is defined as the relationship between local land use and the transportation system. There is an inverse relationship between the

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amount of access provided and the ability to move through a given roadway. As higher levels of access are provided, the flow of traffic is reduced. The relationship between access and mobility is illustrated in Figure 16.

Figure 16: Roadway Mobility/ Access Relationship



In Norwood Young America, implementing access standards and spacing guidelines are recommended to effectively manage existing ingress/egress onto city streets and to provide access controls for new development and redevelopment. Access standards are based on the Minnesota Department of Transportation (MnDOT) State-Aid design standards. It should be noted that the City of Norwood Young America has access authority for roadways under its jurisdiction. Please refer to Carver County's minimum access spacing guidelines identified in their current Transportation Plan.

Table 16: Roadway Access Standards

Driveway Dimensions	Residential	Commercial or Industrial
Driveway Access Width	11 ft. – 12 ft. (16 ft. desired)	16 ft. – 32 ft. (32 ft. desired)
Minimum Distance between Driveways	20 ft.	20 ft.
Minimum Corner Clearance form a Collector Street	60 ft.	80 ft. ¹

¹At the discretion of the City Engineer, 80 ft. minimum.

Table 17: Access Spacing Guidelines for Collector Roadways in Norwood Young America¹

Type of Access by Land Use Type	Major Collector	Minor Collector
Low & Medium Density Residential		
Private Access	Not Permitted ²	As Needed ³
Minimum Corner Clearance from a Collector Street	660 ft.	300 ft.
Commercial, Industrial or High Density Residential		
Private Access	Not Permitted ²	As Needed ³
Minimum Corner Clearance from a Collector Street	660 ft.	660 ft.

¹These guidelines apply to City streets only. Carver County and MnDOT have access authority for roadways under their jurisdiction. Please refer to Carver County's minimum access spacing guidelines identified in their current Transportation Plan.

²Access to Major Collectors is 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.

³Private 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. For the City of Norwood Young America, geometric design standards were developed based on MnDOT State-Aid standards. These design standards were developed to achieve adequate capacity within the roadway network, as well as a level of acceptance by adjacent land uses, given the constraints associated with the existing development pattern. Each component identified in the typical sections is essential to a particular roadway's ability to perform its function in the roadway network.

County and State Roadways

In addition to these standards for city Collector roadways, the State and County Arterial and Collector roadways should include components of the city’s transportation system. Along TH 5, CSAH 31, CSAH 33, and CSAH 34 a bituminous trail is recommended on both sides of the roadway. Similar to the type of travel on the adjacent roadway, the trail will accommodate higher volumes and longer pedestrian and bicycle trips. A 10-foot width is preferable because it would better accommodate two-way travel safely. Through the existing developed portions of the city, 6-foot wide on–street bikeways are recommended, and when possible a 5-foot walk on at least one side.

Roadway Width

Roadway and travel lane widths are directly associated with a roadway’s ability to carry vehicular traffic. On Major Collector roadways and Minor Collector streets, a 12-foot lane is recommended for each direction of travel. The 24-foot total travel width is recommended to accommodate anticipated two-way traffic volumes. In addition to the travel width, a minimum 6-foot shoulder lane width accommodates pedestrian and bicycle traffic, parked or stalled vehicles, and maintenance activities. Roadway widths not meeting the Geometric Design Standards results in decreased performance of the particular roadway and additional travel demand on the adjacent roadway network components. For example, a sub-standard Major Collector roadway may result in additional travel demand on an adjacent Minor Collector or local street, resulting in an overburden for adjacent landowners. Similarly, additional local circulation on an adjacent Minor Arterial results in reduced mobility for regional trips.

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. The recommended design speed for the Norwood Young America roadway network are presented in Table 18.

Table 18: 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

¹At the discretion of the City Engineer for City roadways, with approval by the City Council.

Right-of-Way 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 66’ is necessary for the added roadway width, as well as to provide added setback distance between the roadway and homes adjacent to the roadway. Right-of-way widths greater than 66’ may be required on Major Collector roadways within commercial areas to accommodate the

potential for higher traffic volumes and the need for additional through or turning lanes. All right-of-way requirements may be increased at the discretion of the City Engineer, with approval by the City Council. Please refer to Carver County's right-of-way requirements for county roads in their current Transportation Plan. The city should obtain identified local and county right-of-way through any proposed redevelopment process to accommodate long-term roadway and sidewalk/trail needs.

Bikeways, Sidewalks and Trails

Bikeways, sidewalks, trails, or roadway shoulders are recommended to be on or adjacent to Major Collector and Minor Arterial roadways, and most Minor Collector roadways to accommodate pedestrian, bicycle, and other non-motorized travel in a safe and comfortable manner. These roadways carry a considerable amount of vehicular traffic and non-motorized facilities are recommended. Design and accommodations for non-motorized traffic facilities in Norwood Young America follow the MnDOT Bikeway Facility Design Manual; Americans' with Disabilities Act (ADA); AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities; FHWA Designing Sidewalks and Trails, Part II, Best Practices Design Guide; and FHWA Design Guidance, Accommodating Bicycle and Pedestrian Travel: A Recommended Approach. The city will continue to work with Carver County and MnDOT to plan, evaluate, and design non-motorized facilities and integrate the facilities into reconstruction efforts. At the discretion of the city, the requirements for trails, sidewalks, bikeways, and shoulders may vary.

ADA Requirements

The American with Disability Act (ADA) was signed into law on July 26, 1990. The law requires local and state governments, places of public accommodation and commercial facilities to be readily accessible to persons with disabilities. ADA statutes apply in the following circumstances:

- Newly constructed buildings (after January 26, 1993) must be constructed to be readily accessible.
- Renovations or alterations occurring after January 26, 1992 to existing facilities must be readily accessible.
- Barriers to accessibility in existing buildings and facilities must be removed when it is "readily accessible". This includes the location and accessibility to restrooms, drinking fountains and telephones.

Requirements prescribed by the American's With Disabilities Act include, but are not limited to:

- One accessible route from site access point, such as a parking lot to the primary accessible entrance must be provided. A ramp with a slope of no greater than 1:6 for a length of no greater than two feet may be used as a part of the route. Otherwise a slope of maximum 1:12 is allowed.
- One accessible public entrance must be provided.
- If restrooms are provided, then one accessible unisex toilet facility must be provided along an accessible route.
- Only the publicly used spaces on the level of the accessible entrance must be made accessible.
- Any display and written information should be located where it can be seen by a seated individual and should provide information accessible to the blind.

Roadway Jurisdiction

Roadway jurisdiction directly relates to functional classification of roadways. Generally, roadways with higher mobility functions (such as arterials) should fall under the jurisdiction of a regional level of government. In recognizing these roadways serve greater areas resulting in longer trips and higher volumes, Principal Arterial and Minor Arterial roadways should fall under the jurisdiction of the State and county, respectively. Similarly, roadways with more emphasis on local circulation and access (such as collectors) should 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 Norwood Young America. 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. In the City of Norwood Young America, three jurisdictions have responsibility for the overall road network. MnDOT is responsible for US TH 212, MN TH 5, and MN TH 25, while Carver County is responsible for CSAH 31, 33, and 34. The City of Norwood Young America is responsible for all remaining roadways. Some existing private drives are located within the city. These roadways are designed, constructed and maintained by a private jurisdiction and do not fall to the responsibility of the city. Private drives are also constructed within the city's transportation system. These private drives are established during the platting process and are not necessarily built to city standards. The property owner(s) are responsible for all maintenance (snow removal and surface improvements) activities.

Transit

It is recognized that various methods of travel impact the economic vitality of a city, county, or broader region. The term transit applies to all forms of ride sharing, regardless of who provides the service or whether ridesharing arrangements are formal or informal. Most transit rides, however, are provided by formal transit systems, at least during the morning and afternoon peak travel periods.

Based on the needs of a community, transit systems may be established to accommodate trips that are internal within the city (internal to internal), trips that begin in the city and end somewhere outside of the city (internal to external), and/or trips that begin outside of the city and end within the city (external to internal).

The City purchased a 15-passenger bus in the summer of 2017 using MnDOT's Section 5310 program, referred to as the "5310 Bus". Operation of the bus began in the fall of 2017, providing transit trips on a contract service basis for organizations and businesses within the City and greater region. As of the spring of 2019, the City had three contracts that account for 20 hours of service in 1 week. The 5310 Bus may also be contracted by residents and organizations for trips within the region. The service goal for the 5310 Bus is 32 hours per week.

Dial-a-ride, fixed route service by means of bus and bus rapid transit, are just some of the transit system examples that are or could be provided within a city such as Norwood Young America upon the completion of further detailed studies. Transit studies can evaluate current transit service performance and analyze the market to identify any unmet needs and to look for opportunities to enhance transit service. Generally, communities with dial-a-ride as an initial service explore the feasibility of providing a fixed route schedule to connect residents with businesses, schools, places to shop, and employment centers.

Existing Transportation System Evaluation

The following section provides a summary of the existing transportation system in Norwood Young America.

Existing Traffic Volumes and Capacity Issues

The existing 2014 traffic volumes in the area were collected by MnDOT and Carver County and are represented in Figure 17. Of the County and State roadways within the study area, US TH 212 has the highest daily traffic volumes and County Roads 34 and 31 with the lowest daily volumes. These volumes include all forms of vehicular traffic on the roadway.

Data is also available to identify the number of heavy commercial vehicles that use each roadway. These vehicles are defined as all trucks with at least two axles and six tires and include freight deliveries to and through the city. Heavy commercial average daily traffic volumes (HCAADT) are shown in Figure 18. This data shows the average number of heavy commercial vehicles that use each State and County roadway per day on average. The highest heavy commercial traffic volumes are along US TH 212, accounting for approximately 10 percent of the overall traffic (see Table 19).

Table 19: MnDOT Official Traffic Volumes, 2015 - 2017

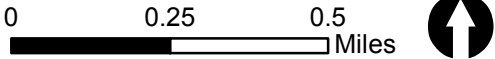
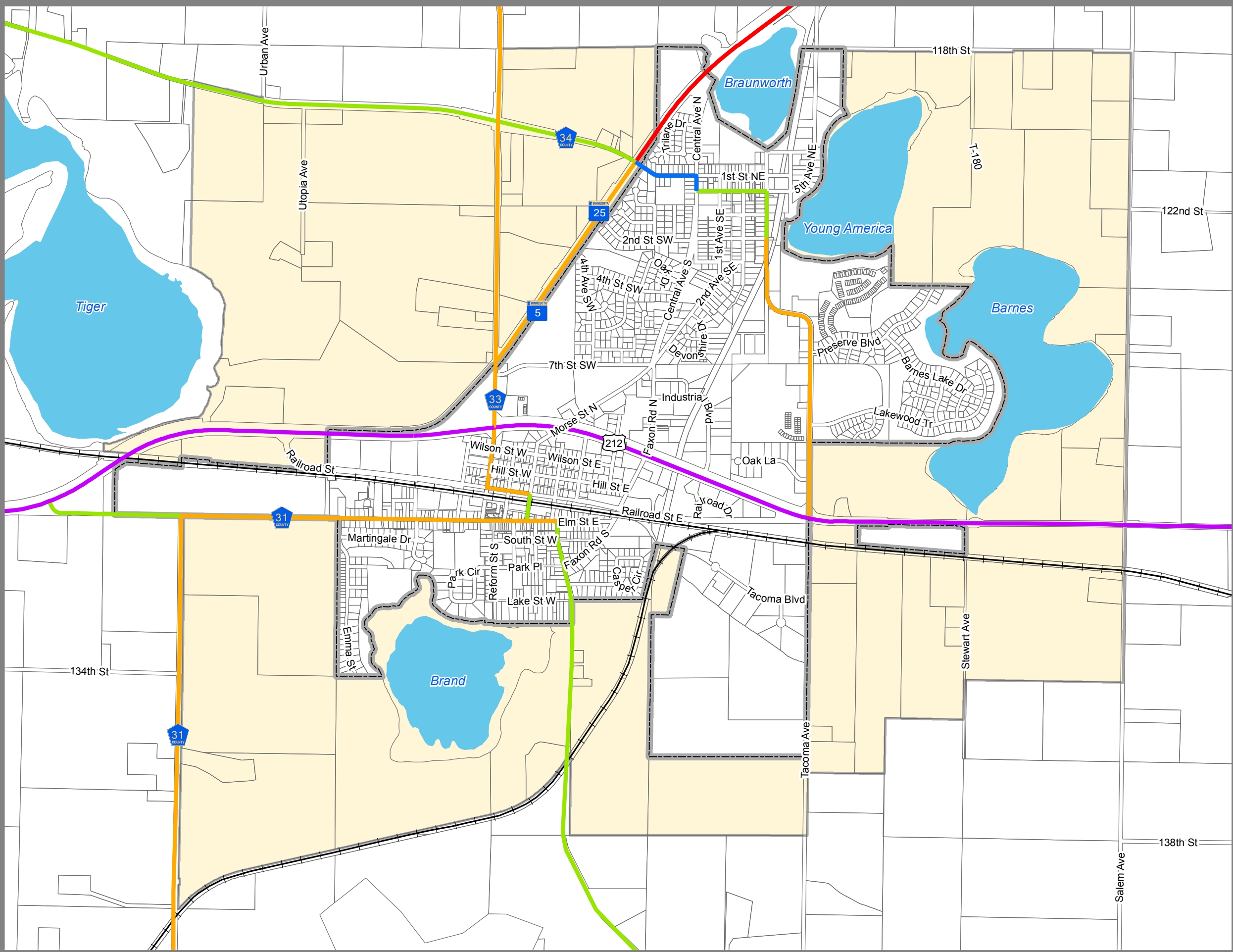
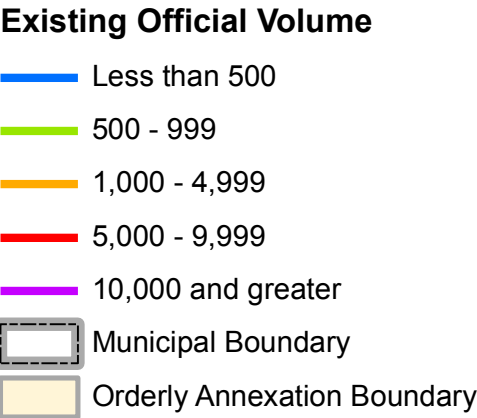
Roadway	Segment	AADT	HCAADT	Percent
US TH 212	Western limits to MN TH 5	13,100 vpd	1,700 vpd	13.0%
	MN TH 5 to CSAH 33	11,700 vpd	1,550 vpd	13.2%
	CSAH 33 to Tacoma Avenue	11,300 vpd	1,200 vpd	10.6%
	Tacoma Avenue to Eastern limits	12,700 vpd	1,350 vpd	10.6%
MN TH 5	CSAH 33 to CSAH 34	4,100 vpd	195 vpd	4.7%
	CSAH 34 to Northern limits	5,900 vpd	170 vpd	2.9%

Volume to capacity analysis of the average daily traffic volumes indicates that no roadway segments within the City of Norwood Young America are currently operating at a near congested or congested level (see Figure 19). However, US TH 212 from CSAH 34 east to Salem Avenue is currently operating at a near congested level as shown in Figure 19. The identification of this segments as “near congested” does not warrant immediate action to improve capacity; however, it does identify a segment that should be monitored as changes occur.

Capacity improvements are recommended on any roadway with a future level of service of D, E, or F, as defined in the roadway capacity discussion within the Roadway Capacity section. Roadways identified above as near congested (having a volume to capacity ratio between 0.75 and 1) or congested (having a volume to capacity ratio greater than 1) are recommended to be monitored and programmed for capacity improvements when necessary. Roadways that are periodically congested (having a volume to capacity ratio between 0.5 and 0.75) are generally identified as providing an acceptable level of service.

Norwood Young America

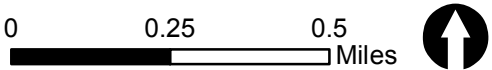
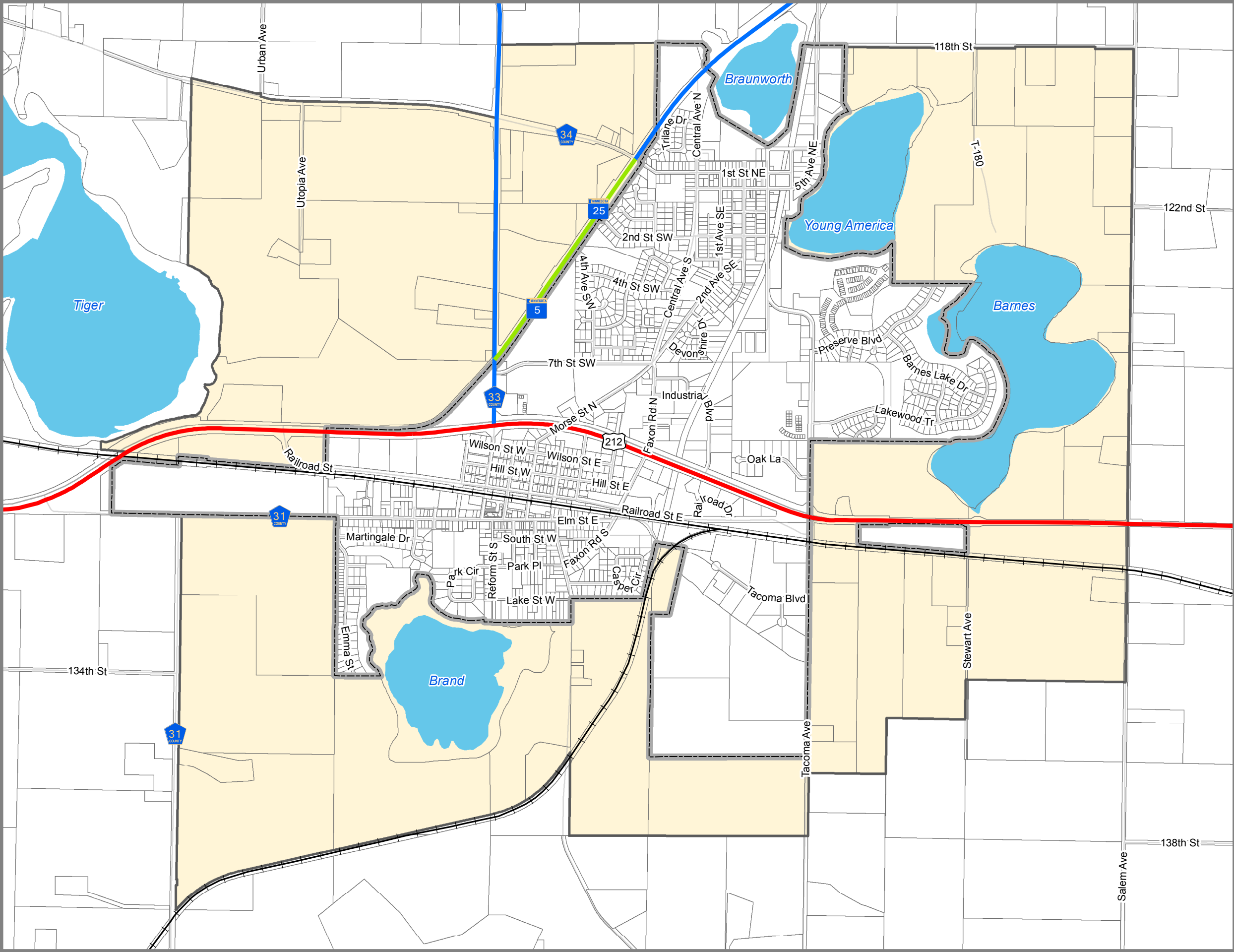
Figure 17:
MnDOT Official Average
Daily Traffic Volumes



Norwood Young America

Figure 18:
MnDOT Official Heavy
Commercial Average Daily
Traffic Volumes

- Official HCAADT
- Less than 100
 - 100 -499
 - 500 - 999
 - 1,000 and greater
 - Municipal Boundary
 - Orderly Annexation

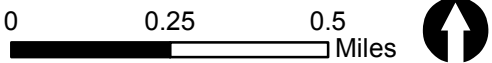
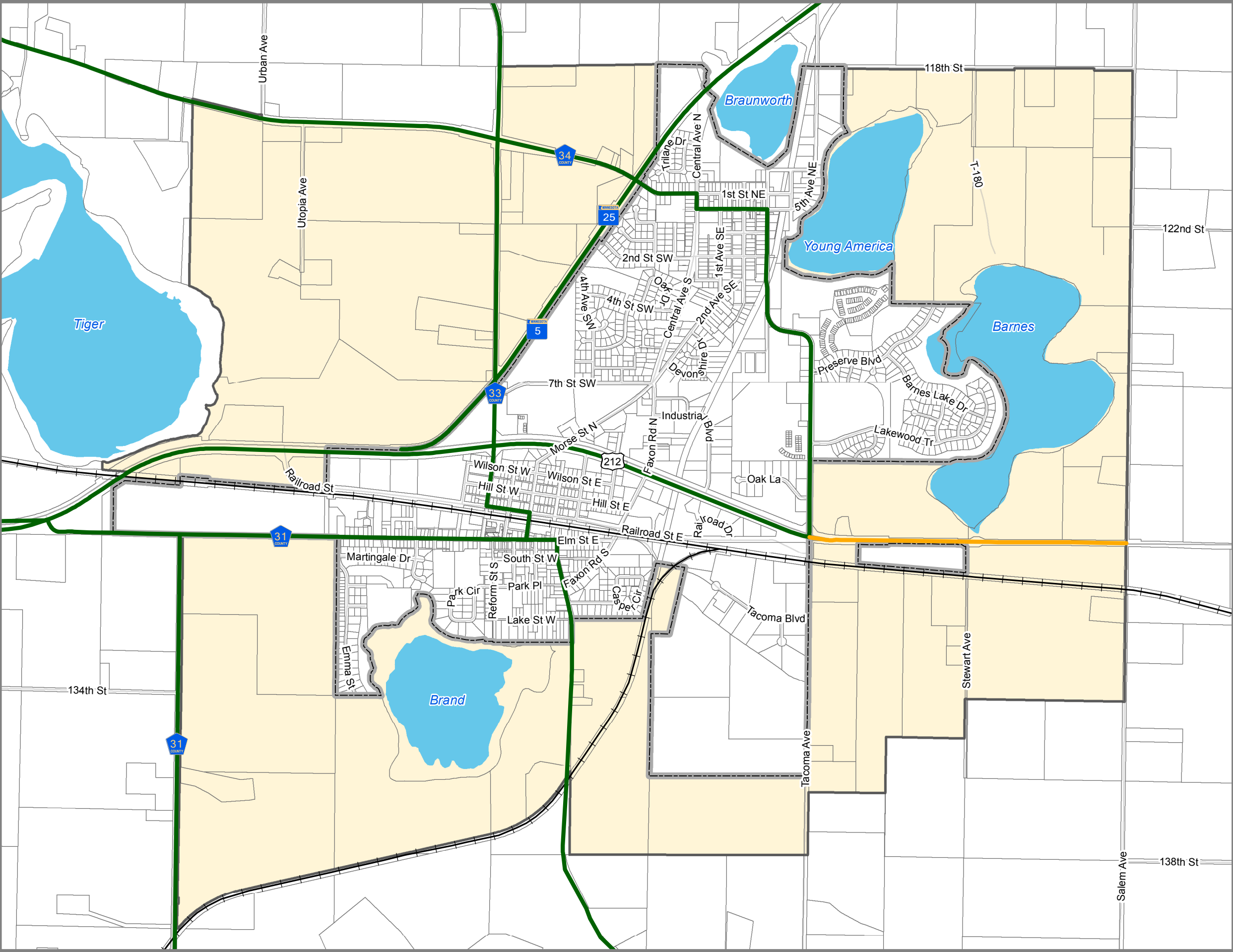


Norwood Young America

Figure 19:
Existing 2014
Volume to Capacity Ratio

Existing 2014 V/C Ratio

- <0.5 - No Congestion
- 0.5 to 0.75 - Periodic Congestion
- 0.75 to 1 - Near Congestion
- Municipal Boundary
- Orderly Annexation Boundary



Safety and Mobility

A planning-level analysis of the existing transportation system in Norwood Young America was completed and included evaluating crash records for the types of accidents most commonly occurring and where accident trends may exist. In the five-year time period from January 1, 2011 through December 31, 2015, there were a total of 120 crashes recorded on the roadways within Norwood Young America (see Figure 20 and Table 20). The high crash locations were identified along US TH 212, which may be partially rectified by the long-term improvements, included in the Highway 212 Corridor Plan. A further study should be completed in the short term as stated in the TH 212 Corridor Plan.

Table 20: Crash History (2011 – 2015)

Year	Number of Crashes					
	Fatal	Personal Injury Crashes			Property Damage	Total Crashes
		Type A Incapacitating Injury	Type B Non-Incapacitating Injury	Type C Possible Injury		
2011	0	0	2	3	16	21
2012	0	0	1	4	17	22
2013	0	0	0	6	24	30
2014	0	0	0	7	19	26
2015	0	0	1	3	17	21
Total	0	0	4	23	93	120

Source: MnDOT

Jurisdictional Issues

The roadway system in Norwood Young America is comprised of roadways under the jurisdiction of the city, Carver County and MnDOT. The County has identified two potential jurisdictional transfers planned for roadways in the city in their 2040 Transportation plan. The first involves the transfer of CSAH 33 from Railroad Street south to CSAH 31 (Elm Street) from the city to Carver County. The second involves the transfer of CSAH 33 from Reform Street east along Railroad Street until Morse Street, and Morse Street south until CSAH 33 (Elm Street) from Carver County to the city. This transfer would remove the existing jog in the county's jurisdiction through the downtown. The city will coordinate with the county regarding this potential transfer.

The city recognizes the county's and State's role in jurisdictional issues and desires active participation in any jurisdictional discussion.

Norwood Young America

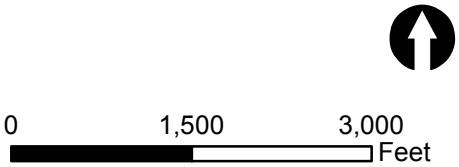
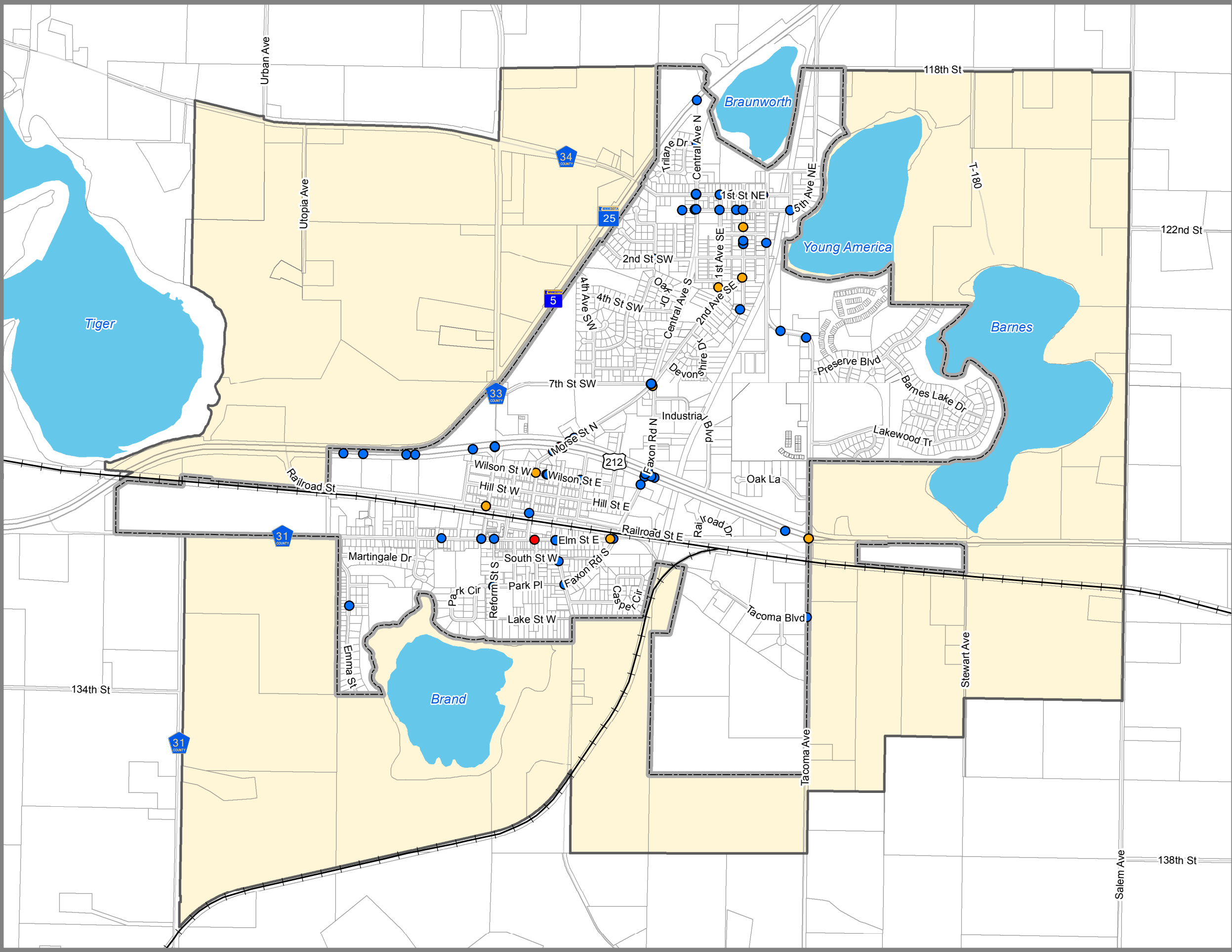
Figure 20:
Existing Crashes, 2011-2015

Crash Severity

- Non-Incapacitating
- Possible Injury
- Property Damage

▭ Municipal Boundary

▭ Orderly Annexation Boundary



Relevant Area Transportation Studies

Four studies have been completed in recent years to provide direction relative to the development of the City of Norwood Young America's transportation system. The following pages describe the findings of each of the studies. In some cases, changes have occurred to the regional system that result in some of the recommendations as no longer viable. As the city continues to work with its partners on roadway improvements, these factors should be taken into consideration.

Highway 212 Interregional Corridor Management Plan¹

In April of 2002, MnDOT issued the Highway 212 Interregional Corridor Management Plan (CMP). This report covered a 160-mile stretch of TH 212 from I-494 to the South Dakota border. The purpose of the CMP is to create a better understanding of the issues and concerns along the corridor, as well as to develop consensus with corridor partners for a long-term vision and action plan that can be implemented over time. Recommendations relative to the City of Norwood Young America and the surrounding area from the CMP and are still relevant today are outlined below.

Short-Term:

- TH 212 at CSAH 31 – Conduct a detailed traffic analysis/study to explore the construction of a westbound left turn lane
- TH 212 at CSAH 34 – Conduct a detailed traffic analysis/study to explore geometric improvements (Complete)

Long-Term:

- Plan to protect right-of-way for improvements to the TH 5 north intersection with TH 212
- Construct a 4-lane expressway TH 212 from Norwood Young America to the west end of the Cologne Bypass
- Plan to protect right-of-way for improvements to the TH 5 north and Faxon Road intersections with TH 212
- Plan to protect right-of-way for improvements on TH 212 from Salem Avenue to Norwood Young America

Norwood Young America Partnership Study²

The City of Norwood Young America, together with Carver County, MnDOT, and the Minnesota Department of Natural Resources, partnered together in 2002 to study the need for controlled access and safety improvements to its current TH 212 accesses, as well as improved traffic movements for local and regional trips. Analysis included preparation of traffic forecasts, development of a model traffic impact ordinance, and environmental impact screening. The results of the study were the identification of short and long-term solutions consistent with the TH 212 IRC Management Plan.

¹SEH, Highway 212 Interregional Corridor Management Plan, April 2002.

²SEH, Highway 212 Interregional Corridor Management Plan, April 2002.

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Short-Term:

- Traffic impact ordinance adoption
- TH 212/ CR 134 (now known as CSAH 34/Tacoma Avenue) interim intersection improvement, including right-of-way acquisition for the northeast (including residential property), southeast, and southwest intersection quadrants
 - In 2006, Railroad Street was realigned, and interim intersection improvements were completed, with the exception of acquiring right-of-way in the northeast quadrant. This will occur concurrent with development.
- Construction of local collector streets as development dictates in the growth transition area
- Construction of local collector street between CR 134 (now known as CSAH 34) and Industrial Boulevard
- Capacity and safety improvements for the at-grade intersection of TH 212 and Faxon Road
- Improvement of CR 34 (now known as CSAH 34) alignment and intersection with TH 5

Long-Term (25 or more years):

TH 212 Mainline and Intersection Improvements

- Four-lane controlled access roadway between Salem Avenue and CR 134 (now known as CSAH 34) with continuous north side frontage road
- Interchanges at Salem Avenue, Faxon Road, and TH 5
- Access closures at CR 134 (now known as CSAH 34)/Tacoma Avenue, Industrial Boulevard, Central Avenue, East Street, Morse Street, and CSAH 33
- Dual frontage roads between Faxon Road and TH 5

CR 134/ Tacoma Avenue Improvements

- Grade-separated crossing of the TC & W railroad
- Grade-separated crossing of TH 212 and cul-de-sac of Railroad Street
- Geometric improvements and roadway realignment southeast of Young America Lake to provide continuous travel movement
- Realigned intersection with TH 5 (5th Avenue)

Transition Area Collector Streets - new connection streets within development transition areas east of the current city limits and connection to Industrial Boulevard. Mitigation and minimization of wetland and cultural impacts should be considered with these improvements.

New South Side Collector Street - connection between Salem, Stewart, and Tacoma Avenues and diagonal alignment to connect with Elm Street

Faxon Road/Central Avenue/SE 2nd Street Improvements - street intersection alignment improvements

Morse Street Improvements - connection to SW 4th Avenue (pending school redevelopment) and modifications to the 5-way intersection (SW 7th Street, Faxon Road, Central Avenue, and SE 2nd Street intersection) which could include a variety of measures from access management to a roundabout

Pedestrian Crossing Improvements - grade-separated pedestrian crossing of US TH 212 between Morse Street and CSAH 33

CSAH 33 Improvements - realignment of CSAH 33/TH 5 intersection and connection with SW 7th Street

Implementation Strategies:

The study identified shared strategies and responsibilities between the study partners to implement the recommendations. These including maintaining communication between study partners and coordinating concept plan reviews to manage access and preserve land for improvements. Also included was official mapping of TH 212 segments to preserve right-of-way from additional encroachments. The first official mapping identified was the interim improvement project planned for TH 212 and CR 134 (now known as CSAH 34). Locating funding for proposed improvements, preliminary design efforts, environmental impact documentation and program, design, and construct to implement the plan elements.

MN TH 5 Corridor Study

Carver County, MnDOT, and the cities of Victoria, Waconia, Chanhassen and Norwood Young America completed a study of MN TH 5 from MN TH 41 to US TH 212 in October of 2008. The intent of the study was to propose and analyze corridor concept alternatives that could be carried into further study and design for improvements to the MN TH 5 corridor. Projected growth within the County and the four communities promoted the completion of the study.

The study reviewed existing and future traffic forecasts for the corridor, analyzed intersection improvements and reviewed potential environmental impacts from the proposed alternatives. Within the City of Norwood Young America, a realignment of the MN TH 5 corridor was selected as the locally supported conceptual layout. This realignment pushed the intersection of MN TH 5 and US TH 212 a half mile to the west to connect with the existing US TH 212 and W Railroad Street intersection, creating a full 4-legged intersection. Additionally, the realignment of the highway removed a barrier for future growth within the northwest quadrant of the city's orderly annexation boundary.

Highway 212 Access Management, Safety, and Phasing Plan³

In 2016, MnDOT issued the Highway 212 Access Management, Safety, and Phasing Plan. This study covered a 14-mile stretch of TH 212 from Norwood Young America to Carver. The purpose of the study was to further investigate this stretch of the TH 212 corridor and provide guidance for future transportation improvements. This study follows the 2002 Highway 212 study and carries through several of the previous recommendations and looked at lower-cost ways to make improvements to the corridor while working towards the long-term conversion of the corridor to a four-lane facility. Recommendations relative to the City of Norwood Young America and the surrounding area from the plan are outlined below.

Short-Term:

- US TH 212 west of Morse Street (2020)
 - Pedestrian underpass (under TH 212)
 - Trail connections
 - Access modifications
- US TH 212 at Faxon Road (2020)
 - Signal and lighting upgrades
 - Overall intersection improvements
- US TH 212 and Reform
 - Signal timing improvements

³SRF, Highway 212 Corridor Access Management, Safety, and Phasing Plan

Long-Term:

- Plan to reconstruct TH 212 to a four-lane roadway (2029 - 2033)

Outside of the 2016 study, Carver County has also pursued funding and preliminary design for the reconstruction of the CSAH 33 and MN TH 5 intersection near US TH 212. This effort proposes the removal of the MN TH 5 slip ramp to US TH 212 and the construction of a roundabout at the current intersection of MN TH5 and CSAH 33. This city shall continue to monitor and participate in the effort as funding is pursued.

Multimodal Transportation

It is recognized that multimodal transportation opportunities impact the economic vitality of a city, county, or broader region.

Transit Service

The City will continue to operate its 5310 Bus to provide contracted transit service. Efforts will be made to identify additional contracts to reach a weekly service goal of 32 hours. The city is designated by the Metropolitan Council as a Transit Market Area V. This designation is used to identify areas of low population and employment densities within the region, which tends to include primarily rural communities and agricultural uses. General public dial-a-ride service may be appropriate in Transit Market Area V areas, but due to the low intensity land uses, these areas are typically not suitable for fixed route transit.

Transit Link service is available within the City of Norwood Young America and surrounding areas through the Carver/Scott Counties Service Area. This service provides scheduled transit connections within the region to areas that are not served by fixed route transit. Riders must schedule their rides between 6 a.m. and 7 p.m. Monday through Friday. Connections to fixed route transit services can be made at any of the six transit hubs within the Carver/Scott Counties Service Area. The East Creek Station is the closest hub to Norwood Young America, located near the intersection of US TH 212 and MN TH 41.

Aviation Plans/Facilities

There are no existing or planned aviation facilities within Norwood Young America. The Minneapolis/St. Paul International Airport is located approximately 35 miles east of Norwood Young America. The closest airport is located in the City of Glencoe, approximately 12 miles west. Tiger Lake is designated by MnDOT for seaplane use.

Freight

There are two active railroads in Norwood Young America. The Twin Cities and Western Rail (TCWR) line is located just north of the south downtown, and runs east-west between Milbank, SD and St. Paul. There is an average of three trains per day using the line. The speed threshold of the line is 30 mph. The Minnesota Prairie Line (MPL) operates on the rail line that enters into the city from the south and it runs between Hanley Falls and Norwood Young America. There is an average of one train per day using the line. The speed threshold of the line is 10 mph. There are four crossings of the TCWR line and local roadways within city limits. Each location includes an active crossing, equipped with gate arms and pavement markings. Any future crossings should be constructed with similar equipment.

Major freight generators are primarily located along the US TH 212 corridor or within the city's industrial park. These freight generators include industrial businesses that ship materials or products as a part of their operations. Additionally, many commercial businesses are dependent on freight shipments for the

delivery of goods and materials sold within their establishment. Access is provided to these freight generators within the city's core from one of the three signalized intersections and access to the industrial park is provided via Tacoma Avenue, an unsignalized intersection with US TH 212. The development of future freight generators will be focused near existing generators, as shown in the future land use plan in Chapter 4.

Regional freight movement contributes to the freight traffic through Norwood Young America. Both US TH 212 and MN TH 5 provide important freight corridors connecting western Carver County to the Twin Cities.

Bikeways, Sidewalks and Trails

The City of Norwood Young America continues to monitor the provision of bikeways, sidewalks and trails to meet the needs of residents. Current facilities and planning efforts focus on the following:

- Provides an overview of existing sidewalk policies
- Inventories the existing sidewalk system
- Establishes goals and policies related to sidewalks, trails and thoroughfares within the community
- Establishes criteria for the location of new sidewalks and trails
- Provides a Master Sidewalk and Trails Plan
- Establishes general subdivision design standards

Future Transportation System Plan

The transportation system is one of the most important elements of a city. The network of streets in a community determines land use configurations and relationships. Many times, the street system plays a major role in the image and feel of a community. It is important that through its street system, a community balance the conflicting needs of motorized and non-motorized modes of transportation.

As growth continues to occur, it will be important for the city to develop a roadway system that is efficient and consistent with the transportation system principles and standards.

Future Roadway Corridors

The Future Land Use Plan was prepared for the 2040 growth boundary based on the current roadway system. As more precise alignments and specifications for these roadways are developed, the City may need to refine the land uses shown. The outcome of any sub-area study for the TH 212/5 interchange may impact the future land uses in that vicinity.

A proposed concept for future roadways in Norwood Young America is provided in Figure 21. This figure provides for the general extension of higher classification roadways into designated growth areas. It also includes the logical extension of other collector roads into new growth areas to accommodate future development. The functional classification designation provides guidance as to how a roadway should be preserved as so it can provide its designated role in the overall roadway network as the city grows and develops. Similarly, it shows new Major and Minor Collector roadways to serve future development.

The corridor alignments identified are conceptual to illustrate general connectivity and continuity to serve post 2040 growth. Actual alignments may vary. It does not identify what improvements may need to be made to existing roads, establish the timing of roadway construction, etc.

Norwood Young America

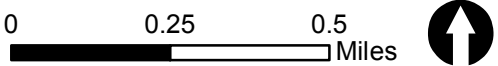
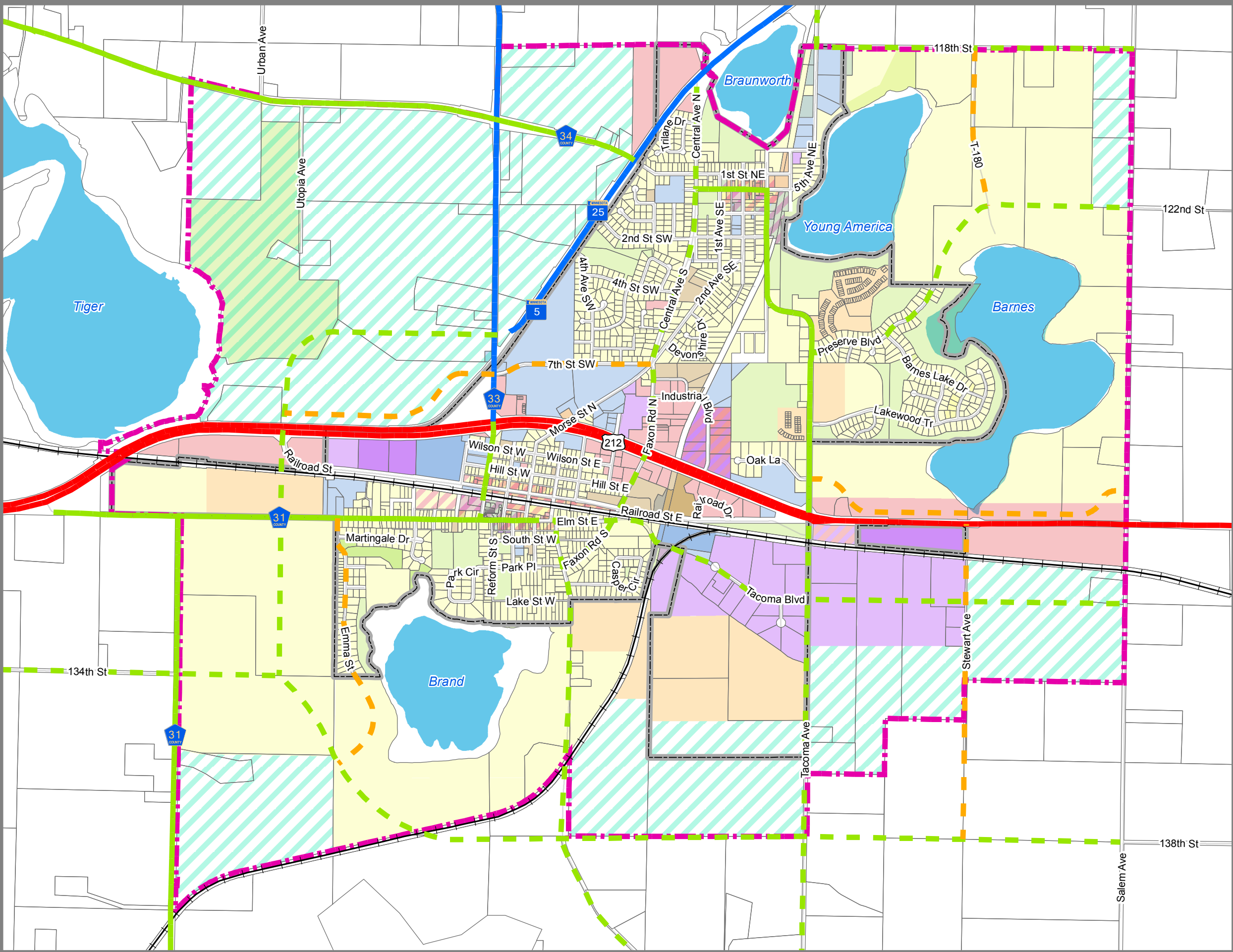
Figure 21:
Future Roadway Concept

Future Roadways

- Principal Arterial
- A Minor Arterial
- Future A Minor Arterial
- Major Collector
- Future Major Collector
- Future Other Arterial
- Minor Collector
- Future Minor Collector

Future Land Use

- Low Density Residential - 1 to 7 units/acre
- Medium Density Residential - 8 to 12 units/acre
- High Density Residential - 12 to 18 units/acre
- Commercial
- Downtown Mixed-Use
- Mixed-Use Commercial/Industrial
- Industrial
- Public/Institutional
- Parks and Open Space
- Planning Reserve
- Municipal Boundary
- Orderly Annexation Boundary
- Lakes



While figure 21 illustrates roadway alignments, expansions and improvements that are expected to occur in many cases several years into the future. However, the city, county, State and any other affected jurisdictions should begin taking steps now to preserve future transportation corridors.

There are two primary ways to accomplish this. One is to acquire needed future right-of-way when feasible. The other is to ensure new development is compatible with future roadway plans. Through its subdivision regulations, the city should require new development be consistent with the roadways identified in Figure 21. For example, subdivision design should provide for the inclusion of the higher classification roadway identified within the concept, through the alignment may be modified.

New Minor Arterial Roadways

The existing TH 5 and CSAH 33 intersection and roadway alignments are currently under design with Carver County. The proposed project will remove the westbound TH 5 connection to US 212 west of CSAH 33. Additionally, this project will construct a roundabout at the intersection of CSAH 33 and TH 5.

Major Collector Roadways

A variety of future major collector roadways have been identified in the future roadway concept to support future development and the existing roadway network.

CSAH 34 is a Major Collector generally located on the northern boundary of the City's identified 2040 growth boundary. The NYAPS identified this corridor would be realigned on the 118th Street alignment beginning approximately ½ mile west of Urban Avenue. The route would be aligned with Central Avenue at MN TH 5. Also, in the northwest quadrant of the 2040 growth boundary, a Major Collector roadway is recommended to connect between the new Highway 5 alignment and 7th Street. This route would provide important connectivity to future land uses paralleling TH 212 and schools located along 7th Street.

Additionally, a new east-west major collector roadway is identified to connect the current core of the city to growth areas to the east. This connection would utilize the existing Faxon Road and Industrial Boulevard intersection to extend to Preserve Boulevard, which would then extend into the proposed low density residential growth area.

Two new east-west corridors are identified south of US TH 212. The northerly corridor connects the existing major collect, CSAH 31 to Tacoma Boulevard and further east through the proposed industrial growth area. The southerly route connects the existing 134th Street on the west side of the growth area to the existing 138th Street alignment, along the southern edge of the study area. Additionally, the existing alignments of Oak Street and Tacoma Avenue are identified as future major collectors to provide north-south connectivity between existing and future development areas.

Minor Collectors

Four new Minor Collector roadways are recommended within the future roadway concept. These roadway alignments provide important connections through new growth areas. The extension of Oak Lane to the east of Tacoma Avenue provides for the creation of a frontage road to provide access for the proposed commercial growth. 7th Street SW is also extended to the west to connect with the proposed MN TH 5 alignment. This extension connects the existing high school with a future development area. The existing Stewart Avenue alignment is also extended to provide an easterly boundary for the proposed industrial park expansion. Finally, Emma Street is proposed for extension to the future Major Collector alignment within the residential growth area.

In addition to the Minor Collector roadways noted above, astute land use planning and subdivision plat review are key to ensuring an adequate local roadway network is developed and future local street traffic issues are avoided. Minor Collector streets are designed to carry traffic to higher-level roadways. They typically do not carry trips through an area; rather they connect non-continuous local streets and provide individual property access.

County Projects

Carver County has identified improvements to several sections of roadway within the planning horizon of this Comprehensive Plan (2040). These projects are listed below:

Transportation Tax Projects/20-year Highway Rehabilitation Plan

- 2-lane to 4-lane reconstruction of US TH 212 from Norwood Young America to Cologne (2029 to 2033)
- Major Rehabilitation of CSAH 33
 - New Germany to US TH 212 (2034-2037)
 - Lake Street to CSAH 50 (2029-2033)
- Major Rehabilitation of CSAH 31 (2029-2033)
 - US TH 212 to CSAH 33
- Major Rehabilitation of CSAH 34 (2024-2028)
 - CSAH 33 to US TH 212

20-year Highway Resurfacing Plan

- CSAH 33 – TH 212 to Lake Street (2029-2033)
- CSAH 34 – CSAH 33 to Western County Line (2029-2033)

Forecasted Traffic Volumes & Capacity Needs

The 2040 traffic projections are shown on Figure 22. Forecasted population, household and employment growth within the Norwood Young America and the greater region, adds additional traffic volumes to the roadway system. The local allocation of these growth forecasts is provided by Transportation Analysis Zone (TAZ) in Appendix E. Using the Carver County model, some roadways are expected to experience a doubling of average daily traffic volumes over the next 25 years (see Table 21).

Table 21: 2040 Forecasted Traffic Volumes

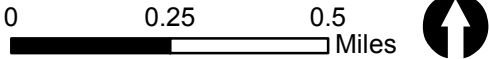
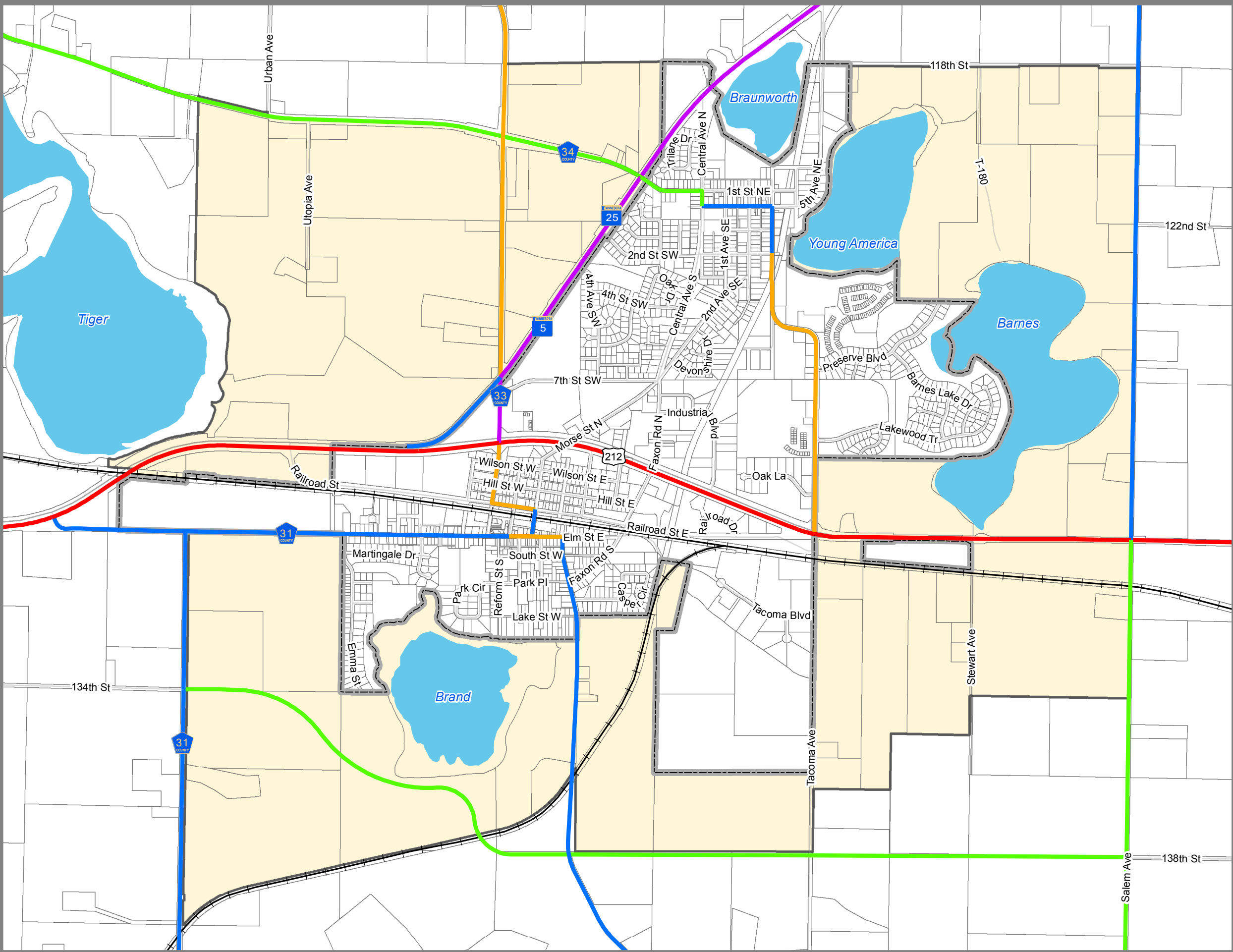
Roadway	Segment	2014 AADT	2040 AADT	% Change
US TH 212	Western Limits to MN TH 5	13,100	15,100	15.3%
	MN TH 5 to CSAH 33	11,700	12,500	6.8%
	CSAH 33 to Tacoma Avenue	11,300	12,500	10.6%
	Tacoma Avenue to Salem Avenue	12,700	16,500	29.9%
MN TH 5	US TH 212 to CSAH 33	1,550	2,100	35.5%
	CSAH 33 to CSAH 34	4,100	6,000	46.3%
	CSAH 34 to Northern limits	6,100	9,400	54.1%
CSAH 34	Western limits to CSAH 33	630	660	4.8%
	CSAH 33 to MN TH 5	590	660	11.9%
	MN TH 5 to Central Ave	430	860	100.0%
	Central Ave to 3rd Street	750	1,300	73.3%
	3rd Avenue to 2nd Street	700	1,200	71.4%
	2nd Street to US TH 212	1,550	2,900	87.1%
CSAH 33	Northern Limits to CSAH 34	1,750	2,900	65.7%
	CSAH 34 to MN TH 5	1,800	3,000	66.7%
	MN TH 5 to US TH 212	4,650	7,300	57.0%
	US TH 212 to Morse Street	1,850	3,600	94.6%
	Morse Street to Elm Street	820	1,000	22.0%
	Elm Street	1,700	2,700	58.8%
	Elm Street to Faxon Road	610	1,700	178.7%
	Faxon Road to Southern limits	670	1,600	138.8%
CSAH 31	US TH 212 to Vera Road	610	1,200	96.7%
	Vera Road to Union St	910	1,000	9.9%
	Union Street to CSAH 33	2,100	3,600	71.4%

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Figure 22:
Forecasted 2040 Average
Daily Traffic Volumes

Forecasted 2040 AADT
Volumes

- 0 to 999
- 1,000 to 2,499
- 2,500 to 4,999
- 5,000 to 5,999
- 10,000 or greater
- Municipal Boundary
- Orderly Annexation Boundary



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The forecasted average daily travel demands approach daily capacities on several corridors, though no corridors are expected to exceed capacity (see Figure 23). At this time, identification of a roadway as periodically or near congested does not warrant immediate capacity improvements. The city shall continue to monitor these roadways as conditions change and volumes grow. Based on 2040 traffic projections, the following roadways are anticipated to be periodically congested or near congested or congested.

Level of Service C – Periodically Congested

1. MN TH 5/25 from CSAH 33 to 5th Ave NE
2. MN TH 25, north of MN TH 5

Level of Service D & E – Near Congested

1. US TH 212 from Tacoma Ave to Salem Ave
2. MN TH 5/25 from MN TH 25 to CSAH 33

Generally, the recommended Geometric Design Standards and associated right-of-way width requirements illustrated in the Geometric Design Standards should maintain the corridor's capacity to accommodate the forecasted traffic volumes on the city's roadways.

Capacity improvements are recommended on any roadway with a future level of service of D, E, or F, as defined in the roadway capacity discussion within the Transportation System Principals and Standards section. Roadways identified above as near congested (having a volume to capacity ratio between 0.75 and 1) or congested (having a volume to capacity ratio greater than 1) are recommended to be monitored and programmed for capacity improvements when necessary. Roadways that are periodically congested (having a volume to capacity ratio between 0.5 and 0.75) are generally identified as providing an acceptable level of service.

Roadway Safety & Mobility Needs

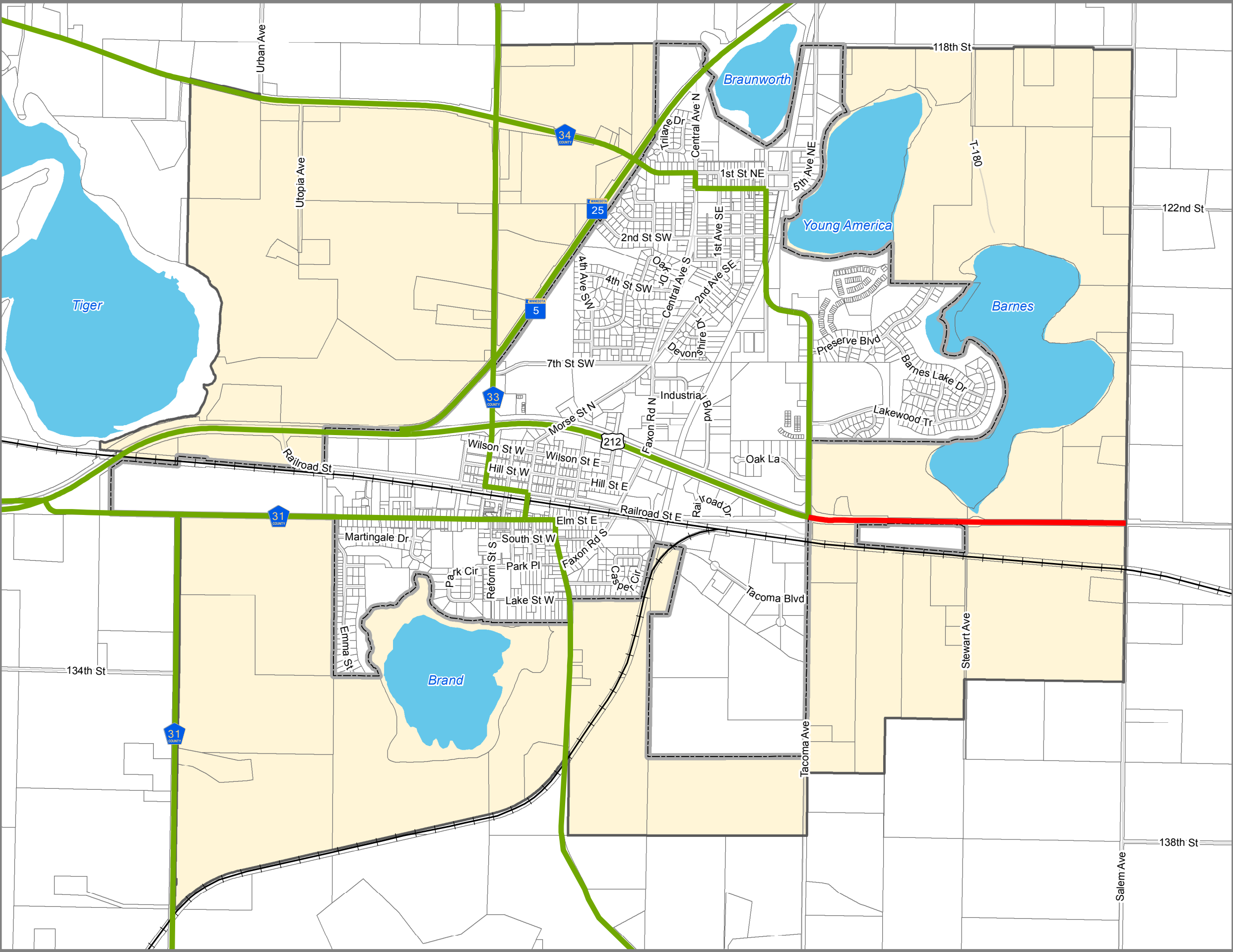
With the anticipated growth throughout the area, some of the roadways within and adjacent to the City of Norwood Young America are in need of capacity improvements by 2040. This is due not only to growth within the City of Norwood Young America, but also growth within adjacent cities and other cities along the highway corridors. With this increase in development and increase in traffic, an increase in congestion is expected for MN TH 5, MN TH 25, and CSAH 33. Since the primary roadways providing significant mobility within the City of Norwood Young America are county and state roadways, the City will continue to coordinate with the State and County to develop parallel routes for local traffic and coordinate in roadway improvements.

As growth and traffic congestion increase in the area, so too will the potential for accidents along local roadways. Collector roadways carrying greater than 1,500 vehicles per day have volumes that tend to create potential conflicts between vehicles, bicycles, and pedestrians. The City, in cooperation with Carver County, will monitor pedestrian and bicycle issues, crashes, near misses, and complaints, and prioritize roadway improvements with pavement rehabilitation needs. Strategies to improve safety and mobility will be considered, including the consideration of adding pedestrian facilities at intersections, non-motorized facilities both along and separate from roadways, additional roadway width for wider lanes or shoulders, or when possible, turn lanes to City collector roadways intersecting with County roadways. To accommodate necessary turn lanes or roadway widening, additional right-of-way may be required at the intersection. As reconstruction of aging infrastructure is pursued on City collector streets the recommended geometric design standards assist in improving safety and mobility.

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Figure 23:
Future 2040
Volume to Capacity Ratio

- Future 2040 V/C Ratio
- <0.85 - No Congestion
 - 0.85 - 1.00 - Near Congestion
 - > 1.00 - Over Capacity
- Municipal Boundary
- Orderly Annexation Boundary



0 0.25 0.5 Miles



Additionally, as traffic volumes approaching an intersection increase, an intersection control evaluation may be necessary. Triggers for an evaluation may include an increase in correctable crashes or an unacceptable traffic back up. Higher volume roadways that could show traffic signal benefits are under the jurisdiction of the County. As the jurisdictional authority, the County will make decisions on appropriate traffic control. The intersection control evaluation would identify the traffic control option (e.g. all way stop, roundabout, possible signalization) and capacity improvements (e.g. turn lanes) necessary to accommodate the traffic volumes in a safe and efficient manner. Future reconstruction may require modifications of existing access to include strategies such as access consolidation, right-in, right-out access only, or the development of a frontage road to improve the safety and mobility of the corridor. Additional right-of-way should be acquired as properties in the area develop or redevelop.

The high crash locations were identified along US TH 212, which may be partially rectified by the long-term improvements, included in the Highway 212 Corridor Plan. A further study should be completed in the short term as stated in the TH 212 Corridor Plan. Based on the forecasted traffic volumes, TH 5 and TH 25 should be improved by increasing roadway capacity. Additionally, if MN TH 5 is not expanded to the east as it connects through Waconia and Victoria, it is anticipated that congestion will increase through those areas. This bottleneck may be alleviated by the recently reconstructed CSAH 10 through Waconia to Chaska, and the currently under construction TH 212 freeway from Chaska to TH 5 and I-494.

Future Study Areas

Beyond the general alignments proposed within the Future Roadway Concept, the city should monitor the pace of growth throughout the city and the status of detailed planning areas. The northwest quadrant of the study area was identified within the land use chapter as an area that may warrant a future detailed sub-area study to identified future land uses. The same can be true for this area regarding transportation improvements.

Multimodal Transportation Opportunities

It is important for the community to plan for the ability to accommodate multimodal activities (i.e. transit, pedestrian, and bicycle) on all non-local roadways to provide other opportunities to move about the city and the region.

Transit Service

Significant changes to the existing transit opportunities are not anticipated, but the city is supportive of transit options, based on the level of growth forecasted by the year 2040. As transit options continue to expand to the western portion of Carver County, the city will participate in planning efforts to pursue the provision of potential transit services (bus, bus rapid transit, commuter rail, etc.) to service the city's growing population.

Aviation Plans/Facilities

Though there are no airport facilities located in Norwood Young America, the city will comply with the regulations and requirements to protect regional airspace using the procedure described below. Federal Regulation Title 14, Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for evaluating the effect of the construction or alteration on operating procedures, determining the potential hazardous effect of the proposed construction on air navigation, identifying mitigation measures to enhance safe air navigation, and charting of new objects. Notification allows the Federal Aviation Administration (FAA) to identify potential

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aeronautical hazards in advance, thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace.

Title 14, Part 77.13 requires any person/organization who intends to sponsor any of the following construction or alterations to notify the Administrator of the FAA when:

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration:
 - Within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet
 - Within 10,000 feet of a public use or military airport which exceeds 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet
 - Within 5,000 feet of a public use heliport which exceeds a 25:1 surface;
- Any highway, railroad or other traverse way whose prescribed adjusted height would exceed that above noted standards;
- When requested by FAA; and,
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

Persons/organizations intending to sponsor construction/alterations which require notification to the FAA under Title 14, Part 77.13 shall notify the FAA using FAA form 7460–1 as may be amended.

The City's Zoning Ordinance should be amended to require persons/organizations intending to sponsor construction/alterations which require notification to the FAA under Title 14, Part 77.13 to notify the FAA using FAA form 7460–1 as may be amended.

Bikeways, Sidewalks and Trails

The city continues to monitor the provision of transportation facilities for all modes of transportation. The Sidewalk, Trails and Thoroughfare Plan discusses future bikeway, sidewalk and trail locations. For each of the county highways within Norwood Young America, roadway shoulders, in addition to trails and/or sidewalks, are recommended on both sides of the roadway to accommodate pedestrian, bicycle, and other non-motorized travel.


There are existing sidewalk and trail facilities throughout the City of Norwood Young America that provide for pedestrian and bicycle movement, see Figure 24. These facilities can be expanded and enhanced as future development occurs. Recent residential subdivisions, such as The Preserve, have placed a higher emphasis on the development of bicycle and pedestrian facilities, and this emphasis should continue as future residential development is pursued. Additionally, important trail connections into new growth areas should be pursued, as depicted in Figure 24. These future trail connections provide connections into new growth areas for non-motorized transportation, and the corridor should be developed.

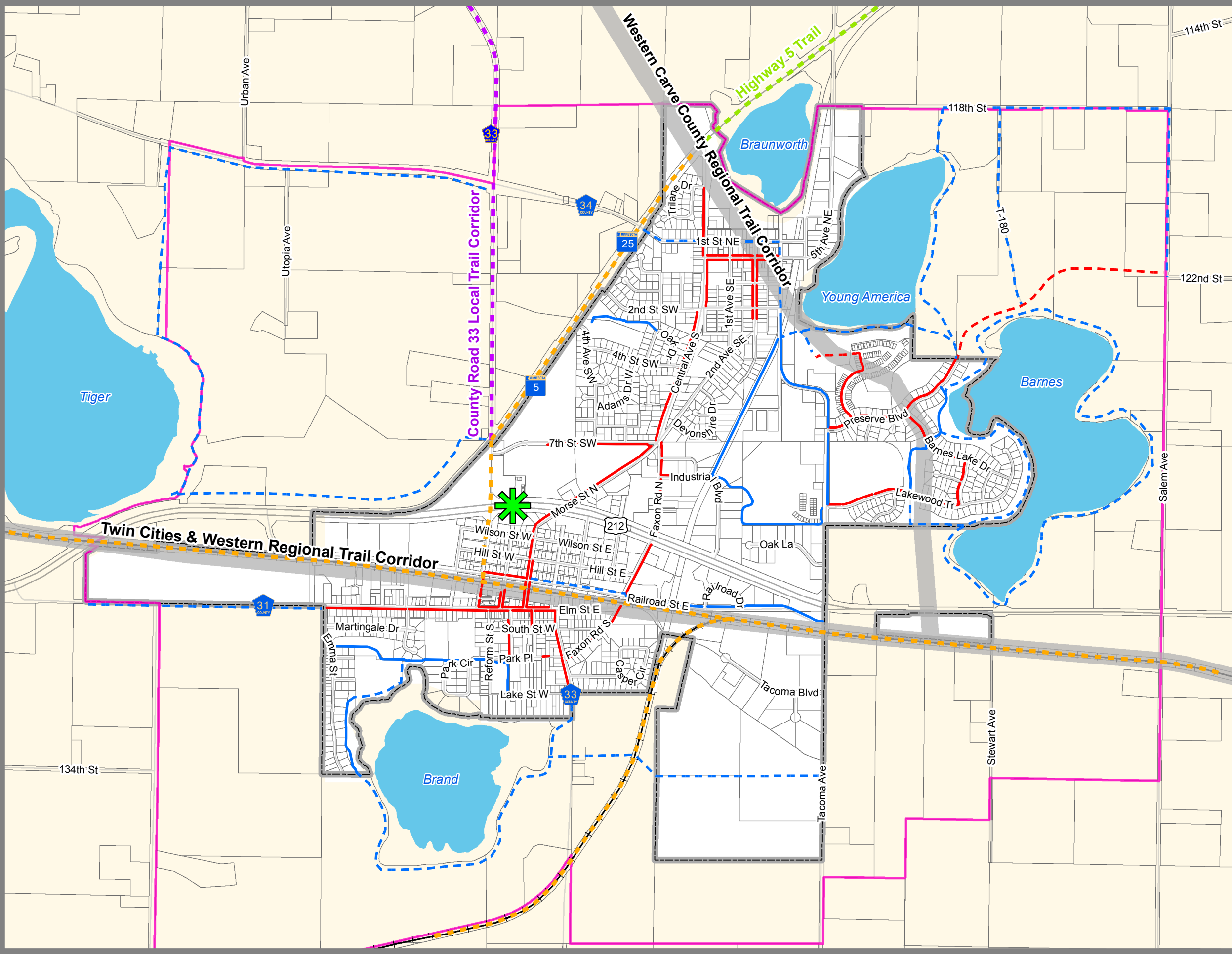
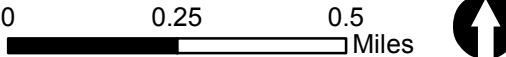
The city will review pedestrian facilities and school routings to determine if they are adequate as traffic conditions change. Shoulders, bikeways, sidewalks and trails will be integrated with the roadway system to provide routes for non-motorized traffic to access existing and future controlled intersections. Non-motorized facilities are to be incorporated into road projects and land redevelopments to safely accommodate pedestrians and bicycles with vehicle traffic in the city, as the city grows. Existing and future sidewalk and trail facilities within the city are identified in the Parks and Trails chapter of this plan.

Norwood Young America

Figure 24:
Sidewalk and Trail
Facilities

- Carver County Local Trail Corridor
- Carver County Regional Linking Trail Corridor
- Carver County Proposed Regional Linking Trail Corridor
- Existing Trail
- Future Trail
- Existing Sidewalks
- Future Sidewalks
- Regional Trail Search Corridor
- Municipal Boundary
- Orderly Annexation Boundary

 Future grade seperated crossing of US TH 212. Preliminary design completed - construction pending funding.



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Trail corridors identified by Carver County are recognized and supported by the City of Norwood Young America. These corridors identify future trail facilities that provide important connections throughout Carver County and the greater region. Carver County defines Regional Linking Trails as paved trails primarily located within road right-of-way or utility easements that provide a link between destinations or other trail corridors. Local Trails are defined as trails that provide an important connection and are constructed in municipal or county right-of-way. The proposed corridors include:

- Regional Linking Trail Corridors
 - Twin Cities & Western Regional Trail Corridor – parallel alignment to US TH 212 connecting western Carver County to the east through Cologne, Chaska and Chanhassen.
 - MN Prairie Line Trail – connects the Twin Cities & Western Regional Trail to the south through Hamburg.
 - MN TH 5 Corridor – connects the Twin Cities & Western Regional Trail to other trail corridors along the existing MN TH 5 alignment.
- Proposed Regional Linking Trail Corridor
 - Highway 5 Trail – connects the cities of Norwood Young America and Waconia using the MN TH 5 alignment
- Local Trail Corridor
 - County Road 33 – connect Norwood Young America to northern Carver County, including a direct connection to Baylor Regional Park.

The city is continuing to pursue a grade separated, pedestrian and bicycle crossing of US TH 212 between Reform and Morse Streets, as shown in Figure 24. Planning efforts and preliminary design have been completed for the underpass, and the city will continue to partner with Carver County and MnDOT to identify funding for the construction of the underpass. The city should continue to monitor the safety of sidewalk and trail crossings of major roadways, particularly as trail crossing are made across US TH 212 and MN TH 5.

On a regional basis, the Metropolitan Council Regional Parks Policy Plan has identified the need for a regional trail corridor extending through the City from US TH 212 to Baylor Park and beyond along the Crow River. The city will partner with other units of government to identify an alignment for this future regional trail.

Transportation Strategies

Various strategies can be utilized to ensure proper transportation improvements are made to provide and protect the infrastructure investment. Astute land use planning and subdivision plat review are key to ensuring the long-term roadway network vision is developed and future traffic issues are avoided. To accomplish this, each development proposal (e.g. redevelopment of a single parcel, plat review, change of use, expansion of a business or operation, etc.) should be evaluated for consistency with the following policies/standards.

1. Work with property owners and developers to remove and/or relocate existing driveway and field approaches off non-local roads.
2. Provide road and trail connectivity between adjacent parcels.
3. Review/require access spacing that is consistent with the transportation plan.
4. Connect residential and non-residential areas.
5. Review developments for the accommodation of transit opportunities as part of the development review process.
6. Require turn and bypass lanes on non-local roads impacted by new development, including those that are not immediately adjacent.
7. Require off-site improvements, including those in other jurisdictions, where the existing transportation network will be directly impacted by new development, including where the development is not immediately adjacent. This could include but is not limited to paving roads, repairing surfaces, fixing sub-standard drainage, improving sight distances, etc.
8. Require the dedication of rights-of-way for all required future transportation improvements identified in the transportation plan including trails, roads, bridges, transit facilities, drainage, utilities, and any other related improvement requiring use of a corridor/location.
9. Require the equitable participation in the construction of collector and arterial roads.
10. Review probable neighborhood traffic patterns, areas where excessive speed is possible, and the potential for pedestrian conflicts.
11. Require all local roads to be constructed to property lines, or the corresponding amounts of money be escrowed, where stub streets are proposed to adjacent properties, but are not immediately warranted.
12. Require fees, construction participation, and/or cost participation proportionately to future required infrastructure such as overpasses, interchanges, and other local/county responsibilities as afforded by law and justifiable.
13. Require traffic impact studies, including the analysis of intersections to determine the need for and contribution to intersection improvements.

Potential Funding Sources

There are a number of various funding mechanisms available to support transportation projects these include the following.

Federal Funding

Norwood Young America may apply for federal funds for highways through the Surface Transportation Program of the Federal Highway Trust Fund, through MnDOT's Area Transportation Partnership (ATP). Solicitation occurs approximately every two years, with federal funding covering 80 percent of a project's cost. Types of projects funded include highway reconstruction, safety projects, trails which are part of projects, transit and park- and-ride projects.

State Aid

An important source of revenue to the City is State Aid. A network of City streets called Municipal State-Aid Streets (MSAS) are eligible for funding assistance with revenue from the State Highway User Tax Distribution Fund. This constitutionally-protected funding allocation is comprised of gasoline taxes and vehicle registration fees and is allocated based on a formula that considers the population of a City and the financial construction needs of its MSAS system.

Ad Valorem Taxes

For situations in which 20 percent of the cost of a City project can be assessed to the adjacent property owners, the remaining cost of the project can be added to the ad valorem or property taxes of the remaining property owners in the City. Ad valorem taxes for street improvements are excluded from the State-mandated levy limits.

Tax Increment Financing

Establishing a tax increment financing (TIF) district is a method of funding infrastructure improvements that are needed immediately using the additional tax revenue to be generated in future years by a specific development. Municipal bonds are issued against this future revenue, which is dedicated for a period of years to the repayment of the bonds or to other improvements within the TIF project area. TIF districts can accelerate economic development in an area by ensuring that the needed infrastructure is in place without requiring support from the usual funding.

Grant Funding

There are many opportunities for metropolitan cities to take advantage of various grant funding initiatives. Regional Solicitation and Highway Safety Improvement Program (HSIP) are among grant solicitations for the Twin Cities metropolitan area. The City should monitor the grant funding opportunities available for applicable projects and submit applications when possible.

Collector and Local Streets

Developers may be required to fund the entire cost of Minor and Major Collector Roadways, as well as local streets as a part of their development fees.

Traffic Forecasts

The traffic forecasts were obtained from the 2040 Carver County Roadway Systems Plan. The forecasts were determined by the County through the use of a travel demand model. This travel demand model forecasts the amount of travel on transportation facilities given assumptions of future development and transportation system improvements. Forecasts that were developed for Carver County reflect the 2010 Regional Travel Behavior Inventory Survey and accounts for observed local household trip rates and changing travel behavior as of 2010.

The travel demand model uses development activity to estimate travel activity. This development activity includes population, households, and employment (retail and non-retail). Norwood Young America is represented by six Metropolitan Council transportation analysis zones (TAZs). Carver County has further divided the Metropolitan County TAZ structure, and the city's growth occurs in 14 of the County's TAZs. The socioeconomic (population, household, and employment) information within each TAZ is shown in Table 22. The future land use plan and phasing plan outlined in Chapter 4 were used to assign socioeconomic data to each TAZ. For example, a TAZ which included 10 acres of medium density residential growth by 2040 would show an increase of 64 households to account for that development (8

CHAPTER 5 – TRANSPORTATION

acres of net developable area at a minimum of 8 units per acre). The densities for household and employment were used as outlined in Chapter 4.

Table 22: Socioeconomic Information by Transportation Analysis Zone (TAZ) – 2040 Forecast

Met Council TAZ	Carver County TAZ	2040 Forecasts		
		Population	Households	Employment
309	124	646	275	33
313	117	889	350	200
313	118	343	160	0
313	119	572	266	0
314	120	1,491	640	575
314	121	613	257	1
314	122	435	182	168
315	31	802	338	425
315	270	717	300	525
315	271	233	100	63
316	32	1,200	500	22
316	123	426	192	80
316	265	833	340	8
Total		9,200	3,900	2,100

The traffic projections assume the following improvements in Table 23 were made to the regional roadway system, as identified in Thrive 2040 or local Capital Improvement Programs (CIP).

Table 23: Assumed 2040 Regional Roadway System Improvements

Roadway	From	To	Improvement
MN TH 41	US TH 212	0.3 miles north of Pioneer Trail	Expand to 4 Lanes
MN TH 101	CSAH 61	Pioneer Trail	Expand to 4 Lanes
MN TH 41 and US 169	Interchange		Interchange Improvements

The only new or improved corridors in the Norwood Young America area included in the County's 2040 travel demand model were the extension of Preserve Boulevard to Salem Avenue, the extension of

Railroad Street East to Salem Avenue, and the extension of 134th Street to Salem Avenue along the 138th Street alignment.

Planning for the Future

Throughout the City of Norwood Young America's comprehensive planning effort, the city will consider how to address existing transportation needs, while setting the stage for future growth. Items for consideration include the following:

- Connected Vehicles and Autonomous Vehicles
- Performance Standards and Measures
- Project Prioritization
- New Revenue Sources
- New Maintenance Techniques
- Asset Management
- Bicycle Amenities
- Car Sharing Provisions
- Complete Streets and Safe Routes to School

Connected Vehicles and Autonomous Vehicles

Connected Vehicles (CVs) refers to vehicles that communicate with one another and with other elements of intelligent transportation infrastructure. Autonomous, automated, or self-driving vehicles (AVs) describes a spectrum of vehicles that require varying degrees of human control. Connected Automated Vehicles (CAVs) refers to both technologies, which are automated vehicles connected to other vehicles and the transportation system.

There is a wide range of forecasted adoption scenarios for CV and AV technology. Analysts from the automotive industry tend to provide more conservative forecasts, while analysts from the technology world tend to be less conservative, with some forecasting heavy adoption by as early as 2030. Before widespread adoption occurs, there will be an extended period during which the developing CV and AV platform must coexist with human-operated personal vehicles, as well as with public transit, pedestrian users, and other modes. In Metropolitan Council's 2040 TPP, it is noted that the implications of connected and automated vehicles need to be thoroughly examined. As with many new transportation technologies, automated and connected vehicles are likely to penetrate urban markets prior to expanding to the suburbs, especially if they are initially developed through a ride-hailing platform.

Performance Standards and Measures

A performance-based approach improves the accountability of local infrastructure investments, assesses risks related to different performance levels, and monitors progress and increases transparency.

Project Prioritization

Project prioritization can help the city rank infrastructure needs in a manner that is consistent with preservation goals and objectives. This technique can help avoid the typical "worst first" approach to programming preservation projects that tends to invest limited resources in the most expensive improvements instead of directing maintenance funds to infrastructure that merely need rehabilitation, which will provide more cost-effective solutions in a timely manner.

New Revenue Sources

There are methods to capture new revenue streams to close the financial gap in maintaining assets in a state of good repair. Exploring new revenue sources will allow the city to expand and accelerate preservation initiatives.

New Maintenance Techniques

There are new maintenance techniques that can extend the lifecycle of an asset. For example, new maintenance techniques for roadway surfaces can provide longer service life and higher traffic volume thresholds, resulting in more stable road maintenance costs. Cost reduction of life cycle extension strategies which save money, or extend surface life, can directly benefit preservation needs, and minimize any identified financial gap.

Asset Management

Tracking assets and their condition will provide a stronger outlook on lifecycle costs and replacement schedules. This will help establish funding plans and identified future funding gaps or shortfalls.

Bicycle Amenities

Actively promoting bicycling as an alternative means of travel to and from a destination can be achieved through information dissemination and the provision of bicycle storage facilities and adding on-street bicycle lanes and additional connections to trails. These actions can help decrease the demand for vehicle parking.

Car Sharing Provisions

Car sharing programs provide mobility options to a cross section of residents who would not otherwise have access to a vehicle. These programs encourage the efficient use of a single vehicle among multiple users, while reducing the amount of parking needed to accommodate each resident within a neighborhood. Zoning language can encourage or require new developments of a certain size to include off-street parking provisions for car sharing programs.

Complete Streets and Safe Routes to School

Complete Streets are commonly defined as roadways that accommodate all users such as pedestrians, bicyclist, vehicles and transit, regardless of age and ability. This is important to consider when recognizing the diversity of people traveling throughout the community.

The city's goals and policies embrace a roadway system that provides for multiple modes. MnDOT has adopted a Complete Streets Policy, last updated in May 2016, and has committed to assessing opportunities for incorporating complete street design principles in all MnDOT projects. MnDOT's Complete Streets Policy can serve as a resource to the City for incorporating complete street design standards into City projects.

Safe Routes to School is a national initiative to increase safety and promote walking and bicycling for America's youth. The Safe Routes to school program will assist in providing infrastructure and non-infrastructure grants to build trails, paths, and safe connections to local schools.

Planning for safe routes to schools will require specific attention to certain elements such as bike routes, complete street treatments, sidewalk networks, pedestrian/bicycle amenities and wayfinding signage. Combined, these elements can create Safe Routes to Schools or Complete Streets.

Chapter 6 – Natural and Water Resources

The existing natural resources of a community contribute to its overall character and quality of life for its residents. Many of these natural resources include wetlands, lakes and rivers that are directly ties to a city’s municipal water services. This chapter highlights the existing condition of the city’s natural resources and water systems and discusses plans for the future.

Natural Features

The Norwood Young America area possesses a number of environmentally sensitive areas. Protection of environmentally sensitive areas not only allows them to be enjoyed for generations to come, but also contributes to the quality of life for Norwood Young America residents today. An inventory of the Norwood Young America area’s environmentally sensitive resources is described below (see Figure 25).

The purpose of this section is to identify areas of high environmental and natural resource value. Many times, these features were used to determine what kind of adjacent land use may occur and the intensity of that use. While there is a substantial portion of the area that is inherently suitable for urban development, other areas have intrinsic natural value. These areas function best if left in a natural state or are protected from urban development. Preservation of significant natural resources is a legitimate goal for the city and through preservation, recreational opportunities and a high quality of life can be maintained for Norwood Young America area residents.

Shorelands

The DNR’s shoreland management program provides for the orderly development of shoreland and protects lakes and rivers from pollution by individual sewage treatment systems and non- point sources. The intent of this program is to encourage development of shorelands in ways that enhance water quality and preserve scenic resources. The program implements the Shoreland Management Act, which regulates all land within 1,000 feet of a lake and 300 feet of a river.

The standards for any given lake or river varies depending on its classification. The DNR provides for three classifications of lakes: Natural Environment, Recreational Development and General Development. Rivers have six primary classifications: Remote, Forested, Transition, Agriculture, Urban and Tributary. In addition, some rivers have special classifications other than those listed above. These include state or federal Wild and Scenic rivers, Critical Area rivers, trout streams and special river management districts.

The Norwood Young America area has adopted shoreland regulations. The regulated waterbodies located in the City of Norwood Young America are identified in Table 24.

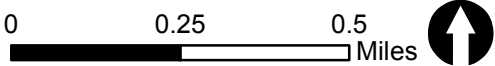
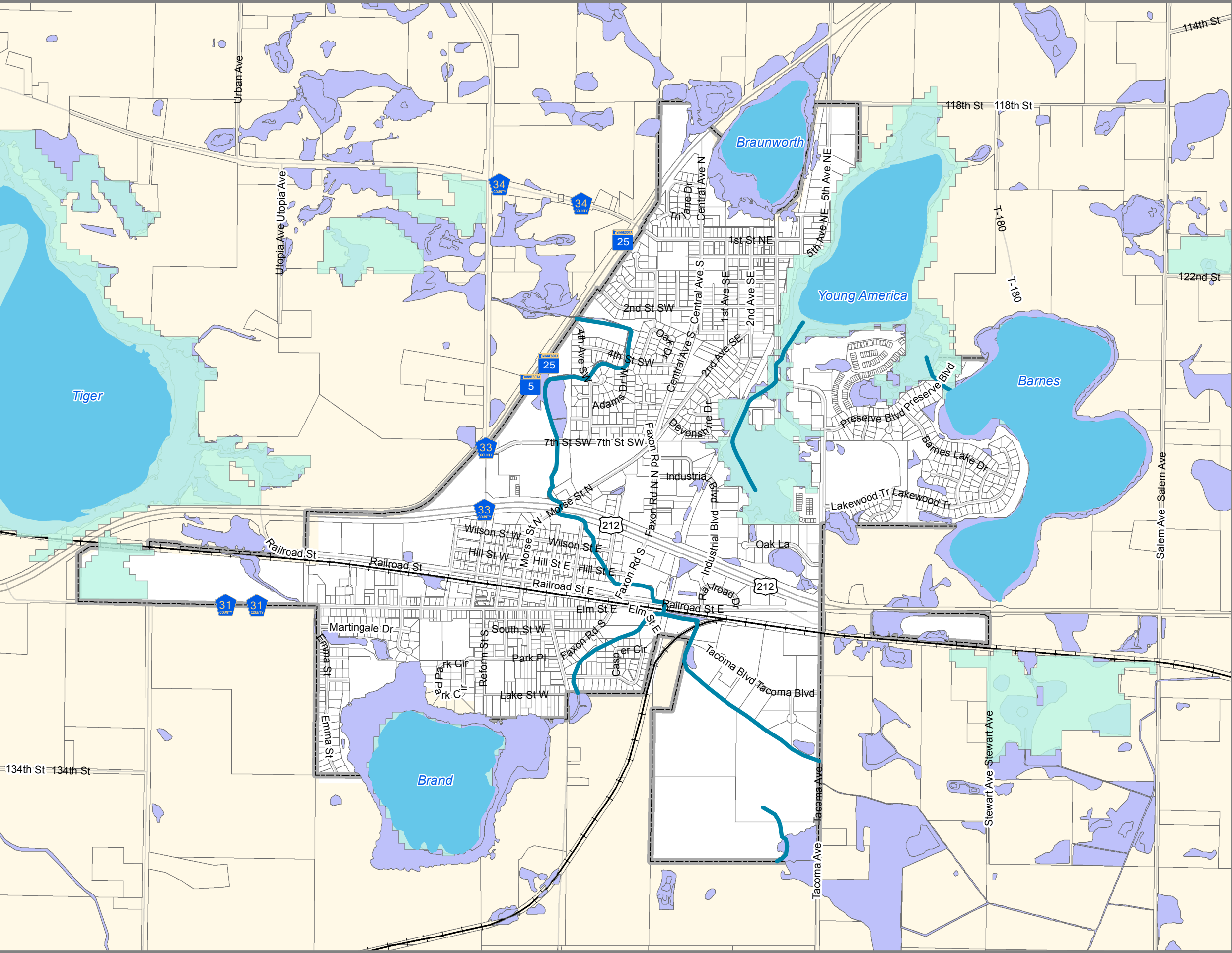
Table 24: Shoreland Classification

Name	DNR Identification Number	Classification
Brand Lake	110P	Natural Environment
Braunworth Lake	107P	Natural Environment
Young America Lake	105P	Natural Environment
Barnes Lake	109P	Natural Environment
Tiger Lake	108P	Natural Environment

Norwood Young America

Figure 25:
Environmental Features

- Lakes
- MLCCS Regionally Significant Ecological Areas
- National Wetland Inventory
- Rivers and Streams
- Parcels



Watercourses

There are three watercourse systems in the city and surrounding area that are classified as public waters. These include:

- 1) the stream connecting the 10-180W – Braunworth Lake – Young America Lake – Barnes Lake drainage system,
- 2) the stream that flows through Friendship Park flowing south through the school property then east to Bevins Creek, and
- 3) the stream flowing from Brand Lake northeast to the above-mentioned stream. Unclassified watercourses include: 1) the stream that connects 10-181W wetland with Young America Lake.

Wetlands

In the past, wetlands were generally regarded solely as obstacles to development. Only recently have public attitudes changed and brought the destruction of these productive areas to an end. Most wetlands are valuable for storing and stabilizing surface waters to alleviate the danger of droughts and floods and support wildlife habitat areas. They also serve as the primary method of recharging aquifers to ensure a continued supply of water to serve an area's needs. Wetlands also serve to cleanse and purify the water by removing nutrients and other contaminants in storm water runoff.

The wetland areas within the Norwood Young America area are shown on Figure 20. Wetlands comprise approximately 13 percent of the city's area, covering about 161 acres.

Wetland regulations depend upon what a landowner intends to do with the wetland. Two of the regulatory bodies having jurisdiction over wetlands, the Army Corps of Engineers and the Minnesota Department of Natural Resources, and each regulate them differently. The Wetland Conservation Act (WCA) of 1991 outlined a program for the conservation of wetlands. The WCA in Minnesota is directed through the Minnesota Board of Water and Soil Resources (MBWSR) with the DNR acting as the enforcement agency. In addition, a local unit of government must accept responsibility and designate itself as the "local governmental unit" (LGU) in charge of the Wetland Conservation Act (WCA) and may develop and apply their own wetland protection regulations that administer the intent of the WCA. Norwood Young America has designated itself as the LGU.

Groundwater

The City of Norwood Young America takes its municipal water from aquifers. It is not currently anticipated that the city's municipal water supply provided by the Jordan and Hinckley aquifers are at risk of being depleted. Radium pollution of groundwater is the more critical issue, a condition for which the city will continue to monitor and mitigate. This is discussed under Water Supply later in this chapter.

Environmentally Sensitive Areas

The Minnesota Department of Natural Resources (DNR) County Biological Survey identifies native plant communities and rare species. The Biological Survey began in 1987 to systematically identify and catalogue rare biological features and has been completed in 60 of Minnesota's 87 counties; among these is Carver County.

The Endangered Species Act of 1973, which is regulated by the U.S. Department of the Interior, Fish and Wildlife Service, protects rare, endangered and threatened species, but there are currently no regulations pertaining to the natural communities identified by the DNR. However, any project funded in whole or part with federal dollars must be reviewed by the DNR, as do projects that require the preparation of an

CHAPTER 6 – NATURAL AND WATER RESOURCES

Environmental Assessment Worksheet (EAW) or Environmental Impact Statement (EIS). During this review process, the DNR may provide site-specific development recommendations if natural communities are present. In the Norwood Young America area, the Survey identifies a colonial waterbird nesting site on Tiger Lake.

Topography

Topography within the City of Norwood Young America is generally flat and conducive to urban development. Typical elevations range from 965 to 1005 feet above sea level with lower elevations corresponding to shallow public water basins.

Soils

Soils can impact the type and density of urban development. Generally, the best sites for urban development are nearly level to gently sloping, deep, well drained soils that are fairly free of stones and boulders. Two soil associations are present within the corporate limits and/or orderly annexation area:

- Lester-LeSueur-Peat association: Gently rolling, deep, medium textured to moderately fine textured soils in uplands.
- Hayden-Lester-Peat association: Strongly rolling to hilly, deep medium textured to moderately fine textured soils in uplands. Hayden and Lester series and soils are generally loamy, deep, and well drained and not subject to flooding. These series and soils generally pose only slight limitations as locations for urban uses.

Watershed

The term ‘watershed’ refers to the entire physical area or basin drained by a distinct stream or riverine system. Gravity and topography are the two major factors that define a watershed.

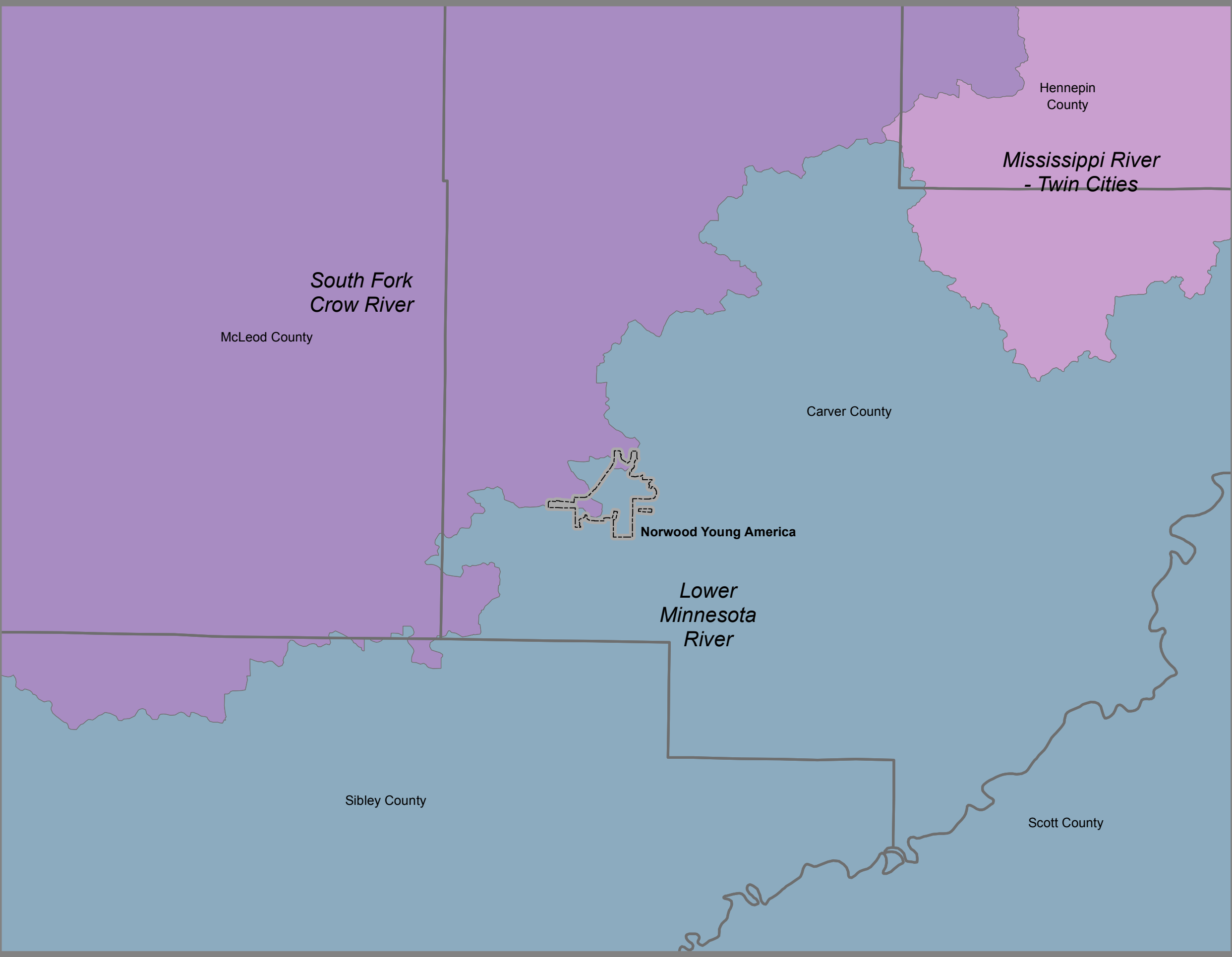
Watersheds help authorities to evaluate the quality and quantity of local water resources. As depicted in Figure 26, Carver County is traversed by two major surface water watersheds: the South Fork Crow River Watershed and the Lower Minnesota River Watershed.

Carver County is the responsible agency for watershed planning in an area called the Carver County Water Resource Management Area (CCWRMA) which is made up of the former watershed management areas of Pioneer Creek, Chaska Creek, Bevens Creek, Carver Creek, Hazeltine-Bavaria Creek (now East Chaska Creek), and the Crow River. The CCWRMA includes the entire corporate limits and all or most of Camden, Hollywood, Waconia and Watertown townships.

Carver County has implemented a Water Management Plan which is intended to be ten-year planning document to guide WMO activities. The plan focuses on four elements: land and water resources inventory, major issues, implementation program, and administration.

Figure 26:
Watersheds

- Watersheds**
- Lower Minnesota River
 - Mississippi River - Twin Cities
 - South Fork Crow River
- Municipal Boundary**
- MN Counties**



0 2 4 Miles



CHAPTER 6 – NATURAL AND WATER RESOURCES

The city requires proposed development maintain compliance with Minnesota Pollution Control Agency standards and local stormwater/erosion control ordinances/procedures. In addition, the City of Norwood Young America maintains policies and regulations that are consistent with the Carver County Water Management Plan. The Carver County Water Management Plan includes the following goal statements:

- Regarding Independent Sewage Treatment Systems:
 - Eliminate all non-conforming systems,
 - Ensure that all new systems, repairs and replacements are properly designed and installed,
 - Ensure all ISTS are properly operated, managed and maintained.
- Manage feedlots so that all surface water and groundwater is not impaired.
- Manage construction sites to implement Best Management Erosion and Sediment Practices (BMESPs) and prevent on and off site erosion and sedimentation.
- Provide stormwater attenuation and to minimize degradation of the county's water resources through a reduction in the amount and rate of surface water runoff from agricultural and urban land uses.
- Promote water resource protection in the county and encourage public and private landowners to implement conservation practices on the piece of land for which they are responsible.
- Maintain a comprehensive, accurate assessment of surface and ground water quality trends over the long term.
- Manage and restore wetlands in the county to protect the values of wetland functions as determined from a wetland inventory, wetland functional values analysis, and hydrologic modeling.
- Relating to groundwater:
 - To protect water supplies by assisting in the implementation of the Minnesota Department of Health (MDH) Wellhead Protection rules.
 - To prevent possible aquifer contamination by identifying and sealing all abandoned wells in the county.
 - To ensure an adequate supply of water for residential, commercial and other needs in the county.
 - Eliminate the risk of groundwater contamination from existing or future storage tanks.
 - Prevent any contamination of groundwater from the disposal or handling of solid and hazardous waste.
- Manage the county's water resources as a way to preserve, protect, and enhance the natural resources.
- Provide those living, working, and recreating in Carver County with the knowledge and skills required to assure protection and improvement of the county's surface water and groundwater resources.

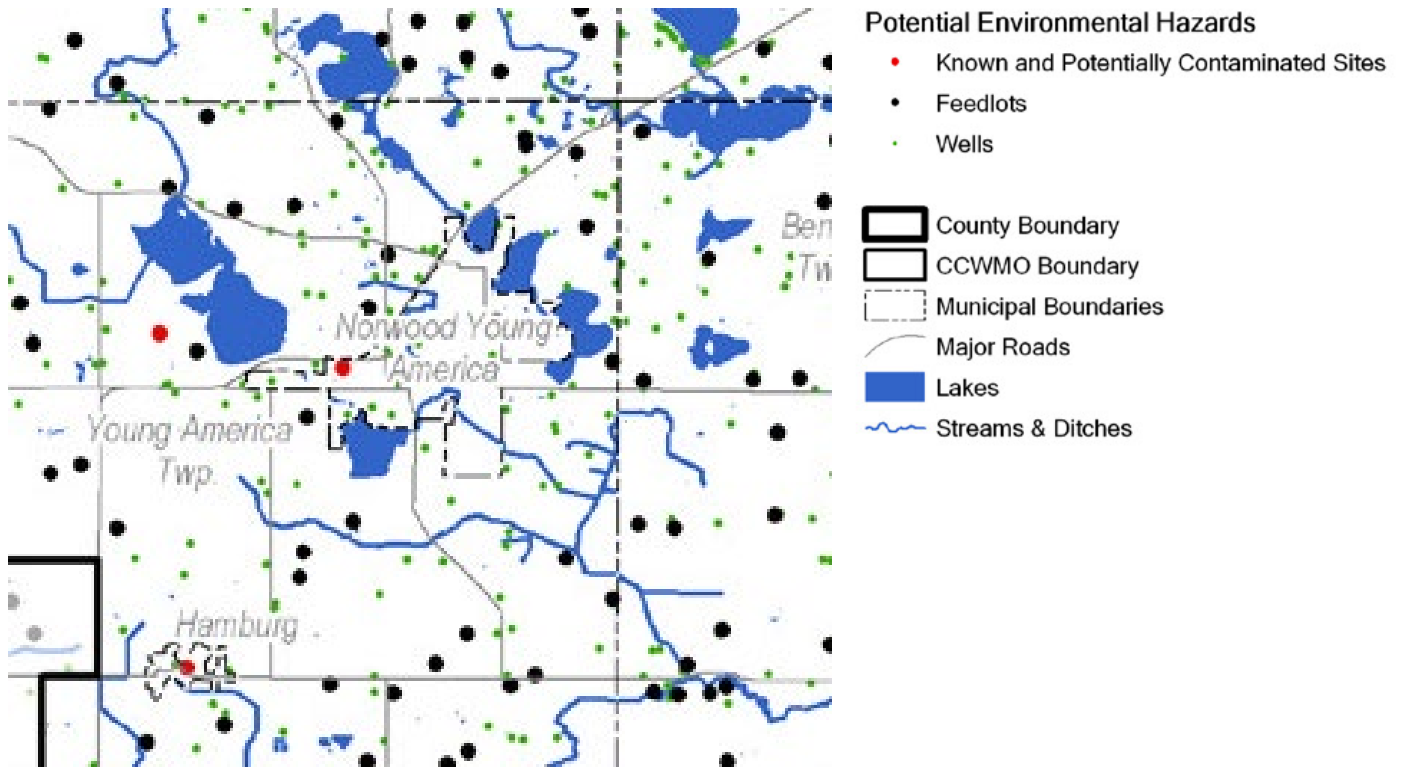
Feedlots and ISTS

Maps created for the Water Management Plan (WMP) by Carver County illustrate locations of feedlots and independent sewage treatment systems (ISTS). The WMP identifies steps for managing existing and future feedlots and the installation, repair and/or replacement of individual sewage treatment systems. Emphasis is placed on managing such facilities so as to protect surface water and groundwater from becoming impaired. Although the City of Norwood Young America may have limited exposure to feedlot issues it is important to be mindful of potential conflicts between agricultural operations and urban

CHAPTER 6 – NATURAL AND WATER RESOURCES

development and to retain the agricultural, small-town nature of the community that many have indicated is inherent to the identity of the city. The image in Figure 27, below, illustrates feedlots within or in close proximity to the proposed urban growth boundary by the presence of animal units. The image also depicts feedlots in relation to shoreland/floodplain areas.

Figure 27: Feedlot Locations



Source: Carver County WMP, 2016

The single "Known and Potentially Contaminated Sites" identified in Figure 27 is the location of a former gas station with fuel storage tanks. The gas station was located at the current Kwik Trip site. Contamination was cleaned at the site when the new gas station development was constructed.

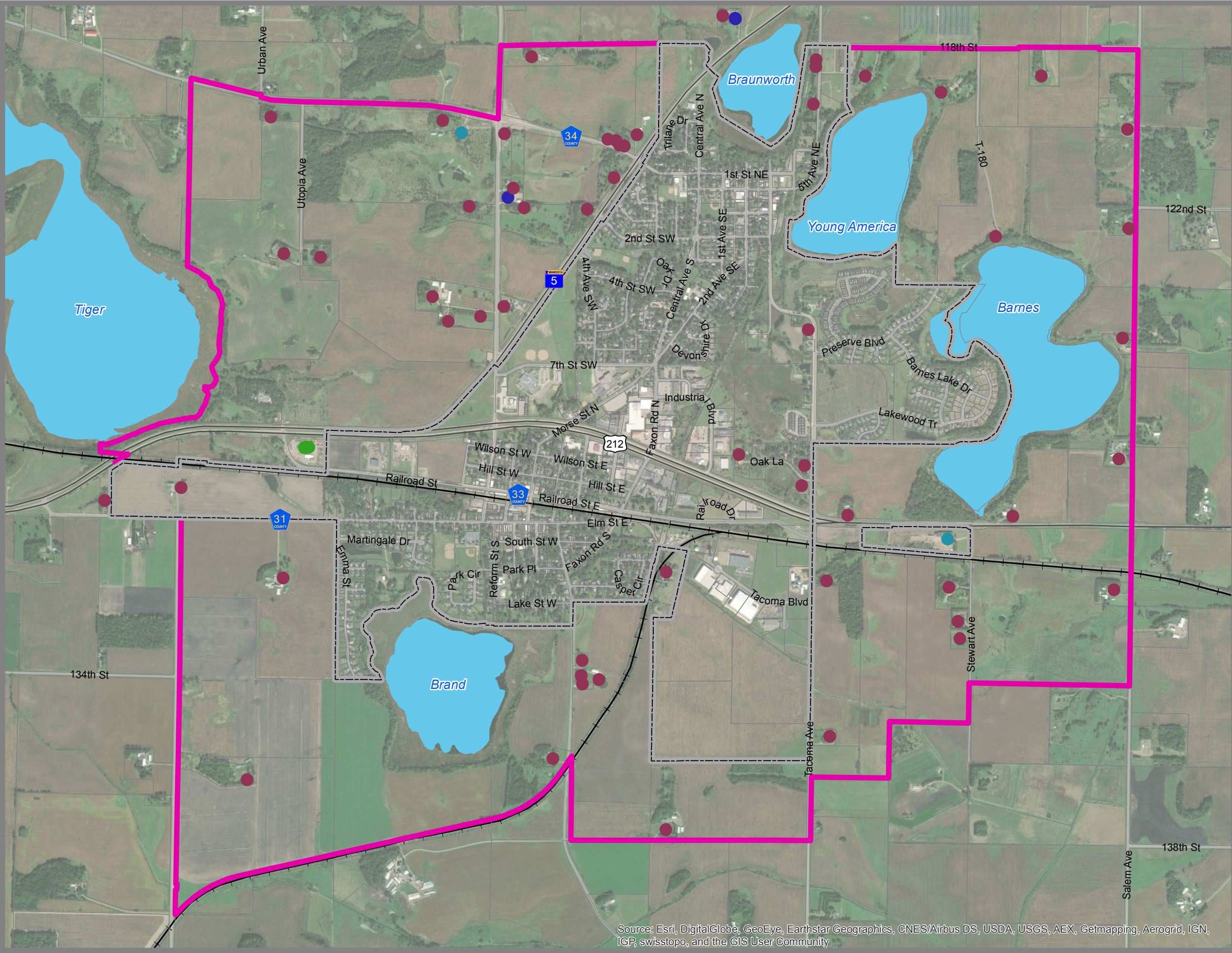
A few ISTS remain within the city limits mostly in areas near the corporate boundary. ISTS within or in close proximity to the city and/or annexation area are shown in Figure 28. If properly designed, installed, maintained and operated they can be effective means of wastewater treatment, however, in urban areas it is typically more cost effective to provide centralized wastewater treatment. Since a few ISTS exist within the City of Norwood Young America and within the urban growth boundary, it is helpful to be aware of existing facilities to encourage/promote eventual connection to the centralized system. The illustration below provides guidance in establishing the location of existing ISTS within the city and areas immediately adjacent thereto, though the location and timing of each ISTS should be confirmed with Carver County.

Norwood Young America

Figure 28:
Independent Sewage
Treatment Systems

Independent Septic Systems

- House
- Lano Equipment
- Office
- Shop
- Municipal Boundary
- Orderly Annexation Boundary
- Lakes and Rivers



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Aggregate Resources

The Minnesota Geological Survey, Aggregate Resources Inventory for the Metro Area has not identified aggregate resources (bedrock aggregate i.e. dolostone; natural aggregate i.e. sand and gravel) within the city limits or the Orderly Annexation Boundary.

Metro Wildlife Corridors

Metro Wildlife Corridor Focus Areas have been identified by the DNR and partner organizations/entities. The Metro Wildlife Corridor Project is a partnership of several entities which will establish priorities, coordinate work by the partner organizations and focus on areas with greatest regional importance for habitat. Using natural resource assessments and regional prioritization, the Metro Wildlife Corridor program: works to protect and restore priority natural lands in core habitat areas; establish habitat corridors; create buffers for existing protected land; and, increases public access to nature-related recreation. The focus areas identify regionally significant upland and/or wetland habitat area and wildlife corridors that the DNR, along with public and private partners, are committed to preserving.

Existing Water and Wastewater Facilities

The City of Norwood Young America provides municipal water and wastewater services to its residents. The following facilities help to provide these services.

Wastewater Treatment Plant

Location: 510 East Elm Street

Condition: The original building at this facility was constructed in 1965. Additions were made in 1985 and 2004. The one-story facility is in good condition and there are no immediate plans for remodeling. The building is not biologically near capacity.

Function: The city operates this Wastewater Treatment Plant to serve residents and businesses in Norwood Young America.

North Water Facility

Location: 104 3rd Avenue

Condition and Function: The Norwood Young America Water Treatment Facility went on line in 2011 and has an average capacity of 1.2 million gallons per day. The treatment facility consists of a three-step process of aeration, detention, and filtration for iron removal. The filtered water flows from the bottom of the filters to the 500,000-gallon reservoir. The reservoir provides additional storage for the distribution system to provide water in the event of a fire. Chlorine and fluoride are injected into the plant finished water line to provide final treatment. Chlorine is used for disinfection while fluoride is added for its benefits in oral health. The water system is supported by two wells. The first well was drilled in 1978 and the second in 1991. The water system also includes two elevated storage tanks. The north storage tank has a 200,000-gallon capacity and the south storage tank has a 750,000 gallon capacity.

Wastewater Management

The City of Norwood Young America's wastewater system consists of a collection system and a treatment facility. The collection system is comprised of sewer lines ranging in size from 8 to 21 inches (see Figure 29). The City of Norwood Young America's wastewater treatment is provided by a wastewater treatment plant located in the southeastern portion of the existing City.

The City is divided into seven districts. All the lift stations, except the lift station in District 3, discharge into gravity sewers which flow to the lift station in District 2 which carries the flow to the wastewater treatment plant. The lift station in District 3 carries flow via forcemain directly to the wastewater treatment plant. The wastewater treatment facility consists of primary and secondary treatment processes and then discharges treated wastewater on a continuous basis to Carver County Ditch No. 4.

The treatment facility consists of the following: influent flow meter, preliminary treatment consisting of screening and grit removal, two primary clarifiers, two trickling filters, two activated sludge aeration tanks, two final clarifiers, a chlorine contact tank, one anaerobic digester, two concrete biosolids storage tanks, one above ground biosolids storage tank (replacing the existing lagoons) and miscellaneous piping, pumps and other necessary equipment.

Mechanical wastewater treatment facilities include two separate processes that are combined to form an integrated treatment system. The processes are commonly referred to the "liquid stream" and the "solids stream". The liquid stream combines various treatment components to convert the wastewater into natural byproducts of biological stabilization and the capabilities of the liquid stream are what determines the quality of the effluent produced by the facility. The solids stream combines treatment components to stabilize, thicken and store the solids byproducts produced by the liquid stream for eventual incorporation into the soil.

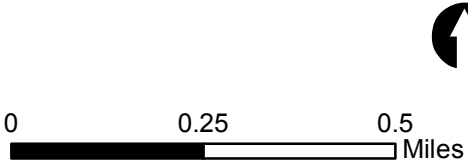
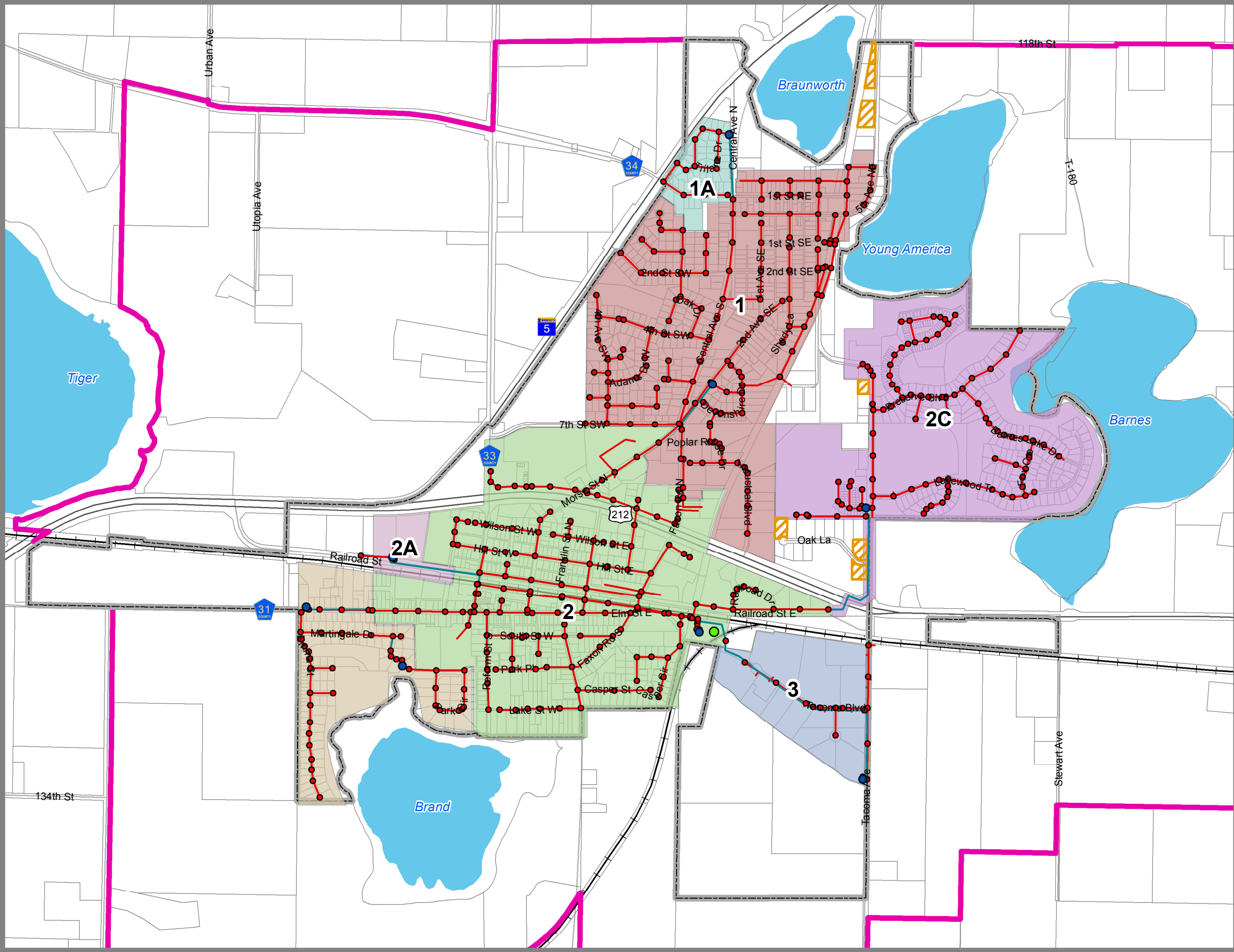
In June 2014 Carver County experienced torrential rain falls and on June 19, 2014, due to saturated ground conditions and the rainfall intensity, the influent flow rate into the WWTF exceeded the pumping capacity of the wastewater treatment plant. As a result, flooding occurred in the Control Building and the Clarifier Building causing damage to electrical and mechanical equipment. A disaster was declared on July 21, 2014 for several counties in Minnesota to include Carver County. The following is list of items replaced at the WWTF as a result of the June 2014 flood:

- 2 Influent Pumps
- 1 Grit Pump
- 1 Influent Screener
- 2 ODS Diaphragm Pumps
- 3 RAS Pumps
- 2 Scum Pumps
- 1 Primary Plant Control System
- 2 Air Compressors
- 1 Clarifier Building Electronic Control Panel
- Numerous electrical components/systems

Norwood Young America

Figure 29:
Existing Wastewater Features

- Treatment Plant
- Existing Lift Station
- Existing Manhole
- Existing Forcemain
- Existing Gravity Pipe
- Residential Septic Systems
- Existing Service District
 - 1
 - 1A
 - 2
 - 2A
 - 2B
 - 2C
 - 3
- Municipal Boundary
- Orderly Annexation Boundary
- Lakes and Rivers



CHAPTER 6 – NATURAL AND WATER RESOURCES

Currently, the treatment facility treats an average daily flow of approximately 400,000 gallons per day and meets all of the required NPDES permit limits. The current NPDES permit states that the facility can treat 517,000 gallons per day, which when compared with the current flow would make it appear that the treatment facility is nearing capacity. The 517,000 gallons per day is the average daily flow and is not the actual treatment capacity for the facility. The plans for the 1983 treatment facility upgrade indicate an average day maximum month flow (also known as the average wet weather – 30 day flow) of 908,000 gallons per day, which is the actual capacity of the treatment facility.

The Wastewater Treatment Plant currently only serves Norwood Young America. The City requires all properties to hook up to municipal sewer and water. Section 910.01, Subdivision 4 of Chapter 9 of the City Code states:

Connection Required. The owner(s) of all houses, buildings or properties used for human occupancy, employment, recreation, or other purposes, situated within the City and abutting on that part of any street, alley, or right-of-way, in which there is now located or may in the future be located a public sanitary sewer of the City shall be hereby required at the owner(s) expense to install a suitable service connection to the public sewer in accordance with the provisions of this Code, within ninety (90) days after date of official notice to do so.

Inflow and Infiltration

From inspection of the flow records, it is apparent that the city does experience inflow and infiltration (I/I) into their sanitary sewer system. The flow records show daily influents exceeding 600,000 gpd in the spring versus the more common 300,000 to 400,000 gpd during the dryer months. Any efforts to reduce the inflow and infiltration will increase the life and capacity of the treatment facility.

The city has completed repairs to their collection system and has seen reductions in influent flow to the treatment facility. These recent repairs include over 3,000 feet of cured-in-place-pipe lining and over 50 service lateral linings. As part of the ongoing Infrastructure Management Plan, services have been evaluated as streets have been constructed. Those found to have problems have been replaced. Castings have been replaced with watertight castings on several sanitary sewer manholes located at street flooding areas. An ordinance was passed to prohibit sump pumps connecting to the sanitary sewer system.

Ongoing efforts will continue within the city's infrastructure management to prevent and reduce excessive I/I in the local water system. The city is committed to reducing excessive I/I and will continue to implement projects and improvements to reduce I/I, including those discussed above. Efforts to monitor, mitigate and eliminate the connection of drain tile to the local sewer system will also be made. These connections can serve as major contributors of excess I/I during major storm events, impacting the overall system. As the city continues to grow, all long-range infrastructure planning efforts will include goals and strategies for the reduction.

Independent Sewage Treatment System Program

The City of Norwood Young America removes non-compliant systems as the central system expands and service becomes available to those with existing Independent Sewage Treatment Systems (ISTS). Several sections of the City Code require connection to the centralized system when available.

Carver County has adopted and enforces an ISTS Ordinance. The ISTS ordinance regulates the design, location, installation, construction, alteration, extension, repair, and maintenance of ISTS's. The county

enforces the ordinance in the unincorporated area and in cities unless a city specifically develops and implements its own program and ISTS ordinance. The city has not developed its own ISTS program or ordinance.

Existing Water Supply

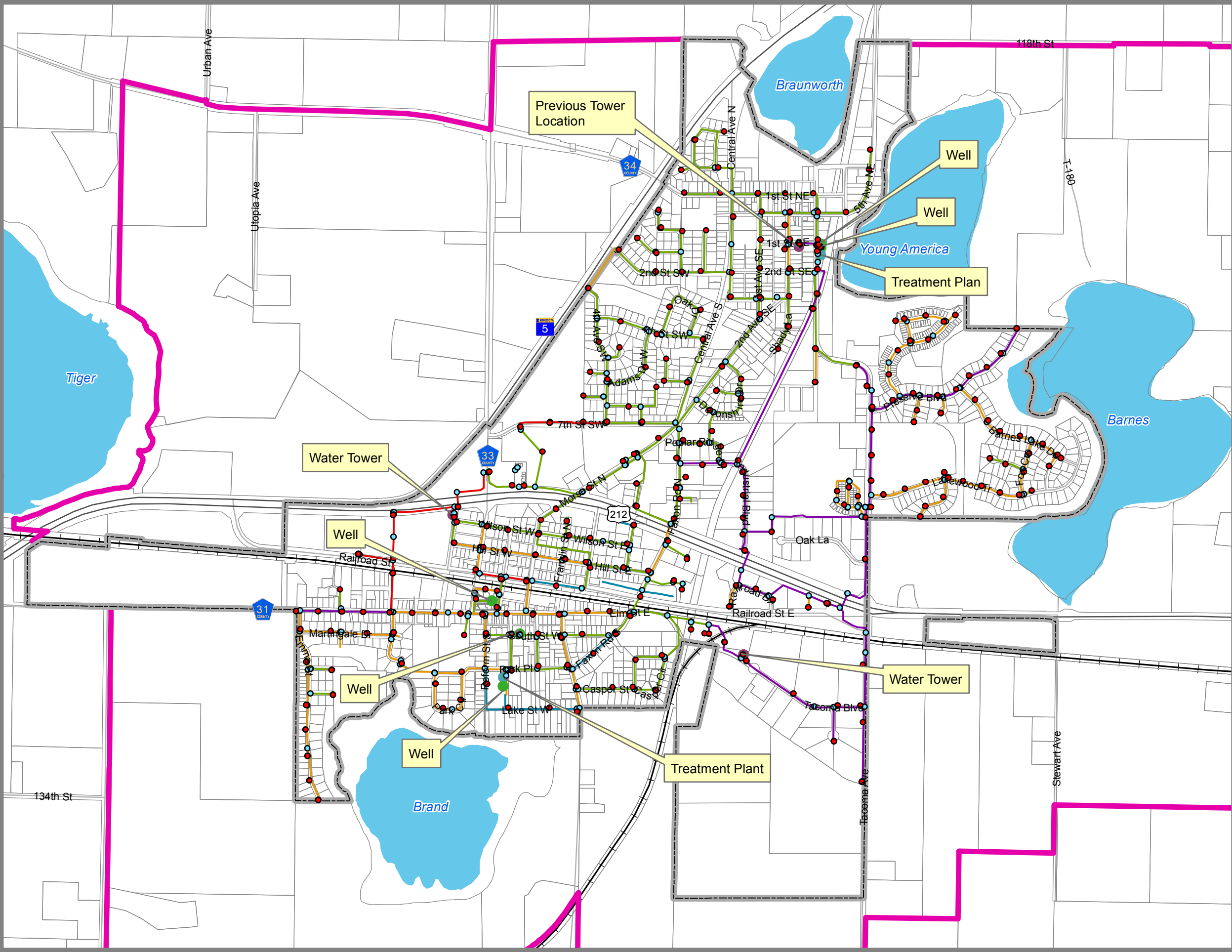
The City of Norwood Young America currently owns and operates, one water treatment facility to provide municipal water service to its residents and businesses. The city currently has a one-zone pressure system. The system as updated to a one-zone system in the last ten years.

The treatment facility provides iron and manganese removal treatment, along with chlorination and fluoridation, and has the capacity of approximately 1,000 gpm. A 500,000-gallon underground reservoir was constructed to increase capacity at this site. Wells 2 and 3 supply the North facility and are capable of producing approximately 1,000 gpm and 400 gpm, respectively. The City's distribution system includes piping varying in size from 4-inch to 12-inch (see Figure 30).

The North water tower is located on Second Avenue SE and First Street SE and has a storage capacity of 200,000 gallons and has an overflow elevation of 1154.3. A new tower was constructed with a capacity of 750,000 gallons and has the same overflow elevation of the North water tower. This allows the city to be a single zone system. The total elevated storage capacity after completion of the city is 950,000 gallons.

Surface Water Management

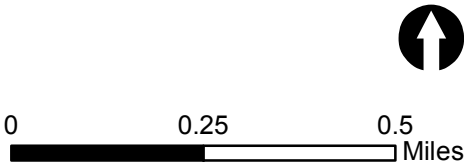
The City of Norwood Young America's Local Surface Water Management Plan (SWMP) has been developed to meet the surface water related needs of the community and address the management planning requirements of the Metropolitan Surface Water Management Act. The SWMP has been prepared in general accordance with Minnesota Rules Chapter 8410 and follows the plan outline identified in the rules. In meeting these requirements, it is necessary to address the goals and objectives of the jurisdictional watershed district (the Carver County Water Management Organization, CCWMO). 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. This Comprehensive Plan Update references the city's current Surface Water Management Plan. The City's current SWMP at the time of the development of the Comprehensive Plan was completed in June of 2013. The City is currently in the process of updating its Surface Water Management Plan, which is scheduled for completion in the summer of 2019.



Norwood Young America

Figure 30:
Existing Water System

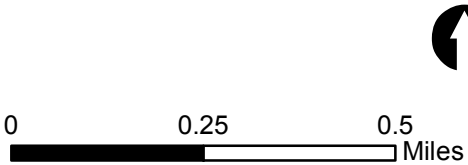
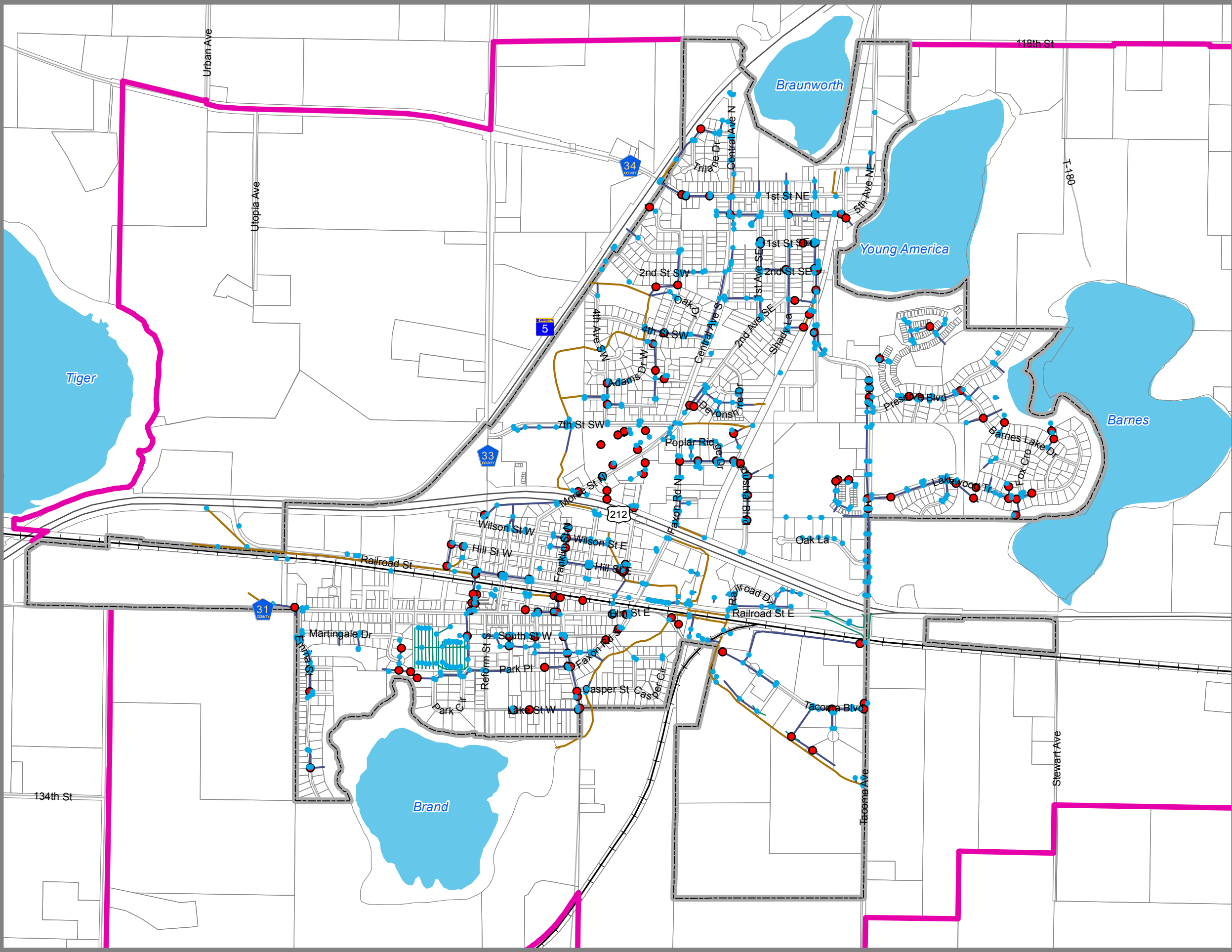
- Watermain**
- 4"
 - 6"
 - 8"
 - 10"
 - 12"
- Water Structures**
- Hydrants
 - Valves
 - Water Tower
 - Well
 - Treatment Plant
- Other Features**
- Municipal Boundary
 - Orderly Annexation Boundary
 - Lakes and Rivers



Norwood Young America

Figure 31:
Existing Stormwater System

- Inlet
- Manhole
- Stormwater Tile
- Gravity Main
- Open Drain
- Municipal Boundary
- Orderly Annexation Boundary
- Lakes and Rivers



Future Sanitary Sewer System

The city is not significantly restricted from growth in any direction from the existing city limits. This future system includes the addition of trunk sewer main extensions (see Figure 32). Additional secondary lift stations will likely be necessary depending on the timing of development and final design grades, utility service, etc. of individual developments. All improvement schedules are dependent on development timing, size, and location. Table 25 shows the necessary improvements to the trunk sanitary system along with the estimated year of completion and the triggering event.

Table 25: Trunk Sewer Improvements Schedule

Improvement		Year
1	Lift Station SCADA installation	2019
2	Tricking Filter Pumps	2020
3	Trunk Sewer Main Extensions	Development Proposals in 2040 Growth Areas
4	Lift Station 2A Upgrade	Development to the NW
5	Lift Station 2B Upgrade	Development to the West
6	CIPP, MH Rehabilitation, Misc. Maintenance	Ongoing – As problems are identified and evaluated

Future Demand

The provision of adequate sanitary sewer capacity is critical to managing future growth within the community. Future demand may require the city to evaluate its system for potential upgrades; however, major updates are not currently anticipated. The City's wastewater management plan details the analysis completed for the future demands of the sanitary system. The adopted 2040 forecasts for Norwood Young America can be used to forecast future wastewater needs for the community (see Table 26). As new development is pursued within the community, it will be required to connect to the city's treatment system.

Table 26: Sanitary Forecasts

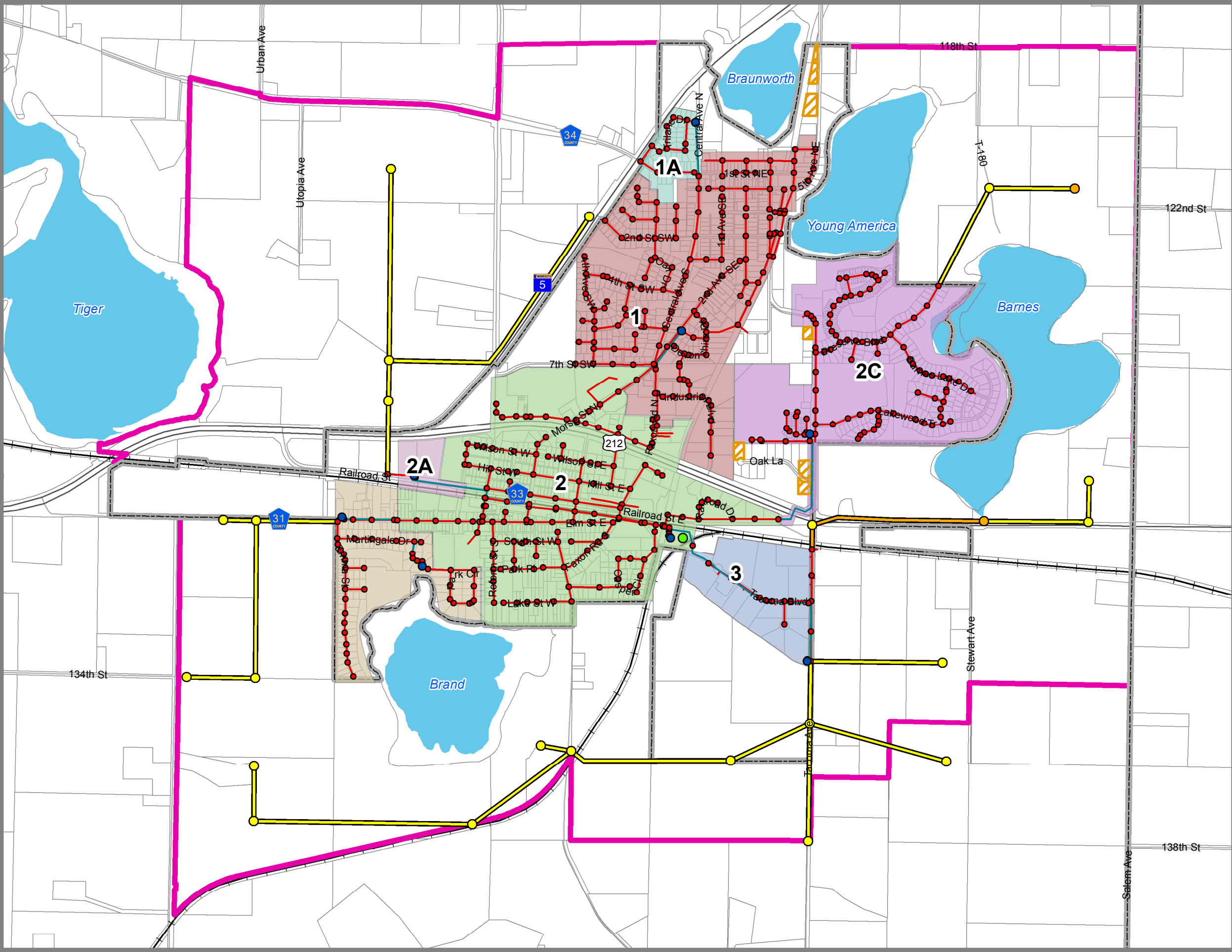
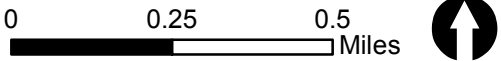
Forecast Year	Population				Households				Employment			
	Sewered		Unsewered		Sewered		Unsewered		Sewered		Unsewered	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
2010	3,526	99.4%	23	0.6%	1,380	99.4%	9	0.6%	1,165	100%	0	0%
2020	4,557	99.5%	23	0.5%	1,891	99.5%	9	0.5%	1,600	100%	0	0%
2030	7,189	99.8%	11	0.2%	3,025	99.8%	5	0.2%	1,850	100%	0	0%
2040	9,189	99.9%	11	0.1%	3,895	99.9%	5	0.1%	2,100	100%	0	0%

The city has no short-range plans for improvements to its wastewater treatment facilities. As noted, many improvements were made to the facility in 2015 in response to the 2014 flood. The city will continue to work with the Minnesota Pollution Control Agency to comply with its National Pollutant Discharge Elimination System (NPDES) Permits as they are approved. Once identified, updates will be programmed and completed to comply with permitting requirements.

Norwood Young America

Figure 32:
Future Sanitary System

- Treatment Plant
- Existing Lift Station
- Existing Manhole
- Existing Forcemain
- Existing Gravity Pipe
- Future Manhole
- Future Lift Station
- Future Trunk Sewer Main
- Future Forcemain
- Residential Septic Systems
- Existing Service District
 - 1
 - 1A
 - 2
 - 2A
 - 2B
 - 2C
 - 3
- Municipal Boundary
- Orderly Annexation Boundary
- Lakes and Rivers



Future Water System

It is a priority of the City to provide safe, reliable, sustainable, and affordable water to its citizens. Due to the fact that the planning area provides for more growth than the current water system can withstand, various components of the system will need improvements as development occurs.

A municipal water system must have adequate capacity to meet peak day demand. This typically occurs during lawn sprinkling demand. This varies from year to year, depending on rainfall amounts and high temperature extremes. In projecting future demand, it is helpful to establish “peak factors” based on the ratio of the peak day to average day demand. The City has implemented an odd day/even day lawn sprinkling restriction, which would be expected to reduce the peak factor. The average peak factor for the last 5 years is 1.8.

The existing water treatment facility underwent an expansion from 400 gpm to 1000 gpm in 2011. A 750,000-gallon water tower was constructed in 2009 (see Figure 33). This new tower replaced the previous 300,000-gallon water tower that operated as part of the South system. The new tower has an overflow elevation equal to that of the North 200,000-gallon water tower, which allowed the City to transition to a single zone system. The minimum elevated storage needs to equal the average day demand of water. The city now has 950,000 gallons of elevated storage. Therefore, no additional water tower will be required until the average day demand exceeds 0.95 MGD. Based on the current population and water usage projections, the elevated storage will be sufficient beyond 2040. The 2017 Water Supply plan is attached hereto as “Appendix B”.

Table 27: Trunk Water Improvements Schedule

Improvement		Year Completion Required
1	Water Towers SCADA Installation	2019
2	North Water Tower Painting	2019
3	T6 Pump	2023
4	Watermain extensions	Development Proposals in 2040 Growth Areas
5	Water Tower No. 4	TBD – when average day demand exceeds 0.95 gpm
6	Hydrant/Valve Replacement, Repair of Breaks/Leaks, Misc. Maintenance	Ongoing – As problems are identified and evaluated

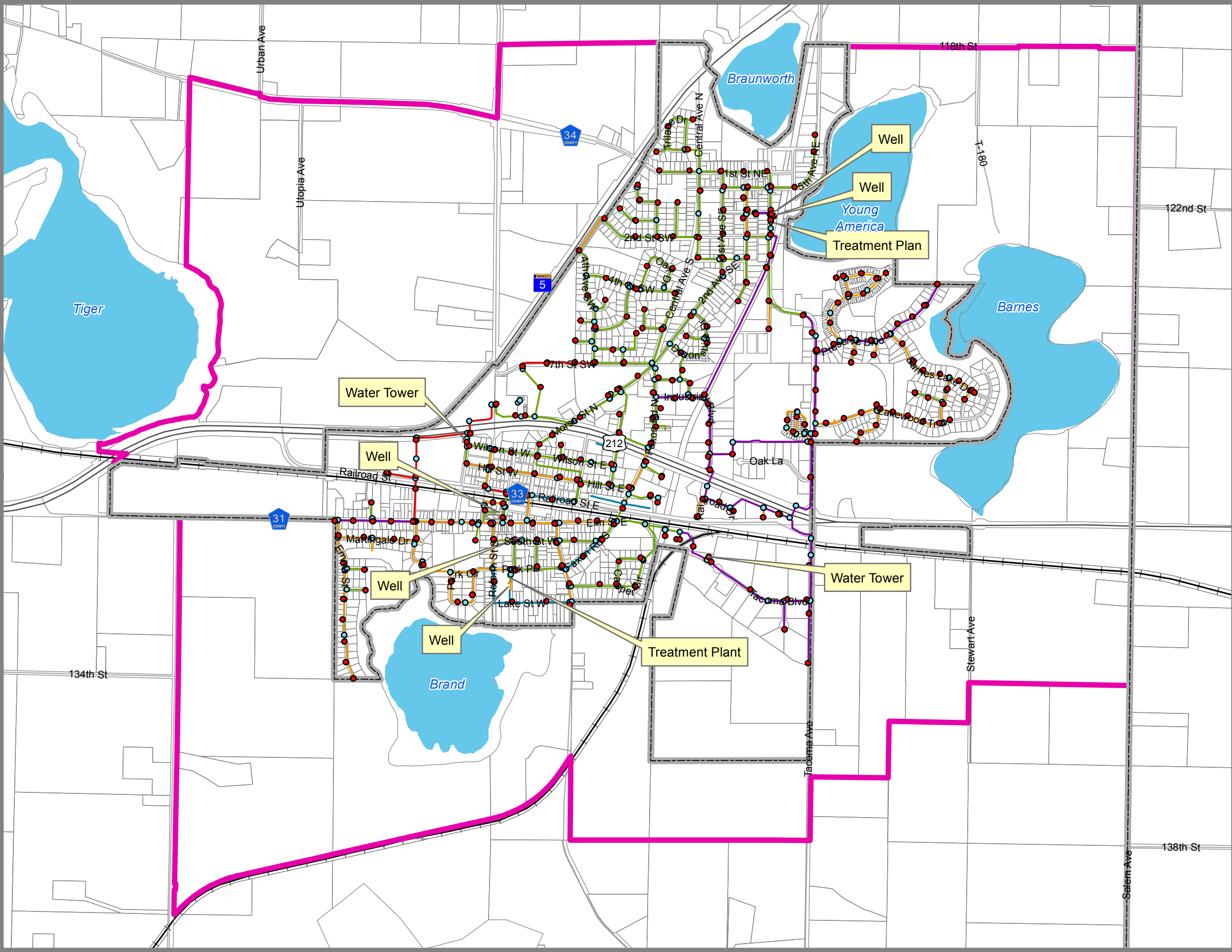
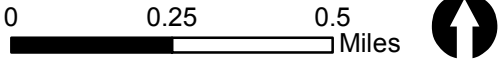
Future Surface Water System

The City of Norwood Young America Surface Water Management Plan details the policies and regulations for managing surface water within the community. This document is updated regularly to reflect current best management practices. A copy of the Norwood Young America Surface Water Management Plan is attached hereto as “Appendix C”.

Norwood Young America

Figure 33:
Future Water System

- Watermain
- 4"
 - 6"
 - 8"
 - 10"
 - 12"
- Hydrants
- Valves
- Municipal Boundary
- Orderly Annexation Boundary
- Lakes and Rivers



Chapter 7 – Parks and Trails

Park and trail facilities are valuable resources that cultivate a sense of place, enhance community aesthetics and provide public health benefits. The City of Norwood Young America maintains several community, neighborhood and urban parks and trail facilities that provide the public with opportunities to participate in a range of recreational activities and contribute positively to quality of life.

Providing quality recreational opportunities begins with proper planning. To assure park and trail facilities are adequate and fully utilized, facilities must be developed with regard for the needs of the people and the area they serve. Proper planning must take into consideration a number of factors, such as location of existing resources (i.e. proximity to the area served, separation from incompatible land uses); adequacy of existing facilities; site planning for future facilities; provisions for recreation programs; and financing, maintenance and management of existing and proposed facilities.

Chapter Three of this plan lists goals and policies relating to parks, trails, and recreation. This chapter inventories the existing conditions of the park and trail system and identifies future planned park and trail facilities. In addition, this chapter describes design guidelines the city can use to implement this plan's vision.

Park Facilities

The City's combination of parks, trails, recreational opportunities and open space provide residents and visitors with a variety of recreational opportunities. Most of the existing parks are clustered together in areas adjacent to original townsites (see Figure 34). Sufficient parks and trail facilities exist to serve the needs of most residential areas of the City; however, as additional development occurs, more neighborhood parks may be needed.

Park Classifications

Park classifications provide a systematic way of categorizing park land so decisions regarding design, capital improvements, and maintenance/operation are based on the types and functions of parks. It is understood that park classifications can change over time. The following six terms and descriptions shall be used to classify existing and future park and recreational facilities within the City of Norwood Young America.

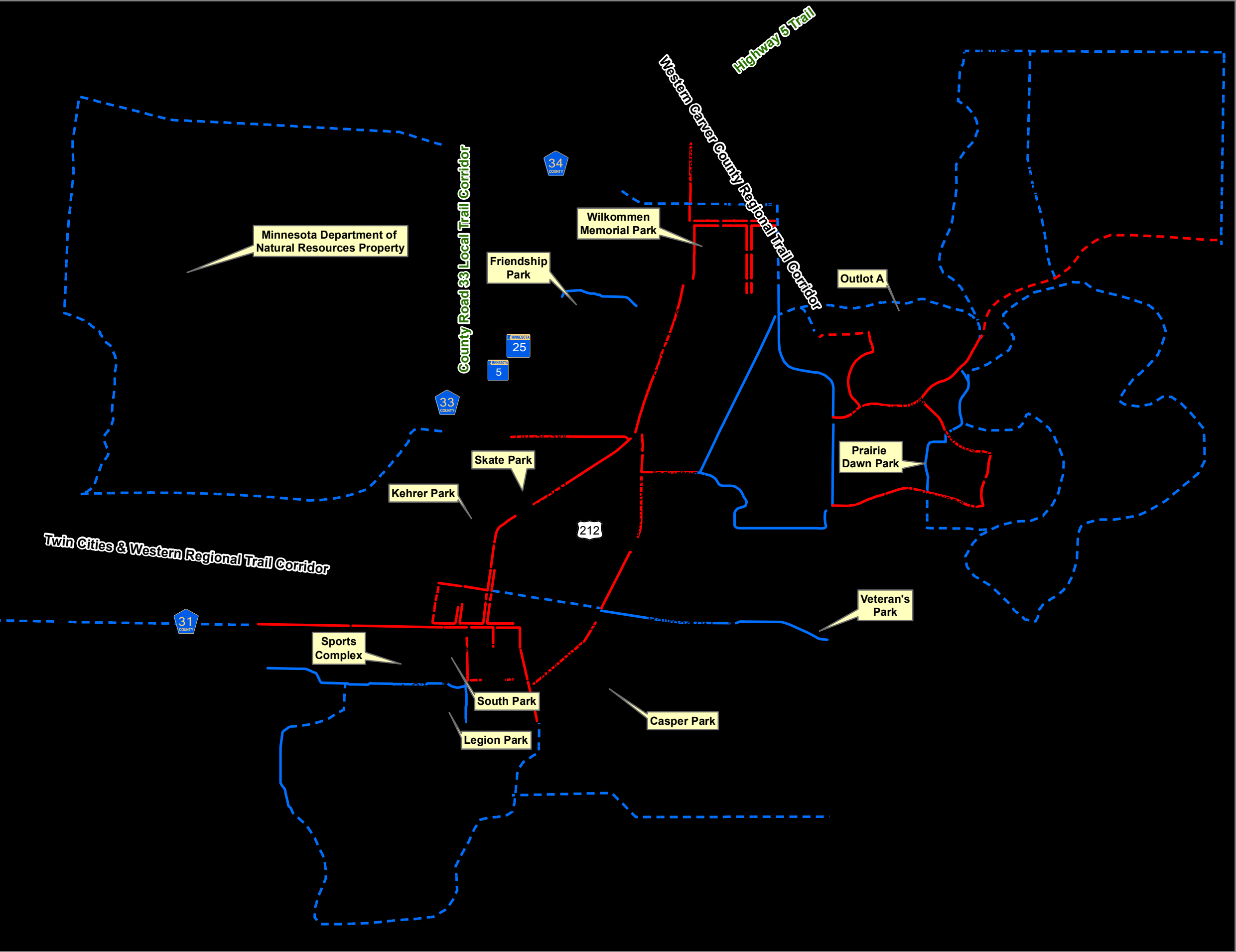
Neighborhood Parks/Playgrounds

Neighborhood parks/playgrounds provide daily convenient access to basic recreation opportunities for nearby residents living within a ¼-mile radius (roughly a 10 to 15-minute walking distance) of the park. Generally small in size, neighborhood parks are usually designed primarily for spontaneous, non-organized recreation activities. Neighborhood parks are typically designed to enhance neighborhood identity, preserve neighborhood open space, improve the quality of life of nearby residents, and encourage use by those on foot or bicycle. Typically, programmed activities do not take place in neighborhood parks. Site development should include sidewalks, benches, landscaping and play features for preschoolers. Neighborhood parks/playgrounds should connect with trails, which connect to other parks and neighborhoods.

Norwood Young America

Figure 34:
Park and Trail Facilities

- Local Parks
- State Owned Recreation Land
- Regional Trail Search Corridor
- Existing Sidewalks
- Existing Trail
- Future Sidewalks
- Future Trail
- Carver County Future Bikeways
- Municipal Boundary
- Orderly Annexation Boundary
- Lakes



0 0.25 0.5 Miles



Community/City Parks

Community/City parks typically include significant recreation facilities and support recreation programming for residents living within a one to one and a half-mile radius of the park. Community parks are often designed to enhance neighborhood and community identity, preserve open space and enhance the quality of life of community residents. Given the wide range of amenities provided in community parks, many users visit the park by car and stay for a few hours; therefore, support facilities, such as parking and restrooms, are usually needed. Community parks appeal to a larger range of users and contribute to community identity. Although size may vary, community parks are usually more spacious than neighborhood parks or playgrounds. Community parks serve people of all ages and have an effective service area radius of one-half to one mile.

Urban/Pocket Parks

Urban/pocket parks are typically associated with high density urban areas. Pocket parks provide visitors with access to open spaces in downtown commercial, mixed-use districts, high volume roadway corridors, and high-density residential areas. Examples of urban parks include public squares, promenades, urban plazas and landscaped courtyards. Urban parks sometimes meet the neighborhood park needs of surrounding residents and often provide opportunities for community events. Urban parks enhance the quality of life and the identity of the urban core and mixed-use districts.

Specialized Recreation Areas.

Specialized Recreation Areas may include but are not limited to; golf courses, historic sites, conservancy areas, linear trails, and floodplains. Most specialized recreation areas have limited active recreation value, are not developed as multi-purpose recreation areas, or are not always available for use by the public. Specialized areas are important adjuncts to a community and its park and open space program.

Greenspace/Open Space

Greenspaces and/or open spaces contain natural resources that are managed for recreation or natural resource conservation values, such as a desire to protect wildlife habitat, water quality, and/or endangered species. Greenspace also provides opportunities for nature-based, unstructured, low-impact recreational opportunities, such as walking and nature viewing.

Regional Parks

Regional parks provide visitors with access to unique features and attractions that will attract visitors from the entire city, adjacent townships and beyond. Regional parks often accommodate large group activities and have infrastructure to support special events and festivals. Regional parks can enhance the economic vitality and identity of the entire region by promoting tourism and contributing to neighborhood revitalization and increasing property values. To be considered a regional park, a park must be identified in the Metropolitan Council's 2040 Regional Parks Policy Plan.

Existing Park Facilities

Local Park System

The City of Norwood Young America contains approximately 53 acres of useable parkland. Table 27 inventories existing facilities at existing parks, which are depicted on Figure 34.

Regional Parks

No regional parks exist within the City of Norwood Young America. Baylor Regional Park is located approximately 3 miles outside the city limits on County Road 33. This park contains camp sites, a swimming beach, volleyball courts, softball areas, picnic shelters and an all-season shelter. The Eagle Lake Observatory is located within the Regional Park. It houses a dozen telescopes that are open to the public and members throughout the year.

Federal and State Lands

A property within the northwest quadrant of the city's orderly annexation boundary was recently purchased by Pheasants Forever, Inc. It is understood that this property will be donated to the Minnesota Department of Natural Resources for the preservation of the existing property and natural resources. The city shall monitor changes to the ownership of the land and resulting policy and regulation shifts.

Recreation Programs

There are several coordinated and uncoordinated recreational opportunities in and around Norwood Young America. Recreation programs are coordinated by Independent School District 108's Community Education Program. Community education and recreational programs have included youth and adult athletic programs, yoga, walking groups and various other activities.

Activities for senior citizens include trips that cater to seniors and enrichment classes, that provide information about services such as nursing care, making a will and reverse mortgages. Other senior programs have included exercise classes and a walking program.



CHAPTER 7 – PARKS AND TRAILS

Table 28: Park Inventory

NYA Park Inventory	Park Classification	Acres	Trail Areas	Baseball/Softball	Nature Areas	Horseshoe Pits	Tennis Courts	Soccer Fields	Basketball Courts	Football Field(s)	Volleyball Courts	Playground	Swimming	Pleasure Skating Rink	Hockey Rink	Warming House	Archery Range	Skateboarding	Restroom facilities	Handicap Access	Picnic Area/Shelter	Parking (off-Street)
Casper Circle Park – No address, access	NP	< 1	N	N	N	N	N	N	N	N	N	Y, 1	N	N	N	N	N	N	N	N	N	N
Friendship Park – 300 Fourth Ave SW	CP	11	Y, North & East	Y, 2 SB	N	N	Y, 2	Y, 1	N	Y, 1	Y, 1 Sand	Y, 2	N	N	N	N	N	N	Y	Y	Y, PT & Shelter	Y, 42
Kehrer Park – SW Quad 212 & Union St.	UP	1.9	N	N	N	N	N	N	N	N	N	Y, 1	N	N	N	N	N	N	N	N	Y, PT	Y, 8
Legion/Pool Park – 231 Park Place	CP	3.5	Y, East & North	N	Y, very small	N	N	N	N	N	Y, 1 Sand	Y, 1	Y, 1	N	N	N	N	N	Y	Y	Y	Y, 55
NYA Skate Park, NW Quad 212 & Morse St.	UP	< 1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Prairie Dawn Park – 795 Barnes Lake Dr.	CP	19	Y	N	Y	N	N	N	Y	N	N	Y	N	N	N	N	N	N	Y	Y	Y	N
Sports Complex – 417 West Elm St.	CP	12	Y	Y, 3 BB & SB	N	N	N	N	N	N	N	Y, 1	N	N	N	N	N	N	Y	Y	Y, PT	Y, 68
South Park – Reform & South St.	CP	1.4	SW, narrow, east	N	N	N	N	N	Y, 2	N	N	Y, 1	N	Y, 1	Y, 1	Y, 1	N	N	Y, PR	N	Y, PT	N
Veteran’s Park	UP	1.2	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y
Willkommen Park – 21 Main Street	NP	3.5	N	Y, 1 BB	N	N	N	N	N	N	N	Y, 1	N	N	N	N	N	N	Y	Y	Y	N

CP= Community Park UP= Urban Park NP= Neighborhood Park SRA = Specialized Recreation Area BB= Baseball Field SB= Softball Field POR= Portable Unit Only PR=Portable Restroom PT=Picnic Tables Only SW=Sidewalk IND=Indoor

Future Park Facilities

The city has appointed a seven-member Parks and Recreation Commission, which meets monthly to plan for the development and redevelopment of Norwood Young America's park and greenway system. The Parks and Recreation Commission is a recommending body to the City Council that provides on-going public input on the system. The Commission will continue to address park maintenance and planning issues. Currently, planned park improvement projects include:

- South Park Hockey Rink Improvements Project
- Old Town Pavilion Improvements and Dog Park
- Dog Park development (long range)

The city will continue to address park maintenance needs. As the city grows, additional park and facility needs will be evaluated. The city's Capital Improvement Program is included in Appendix D of this plan.

Parkland Dedication Requirement

The city has adopted parkland dedication requirements within the Subdivision Ordinance. Standards pertaining to residential subdivisions require ten percent of the estimated market value or a donation of land for parks purposes in a volume equal to ten percent of the net developable area. The city may accept a combination of fee and land dedication if it finds such an arrangement is preferable.

For commercial/industrial subdivisions the amount is five percent of the estimated market value at a time no later than final approval. Parkland/fee in-lieu of parkland dedication is in addition to the property dedicated for streets, alleys, drainage ways, pedestrian ways or other public ways. As new development is proposed within the city, staff should analyze various factors (i.e., proximity to existing parks, diversity of recreational options, funding for maintenance) when determining the appropriate approach for parkland dedication. Depending on the growth rate of the community, the development of multiple park locations may cause financial strains down the road as maintenance is required. Additionally, the lack of park land dedication may result in park and recreation gaps in the city's fabric.

Trail System

Trail Design Guidelines

Trails or pathways should be designed with the following goals in mind:

- **Safety:** protect non-motorized and motorized users (depending on the type of trail) from adjacent or crossing vehicular traffic,
- **Linkages:** provide links between local parks and recreational areas and regional trail systems,
- **Natural Environment:** when designing the trail system protect the natural environment and natural features, and
- **Continuity:** provide continuous trail systems with as few interruptions in user movement as possible.

The following design guidelines are suggested by the National Recreation and Park Association for the various types of pathways and should be used by the City of Norwood Young America when designing pathways.

Park Trails

Three classifications are applied to categorize the City's park trails, including:

- **Type I:** These separate or single purpose trails are typically ten feet wide and hard surfaced for pedestrians, bicyclists and/or in-line skaters.
- **Type II:** These multi-purpose trails typically include a natural buffer; such as shrubs, trees or changes in topography, from adjacent uses on either side of the trail. Right of way width can be up to 50-feet to accommodate buffers. These trails commonly include a ten-foot paved surface.
- **Type III:** Nature trails are generally six to eight feet wide and soft surfaced. Trail grades vary depending on the topography of the area in which they are located. Interpretive signage is common along nature trails.

Connector Trails

Type I and II: These separate or single-purpose hard surfaced trails are designed for pedestrians or bicyclists/in-line skaters. If designed for pedestrians only, a six to eight-foot width is common. If designed for bicyclists/in-line skaters, a ten-foot paved surface is recommended. The trails may be developed on one or both sides of the roadway and may include one or two-way traffic. The trail is typically separated from the roadway with a boulevard, grass, and/or plantings.

On-Street Bikeways

On-Street Bikeways include:

- **On-Street Bike Lane:** Bike lanes are typically designed as a five-foot striped, bituminous lane adjacent to the driving lane. On-street parking may occur between the on-street bike lane and the curb or edge of the road. In essence, each side of the roadway is divided into three sections (1) driving lane, (2) on-street bikeway, and (3) on-street parking.
- **On-Street Bike Route:** This bicycle route is typically designated so with signage and are typically comprised of paved shoulders along roadways.

All Terrain Bike Trails

Design and length vary depending on the topography in the area. These trails are generally a part of a larger park or natural resource area.

Cross Country Ski Trails

The design of the cross-country ski trail is dependent upon its intended use. The traditional diagonal skiing typically includes a packed groomed trail with set tracks. Skate-skiing designs include a wider packed and groomed surface. The length of the trails may vary. Cross-country ski trails may be designed to be used as equestrian trails during summer months.

Equestrian Trails

These trails, designed for horseback riding, typically are designed with woodchips or grass as a surface. They are located in larger parks and natural resource areas where conflict with other trail users may be avoided. The length of an equestrian trail varies but is generally looped.

Existing Trail System

Trail facilities within communities and connecting to larger regional pathways are often classified by their purpose, type of improvement and location. Existing trails within the City of Norwood Young America are depicted in Figure 34.

Trail Classifications

The following table includes a description of six types of trails and identification of existing trails within Norwood Young America which are included in each category.

Table 29: Trail Classifications

Classification	General Description	Detail Description of Each Type	Existing Facilities
Park Trail	Multi-purpose trails located within greenways, parks and natural resource areas. Focus in on recreational value and harmony with the natural environment.	<p><u>Type I</u>: Separate/single purpose hard –surfaced trails for pedestrians or bicyclists/in-line skaters.</p> <p><u>Type II</u>: Multi-purpose hard-surfaced trails for pedestrians and bicyclists/in-line skaters.</p> <p><u>Type III</u>: Nature trails for pedestrians. May be hard or soft surfaced.</p>	Friendship Park (Type II) Prairie Dawn Park (Type II)
Connector Trails	Multi-purpose trails that emphasize safe travel for pedestrians to and from parks and around the community. Focus is as much on transportation as it is on recreation.	<p><u>Type I</u>: Separate/single-purpose hard-surfaced trails for pedestrians or bicyclists/in-line skaters located in independent R.O.W</p> <p><u>Type II</u>: Separate/single-purpose hard-surfaced trails for pedestrian or bicyclists/in-line skaters. Typically located within road R.O.W.</p>	Trail south side of Park Place from CR 33 to south side of Sports Complex (Type I) Serenity Trail (Type II)
On-Street Bikeways	Paved segments of roadways that serve as a means to safely separate bicyclists from vehicular traffic.	<p><u>Bike Route</u>: Designated portions of the roadway for the preferential or exclusive use of bicyclists.</p> <p><u>Bike Lane</u>: Shared portions of the roadway that provide separation between motor vehicles and bicyclists, such as paved shoulders.</p>	None
All-Terrain Bike Trail	Off-road trail for all-terrain (mountain) bikes	Single-purpose loop trails usually located in larger parks and natural resource areas.	None
Cross Country Ski Trail	Trails developed for traditional and skate-style cross-country skiing.	Loop trails usually located in larger parks and natural resource areas.	None
Equestrian Trail	Trails developed for horseback riding.	<p>Loop trails usually located in larger parks and natural resource areas. Sometimes developed as multi-purpose with hiking and all-terrain biking.</p> <p>These trails are developed so conflict can be controlled.</p>	None

Sidewalk Facilities

Sidewalk locations, widths and conditions vary widely throughout the city. Existing and future planned sidewalk facilities are depicted on Figure 24.

The City of Norwood Young America currently has a sidewalk maintenance policy in place but does not have a policy as to where sidewalks within new subdivisions shall be required (e.g. both sides of major collector roadways, one side of minor collector roadways). Rather, sidewalks are required if/when the city directs such action. Along US TH 212, sidewalks should be pursued along the north side of the highway and trails along the south side.

Historically, the City Park and Recreation Commission and Planning Commission have reviewed proposed plats and prepared recommendations for the inclusion of sidewalk in a new subdivision or as a part of a street reconstruction project.

Future Trail System

The city has identified future sidewalk and trail facilities to expand connections to planned residential developments and community destinations, such as park facilities and lakes. Figure 24 illustrates planned trail and sidewalk facilities.

Regional Plans

Carver County Parks is one of ten implementing regional park agencies of the Metropolitan Regional Parks System. In cooperation with Metropolitan Parks and Open Space Commission and Metropolitan Council, Carver County plans, acquires land and develops regional parks and trails. Funding for land acquisition park and trail development, a portion of operations and maintenance is financed by the Metropolitan Council and State Legislature. Carver County operates and maintains the parks of Baylor Regional Park, Lake Minnewashta Regional Park and Lake Waconia Regional Park. Baylor Regional Park is within ten miles of the City of Norwood Young America.

Western Carver County Regional Trail Corridor

Carver County has proposed the Western Carver County Regional Trail Corridor, a regional destination trail, located within a conservation corridor to Baylor Regional Park as part of a draft Parks, Open Space, and Trail System Plan (dated February 2018). As proposed, the Western Carver County Regional Trail Corridor would ultimately extend south to north between the City of Norwood Young America, Baylor Regional Park, the Dakota Rail Regional Trail in the City of Mayer and the Luce Line State Trail in the City of Watertown. The proposed trail would provide a direct connection from the local trail system to a major regional park. The proposed location of the Western Carver County Regional Trail Corridor is depicted in Figure 24.

Twin Cities and Western Regional Trail Corridor

The Twin Cities and Western Regional Trail is a proposed regional trail that would follow the existing railroad corridor. Since there is an active railroad operating on the tracks trail planning would not take place until there is a change in the status of the use of the tracks. The Regional Trail does not have an approved master plan at this time; therefore, the general alignment of the trail is acknowledged herein.

Highway 5 Regional Trail

Carver County completed a master plan for the Highway 5 Regional Trail in 2017 which proposes a regional trail along Highway 5 from the Carver County/ Hennepin County line west through the Minnesota Landscape Arboretum. The trail would connect to the existing Lake Minnetonka LRT Regional Trail and Carver Park Reserve to the west.

ADA Requirements

Most community-wide facilities including the main ballfield at the Sports Complex, the municipal pool, the pavilion at Willkommen Park, shelters at Legion Park and trails at Friendship Park are handicap accessible. However, playgrounds and play features and connections to various facilities within existing parks are generally not handicap accessible. As improvements are made to existing facilities and new facilities are constructed, considerations for ADA accessibility will be made. The following considerations will be considered for both transportation and recreational facilities within the community. ADA statutes apply in the following circumstances:

- Newly constructed buildings (after January 26, 1993) must be constructed to be readily accessible.
- Renovations or alterations occurring after January 26, 1992 to existing facilities must be readily accessible.
- Barriers to accessibility in existing buildings and facilities must be removed when it is “readily accessible”. This includes the location and accessibility to restrooms, drinking fountains and telephones.

Requirements prescribed by the American’s With Disabilities Act include, but are not limited to:

- One accessible route from site access point, such as a parking lot to the primary accessible entrance must be provided. A ramp with a slope of no greater than 1:6 for a length of no greater than two feet may be used as a part of the route. Otherwise a slope of maximum 1:12 is allowed.
- One accessible public entrance must be provided.
- If restrooms are provided, then one accessible unisex toilet facility must be provided along an accessible route.
- Only the publicly used spaces on the level of the accessible entrance must be made accessible.
- Any display and written information should be located where it can be seen by a seated individual and should provide information accessible to the blind.

Chapter 8 – Housing

A city's housing stock is an important component of the livability for existing and future residents. A healthy housing stock provides a variety of options that met the affordability levels of the community. The housing chapter provides the general framework for Norwood Young America's growth and development over the next 20 years and discusses changes to the stock and cost. The data put forth in this chapter will help inform decision makers over the next 25 years as the city develops and grows into the future.

Existing Housing

According to the 2017 Metropolitan Council estimates, there are a total of 1,572 housing units in the City of Norwood Young America. These estimates include 1,008 single-family units, 547 multifamily units and 17 manufacture home units (see Table 29). This represents an increase of 100 units or 6.7 percent from 2010. Single-family units dominate the housing stock of Norwood Young America, comprising 64.1 percent of the total housing available in 2017. Multifamily units represent approximately 34.8 percent of that total housing units.

Table 30: Norwood Young America Housing Types, 2017

Year	Single-Family Units		Multifamily Units		Manufactured Homes		Other Housing Units		Total	
	Units	%	Units	%	Units	%	Units	%	Units	%
2017	1,008	64.1%	547	34.8%	17	1.1%	0	0.0%	1,572	100.0%
2010	940	63.9%	511	34.7%	21	1.4%	0	0.0%	1,472	100.0%

Source: Metropolitan Council, 2017 housing stock estimates and U.S. Census Bureau Decennial Census

A majority of the housing units in Norwood Younger America are occupied, with only 93 units identified as vacant (see Table 30). Nearly 60 percent of the housing units are owner-occupied, and 34 percent are renter-occupied. The number of owner-occupied units has decreased from 2010 by 7.8 percent, while the number of renter-occupied units has increase by 6.2 percent.

Table 31: Norwood Young America Household Tenure, 2017

Owner-Occupied Units	Rental Units	Vacant Units
954	536	93

Source: U.S. Census Bureau, 2013-2017 American Community Survey five-year estimates; counts adjusted to better match the Council's 2017 housing stock estimates

Housing Age

Norwood Young America's housing stock was built across a number of decades. In 2016, about 28 percent of the city's housing was less than 20 years old. Nearly 36 percent of the housing is less than 30 years old. Approximately 23 percent of the housing stock was built before 1950. A significant percentage, nearly one fourth, of homes were built in the 1970's.

Table 32: Housing Age and Occupancy City of Norwood Young America, 2016

Year Built	Total	
	Number	Percent
2010 or later	124	7.5%
2000 to 2009	340	20.5%
1990 - 1999	119	7.2%
1980 - 1989	96	5.8%
1970 - 1979	411	24.8%
1960 - 1969	132	8.0%
1950 - 1959	51	3.1%
1949 or earlier	385	23.2%

Source: U.S. Census Bureau, 2012-2016 American Community Survey five-year estimates

Housing Value

The median housing value in Norwood Young America has grown since 1990 but experienced a decline from 2010 to 2016 (see Table 32). The median value of homes in 2010 was \$173,100. In 2016 it fell to \$163,900. This represents a 6 percent decrease in housing values in the city. This decrease in value could be partially explained by the Great Recession and its impact on the city's housing stock. However, this represents an increase of 32 percent in median housing value since 2000, when the median value was \$111,900. Of the housing units that are higher in value in Norwood Young America, many are concentrated in two locations: in the southwestern corner of the city south of US TH 212, and on the eastern side of the city near Barnes Lake. The location of owner-occupied housing units by their estimated market value is shown in Figure 35.

Table 33: Owner Occupied Housing Values City of Norwood Young America, 2010 and 2016

Value	2010		2016	
	Number	Percent	Number	Percent
Less than \$50,000	50	4.6%	39	4.0%
\$50,000-\$99,000	91	8.4%	87	9.0%
\$100,000-\$149,000	156	14.2%	270	27.6%
\$150,000-\$199,000	421	38.3%	328	33.6%
\$200,000-\$299,000	317	29.0%	192	19.6%
\$300,000 or More	58	5.5%	61	6.2%
Total	1,103	100%	977	100%

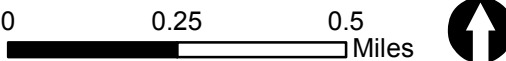
Source: U.S. Census Bureau, 2012-2016 American Community Survey five-year estimates

Norwood Young America

Figure 35:
Owner-Occupied
Housing Units

Estimated Market Value

- \$0 - \$238,500
- \$238,501 - \$350,000
- \$350,001 - \$450,000
- \$450,001 - \$1,404,000
- Lakes
- Municipal Boundary



Rental Cost

The cost of rental housing is another component of housing affordability within the City of Norwood Young America. The median gross rent in 2016 within the city was \$603 per month, representing a decrease of nearly 12 percent. Compared to the median gross rent for the city is over \$300 less than the rent within Carver County. This data shows that rental housing is more affordable within the City of Norwood Young America compared to other surrounding communities.

Housing Affordability

Housing affordability is an important component of the quality of life for a community's residents. For the purposes of the Comprehensive Plan affordable housing shall mean the availability of quality housing and dignified living conditions for people of all incomes and at all stages of life. Affordable housing is not a separate class or type of housing that makes it different from ordinary housing. As the plan illustrates the majority of home owners in Norwood Young America live in affordable housing, most of the existing affordable housing is in previously developed portions of the city.

According to the Metropolitan Council, nearly 95 percent of all housing units in 2016 are affordable to household incomes with incomes at or below 80 percent Area Median Income (AMI) (see Table 34). In this case, the AMI for the city was \$62,717 in 2016. This high percentage of affordability is a great asset for current Norwood Young America residents for finding housing at various income levels. As new housing is pursued, the city should strive to continue to accommodate a balance of housing affordability.

Table 34: Housing Affordability by Income Category, 2016

Units affordable to households with income at or below 30% AMI	Units affordable to households with income 31%-50% AMI	Units affordable to households with income 51%-80% AMI
185	731	532

Source: Metropolitan Council staff estimates for 2016 based on 2016 and 2017 MetroGIS Regional Parcel Datasets (ownership units), 2010-2014 Comprehensive Housing Affordability Strategy data from HUD (rental units and households income), and the Council's 2016 Manufactured Housing Parks Survey (manufactured homes)

Affordable Housing

One technique in the creation of affordable housing is through the subsidization of units through the use of public funds (see Table 35). As of 2016, there are 126 publicly subsidized units in the City of Norwood Young America, 61 of which are specifically units for senior citizens.

Table 35: Publicly Subsidized Units, 2016

All publicly subsidized units	Publicly subsidized senior units	Publicly subsidized units for people with disabilities	Publicly subsidized units: all other
126	61	0	65

Source: HousingLink Streams data (covering projects whose financing closed by December 2016)

Beyond the fact that a high percentage of all housing units in the city are considered affordable, there is a low percentage of households that are considered "cost-burdened." A cost-burdened household is categorized as a household where over 30 percent of the income is used for housing costs on an annual basis (mortgage payments, rent, etc.). A total of 287 households were considered to be cost-burdened in

2016. Table 36 details the number of cost-burdened households within the community based on the household income level. For example, there were 129 households earning 30 percent or less of the AMI (\$18,815) that experienced cost burden.

Table 36: Housing Cost Burdened Households, 2016

Income at or below 30% of AMI		Income 31 % to 50 % of AMI		Income 51% to 80% of AMI	
Number	%	Number	%	Number	%
129	8.6%	136	9.1%	22	1.5%

Source: U.S. Department of Housing and Urban Development, 2010-2014 Comprehensive Housing Affordability Strategy data, with counts adjusted to better match Metropolitan Council 2016 household estimates.

Future Housing Need

As the city plans to accommodate future residents, it must assess the existing needs and condition of its housing stock. As described throughout the previous sections, the city's current housing stock is primarily composed of single-family households of varied housing levels. Recent housing development has included a combination of single-family and multi-family units, increasing the diversity of housing options within the community. To accommodate future population growth, the city must accommodate additional residential development (see Table 37). Though the total population and number of households is projected to increase, the average number of people per households is projected to decrease. This decrease is consistent across the metro region and complies with recent trends. This trend will contribute to the number and types of housing needed to support the city's future population.

Table 37: Norwood Young America Growth Forecasts

Year	Population	Households	Average People per Household
2010	3,549	1,389	2.55
2020	4,580	1,900	2.41
2030	7,200	3,030	2.38
2040	9,200	3,900	2.36

Source: Metropolitan Council Forecasts

While planning for future households throughout the community, the city shall utilize the future land use plan to define locations for housing growth that are supported by efficient infrastructure extensions and compatible adjacent development. Additionally, the city should strive to create a diverse housing stock that meets the needs of the growing population. This includes the provision of a variety of housing types, from single-family homes to townhomes to apartments. The proximity to services throughout the community should also be considered. The Downtown Mixed-Use category within the future land use plan allows for buildings with a mixture of commercial and residential uses. This housing style provides residential units within close proximity to goods, services, and potential employment. The aging population should also be considered within future housing development. The provision of senior housing

is a vital component of the quality of life for an aging population. Life-cycle housing options should also be promoted to create options for people of all ages and demographics.

Additionally, future housing development should accommodate a variety of affordability levels. This provides options for a range of new residents within the community. As set forth by the Metropolitan Council, the City of Norwood Young America acknowledges the community's share of the region's need for low- and moderate-income housing units. The city supports the provision of 269 units by 2030 to support the Region's overall total need (see Table 37). Chapter Three (Goals and Policies) of the Comprehensive Plan identifies programs, fiscal devices and official controls the City of Norwood Young America will investigate and/or use to address their housing needs.

Table 38: Norwood Young America Affordable Housing Need Allocation

AMI	Housing Units
At or Below 30 AMI	126 units
From 31 to 50 AMI	0 units
From 51 to 80 AMI	143 units
Total Units	269 units

Source: Metropolitan Council

To accommodate additional housing units that meet the affordable housing allocation set by the Metropolitan Council, the city has identified growth areas within the future land use plan at a density of at least 8 units per acre. These units can be accommodated within the Medium Density (8 to 12 units per acre) and High Density (12 to 18 units per acre) Residential land use categories. Additionally, the Downtown Mixed-Use land use could accommodate the development of affordable housing units when the achieved densities are greater than 8 units per acre. A minimum of 34 acres of land designated by 2030 for a minimum of 8 units per acre is needed to meet the affordable housing unit requirements. A total of 106 acres of development at a minimum of 8 units per acre has been designated within the future land use plan (see Figure 12 and Table 39). This amount of higher density development will not only support the city and region's affordable housing goals but will support the development of a diverse housing stock.

Table 39: Anticipated Residential Development Over 8 Units per Acre

Land Use	Density	Acres by 2030	Potential Units
Medium Density Residential	8 to 12 units per acre	74 Acres	592 to 888 units
High Density Residential	12 to 18 units per acre	2.4 Acres	29 to 43 units

Balanced Supply of Housing – Variety of Housing Types

The City of Norwood Young America strives to provide a variety of housing for all market needs including:

1. Affordable basic units for younger residents
2. Affordable single-family units for first time home buyers
3. Housing for growing families and/or rising incomes
4. Empty-nester dwellings
5. Low maintenance housing for seniors
6. Assisted living to provide health and medical care to the elderly

As the city's population has grown, the percent of population in each age cohort has changed (see Table 36). This age cohort analysis reveals that persons aged 10 to 19 in 2010 (20 to 29 in 2016) decreased slightly (1.1 percent) as an as did those aged cohort 20 to 29 in 2010 (30-39 in 2016) which decreased by 3.2 percent. The over 60 age cohort also decreased between 2010 and 2016 (2.1 percent). The age cohort comparison over time indicates the city has been experiencing a reduction in persons aged 10 to 29 (age in 2010) but experiencing an influx of persons aged 0 to 9 and 30+ (age in 2010).

The reduction and influx in various age cohorts is likely related to the type of housing and jobs available within Norwood Young America. People over age 60 may be leaving in search of empty nester options or elderly care. People under the age of 30 may also be leaving in search of opportunities closer to the Twin Cities. Younger people may be moving into Norwood Young America as they migrate from rural counties toward the Twin Cities Metropolitan Area seeking employment opportunities post-graduation. First time home buyers, and those looking for a move-up home, may be moving to Norwood Young America due to available housing at lower costs than more proximal to the more urban areas of the Twin Cities.

Table 40: Age Cohort Breakdown – 2010-2016

2010		2016	
Age Cohort	Percent of Total Population	Age Cohort	Percent of Total Population
0 to 9	12.8%	0 to 9	15%
10 to 19	10.9%	10 to 19	14.4%
20 to 29	16.7%	20 to 29	9.8%
30 to 39	12.3%	30 to 39	13.5%
40 to 49	14.7%	40 to 49	14.1%
50 to 59	12.3%	50 to 59	14.9%
Over 60	20.4%	Over 60	18.3%
Total	100%	Total	100%

Source: U.S. Census Bureau, 2012-2016 American Community Survey five-year estimates

Future housing development is expected to occur primarily within existing and newly platted areas, with some housing occurring in infill areas. In order to maintain a balance of housing options in the city, the future land use plan includes designations for low, medium and high-density residential developments. The minimum densities allowed in each residential district should be reviewed to ensure the city's objectives are met.

Housing Resources

To achieve the desired housing mix and affordability levels, the City of Norwood Young America will explore various programs and resources to support housing development. The programs listed below are currently in use or are available and may be used in the city as market factors allow, assisting the city in implementing the aforementioned recommendations. Key implementation actions listed below include the development of a fair housing policy to remain eligible for the Livable Communities Act programs and the preservation of Low-Income Housing Tax Credits for affordable housing units in the community.

Table 41: Housing Tools and Resources

Tool/Resource/Program	Purpose	City Action
Section 8 Certificates and Vouchers	Rent assistance that recipients can take with them when they move, rather than being tied to specific housing. Tenants pay about thirty (30) percent of their income on rent.	The city supports the program where applicable for housing units within the community. It can generally assist housing at or below 60 percent AMI.
Community Development Block Grants (CDBG)	Funds community development efforts, including housing. Local governments that receive funding have wide discretion in its use.	The city supports the use of CDBG funds to assist a range of housing developments, particularly for the development of affordable housing units. It can also be used to support housing rehabilitation.
The Federal Housing Administration (FHA) and Department of Veterans Affairs (VA)	Insures and guarantee loans, which increase housing market access for some families.	The city supports the use of these loans and the education of existing and future residents.
Rural Housing Service	The United States Department of Agriculture provides rent assistance, direct loans and loan guarantees in rural areas.	The city supports rural housing service assistance and loans to support growth within its rural area.
Low-Income Housing Tax Credits	Federal income tax credits for people or companies that invest in the construction or substantial rehabilitation of rental housing. Developers of rental housing sell the credits to investors. Proceeds from credit sales can cover some of a project's development and construction.	The city supports the use of federal tax credits to assist the development of affordable housing within the community.
Tax Exempt Bonds	Sold by state and local governments. Buyers accept a lower interest payment because it is not taxable income. State and local housing agencies use the bond proceeds to finance mortgages with below market interest rates.	The city supports the use of tax exempt bonds at the local level to finance mortgages below the market interest rates.

Tool/Resource/Program	Purpose	City Action
Minnesota Mortgage Program	Provides mortgages with below-market interest rates to first-time homebuyers through the sale of mortgage revenue bonds.	The city supports the education of the Minnesota Mortgage Program to residents to assist first time homebuyers within the community.
Minnesota City Participation Program	MCPD is part of the Minnesota Mortgage Program, in which MHFA sets aside funds from the sale of mortgage revenue bonds for cities to meet locally identified housing needs.	The city will consider investigation of the MCPD for use in local housing projects to meet the community's housing needs.
Community Activity Set-Aside	Is a third party of the Minnesota Mortgage Program in which MHFA sets aside funds from the sale of mortgage revenue bonds for lenders, local governments or nonprofit housing providers to meet homeownership needs in their communities.	The city will consider investigation of the program for use in local housing projects to meet the community's housing needs.
Minnesota Urban and Rural Homesteading	Awards grants to organizations and public agencies that acquire, rehabilitate, and sell single-family homes that are vacant, condemned or blighted to at-risk first-time homebuyers.	The city will consider investigation of the program for use in local housing projects to maintain a quality housing stock.
Minnesota Fix-Up Fund	Provides home improvement loans with below- market interest rates for low and moderate-income homeowners.	The city will promote education of the fund to local residents to promote investment in the existing housing stock.
Rehabilitation Loan/Emergency and Accessibility Loan Program	Assists low income homeowners in financing basic home improvements that directly affect the safety, habitability, energy efficiency or accessibility of their homes.	The city will promote education of the fund to local residents to promote investment in the existing housing stock.
Community Rehabilitation Fund	Provides grants to cities for acquisition, rehabilitation, demolition and new construction of single-family homes.	The city will consider investigation of the program for use in local housing projects to maintain a quality housing stock.
Low and Moderate-Income Rental Program	Provides mortgages and rehabilitation funds for either acquisition and rehabilitation of or new construction of rental housing for low and moderate-income families.	The city will promote education of the fund to local residents to promote investment in the existing housing stock and provide opportunities for affordable housing.
Rental Rehabilitation Loans	Provides property improvement loans to rental property owners.	The city supports the use of the rehabilitation loans to maintain and promote a rental housing stock.

Tool/Resource/Program	Purpose	City Action
Tax Increment Financing (TIF)	Housing or redevelopment districts may be established by local governments to assist eligible housing projects. Local governments capture the property tax revenue generated by the new development and use the captured taxes to help finance the eligible project. Occupants must meet income restrictions for housing TIF districts.	The city will continue to explore and utilize TIF to support the development of housing projects that respond to the housing needs within the community. Specific TIF policies may be considered to support affordable housing development.
Affordable Rental Investment Fund (ARIF)	Provides low-interest first mortgages or deferred loans to help cover the costs of acquisition and rehabilitation or new construction of low-income rental housing.	The city will promote education of the fund to local residents to promote investment in the existing housing stock and provide opportunities for affordable housing.
Low Income Housing Tax Credits (LIHTC)	LIHTC are MHFA's share of the tax credits allocated to Minnesota.	<p>The city will support applications when a proposed development meeting the required selection criteria and supports the housing needs identified for the community.</p> <p>The city will review and pursue preservation of existing tax credits within the community.</p>
HOME Rental Rehabilitation	Provides grants to rehabilitate privately-owned rental property in order to support affordable, decent, safe and energy efficient housing for lower-income families.	The city will promote education of the fund to local residents to promote investment in the existing housing stock and provide opportunities for affordable housing.
Housing Trust Fund	Provides deferred loans without interest for the development, construction, acquisition, preservation, or rehabilitation of low-income rental housing.	The city will promote education of the fund to local residents to promote investment in the existing housing stock and provide opportunities for affordable housing.
Local Bonds	May be used to assist with financing affordable housing and are available in two types. First, revenue bonds typically finance mortgages and are paid off with mortgage repayments. Second, general obligation bonds are paid off with local tax collections.	The city will continue to explore the use of local bonds to administer new housing programs. Investigation should consider the types of housing development best suited for this tool.

Tool/Resource/Program	Purpose	City Action
Local housing trust funds	Local revenues dedicated exclusively to housing activities.	The city will continue to explore the use of trust funds to support housing projects.
Local tax levies	May be used to directly finance affordable housing.	The city will continue to explore the use of levies to finance affordable housing developments within the community.
Greater Minnesota Housing Fund	Nonprofit agency that provides capital funding grants and loans to affordable housing projects in greater Minnesota.	The city will explore opportunities to collaborate to provide grants and loans for local projects.
Fair Housing Policy Adoption	The Fair Housing Act protects people from discrimination through the housing process (renting or buying a home, getting a mortgage, seeking assistance, etc.). The act prohibits discrimination because of race, color, national origin, religion, sex, familial status, and disability.	The city will develop and implement a local Fair Housing Policy to advance housing equity within the community and to remain compliant with the Livable Communities Act.
Carver County Community Development Agency	The County CDA provides programs and assistance to meet housing needs throughout the county, including rental assistance and fair housing practices.	The city will continue to work with the CDA to develop relationships and programs to assist the community in meeting its housing needs.
Livable Communities Demonstration Account (LCDA)	LCDA fund innovative (re)development projects that link housing, jobs, services to support the community. Funded projects can support connection of housing and jobs to the local/regional transportation system, provide housing variety, and support the development of vibrant, diverse communities.	The city will continue to monitor and pursue potential sites and projects that may be eligible for LCDA funding. Support will be given to projects that both support the requirements of the grant and help to meet the identified needs within the community.
Small Cities Development Program (Partnership with Carver County)	<p>The program helps local jurisdictions to fund housing, public infrastructure, and commercial rehabilitation projects. Applicable projects must meet at least one of the following objectives:</p> <ul style="list-style-type: none"> • Benefit people of low and moderate incomes • Eliminate slum and blight conditions • Eliminate an urgent threat to public health 	The city will continue to explore opportunities to utilize the program with Carver County to support the development and maintenance of affordable housing and promote the maintenance of quality housing stock.

Tool/Resource/Program	Purpose	City Action
Manufactured Homes	Manufactured homes are a component of the existing housing stock within Norwood Young America. These units provide another housing option for existing and future residents.	The city will continue to work with existing manufactured home developments within the community and support the preservation and maintenance of a quality environment.
Effective Referrals	There are a wide variety of housing support organizations that provide a range of housing assistance programs that can be utilized within Norwood Young America (some of which are described within this table). Resources are offered by governments and non-profits at the State, Federal, local and county level. These organizations assist the city with cost effective ways to achieve its housing goals.	The city will continue to monitor available programs and resource offerings for potential partner agencies to achieve its housing goals.
Minnesota Housing Finance Agency (MHFA) Programs	The MHFA provides a range of programs that provide assistance for down payments and closing costs. Additional First-Time Homebuyer, Fix Up Fun, and Rehabilitation loans are available.	The city will continue to explore and promote these programs for use within the community. Programs are limited by income levels, by generally serving those earning 80 percent AMI or lower.
Housing-Related Organizations, Partnerships and Initiatives	There are a range of local, regional and state organizations that provide housing-related programs and tools that can be used at the local level. These partnerships can be leveraged to help a community meet its housing need. Many organizations are discussed through this table.	The city will continue to explore potential partnerships and available initiatives at the local, state and regional level.
Site Assembly	Site or land assembly can be used to support housing development when the local government retains the control of a site or property for development. This provides the local government more control over the use of the site but can be seen as an advantage for interested developers. The use of land banks, surplus property, or brownfield cleanup are examples of site assembly.	The city will consider investigation of opportunities to utilize site assembly tools to promote housing development that responds to the community's needs.

Tool/Resource/Program	Purpose	City Action
Rental License and Inspection	Rental licensing is a tool that can be used at the local level to provide guidance and regulation to rental housing within a community. The program is developed and managed at the local level.	The city does not currently have a rental license policy and does not have a short-term plan for the development of one. The city will monitor changes in local rental housing and the future need for a program.
Carver County Community Land Trust (CCCLT) Program	The program assists with the development of secure, affordable access to land and housing for local workforce. The CCCLT acquires properties within a land trust for new homes to be built on. Efforts are used to ensure homeowners meet program criteria (earning 50 to 80 percent of AMI) and the future sale of the home remains affordable for the next buyer.	The city will collaborate with Carver County to assess existing and future opportunities for the use of the CCCLT program within the community to aid housing development.
Low Income Rental Classification (LIRC) – MHFA – Local 4D Tax Program	Tax rate reductions in property taxes are available to eligible rental properties when subsidized under federal or state programs or when they meet certain income and rent restrictions.	The city will monitor and investigate the use of NOAH for properties to assist with the provision of affordable housing at or below 60 percent of the AMI.

Chapter 9 – Implementation

In many ways, formal adoption of the Comprehensive Plan is the first step in the planning process, rather than the last, because it establishes the policy direction for the community, describing its objectives and methods to achieve them. Without continuing action to implement and update the plan, city efforts will have little lasting impact. The Goals and Objectives chapter establishes the policy direction for the city, while the other elements of the plan set forth maps and recommendations for the physical growth and development of the city. This Implementation chapter outlines further steps to put this plan into action. The following paragraphs describe regulations, programs and other tools to be employed to implement the Comprehensive Plan. Table 39 identifies specific implementation steps.

Zoning Ordinance

Zoning is a governmental unit's primary regulatory tool for implementing planning policies. It consists of the official zoning map and the supporting ordinance text. The official zoning map divides the community into a series of zoning districts, and the text describes regulations for the use of land within these districts including permitted uses, lot sizes, setbacks and density standards. It can also include design and property maintenance controls. The city may implement other elements of this Plan through its zoning regulations. For example, the city could include tree preservation standards within its zoning code. The existing zoning map and descriptions of the current zoning districts are provided in Appendix A.

Subdivision Regulations

The Subdivision Ordinance regulates the development of land and the provision of public facilities within the community. Properly enforced subdivision regulations, coupled with zoning, can ensure proper physical development and adequate public facilities within growth areas. They normally prescribe standards for street improvements, lot setbacks and layouts, and water and sewer facilities. Subdivision regulations can also ensure that the costs of public improvements within growth areas are borne by the developers and the new residents as appropriate rather than by the established community. Norwood Young America's subdivision regulations should be reviewed against the recommendations of the Comprehensive Plan update and revised as necessary.

Official Mapping

The city and affected roadway jurisdictions should "officially map" planned roadway (and other) improvements when possible. An official map delineates the right-of-way needed for widening existing roads or for new roads to a level of detail sufficient enough to locate future acquisition boundaries. The city may require that any new development conform to the official map. The official map does not give the city or other affected jurisdiction ownership of the needed future right of way, but it can limit development from occurring within it in the meantime.

Where it is not yet feasible to prepare an official map for needed future roadways and roadway improvements, the city should work with property owners to ensure new development is compatible with this plan.

Capital Improvement Program

Another tool for implementation is the Capital Improvement Program, which establishes schedules and priorities for public improvements, typically within a five to ten-year period. The city first prepares a list of all public improvements that will be required in the next five to ten years, including transportation and

community facilities projects. Once all projects are reviewed, priorities are assigned, cost estimates prepared, and potential funding sources identified. The city can determine which projects should be financed through annual tax receipts, which require public borrowing, and which may be eligible for outside sources of assistance.

The Capital Improvement Program allows the city to provide the most critical public improvements within budget constraints. The recommendations of this Comprehensive Plan are articulated in the capital improvements plan which is attached in Appendix D.

Growth Areas & Annexation

The City of Norwood Young America anticipates further residential, commercial and industrial development and, to accommodate growth, has designated areas outside of the current city limits as “planned growth areas”. The city will work with Carver County and Young America Township to ensure that the growth that occurs in these areas is compatible with the City’s policies and can eventually become part of the city and served by a full range of city services.

As previously referenced, the city has an existing Orderly Annexation Agreement in place for the entire future growth area. The agreement boundary should be reviewed regularly to ensure the appropriate boundary area is maintained. Additionally, the city should work with the county and township regarding development proposals outside of the agreement boundary to monitor developments that may impede future development.

Citizen Involvement

This comprehensive planning effort has begun to establish a healthy dialogue among local residents concerning the future of the community. The city has provided a range of public engagement opportunities throughout the plan development process to ensure input from the community is incorporated into the plan. Because this plan will affect everyone in the community, everyone should have the opportunity to contribute to planning decisions.

Review and Revision

Comprehensive planning is a continuous process; thus, the plan should be monitored and updated when necessary. The Planning Commission and City Council should carefully review proposed changes, monitor their implications and actively seek citizen comment on such proposals. If changes are found to be appropriate, they should be formally added to the plan by legal amendment. In addition, every five years, the entire Comprehensive Plan should be reviewed and modified to ensure that it is an up-to-date expression of community goals and intentions.

Implementation Actions

Specific actions have been identified for the city to act upon as efforts are made to achieve the community’s future vision. The following table details the action step, the general timeframe for completion and responsible agencies. This list is not intended to comprise all items that can be compiled or to identify all parties that should participate in implementation.

CHAPTER 9 – IMPLEMENTATION

Table 42: Implementation Plan

Implementation Step	Timeline	Responsible Agency/Department
<i>The action that will be taken over the next 20+ years.</i>	<i>When should the action be completed (on-going, short-term, or long-term)?</i>	<i>Who is primarily responsible for completing the action and who will assist (city departments, commissions, etc.)?</i>
Explore appropriate performance standards addressed in the Comprehensive Plan, such as architectural, design or other development standards within the City's commercial and industrial districts; and buffering between incompatible land uses.	Ongoing	Planning
Examine zoning and other development standards to ensure they don't unreasonably hinder the provision of affordable housing.	Ongoing	Planning
Review the City's shoreland and wetland regulations, and any others as necessary, to comply with State and Federal standards.	Ongoing	Planning
Ensure the appropriate provisions of future public park lands, local and collector roadways, trails and other public improvements within new development through the implementation of dedication requirements.	Ongoing	Planning and Parks Commissions
Review appropriate stormwater facilities within new development, in accordance with the Stormwater Management Plan.	Ongoing	Planning and Engineering
Implement access management guidelines.	Short Term	Engineering and Planning
Provide for interconnected subdivisions by discouraging cul-de-sacs within new development and requiring proposed roadways to connect to existing and planned development where possible.	Ongoing	Planning
Require new development be consistent with the Comprehensive Plan, zoning ordinance and subdivision ordinance.	Ongoing	Planning and Commissions

CHAPTER 9 – IMPLEMENTATION

Implementation Step	Timeline	Responsible Agency/Department
Continue to maintain a capital improvement plan that includes elements of the Comprehensive Plan. Priorities may include an adequate transportation system in the growing areas of the community, adequate and up-to-date city buildings, parks and multi-use trail facilities.	Ongoing	Planning, City Council
Work with the County and Township to monitor and support very low agricultural densities (1 unit per 40 acres) within the City's planned growth areas until such time as development is imminent.	Ongoing	Planning
Annex land within the planned growth areas as development is imminent and urban services can be made available.	Ongoing	Planning
When annexed, rezone land within the planned growth areas in conformance with the Future Land Use Plan map.	Ongoing	Planning
Review the Comprehensive Plan in five years and again in ten years to determine whether the plan recommendations are still current. The city planner will brief the Planning Commission and provide an annual report to the City Council to re-evaluate the accuracy of the Plan and identify steps to implement the Plan. The Plan should be revised as necessary.	Ongoing (annual basis)	Planning, Planning Commission, City Council
Promote economic development through the annual goals set by the Economic Development Commission (EDC).	Ongoing	EDC
Promote redevelopment of the city's downtown districts and commercial centers.	Ongoing	EDC
Continue to market the industrial park and promote the expansion of the park to the east.	Ongoing	EDC
Review and maintain existing community facilities to ensure the needs of the public are met.	Ongoing	Parks Commission
Meet the park and recreation needs of the public through the goals of the Parks Commission.	Ongoing	Parks Commission
Support the development of a variety of life cycle housing types, sizes and values to accommodate residents within a wide-range of age and income groups.	Ongoing	Planning, Senior Advisory Committee, EDC
Promote resource preservation through the implementation of Stormwater Management Plan.	Ongoing	Engineering

CHAPTER 9 – IMPLEMENTATION

Implementation Step	Timeline	Responsible Agency/Department
Initiate discussions with Carver County and Young America Township regarding changes to the orderly annexation boundary. Review the boundary on a regular basis	Ongoing	Planning, City Council
Maintain an open dialog with Carver County, Young America Township and other nearby jurisdictions regarding long range planning and development efforts.	Ongoing	All
Assess and development standards to support aesthetic updates to key commercial entities, particularly along the US TH 212 corridor. Identify funding sources to assist property owners with redevelopment efforts.	Short Term	EDC
Study the redevelopment of gateway sites within the community and maintain the current standards in place that identify Norwood Young America's sense of place.	Ongoing	All
Implement the short-term (2-3 years) and long-term (5-10 years) projects identified in the Downtown Redevelopment Plan.	Ongoing	All

APPENDIX A

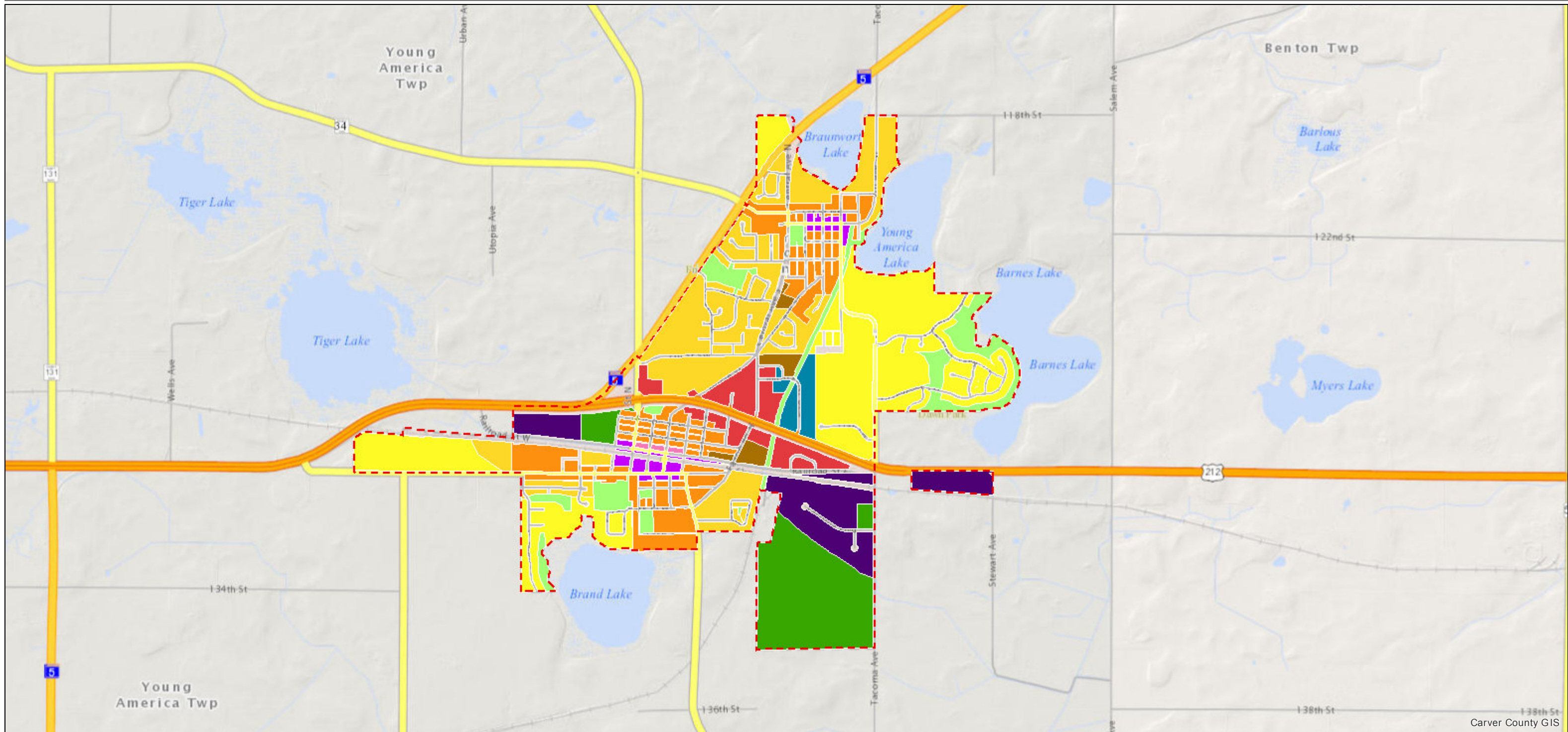
Zoning Classifications

CITY OF NORWOOD YOUNG AMERICA

Zoning Map

Map Date: 3/28/2019

0 0.15 0.3 0.6 0.9 1.2 mi



Zoning

 R-1 Low Density Single Family Residential

 R-2 Medium Density Single Family Residential


 R-3 Medium Density Mixed Residential

 R-4 Multiple Family Residential

 RC-1 Residential/ Neighborhood Commercial

 C-2 General Commercial

 C-3 Downtown District

 B-1 Business Industrial

 I-1 Light Industrial

 P-1 Parks/ Open Space

 TA Transition/ Agriculture

Zoning Districts

Norwood Young America's zoning ordinance establishes regulations pertaining to the location, construction, alteration and use of structures and land within the city. The city's land use plan describes the existing and planned use of the property and may not be consistent with the applicable zoning requirements. The city's current zoning ordinance establishes eight primary categories of zoning districts to meet the city's planning, development and preservation needs.

Rural/Agricultural Districts

Although largely developed, there is a portion of Norwood Young America zoned for Transition/Agriculture (T/A). The T/A district allows suitable areas of the city and newly annexed land to be retained and utilized by low-density residential, open space and/or agricultural uses until such time as these areas are ready for urban development.

The intent of the T/A District is to: (a) To protect such areas against development patterns that may hinder their ultimate transition to the intended urban use; (b) To prohibit those uses and densities, which would require the premature extension of urban public facilities and services; and, (c) to promote logical and orderly development in the best interest of the health, safety, and welfare of the citizens of the community.

Residential Districts

The City of Norwood Young America has established five (5) residential districts.

The Low Density Single Family Residential District (R-1) provides for and preserves areas within the city currently established or primarily designated for low-density residential development by the comprehensive plan. Minimum density is not defined within the zoning ordinance.

The Medium Density Single Family Residential District (R-2) provides and preserves areas within the city currently established for low density residential development by the comprehensive plan at densities slightly higher than the R-1 District.

The Medium Density Mixed Residential District (R-3) is intended to preserve the residential areas established with the city's original plat and provide for a variety of housing types to be developed at densities slightly higher than the traditional single-family dwelling as guided by the comprehensive plan.

The Multiple Family Residential District (R-4) is intended to provide for multifamily residential structures at a maximum net density of 18 dwelling units per acre on land guided for high density residential uses by the city comprehensive plan.

Commercial Districts

The city's commercial uses are located within one of four zoning districts: the Residential/Neighborhood Commercial District, the General Commercial District, the Downtown District and the Business Industrial District.

The Residential/Neighborhood Commercial District (RC-1) provides for the development of specialty service and commercial focusing on neighborhood related businesses in areas where residential

dwelling dominate. Permitted uses in this district include a mix of residential and commercial uses ranging from single-family dwellings to retail trade and restaurants.

The General Commercial District (C-2) is intended to recognize development opportunity and the need for commercial establishments fronting on or with direct access to major highways, a frontage road or major street and that serve residents as well as vehicular traffic.

The Downtown District (C-3) includes the original Norwood Downtown known as “Downtown Business” and the original Young America Downtown known as “Community Uptown” and is intended to serve as the specialized service, retail, employment and public business district. This district allows for a mix of commercial, residential and office uses and serves as a focal point for the community. Development within the district should consider all modes of transportation, with a focus on pedestrian friendly elements.

The Business Industrial District (B-1) is intended to provide an area for light industrial and large-scale office-park development. The uses allowed in this district allow a combination of both commercial and industrial uses.

Industrial District

Norwood Young America’s Industrial District (I-1) was created to provide for industrial areas within the city that will be acceptable and will not adversely affect adjacent business or residential neighborhoods. The overall character of the I-1 District is intended to have low impact manufacturing or warehouse character.

Parks and Open Space District

The Parks and Open Space District (P-1) provides for recreational area for the enjoyment of the public, as well as for the preservation of significant natural features and amenities such as lakes, rivers, marshes, steep hills, extensive woodlands, and woodlands in their natural state.

Shoreland District

Norwood Young America’s Shoreland Overlay Districts regulate the subdivision, use and development of shoreland areas within the City of Norwood Young America. It is intended to further the state of Minnesota’s policies to: a) protect and enhance the quality of surface waters, b) preserve natural environmental values (steep slopes, vegetation and wildlife), c) wisely utilize waters as related to land resources, and d) preserve historical values.

Restrictions are imposed on the design, placement and height of structures and roadways in shoreland districts. Vegetative alteration, topographic alterations, stormwater management, water supply and sewage treatment are also more strictly controlled within shoreland areas.

Planned Unit Development

The city’s Planned Unit Development Overlay District offers enhanced flexibility to develop a site through the relaxation of conventional zoning district standards. It allows for a greater variety of uses, internal transfers of density, development phasing and a potential for lower development costs. This district can be applied within any area of the city, with the uses governed by the underlying zoning district.

APPENDIX B

2017 Water Supply Plan

Local Water Supply Plan Template

Third Generation for 2016-2018

Formerly called Water Emergency & Water Conservation Plan



Cover photo by Molly Shodeen



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

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This information is available in an alternative format upon request.

Equal opportunity to participate in and benefit from programs of the Minnesota Department of Natural Resources is available to all individuals regardless of race, color, creed, religion, national origin, sex, marital status, public assistance status, age, sexual orientation, disability or activity on behalf of a local human rights commission. Discrimination inquiries should be sent to Minnesota DNR, 500 Lafayette Road, St. Paul, MN 55155-4049; or the Equal Opportunity Office, Department of the Interior, Washington, DC 20240.

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

INTRODUCTION TO WATER SUPPLY PLANS (WSP)

Who needs to complete a Water Supply Plan

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

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

Groundwater Management Areas (GWMA)

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

Benefits of completing a WSP

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

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

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

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

WSP Approval Process

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

1. Download the DNR/Metropolitan Council Water Supply Plan Template
www.mndnr.gov/watersupplyplans
2. Save the document with a file name with this naming convention:
WSP_cityname_permitnumber_date.doc.
3. The template is a form that should be completed electronically.
4. Compile the required water use data (Part 1) and emergency procedures information (Part 2)
5. The Water Conservation section (Part 3) may need discussion with the water department, council, or planning commission, if your community does not already have an active water conservation program.
6. Communities in the seven-county Twin Cities metropolitan area should complete all the information discussed in Part 4. The Metropolitan Council has additional guidance information on their webpage <http://www.metrocouncil.org/Handbook/Plan-Elements/Water-Resources/Water-Supply.aspx>. All out-state water suppliers do *not* need to complete the content addressed in Part 4.
7. Use the Plan instructions and Checklist document to insure all data is complete and attachments are included. This will allow for a quicker approval process. www.mndnr.gov/watersupplyplans
8. Plans should be submitted electronically – no paper documents are required.
<https://webapps11.dnr.state.mn.us/mpars/public/authentication/login>
9. DNR hydrologist will review plans (in cooperation with Metropolitan Council in Metro area) and approve the plan or make recommendations.
10. Once approved, communities should complete a Certification of Adoption form, and send a copy to the DNR.

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

Table 1. General information regarding this WSP

Requested Information	Description
DNR Water Appropriation Permit Number(s)	1977-6448
Ownership	Public
Metropolitan Council Area	Yes (Carver County)
Street Address	310 W. Elm Street, PO Box 59
City, State, Zip	Norwood Young America, MN, 55368
Contact Person Name	Steve Helget
Title	City Administrator
Phone Number	952-467-1805
MDH Supplier Classification	Municipal

PART 1. WATER SUPPLY SYSTEM DESCRIPTION AND EVALUATION

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

A. Analysis of Water Demand

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

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

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

--

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

Year	Pop. Served	Total Connections	Residential Water Delivered (MG)	C/I/I Water Delivered (MG)	Water used for Non-essential	Wholesale Deliveries (MG)	Total Water Delivered (MG)	Total Water Pumped (MG)	Water Supplier Services	Percent Unmetered/Unaccounted	Average Daily Demand (MGD)	Max. Daily Demand (MGD)	Date of Max. Demand	Residential Per Capita Demand (GPCD)	Total per capita Demand (GPCD)
2005	3340	1189	71.84	13.15	5.87		89.12	107.143	4.132	16.82%	0.29	0.58	7/15/2005	58.93	87.89
2006	3340	1228	77.51	13.80	6.36		97.78	113.685	6.468	13.99%	0.31	0.70	7/10/2006	63.58	93.25
2007	3500	1250	79.09	13.57	6.27		100.60	116.108	7.932	13.36%	0.32	0.64	7/20/2007	61.91	90.89
2008	3626	1271	75.21	12.15	6.12	0.24	92.53	103.400	4.932	10.51%	0.28	0.53	7/3/2008	56.83	78.12
2009	3626	1276	74.93	12.26	6.30		92.26	100.182	5.067	7.91%	0.27	0.64	6/23/2009	56.61	75.70
2010	3637	1276	69.21	14.04	5.86		88.09	97.281	4.838	9.45%	0.27	0.54	6/2/2010	52.13	73.28
2011	3637	1277	70.76	10.31	5.93		85.89	95.188	4.818	9.77%	0.26	0.60	7/8/2011	53.30	71.70
2012	3637	1277	72.45	9.58	7.13		85.87	91.542	3.843	6.20%	0.25	0.58	7/28/2012	54.57	68.96
2013	3637	1286	72.31	9.70	5.30		86.17	89.370	4.159	3.58%	0.24	0.73	10/15/2013	54.47	67.32
2014	3637	1300	66.85	9.98	5.14		80.50	85.086	3.676	5.39%	0.23	0.57	8/7/2014	50.35	64.09
2015	3637	1309	64.00	10.47	6.25		78.20	83.537	3.727	6.39%	0.23	0.46	8/27/2015	48.21	62.92
Avg. 2010-2015	3569	1,267	72.20	11.73	6.05	0.24	88.82	98.411	4.872	9.40%	0.27	0.60		55.54	75.83

MG – Million Gallons

MGD – Million Gallons per Day

GPCD – Gallons per Capita per Day

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

Table 3. Large volume users

Customer	Use Category (Residential, Industrial, Commercial, Institutional, Wholesale)	Amount Used (Gallons per Year)	Percent of Total Annual Water Delivered	Implementing Water Conservation Measures? (Yes/No/Unknown)
1 Holiday Company	COMMERCIAL	1,715,900	2.19%	YES
2 OAK GROVE SENIOR RESIDENCE	RESIDENTIAL	1,405,900	1.80%	YES
3 KWIK TRIP CAR WASH	COMMERCIAL	1,025,900	1.31%	YES
4 FAXON PARTNERSHIP	RESIDENTIAL	930,000	1.19%	YES
5 IND SCHOOL DISTRICT 108	INSTITUTIONAL	875,500	1.12%	YES
6 THE HARBOR	RESIDENTIAL	791,100	1.01%	YES
7 PEACE VILLA APARTMENTS	RESIDENTIAL	786,100	1.01%	YES
8 IND SCHOOL DISTRICT 108	INSTITUTIONAL	726,900	0.93%	YES
9 COUNTRY COVE APARTMENTS	RESIDENTIAL	664,700	0.85%	YES
10 COUNTRY COVE APARTMENTS	RESIDENTIAL	632,400	0.81%	YES

B. Treatment and Storage Capacity

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

Table 4. Water treatment capacity and treatment processes

Treatment Site ID (Plant Name or Well ID)	Year Constructed	Treatment Capacity (GPD)	Treatment Method	Treatment Type	Annual Amount of Residuals	Disposal Process for Residuals	Do You Reclaim Filter Backwash Water?
North WTF	2010	1,440,000 (Primary)	Aeration, Filtration, Chemical Addition	FE/MN Removal, Chlorination , Fluoridation	2.79 MG	Sanitary Sewer	YES

Treatment Site ID (Plant Name or Well ID)	Year Constructed	Treatment Capacity (GPD)	Treatment Method	Treatment Type	Annual Amount of Residuals	Disposal Process for Residuals	Do You Reclaim Filter Backwash Water?
			for coagulation				
South WTF	Upgraded 2010: SCADA to North WTF and Pumps for Single Zone System 2015: Taken off line. Will reinstate when needed in future	576,000 (back up and Peak Shaving) N/A Off Line	Aeration, Filtration, Chemical Addition for coagulation	FE/MN Removal, Chlorination , Fluoridation	None	Sanitary Sewer	
Total	NA	1,440,000	NA	NA		NA	

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

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

Structure Name	Type of Storage Structure	Year Constructed	Primary Material	Storage Capacity (Gallons)
North Tower	Elevated storage	1992	Steel	200,000
South Tower	Elevated storage	2008	Composite: Steel Tank, Concrete Pedestal	750,000
North WTF Clearwell	Ground storage		Concrete	510,000
Old South Tower (Off Line)	Elevated storage	1992	Steel	300,000 (N/A). Off Line, Due to Single Zone System, and Elevation Difference.
Total	NA	NA	NA	1,460,000

Treatment and storage capacity versus demand

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

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

The City of Norwood Young America currently has 950,000 gallons of elevated storage in two tanks and 510,000 gallons of storage in the North Water Treatment Plant clearwell, yielding a total of 1,460,000 gallons of storage capacity. Typically, it is desired to compare storage capacity to average daily demand. The storage capacity in the city should be greater than the average day demand. In 2016, the projected average daily demand is 270,000 gallons resulting in excess storage capacity of 1,190,000 gallons. From Table 7, the projected average daily water demand for 2025 is 450,000 gallons resulting in projected excess storage capacity of 1,010,000 gallons. The projected average daily demand for 2040 is 700,000 resulting in a projected excess storage capacity of 76,000 gallons. There is adequate storage capacity through the next 10 years (2025) and no additional storage is planned to be constructed over that period.

Currently, the Norwood Young America has a total well capacity of 1.68 MGD and a firm capacity of 0.48 MGD (Assuming wells run for 20 hours per day). Typically, it is desired to have a firm capacity greater than the projected maximum day demand. In 2016, the projected maximum day demand is 0.61 MGD yielding a deficit of 0.13 MGD. To meet firm well capacity requirements, the city of Norwood Young America will need to reinstate the South Water Treatment Plant and wells 1NOR and 3NOR. After reinstatement of the South Water Treatment Facility well 3NOR and 1NOR, the city of Norwood Young America will have adequate firm capacity to meet maximum day demands through 2030.

Currently, the water treatment facility in Norwood Young America has a treatment capacity of 1.44 MGD based on the treatment plants operating for 20 hours per day. It is common to operate water treatment plants for 20 hours per day to allow for backwashing and maintenance. Typically, water treatment plants are sized to treat the maximum daily demand projected for a community. By 2025, the maximum daily demand is 0.99 MGD. Within the next 10 years, there is adequate treatment capacity for the city of Norwood Young America. However, the current projection indicates a maximum daily demand of 1.55 MGD by the year 2040. This exceeds the treatment plant capacity. Additional treatment capacity is needed by 2040 to meet projected demands as the City continues to grow.

--

C. Water Sources

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

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

Table 6. Water sources and status

Resource Type (Groundwater, Surface water, Interconnection)	Resource Name	MN Unique Well # or Intake ID	Year Installed	Capacity (Gallons per Minute)	Well Depth (Feet)	Status of Normal and Emergency Operations (active, inactive, emergency only, retail/wholesale interconnection))	Does this Source have a Dedicated Emergency Power Source? (Yes or No)
Groundwater	1NOR	211962	1926	250	685	Emergency – Inactive	No (Port. Gen.)
Groundwater	3NOR	420969	1989	400	950	Peak Shaving – Inactive	No (Port. Gen.)
Groundwater	3	482765	1991	400	391	Backup/MTS Use Reduction	Yes
Groundwater	2	132256	1978/2010 Converted to Submersible in 2010	400 / 1000 Increased Capacity to 1000 in 2010	943	Active (Main Well)	Yes
Groundwater	2NOR	218999	1951	445	448	Inactive	
Groundwater	Oak Grove Dairy	221243	1961 / Converted to submersible in 2010	300	480	Inactive	NO

Limits on Emergency Interconnections

Discuss any limitations on the use of the water sources (e.g. not to be operated simultaneously, limitations due to blending, aquifer recovery issues etc.) and the use of interconnections, including capacity limits or timing constraints (i.e. only 200 gallons per minute are available from the City of Prior

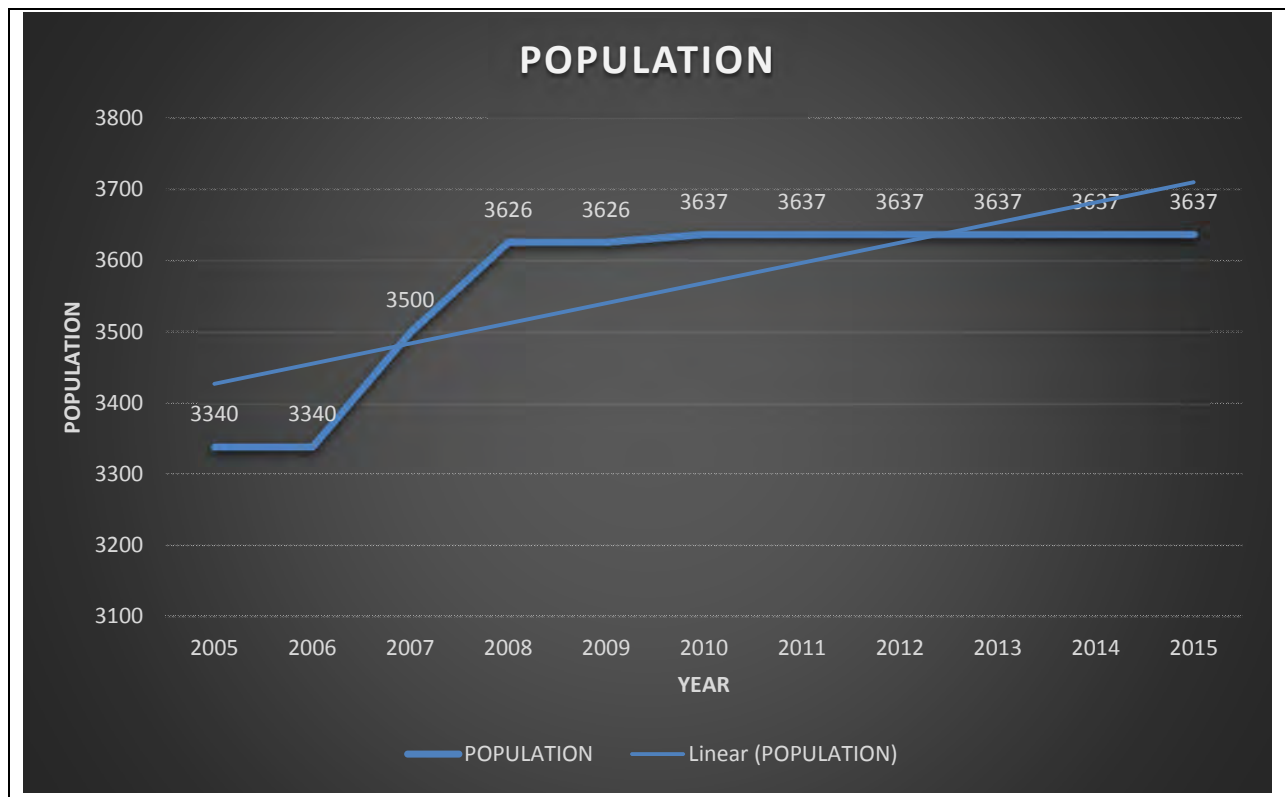
Lake, and it is estimated to take 6 hours to establish the emergency connection). If there are no limitations, list none.

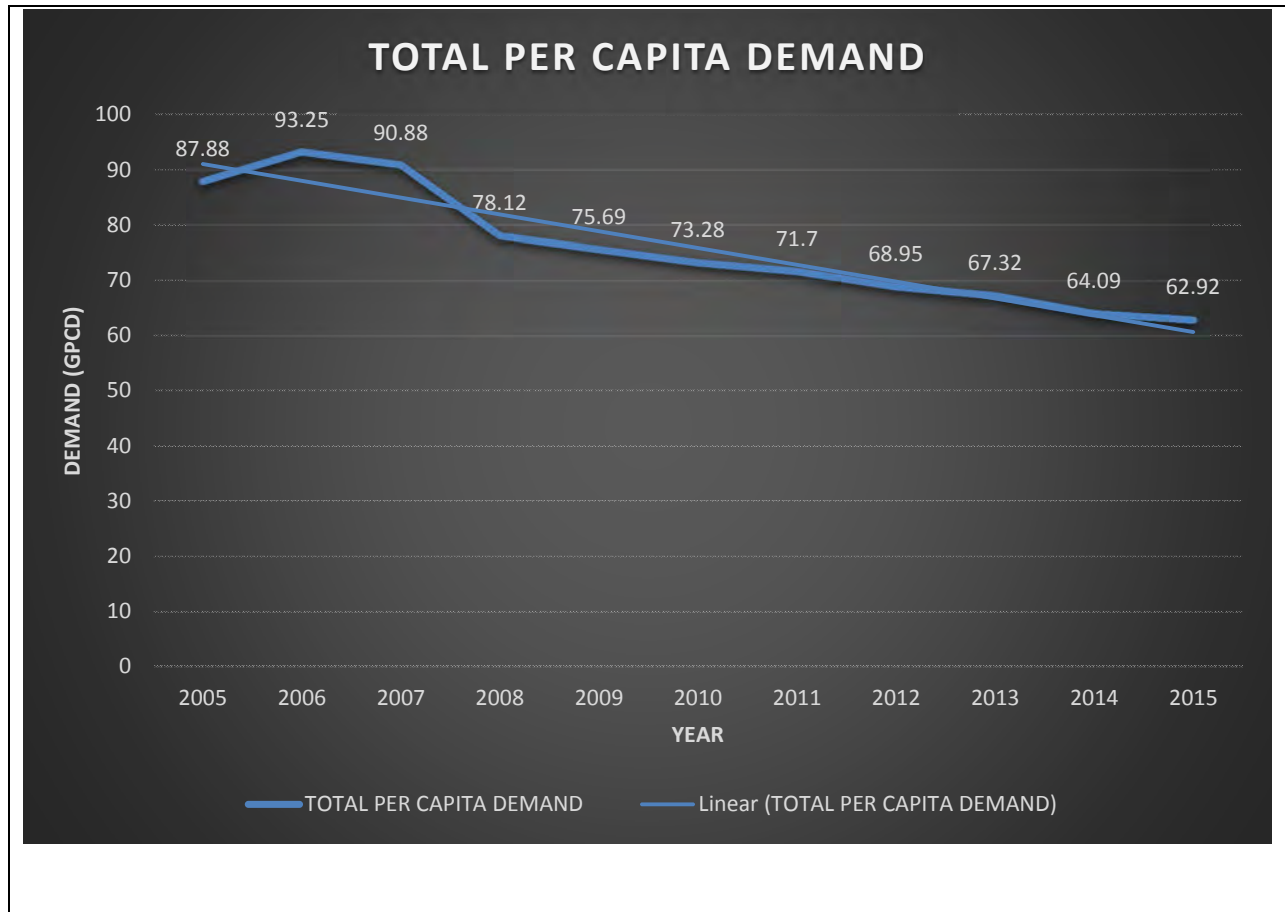
None

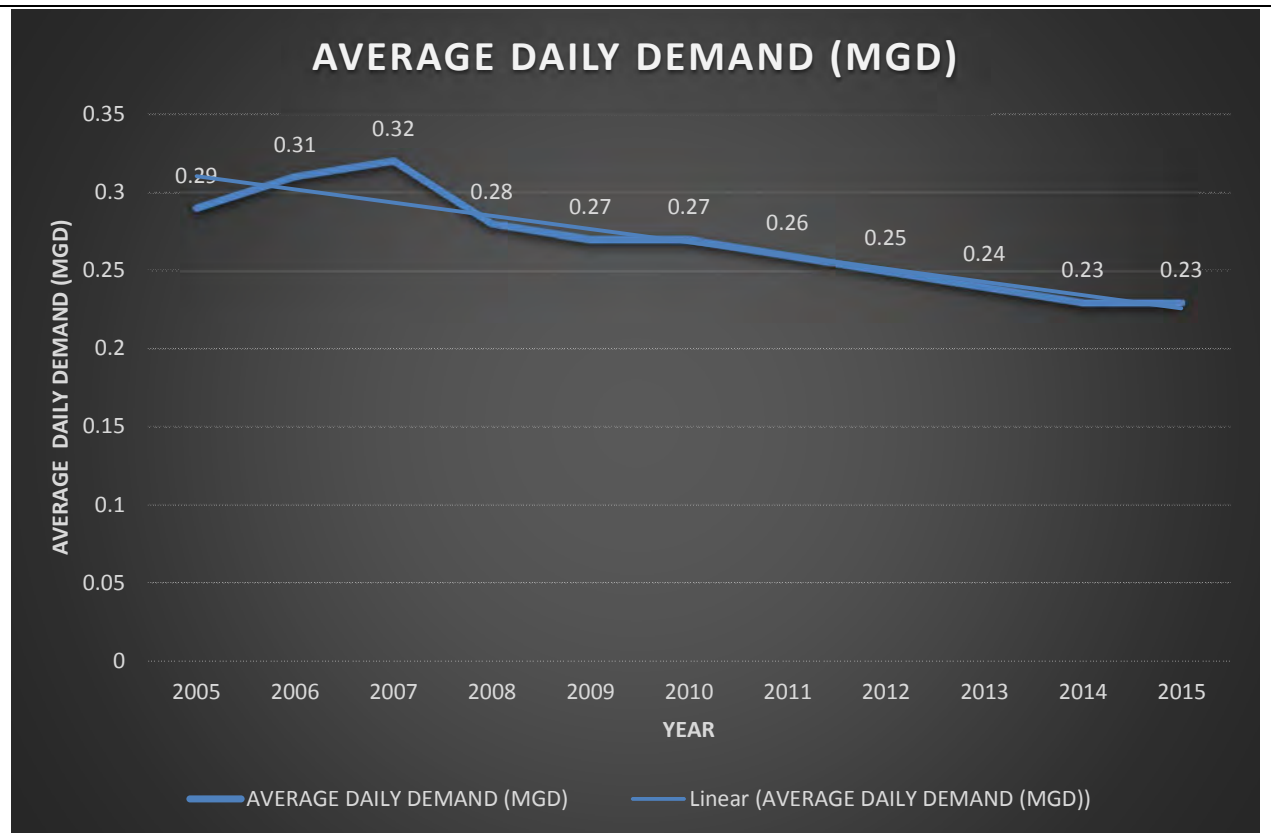
D. Future Demand Projections – Key Metropolitan Council Benchmark

Water Use Trends

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







Norwood Young America is a community that has remained steady from a population standpoint over the past 10 years. It is likely that the population will steadily increase over time as the housing market recovers and as the community grows.

Over the past 10 years the average daily demand has trended downward. This is likely due to a tiered water billing rate structure implemented since the last water supply plan and lowering commercial & industrial water usage. While the population has remained steady, residential and Commercial & Industrial water use has steadily declined over the past 10 years. These downward trends have contributed to a downward trend in the overall water delivered.

The total per capita water demand averages 76 gal per capita per day over the past 10 years. The overall per capita demand trend is steadily declining over the past 10 years but will likely level out into the future.

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

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

Table 7. Projected annual water demand

Year	Projected Total Population	Projected Population Served	Projected Total Per Capita Water Demand (GPCD)	Projected Average Daily Demand (MGD)	Projected Maximum Daily Demand (MGD)
2016	3637	3617	75.83	0.27	0.61
2017	3825	3805	75.83	0.29	0.64
2018	4014	3994	75.83	0.30	0.67
2019	4391	4182	75.83	0.32	0.71
2020	4580	4560	75.83	0.35	0.77
2021	4842	4822	75.83	0.37	0.81
2022	5104	5084	75.83	0.39	0.86
2023	5366	5346	75.83	0.41	0.90
2024	5628	5608	75.83	0.43	0.95
2025	5890	5870	75.83	0.45	0.99
2030	7200	7180	75.83	0.54	1.21
2040	9200	9180	75.83	0.70	1.55

GPCD – Gallons per Capita per Day

MGD – Million Gallons per Day

Projection Method

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

Future water demands were projected based on population increase within the city of Norwood Young America. Population forecast was taken from Thrive MSP 2040, the Metropolitan Council's updated regional development framework. Linear growth model was used to interpolate between the 2020, 2030, and 2040 population projections.

Water demand projections were derived from calculating the 10 year historical average per capita demand, 75.83 gpcd, and multiplying that demand by the projected population served. The historical average per capita water use was developed based on the past 10 years of water use data. A peaking factor of 2.23 was developed based on the 10 year average ratio of peak day to average day demand. The average day demand was multiplied by the peaking factor to calculate the projected maximum daily demand.

E. Resource Sustainability

Monitoring – Key DNR Benchmark

Complete Table 8 by inserting information about source water quality monitoring efforts. The list should include all production wells, observation wells, and source water intakes or reservoirs. Additional information on groundwater level monitoring program at:

http://www.dnr.state.mn.us/waters/groundwater_section/obwell/index.html Add rows to the table as needed.

Table 8. Information about source water quality monitoring

MN Unique Well # or Surface Water ID	Type of monitoring point	Monitoring program	Frequency of monitoring	Monitoring Method
Well 2 (132256)	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input checked="" type="checkbox"/> Routine MDH sampling <input type="checkbox"/> Routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input checked="" type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input checked="" type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input type="checkbox"/> steel tape <input type="checkbox"/> stream gauge
Well 3 (482765)	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input checked="" type="checkbox"/> Routine MDH sampling <input type="checkbox"/> Routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input checked="" type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input checked="" type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input type="checkbox"/> steel tape <input type="checkbox"/> stream gauge
Well 3NOR (420969)	<input checked="" type="checkbox"/> production well <input type="checkbox"/> observation well <input type="checkbox"/> source water intake <input type="checkbox"/> source water reservoir	<input type="checkbox"/> Routine MDH sampling <input checked="" type="checkbox"/> Routine water utility sampling <input type="checkbox"/> other	<input type="checkbox"/> continuous <input type="checkbox"/> hourly <input checked="" type="checkbox"/> daily <input type="checkbox"/> monthly <input type="checkbox"/> quarterly <input type="checkbox"/> annually	<input checked="" type="checkbox"/> SCADA <input type="checkbox"/> grab sampling <input type="checkbox"/> steel tape <input type="checkbox"/> stream gauge

Water Level Data

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

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

Provide water level data graphs for each well in **Appendix 3** for the life of the well, or for as many years as water levels have been measured. See DNR website for Date Time Water Level

http://www.dnr.state.mn.us/waters/groundwater_section/obwell/waterleveldata.html

The current water level monitoring program resulted from the previous water supply plan implementation. The City has agreed to monitor water levels in two City production wells. The City is monitoring water levels in well 2 (unique 132256), well 3NOR (unique 420969) and well 3 (unique 482765). Water level monitoring was also allowed to be delayed until well equipment upgrades could be completed. Well upgrades were completed in 2011 and monitoring began in 2012. Monitoring data is submitted to the DNR on a quarterly basis.

Table 9. Water level data

Unique Well Number or Well ID	Aquifer Name	Seasonal Variation (Feet)	Long-term Trend in water level data	Water level measured during well/pumping maintenance
Well 2 (132256)	Wonewoc – Mt. Simon	For 2015 the difference between the highest and lowest recorded value is 2.4' (Pump off values)	<input type="checkbox"/> Falling <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Rising	Continuous (SCADA)
Well 3 (482765)	Quat. buried Artes. Aquifer	For 2015 the difference between the highest and lowest recorded value is 2.5' (Pump off values)	<input type="checkbox"/> Falling <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Rising	Continuous (SCADA)
Well 3 NOR (420969)	Mt. Simon – Fond-du-Lac	For 2015 the difference between the highest and lowest recorded value is 2.8' (Pump off values)	<input type="checkbox"/> Falling <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Rising	Continuous (SCADA)

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

Complete Table 10 by listing the types of natural resources that are or could be impacted by permitted water withdrawals. If known, provide the name of specific resources that may be impacted. Identify what the greatest risks to the resource are and how the risks are being assessed. Identify any resource protection thresholds – formal or informal – that have been established to identify when actions should be taken to mitigate impacts. Provide information about the potential mitigation actions that may be taken, if a resource protection threshold is crossed. Add additional rows to the table as needed. See the glossary at the end of the template for definitions.

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

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

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

No trout streams or calcareous fens have been identified within the vicinity of the City of Norwood Young America. Many wetlands and lakes are present within and around the city; however, no negative impacts have been observed from the existing pumping activities. Observations will continue to ensure no negative impacts occur. Mitigation measures have not been developed at this point.

Table 10. Natural resource impacts

Resource Type	Resource Name	Risk	Risk Assessed Through	Describe Resource Protection Threshold*	Mitigation Measure or Management Plan	Describe How Changes to Thresholds are Monitored
<input type="checkbox"/> River or stream	N/A	<input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends and/or MCLs exceeded <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat or other natural	<input type="checkbox"/> GIS analysis <input type="checkbox"/> Modeling <input type="checkbox"/> Mapping <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> Other: ____		<input type="checkbox"/> Revise permit <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other	

Resource Type	Resource Name	Risk	Risk Assessed Through	Describe Resource Protection Threshold*	Mitigation Measure or Management Plan	Describe How Changes to Thresholds are Monitored
		resource impacts <input type="checkbox"/> Other: _____				
<input type="checkbox"/> Calcareous fen	N/A	<input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends and/or MCLs exceeded <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts <input type="checkbox"/> Other: _____	<input type="checkbox"/> GIS analysis <input type="checkbox"/> Modeling <input type="checkbox"/> Mapping <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> Other: _____		<input type="checkbox"/> Revise permit <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other	
<input checked="" type="checkbox"/> Lake	Brand Lake Public water #10-0110-00, Braunworth Public Water #10-0107-00,	<input checked="" type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends and/or MCLs exceeded <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts <input type="checkbox"/> Other: _____	<input type="checkbox"/> GIS analysis <input type="checkbox"/> GIS analysis <input type="checkbox"/> Modeling <input type="checkbox"/> Mapping <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> Other: _____	Lower limit on lake level. Declining lake levels over successive years.	<input type="checkbox"/> Revise permit <input type="checkbox"/> Change groundwater pumping <input checked="" type="checkbox"/> Increase conservation <input type="checkbox"/> Other	Monitor lake levels and note when lake levels show prolonged decline.
<input type="checkbox"/> Wetland		<input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality	<input type="checkbox"/> GIS analysis <input type="checkbox"/> Modeling <input type="checkbox"/> Mapping <input type="checkbox"/> Monitoring	Wetland water level declining over successive Years.	<input type="checkbox"/> Revise permit	

Resource Type	Resource Name	Risk	Risk Assessed Through	Describe Resource Protection Threshold*	Mitigation Measure or Management Plan	Describe How Changes to Thresholds are Monitored
		trends and/or MCLs exceeded <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts <input type="checkbox"/> Other: _____	<input type="checkbox"/> Aquifer testing <input type="checkbox"/> Other: _____		<input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other	
<input type="checkbox"/> Trout Stream	N/A	<input type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends and/or MCLs exceeded <input type="checkbox"/> Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts <input type="checkbox"/> Other: _____	<input type="checkbox"/> GIS analysis <input type="checkbox"/> Modeling <input type="checkbox"/> Mapping <input type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> Other: _____		<input type="checkbox"/> Revise permit <input type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other	
<input checked="" type="checkbox"/> Aquifer	Wonewoc – Mt. Simon, Quat. Buried Artes. Aquifer, Mt. Simon – Fond-du-Lac	<input checked="" type="checkbox"/> Flow/water level decline <input type="checkbox"/> Degrading water quality trends and/or MCLs exceeded <input type="checkbox"/> Impacts on endangered, threatened, or special concern	<input type="checkbox"/> GIS analysis <input type="checkbox"/> Modeling <input type="checkbox"/> Mapping <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Aquifer testing <input type="checkbox"/> Other: _____	If a steady decline of the aquifer level is observed over a period of 5 - 10 year.	<input type="checkbox"/> Revise permit <input checked="" type="checkbox"/> Change groundwater pumping <input type="checkbox"/> Increase conservation <input type="checkbox"/> Other	Water levels and pumping rates and volumes are monitored on a daily basis and compared to existing data to determine trends in levels.

Resource Type	Resource Name	Risk	Risk Assessed Through	Describe Resource Protection Threshold*	Mitigation Measure or Management Plan	Describe How Changes to Thresholds are Monitored
		species habitat or other natural resource impacts <input type="checkbox"/> Other: _____				
<input type="checkbox"/> Endangered, threatened, or special concern species habitat, other Natural resource impacts	N/A					

* Examples of thresholds: a lower limit on acceptable flow in a river or stream; water quality outside of an accepted range; a lower limit on acceptable aquifer level decline at one or more monitoring wells; withdrawals that exceed some percent of the total amount available from a source; or a lower limit on acceptable changes to a protected habitat.

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

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

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

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

Plan Type	Status	Date Adopted	Date for Update
WHP	<input type="checkbox"/> In Process <input type="checkbox"/> Completed <input checked="" type="checkbox"/> Not Applicable	The City of Norwood Young America has not been required to complete a WHP.	
SWP	<input type="checkbox"/> In Process <input type="checkbox"/> Completed <input checked="" type="checkbox"/> Not Applicable	The City of Norwood Young America has not been required to complete a SWP.	

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

F. Capital Improvement Plan (CIP)

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

Adequacy of Water Supply System

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

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

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

Table 12. Adequacy of Water Supply System

System Component	Planned action	Anticipated Construction Year	Notes
Wells/Intakes	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition	Unknown	Reinstatement of wells 1NOR and 3NOR is required to meet firm pumping capacity requirements.
Water Storage Facilities	<input type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input checked="" type="checkbox"/> Expansion/addition	2025	Triggering Event when average day demand exceeds 0.95 MGD
Water Treatment Facilities	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition	Unknown	Repair and reinstatement of the South Water Treatment Facility is required to reinstate wells 1NOR and 3NOR.
Distribution Systems (pipes, valves, etc.)	<input type="checkbox"/> No action planned - adequate <input checked="" type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition	Ongoing	As street improvement projects are completed the watermain distribution system is also replaced.

System Component	Planned action	Anticipated Construction Year	Notes
Pressure Zones	<input checked="" type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input type="checkbox"/> Expansion/addition		
Other: Trunk Watermain Extension	<input type="checkbox"/> No action planned - adequate <input type="checkbox"/> Repair/replacement <input checked="" type="checkbox"/> Expansion/addition	Dependent on developing timing, size and location	Development proposals in 2030 growth area.

Proposed Future Water Sources

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

Table 13. Proposed future installations/sources

Source	Installation Location (approximate)	Resource Name	Proposed Pumping Capacity (gpm)	Planned Installation Year	Planned Partnerships
Groundwater	None				
Surface Water	None				
Interconnection to another supplier	None				

Water Source Alternatives - Key Metropolitan Council Benchmark

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

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

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

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

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

Table 14. Alternative water sources

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

Part 2. Emergency Preparedness Procedures

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

A. Federal Emergency Response Plan

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

Do you have a federal emergency response plan? ☒Yes ☐No

If yes, what was the date it was certified? _Unknown

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

Table 15. Emergency Preparedness Plan contact information

Emergency Response Plan Role	Contact Person	Contact Number	Phone	Contact Email
PRIMARY	STEVE HELGET	507-581-2679		CITYADMIN@CITYOFNYA.COM
SECONDARY	TONY VOIGT	952-467-1830		TVOIGT@CITYOFNYA.COM

B. Operational Contingency Plan

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

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

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

C. Emergency Response Procedures

Water suppliers must meet the requirements of MN Rules 4720.5280 . Accordingly, the Minnesota Department of Natural Resources (DNR) requires public water suppliers serving more than 1,000 people to submit Emergency and Conservation Plans. Water emergency and conservation plans that have been approved by the DNR, under provisions of Minnesota Statute 186 and Minnesota Rules, part 6115.0770, will be considered equivalent to an approved WHP contingency plan.

Emergency Telephone List

Prepare and attach a list of emergency contacts, including the MN Duty Officer (1-800-422-0798), as

Appendix 5. A template is available at www.mndnr.gov/watersupplyplans

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

Current Water Sources and Service Area

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

Do records and maps exist? ☒ Yes ☐ No

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

☒ Yes ☐ No

Does the appropriate staff know where the materials are located?

☒ Yes ☐ No

Procedure for Augmenting Water Supplies

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

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

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

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

Other Water Supply System Owner	Capacity (GPM & MGD)	Note Any Limitations On Use	List of services, equipment, supplies available to respond
N/A			

GPM – Gallons per minute MGD – million gallons per day

Table 17. Utilizing surface water as an alternative source

Surface Water Source Name	Capacity (GPM)	Capacity (MGD)	Treatment Needs	Note Any Limitations On Use
N/A				

If not covered above, describe additional emergency measures for providing water (obtaining bottled water, or steps to obtain National Guard services, etc.)

In an emergency situation where water cannot be supplied through the primary North WTF and associated wells, the South WTF, and well 3NOR, will be brought online to supply water to the system.

Allocation and Demand Reduction Procedures

Complete Table 18 by adding information about how decisions will be made to allocate water and reduce demand during an emergency. Provide information for each customer category, including its priority ranking, average day demand, and demand reduction potential for each customer category. Modify the customer categories as needed, and add additional lines if necessary.

Water use categories should be prioritized in a way that is consistent with Minnesota Statutes 103G.261 (#1 is highest priority) as follows:

1. Water use for human needs such as cooking, cleaning, drinking, washing and waste disposal; use for on-farm livestock watering; and use for power production that meets contingency requirements.
2. Water use involving consumption of less than 10,000 gallons per day (usually from private wells or surface water intakes)
3. Water use for agricultural irrigation and processing of agricultural products involving consumption of more than 10,000 gallons per day (usually from private high-capacity wells or surface water intakes)
4. Water use for power production above the use provided for in the contingency plan.

5. All other water use involving consumption of more than 10,000 gallons per day.
6. Nonessential uses – car washes, golf courses, etc.

Water used for human needs at hospitals, nursing homes and similar types of facilities should be designated as a high priority to be maintained in an emergency. Lower priority uses will need to address water used for human needs at other types of facilities such as hotels, office buildings, and manufacturing plants. The volume of water and other types of water uses at these facilities must be carefully considered. After reviewing the data, common sense should dictate local allocation priorities to protect domestic requirements over certain types of economic needs. Water use for lawn sprinkling, vehicle washing, golf courses, and recreation are legislatively considered non-essential.

Table 18. Water use priorities

Customer Category	Allocation Priority	Average Daily Demand (GPD)	Short-Term Emergency Demand Reduction Potential (GPD)
Residential	1	175,353	-35,000
Institutional	2	10,213	-8,300
Commercial, Industrial	3	28,679	-8,200
TOTAL	NA	214,245	-51,500

GPD – Gallons per Day

Tip: Calculating Emergency Demand Reduction Potential

The emergency demand reduction potential for all uses will typically equal the difference between maximum use (summer demand) and base use (winter demand). In extreme emergency situations, lower priority water uses must be restricted or eliminated to protect priority domestic water requirements. Emergency demand reduction potential should be based on average day demands for customer categories within each priority class. Use the tables in Part 3 on water conservation to help you determine strategies.

Complete Table 19 by selecting the triggers and actions during water supply disruption conditions.

Table 19. Emergency demand reduction conditions, triggers and actions (Select all that may apply and describe)

Emergency Triggers	Short-term Actions	Long-term Actions
X Contamination X Loss of production X Infrastructure failure X Executive order by Governor <input type="checkbox"/> Other: _____	X Supply augmentation through reinstatement of wells 1NOR and 3 NOR X Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input type="checkbox"/> Water allocation through____ <input type="checkbox"/> Meet with large water users to discuss their contingency plan.	<input checked="" type="checkbox"/> Supply augmentation through Modification of existing water treatment facilities X Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input type="checkbox"/> Water allocation through____ <input type="checkbox"/> Meet with large water users to discuss their contingency plan.

Emergency Triggers	Short-term Actions	Long-term Actions
	Complete system shutdown	
X Executive order by Governor	Restrict lawn watering, vehicle washing, golf course and park irrigation and other nonessential uses.	Suspend lawn watering, vehicle washing, golf course and park irrigation and other nonessential uses.

Notification Procedures

Complete Table 20 by selecting trigger for informing customers regarding conservation requests, water use restrictions, and suspensions; notification frequencies; and partners that may assist in the notification process. Add rows to the table as needed.

Table 20. Plan to inform customers regarding conservation requests, water use restrictions, and suspensions

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
X Short-term demand reduction declared (< 1 year)	X Website <input type="checkbox"/> Email list serve X Social media (e.g. Twitter, Facebook) X Direct customer mailing, <input type="checkbox"/> Press release (TV, radio, newspaper), <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly X Monthly <input type="checkbox"/> Annually	
X Long-term Ongoing demand reduction declared	X Website <input type="checkbox"/> Email list serve	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly X Monthly	

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
	<input type="checkbox"/> Social media (e.g. Twitter, Facebook) <input checked="" type="checkbox"/> Direct customer mailing, <input type="checkbox"/> Press release (TV, radio, newspaper), <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Annually	
X Governor's Critical water deficiency declared	<input checked="" type="checkbox"/> Website <input type="checkbox"/> Email list serve <input checked="" type="checkbox"/> Social media (e.g. Twitter, Facebook) <input type="checkbox"/> Direct customer mailing, <input checked="" type="checkbox"/> Press release (TV, radio, newspaper), <input type="checkbox"/> Meeting with large water users (> 10% of total city use) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Annually	NYA Times

Enforcement

Prior to a water emergency, municipal water suppliers must adopt regulations that restrict water use and outline the enforcement response plan. The enforcement response plan must outline how conditions will be monitored to know when enforcement actions are triggered, what enforcement tools will be used, who will be responsible for enforcement, and what timelines for corrective actions will be expected.

Affected operations, communications, and enforcement staff must then be trained to rapidly implement those provisions during emergency conditions.

Important Note:

Disregard of critical water deficiency orders, even though total appropriation remains less than permitted, is adequate grounds for immediate modification of a public water supply authority's water use permit (2013 MN Statutes 103G.291)

Does the city have a critical water deficiency restriction/official control in place that includes provisions to restrict water use and enforce the restrictions? (This restriction may be an ordinance, rule, regulation, policy under a council directive, or other official control) ☒ Yes ☐ No

If yes, attach the official control document to this WSP as **Appendix 7**.

If no, the municipality must adopt such an official control within 6 months of submitting this WSP and submit it to the DNR as an amendment to this WSP.

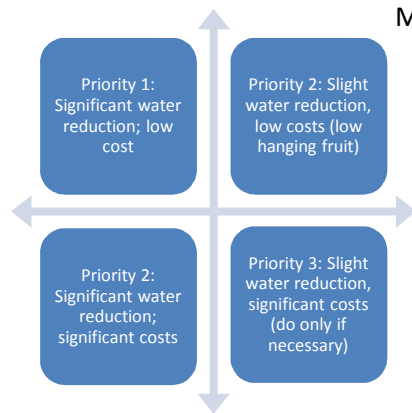
Irrespective of whether a critical water deficiency control is in place, does the public water supply utility, city manager, mayor, or emergency manager have standing authority to implement water restrictions? ☒ Yes ☐ No

If yes, cite the regulatory authority reference: City Code Section 920 – General Water Regulations 920.01, 920.02, 920.15 & 920.12.

If no, who has authority to implement water use restrictions in an emergency?

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PART 3. WATER CONSERVATION PLAN



Minnesotans have historically benefited from the state's abundant water supplies, reducing the need for conservation. There are however, limits to the available supplies of water and increasing threats to the quality of our drinking water. Causes of water supply limitation may include: population increases, economic trends, uneven statewide availability of groundwater, climatic changes, and degraded water quality. Examples of threats to drinking water quality include: the presence of contaminant plumes from past land use activities, exceedances of water quality standards from natural and human sources, contaminants of emerging concern, and increasing pollutant trends from nonpoint sources.

There are many incentives for conserving water; conservation:

- reduces the potential for pumping-induced transfer of contaminants into the deeper aquifers, which can add treatment costs
- reduces the need for capital projects to expand system capacity
- reduces the likelihood of water use conflicts, like well interference, aquatic habitat loss, and declining lake levels
- conserves energy, because less energy is needed to extract, treat and distribute water (and less energy production also conserves water since water is used to produce energy)
- maintains water supplies that can then be available during times of drought

It is therefore imperative that water suppliers implement water conservation plans. The first step in water conservation is identifying opportunities for behavioral or engineering changes that could be made to reduce water use by conducting a thorough analysis of:

- Water use by customer
- Extraction, treatment, distribution and irrigation system efficiencies
- Industrial processing system efficiencies
- Regulatory and barriers to conservation
- Cultural barriers to conservation
- Water reuse opportunities

Once accurate data is compiled, water suppliers can set achievable goals for reducing water use. A successful water conservation plan follows a logical sequence of events. The plan should address both conservation on the supply side (leak detection and repairs, metering), as well as on the demand side (reductions in usage). Implementation should be conducted in phases, starting with the most obvious and lowest-cost options. In some cases one of the early steps will be reviewing regulatory constraints to water conservation, such as lawn irrigation requirements. Outside funding and grants may be available for implementation of projects. Engage water system operators and maintenance staff and customers in brainstorming opportunities to reduce water use. Ask the question: "How can I help save water?"

Progress since 2006

Is this your community's first Water Supply Plan? ☐ Yes ☒ No

If yes, describe conservation practices that you are already implementing, such as: pricing, system improvements, education, regulation, appliance retrofitting, enforcement, etc.

N/A

If no, complete Table 21 to summarize conservation actions taken since the adoption of the 2006 water supply plan.

Table 21. Implementation of previous ten-year Conservation Plan

2006 Plan Commitments	Action Taken?
Change Water Rates Structure to provide conservation pricing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Supply System Improvements (e.g. leak repairs, valve replacements, etc.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Educational Efforts	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
New water conservation ordinances	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Rebate or retrofitting Program (e.g. for toilet, faucets, appliances, showerheads, dish washers, washing machines, irrigation systems, rain barrels, water softeners, etc.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Enforcement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Describe Other	<input type="checkbox"/> Yes <input type="checkbox"/> No

What are the results you have seen from the actions in Table 21 and how were results measured?

The City of Norwood Young America has observed a downward trend in total Per Capita demand over the past 10 years which is very likely the result of water conservation efforts listed above.

A. Triggers for Allocation and Demand Reduction Actions

Complete table 22 by checking each trigger below, as appropriate, and the actions to be taken at various levels or stages of severity. Add in additional rows to the table as needed.

Table 22. Short and long-term demand reduction conditions, triggers and actions

Objective	Triggers	Actions
Protect Surface Water Flows	<input type="checkbox"/> Low stream flow conditions <input checked="" type="checkbox"/> Reports of declining wetland and lake levels <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Increase promotion of conservation measures <input type="checkbox"/> Other: _____
Short-term demand reduction (less than 1 year)	<input checked="" type="checkbox"/> Extremely high seasonal water demand (more than double winter demand) <input checked="" type="checkbox"/> Loss of treatment capacity <input checked="" type="checkbox"/> Lack of water in storage <input type="checkbox"/> State drought plan <input type="checkbox"/> Well interference <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Adopt (if not already) and enforce the critical water deficiency ordinance to restrict or prohibit lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input checked="" type="checkbox"/> Supply augmentation through reinstatement of South Water Treatment Facility. <input type="checkbox"/> Water allocation through _____ <input type="checkbox"/> Meet with large water users to discuss user's contingency plan.
Long-term demand reduction (>1 year)	<input type="checkbox"/> Per capita demand increasing <input checked="" type="checkbox"/> Total demand increase (higher population or more industry) <input type="checkbox"/> Water level in well(s) below elevation of _____ <input type="checkbox"/> Other: _____	<input type="checkbox"/> Develop a critical water deficiency ordinance that is or can be quickly adopted to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. <input type="checkbox"/> Enact a water waste ordinance that targets overwatering (causing water to flow off the landscape into streets, parking lots, or similar), watering impervious surfaces (streets, driveways or other hardscape areas), and negligence of known leaks, breaks, or malfunctions. <input type="checkbox"/> Meet with large water users to discuss user's contingency plan. <input checked="" type="checkbox"/> Enhanced monitoring and reporting: audits, meters, billing, etc.
Governor's "Critical Water Deficiency Order" declared	X Executive Order by Governor	X Suspend lawn watering, vehicle washing, golf course and park irrigation and other nonessential uses.

B. Conservation Objectives and Strategies – Key benchmark for DNR

This section establishes water conservation objectives and strategies for eight major areas of water use.

Objective 1: Reduce Unaccounted (Non-Revenue) Water loss to Less than 10%

The Minnesota Rural Waters Association, the Metropolitan Council and the Department of Natural Resources recommend that all water uses be metered. Metering can help identify high use locations and times, along with leaks within buildings that have multiple meters.

It is difficult to quantify specific unmetered water use such as that associated with firefighting and system flushing or system leaks. Typically, water suppliers subtract metered water use from total water pumped to calculate unaccounted or non-revenue water loss.

Is your ten-year average (2005-2014) unaccounted Water Use in Table 2 higher than 10%?

☐ Yes ☒ No

What is your leak detection monitoring schedule? (e.g. monitor 1/3rd of the city lines per year)

Leak detection work throughout the City is completed every year.

Water Audits - are intended to identify, quantify and verify water and revenue losses. The volume of unaccounted-for water should be evaluated each billing cycle. The American Water Works Association (AWWA) recommends that ten percent or less of pumped water is unaccounted-for water. Water audit procedures are available from the AWWA and MN Rural Water Association www.mrwa.com. Drinking Water Revolving Loan Funds are available for purchase of new meters when new plants are built.

What is the date of your most recent water audit? 1/21/2016

Frequency of water audits: ☒ yearly ☐ other (specify frequency) _____

Leak detection and survey: ☒ every year ☐ every other year ☐ periodic as needed

Year last leak detection survey completed: 2015

If Table 2 shows annual water losses over 10% or an increasing trend over time, describe what actions will be taken to reach the <10% loss objective and within what timeframe

Metering -AWWA recommends that every water supplier install meters to account for all water taken into its system, along with all water distributed from its system at each customer's point of service. An effective metering program relies upon periodic performance testing, repair, maintenance or replacement of all meters. AWWA also recommends that water suppliers conduct regular water audits to ensure accountability. Some cities install separate meters for interior and exterior water use, but some research suggests that this may not result in water conservation.

Complete Table 23 by adding the requested information regarding the number, types, testing and maintenance of customer meters.

Table 23. Information about customer meters

Customer Category	Number of Customers	Number of Metered Connections	Number of Automated Meter Readers	Meter testing intervals (years)	Average age/meter replacement schedule (years)
Residential	1200	1200	1200	20	Unknown / 20
Institutional	20	20	20	20	Unknown / 20
Commercial	109	109	109	20	Unknown / 20
TOTALS	1329	1329	1329	NA	NA

For unmetered systems, describe any plans to install meters or replace current meters with advanced technology meters. Provide an estimate of the cost to implement the plan and the projected water savings from implementing the plan.

Table 24. Water source meters

	Number of Meters	Meter testing schedule (years)	Number of Automated Meter Readers	Average age/meter replacement schedule (years)
Water Source (wells/intakes)	4	1	2	As needed

Objective 2: Achieve Less than 75 Residential Gallons per Capita Demand (GPCD)

The 2002 average residential per capita demand in the Twin Cities Metropolitan area was 75 gallons per capita per day.

Is your average 2010-2015 residential per capita water demand in Table 2 more than 75? ☐ Yes ☒ No

What was your 2005 – 2014 ten-year average residential per capita water demand? 56 g/person/day

Describe the water use trend over that timeframe:

The ten-year average residential per capita demand is trending downward for the City of Norwood Young America. It is unlikely this trend will continue to decline but will likely level off over the next 10 year cycle due to the already low usage level.

Complete Table 25 by checking which strategies you will use to continue reducing residential per capita demand and project a likely timeframe for completing each checked strategy (Select all that apply and add rows for additional strategies):

Table 25. Strategies and timeframe to reduce residential per capita demand

Strategy to reduce residential per capita demand	Timeframe for completing work
<input type="checkbox"/> Revise city ordinances/codes to encourage or require water efficient landscaping.	

Strategy to reduce residential per capita demand	Timeframe for completing work
<input type="checkbox"/> Revise city ordinance/codes to permit water reuse options, especially for non-potable purposes like irrigation, groundwater recharge, and industrial use. Check with plumbing authority to see if internal buildings reuse is permitted	
<input type="checkbox"/> Revise ordinances to limit irrigation. Describe the restricted irrigation plan:	
<input type="checkbox"/> Revise outdoor irrigation installations codes to require high efficiency systems (e.g. those with soil moisture sensors or programmable watering areas) in new installations or system replacements.	
<input checked="" type="checkbox"/> Make water system infrastructure improvements	Ongoing over the next 10 years.
<input type="checkbox"/> Offer free or reduced cost water use audits) for residential customers.	
<input type="checkbox"/> Implement a notification system to inform customers when water availability conditions change.	
<input type="checkbox"/> Provide rebates or incentives for installing water efficient appliances and/or fixtures indoors (e.g., low flow toilets, high efficiency dish washers and washing machines, showerhead and faucet aerators, water softeners, etc.)	
<input type="checkbox"/> Provide rebates or incentives to reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	
<input type="checkbox"/> Identify supplemental Water Resources	
<input type="checkbox"/> Conduct audience-appropriate water conservation education and outreach.	
<input type="checkbox"/> Describe other plans	

Objective 3: Achieve at least a 1.5% per year water reduction for Institutional, Industrial, Commercial, and Agricultural GPCD over the next 10 years or a 15% reduction in ten years.

Complete Table 26 by checking which strategies you will used to continue reducing non-residential customer use demand and project a likely timeframe for completing each checked strategy (add rows for additional strategies).

Where possible, substitute recycled water used in one process for reuse in another. (For example, spent rinse water can often be reused in a cooling tower.) Keep in mind the true cost of water is the amount on the water bill PLUS the expenses to heat, cool, treat, pump, and dispose of/discharge the water. Don't just calculate the initial investment. Many conservation retrofits that appear to be prohibitively expensive are actually very cost-effective when amortized over the life of the equipment. Often reducing water use also saves electrical and other utility costs. Note: as of 2015, water reuse, and is not allowed by the state plumbing code, M.R. 4715 (a variance is needed). However several state agencies are addressing this issue.

Table 26. Strategies and timeframe to reduce institutional, commercial industrial, and agricultural and non-revenue use demand

Strategy to reduce total business, industry, agricultural demand	Timeframe for completing work
<input type="checkbox"/> Conduct a facility water use audit for both indoor and outdoor use, including system components	
<input type="checkbox"/> Install enhanced meters capable of automated readings to detect spikes in consumption	
<input type="checkbox"/> Compare facility water use to related industry benchmarks, if available (e.g., meat processing, dairy, fruit and vegetable, beverage, textiles, paper/pulp, metals, technology, petroleum refining etc.),	
<input type="checkbox"/> Install water conservation fixtures and appliances or change processes to conserve water	
<input type="checkbox"/> Repair leaking system components (e.g., pipes, valves)	
<input type="checkbox"/> Investigate the reuse of reclaimed water (e.g., stormwater, wastewater effluent, process wastewater, etc.)	
<input type="checkbox"/> Reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	
<input checked="" type="checkbox"/> Train employees how to conserve water	Implement over the next 10 Years
<input type="checkbox"/> Implement a notification system to inform non-residential customers when water availability conditions change.	
<input type="checkbox"/> [Rainwater catchment systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, industrial processes, water features, vehicle washing facilities, cooling tower makeup, and similar uses shall be approved by the commissioner. Proposed plumbing code 4714.1702.1 http://www.dli.mn.gov/PDF/docket/4714rule.pdf	
<input type="checkbox"/> Describe other plans:	

Objective 4: Achieve a Decreasing Trend in Total Per Capita Demand

Include as **Appendix 8** one graph showing total per capita water demand for each customer category (i.e., residential, institutional, commercial, industrial) from 2005-2014 and add the calculated/estimated linear trend for the next 10 years.

Describe the trend for each customer category; explain the reason(s) for the trends, and where trends are increasing.

For each of the metered customer categories the projected linear trend line is decreasing. It is likely that the implementation of a tiered water rate structure has resulted in reduced overall water use over time. It is unlikely that the water usage will continue to decrease since the community will continue to expand. However, with water conservation and water conservative appliances, it is possible for the water usage to continue to decrease for the next several years. There will be fluctuations in water usage from drought conditions or other factors that could cause people to use more water.

Objective 5: Reduce Peak Day Demand so that the Ratio of Average Maximum day to the Average Day is less than 2.6

Is the ratio of average 2005-2014 maximum day demand to average 2005-2014 average day demand reported in Table 2 more than 2.6? ☐ Yes ☒ No

Calculate a ten year average (2005 – 2014) of the ratio of maximum day demand to average day demand: **2.32**

The position of the DNR has been that a peak day/average day ratio that is above 2.6 for in summer indicates that the water being used for irrigation by the residents in a community is too large and that efforts should be made to reduce the peak day use by the community.

It should be noted that by reducing the peak day use, communities can also reduce the amount of infrastructure that is required to meet the peak day use. This infrastructure includes new wells, new water towers which can be costly items.

Objective 6: Implement a Conservation Water Rate Structure and/or a Uniform Rate Structure with a Water Conservation Program

Water Conservation Program

Municipal water suppliers serving over 1,000 people are required to adopt demand reduction measures that include a conservation rate structure, or a uniform rate structure with a conservation program that achieves demand reduction. These measures must achieve demand reduction in ways that reduce water demand, water losses, peak water demands, and nonessential water uses. These measures must be approved before a community may request well construction approval from the Department of Health or before requesting an increase in water appropriations permit volume (*Minnesota Statutes*, section 103G.291, subd. 3 and 4). Rates should be adjusted on a regular basis to ensure that revenue of the system is adequate under reduced demand scenarios. If a municipal water supplier intends to use a Uniform Rate Structure, a community-wide Water Conservation Program that will achieve demand reduction must be provided.

Current Water Rates

Include a copy of the actual rate structure in **Appendix 9** or list current water rates including base/service fees and volume charges below.

Volume included in base rate or service charge: 0 gallons

Frequency of billing: ☒ Monthly ☐ Bimonthly ☐ Quarterly ☐ Other: _____

Water Rate Evaluation Frequency: ☒ every year ☐ every ___ years ☐ no schedule

Date of last rate change: 2015

Table 27. Rate structures for each customer category (Select all that apply and add additional rows as needed)

Customer Category	Conservation Billing Strategies in Use *	Conservation Neutral Billing Strategies in Use **	Non-Conserving Billing Strategies in Use ***
Residential	<input checked="" type="checkbox"/> Monthly Billing <input checked="" type="checkbox"/> Increasing block rates (volume tiered rates) <input type="checkbox"/> Seasonal rates <input type="checkbox"/> Time of Use rates <input type="checkbox"/> Water bills reported in gallons <input type="checkbox"/> Individualized goal rates <input type="checkbox"/> Excess Use rates <input type="checkbox"/> Drought surcharge <input type="checkbox"/> Use water bill to provide comparisons <input checked="" type="checkbox"/> Service charge not based on water volume <input type="checkbox"/> Other (describe)	<input type="checkbox"/> Uniform <input type="checkbox"/> Odd/Even day watering	<input type="checkbox"/> Service charge based on water volume <input type="checkbox"/> Declining block <input type="checkbox"/> Flat <input type="checkbox"/> Other (describe)
Commercial/ Industrial/ Institutional	<input checked="" type="checkbox"/> Monthly Billing <input checked="" type="checkbox"/> Increasing block rates <input type="checkbox"/> Seasonal rates <input type="checkbox"/> Time of Use rates <input type="checkbox"/> Bill water use in gallons <input type="checkbox"/> Individualized goal rates	<input type="checkbox"/> Uniform	<input type="checkbox"/> Service charge based on water volume <input type="checkbox"/> Declining block <input type="checkbox"/> Flat <input type="checkbox"/> Other (describe)

Customer Category	Conservation Billing Strategies in Use *	Conservation Neutral Billing Strategies in Use **	Non-Conserving Billing Strategies in Use ***
	<input type="checkbox"/> Excess Use rates <input type="checkbox"/> Drought surcharge <input type="checkbox"/> Use water bill to provide comparisons <input checked="" type="checkbox"/> Service charge not based on water volume <input type="checkbox"/> Other (describe)		
<input type="checkbox"/> Other			

*** Rate Structures components that may promote water conservation:**

- **Monthly billing:** is encouraged to help people see their water usage so they can consider changing behavior.
- **Increasing block rates (also known as a tiered residential rate structure):** Typically, these have at least three tiers: should have at least three tiers.
 - The first tier is for the winter average water use.
 - The second tier is the year-round average use, which is lower than typical summer use. This rate should be set to cover the full cost of service.
 - The third tier should be above the average annual use and should be priced high enough to encourage conservation, as should any higher tiers. For this to be effective, the difference in block rates should be significant.
- **Seasonal rate:** higher rates in summer to reduce peak demands
- **Time of Use rates:** lower rates for off peak water use
- **Bill water use in gallons:** this allows customers to compare their use to average rates
- **Individualized goal rates:** typically used for industry, business or other large water users to promote water conservation if they keep within agreed upon goals. **Excess Use rates:** if water use goes above an agreed upon amount this higher rate is charged
- **Drought surcharge:** an extra fee is charged for guaranteed water use during drought
- **Use water bill to provide comparisons:** simple graphics comparing individual use over time or compare individual use to others.
- **Service charge or base fee that does not include a water volume** – a base charge or fee to cover universal city expenses that are not customer dependent and/or to provide minimal water at a lower rate (e.g., an amount less than the average residential per capita demand for the water supplier for the last 5 years)
- **Emergency rates** -A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

****Conservation Neutral****

- **Uniform rate:** rate per unit used is the same regardless of the volume used
- **Odd/even day watering** –This approach reduces peak demand on a daily basis for system operation, but it does not reduce overall water use.

***** Non-Conserving *****

- **Service charge or base fee with water volume:** an amount of water larger than the average residential per capita demand for the water supplier for the last 5 years
- **Declining block rate:** the rate per unit used decreases as water use increases.
- **Flat rate:** one fee regardless of how much water is used (usually unmetered).

Provide justification for any conservation neutral or non-conserving rate structures. If intending to adopt a conservation rate structure, include the timeframe to do so:

Objective 7: Additional strategies to Reduce Water Use and Support Wellhead Protection Planning

Development and redevelopment projects can provide additional water conservation opportunities, such as the actions listed below. If a Uniform Rate Structure is in place, the water supplier must provide a Water Conservation Program that includes at least two of the actions listed below. Check those actions that you intent to implement within the next 10 years.

Table 28. Additional strategies to Reduce Water Use & Support Wellhead Protection

<input type="checkbox"/>	Participate in the GreenStep Cities Program, including implementation of at least one of the 20 “Best Practices” for water
<input type="checkbox"/>	Prepare a Master Plan for Smart Growth (compact urban growth that avoids sprawl)
<input type="checkbox"/>	Prepare a Comprehensive Open Space Plan (areas for parks, green spaces, natural areas)
<input type="checkbox"/>	Adopt a Water Use Restriction Ordinance (lawn irrigation, car washing, pools, etc.)
<input type="checkbox"/>	Adopt an Outdoor Lawn Irrigation Ordinance
<input type="checkbox"/>	Adopt a Private well Ordinance (private wells in a city must comply with water restrictions)
<input type="checkbox"/>	Implement a Stormwater Management Program
<input type="checkbox"/>	Adopt Non-Zoning Wetlands Ordinance (can further protect wetlands beyond state/federal laws-for vernal pools, buffer areas, restrictions on filling or alterations)
<input type="checkbox"/>	Adopt a Water Offset Program (primarily for new development or expansion)
<input type="checkbox"/>	Implement a Water Conservation Outreach Program
<input type="checkbox"/>	Hire a Water Conservation Coordinator (part-time)
<input type="checkbox"/>	Implement a Rebate program for water efficient appliances, fixtures, or outdoor water management
<input type="checkbox"/>	Other

Objective 8: Tracking Success: How will you track or measure success through the next ten years?

The City of Norwood Young America will continue to measure and monitor aquifer levels over the next ten years to track water level trends. Daily monitoring of pumping volumes will be tracked to develop and monitor demand volume trends. Water rates will be reviewed on an annual basis to identify any need for adjustment.

Tip: The process to monitor demand reduction and/or a rate structure includes:

- The DNR District Hydrologist or Groundwater Appropriation Hydrologist will call or visit the community the first 1-3 years after the water supply plan is completed.
- They will discuss what activities the community is doing to conserve water and if they feel their actions are successful. The Water Supply Plan, Part 3 tables and responses will guide the discussion. For example, they will discuss efforts to reduce unaccounted for water loss if that is a problem, or go through Tables 33, 34 and 35 to discuss new initiatives.
- The city representative and the hydrologist will discuss total per capita water use, residential per capita water use, and business/industry use. They will note trends.

- d) They will also discuss options for improvement and/or collect case studies of success stories to share with other communities. One option may be to change the rate structure, but there are many other paths to successful water conservation.
- e) If appropriate, they will cooperatively develop a simple work plan for the next few years, targeting a couple areas where the city might focus efforts.

A. Regulation

Complete Table 29 by selecting which regulations are used to reduce demand and improve water efficiencies. Add additional rows as needed.

Copies of adopted regulations or proposed restrictions or should be included in **Appendix 10** (a list with hyperlinks is acceptable).

Table 29. Regulations for short-term reductions in demand and long-term improvements in water efficiencies

Regulations Utilized	When is it applied (in effect)?
<input type="checkbox"/> Rainfall sensors required on landscape irrigation systems	<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input checked="" type="checkbox"/> Water efficient plumbing fixtures required	<input checked="" type="checkbox"/> New Development <input type="checkbox"/> Replacement <input type="checkbox"/> Rebate Programs
<input checked="" type="checkbox"/> Critical/Emergency Water Deficiency ordinance	<input checked="" type="checkbox"/> Only during declared Emergencies
<input checked="" type="checkbox"/> Watering restriction requirements (time of day, allowable days, etc.)	<input type="checkbox"/> Odd/Even <input type="checkbox"/> 2 days/week <input checked="" type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Water waste prohibited (for example, having a fine for irrigators spraying on the street)	<input type="checkbox"/> -Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input checked="" type="checkbox"/> Limitations on turf areas (requiring lots to have 10% - 25% of the space in natural areas)	<input checked="" type="checkbox"/> New Development <input checked="" type="checkbox"/> Shoreland/zoning <input type="checkbox"/> Other
<input checked="" type="checkbox"/> Soil preparation requirements (after construction, requiring topsoil to be applied to promote good root growth)	<input checked="" type="checkbox"/> New Development <input type="checkbox"/> Construction Projects <input type="checkbox"/> Other
<input checked="" type="checkbox"/> Tree ratios (requiring a certain number of trees per square foot of lawn)	<input checked="" type="checkbox"/> New development <input type="checkbox"/> Shoreland/zoning <input type="checkbox"/> Other
<input checked="" type="checkbox"/> Permit to fill swimming pool and/or requiring pools to be covered (to prevent evaporation)	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
<input type="checkbox"/> Ordinances that permit stormwater irrigation, reuse of water, or other alternative water use (Note: be sure to check current plumbing codes for updates)	<input type="checkbox"/> Describe

B. Retrofitting Programs

Education and incentive programs aimed at replacing inefficient plumbing fixtures and appliances can help reduce per capita water use, as well as energy costs. It is recommended that municipal water suppliers develop a long-term plan to retrofit public buildings with water efficient plumbing fixtures and

appliances. Some water suppliers have developed partnerships with organizations having similar conservation goals, such as electric or gas suppliers, to develop cooperative rebate and retrofit programs.

A study by the AWWA Research Foundation (Residential End Uses of Water, 1999) found that the average indoor water use for a non-conserving home is 69.3 gallons per capita per day (gpcd). The average indoor water use in a conserving home is 45.2 gpcd and most of the decrease in water use is related to water efficient plumbing fixtures and appliances that can reduce water, sewer and energy costs. In Minnesota, certain electric and gas providers are required (Minnesota Statute 216B.241) to fund programs that will conserve energy resources and some utilities have distributed water efficient showerheads to customers to help reduce energy demands required to supply hot water.

Retrofitting Programs

Complete Table 30 by checking which water uses are targeted, the outreach methods used, the measures used to identify success, and any participating partners.

Table 30. Retrofitting programs (Select all that apply)

Water Use Targets	Outreach Methods	Partners
<input checked="" type="checkbox"/> low flush toilets, <input type="checkbox"/> toilet leak tablets, <input checked="" type="checkbox"/> low flow showerheads, <input checked="" type="checkbox"/> faucet aerators;	<input checked="" type="checkbox"/> Education about <input type="checkbox"/> free distribution of <input type="checkbox"/> rebate for <input type="checkbox"/> other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input type="checkbox"/> Watershed organization
<input checked="" type="checkbox"/> water conserving washing machines, <input checked="" type="checkbox"/> dish washers, <input type="checkbox"/> water softeners;	<input checked="" type="checkbox"/> Education about <input type="checkbox"/> free distribution of <input type="checkbox"/> rebate for <input type="checkbox"/> other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input type="checkbox"/> Watershed organization
<input checked="" type="checkbox"/> rain gardens, <input checked="" type="checkbox"/> rain barrels, <input checked="" type="checkbox"/> Native/drought tolerant landscaping, etc.	<input checked="" type="checkbox"/> Education about <input type="checkbox"/> free distribution of <input checked="" type="checkbox"/> rebate for <input type="checkbox"/> other	<input type="checkbox"/> Gas company <input type="checkbox"/> Electric company <input checked="" type="checkbox"/> Watershed organization

Briefly discuss measures of success from the above table (e.g. number of items distributed, dollar value of rebates, gallons of water conserved, etc.):

Education is a vital component of water conservation. The City of Norwood Young America provides information on ways to improve water efficiency to water customers. The current education program includes a yearly Consumer Confidence Report and periodic information on water bills. Information is also provided by the Utilities departments to groups who tour the water treatment facility. The city of Norwood Young America partners with the Carver County Watershed Management Organization who provides a cost share program to promote the use of best management practices within Carver County. This program is available to all citizens within the community.

C. Education and Information Programs

Customer education should take place in three different circumstances. First, customers should be provided information on how to conserve water and improve water use efficiencies. Second, information should be provided at appropriate times to address peak demands. Third, emergency notices and educational materials about how to reduce water use should be available for quick distribution during an emergency.

Proposed Education Programs

Complete Table 31 by selecting which methods are used to provide water conservation and information, including the frequency of program components. Select all that apply and add additional lines as needed.

Table 31. Current and Proposed Education Programs

Education Methods	General summary of topics	#/Year	Frequency
Billing inserts or tips printed on the actual bill	Outdoor watering restrictions		<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared emergencies
Consumer Confidence Reports			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Press releases to traditional local news outlets (e.g., newspapers, radio and TV)	Local TV channel / general water conservation message		<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Social media distribution (e.g., emails, Facebook, Twitter)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Paid advertisements (e.g., billboards, print media, TV, radio, web sites, etc.)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Presentations to community groups	Facility tours & operations presentation		<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Staff training	General water conservation		<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Facility tours	General facility operations		<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Displays and exhibits			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Marketing rebate programs (e.g., indoor fixtures & appliances and outdoor practices)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Community news letters	Outdoor watering information		<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Direct mailings (water audit/retrofit kits, showerheads, brochures)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies

Education Methods	General summary of topics	#/Year	Frequency
Information kiosk at utility and public buildings			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Public Service Announcements			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Cable TV Programs			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Demonstration projects (landscaping or plumbing)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
K-12 Education programs (Project Wet, Drinking Water Institute, presentations)	Facility tours	1 / year	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Community Events (children's water festivals, environmental fairs)			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Community education classes			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Water Week promotions			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Website (www.cityofnyc.com)	General water restriction information under news & notices		<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Targeted efforts (large volume users, users with large increases)	Monitor for large volume usage spikes and notify/educate user as necessary		<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Notices of ordinances	Summer water ban		<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Emergency conservation notices			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal <input type="checkbox"/> Only during declared Emergencies
Other:			<input type="checkbox"/> Ongoing <input type="checkbox"/> Seasonal

Education Methods	General summary of topics	#/Year	Frequency
			<input type="checkbox"/> Only during declared Emergencies

Briefly discuss what future education and information activities your community is considering in the future:

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Part 4. ITEMS FOR METROPOLITAN AREA COMMUNITIES

Minnesota Statute 473.859 requires WSPs to be completed for all local units of government in the seven-county Metropolitan Area as part of the local comprehensive planning process.



Much of the information in Parts 1-3 addresses water demand for the next 10 years. However, additional information is needed to address water demand through 2040, which will make the WSP consistent with the Metropolitan Land Use Planning Act, upon which the local comprehensive plans are based.

This Part 4 provides guidance to complete the WSP in a way that addresses plans for water supply through 2040.

A. Water Demand Projections through 2040

Complete Table 7 in Part 1D by filling in information about long-term water demand projections through 2040. Total Community Population projections should be consistent with the community's system statement, which can be found on the Metropolitan Council's website and which was sent to the community in September 2015.

Projected Average Day, Maximum Day, and Annual Water Demands may either be calculated using the method outlined in *Appendix 2* of the *2015 Master Water Supply Plan* or by a method developed by the individual water supplier.

B. Potential Water Supply Issues

Complete Table 10 in Part 1E by providing information about the potential water supply issues in your community, including those that might occur due to 2040 projected water use.

The *Master Water Supply Plan* provides information about potential issues for your community in *Appendix 1 (Water Supply Profiles)*. This resource may be useful in completing Table 10.

You may document results of local work done to evaluate impact of planned uses by attaching a feasibility assessment or providing a citation and link to where the plan is available electronically.

C. Proposed Alternative Approaches to Meet Extended Water Demand Projections

Complete Table 12 in Part 1F with information about potential water supply infrastructure impacts (such as replacements, expansions or additions to wells/intakes, water storage and treatment capacity, distribution systems, and emergency interconnections) of extended plans for development and redevelopment, in 10-year increments through 2040. It may be useful to refer to information in the community's local Land Use Plan, if available.

Complete Table 14 in Part 1F by checking each approach your community is considering to meet future demand. For each approach your community is considering, provide information about the amount of

future water demand to be met using that approach, the timeframe to implement the approach, potential partners, and current understanding of the key benefits and challenges of the approach.

As challenges are being discussed, consider the need for: evaluation of geologic conditions (mapping, aquifer tests, modeling), identification of areas where domestic wells could be impacted, measurement and analysis of water levels & pumping rates, triggers & associated actions to protect water levels, etc.

D. Value-Added Water Supply Planning Efforts (Optional)

The following information is not required to be completed as part of the local water supply plan, but completing this can help strengthen source water protection throughout the region and help Metropolitan Council and partners in the region to better support local efforts.

Source Water Protection Strategies

Does a Drinking Water Supply Management Area for a neighboring public water supplier overlap your community? ☐ Yes ☐ No

If you answered no, skip this section. If you answered yes, please complete Table 32 with information about new water demand or land use planning-related local controls that are being considered to provide additional protection in this area.

Table 32. Local controls and schedule to protect Drinking Water Supply Management Areas

Local Control	Schedule to Implement	Potential Partners
<input type="checkbox"/> None at this time		
<input type="checkbox"/> Comprehensive planning that guides development in vulnerable drinking water supply management areas		
<input type="checkbox"/> Zoning overlay		
<input type="checkbox"/> Other:		

Technical assistance

From your community's perspective, what are the most important topics for the Metropolitan Council to address, guided by the region's Metropolitan Area Water Supply Advisory Committee and Technical Advisory Committee, as part of its ongoing water supply planning role?

- ☐ Coordination of state, regional and local water supply planning roles
- ☐ Regional water use goals
- ☐ Water use reporting standards
- ☐ Regional and sub-regional partnership opportunities
- ☐ Identifying and prioritizing data gaps and input for regional and sub-regional analyses
- ☐ Others: _____

GLOSSARY

Agricultural/Irrigation Water Use - Water used for crop and non-crop irrigation, livestock watering, chemigation, golf course irrigation, landscape and athletic field irrigation.

Average Daily Demand - The total water pumped during the year divided by 365 days.

Calcareous Fen - Calcareous fens are rare and distinctive wetlands dependent on a constant supply of cold groundwater. Because they are dependent on groundwater and are one of the rarest natural communities in the United States, they are a protected resource in MN. Approximately 200 have been located in Minnesota. They may not be filled, drained or otherwise degraded.

Commercial/Institutional Water Use - Water used by motels, hotels, restaurants, office buildings, commercial facilities and institutions (both civilian and military). Consider maintaining separate institutional water use records for emergency planning and allocation purposes. Water used by multi-family dwellings, apartment buildings, senior housing complexes, and mobile home parks should be reported as Residential Water Use.

Commercial/Institutional/Industrial (C/I/I) Water Sold - The sum of water delivered for commercial/institutional or industrial purposes.

Conservation Rate Structure - A rate structure that encourages conservation and may include increasing block rates, seasonal rates, time of use rates, individualized goal rates, or excess use rates. If a conservation rate is applied to multifamily dwellings, the rate structure must consider each residential unit as an individual user. A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

Date of Maximum Daily Demand - The date of the maximum (highest) water demand. Typically this is a day in July or August.

Declining Rate Structure - Under a declining block rate structure, a consumer pays less per additional unit of water as usage increases. This rate structure does not promote water conservation.

Distribution System - Water distribution systems consist of an interconnected series of pipes, valves, storage facilities (water tanks, water towers, reservoirs), water purification facilities, pumping stations, flushing hydrants, and components that convey drinking water and meeting fire protection needs for cities, homes, schools, hospitals, businesses, industries and other facilities.

Flat Rate Structure - Flat fee rates do not vary by customer characteristics or water usage. This rate structure does not promote water conservation.

Industrial Water Use - Water used for thermonuclear power (electric utility generation) and other industrial use such as steel, chemical and allied products, paper and allied products, mining, and petroleum refining.

Low Flow Fixtures/Appliances - Plumbing fixtures and appliances that significantly reduce the amount of water released per use are labeled “low flow”. These fixtures and appliances use just enough water to be effective, saving excess, clean drinking water that usually goes down the drain.

Maximum Daily Demand - The maximum (highest) amount of water used in one day.

Metered Residential Connections - The number of residential connections to the water system that have meters. For multifamily dwellings, report each residential unit as an individual user.

Percent Unmetered/Unaccounted For - Unaccounted for water use is the volume of water withdrawn from all sources minus the volume of water delivered. This value represents water “lost” by miscalculated water use due to inaccurate meters, water lost through leaks, or water that is used but unmetered or otherwise undocumented. Water used for public services such as hydrant flushing, ice skating rinks, and public swimming pools should be reported under the category “Water Supplier Services”.

Population Served - The number of people who are served by the community’s public water supply system. This includes the number of people in the community who are connected to the public water supply system, as well as people in neighboring communities who use water supplied by the community’s public water supply system. It should not include residents in the community who have private wells or get their water from neighboring water supply.

Residential Connections - The total number of residential connections to the water system. For multifamily dwellings, report each residential unit as an individual user.

Residential Per Capita Demand - The total residential water delivered during the year divided by the population served divided by 365 days.

Residential Water Use - Water used for normal household purposes such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens. Should include all water delivered to single family private residences, multi-family dwellings, apartment buildings, senior housing complexes, mobile home parks, etc.

Smart Meter - Smart meters can be used by municipalities or by individual homeowners. Smart metering generally indicates the presence of one or more of the following:

- Smart irrigation water meters are controllers that look at factors such as weather, soil, slope, etc. and adjust watering time up or down based on data. Smart controllers in a typical summer will reduce water use by 30%-50%. Just changing the spray nozzle to new efficient models can reduce water use by 40%.
- Smart Meters on customer premises that measure consumption during specific time periods and communicate it to the utility, often on a daily basis.
- A communication channel that permits the utility, at a minimum, to obtain meter reads on demand, to ascertain whether water has recently been flowing through the meter and onto the

premises, and to issue commands to the meter to perform specific tasks such as disconnecting or restricting water flow.

Total Connections - The number of connections to the public water supply system.

Total Per Capita Demand - The total amount of water withdrawn from all water supply sources during the year divided by the population served divided by 365 days.

Total Water Pumped - The cumulative amount of water withdrawn from all water supply sources during the year.

Total Water Delivered - The sum of residential, commercial, industrial, institutional, water supplier services, wholesale and other water delivered.

Ultimate (Full Build-Out) - Time period representing the community's estimated total amount and location of potential development, or when the community is fully built out at the final planned density.

Unaccounted (Non-revenue) Loss - See definitions for "percent unmetered/unaccounted for loss".

Uniform Rate Structure - A uniform rate structure charges the same price-per-unit for water usage beyond the fixed customer charge, which covers some fixed costs. The rate sends a price signal to the customer because the water bill will vary by usage. Uniform rates by class charge the same price-per-unit for all customers within a customer class (e.g. residential or non-residential). This price structure is generally considered less effective in encouraging water conservation.

Water Supplier Services - Water used for public services such as hydrant flushing, ice skating rinks, public swimming pools, city park irrigation, back-flushing at water treatment facilities, and/or other uses.

Water Used for Nonessential Purposes - Water used for lawn irrigation, golf course and park irrigation, car washes, ornamental fountains, and other non-essential uses.

Wholesale Deliveries - The amount of water delivered in bulk to other public water suppliers.

Acronyms and Initialisms

AWWA – American Water Works Association

C/I/I – Commercial/Institutional/Industrial

CIP – Capital Improvement Plan

GIS – Geographic Information System

GPCD – Gallons per capita per day

GWMA – Groundwater Management Area – North and East Metro, Straight River, Bonanza,

MDH – Minnesota Department of Health

MGD – Million gallons per day

MG – Million gallons

MGL – Maximum Contaminant Level

MnTAP – Minnesota Technical Assistance Program (University of Minnesota)

MPARS – MN/DNR Permitting and Reporting System (new electronic permitting system)

MRWA – Minnesota Rural Waters Association

SWP – Source Water Protection

WHP – Wellhead Protection

APPENDICES TO BE SUBMITTED BY THE WATER SUPPLIER

Appendix 1: Well records and maintenance summaries – see Part 1C

Appendix 2: Water level monitoring plan – see Part 1E

Appendix 3: Water level graphs for each water supply well - see Part 1E

Appendix 4: Capital Improvement Plan - see Part 1E

Appendix 5: Emergency Telephone List – see Part 2C

Appendix 6: Cooperative Agreements for Emergency Services – see Part 2C

Appendix 7: Municipal Critical Water Deficiency Ordinance – see Part 2C

Appendix 8: Graph showing annual per capita water demand for each customer category during the last ten-years – see Part 3 Objective 4

Appendix 9: Water Rate Structure – see Part 3 Objective 6

Appendix 10: Adopted or proposed regulations to reduce demand or improve water efficiency – see Part 3 Objective 7

Appendix 11: Implementation Checklist – summary of all the actions that a community is doing, or proposes to do, including estimated implementation dates – see www.mndnr.gov/watersupplyplans

Appendix 1

Well Records

132256

County Carver
Quad Norwood
Quad ID 106C

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 09/19/1989
Update Date 01/13/2016
Received Date

Well Name NORWOOD 2				Township 115	Range 26	Dir W	Section 11	Subsection DABAAD	Well Depth 943 ft.	Depth Completed 943 ft.	Date Well Completed 03/20/1978
Elevation 1010				Elev. Method Calc from NED (Natl.Elev.Dataset-30m)				Drill Method Cable Tool	Drill Fluid		
Address									Use community supply(municipal)	Status Active	
Contact 117 MAIN ST E YOUNG AMERICA MN 55397									Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>		
Well YOUNG AMERICA MN 55397									From To		
Stratigraphy Information									Casing Type Step down		
									Joint Welded		
									Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
									Above/Below 1 ft.		
Geological Material									Casing Diameter		
From To (ft.) Color Hardness									Weight		
CLAY 0 35 YELLOW									Hole Diameter		
CLAY 35 160 GRAY									16 in. To 666 ft. 62.5 lbs./ft. 15 in. To 943 ft.		
CLAY/SANDSTONE 160 205 GRAY									24 in. To 438 ft. 94.6 lbs./ft.		
CLAY 205 230 BLUE											
SAND, GRAVEL 230 232 GRAY											
SAND, CLAY 232 330 GRAY											
SAND 330 365 GRAY											
SAND, GRAVEL, 365 405 GRAY											
MUDDY SAND 405 420 YELLOW											
SHALE, SANDROCK 420 480 GRN/WHT SOFT											
SHALE, SANDROCK 480 605 GRN/WHT SOFT											
SHALE, SANDROCK 605 660 GRN/WHT SOFT											
SHALE, SANDROCK 660 665 GRN/WHT MEDIUM											
SANDROCK (FINE) 665 675 WHITE											
SHALE 675 680 LT. GRN											
SHALE 680 690 LT. GRN											
SHALE 690 700 RED											
SHALE 700 720 GREEN											
SHALE 720 735 BROWN											
SHALE 735 745 TAN											
SHALE, SANDROCK 745 880 BROWN											
SANDROCK 880 915 PINK MEDIUM											
SANDROCK (FINE) 915 935 PINK											
SANDROCK (FINE) 935 940 RED HARD											
SANDROCK (FINE) 940 943 RED HARD											
									Open Hole From 666 ft. To 943 ft.		
									Screen? <input type="checkbox"/> Type Make		
									Static Water Level		
									140 ft. land surface Measure 03/20/1978		
									Pumping Level (below land surface)		
									242 ft. 24 hrs. Pumping at 871 g.p.m.		
									Wellhead Completion		
									Pitless adapter manufacturer BAKER Model 9PS1618WB		
									<input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade		
									<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
									Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified		
									Material Amount From To		
									neat cement 42 Cubic yards 0 ft. 666 ft.		
									Nearest Known Source of Contamination		
									150 feet West Direction Septic tank/drain field Type		
									Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
									Pump <input type="checkbox"/> Not Installed Date Installed 01/10/2012		
									Manufacturer's name GOULDS		
									Model Number 10RJLC HP 100 Volt 460		
									Length of drop pipe 336 ft Capacity 1000 g.p. Typ Submersible		
									Abandoned		
									Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No		
									Variance		
									Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No		
									Miscellaneous		
									First Bedrock St.Lawrence Formation Aquifer Wonewoc-Mt.		
									Last Strat Fond du Lac Formation Depth to Bedrock 420 ft		
									Located by Minnesota Department of Health		
									Locate Method Digitization (Screen) - Map (1:12,000)		
									System UTM - Mad83, Zone 15, Meters X 427868 Y 4959154		
									Unique Number Verification Info/GPS from data Inpute Date 12/09/1993		
									Angled Drill Hole		
									Well Contractor		
									Hydro Engineering 10318 KLOECKL, J.		
									Licensee Business Lic. or Reg. No. Name of Driller		

Unique No. 00482765	MINNESOTA DEPARTMENT OF HEALTH					Update Date 2007/02/27		
County Name Carver	WELL AND BORING RECORD					Entry Date 1994/04/06		
Minnesota Statutes Chapter 1031								
Township Name	Township	Range	Dir	Section	Subsection	Well Depth	Depth Completed	Date Well Completed
	115	26	W	11	DABADA	398 ft.	391 ft.	1992/06/01
Well Name	NORWOOD 3N			Lic. Or Reg. No.	65252	Name of Driller	ERVIN, D.	
USGS Quad	Norwood	Elevation	1025	Aquifer	QBAA	Alternative Id	77-6448	

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SANDY CLAY QLUU = Clay & sand	BLK/YEL CLAY = Clay	SOFT	0	4	QLUU	CLAY	SAND	
CLAY QCUB = Clay	TAN CLAY = Clay	MEDIUM	4	31	QCUB	CLAY		
CLAY QCUG = Clay	GRAY CLAY = Clay	MEDIUM	31	67	QCUG	CLAY		
CLAY QCUG = Clay	DK. GRY CLAY = Clay	SOFT	67	76	QCUG	CLAY		
SAND FINE QFUG = Sand	GRAY SAND = Sand		76	97	QFUG	SAND		
FINE SAND & CLAY QLUG = Clay & sand	GRAY SAND = Sand	SOFT	97	102	QLUG	SAND	CLAY	
CLAY QCUG = Clay	GRAY CLAY = Clay	HARD	102	162	QCUG	CLAY		
ROCKY, COBBLES, & SAND QHUU = Sand & larger		HARD COBL = Cobble	162	164	QHUU	COBL	SAND	
SANDY CLAY QLUB = Clay & sand	BRN/RED CLAY = Clay	HARD	164	173	QLUB	CLAY	SAND	
CLAY, ROCKY QPUG = Pebbly sand/silt/clay	GRAY CLAY = Clay	HARD	173	185	QPUG	CLAY	COBL	
MED. SAND & PEAROCK GRAVEL QHUU = Sand & larger		SOFT SAND = Sand	185	191	QHUU	SAND	GRVL	
ROCKY CLAY QPUG = Pebbly sand/silt/clay	GRAY CLAY = Clay	HARD	191	198	QPUG	CLAY	COBL	
SAND, GRAVEL, CLAY QPUG = Pebbly sand/silt/clay	GRAY SAND = Sand	MEDIUM	198	202	QPUG	SAND	GRVL	CLAY
CLAY QCUG = Clay	GRAY CLAY = Clay	HARD	202	215	QCUG	CLAY		

Unique No. 00482765	MINNESOTA DEPARTMENT OF HEALTH				Update Date 2007/02/27			
County Name Carver	WELL AND BORING RECORD				Entry Date 1994/04/06			
Minnesota Statutes Chapter 1031								
Township Name	Township	Range	Dir	Section	Subsection	Well Depth	Depth Completed	Date Well Completed
	115	26	W	11	DABADA	398 ft.	391 ft.	1992/06/01
Well Name	NORWOOD 3N			Lic. Or Reg. No.	65252	Name of Driller	ERVIN, D.	
USGS Quad	Norwood	Elevation	1025	Aquifer	QBAA	Alternative Id	77-6448	

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
MED. SAND, SMALL GRAVEL		SOFT	215	220	QHUU	SAND	GRVL	
QHUU = Sand & larger	SAND = Sand			GRVL = Gravel				
STIFF CLAY	GRAY	HARD	220	225	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
BOULDER	BLK/WHT	HARD	225	226	QBUU	BLDR		
QBUU = Boulder or boulders	BLDR = Boulder							
CLAY	GRAY	HARD	226	256	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
SAND, CLAY LAYERS	GRAY		256	260	QLUG	SAND	CLAY	
QLUG = Clay & sand	SAND = Sand			CLAY = Clay				
STIFF CLAY	GRAY	HARD	260	291	QCUG	CLAY		
QCUG = Clay	CLAY = Clay							
FINE SAND & CLAY		SOFT	291	310	QLUU	SAND	CLAY	
QLUU = Clay & sand	SAND = Sand			CLAY = Clay				
FINER SAND	VARIED	SOFT	310	335	QFUU	SAND		
QFUU = Sand	SAND = Sand							
FINE TO MED. SAND	VARIED	SOFT	335	355	QFUU	SAND		
QFUU = Sand	SAND = Sand							
FINE TO MED. SAND	VARIED	SOFT	355	389	QFUU	SAND		
QFUU = Sand	SAND = Sand							
MED. SAND	VARIED	SOFT	389	392	QFUU	SAND		
QFUU = Sand	SAND = Sand							
BROKEN-UP ROCKS & COBBLE W/CLAY			392	398	QPUU	COBL	CLAY	
QPUU = Pebbly sand/silt/clay	COBL = Cobble			CLAY = Clay				

Unique No. 00211962		MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD <i>Minnesota Statutes Chapter 1031</i>		Update Date 2007/06/28	
County Name Carver				Entry Date 1992/06/23	
Township Name	Township	Range	Dir	Section	Subsection
	115	26	W	14	CBBACD
Well Name NORWOOD 1		Well Depth	Depth Completed	Date Well Completed	
		685 ft.	675 ft.	1926/00/00	
Well Owner's Name NORWOOD 1		Drilling Method Cable Tool			
NORWOOD MN 55368		Drilling Fluid		Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Contact's Name CITY OF NORWOOD				From ft. to ft.	
NORWOOD MN 55368		Use Community Supply (municipal)			
GEOLOGICAL MATERIAL		COLOR	HARDNESS	FROM	TO
GLACIAL DRIFT				0	345
VERY HARD FLINT LIKE RO				345	351
SANDROCK		SOFT		351	417
SANDROCK & SHALE				417	600
SANDROCK				600	630
SANDROCK & SHALE				630	679
RED SHALE				679	685
Casing		Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> N		Hole Diameter	
Casing Diameter		Weight(lbs/ft)			
16 in. to 345 ft					
Screen N		Open Hole		From 345 ft. to 675 ft.	
Make		Type			
Static Water Level		80 ft. from Land surface		Date 1926/00/00	
PUMPING LEVEL (below land surface)					
96 ft. after		hrs. pumping		525 g.p.m.	
Well Head Completion					
Pitless adapter mfr		Model			
Casing Protection		<input type="checkbox"/> 12 in. above grade			
<input type="checkbox"/> At-grade(Environmental Wells and Borings ONLY)					
Grouting Information		Well grouted?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Nearest Known Source of Contamination					
ft.		direction		type	
Well disinfected upon completion?		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Pump <input type="checkbox"/> Not Installed		Date Installed			
Mfr name		Model		HP 0 Volts	
Drop Pipe Length ft.		Capacity		g.p.m	
Type					
Any not in use and not sealed well(s) on property?		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Was a variance granted from the MDH for this Well?		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Well CONTRACTOR CERTIFICATION		Lic. Or Reg. No.		27022	
License Business Name					
Name of Driller					

No use in 2006
& for many years

Prairie Du Chien

USGS Quad Norwood
 Aquifer: OPCG

Elevation 986
 Alt Id: 79-6309

Report Copy

Unique No. 00211962	MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD <i>Minnesota Statutes Chapter 1031</i>						Update Date 2007/06/28	
County Name Carver							Entry Date 1992/06/23	
Township Name	Township	Range	Dir	Section	Subsection	Well Depth	Depth Completed	Date Well Completed
	115	26	W	14	CBBACD	685 ft.	675 ft.	1926/00/00
Well Name	NORWOOD 1			Lic. Or Reg. No.	27022	Name of Driller		
USGS Quad	Norwood	Elevation	986	Aquifer	OPCG	Alternative Id	79-6309	

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
---------------------	-------	----------	---------	-------	-----------	----------	------------

GLACIAL DRIFT			0 345	QUUU	DRFT		
QUUU = Unknown deposit type	DRFT = Drift						
VERY HARD FLINT LIKE ROCK			345 351	OPDC	DLMT		
OPDC = Prairie Du Chien Group	DLMT = Dolomite						
SANDROCK		SOFT	351 417	CJDN			
CJDN = Jordan							
SANDROCK & SHALE			417 600	CAMB	SNDS	SHLE	DLMT
CAMB = Cambrian, Undifferentiated	SNDS = Sandstone			SHLE = Shale		DLMT = Dolomite	
SANDROCK			600 630	CIGL	SNDS		
CIGL = Ironton-Galesville	SNDS = Sandstone						
SANDROCK & SHALE			630 679	CIGE	SNDS	SHLE	
CIGE = Ironton-Galesville-Eau Clai	SNDS = Sandstone			SHLE = Shale			
RED SHALE			679 685	CECR	SHLE	SNDS	
CECR = Eau Claire	SHLE = Shale			SNDS = Sandstone			

218999

County Carver
Quad Norwood
Quad ID 106C

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/07/1989
Update Date 01/22/2015
Received Date

Well Name NORWOOD 2	Township 115	Range 26	Dir Section W 14	Subsection CBCCDB	Well Depth 448 ft.	Depth Completed 448 ft.	Date Well Completed 00/00/1951																																
Elevation 1012	Elev. Method 7.5 minute topographic map (+/- 5 feet)		Drill Method Cable Tool					Drill Fluid																															
Address					Use community supply(municipal)			Status Unknown																															
Contact NORWOOD MN 55368					Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To																																		
Well NORWOOD MN 55368					Casing Type Step down Joint																																		
Stratigraphy Information					Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/> Above/Below																																		
<table><tr><td>Geological Material</td><td>From</td><td>To (ft.)</td><td>Color</td><td>Hardness</td></tr><tr><td>DRIFT</td><td>0</td><td>335</td><td></td><td></td></tr><tr><td>SHALE</td><td>335</td><td>372</td><td></td><td></td></tr><tr><td>SOFT SANDROCK</td><td>372</td><td>445</td><td></td><td></td></tr><tr><td>SHALE</td><td>445</td><td>448</td><td></td><td></td></tr></table>					Geological Material	From	To (ft.)	Color	Hardness	DRIFT	0	335			SHALE	335	372			SOFT SANDROCK	372	445			SHALE	445	448			<table><tr><td>Casing Diameter</td><td>Weight</td></tr><tr><td>16 in. To</td><td>425 ft. lbs./ft.</td></tr><tr><td>20 in. To</td><td>390 ft. lbs./ft.</td></tr></table>				Casing Diameter	Weight	16 in. To	425 ft. lbs./ft.	20 in. To	390 ft. lbs./ft.
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Screen? <input checked="" type="checkbox"/>					<table><tr><td>Type</td><td>Make</td></tr><tr><td>Diameter</td><td>Slot/Gauze</td></tr><tr><td>9 in.</td><td>52 ft. 0 ft. ft.</td></tr></table>				Type	Make	Diameter	Slot/Gauze	9 in.	52 ft. 0 ft. ft.																									
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Pumping Level (below land surface)					<table><tr><td>180 ft.</td><td>hrs.</td><td>Pumping at</td><td>445 g.p.m.</td></tr></table>				180 ft.	hrs.	Pumping at	445 g.p.m.																											
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Uniqup.No. 00420969

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD

Update Date 2007/06/28

County Name Carver

Minnesota Statutes Chapter 1031

Entry Date 1990/06/26

Township Name Township Range Dir Section Subsection
115 26 W 14 CBCCABWell Depth Depth Completed Date Well Completed
950 ft. 950 ft. 1989/08/04

Well Name NORWOOD 3

Drilling Method Cable Tool

Contact's Name CITY OF NORWOOD

Drilling Fluid

Well Hydrofractured? ☐ Yes ☐ No

NORWOOD MN 55368

From ft. to ft.

Well Owner's Name NORWOOD 3

Use Community Supply (municipal)

NORWOOD MN 55368

Casing Drive Shoe? ☐ Yes ☐ N

Hole Diameter

GEOLOGICAL MATERIAL COLOR HARDNESS FROM TO

Casing Diameter Weight(lbs/ft)

YELLOW CLAY 0 60

30 in. to 173 ft

SAND 60 70

24 in. to 446 ft

HARD SAND 70 150

16 in. to 817 ft

GRAVEL 150 170

HARDPAN 170 205

Screen N Open Hole From 817 ft. to 950 ft.

GRAVEL 205 215

Make Type

HARDPAN STREAKS OF SA 215 305

BROKEN ROCK 305 312

SHALE SOLID MASS WHT/B 312 343

Static Water Level 146 ft. from Land surface Date 1989/08/04

SHALE RED 343 345

PUMPING LEVEL (below land surface)

HARD ROCK BROW 345 347

292 ft. after 12 hrs. pumping 700 g.p.m.

HARD ROCK BROW 347 354

Well Head Completion

Pitless adapter mfr

Model

Casing Protection

☐ 12 in. above grade☐ At-grade(Environmental Wells and Borings ONLY)

SHALE WHITE 360 365

Grouting Information Well grouted? ☒ Yes ☐ No

STICKY SHALE GREE 365 370

Material From To (ft.) Amount(yds/bags)

STICKY SHALE GREE 370 372

G 131 Y

HARD SANDSTONE 372 377

Nearest Known Source of Contamination

SHALEY SANDSTONE 377 397

ft. direction type

GOOD SANDSTONE 397 440

Well disinfected upon completion? ☐ Yes ☐ No

HARD SANDSTONE 440 448

Pump ☐ Not Installed

Date Installed Y

SLOPPY SANDSTONE 448 455

Mfr name LAYNE & BOWLER INC.

SOLID SHALE GREE 455 460

Model 11 BHC HP 50 Volts 480

SOLID SHALE GREE 460 475

SANDSTONE & SHALE GREE 475 513

SANDSTONE & SHALE GREE 513 600

SANDSTONE & SHALE GREE 600 622

SANDSTONE & SHALE GREE 622 695

SANDSTONE & SHALE GREE 695 767

SANDSTONE & SHALE GREE 767 800

SHALE & SAND BROW 800 805

SHALE & SAND VARIE 805 830

SHALE & SAND GREE 830 840

GREEN SHALE	GREE	840	870
SAND	WHITE	870	880
SHALE		880	895
SAND		895	925
CLAY & SAND PINK & REDD		925	950

REMARKS, ELEVATION, SOURCE OF DATA, etc.

M.G.S. NO.2902. GAMMA LOGGED 6-16-1989.

mt. Simon

USGS Quad Norwood

Elevation 1008

Aquifer: CMTS

Alt Id: 79-6309

Drop Pipe Length 210 ft.

Capacity 700 g.p.m

Type T

Any not in use and not sealed well(s) on property? ☐ Yes ☐ No

Was a variance granted from the MDH for this Well? ☐ Yes ☐ No

Well CONTRACTOR CERTIFICATION Lic. Or Reg. No. 27010

License Business Name

Name of Driller

SCHMIDT, C.

Report Copy

HE-01205-06 (Rev. 9/96)

No. 00420969		MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD <i>Minnesota Statutes Chapter 1031</i>					Update Date 2007/06/28	
City Name Carver							Entry Date 1990/06/26	
Well Name	Township	Range	Dir	Section	Subsection	Well Depth	Depth Completed	Date Well Completed
	115	26	W	14	CBCCAB	950 ft.	950 ft.	1989/08/04
Well Name	NORWOOD 3		Lic. Or Reg. No.		27010	Name of Driller		SCHMIDT, C.
USGS Quad	Norwood	Elevation	1008	Aquifer	CMTS	Alternative Id		79-6309

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
YELLOW CLAY QCUY = Clay	CLAY = Clay		0	60	QCUY	CLAY		
SAND QFUU = Sand	SAND = Sand		60	70	QFUU	SAND		
HARD SAND QFUU = Sand	SAND = Sand		70	150	QFUU	SAND		
GRAVEL QGUU = Gravel (+larger)	GRVL = Gravel		150	170	QGUUGRVL			
HARDPAN QPUU = Pebbly sand/silt/clay	HDPN = Hardpan		170	205	QPUU	HDPN	SILT	SAND
					SILT = Silt		SAND = Sand	
GRAVEL QGUU = Gravel (+larger)	GRVL = Gravel		205	215	QGUUGRVL			
HARDPAN STREAKS OF SAND & GRAVEL QPUU = Pebbly sand/silt/clay	HDPN = Hardpan		215	305	QPUU	HDPN	SAND	GRVL
					SAND = Sand		GRVL = Gravel	
BROKEN ROCK QBUU = Boulder or boulders	BLDR = Boulder		305	312	QBUU	BLDR		
SHALE SOLID MASS KRET = Cretaceous, Undiff.	WHT/BLU SHLE = Shale		312	343	KRET	SHLE		
SHALE KRET = Cretaceous, Undiff.	RED SHLE = Shale		343	345	KRET	SHLE		
HARD ROCK KRET = Cretaceous, Undiff.	BROWN SHLE = Shale		345	347	KRET	SHLE		
HARD ROCK OPDC = Prairie Du Chien Group	BROWN DLMT = Dolomite		347	354	OPDC	DLMT		
SLOPPY SHALE OPDC = Prairie Du Chien Group	WHITE DLMT = Dolomite		354	360	OPDC	DLMT		
SHALE OPDC = Prairie Du Chien Group	WHITE DLMT = Dolomite		360	365	OPDC	DLMT	SHLE	
					SHLE = Shale			

Unique No. 00420969	MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD <i>Minnesota Statutes Chapter 1031</i>						Update Date 2007/06/28
County Name Carver							Entry Date 1990/06/26
Township Name Township	Range	Dir	Section	Subsection	Well Depth	Depth Completed	Date Well Completed
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Well Name NORWOOD 3	Lic. Or Reg. No. 27010			Name of Driller SCHMIDT, C.			
USGS Quad Norwood	Elevation 1008	Aquifer CMTS		Alternative Id 79-6309			

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
STICKY SHALE OPDC = Prairie Du Chien Group	GREEN DLMT = Dolomite		365	370	OPDC	DLMT	SHLE	
STICKY SHALE CJDN = Jordan	GREEN SNDS = Sandstone		370	372	CJDN	SNDS		
HARD SANDSTONE CJDN = Jordan			372	377	CJDN	SNDS		
SHALEY SANDSTONE CJDN = Jordan			377	397	CJDN	SNDS		
GOOD SANDSTONE CJDN = Jordan			397	440	CJDN	SNDS		
HARD SANDSTONE CJDN = Jordan			440	448	CJDN	SNDS		
SLOPPY SANDSTONE CJDN = Jordan			448	455	CJDN	SNDS		
SOLID SHALE CJDN = Jordan	GREEN SNDS = Sandstone		455	460	CJDN	SNDS	SHLE	
SOLID SHALE CSTL = St. Lawrence	GREEN DLMT = Dolomite		460	475	CSTL	DLMT	SNDS	SHLE
SANDSTONE & SHALE CSTL = St. Lawrence	GREEN DLMT = Dolomite		475	513	CSTL	DLMT	SNDS	SHLE
SANDSTONE & SHALE CFRN = Franconia	GREEN SNDS = Sandstone		513	600	CFRN	SNDS	SHLE	DLMT
SANDSTONE & SHALE CFRN = Franconia	GREEN SNDS = Sandstone		600	622	CFRN	SNDS	SHLE	DLMT
SANDSTONE & SHALE CIGL = Ironton-Galesville	GREEN SNDS = Sandstone		622	695	CIGL	SNDS		
SANDSTONE & SHALE CECR = Eau Claire	GREEN SHLE = Shale		695	767	CECR	SHLE	SNDS	

Unique No. 00420969	MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD <i>Minnesota Statutes Chapter 1031</i>						Update Date 2007/06/28	
County Name Carver							Entry Date 1990/06/26	
Township Name Township	Range	Dir	Section	Subsection	Well Depth	Depth Completed	Date Well Completed	
115	26	W	14	CBCCAB	950 ft.	950 ft.	1989/08/04	
Well Name NORWOOD 3	Lic. Or Reg. No. 27010			Name of Driller SCHMIDT, C.				
USGS Quad Norwood	Elevation 1008	Aquifer CMTS		Alternative Id 79-6309				

GEOLOGICAL MATERIAL	COLOR	HARDNESS	FROM	TO	STRAT	LITH PRIM	LITH SEC	LITH MINOR
SANDSTONE & SHALE CMTS = Mt.Simon	GREEN		767	800	CMTS	SNDS		
	SNDS = Sandstone							
SHALE & SAND CMTS = Mt.Simon	BROWN		800	805	CMTS	SNDS		
	SNDS = Sandstone							
SHALE & SAND CMTS = Mt.Simon	VARIED		805	830	CMTS	SNDS		
	SNDS = Sandstone							
SHALE & SAND CMTS = Mt.Simon	GREEN		830	840	CMTS	SNDS		
	SNDS = Sandstone							
GREEN SHALE CMTS = Mt.Simon	GREEN		840	870	CMTS	SNDS		
	SNDS = Sandstone							
SAND CMTS = Mt.Simon	WHITE		870	880	CMTS	SNDS		
	SNDS = Sandstone							
SHALE CMTS = Mt.Simon			880	895	CMTS	SNDS		
	SNDS = Sandstone							
SAND CMTS = Mt.Simon			895	925	CMTS	SNDS		
	SNDS = Sandstone							
CLAY & SAND PINK & REDDISH CMTS = Mt.Simon			925	950	CMTS	SNDS		
	SNDS = Sandstone							

221243

County Carver
Quad Norwood
Quad ID 106C

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 05/26/1988
Update Date 07/18/2014
Received Date 10/15/2010

Well Name OAK GROVE Township 115 Range 26 Dir Section W 14 Subsection BCCCCB						Well Depth 480 ft.		Depth Completed 480 ft.		Date Well Completed 08/00/1961																																																																												
Elevation 992 ft. Elev. Method 7.5 minute topographic map (+/- 5 feet)						Drill Method Cable Tool		Drill Fluid																																																																														
Address C/W NORWOOD MN 55368						Use public supply/non-comm.-non-transient Status Active																																																																																
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						System UTM - Mad83, Zone 15, Meters X 426471 Y 4957638																																																																																
						Unique Number Verification Information from Input Date 09/29/1999																																																																																
						Angled Drill Hole																																																																																
						Well Contractor																																																																																
						Mueller Well Co. 96460																																																																																
						Licensee Business Lic. or Reg. No. Name of Driller																																																																																
Remarks GAMMA LOGGED 10-16-2009. LOGGED BY JIM TRAEEN. LOGGED TO ONLY 362 FT. WELL VIDEOED BY JIM TRAEEN 10-16-2009. WELLHEAD MODEL: 9PS1214WBWE04M6ES						Minnesota Well Index Report						221243		Printed on 07/20/2016																																																																								
														HE-01205-15																																																																								

Well #3 Maintenance Records

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

WELL LOG AND CONSTRUCTION RECORD

TO City of Norwood Young America

Date 3-16-04

ADDRESS _____

Water Well Record # well #3 Norwood

LOG OF FORMATIONS

SWL

_____ to _____
_____ to _____ Pump runs but doesn't pump
_____ to _____ water
_____ to _____ couplings in water are okay, pig
_____ to _____ 5' above bowls broke, bowls okay
_____ to _____
_____ to _____ turn down inspect bowls (good)
_____ to _____ fish out 1/4" Air tubing, test pump

WELL DESIGN

Depth measured from _____

SCREEN WELL DATA

Make of Screen _____ Type _____

Size: Diam. _____ in. Length _____ ft.

Location in Well _____ to _____ Slot Size: _____

Fittings: Top _____

Bottom _____

Other Screen Data _____

CASING STRINGS

_____ to _____
ID _____ OD _____
Wt. _____ lbs. per ft.

Thrd. & Cpld. _____

Welded _____

Drive Shoe _____

Cemented _____

_____ to _____
ID _____ OD _____

Wt. _____ lbs. per ft.

Thrd. & Cpld. _____

Welded _____

Drive Shoe _____

Cemented _____

ROCK WELL DATA

Open borehole: Diam. _____ in. From _____ to _____

Repl Installed 8-8x10x1/2 steel thru column assembly / 1/2" x 1/2" top shaft 63" long 2th left hand both ends

WELL TEST DATA

1-5' x 1 1/2" Liner shaft w/ 1/2" 8th left hand both ends, 13-18 8th left hand liner shaft c/pig

GPM _____ Static Water Level _____ Pumping Water Level _____

Hours of Pumping (Drawdown _____ ft.) GPF _____

PUMP DATA

Make Layne mn. Type _____

Model 11 BHC Serial No. _____ Stages _____ Trim _____

Column Size 8" Length 210' Tube & Shaft 1 1/2"

Discharge Head _____ Headshaft: Size _____ Length _____

GPM _____ TDH _____ RPM _____

Electric Motor 50HP Volts _____ Phase _____ Cycle _____

RAD _____ Ratio _____ Make _____ Other _____

Power Unit _____ RPM _____ Well Seal _____

Water Analysis: Hardness _____ PPM, Iron _____ PPM

REMARKS: _____

Unique Well Number

420969

County Carver

Quad Norwood

Quad Id 108C

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

MINNESOTA STATUTES CHAPTER 1031

Entry Date 1990/06/26

Update Date 2008/02/19

Received Date

Wellname NORWOOD 3

Township	Range	Dir	Section	Subsection	Field Located	MGS
15	26	W	14	CBCCAB	Elevation	1008.00 ft.

Well Depth	Depth Completed	Date Well Completed
950.00 ft	950.00 ft	1989/08/04

Contact Address

CITY OF NORWOOD

NORWOOD

MN

55368

Changed

Well Address

NORWOOD 3

NORWOOD

MN

55368

Drilling Method Cable Tool

Drilling Fluid

Well Hydrofractured? ☐ YES ☐ NO

From ft. to

Use Community Supply

Casing Type Steel (black or low Drive Shoe? ☐ YES ☐ NO Hole Diameter (in.)

Diameter	16	Depth	817
30.00	in. from 0.00	to 173.00 ft.	lbs/ft
24.00	in. from 0.00	to 446.00 ft.	lbs/ft
16.00	in. from 0.00	to 817.00 ft.	lbs/ft

Description	Color	Hardness	From	To (ft.)
-------------	-------	----------	------	----------

YELLOW CLAY

0 60

SAND

60 70

HARD SAND

70 150

GRAVEL

150 170

HARDPAN

170 205

GRAVEL

205 215

HARDPAN STREAKS OF SAND

215 305

BROKEN ROCK

305 312

SHAPE SOLID MASS

WHT/BLU

312 343

SHAPE

RED

343 345

HARD ROCK

BROWN

345 347

HARD ROCK

BROWN

347 354

SLOPPY SHAPE

WHITE

354 360

SHAPE

WHITE

360 365

STICKY SHAPE

GREEN

365 370

STICKY SHAPE

GREEN

370 372

HARD SANDSTONE

372 377

SHAPEY SANDSTONE

377 397

GOOD SANDSTONE

397 440

HARD SANDSTONE

440 448

SLOPPY SANDSTONE

448 455

SOLID SHAPE

GREEN

455 460

SOLID SHAPE

GREEN

460 475

SANDSTONE & SHAPE

GREEN

475 513

SANDSTONE & SHAPE

GREEN

513 600

SANDSTONE & SHAPE

GREEN

600 622

SANDSTONE & SHAPE

GREEN

622 695

SANDSTONE & SHAPE

GREEN

695 767

SANDSTONE & SHAPE

GREEN

767 800

SHAPE & SAND

BROWN

800 805

SHAPE & SAND

VARIED

805 830

Remarks

M.G.S. NO. 2902. GAMMA LOGGED 6-16-1989.

Screen No

Open Hole(ft.) From 817.C to 950.0

Make

Type

Diameter

Slot

Length Set

Static Water Level

146.00 ft. Land surface

Date measured 1989/08/04

Pumping Level (below land surface)

292.00 ft. after 12.00 hrs. pumping 700.00 g.p.m.

Well Head Completion

Pitless adapter manufacturer

Model

☐ Casing Protection☐ 12 in. above grade☐ At-grade (Environmental Wells and Borings ONLY)☐ Basement offset

Grouting Information

Well grouted? ☒ YES ☐ NO

Material Neat Cement From To ft. 131.00 Cubic yards

Nearest Known Source of Contamination

ft. Direction Type

Well disinfected upon completion? ☐ YES ☐ NO

Pump

☐ Not Installed

Date installed 1989/11/30

Manufacturer's name LAYNE & BOWLER INC.

Model number 11 BHC

HP 50.00 Volts 480

Length of drop pipe 210. (Material S

Capacity 700 g.p.m.

Type Turbine

Abandoned Wells

Does property have any not in use and not sealed well(s)? ☐ YES ☐ NO

Variance

Was a variance granted from the MDH for this well? ☐ YES ☐ NO

Well Contractor Certification

Layne Well Co.

27010

License Business Name

Lic. or Reg No.

SCHMIDT, C.

Bedrock KRET

Aquifer Mt. Simon-Fond du lac

Last Strat PMFL

Depth to Bedrock 312.00 ft.

County Well Index v.5

REPORT

Printed on 1/20/2010

Name of Driller

Date

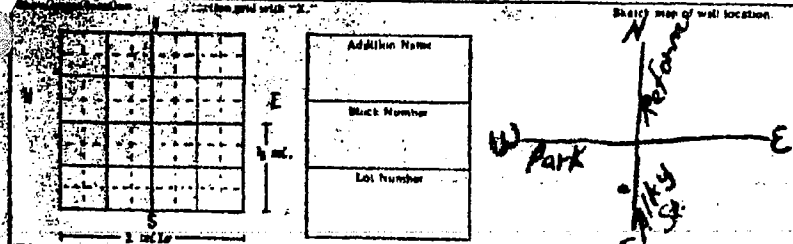
HE-01205-07 (Rev. 2/99)

WATER WELL RECORD

420969

NORWOOD 115 SW 26 E 14

Well No. 3 M.G.S. # 2902



FORMATION LOG	COLOR	HARDNESS OF FORMATION	FROM	TO
YELLOW CLAY SAND			0	60
HARD SAND			60	70
GRAVEL			70	150
HARD SAND			150	170
GRAVEL			170	205
HARD SAND WITH STREAKS OF SAND & GRAVEL			205	215
BROKEN ROCK			215	305
SHALE (SOLID MASS)	WHITE/BLUE		305	312
SHALE	RED		312	343
HARD ROCK	BROWN		343	345
SLOPPY SHALE	WHITE		345	354
SHALE	WHITE		354	360
STICKY SHALE	GREEN		360	365
HARD SANDSTONE			365	372
SHALEY SANDSTONE			372	377
YOUNG SANDSTONE			377	397
HARD SANDSTONE			397	440
SLOPPY SANDSTONE			440	448
SOLID SHALE	GREEN		448	455
SANDSTONE & SHALE	GREEN		455	475
SANDSTONE & SHALE	GREEN		475	600
SHALE & SAND	BROWN		600	800
SHALE & SAND	DIFF. COLORS		800	805
SHALE & SAND	GREEN		805	830
GREEN SHALE	GREEN		830	840
SAND	WHITE		840	870
SHALE			870	880
SAND	YELLOW		880	895
CLAY & SAND	PINK & REDDISH		895	925
			925	950

115-26-14 C 6 CCA
elev. 1008.5'

LOCATED BY

GAMMA LOGGED 6-16-87

- ☐ Address Verification
- ☐ Name on Mailbox
- ☐ Lot-Block
- ☐ Plat Book
- ☒ Info. From Owner
- ☐ Info. From Neighbor
- ☐ Other
- ☐ Can't Locate State Why

0-347 Drift
347-367 Opdc?
367-448 ETON
448-513 BS TL
513-629 CFRN
629-685 EIGL
685-780 BECR
GATS?

MINN. GEOLOGICAL SURVEY COPY

420969

PROPERTY OWNER'S NAME
CITY OF NORWOOD
Address
NORWOOD, MN 55368

WELL DEPTH (completed) **950** Date of Completion **8/4/89**

1. ☒ Shale tool ☐ Reverse ☐ Driven ☐ Dig
2. ☐ Washed end ☐ Air ☐ Bored ☐
3. ☐ Muddy ☐ Jetted ☐ Power Auger

5. USE
1. ☐ Domestic ☐ Public Supply ☐ Industry
2. ☐ Irrigation ☒ Municipal ☐ Commercial
3. ☐ Test Well ☐ Air Conditioning

7. CASING
1. ☐ Mach ☐ Threaded ☐ Welded
2. ☐ Galv ☐ Plastic ☐ Drive Shoe? Yes ☐ No
3. ☐ 30" in. to 173' ft. Weight ☐ 24" in. to 446' ft. Weight ☐ 16" in. to 817' ft. Weight

8. SCREEN
Type ☐ Open Hole ☐
Size/Gauge ☐ Length ☐
Set between ☐ ft. and ☐ ft. ☐ ft. and ☐ ft.
FITTINGS

9. STATIC WATER LEVEL **146** ft. below land surface ☒ above ☐ Date Measured

10. PUMPING LEVEL (below land surface)
ft. after **12** hrs. pumping **700** p.p.m.
ft. after ☐ hrs. pumping ☐ p.p.m.

11. WELL HEAD COMPLETION
1. ☐ Pile-on adapter manufacturer ☐ model ☐
2. ☐ Basement offset ☒ At least 1' above grade

12. WELL CROUTED?
☒ Yes ☐ No
☒ Vent Cement ☐ Bentonite ☐
Grout material **131** y from ☐ to ☐ ft. Cu Yds **131**

13. NEAREST SOURCES OF POSSIBLE CONTAMINATION
Foot ☐ direction ☐ type ☐
Well disturbed upon completion? Yes ☐ No ☒

14. PUMP
Date Installed **11/30/87** ☒ Not Installed ☐
Manufacturer's Name **Layne & Bowler, Inc.**
Model Number **11 PNC** HP **50** Volts **480**
Length of drop pipe **210** ft. capacity **700** p.p.m.
Material of drop pipe **5" steel by 1 1/2" hole**
Type ☒ Submersible ☐ E. Turbine ☐ Reciprocating
☐ Jet ☐ Centrifugal ☐

15. WATER WELL CONTRACTOR'S CERTIFICATION
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
LAYNE MINNESOTA COMPANY 20010
License Business Name License No.
Address **3147 CALIFORNIA ST NE MPLS MN 55**
Signed **LARRY ALBERG** Date **11/2/89**
Authorized Representative
CHARLEY SCHMIDT Date **11/2/8**
Name of Driller

Unique Well Number
420969

County Carver
Quadrant Norwood
Quad Id 106C

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD
MINNESOTA STATUTES CHAPTER 1031

Entry Date
Update Date 2008/02/19
Received Date

Wellname Township Range Dir Section Subsection Depth Drilled Depth Completed Date Completed Lic/Reg. No. Driller Name
NORWOOD 3 115 26 W 14 CBCCAB 950 ft 950 ft 1989/08/04 27010 SCHMIDT, C.
SWL 146

Elevation 1008.00 ft. Method 7.5 minute topographic Aquifer Mt. Simon-Fond du lac Depth to Bedrock 312 ft. Open Hole 817-950
Field Located Minnesota Geological Survey Location Method GPS Code Measurements (Ps Universal Transverse Mercator(UTM) - NAD83 - Zone 15 - Meters
Program Input Source UTM Easting (X) UTM Northing (Y)
426515 4957282
Uni No. Verified Information from owner Input Date 1993/12/09 MGS
Geologic Interpretation Tony Runkel Agency Interpretation Method Geologic study 1:24k to 1:100k

Geological Material	Color	Hardness	DEPTH		ELEVATION		Stratigraphy	LITHOLOGY		
			From	To	From	To		Primary	Secondary	Minor
SANDSTONE & SHALE	GREEN		513	600	87	495	408	Sandstone	Shale	Dolomite
SANDSTONE & SHALE	GREEN		600	622	22	408	386	Sandstone	Shale	Dolomite
SANDSTONE & SHALE	GREEN		622	695	73	386	313	Sandstone		
SANDSTONE & SHALE	GREEN		695	767	72	313	241	Shale	Sandstone	
SANDSTONE & SHALE	GREEN		767	800	33	241	208	Sandstone		
SHALE & SAND	BROWN		800	805	5	208	203	Sandstone		
SHALE & SAND	VARIED		805	830	25	203	178	Sandstone		
SHALE & SAND	GREEN		830	840	10	178	168	Sandstone		
SHALE & SAND	GREEN		840	870	30	168	138	Sandstone		
GREEN SHALE	GREEN		870	880	10	138	128	Sandstone		
SAND	WHITE		880	895	15	128	113	Sandstone		
SHALE			895	925	30	113	83	Sandstone		
SAND			925	950	25	83	58	Sandstone	Shale	
CLAY & SAND PINK & REDDISH								Fond Du Lac Formation		

Unique Well Number 420969	County Carver	Quadrant Norwood	Quadrant ID 106C	MINNESOTA DEPARTMENT OF HEALTH WELL AND BORING RECORD MINNESOTA STATUTES CHAPTER 1031	Entry Date 1998/04/20
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Wellname NORWOOD 3	Township 115	Range 26	Dir W	Section 14	Subsection CBCCAB	Depth Drilled 950 ft	Depth Completed 950 ft	Date Completed 1989/08/04	Lic/Reg. No. 27010	Driller Name SCHMIDT, C.
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Elevation 1008.00 ft	Method 7.5 minute topographic	Aquifer Mt. Simon-Fond du lac	Depth to Bedrock 312 ft	Open Hole 817-950	SWL 146
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Field Located Minnesota Geological Survey	Location Method GPS Code Measurements (P's Universal Transverse Mercator(UTM) - NAD83 - Zone 15 - Meters)	UTM Easting (X) 426515	UTM Northing (Y) 4957282
--	--	---------------------------	-----------------------------

Program Minnesota Geological Survey	Input Source 1993/12/09	Agency MGS	Interpretation Method Geologic study 1:24k to 1:100k
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Geologic Interpretation	Tony Runkel	Color	Hardness	DEPTH		ELEVATION		Stratigraphy	LITHOLOGY		
				From	To	From	To		Primary	Secondary	Minor
Geological Material											
YELLOW CLAY			0	60	60	1008	948	Clay-yellow	Clay		
SAND			60	70	10	948	938	Sand	Sand		
HARD SAND			70	150	80	938	858	Sand	Sand		
GRAVEL			150	170	20	858	838	Gravel (+larger)	Gravel		
HARDPAN			170	205	35	838	803	Pebbly sand/silt/clay	Hardpan	Silt	Sand
GRAVEL			205	215	10	803	793	Gravel (+larger)	Gravel		
HARDPAN STREAKS OF SAND & GRAY			215	305	90	793	703	Pebbly sand/silt/clay	Hardpan	Sand	Gravel
BROKEN ROCK			305	312	7	703	696	Boulder or boulders	Boulder		
SHALE SOLID MASS		WHIT/BLU	312	343	31	696	665	Creaceous, Undiff.	Shale		
SHALE		RED	343	345	2	665	663	Creaceous, Undiff.	Shale		
HARD ROCK		BROWN	345	347	2	663	661	Creaceous, Undiff.	Shale		
HARD ROCK		BROWN	347	354	7	661	654	Prairie Du Chien Group	Dolomite		
SLOPPY SHALE		WHITE	354	360	6	654	648	Prairie Du Chien Group	Dolomite		
SHALE		WHITE	360	365	5	648	643	Prairie Du Chien Group	Dolomite	Shale	
STICKY SHALE		GREEN	365	370	5	643	638	Prairie Du Chien Group	Dolomite		
STICKY SHALE		GREEN	370	372	2	638	636	Jordan	Sandstone		
HARD SANDSTONE			372	377	5	636	631	Jordan	Sandstone		
SHALEY SANDSTONE			377	397	20	631	611	Jordan	Sandstone		
GOOD SANDSTONE			397	440	43	611	568	Jordan	Sandstone		
HARD SANDSTONE			440	448	8	568	560	Jordan	Sandstone		
SLOPPY SANDSTONE			448	455	7	560	553	Jordan	Sandstone		
SOLID SHALE		GREEN	455	460	5	553	548	Jordan	Sandstone	Shale	
SOLID SHALE		GREEN	460	475	15	548	533	St. Lawrence	Dolomite	Sandstone	Shale
SANDSTONE & SHALE		GREEN	475	513	38	533	495	St. Lawrence	Dolomite	Sandstone	Shale

HYDRO-ENGINEERING, INC.

BOX 98
Young America, Minnesota 55397
812-467-3100

WELL DRILLING AND REPAIR—PUMP SALES AND SERVICE

IRRIGATION EQUIPMENT MANUFACTURE AND SALES

ANNUAL WELL AND PUMP MAINTENANCE REPORT

Owner City of Norwood Date 11-16-92
City and State Norwood, Minn. Location Filter Plant
Type of Pump High Service Motor Packer Serial No. _____
Make of Motor US West 20 HP Amp Motor Stamp 512
Motor Serial No. _____ Watts 230/460 - 3ph Motor Amp Reading 96-47-47
Motor Speed 1760 Pump No. _____ Wire size _____
Pump Setting Sheet piling 11 ft 11 ft Pipe Size _____ Casing Size _____
Packing Box Condition _____ Packing Size _____
Static Water Level _____ Pumping Water Level _____
Rated GPM N/A Rated Total Head _____
Pumping GPM _____ Discharge Head _____ Pumping Total Head _____
Type of Meter _____ Meter Size _____ Condition _____

General Condition of Pump and Pumping Equipment

Wires burned coming from Control Panel motor
was trying to start single Phased. Reconnected in 3 phase

WELL LOG AND TEST PUMP REPORT OF WELL

Well Size 11" Depth _____ Type Rock at Screen _____
Screen Diam. _____ Screen Length _____ Screen Material _____ Casing Size _____
Specific Capacity in GPM _____ per ft. DD when well was drilled _____
Drilled by Contractor _____ Date _____

Time	GPM	Total Head	Spec. Capacity	Remarks

Annual Maintenance Check Made By _____

South Water Fill Station Maintenance Records



McCarthy Well Company

MAIN OFFICE, SHOP, YARD & WAREHOUSE • 590 CITATION DRIVE • SHAKOPEE, MN 55379-1887



"There's no doubt about it."

WELL DRILLING, SEALING & DEVELOPMENT • 24 HOUR EMERGENCY SERVICE

LINE SHAFT & SUBMERSIBLE PUMPS FOR ANY APPLICATION

Phone: (952) 854-5333 or (888) 854-5333 • Fax: (952) 445-1950

FAX TRANSMISSION SHEET

TO: City of Norwood Young Am. ATTN: Jim Beckendorf DATE: 8/25/04

FAX # 952-467-1888 FROM: Tim McCarthy # OF PAGES 1
(INCLUDING COVER SHEET)

RE: 1926 well drilled by McCarthy Well Co.

16" casing, well is 685' deep. 30hp 8" pump, 7 stages, 380 GPM, 100' setting. In 1950 McCarthy Well Co. pulled the old pump, bailed the well & furnished and installed a new pump. In 1976 McCarthy Well Co. pulled the pump, bailed the well & repaired the pump.

well # 1
South street

100' P.L.

120' W.T.

220 T.D.H.

4/20 7pm
150'

Water-fill
well

Bottom 1 mark
507-625-4177

Your 24 Hour Full Service Well & Company

Nation's Oldest • Northwest's Largest Water Producers

Well #3 Maintenance Records

Well #3 young American submersible

MINNESOTA UNIQUE WELL NO.

MINNESOTA DEPARTMENT OF HEALTH
WELL RECORD
Minnesota Statutes Chapter 103I

482765

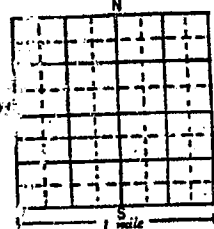
WELL LOCATION	
County Name CARVER	

Well Name	Township No. 115	Range No. 26	Section No. 11	Fraction S1/2	WELL DEPTH (completed) 391	Date of Completion 6-1-92
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Numerical Street Address or Fire Number and City of Well Location

202 3rd ave. S.E. Young America

Show exact location of well in section grid with "X".

Sketch map of well location:
Showing property lines,
roads and buildings.

Is this A
Municipal well?
115-26-11 DABADA
elev. 1015 ± 5'
106-C NORWOOD
What Well No. is it?
5-A 53-C

DRILLING METHOD		
<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Driven	<input type="checkbox"/> Dug
<input type="checkbox"/> Auger	<input checked="" type="checkbox"/> Rotary	<input type="checkbox"/> Jetted
<input type="checkbox"/>		

DRILLING FLUID
Bentonite and water

USE	<input type="checkbox"/> Domestic	<input type="checkbox"/> Monitoring	<input type="checkbox"/> Heating/Cooling
<input type="checkbox"/> Irrigation	<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Industry/Commercial	
<input type="checkbox"/> Test Well	<input type="checkbox"/> Dewatering	<input type="checkbox"/>	

CASING	Drive Shoe? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	HOLE DIAM.
<input checked="" type="checkbox"/> Steel	<input type="checkbox"/> Threaded	
<input type="checkbox"/> Plastic	<input type="checkbox"/>	

CASING DIAMETER	WEIGHT		
10 in. to 332.75 lbs./ft.	40.48		

SCREEN	OPEN HOLE
Make 304 Stainless Steel	from 10 ft. to 10 ft.
Type 37 ft. 30 slot on bottom	
Slot/Gauge next 20 ft. 25 slot	Length 63' 6" length w/ ftg
Set between 332.75 ft. and 391 ft.	FITTINGS: 10x8 hp seal
	water down

STATIC WATER LEVEL	
115.83 ft. <input checked="" type="checkbox"/> below <input type="checkbox"/> above land surface	Date measured 5-4-92

PUMPING LEVEL (below land surface)	
146.41 ft. after 24 hrs. pumping 500-810 g.p.m.	

WELL HEAD COMPLETION	
<input checked="" type="checkbox"/> Pileage adapter manufacturer Monitor Model 8PS1012wbwe06t	
<input type="checkbox"/> Casing Protection	

GROUTING INFORMATION	
Well grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Grout Material <input checked="" type="checkbox"/> Neat cement <input type="checkbox"/> Bentonite	
from 0 to 332 ft. 8.5 yds. <input checked="" type="checkbox"/> bags	
from 0 to 332 ft. <input type="checkbox"/> yds. <input type="checkbox"/> bags	
from 0 to 332 ft. <input type="checkbox"/> yds. <input type="checkbox"/> bags	

NEAREST SOURCE OF POSSIBLE CONTAMINATION	
55 feet north direction existing well	

Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

PUMP	
<input type="checkbox"/> Not installed	Date installed June 1, 1992
Manufacturer's name Grundfos	
Model number 315-5300-5	HP 30 Volts 460
Length of drop pipe 189 ft.	Capacity 230 to 500 g.p.m.
Drop pipe material 6 inch steel drop pipe	
Type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> L.S. Turbine <input type="checkbox"/> Reciprocating <input type="checkbox"/> Jet <input type="checkbox"/>	

ABANDONED WELLS	
Not in use and not sealed well on property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

WELL CONTRACTOR CERTIFICATION

This well was drilled under my jurisdiction and in accordance with Minnesota Rules, Chapter 4725.
The information contained in this record is true to the best of my knowledge.

Address Verification 65252	
Ben Evvin <input type="checkbox"/> City 6-1-92	
Info. From City 6-1-92	
Info. From Neighbor City 6-1-92	
Other Sites Well	
Can't Locate State Why	

PROPERTY OWNER'S NAME	
City of Young America	
Mailing address if different than property address indicated above.	
117 Main St. E.	
Young America, Minn. 55397	
Phone: 612-467-2603	
#132256	

FORMATION LOG	COLOR	HARDNESS OF FORMATION	FROM	TO
SANDY CLAY	black/yellow	S	0	4
clay	tan	med.	4	31
clay	gray	med.	31	67
clay	dark gray	soft	67	76
sand fine	gray		76	97
fine sand & clay	gray	soft	97	102
clay	gray	hard	102	162
rocky, cobbles, & sand	gray	hard	162	164
sandy clay	brown/reddish	hard	164	173
clay, rocky	gray	hard	173	185
med. sand & peacock gravel	gray	soft	185	191
rocky clay	gray	hard	191	198
sand, gravel, clay	gray	med.	198	202
clay	gray	hard	202	215
med. sand, small gravel	gray	soft	215	220
stiff clay	gray	hard	220	225
boulder	black/white	hard	225	226
clay	gray	hard	226	256
sand, clay layers	gray		256	260
Stiff clay	gray	hard	260	291
fine sand & clay	gray	soft	291	310
finer sand	multi-color	soft	310	335
fine to med. sand	"	soft	335	355
fine to med. sand	"	soft	355	389
med. sand	"	soft	389	392
Broken-up rocks & cobbles with clay			392	398

REMARKS, ELEVATION, SOURCE OF DATA, etc.

291 - 325 seem to drill like more fines
320 - 392 med. sand but still fines

Ag OBA

JUL 1992
RECEIVED
WELL # 482765

North Water Treatment Plant - Pump Maintenance Records

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

WELL LOG AND CONSTRUCTION RECORD

TO City of Norwood Young America

Date 2-15-66

ADDRESS _____

Water Well Record # _____

treatment plant pump (farthest east)

LOG OF FORMATIONS

SWL _____

to _____
to Bowl shaft 1 1/2" w/2" of 1 3/16 10th LH x 31"
to Intermediate shaft 1 3/16 10th LH x 82 3/8"
to head shaft 1 3/16 x 10th LH x 10th LH x 51 1/4"
to 1/4" keyway, Bearing holder w/rubber 8" x 1 3/16"
to Replacer 3'2" top column pipe 8"
to (Goodin Company)
to _____
to _____

CASING STRINGS

to _____
ID _____ OD _____
Wt. _____ lbs. per ft.
Thrd. & Cpld. _____
Welded _____
Drive Shoe _____
Cemented _____

WELL DESIGN

Depth measured from _____

SCREEN WELL DATA

Make of Screen _____ Type _____
Size: Diam. _____ in. Length _____ ft.
Location in Well _____ to _____ Slot Size: _____
Fittings: Top _____
Bottom _____
Other Screen Data _____

to _____
ID _____ OD _____
Wt. _____ lbs. per ft.
Thrd. & Cpld. _____
Welded _____
Drive Shoe _____
Cemented _____

ROCK WELL DATA

Open borehole: Diam. _____ in. From _____ to _____

WELL TEST DATA

_____ GPM Static Water Level _____ Pumping Water Level _____
_____ Hours of Pumping (Drawdown _____ ft.) GPF _____

PUMP DATA

Make _____ Type vertical turbine
Model _____ Serial No. _____ Stages 2 Trim _____
Column Size 8" - (1-5' bowls) 1-3 1/2" mpt Length _____ Tube & Shaft 1 3/16 5/8
Discharge Head _____ Headshaft: Size _____ Length _____
GPM _____ TDH _____ RPM _____
Electric Motor _____ Volts _____ Phase _____ Cycle _____

RAD _____ Ratio _____ Make _____ Other _____

Power Unit _____ RPM _____ Well Seal _____

Water Analysis: Hardness _____ PPM, Iron _____ PPM

REMARKS: Replaced old bowl shaft 4 1/4" old headshaft 4 1/4" shortened bowl shaft to try to make future removal easier, Top bowl & Discharge case went through bearings into casing

Signed John J. Fahy

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

WELL LOG AND CONSTRUCTION RECORD

TO Sandy Lake City of NYA

Date 8-2-06

ADDRESS _____

Water Well Record # _____

LOG OF FORMATIONS

SWL

to old pump well replace w/
 to Landroller
 to _____
 to _____
 to _____
 to _____
 to _____
 to _____

CASING STRINGS

to _____
 ID _____ OD _____
 Wt. _____ lbs. per ft.
 Thrd. & Cpld. _____
 Welded _____
 Drive Shoe _____
 Cemented _____

WELL DESIGN

Depth measured from _____

SCREEN WELL DATA

Make of Screen _____ Type _____
 Size: Diam. _____ in. Length _____ ft.
 Location in Well _____ to _____ Slot Size: _____
 Fittings: Top _____
 Bottom _____
 Other Screen Data _____

to _____
 ID _____ OD _____
 Wt. _____ lbs. per ft.
 Thrd. & Cpld. _____
 Welded _____
 Drive Shoe _____
 Cemented _____

ROCK WELL DATA

Open borehole: Diam. _____ in. From _____ to _____

pump at wastewater plant

WELL TEST DATA

_____ GPM Static Water Level _____ Pumping Water Level _____
 _____ Hours of Pumping (Drawdown _____ ft.) GPF _____

PUMP DATA

Make Landroller Type _____
 Model SKH 12 Serial No. _____ Stages 1 Trim _____
 Column Size _____ Length _____ Tube & Shaft _____
 Discharge Head _____ Headshaft: Size 1 3/16 10LH Length 52" 1/4 key
 GPM _____ TDH _____ RPM _____
 Electric Motor _____ Volts _____ Phase _____ Cycle _____

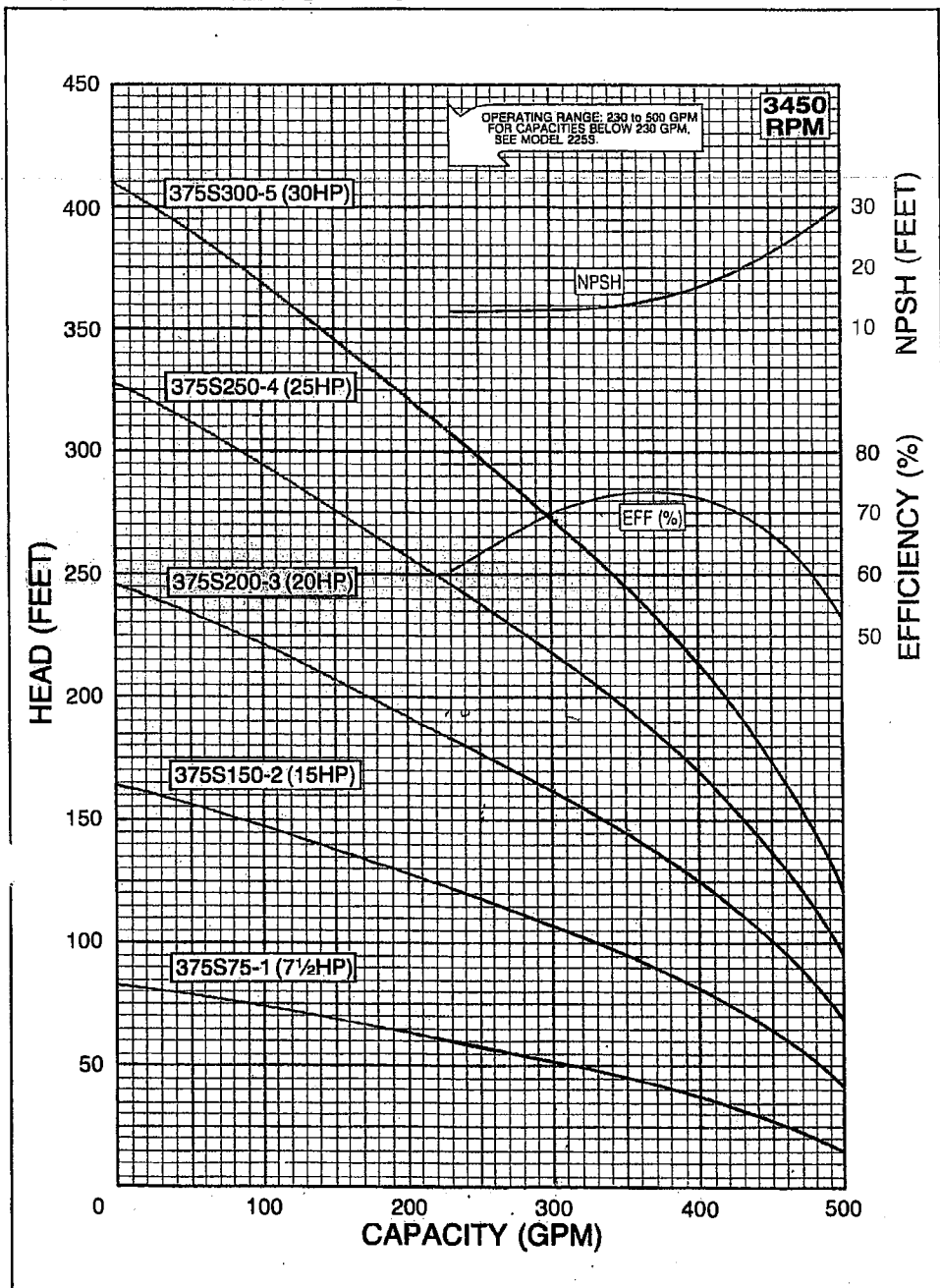
RAD _____ Ratio _____ Make _____ Other _____

Power Unit _____ RPM _____ Well Seal _____

Water Analysis: Hardness _____ PPM, Iron _____ PPM

REMARKS: Int column pipe shaft 6" 2" 1 3/16 x 8" 10LH 1 Bowl shaft 1 1/16 x 43 x 1 3/16 10LH
Dish hd nipple 8" x 2' /

Signed _____

GRUNDFOS**375 GPM****MODEL
375S****PERFORMANCE CURVES**FLOW RANGE
230 to 500 GPMPUMP OUTLET
4" NPT**DIMENSIONS AND WEIGHTS**

MODEL NO.	HP	MIN. WELL SIZE (INCHES)	LENGTH (INCHES)	MAX WIDTH (INCHES)	APPROX. UNIT SHIPPING WT. (LBS.)
375S75-1	7½	8	44 7/8	7 1/8	153
375S150-2	15	8	53 1/8	7 1/8	181
375S200-3	20	8	60	7 1/8	197
375S250-4	25	8	66 7/8	7 1/8	226
375S300-5	30	8	73 3/4	7 1/8	245

NOTE: Specifications are subject to change without notice.

Well #2 Maintenance Records



MINNESOTA VALLEY
TESTING LABORATORIES, Inc.

APR 18 1978



BACTERIOLOGICAL AND CHEMICAL TESTS • DAIRY PRODUCTS • SOIL • FEED • WATER

PHONE (507) 354-8517

CENTER & GERMAN STREETS, NEW ULM, MINNESOTA 56073

Date: April 17, 1978

Work Order: C629

Report To: Hydro Engineering, Inc.
P.O. Box 98
Young America, MN 55397

CORRECTED COPY

Attn: Robert E. Young

Water Sample for
Well #2
Young America, MN

Total Dissolved Solids.....	478 ppm.
Total Solids.....	490 ppm.
Suspended Solids.....	12 ppm.
Total Hardness.....	22.5 gpg.
Total Iron.....	1.0 ppm.
Total Manganese.....	0.08 ppm.
Chlorides.....	14.9 ppm.
Total Alkalinity.....	184 ppm.
Hydrogen Sulfide.....	0.03 ppm.
pH.....	7.9
*Ryznar Stability Index	7.5
Calcium as CaCO ₃	188 ppm.
Calcium.....	75 ppm.

By



PHONE (607) 354-8517

MINNESOTA VALLEY
TESTING LABORATORIES, Inc.

MAR 30 1978



CENTER & GERMAN STREETS, NEW ULM, MINNESOTA 56073

Date: March 29, 1978

Work Order: C629

Report To: Hydro Engineering, Inc.
P.O. Box 98
Young America, MN 55397

Attn: Robert E. Young

Water Sample for:
Well #2
Young America, MN

Total Dissolved Solids.....	478 ppm.
Total Solids.....	490 ppm.
Suspended Solids.....	12 ppm.
Total Hardness.....	22.5 gpg.
Total Iron.....	1.0 ppm.
Total Manganese.....	0.08 ppm.
Chlorides.....	14.9 ppm.
Total Alkalinity.....	184 ppm.
Hydrogen Sulfide.....	0.03 ppm.
pH.....	7.9
Ryznar Stability Index.....	7.7
Calcium as CaCO ₃	188 ppm.
Calcium.....	75 ppm.

By *D. J. Young*

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

TEST PUMP LOG

DATE 3-16-78

Customer City of Young America

Address Well #2

City, State Young America, Minnesota 55397

WELL DATA: Pumping Well ☒ Observation Well ☐ Depth 943 ft. Diameter 24" x 16"

SCREEN DATA: Diameter _____ Length _____ Slot Size _____

Static Water Level 140 ft. Total drawdown 91 ft. after 24 Hours of Pumping at 660 GPM

TIME	GALLONS PER MINUTE	WATER PUMP LEVEL	REMARKS	TIME	GALLONS PER MINUTE	WATER PUMP LEVEL	REMARKS
3-16-78				8:00 AM	660	232' 2"	
2:30 PM	496	214'		9:00 AM	660	231'	
3:30 PM	496	Started and stopped pump at 1/2 hour intervals to surge well.		10:00 AM	660	231'	
4:30 PM	496			11:00 AM	870	241' 4"	
5:30 PM	496			12:00 NOON	870	240'	
				1:00 PM	870	239' 10"	
3-16-78	Began 24 hour Test Pump			1:15 PM	870	242' 8"	
5:30 PM	330	197'		2:00 PM	870	242' 8"	
6:00 PM	330	197' 3"		3:00 PM	871	242' 5"	
7:00 PM	330	197' 3"		3:30 PM	479	212' 7"	
8:00 PM	330	197' 4"		4:30 PM	479	213'	
9:00 PM	660	231'		5:00 PM	479	213'	Shut Down
10:00 PM	660	231' 4"		RECOVERY			
11:00 PM	660	231' 7"		5:05 PM		159' 3"	
12:00 MN	660	231' 11"		5:10 PM		158' 8"	
3-17-78				5:15 PM		157'	
1:00 AM	660	232'		5:20 PM		156'	
2:00 AM	660	232'		5:25 PM		155'	
3:00 AM	660	232'		5:30 PM		154'	
4:00 AM	660	232'		6:00 PM		153' 2"	
5:00 AM	660	232'		7:30 PM		147' 4"	
6:00 AM	660	232' 1"					
7:00 AM	660	232' 1"					

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

TEST PUMP LOG

City, State Young America, Minnesota 55397

Static Water Level 140 ft. Total drawdown 91 ft. after 24 Hours of Pumping
at 660 GPM

Form No. 503

Started Well 9-26-77

LOG OF FORMATIONS
CITY OF YOUNG AMERICA
WELL NO. 2

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>	<u>SWL</u>	<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>	<u>SWL</u>
0	35	Yellow Clay		438	440	Sandrock	
35	55	Gray Clay		440	450	Shale & Sandrock	
55	70	Gray Clay		450	500	Shale & Sandrock	
70	80	Gray Clay		500	550	Shale	
80	90	Gray Clay		550	600	Shale	
90	100	Gray Clay		600	660	Sandrock & Shale-Soft	
100	125	Gray Clay		660	666	Sandrock & Shale-Little Harder	
125	140	Gray Clay		666	670	Sandrock	
140	160	Gray Clay		670	675	Sandrock-Fine *	
160	185	Gray Clay, Sandstone		675	685	Light Green Shale	
185	200	Gray Clay, Sandstone		685	690	Light Green Shale	
200	205	Gray Clay, Sandstone		690	695	Red Shale	
205	220	Blue Clay		695	700	Red Shale	
220	230	Blue Clay		700	702	Green Shale	
230	232	Sand & Gravel		702	705	Green Shale	
232	242	Sand & Clay		705	715	Green Shale	150
242	250	Sand & Clay		715	720	Light Green Shale	
250	270	Sand & Clay		720	725	Brown Shale	
270	300	Sand & Clay		725	735	Brown Shale	147
300	330	Sand & Clay		735	740	Tan Shale	
330	335	Sand		740	745	Tan Shale	
335	350	Sand		745	750	Brown Shale, Little Sand	
350	365	Sand		750	755	Brown Shale, Little Sand	
365	405	Sand & Gravel/some Rocks		755	760	Sandrock & Brown Shale	145
405	410	Yellow Muddy Sand		760	775	Sandrock & Shale	
410	420	Yellow Muddy Sand		775	780	Sandrock & Shale	
420	430	Shale & Sandrock-Soft		780	785	Sandrock & Shale	
430	438	Sandrock, Some Shale		785	815	Brown Sandrocks & Shale-Muddy	

Cased 438' - 24"

* From 670 to 700 - Boot on Bit

Dated: 3-20-78

Page 1

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>	<u>SWL</u>
815	830	Brn.Sandroek&Shale	141
830	850	Sandroek & Shale	138
850	880	Brn.Sndrk-lighter	138
880	890	Sandroek-Medium	
890	903	Sandroek-Pink Tint	136
903	915	Sandroek-Pink Tint	
915	925	Sandroek-Fine	
925	935	Sandroek-Fine	
935	940	Sandroek-Hard & Fine	
940	943	Red Sandroek-Hard & Fine	135

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

WELL LOG AND CONSTRUCTION RECORD

TO City of Young America
ADDRESS Well No. 2
Young America, Minnesota 55397

Date 3-20-78
Water Well Record # 132256

LOG OF FORMATIONS

SWL

to SEE ATTACHED
to _____
to _____
to _____
to _____
to _____
to _____
to _____

WELL DESIGN

Depth measured from _____

SCREEN WELL DATA

Make of Screen _____ Type _____
Size: Diam. _____ in. Length _____ ft.
Location in Well _____ to _____ Slot Size: _____
Fittings: Top _____
Bottom _____
Other Screen Data _____

CASING STRINGS

0 to 438 ft.
ID 24" OD _____
Wt. 94.62 lbs. per ft.
Thrd. & Cpld. _____
Welded x
Drive Shoe x
Cemented x

0 to 666 ft.
ID 16" OD _____
Wt. 62.58 lbs. per ft.
Thrd. & Cpld. _____
Welded x
Drive Shoe x
Cemented x

ROCK WELL DATA

Open borehole: Diam. 11 1/2" in. From 666 ft. to 943 ft.

WELL TEST DATA

871 GPM Static Water Level 140 Pumping Water Level 242
24 Hours of Pumping (Drawdown 102 ft.) GPF 8.5

PUMP DATA

Make Johnston Type Open Line Shaft
Model _____ Serial No. _____ Stages 6 Trim _____
Column Size 8" Length 250' Tube & Shaft 1 1/2 S.S. shaft
Discharge Head _____ Headshaft: Size _____ Length _____
GPM _____ TDH _____ RPM 1760
Electric Motor 50 Volts 230/460 Phase 3 Cycle 60
RAD _____ Ratio _____ Make _____ Other _____
Power Unit _____ RPM _____ Well Seal _____
Water Analysis: Hardness _____ PPM, Iron _____ PPM

REMARKS: 10-14-92 220' column w/ 4' tail pipe

Signed Joseph F. Kloeckl

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

TEST PUMP LOG

DATE 3-16-78

Customer City of Young America

Address Well #2

City, State Young America, Minnesota 55397

WELL DATA: Pumping Well ☒ Observation Well ☐ Depth 943 ft. Diameter 24" x 1

SCREEN DATA: Diameter _____ Length _____ Slot Size _____

Static Water Level 140 ft. Total drawdown 91 ft. after 24 Hours of Pumping
at 660 GPM

TIME	GALLONS PER MINUTE	WATER PUMP LEVEL	REMARKS	TIME	GALLONS PER MINUTE	WATER PUMP LEVEL	REMARKS
3-16-78				8:00 AM	660	232' 2"	
2:30 PM	496	214'		9:00 AM	660	231'	
3:30 PM	496	Started and stopped pump at $\frac{1}{2}$ hour intervals to surge well.		10:00 AM	660	231'	
4:30 PM	496			11:00 AM	870	241' 4"	
5:30 PM	496			12:00 NOON	870	240'	
				1:00 PM	870	239' 10"	
3-16-78	Began 24 hour	Test Pump		1:15 PM	870	242' 8"	
5:30 PM	330	197'		2:00 PM	870	242' 8"	
6:00 PM	330	197' 3"		3:00 PM	871	242' 5"	
7:00 PM	330	197' 3"		3:30 PM	479	212' 7"	
8:00 PM	330	197' 4"		4:30 PM	479	213'	
9:00 PM	660	231'		5:00 PM	479	213'	Shut Down
10:00 PM	660	231' 4"		RECOVERY			
11:00 PM	660	231' 7"		5:05 PM		159' 3"	
12:00 MN	660	231' 11"		5:10 PM		158' 8"	
3-17-78				5:15 PM		157'	
1:00 AM	660	232'		5:20 PM		156'	
2:00 AM	660	232'		5:25 PM		155'	
3:00 AM	660	232'		5:30 PM		154'	
4:00 AM	660	232'		6:00 PM		153' 2"	
5:00 AM	660	232'		7:30 PM		147' 4"	
6:00 AM	660	232' 1"					
7:00 AM	660	232' 1"					

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

WELL LOG AND CONSTRUCTION RECORD

TO city of Norwood Young America

Date 3-12-64

ADDRESS _____

Water Well Record # Young America Norwell #2

LOG OF FORMATIONS

SWL

to pull pump, column came apart 20' up from
to haul assembly, threads galvanized steel cplg,
to a lot of 1/4" tubing stuck in section screen, 1-3/4
to disch case plug was missing (stripped)
to Installed new discharge case
to chlorinate & test pump
to _____
to _____

WELL DESIGN

Depth measured from _____

SCREEN WELL DATA

Make of Screen _____ Type _____

Size: Diam. _____ in. Length _____ ft.

Location in Well _____ to _____ Slot Size: _____

Fittings: Top _____

Bottom _____

Other Screen Data _____

CASING STRINGS

to _____
ID _____ OD _____
Wt. _____ lbs. per ft.

Thrd. & Cpld. _____

Welded _____

Drive Shoe _____

Cemented _____

to _____

ID _____ OD _____

Wt. _____ lbs. per ft.

Thrd. & Cpld. _____

Welded _____

Drive Shoe _____

Cemented _____

ROCK WELL DATA

Open borehole: Diam. _____ in. From _____ to _____

WELL TEST DATA

_____ GPM Static Water Level _____ Pumping Water Level _____

_____ Hours of Pumping (Drawdown _____ ft.) GPF _____

PUMP DATA

Make norah Type _____

Model 10m50 Serial No. _____ Stages _____ Trim _____

Column Size 8" wlr + thread Length 240' Tube & Shaft 1 1/8 10thrd LH

Discharge Head _____ Headshaft: Size 1 1/8 x 3/4 10 LH x 10 LH Length 56" 3/4 key

GPM _____ TDH _____ RPM _____

Electric Motor _____ Volts _____ Phase _____ Cycle _____

RAD _____ Ratio _____ Make _____ Other _____

Power Unit _____ RPM _____ Well Seal _____

Water Analysis: Hardness _____ PPM, Iron _____ PPM

REMARKS: 3- 8x10' column pipe / 1- 1 1/8" hdsd 10 LH x 10 LH x 56" 3/4 key /

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

WELL LOG AND CONSTRUCTION RECORD

TO City of Young America
ADDRESS Well #2 (new treatment plant)

Date _____
Water Well Record # 132256

LOG OF FORMATIONS

SWL

to Switch from turbine to
to submersible
to _____
to Install pitless adapter
to 9PS1618WBWE08TRAP
to _____
to _____
to _____

WELL DESIGN

Depth measured from _____

SCREEN WELL DATA

Make of Screen _____ Type _____
Size: Diam. _____ in. Length _____ ft.
Location in Well _____ to _____ Slot Size: _____
Fittings: Top _____
Bottom _____
Other Screen Data _____

CASING STRINGS

to _____
ID _____ OD _____
Wt. _____ lbs. per ft.
Thrd. & Cpld. _____
Welded _____
Drive Shoe _____
Cemented _____
to _____
ID _____ OD _____
Wt. _____ lbs. per ft.
Thrd. & Cpld. _____
Welded _____
Drive Shoe _____
Cemented _____

ROCK WELL DATA

Open borehole: Diam. _____ in. From _____ to _____
1 Run wire

WELL TEST DATA

_____ GPM Static Water Level _____ Pumping Water Level _____
Hours of Pumping (Drawdown _____ ft.) GPF _____

PUMP DATA

Make Goulds Type submersible
Model 10R1LC Serial No. _____ Stages 3 Trim _____
Column Size 8" Length 336' Tube & Shaft _____
Discharge Head _____ Headshaft: Size _____ Length _____
GPM _____ TDH _____ RPM _____
Electric Motor 100HP Franklin Volts _____ Phase _____ Cycle _____

RAD _____ Ratio _____ Make _____ Other _____
Power Unit _____ RPM _____ Well Seal _____
Water Analysis: Hardness _____ PPM, Iron _____ PPM

REMARKS: _____

Signed _____

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

WELL LOG AND CONSTRUCTION RECORD

TO City of Young America
ADDRESS well #2 3rd Ave

Date 12-11-06
Water Well Record # _____

LOG OF FORMATIONS

SWL

to		
to		
to		
to		
to		
to		
to		
to		
to		

CASING STRINGS

to		
ID		OD
Wt.		lbs. per ft.
Thrd. & Cpld.		
Welded		
Drive Shoe		
Cemented		

WELL DESIGN

Depth measured from _____

SCREEN WELL DATA

Make of Screen _____ Type _____
Size: Diam. _____ in. Length _____ ft.
Location in Well _____ to _____ Slot Size: _____
Fittings: Top _____
Bottom _____
Other Screen Data _____

to		
ID		OD
Wt.		lbs. per ft.
Thrd. & Cpld.		
Welded		
Drive Shoe		
Cemented		

ROCK WELL DATA

Open borehole: Diam. _____ in. From _____ to _____
column came apart (column below water level seems to get bad & placed w/ flanged

WELL TEST DATA

_____ GPM Static Water Level 140' from prev. log Pumping Water Level _____
Hours of Pumping (Drawdown _____ ft.) GPF _____

PUMP DATA

Make _____ Type _____
Model 10m30 Serial No. _____ Stages 7 Trim _____
Column Size 8" Length 235' Tube & Shaft 1 1/2 s/s Lineshaft
Discharge Head _____ Headshaft: Size _____ Length No sleeves
GPM _____ TDH _____ RPM _____
Electric Motor _____ Volts _____ Phase _____ Cycle _____

RAD _____ Ratio _____ Make _____ Other _____
Power Unit _____ RPM _____ Well Seal _____

Water Analysis: Hardness _____ PPM, Iron _____ PPM

REMARKS: Bottom 9 pipe Flanged w/LR / top 14 pipe T&C (1 new) 2' discharge head pipe
bowls / Bawls discharge case is Int bowl w/ adapter to Fl column. / new head shaft 2" longer

Signed _____

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

WELL LOG AND CONSTRUCTION RECORD

TO city of NYA

Date 3-1-61

ADDRESS well #2

Water Well Record # _____

LOG OF FORMATIONS

SWL

to _____
to _____
to Turbine pump in
to sand filter plant young
to America
to _____
to _____
to _____

CASING STRINGS

to _____
ID _____ OD _____
Wt. _____ lbs. per ft.
Thrd. & Cpld. _____
Welded _____
Drive Shoe _____
Cemented _____

WELL DESIGN

Depth measured from _____

SCREEN WELL DATA

Make of Screen _____ Type _____
Size: Diam. _____ in. Length _____ ft.
Location in Well _____ to _____ Slot Size: _____
Fittings: Top _____
Bottom _____
Other Screen Data _____

to _____
ID _____ OD _____
Wt. _____ lbs. per ft.
Thrd. & Cpld. _____
Welded _____
Drive Shoe _____
Cemented _____

11-3-08 pulled bolts vibrated loose on 1 flanged column replace 1 fl column, 4 threaded
ROCK WELL DATA (coupling looked were, couldn't get new ones, replaced) replaced cplrs on remaining column pipe

Open borehole: Diam. _____ in. From _____ to _____

Replaced existing pump, column, Disch hd, headshaft, added 20' column

WELL TEST DATA

Replaced 3 Brys for Bry retainer
GPM _____ Static Water Level _____ Pumping Water Level _____
Hours of Pumping (Drawdown _____ ft.) GPF _____

PUMP DATA

12-13-2006 Abouls came apart Bottom 9 pipe are fl wlr - 1 thrd column, 1-hdshft
Make Worthington Type turbine
Model 10m50 Serial No. _____ Stages 7 Trim 7"
Column Size 8" Length 240' Tube & Shaft 1 1/2" 10th
Discharge Head IDP 8" Headshaft: Size 1 1/2" 10th Length 56"
GPM _____ TDH _____ RPM _____
Electric Motor 50 HP Volts _____ Phase _____ Cycle _____

RAD _____ Ratio _____ Make _____ Other _____

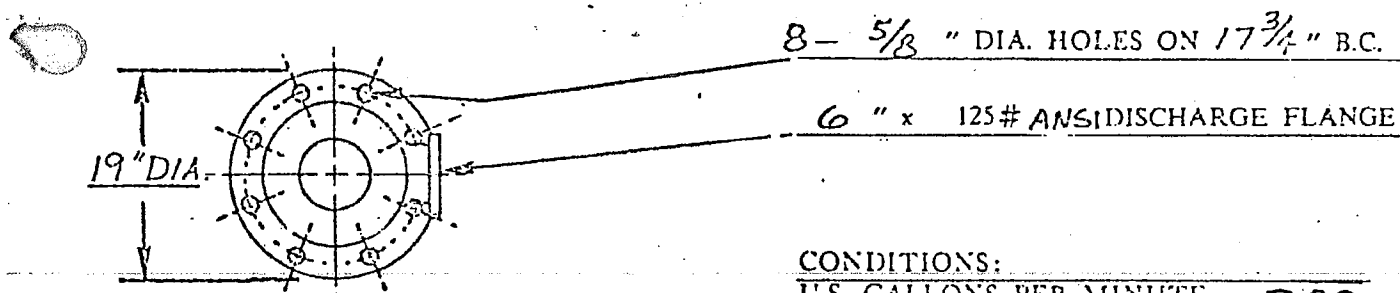
Power Unit _____ RPM _____ Well Seal _____

Water Analysis: Hardness _____ PPM, Iron _____ PPM

REMARKS: 7 stage 10m50 w/ 10H75 8" Discharge case * 23-10', 1-5', 1-2'

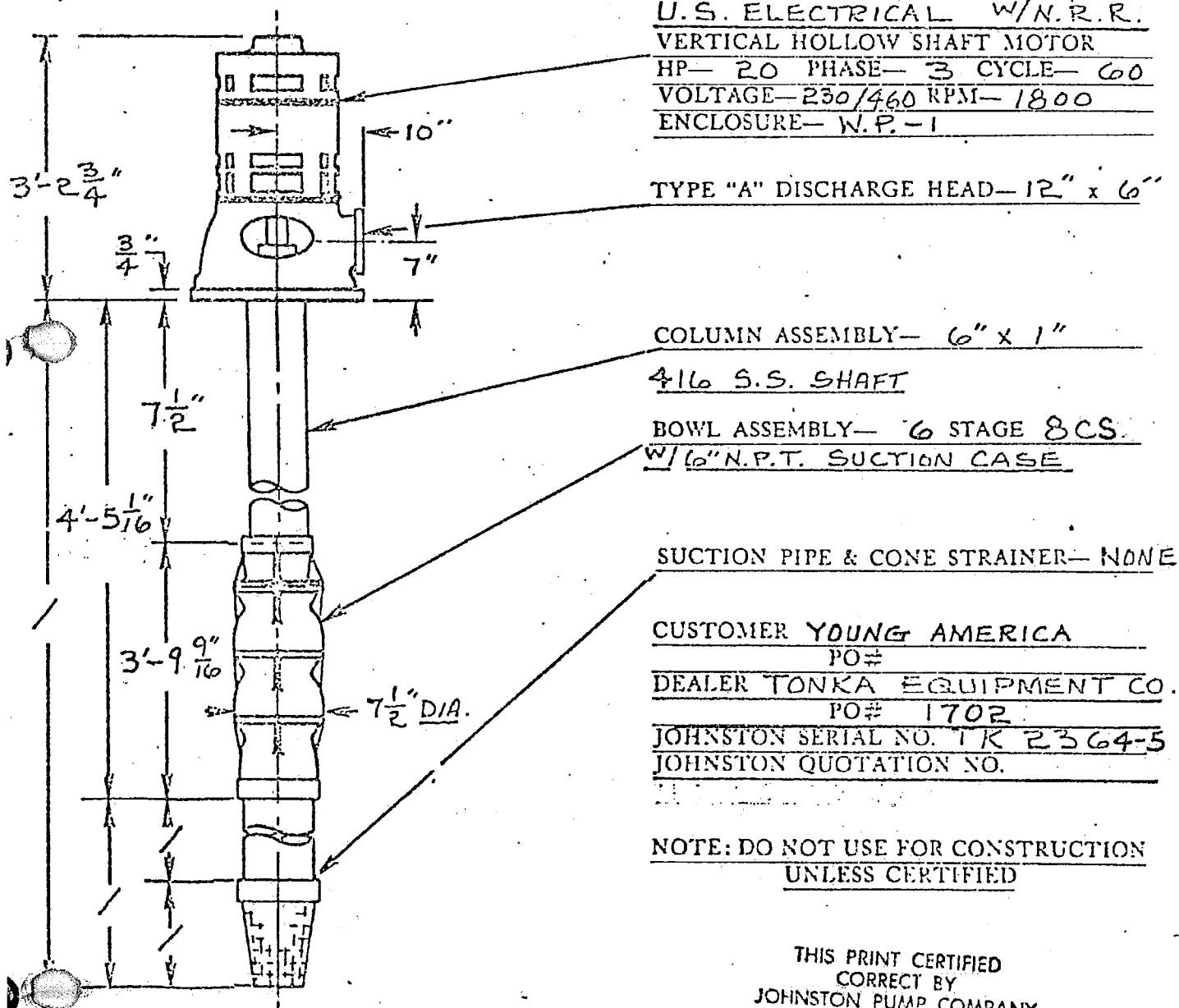
Replaces customer pump model 10 AC II Johnson
Pulled pump 2-26-64 column pipe came apart, replaced 3-8" column pipe & headshaft, there was a lot of 4"
on line in stuck in screen taken out of dis. hd.
Signed _____

JOHNSTON VERTICAL TURBINE PUMP



CONDITIONS:

U.S. GALLONS PER MINUTE— 300
 TOTAL DYNAMIC HEAD IN FT.— 150
 LIQUID— WATER
 SPEC. GRAV. 1.0 @ AMB. °F. TEMP.
 U.S. ELECTRICAL W/N.R.R.
 VERTICAL HOLLOW SHAFT MOTOR
 HP— 20 PHASE— 3 CYCLE— 60
 VOLTAGE— 230/460 RPM— 1800
 ENCLOSURE— W.P.— 1



THIS PRINT CERTIFIED
 CORRECT BY
 JOHNSTON PUMP COMPANY
 Original Signed by
 H. A. J. GREUTINK

JOHNSTON PUMP CO.
 GLENDORA, CALIFORNIA

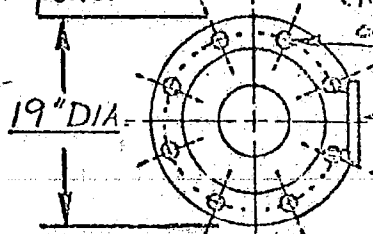
H-1253-A

(2) Filter to Tower Pumps
 CL 12-8-77 / MGL.

JOHNSTON VERTICAL TURBINE PUMP

old pump changed
To 10mso 3 stage old style
Impeller Full trim (hand shaft. 50"-1")

Exist city of Y.A.



8 - 5/8" DIA. HOLES ON 17 3/4" B.C.

6" x 125# ANSI DISCHARGE FLANGE

CONDITIONS:

U.S. GALLONS PER MINUTE— 300

TOTAL DYNAMIC HEAD IN FT.— 150

LIQUID— WATER

SPEC. GRAV. 1.0 @ AMB. °F. TEMP.

U.S. ELECTRICAL W/N.R.R.

VERTICAL HOLLOW SHAFT MOTOR

HP— 20 PHASE— 3 CYCLE— 60

VOLTAGE— 230/460 RPM— 1800

ENCLOSURE— W.P.— 1

TYPE "A" DISCHARGE HEAD— 12" x 6"

COLUMN ASSEMBLY— 6" x 1"

416 S.S. SHAFT

BOWL ASSEMBLY— 6 STAGE 8CS.

W/ 6" N.P.T. SUCTION CASE

SUCTION PIPE & CONE STRAINER— NONE

CUSTOMER YOUNG AMERICA

PO#

DEALER TONKA EQUIPMENT CO.

PO# 1702

JOHNSTON SERIAL NO. TK 2364-5

JOHNSTON QUOTATION NO.

NOTE: DO NOT USE FOR CONSTRUCTION
UNLESS CERTIFIED

APPROVED SUBJECT

TO CONTRACT REQUIREMENTS

BY O. Buan

DATE 3/3/78

THIS PRINT CERTIFIED

CORRECT BY

JOHNSTON PUMP COMPANY

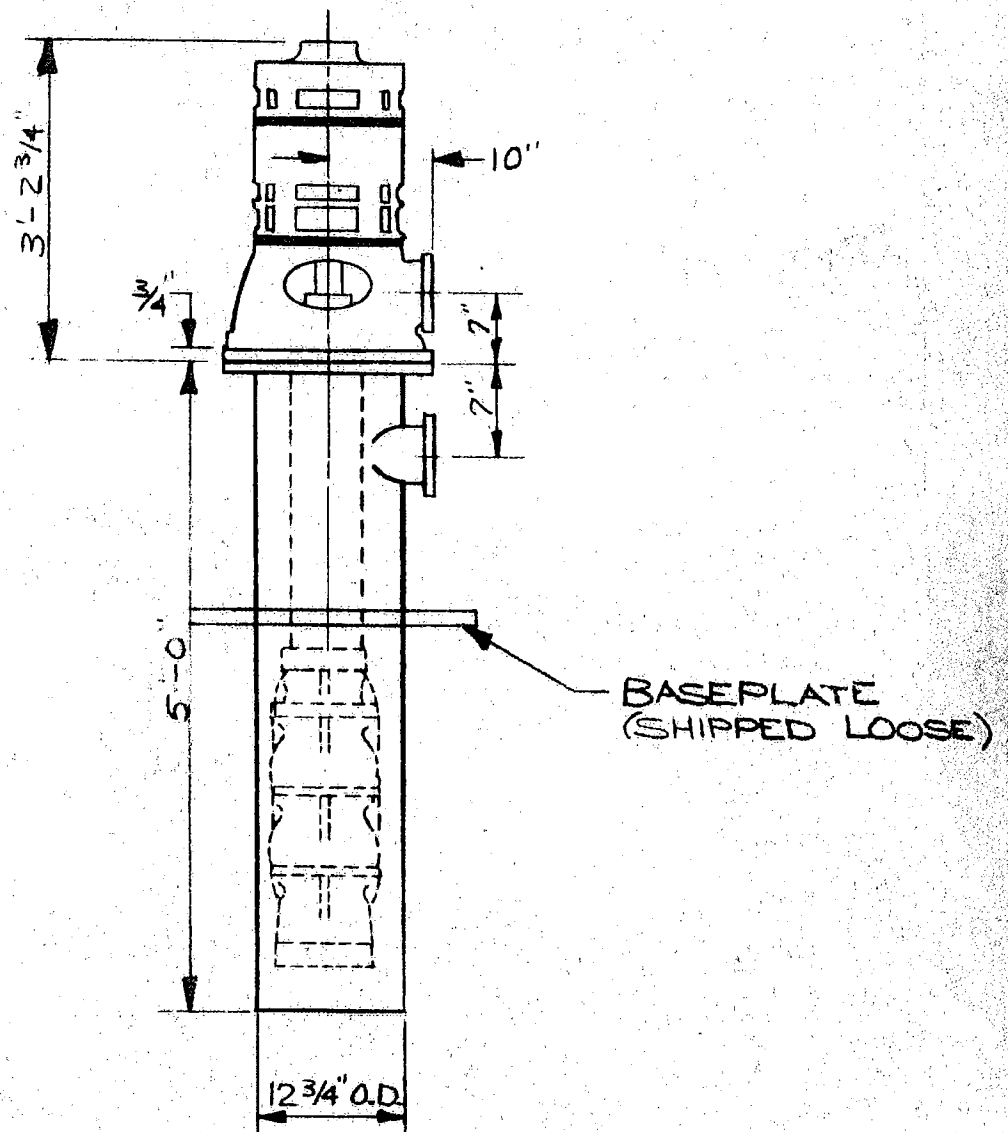
Original Signed by

H. A. J. GREUTINK

JOHNSTON PUMP CO.
GLEN DORA, CALIFORNIA

H-1253-A

PUMP AND BARREL ASS'Y.



CERTIFIED BY: _____

DATE _____

CUSTOMER TONKA EQUIPMENT COMPANY

REF. NO. _____

TK 2364-65

9" SUBMERGENCE REQ'D OVER BELL TO PREVENT VORTEXES
BASED ON PUMP DESIGN PER HYDRAULIC INSTITUTE STDS.

TOTAL HEAD IN FEET

% EFFICIENCY

U.S. GALLONS PER MINUTE

FEET OF N.P.S.H. REQUIRED
AT SUCTION IMPELLER

NPSH

HEAD-CAPACITY

PUMP EFFICIENCY

BRAKE HORSEPOWER

THE CAPACITY, HEAD AND EFFICIENCY
GUARANTEE IS FOR THE DESIGNATED
POINT ONLY: IT IS BASED ON SHOP TESTS.
WHEN HANDLING CLEAR, FRESH WATER AT
A TEMPERATURE OF NOT OVER 85° F. AND
UNDER SUCTION CONDITIONS AS SPECI-
FIED IN THE CONTRACT.

IMPELLER Bronze DIA. _____
BOWLS C.I. Vit.
LIQUID Water
SP. GR. 1.0
DATE 11-21-77 B.H.76

Johnston Pump Company
Glendora, California 91740
ESTABLISHED 1909

TURBINE PUMP

PERFORMANCE

6 STAGE 8 CS

PUMP

1760 R.P.M.

CURVE NO. _____

MOTOR EFFICIENCIES AND POWER FACTORS

WELL PUMP 50 H.P.

	FULL LOAD	$\frac{3}{4}$ LOAD	$\frac{1}{2}$ LOAD
EFFICIENCY	89	89	88
POWER FACTOR	84	81	73

BACKWASH PUMP 20 H.P.

	FULL LOAD	$\frac{3}{4}$ LOAD	$\frac{1}{2}$ LOAD
EFFICIENCY	87	87	86
POWER FACTOR	82	78	68

PH 52 Heaters

BOX 98
Young America, Minnesota 55397
612-467-3100

IRRIGATION EQUIPMENT MANUFACTURE AND SALES

Date 3-16 1978

Sheet #1

TO _____

ADDRESS _____

CITY Yaroslavl STATE Russ

Engineer _____ Address _____

Location of well _____

Depth of well 943 ft Diameter of well 32 1/2 x 16

Screen diameter _____ Screen length _____ Slot size _____

Start test time 9 AM - Static water level 140

Size of test pump 9" 8" 275# sitting

Size of circular orifice weir 8x3

[illegible]

HYDRO-ENGINEERING, INC.

BOX 98
Young America, Minnesota 55397
612-467-3100

WELL DRILLING AND REPAIR - PUMP SALES AND SERVICE

IRRIGATION EQUIPMENT MANUFACTURE AND SALES

TEST PUMP LOG

Sheet # 2

Date 3-16 19 78

TO _____

ADDRESS _____

CITY Laurens STATE Miss

Engineer _____ Address _____

Location of well _____

Depth of well 943 ft Diameter of well 24X16

Screen diameter _____ Screen length _____ Slot size _____

Start test time 5:30 Static water level 140

Size of test pump _____

Size of circular orifice weir 8X5

TIME	HEAD IN INCHES	G.P.M.	WATER PUMP LEVEL	WATER DRAWDOWN	G.P.F. OF DRAWDOWN
6:10 PM	11	330		197	
6	11			197-3	
7	11			197-3	
8	11			197-4	
9		660		231	
10				231-4	
11				231-7	
12	MAN			231-11	
1	AM			232	
2				232	
3				232	
4				232	
5				232	
6				232-1	
7				232-1	
8				232-2	
9	47	660		231	
10					
11	75	247 870		241' 4	
12	75			240	
1 PM	74			239' 10"	
1:15				242-8	
2					
3	26	871		244' 5"	

• ALL CALLING AND REPAIR - PLUMB, ELECTR AND OFFERING



CONCRETE EQUIPMENT MANUFACTURE AND SALES

816

Young America, Minnesota 65*

012-457-3100

THE PUMP DOG

Date 11/1/88 1988

TO _____

ADDRESS _____

CITY San Jose STATE Calif.

Engineer _____ Address _____

Location of well _____

Depth of well _____ Diameter of well _____

Screen diameter _____ Screen length _____ S1

Start test time _____ Static water lev _____

Size of test pump _____

Size of circular orifice weir _____

[illegible]

HYDRO-ENGINEERING, INC.

BOX 918
Young America, Minnesota 55357
612-467-3100

WELL DRILLING AND REPAIR - PUMP SALES AND SERVICE

IRRIGATION EQUIPMENT MANUFACTURE AND SALES

TEST PUMP LOG

Date 3-20 19 78

TO _____

ADDRESS _____

CITY Young America STATE Minn

Engineer _____ Address _____

Location of well _____

Depth of well 241x16 Diameter of well 943'

Screen diameter _____ Screen length _____ Slot size _____

Start test time _____ Static water level 140

Size of test pump 270# 8"

Size of circular orifice weir 8x5

TIME	HEAD IN INCHES	G.P.M.	WATER PUMP LEVEL	WATER DRAWDOWN	G.P.F. OF DRAWDOWN	
10:30	Surging Well		243			
11:30	↓		241			
12:00	Crank it up					
1PM	102"	1003	243'2"	143'2"		
2PM	101	↓	242	142		
3:01	Crank up	1107CH				
3PM	104	1045	243'8"			
4PM		496	216'10"			
5PM	25		216		6 1/2	
3:27:38						6
8AM	No readings					761530 456
10:44	10	316	190	50	6 1/4	Took water sample in St. of Minn.

HYDRO-ENGINEERING, INC.

BOX 98

Young America, Minnesota 55307

612-467-3100

WELL DRILLING AND REPAIR - PUMP SALES AND SERVICE

IRRIGATION EQUIPMENT MANUFACTURE AND SALES

ANNUAL WELL AND PUMP MAINTENANCE REPORT

Owner Village of Young America Date _____
 City and State Young America, Minn. Location By Tower
 Type of Pump Sub. Make SACV221 Bros. Serial No. _____
 Make of Motor Franklin HP 20 HP Amp Motor Stamp 63
 Motor Serial No. _____ Volts 230 / 3 Ph. Motor Amp Reading _____
 Motor Speed 3450 Frame No. _____ Wire Size _____
 Pump Setting _____ Drop Pipe Size 4" Shaft Size _____
 Packing Box Condition _____ Packing Size _____
 Static Water Level _____ Pumping Water Level _____
 Rated G.P.M. _____ Rated Total Head _____
 Pumping G.P.M. _____ Dis. Head in Feet _____ Pumping Total Head _____
 Type of Meter _____ Meter Size _____ Condition _____
 General Condition of Pump and Pumping Equipment _____

WELL LOG AND TEST PUMP REPORT OF WELL

Well Size 10" Depth 900 Approx. Type Rock or Screen
 Screen Diam. _____ Screen Length _____ Screen Material _____ Slot Size _____
 Specific Capacity in G.P.M. — per ft. — DD when well was drilled _____
 Drilled by Contractor McConthys Date _____

Time	GPM	Total Head	Spec. Capacity	Remarks

Annual Maintenance Check Made By _____

Oak Grove Well Maintenance Records

HYDRO ENGINEERING, INC.

115 EAST MAIN STREET (P O BOX 300 - ZIP 55368)

NORWOOD YOUNG AMERICA, MINNESOTA 55397

Voice: (952) 467-3100 Fax: (952) 467-4000

FAX COVER SHEET

DATE: 7-13-10 COVER SHEET IS PAGE 1 OF 4 PAGES.

TO: Bolton & Mink FAX NO. 952-448-8805 / Phone 448-8838

Attn: Kern Adolf RE: n4a well

For your ☐ Information ☐ Approval ☐ Use ☐ Review ☐ As Requested ☐ Reply Needed

Comments:

c/c Mike Conroy Fax # 651-201-4599

Following is Information on well 221243 along w/copies
of neat cement Quantities

I also E-mailed Mueller w/change order request for grouting
around well.

Hydro Engineering Inc.
MDH License # 1340

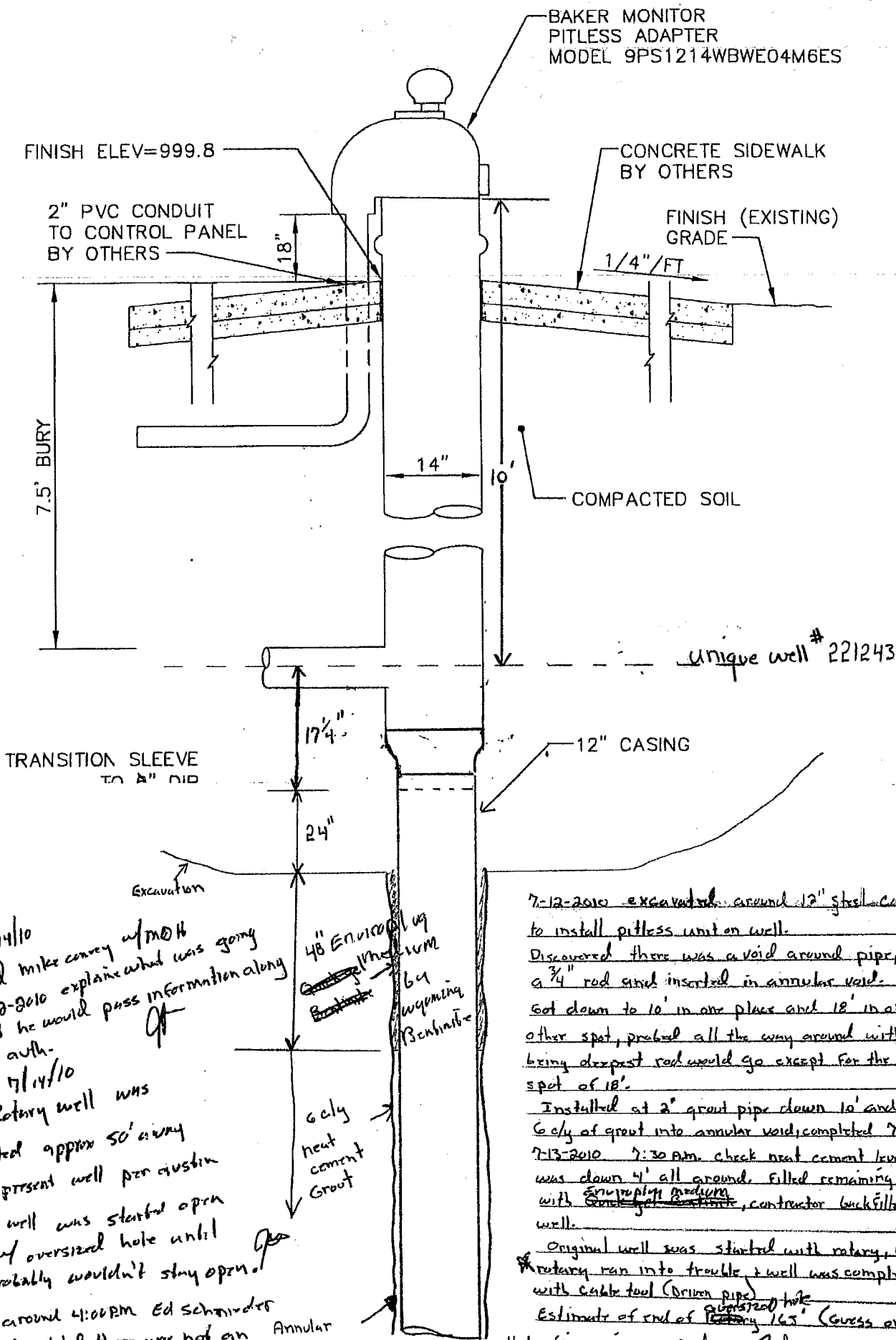
From:

John J. Fahy

Please advise if all pages are not received.

FAX NO. (952) 467-4000

4/30/10 3:18 pm



7/14/10
Notified Mike Conroy w/ MOH
on 7-12-2010 explained what was going
on, which he would pass information along
to proper auth.

7/14/10
* Rotary well was
Drilled approx 50' away
From present well per question
Exist well was started open
hole w/ oversized hole until
hole probably wouldn't stay open.

7/14/10 around 4:00 PM Ed Schneider
w/ MOH called stated there was not an Annular
approved plan for Installation of pitless void
and there would need to be a NOV to Hydro. (o..u)

7-12-2010 excavated around 12" steel casing
to install pitless unit on well.

Discovered there was a void around pipe, took
a 3/4" rod and inserted in annular void.

Got down to 10' in one place and 18' in one
other spot, probed all the way around with 10'
being deepest rod would go except for the one
spot of 18'.

Installed at 2" grout pipe down 10' and pumped
6 c/y of grout into annular void, completed 7:30 PM

7-13-2010 7:30 AM check next cement level, it
was down 4' all around. Filled remaining 4'
with ~~grout~~ ^{grout} ~~grout~~, contractor backfilled around
well.

Original well was started with rotary, but
* Rotary ran into trouble & well was completed
with cable tool (Driven pipe)
Estimate of end of ~~driven~~ ^{driven} hole 165' (Guess only)

Hydro Engineering
License # 1340

John G. Fahney



Knife River
Concrete Products
4787 Shadow Wood Drive NE
Sauk Rapids, MN 56379
1-866-KRC-MINN
(866-572-6466)

DELIVERY TICKET

Date: 07/12/10 Terms:

Ticket #: 2223553

Central Region
877-263-8336
320-529-2708
320-229-3792

North Region
800-450-4726
218-829-4726

West Region
888-640-1600
320-529-2774
320-529-2705

East Region
888-610-4483
320-650-0150
320-529-4245

South Region
888-235-4343
320-529-4250
320-529-2712

LEAVE PLANT

ARRIVE PLANT

Bill To: 342351
HYDRO ENGINEERING INC

Ship To: DNH-NORWOOD

OAK GROVE DAIRY SITE

Plant #	Order #	Quote #	P.O. #	Truck #	Driver #	Use	Order Qty	Delv'd Qty	Spacing
012	3201213			1551	320261		4.00	4.00	0

Time Due	Arrive Job	Fin Pour	Slump	Temp	Loads To Job
04:40PM			6.00		

Qty	U/M	Product #	Product Description	Unit Price	Net Amount
4.00yd		310NEET	Neet Cement Grout		
4.00		3255017	Late Delivery Se		
1.00EA		3255080	ENVIRONMENTAL		

Water Added at Customer's Request _____ Gallons. _____ Full Load _____ 3/4 Load _____ 1/2 Load _____ 1/4 Load
PRODUCT WARNING: Concrete mixes are designed for specific slump ranges; adding additional water voids strength guarantee.

CAUTION: CONCRETE BURNS! - CONTAINS PORTLAND CEMENT - READ THIS WARNING BEFORE USING

CONTACT WITH WET (UNHARDENED) CONCRETE, MORTAR, CEMENT, OR CEMENT MIXTURES CAN CAUSE SKIN IRRITATION, SEVERE CHEMICAL BURNS, OR SERIOUS EYE DAMAGE. Avoid contact with eyes and skin. Wear waterproof gloves, a long-sleeved shirt, full-length trousers, and proper eye protection when working with these materials. If you have to stand in wet concrete, use tight waterproof boots that are high enough to keep concrete from flowing into them. Wash wet concrete, mortar, cement, or cement mixtures from your skin immediately after contact. Indirect contact through clothing can be as serious as direct contact, so promptly rinse out wet concrete, mortar, cement, or cement mixtures from clothing. Seek immediate medical attention if you have persistent or severe discomfort. In case of eye contact, flush with plenty of water for at least 15 minutes. Consult a physician immediately. KEEP OUT OF THE REACH OF CHILDREN. USER AGREES TO CONVEY THIS WARNING TO ALL PERSONS WHO MAY PURCHASE, USE OR COME IN CONTACT WITH WET (UNHARDENED) CONCRETE, MORTAR, CEMENT, OR CEMENT MIXTURES.

The undersigned acknowledges receipt of the materials in good condition and authorizes water to be added to the load at jobsite as indicated, which may void warranty. (See warning for adding water at jobsite.) Where applicable, undersigned authorizes Knife River equipment to drive on said property and assumes full responsibility and agrees to indemnify and save harmless Knife River from claims, damages or injuries therefrom. A Finance Charge of 1.5% per month, which is an annual percentage rate of 18% will be assessed monthly on all past due balances and a \$30 charge for all returned checks. Purchaser agrees to pay all collection costs, including reasonable attorney fees incurred in the collection of any unpaid amount(s). Purchaser further agrees that any litigation related to amounts due may be venue in the county of Benton, State of Minnesota.

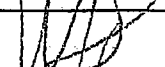
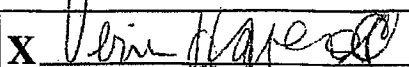
By X

JOB DELAYS: Purchaser is allowed 7 minutes per yard free unloading time after arrival of truck at jobsite. Demurrage at \$85.00 per hour paid by purchaser thereafter.

Subtotal:	
Sales Tax:	
Balance Due This Ticket:	
Balance Due This Order:	
Amount Received:	
Form of PMT:	

Driver Comments and Initials:

Customer Release Signature:

 X 

Thank you for your business!



Knife River
Concrete Products
4787 Shadow Wood Drive NE
Sauk Rapids, MN 56379
1-866-KRC-MINN
(866-572-6466)

DELIVERY TICKET	
Date: 07/12/10	Terms:
Ticket #: 2223543	

Central Region 877-263-8336 320-529-2708 320-229-3792	North Region 800-450-4726 218-829-4726	West Region 888-640-1600 320-529-2774 320-529-2705	East Region 888-610-4483 320-650-0150 320-529-4245	South Region 888-235-4343 320-529-4250 320-529-2712
--	--	---	---	--

LEAVE PLANT
ARRIVE PLANT

Bill To: 342351
HYDRO ENGINEERING INC

Ship To: NORWOOD -

OAK GROVE DAIRY SITE

Plant #	Order #	Quote #	P.O. #	Truck #	Driver #	Use	Order Qty	Delv'd Qty	Spacing
012	3201210			0542	319533		2.00	2.00	0

Time Due	Arrive Job	Fin Pour	Slump	Temp	Loads To Job
11:03AM			10.00		

Qty	UM	Product #	Product Description	Unit Price	Net Amount
2.00	yd	310NEET	Neet Cement Grout		
1.00		3255011	Minimum Load (1		
1.00	EA	3255080	ENVIRONMENTAL		

Water Added at Customer's Request _____ Gallons. _____ Full Load _____ 3/4 Load _____ 1/2 Load _____ 1/4 Load
PRODUCT WARNING: Concrete mixes are designed for specific slump ranges; adding additional water voids strength guarantee.

CAUTION: CONCRETE BURNS! - CONTAINS PORTLAND CEMENT - READ THIS WARNING BEFORE USING
CONTACT WITH WET (UNHARDENED) CONCRETE, MORTAR, CEMENT, OR CEMENT MIXTURES CAN CAUSE SKIN IRRITATION, SEVERE CHEMICAL BURNS, OR SERIOUS EYE DAMAGE. Avoid contact with eyes and skin. Wear waterproof gloves, a long-sleeved shirt, full-length trousers, and proper eye protection when working with these materials. If you have to stand in wet concrete, use tight waterproof boots that are high enough to keep concrete from flowing into them. Wash wet concrete, mortar, cement, or cement mixtures from your skin immediately after contact. Indirect contact through clothing can be as serious as direct contact, so promptly rinse out wet concrete, mortar, cement, or cement mixtures from clothing. Seek immediate medical attention if you have persistent or severe discomfort. In case of eye contact, flush with plenty of water for at least 15 minutes. Consult a physician immediately. KEEP OUT OF THE REACH OF CHILDREN. USER AGREES TO CONVEY THIS WARNING TO ALL PERSONS WHO MAY PURCHASE, USE OR COME IN CONTACT WITH WET (UNHARDENED) CONCRETE, MORTAR, CEMENT, OR CEMENT MIXTURES.

The undersigned acknowledges receipt of the materials in good condition and authorizes water to be added to the load at jobsite as indicated, which may void warranty. (See warning for adding water at jobsite.) Where applicable, undersigned authorizes Knife River equipment to drive on said property and assumes full responsibility and agrees to indemnify and save harmless Knife River from claims, damages or injuries. Charge of 1.00 per month, which is an annual percentage rate of 18% will be assessed monthly on all past due balances and a \$36 charge for all returned checks. Purchaser agrees to pay all collection costs, including reasonable attorney fees incurred in the collection of any unpaid amount(s). Purchaser further agrees that any litigation related to amounts due may be venue in the county of Benton, State of Minnesota.

Subtotal:	
Sales Tax:	
Balance Due This Ticket:	
Balance Due This Order:	
Amount Received:	235.00
Form of Payment:	ADD: 4.6

ICK
12
ID SIZE
00 YD
INGREDIENT SOURCE
ENT B
ER B
T
IAL
UMP: 10.00
IAD COMPLETED
IN SCALE 20.1 S
MCFAC ABSFAC DESIGN QTY ABS SSD FREE MST CY TARG TARGET ACTUAL
2100 15 2100 4200 15 4200
999.6 1b 999.6 982.9 1965.8 1b 1961
NUM BATCHES: 1
TOP DELAYS: Purchaser is allowed 7 minutes per yard free unloading time after arrival of truck at jobsite.
Demurrage at \$85.00 per hour paid by purchaser thereafter. TOL: 0.4031 DESIGN WATER: 239.6 g/l TOTAL WATER: 235.0 g/l
WATER IN TRUCK: 3.0 g/l ADJUST WATER: 2.0 g/l TRIM WATER: 2.0 g/l
TIME: 03:34
TARES
Customer Release Signature:

Thank you for your business!

RECEIVED

SEP 28 1962

DIVISION OF WATERS

Mail Report Promptly To Director, Division Of Waters, Centennial Office Bldg., St. Paul 1, Minn.

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

Director	<input checked="" type="checkbox"/>
Publ.	<input checked="" type="checkbox"/>
Ground W.	<input checked="" type="checkbox"/>

Carver & County well
Well No. 26.146c

Location of Well (address) Oak Grove Dairy ~~467-2212~~ 467-2212 Locate Well on Plat of Section Waconia Quad

Carver Norwood, Minnesota

County City or Town

Describe Further by Lot, Block, Nearest Highway.

ELM - UNION - RICHMOND - RAILROAD
CENTER OF BLOCK

Drilled for: Oak Grove Dairy Driller Mueller Bros.

Address Norwood, Minn.

Address Gaylord, Minn.

PWS-5100032801

115-26-14BCCCB

Date of Completion August, 1961

REPORT OF FINAL PUMPING TEST

Type of well Drilled Depth 480 Duration of Test 9 Hrs. 30 Min. Date 8/14/61

Casing diameter 12" inch, from 0 to 356 Rate of Pumping 300 GPM

inch, from to Static Water Level 98 Ft. ~~Below~~ land surface

inch, from to Water Level While Pumping 118 Ft.

Screen: Length none Diameter Slot size Use: Domestic ☐ Industrial ☒ Irrigation ☐

Pump: Type Turbine Horsepower 20 Public supply ☐ Commercial ☐ Stock ☐

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Depth in Feet		Geologic Formations Kind, Color, Hard or Soft	Depth in Feet	
	From	To		From	To
Grey & Yellow Clay <u>CLAY</u>	0	152	Very Hard Quartzite <u>QUARTZITE</u>	346	355
Dark Tough Clay <u>CLAY</u>	152	165	Sandy Shale <u>SHALE</u>	355	357
Blue Sandy Clay & Gravel <u>CLAY, GRAVEL, SAND</u>	165	200	Sandstone <u>SANDSTONE</u>	357	480
Sand & Clay <u>CLAY, SAND</u>	200	233			
Sandy Yellow Clay <u>CLAY, SAND</u>	233	286			
Green Sandy Clay <u>CLAY, SAND</u>	286	296			
Sandy Green & Yellow Clay <u>CLAY, SAND</u>	296	329			
Rock <u>ROCK</u>	329	331			
Pale Blue Soft Marrow <u>CLAY</u>	331	336			
Black & Firm Clay <u>CLAY</u>	336	340			
White Marrow <u>CLAY</u>	340	346			

M.D.H. Carol Kepner

*** TX REPORT ***

TRANSMISSION OK

TX/RX NO	1222
CONNECTION TEL	19524488805
CONNECTION ID	
ST. TIME	07/13 16:23
USAGE T	01'35
PGS. SENT	4
RESULT	OK

HYDRO ENGINEERING, INC.

115 EAST MAIN STREET (P O BOX 300 - ZIP 55368)

NORWOOD YOUNG AMERICA, MINNESOTA 55397

Voice: (952) 467-3100 Fax: (952) 467-4000

FAX COVER SHEETDATE: 7-13-10 COVER SHEET IS PAGE 1 OF 4 PAGES.TO: Benton Mink FAX NO. 952-448-8805
Attn: Ken Adolf RE: new wellFor your ☐ Information ☐ Approval ☐ Use ☐ Review ☐ As Requested ☐ Reply Needed

Comments:

c/c Mike Conroy Fax # 651-201-4599
Following is information on well 221243 along w/copies
of neat cement Quantities
I also E-mailed Mueller w/change order request for grouting
around well.

Hydro Engineering Inc.
MNH License # 1340

*** TX REPORT ***

TRANSMISSION OK

TX/RX NO	1223
CONNECTION TEL	651 201 4599
CONNECTION ID	
ST. TIME	07/13 16:25
USAGE T	01'36
PGS. SENT	4
RESULT	OK

HYDRO ENGINEERING, INC.
115 EAST MAIN STREET (P O BOX 300 - ZIP 55368)
NORWOOD YOUNG AMERICA, MINNESOTA 55397
Voice: (952) 467-3100 Fax: (952) 467-4000

FAX COVER SHEETDATE: 7-13-10 COVER SHEET IS PAGE 1 OF 24 PAGES.TO: Bolton & Mink FAX NO. 952-448-8805Attn: Ken Adolf RE: n4A wellFor your ☐ Information ☐ Approval ☐ Use ☐ Review ☐ As Requested ☐ Reply Needed

Comments:

c/c Mike Conroy Fax # 651-201-4599
Following is information on well 221243 along w/copies
of most current Quantities
I also e-mailed Mueller w/changr order request for grouting
around well.

Hydro Engineering Inc.
MDH License # 1340

HYDRO ENGINEERING, INC.

P. O. BOX 98 • YOUNG AMERICA, MINNESOTA 55397 • PHONE (612) 467-3100

WELL LOG AND CONSTRUCTION RECORD

TO City of NYA (Oak Grove Well)

Date 12-2-09

ADDRESS _____

Water Well Record # _____

LOG OF FORMATIONS

SWL

to original well 480' Deep
to _____
to first pumped & bailed could
to only bail Down to 377.8, 6' void
to starts approx. 6' below shoe
to _____
to 12" casing to 356' Deep
to Down hole video on well

CASING STRINGS

to _____
ID _____ OD _____
Wt. _____ lbs. per ft.
Thrd. & Cpld. _____
Welded _____
Drive Shoe _____
Cemented _____

WELL DESIGN

Depth measured from _____

SCREEN WELL DATA

Make of Screen _____ Type _____
Size: Diam. _____ in. Length _____ ft.
Location in Well _____ to _____ Slot Size: _____
Fittings: Top _____
Bottom _____
Other Screen Data _____

to _____
ID _____ OD _____
Wt. _____ lbs. per ft.
Thrd. & Cpld. _____
Welded _____
Drive Shoe _____
Cemented _____

ROCK WELL DATA

Open borehole: Diam. _____ in. From _____ to _____

WELL TEST DATA

_____ GPM Static Water Level _____ Pumping Water Level _____
_____ Hours of Pumping (Drawdown _____ ft.) GPF _____

PUMP DATA

Make _____ Type _____
Model _____ Serial No. _____ Stages _____ Trim _____
Column Size _____ Length _____ Tube & Shaft _____
Discharge Head _____ Headshaft: Size _____ Length _____
GPM _____ TDH _____ RPM _____
Electric Motor _____ Volts _____ Phase _____ Cycle _____

RAD _____ Ratio _____ Make _____ Other _____
Power Unit _____ RPM _____ Well Seal _____

Water Analysis: Hardness _____ PPM, Iron _____ PPM

REMARKS: _____

Signed _____

Drawdown/Recovery Measurements

Driller:

Owner:

Well No.: Oak Grove

Static Water Level: 101' 4"

city of NYA

Time Started: 8:10 AM 10-7-09

Pumping Test						Recovery Measurement			
Time	Time in Minutes	Pumping Level	Draw Down	GPM	Sand	Time	Time in Minutes	Water Level	Recovery
8:10	0					5:00	0	120'	4' 7"
	0.5						0.5		
	0.75	112' 2"	11' 1"	300			0.75		
	1						1		
8:12	2	113' 5"	12' 1"	300			2		
	3						3		
8:14	4	114'	12' 8"	300	Several grains less than dime size		4		
	5						5		
8:16	8	114' 3"	12' 11"	300			6		
	9						7		
8:20	10	114' 6"	13' 2"	300			8		
8:30	20	114' 9"	13' 5"	300			9		
8:40	30	115'	13' 8"	300		5:10	10	107' 10 1/2"	16' 8 1/2"
8:50	40	115' 3"	13' 11"	300			12		
9:00	50	115' 6"	14' 2"	300			14		
9:10	60	115' 9"	14' 5"	300	✓		16		
9:40	90	116' 4"	15'	300	clear		18		
10:10	120	117'	15' 8"	300		5:20	20	106' 9"	17' 10"
10:40	150	117' 4"	16'	300			25		
11:10	180	117' 5"	16' 1"	300			30		
11:40	210	117' 7"	16' 3"	300			40		
12:10	240	117' 11"	16' 6"	300			45		
12:45	275 220	118' 2"	16' 9"	300			50		
1:15	305 300	118' 3"	16' 10"	300			55		
1:45	335 300	118' 4"	16' 11"	300			60		
2:00	350 400	118' 5"	17'	300			90		
2:30	380 400	118' 8"	17' 3"	300		6:00	120	103' 5"	19' 2"
3:00	410 500	119'	17' 7"	300	✓		150		
3:00	410 600	122' 7"	21' 3"	360	Several grains less than dime size		180		
3:25	435 700	123' 8"	22' 4"	360			210		
3:45	455 700	123' 8"	22' 4"	360			240		
4:00	470 800	123' 8"	22' 4"	360			270		
4:15	485 900	124'	22' 8"	360	clearing up		300		
4:30	500 900	124' 1"	22' 9"	360			360		
4:45	515 1000	124' 1 1/2"	22' 9 1/2"	360			420		
5:00	530 1000	124' 7"	23' 3"	360			480		
	1140						540		
	1200						600		
	1260					10/8/09			
	1320					8:10 AM	910	102' 4"	22' 3"
	1380								



... Continued from Front Page

VIDEO INSPECTION LOG
Pre Rehabilitation Inspection II

OAK GROVE DAIRY – WELL NO. 1

Date Video Logged – November 9, 2009

Well Owner – City of Norwood Young America

County - Carver

MN UNIQUE WELL NO. – 00221243 Location – NW of W. Elm St. & N. Union St., Norwood Young America, MN

Twp – 115N, Range – 26W, Section – 14, Qtr. Section – bcccbc Date Drilled (Completed) – August 1961

G.P.S. – N44 degree 46.101 minutes W093 degrees 55.753 minutes

Drilling Method – Cable Tool

Drilling Company – Mueller Well Company

Driller – unknown

Elevation – 0990 +/- 5 feet

Formation – Jordan Sandstone

Depth Reference – Grade

Reported 12 inch Casing – to 356 feet

Reported ? inch Open Hole – 356 to 480 feet

Drilled Depth – 480 feet

Completed Depth – 480 feet

Reported Depth (Nov. 2009) – 378 feet

Depth Reference – T.O. 12 inch Casing

Stickup – 32 inch above Grade

12 inch Casing – 0 to 356.5 feet

? inch Open Hole – 356.5 to 377.8 feet

Static Water Level – 97.3 feet

Pump Setting – 145 feet

Bottom Depth Inspected – 377.8 feet

Client / Rehabilitation Firm – Hydro Engineering, Inc.

Project Manager – Mr. John Fahey

Engineering Firm – Bolton & Menk, Inc.

Engineer – Mr. Ken Adolf, P.E.

Norwood Young America Public Utilities Director – Mr. Jim Beckendorf

Inspected By – Jim H. Traen

<u>Recording Time</u>	<u>Depths(in feet)</u>	<u>Remarks/Observations</u>
		Centering Guides @ 11.5 inches
13:30 0:40:17	239.2	Casing Joint - Welded
13:34 0:43:47	263.4	Casing Joint - Welded
13:38 0:47:48	287.2	Casing Joint - Welded
13:41 0:50:36	309.8	Casing Joint - Welded
13:43 0:53:23	332.4	Casing Joint - Welded
13:47 0:56:46	356.1	Joint Bet. Casing & Shoe
13:48 0:57:51	356.5	End of 12 inch Casing
13:49 0:58:55	360.1	Top of Layered Cavities
13:50 1:00:03	367.8	Top of Cavity
13:52 1:01:44	376.9 + 0.9 feet	Current Bottom of Open Hole / Well
13:58 1:07:44	356.5	End of 12 inch Casing
14:07 1:16:34	008.0	
		Raise Pulley – i.e. Depths on Screen are More than Actual
14:11 1:16:34	009.1 (5.54 feet - measured)	Casing Joint – Welded
14:14 1:18:09	016.3 (12.74 feet)	Casing Joint – Welded
		Replaced Pulley to Top of Casing (Original Position)
14:17 1:20:38	006.8 (5.54 feet - measured)	Casing Joint – Welded
14:20 1:23:02	006.8 (5.54 feet - measured)	End of Inspection



VIDEO INSPECTION LOG
Pre Rehabilitation Inspection II

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Engineer – Mr. Ken Adolf, P.E.

Norwood Young America Public Utilities Director – Mr. Jim Beckendorf

Inspected By – Jim H. Traen

Recording Time

Depths(in feet)

Remarks/Observations

Centering Guides @ 11.5 inches

12:43	0:00:00	005.5	Start Inspection – 12 inch Casing
12:46	0:02:26	012.6	Casing Joint - Welded
12:47	0:03:54	018.6	Casing Joint - Welded
12:50	0:06:07	005.5	Searching for Joint @ which Casing Thickens
12:56	0:06:07	018.6	Casing Joint - Welded
12:58	0:07:36	026.3	Casing Joint - Welded
12:58	0:08:48	033.0	Casing Joint - Welded
13:01	0:11:03	054.5	Casing Joint - Welded
13:03	0:12:38	068.3	Casing Joint - Welded
13:04	0:14:07	078.4	Casing Joint - Welded
13:06	0:16:03	092.6	Casing Joint - Welded
13:07	0:17:12	097.3	Static Water Level
13:09	0:19:06	109.5	Casing Joint - Welded
13:11	0:20:43	116.7	Casing Joint - Welded
13:13	0:22:52	127.8	Casing Joint - Welded
13:16	0:25:36	139.5	Casing Joint - Welded
13:19	0:29:16	160.6	Casing Joint - Welded
13:22	0:32:02	180.8	Casing Joint - Welded
13:25	0:34:48	196.7	Casing Joint - Welded
13:28	0:37:29	215.7	Casing Joint – Welded

Continued on Back Page . . .

Well #1 - Abandoned

WATER WELL RECORD

MINNESOTA UNIQUE WELL NO.

for Water Sample

1. LOCATION OF WELL

County Name

Carver

Township Name

Young America

Township Number

T115N

Range Number

R26W

Section No.

Fraction

NE 1/4 NE 1/4 SE 1/4

4. WELL DEPTH (completed)

745 feet

Date of Completion

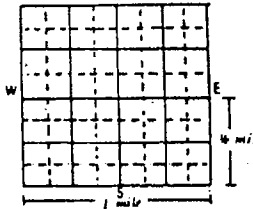
Unknown

Distance and Direction from Road Intersection or Street Address and City of Well Location

10' North of Water Tower, Young America, MN

Show exact location of well in section grid with "X."

Sketch map of well location.



Addition Name

Block Number

Lot Number

2. PROPERTY OWNER'S NAME

City of Young America - Well No. 1

Address

Young America, MN 55397

3. FORMATION LOG

COLOR

HARDNESS OF FORMATION

FROM

TO

8. CASING

☒ Black☐ Threaded

HEIGHT: Above/Below

Surface _____ ft.

☐ Galv.☐ Welded

Drive Shoe: Yes _____ No _____

☐ Plastic☐

_____ in. to _____ ft.

Weight _____ lbs./ft.

_____ in. to _____ ft.

_____ in. to _____ ft.

Weight _____ lbs./ft.

_____ in. to _____ ft.

_____ in. to _____ ft.

Weight _____ lbs./ft.

_____ in. to _____ ft.

9. SCREEN

Make _____

Or open hole

from _____ ft. to _____ ft.

Type _____

Dis. _____

Slot/Gauge _____

Length _____

Set between _____ ft. and _____ ft.

FITTINGS

10. STATIC WATER LEVEL

☐ ft. ☐ below ☐ above
land surface

Date Measured _____

11. PUMPING LEVEL (below land surface)

_____ ft. after _____ hrs. pumping _____ g.p.m.

_____ ft. after _____ hrs. pumping _____ g.p.m.

12. HEAD WELL COMPLETION

☐ Pitless adapter, manufacturer _____ model _____☐ Basement offset☐ At least 12" above ground☐ Plastic casing protection _____

13. WELL GROUTED?

☒ Yes ☐ No☒ Neat Cement☐ Bentonite☐

Grout material Neat from 0 to 735 ft. cu. yds. 17 1/2

14. NEAREST SOURCES OF POSSIBLE CONTAMINATION

_____ feet _____ direction _____ type

Well disinfected upon completion? ☐ Yes ☐ No

15. PUMP

Date installed _____ ☐ Not installed

Manufacturer's name _____

Model number _____

HP _____

Volts _____

Length of drop pipe _____ ft. capacity _____ g.p.m.

Material of drop pipe _____

Type: ☐ Submersible ☐ L.S. Turbine ☐ Reciprocating☐ Jet☐ Centrifugal☐

16. EXISTING WELLS

Unused well on property? ☐ Yes ☐ NoAbandoned ☐ Permanent ☐ Temporary ☐ Not sealed

18. WATER WELL CONTRACTORS CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Licensee Business Name

License No.

Address _____

Signed _____

Authorized Representative

Date _____

Name of Driller

Date _____

17. REMARKS, ELEVATION, SOURCE OF DATA, etc.

MUNICIPAL WELL NO. 1 ABANDONED

5-20-87 - By: Hydro Engineering, Inc.
115 East Main Street
Young America, MN 55397
License No. 10318

WORK COPY

Appendix 2

Water Level Monitoring

Minnesota Department of Natural Resources

DNR Waters – 1200 Warner Road, St. Paul, MN 55106

Telephone: (651) 259-5845 Fax (651) 772-7977



May 5, 2009

City of Norwood Young America
Jim Beckendorf, Public Utilities Director
10 1st Avenue NE
Norwood Young America, MN 55397

RE: Revision of Water Level Monitoring Plan, City of Norwood Young America, Carver County

Dear Mr. Beckendorf:


Our office notified you on March 27, 2009 that the City's Water Supply Plan is approved, effective upon the Department's receipt of a completed copy of the "Certification of Adoption" form. As part of Plan approval, the City agreed to monitor water levels in two City production wells and a DNR observation well. Based on recent requests from the City's engineering consultant, we are revising the monitoring expectations.

As part of Water Supply Plan approval, the City agreed to monitor the water level in DNR observation well 10003, screened in the Jordon aquifer. This seemed to be a reasonable arrangement to us because the City's Water Supply Plan and the well logs indicate that City has two wells in the Prairie du Chien -Jordon aquifer. However, the City's engineering consultant, John Swanson, has recently supplied us a hydrogeologic analysis demonstrating that the Prairie du Chien -Jordon aquifer does not underlie Norwood Young America and thus is not currently being utilized by the City and is also not available to the City to satisfy demand in the future. Therefore, we do not expect or require that the City monitor water levels in DNR observation well 10003.

As part of the monitoring plan, the City also agreed to monitor water levels in the north well (well #2, unique #132256) and well #3NOR (unique #420969). John Swanson notified us on April 10, 2009 that the water level in well #2 is very difficult or impossible to monitor because of discharge piping alignments and the presence of broken measuring devices. He requested that the City delay monitoring of this well until the new plant is constructed and the well upgraded. This request is approved. Therefore, we do not require the City to monitor the north well (well #2) until the new plant is built and the well is upgraded.

We appreciate the City's cooperation in addressing the issues related to monitoring requirements. We also appreciate the City's assistance in collecting and reporting water level data for well #3NOR (unique #420969). If you have any questions, please contact me at 651-259-5754.

Sincerely,


John M. (Jack) Gleason
Area Hydrologist

c: John Swanson, Bolton & Menck
Sara Smith, Metropolitan Council
Dave Drealan, Carver County WMO
Mike Wanous, Carver SWCD

Dale Homuth, Regional Hydrologist
Mike MacDonald, Ground Water Level Monitoring
Laurel Reeves, Water Appropriation Program
Central Office Permits and SWUDS



From: John Gleason
To: John Swanson
CC: Michael MacDonald
Date: 3/20/2009 9:09 AM
Subject: Re: NYA Water Supply Plan
Attachments: Conservation Rates 10-13-08.pdf; GW Level and flow measurement reporting template.xls

John,

Thanks for the prompt response. I have embedded my answers in the body of your e-mail, prefaced by 'JG Response'.

Any questions, please let me know.

Jack

>>> "John Swanson" <johnsw@bolton-menk.com> 3/20/2009 7:43 AM >>>
Jack,

I talked to public works yesterday, and they will do the requested monitoring. I have the following questions / requests:

1) Do you have a standard reporting form that you would like them to use? If so, send me a copy.

JG Response: Yes, I have attached a copy of an Excel spreadsheet template.

2) Do you need a letter from us or the City saying they will do the monitoring?

JG Response: This note from you satisfies our request that the City commit to the proposed monitoring. This letter becomes part of the Plan, which the City must adopt after receiving our approval. I'll summarize the monitoring plan again in our official approval letter.

3) Send me and the City the information on the DNR observation well. I don't know where this well is for sure.

JG Response: Please work with Mike MacDonald, the DNR Ground Water Monitoring coordinator to get up-to speed on the observation well. I copied Mike on this e-mail and I'll also include his contact information in our official approval letter.

We have been working with the City on a conservation rate structure for quite some time. There has been a little reluctance on their part for political reasons. I am currently working on a rate study for them, and we may be able to get the conservation rate structure implemented as part of the study. If not, I am hopeful we can get it accomplished sometime in 2009.

JG Response: I have attached a DNR guidance document on conservation rates.

Thanks

John

John Swanson

Project Engineer

Bolton & Menk, Inc.

Consulting Engineers & Surveyors

2638 Shadow Lane, Suite 200

Chaska, MN 55318-1172

P: (952) 448.8838 ext. 2554

M: (612) 508.6968

F: (952) 448.8805

email: johnsw@bolton-menk.com <<mailto:johnsw@bolton-menk.com>>

www.bolton-menk.com

From: John Gleason
To: Veronica Meyer
Date: 3/19/2009 8:58 AM
Subject: Re: Norwood Young America Revisions

Hi, Veronica. I am finally following up on the Norwood Young America plan.

We are prepared to approve the plan but we need the City to commit to some ground water level monitoring. Our ground water specialists are asking that NYA implement the following:

- measure water levels on a daily basis in Well #2 (UN.NO. 132256) and Well #3NOR (UN.NO. 420969)
- the City shall be responsible for the water level measurements in DNR Obwell 10003 on a weekly basis April through October and on a monthly basis November through March. (We can arrange for getting the City more information on this well - location, key, etc).
- the City will need to submit the data quarterly to the DNR.

If the City agrees to this monitoring plan, please let me know and we can proceed with Plan approval.

Please note, we are not able to amend the permit in conjunction with Plan approval because NYA does not have a conservation billing rate. The City is currently authorized to appropriate 156 million gallons per year. Projected demand in 2015 is 222 million gallons. Demand was just 104 million gallons in 2008 so a permit amendment to increase appropriation is not needed for a few years. Minnesota Statutes, Section 103G.291 was amended last year to require all public water suppliers in the metropolitan area serving over 1000 people to adopt a 'conservation rate' structure by 2010. The new statute also prohibits us from amending permits prior to 2010 for Cities that do not have a conservation billing rate. The City must adopt a 'conservation rate' structure before we can approve any increase in appropriation or any new wells.

In summary, if the City will commit to the proposed monitoring, we can approve the Water Supply Plan. The City will need to adopt a conservation billing rate before we can approve any new wells or any increase in authorized volume or pumping rate.

Any questions, please let me know.

Jack

John (Jack) Gleason,
Area Hydrologist -West Metro
MN DNR Waters
1200 Warner Road
St. Paul, MN 55106
651-259-5754 (W)
651-772-7977 (F)
John.Gleason@dnr.state.mn.us

Visit our website at:
<http://www.dnr.state.mn.us/waters/index.html>

>>> "Veronica Meyer" <veronicame@bolton-menk.com> 1/7/2009 2:35 PM >>>
Jack-

I've attached the revised water supply plan along with supporting documents for Norwood Young America. Please let me know if you need anything else. Thank you.

Veronica Meyer

Bolton & Menk, Inc.

2638 Shadow Lane, Suite 200

Chaska, MN 55318

Office: 952-448-8838 ext. 2711

Fax: 952-448-8805

Cell: 612-756-3442

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
10/01/2012	0:00		
10/01/2012	6:00		
10/01/2012	12:00		
10/01/2012	18:00		
10/02/2012	0:00		
10/02/2012	6:00		
10/02/2012	12:00		
10/02/2012	18:00		
10/03/2012	0:00		
10/03/2012	6:00		
10/03/2012	12:00		
10/03/2012	18:00		
10/04/2012	0:00		
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10/06/2012	0:00		
10/06/2012	6:00		
10/06/2012	12:00		
10/06/2012	18:00		
10/07/2012	0:00		

10/07/2012	6:00			
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10/08/2012	0:00			
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10/27/2012	0:00		
10/27/2012	6:00		
10/27/2012	12:00		
10/27/2012	18:00		
10/28/2012	0:00	212.3	
10/28/2012	6:00	115.3	
10/28/2012	12:00	148.5	
10/28/2012	18:00	152.6	
10/29/2012	0:00	155.0	
10/29/2012	6:00	115.4	
10/29/2012	12:00	148.3	
10/29/2012	18:00	152.6	
10/30/2012	0:00	212.0	
10/30/2012	6:00	115.3	
10/30/2012	12:00	148.2	
10/30/2012	18:00	151.7	
10/31/2012	0:00	153.7	
10/31/2012	6:00	115.2	
10/31/2012	12:00	148.0	
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11/01/2012	6:00	115.1	
11/01/2012	12:00	148.1	
11/01/2012	18:00	151.7	
11/02/2012	0:00	151.7	
11/02/2012	6:00	115.0	
11/02/2012	12:00	148.3	
11/02/2012	18:00	152.7	
11/03/2012	0:00	212.2	
11/03/2012	6:00	115.0	
11/03/2012	12:00	148.3	
11/03/2012	18:00	150.9	
11/04/2012	0:00	152.5	
11/04/2012	6:00	115.4	
11/04/2012	12:00	148.2	
11/04/2012	18:00	152.1	
11/05/2012	0:00	210.6	
11/05/2012	6:00	115.3	
11/05/2012	12:00	148.1	
11/05/2012	18:00	151.2	
11/06/2012	0:00	153.4	
11/06/2012	6:00	115.1	
11/06/2012	12:00	148.0	
11/06/2012	18:00	151.7	
11/07/2012	0:00	212.8	

11/07/2012	6:00	115.0	
11/07/2012	12:00	148.0	
11/07/2012	18:00	151.3	
11/08/2012	0:00	153.7	
11/08/2012	6:00	115.0	
11/08/2012	12:00	148.1	
11/08/2012	18:00	152.4	
11/09/2012	0:00		
11/09/2012	6:00		
11/09/2012	12:00		
11/09/2012	18:00		
11/10/2012	0:00	207.8	
11/10/2012	6:00	114.9	
11/10/2012	12:00	147.7	
11/10/2012	18:00	150.3	
11/11/2012	0:00	150.9	
11/11/2012	6:00	114.9	
11/11/2012	12:00	148.1	
11/11/2012	18:00	152.7	
11/12/2012	0:00	156.0	
11/12/2012	6:00	115.2	
11/12/2012	12:00	148.3	
11/12/2012	18:00	171.4	
11/13/2012	0:00	152.7	
11/13/2012	6:00	115.3	
11/13/2012	12:00	148.3	
11/13/2012	18:00	151.9	
11/14/2012	0:00	151.4	
11/14/2012	6:00	115.1	
11/14/2012	12:00	148.5	
11/14/2012	18:00	151.2	
11/15/2012	0:00	151.0	
11/15/2012	6:00	115.3	
11/15/2012	12:00	148.4	
11/15/2012	18:00	150.5	
11/16/2012	0:00	151.7	
11/16/2012	6:00	115.2	
11/16/2012	12:00	148.4	
11/16/2012	18:00	213.4	
11/17/2012	0:00	150.9	
11/17/2012	6:00	115.3	
11/17/2012	12:00	148.2	
11/17/2012	18:00	150.9	
11/18/2012	0:00	155.2	
11/18/2012	6:00	115.0	
11/18/2012	12:00	148.1	
11/18/2012	18:00	212.5	
11/19/2012	0:00	150.6	
11/19/2012	6:00	115.0	
11/19/2012	12:00	148.2	
11/19/2012	18:00	151.8	
11/20/2012	0:00	156.9	
11/20/2012	6:00	114.9	
11/20/2012	12:00	148.0	
11/20/2012	18:00	212.1	

11/21/2012	0:00	152.0	
11/21/2012	6:00	114.8	
11/21/2012	12:00	147.8	
11/21/2012	18:00	151.7	
11/22/2012	0:00	151.1	
11/22/2012	6:00	115.2	
11/22/2012	12:00	148.1	
11/22/2012	18:00	150.5	
11/23/2012	0:00	152.6	
11/23/2012	6:00	115.1	
11/23/2012	12:00	148.4	
11/23/2012	18:00	150.7	
11/24/2012	0:00	151.0	
11/24/2012	6:00	115.0	
11/24/2012	12:00	148.0	
11/24/2012	18:00	151.3	
11/25/2012	0:00	151.2	
11/25/2012	6:00	115.0	
11/25/2012	12:00	148.3	
11/25/2012	18:00	165.7	
11/26/2012	0:00	151.0	
11/26/2012	6:00	115.2	
11/26/2012	12:00	148.4	
11/26/2012	18:00	150.8	
11/27/2012	0:00	156.8	
11/27/2012	6:00	115.2	
11/27/2012	12:00	148.2	
11/27/2012	18:00	159.6	
11/28/2012	0:00	152.8	
11/28/2012	6:00	115.1	
11/28/2012	12:00	148.1	
11/28/2012	18:00	151.9	
11/29/2012	0:00	151.6	
11/29/2012	6:00	115.0	
11/29/2012	12:00	148.1	
11/29/2012	18:00	151.2	
11/30/2012	0:00	150.6	
11/30/2012	6:00	115.1	
11/30/2012	12:00	148.1	
11/30/2012	18:00	150.6	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
12/01/2012	0:00	210.0	
12/01/2012	6:00	114.8	
12/01/2012	12:00	147.9	
12/01/2012	18:00	150.1	
12/02/2012	0:00	153.4	
12/02/2012	6:00	115.0	
12/02/2012	12:00	147.9	
12/02/2012	18:00	152.7	
12/03/2012	0:00	152.3	
12/03/2012	6:00	114.8	
12/03/2012	12:00	148.2	
12/03/2012	18:00	151.2	
12/04/2012	0:00	151.4	
12/04/2012	6:00	115.0	
12/04/2012	12:00	148.3	
12/04/2012	18:00	150.9	
12/05/2012	0:00	152.6	
12/05/2012	6:00	114.9	
12/05/2012	12:00	147.9	
12/05/2012	18:00	150.7	
12/06/2012	0:00	151.4	
12/06/2012	6:00	114.9	
12/06/2012	12:00	148.0	
12/06/2012	18:00	150.8	
12/07/2012	0:00	212.7	

12/07/2012	6:00	114.9	
12/07/2012	12:00	148.2	
12/07/2012	18:00	150.7	
12/08/2012	0:00	150.7	
12/08/2012	6:00	114.8	
12/08/2012	12:00	148.0	
12/08/2012	18:00	152.4	
12/09/2012	0:00	188.4	
12/09/2012	6:00	114.7	
12/09/2012	12:00	147.8	
12/09/2012	18:00	150.0	
12/10/2012	0:00	153.9	
12/10/2012	6:00	114.8	
12/10/2012	12:00	147.8	
12/10/2012	18:00	151.9	
12/11/2012	0:00	152.2	
12/11/2012	6:00	114.9	
12/11/2012	12:00	148.0	
12/11/2012	18:00	151.1	
12/12/2012	0:00	153.4	
12/12/2012	6:00	114.8	
12/12/2012	12:00	148.2	
12/12/2012	18:00	151.1	
12/13/2012	0:00	151.8	
12/13/2012	6:00	114.8	
12/13/2012	12:00	148.2	
12/13/2012	18:00	151.1	
12/14/2012	0:00	150.5	
12/14/2012	6:00	114.7	
12/14/2012	12:00	147.8	
12/14/2012	18:00	150.6	
12/15/2012	0:00	206.7	
12/15/2012	6:00	114.5	
12/15/2012	12:00	147.5	
12/15/2012	18:00	149.9	
12/16/2012	0:00	151.2	
12/16/2012	6:00	114.6	
12/16/2012	12:00	147.7	
12/16/2012	18:00	153.6	
12/17/2012	0:00	150.8	
12/17/2012	6:00	114.8	
12/17/2012	12:00	147.7	
12/17/2012	18:00	150.7	
12/18/2012	0:00	213.7	
12/18/2012	6:00	114.8	
12/18/2012	12:00	147.7	
12/18/2012	18:00	211.2	
12/19/2012	0:00	213.5	
12/19/2012	6:00	114.9	
12/19/2012	12:00	147.9	
12/19/2012	18:00	152.0	
12/20/2012	0:00	154.4	
12/20/2012	6:00	114.8	
12/20/2012	12:00	147.9	
12/20/2012	18:00	151.8	

12/21/2012	0:00	200.2	
12/21/2012	6:00	114.8	
12/21/2012	12:00	148.0	
12/21/2012	18:00	151.6	
12/22/2012	0:00	151.6	
12/22/2012	6:00	114.8	
12/22/2012	12:00	148.0	
12/22/2012	18:00	153.1	
12/23/2012	0:00	165.4	
12/23/2012	6:00	114.8	
12/23/2012	12:00	147.8	
12/23/2012	18:00	151.0	
12/24/2012	0:00	151.6	
12/24/2012	6:00	114.9	
12/24/2012	12:00	148.1	
12/24/2012	18:00	152.4	
12/25/2012	0:00	164.3	
12/25/2012	6:00	115.0	
12/25/2012	12:00	148.1	
12/25/2012	18:00	214.2	
12/26/2012	0:00	153.9	
12/26/2012	6:00	115.0	
12/26/2012	12:00	148.0	
12/26/2012	18:00	152.1	
12/27/2012	0:00	153.4	
12/27/2012	6:00	114.8	
12/27/2012	12:00	148.1	
12/27/2012	18:00	152.1	
12/28/2012	0:00	151.9	
12/28/2012	6:00	114.7	
12/28/2012	12:00	148.0	
12/28/2012	18:00	151.8	
12/29/2012	0:00	151.5	
12/29/2012	6:00	114.8	
12/29/2012	12:00	147.9	
12/29/2012	18:00	151.0	
12/30/2012	0:00	157.9	
12/30/2012	6:00	114.8	
12/30/2012	12:00	147.8	
12/30/2012	18:00	207.8	
12/31/2012	0:00		
12/31/2012	6:00		
12/31/2012	12:00		
12/31/2012	18:00		

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
01/01/2013	0:00	157.9	
01/01/2013	6:00	114.8	
01/01/2013	12:00	147.7	
01/01/2013	18:00	213.6	
01/02/2013	0:00	152.7	
01/02/2013	6:00	114.7	
01/02/2013	12:00	147.8	
01/02/2013	18:00	152.1	
01/03/2013	0:00	151.5	
01/03/2013	6:00	114.9	
01/03/2013	12:00	147.8	
01/03/2013	18:00	151.1	
01/04/2013	0:00	153.3	
01/04/2013	6:00	114.9	
01/04/2013	12:00	147.9	
01/04/2013	18:00	150.9	
01/05/2013	0:00	151.7	
01/05/2013	6:00	114.6	
01/05/2013	12:00	147.9	
01/05/2013	18:00	151.6	
01/06/2013	0:00	213.8	
01/06/2013	6:00	114.7	
01/06/2013	12:00	147.7	
01/06/2013	18:00	151.0	
01/07/2013	0:00	153.8	

01/07/2013	6:00	114.7	
01/07/2013	12:00	147.8	
01/07/2013	18:00	152.5	
01/08/2013	0:00	152.2	
01/08/2013	6:00	114.8	
01/08/2013	12:00	147.8	
01/08/2013	18:00	151.7	
01/09/2013	0:00	151.4	
01/09/2013	6:00	115.1	
01/09/2013	12:00	148.0	
01/09/2013	18:00	151.2	
01/10/2013	0:00	150.7	
01/10/2013	6:00	114.9	
01/10/2013	12:00	147.8	
01/10/2013	18:00	212.1	
01/11/2013	0:00	155.0	
01/11/2013	6:00	114.6	
01/11/2013	12:00	147.8	
01/11/2013	18:00	212.5	
01/12/2013	0:00	204.7	
01/12/2013	6:00	114.6	
01/12/2013	12:00	147.9	
01/12/2013	18:00	151.5	
01/13/2013	0:00	153.5	
01/13/2013	6:00	114.9	
01/13/2013	12:00	147.9	
01/13/2013	18:00	153.0	
01/14/2013	0:00	152.6	
01/14/2013	6:00	114.8	
01/14/2013	12:00	147.9	
01/14/2013	18:00	151.3	
01/15/2013	0:00	151.3	
01/15/2013	6:00	114.7	
01/15/2013	12:00	147.5	
01/15/2013	18:00	151.2	
01/16/2013	0:00	150.7	
01/16/2013	6:00	114.8	
01/16/2013	12:00	148.1	
01/16/2013	18:00	150.5	
01/17/2013	0:00	151.1	
01/17/2013	6:00	114.7	
01/17/2013	12:00	147.9	
01/17/2013	18:00	150.1	
01/18/2013	0:00	151.3	
01/18/2013	6:00	114.6	
01/18/2013	12:00	147.6	
01/18/2013	18:00	208.9	
01/19/2013	0:00	150.8	
01/19/2013	6:00	114.7	
01/19/2013	12:00	147.8	
01/19/2013	18:00	150.3	
01/20/2013	0:00	160.3	
01/20/2013	6:00	114.7	
01/20/2013	12:00	147.8	
01/20/2013	18:00	150.2	

01/21/2013	0:00	212.9	
01/21/2013	6:00	114.9	
01/21/2013	12:00	148.4	
01/21/2013	18:00	152.0	
01/22/2013	0:00	152.1	
01/22/2013	6:00	114.9	
01/22/2013	12:00	148.0	
01/22/2013	18:00	151.8	
01/23/2013	0:00	151.1	
01/23/2013	6:00	114.9	
01/23/2013	12:00	148.1	
01/23/2013	18:00	150.8	
01/24/2013	0:00	153.1	
01/24/2013	6:00	114.9	
01/24/2013	12:00	147.8	
01/24/2013	18:00	153.1	
01/25/2013	0:00	151.6	
01/25/2013	6:00	114.6	
01/25/2013	12:00	148.0	
01/25/2013	18:00	150.8	
01/26/2013	0:00	152.3	
01/26/2013	6:00	114.9	
01/26/2013	12:00	147.8	
01/26/2013	18:00	211.8	
01/27/2013	0:00	150.8	
01/27/2013	6:00	114.7	
01/27/2013	12:00	147.5	
01/27/2013	18:00	150.7	
01/28/2013	0:00	152.7	
01/28/2013	6:00	114.6	
01/28/2013	12:00	147.4	
01/28/2013	18:00	166.2	
01/29/2013	0:00	198.9	
01/29/2013	6:00	114.9	
01/29/2013	12:00	147.5	
01/29/2013	18:00	150.5	
01/30/2013	0:00	151.8	
01/30/2013	6:00	114.6	
01/30/2013	12:00	147.5	
01/30/2013	18:00	152.5	
01/31/2013	0:00	213.6	
01/31/2013	6:00	114.9	
01/31/2013	12:00	147.8	
01/31/2013	18:00	150.7	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
02/01/2013	0:00	151.8	
02/01/2013	6:00	114.8	
02/01/2013	12:00	147.8	
02/01/2013	18:00	152.1	
02/02/2013	0:00	152.2	
02/02/2013	6:00	114.8	
02/02/2013	12:00	147.8	
02/02/2013	18:00	211.1	
02/03/2013	0:00	211.6	
02/03/2013	6:00	114.8	
02/03/2013	12:00	147.7	
02/03/2013	18:00	151.1	
02/04/2013	0:00	151.3	
02/04/2013	6:00	114.7	
02/04/2013	12:00	147.6	
02/04/2013	18:00	152.2	
02/05/2013	0:00	155.9	
02/05/2013	6:00	114.8	
02/05/2013	12:00	147.8	
02/05/2013	18:00	205.9	
02/06/2013	0:00	205.0	
02/06/2013	6:00	114.8	
02/06/2013	12:00	147.8	
02/06/2013	18:00	151.5	
02/07/2013	0:00	152.2	

02/07/2013	6:00	114.8	
02/07/2013	12:00	148.0	
02/07/2013	18:00	153.1	
02/08/2013	0:00	212.8	
02/08/2013	6:00	114.4	
02/08/2013	12:00	148.1	
02/08/2013	18:00	151.2	
02/09/2013	0:00	151.4	
02/09/2013	6:00	114.6	
02/09/2013	12:00	147.9	
02/09/2013	18:00	153.1	
02/10/2013	0:00	154.5	
02/10/2013	6:00	114.6	
02/10/2013	12:00	147.4	
02/10/2013	18:00	150.3	
02/11/2013	0:00	151.6	
02/11/2013	6:00	114.8	
02/11/2013	12:00	147.8	
02/11/2013	18:00	151.5	
02/12/2013	0:00	160.6	
02/12/2013	6:00	114.6	
02/12/2013	12:00	147.9	
02/12/2013	18:00	153.3	
02/13/2013	0:00	150.8	
02/13/2013	6:00	114.4	
02/13/2013	12:00	147.5	
02/13/2013	18:00	151.5	
02/14/2013	0:00	209.5	
02/14/2013	6:00	114.7	
02/14/2013	12:00	147.8	
02/14/2013	18:00	150.5	
02/15/2013	0:00	211.8	
02/15/2013	6:00	115.0	
02/15/2013	12:00	148.0	
02/15/2013	18:00	152.6	
02/16/2013	0:00	151.5	
02/16/2013	6:00	114.6	
02/16/2013	12:00	147.8	
02/16/2013	18:00	152.9	
02/17/2013	0:00	150.3	
02/17/2013	6:00	114.5	
02/17/2013	12:00	147.3	
02/17/2013	18:00	150.5	
02/18/2013	0:00	152.6	
02/18/2013	6:00	114.5	
02/18/2013	12:00	147.5	
02/18/2013	18:00	156.3	
02/19/2013	0:00	151.0	
02/19/2013	6:00	114.9	
02/19/2013	12:00	147.8	
02/19/2013	18:00	150.9	
02/20/2013	0:00	160.2	
02/20/2013	6:00	114.8	
02/20/2013	12:00	147.8	
02/20/2013	18:00	209.2	

02/21/2013	0:00	151.5	
02/21/2013	6:00	114.7	
02/21/2013	12:00	147.6	
02/21/2013	18:00	151.7	
02/22/2013	0:00	150.4	
02/22/2013	6:00	114.8	
02/22/2013	12:00	147.4	
02/22/2013	18:00	150.4	
02/23/2013	0:00	152.1	
02/23/2013	6:00	114.7	
02/23/2013	12:00	147.6	
02/23/2013	18:00	154.8	
02/24/2013	0:00	151.0	
02/24/2013	6:00	114.7	
02/24/2013	12:00	147.6	
02/24/2013	18:00	150.6	
02/25/2013	0:00	213.1	
02/25/2013	6:00	114.7	
02/25/2013	12:00	147.8	
02/25/2013	18:00	153.9	
02/26/2013	0:00	204.9	
02/26/2013	6:00	114.9	
02/26/2013	12:00	147.5	
02/26/2013	18:00	151.3	
02/27/2013	0:00	150.8	
02/27/2013	6:00	114.8	
02/27/2013	12:00	147.5	
02/27/2013	18:00	151.6	
02/28/2013	0:00	151.2	
02/28/2013	6:00	114.7	
02/28/2013	12:00	165.7	
02/28/2013	18:00	154.1	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
03/01/2013	0:00	149.7	
03/01/2013	6:00	114.8	
03/01/2013	12:00	148.2	
03/01/2013	18:00	150.5	
03/02/2013	0:00	150.8	
03/02/2013	6:00	114.9	
03/02/2013	12:00	147.8	
03/02/2013	18:00	154.2	
03/03/2013	0:00	151.0	
03/03/2013	6:00	114.9	
03/03/2013	12:00	147.5	
03/03/2013	18:00	155.5	
03/04/2013	0:00	151.0	
03/04/2013	6:00	114.6	
03/04/2013	12:00	147.5	
03/04/2013	18:00	152.6	
03/05/2013	0:00	152.6	
03/05/2013	6:00	114.8	
03/05/2013	12:00	147.7	
03/05/2013	18:00	199.5	
03/06/2013	0:00	158.4	
03/06/2013	6:00	114.7	
03/06/2013	12:00	147.7	
03/06/2013	18:00	150.8	
03/07/2013	0:00	206.8	

03/07/2013	6:00	114.7	
03/07/2013	12:00	147.6	
03/07/2013	18:00	151.4	
03/08/2013	0:00	150.8	
03/08/2013	6:00	114.7	
03/08/2013	12:00	147.6	
03/08/2013	18:00	151.9	
03/09/2013	0:00	150.8	
03/09/2013	6:00	114.7	
03/09/2013	12:00	147.4	
03/09/2013	18:00	211.2	
03/10/2013	0:00	151.6	
03/10/2013	6:00	114.7	
03/10/2013	12:00	147.3	
03/10/2013	18:00	150.3	
03/11/2013	0:00		
03/11/2013	6:00		
03/11/2013	12:00		
03/11/2013	18:00		
03/12/2013	0:00	208.7	
03/12/2013	6:00	114.8	
03/12/2013	12:00	147.5	
03/12/2013	18:00	150.7	
03/13/2013	0:00	150.6	
03/13/2013	6:00	114.9	
03/13/2013	12:00	147.5	
03/13/2013	18:00	151.7	
03/14/2013	0:00		
03/14/2013	6:00		
03/14/2013	12:00		
03/14/2013	18:00		
03/15/2013	0:00	151.6	
03/15/2013	6:00	114.5	
03/15/2013	12:00	147.3	
03/15/2013	18:00	210.1	
03/16/2013	0:00	152.7	
03/16/2013	6:00	114.8	
03/16/2013	12:00	147.5	
03/16/2013	18:00	150.3	
03/17/2013	0:00	163.4	
03/17/2013	6:00	114.7	
03/17/2013	12:00	147.2	
03/17/2013	18:00	150.7	
03/18/2013	0:00	150.6	
03/18/2013	6:00	114.6	
03/18/2013	12:00	147.3	
03/18/2013	18:00	150.9	
03/19/2013	0:00	202.8	
03/19/2013	6:00	114.8	
03/19/2013	12:00	147.5	
03/19/2013	18:00	151.8	
03/20/2013	0:00	153.3	
03/20/2013	6:00	114.7	
03/20/2013	12:00	147.7	
03/20/2013	18:00	151.7	

03/21/2013	0:00	154.9	
03/21/2013	6:00	114.8	
03/21/2013	12:00	147.5	
03/21/2013	18:00	150.6	
03/22/2013	0:00	151.4	
03/22/2013	6:00	114.6	
03/22/2013	12:00	147.6	
03/22/2013	18:00	151.0	
03/23/2013	0:00	153.4	
03/23/2013	6:00	114.7	
03/23/2013	12:00	147.5	
03/23/2013	18:00	150.5	
03/24/2013	0:00	157.6	
03/24/2013	6:00	114.8	
03/24/2013	12:00	147.5	
03/24/2013	18:00	150.6	
03/25/2013	0:00	212.1	
03/25/2013	6:00	114.8	
03/25/2013	12:00	147.6	
03/25/2013	18:00	151.2	
03/26/2013	0:00	151.5	
03/26/2013	6:00	114.8	
03/26/2013	12:00	147.8	
03/26/2013	18:00	151.4	
03/27/2013	0:00	154.0	
03/27/2013	6:00	114.9	
03/27/2013	12:00	147.6	
03/27/2013	18:00	150.6	
03/28/2013	0:00	208.5	
03/28/2013	6:00	115.0	
03/28/2013	12:00	147.5	
03/28/2013	18:00	150.8	
03/29/2013	0:00	158.1	
03/29/2013	6:00	114.5	
03/29/2013	12:00	148.0	
03/29/2013	18:00	151.6	
03/30/2013	0:00	178.5	
03/30/2013	6:00	114.6	
03/30/2013	12:00	147.4	
03/30/2013	18:00	151.0	
03/31/2013	0:00	210.8	
03/31/2013	6:00	114.8	
03/31/2013	12:00	147.5	
03/31/2013	18:00	151.1	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
04/01/2013	0:00	206.3	
04/01/2013	6:00	114.9	
04/01/2013	12:00	147.6	
04/01/2013	18:00	151.5	
04/02/2013	0:00	197.7	
04/02/2013	6:00	114.8	
04/02/2013	12:00	147.7	
04/02/2013	18:00	151.8	
04/03/2013	0:00	155.3	
04/03/2013	6:00	114.8	
04/03/2013	12:00	147.7	
04/03/2013	18:00	152.1	
04/04/2013	0:00	211.6	
04/04/2013	6:00	114.6	
04/04/2013	12:00	147.6	
04/04/2013	18:00	150.9	
04/05/2013	0:00	150.6	
04/05/2013	6:00	114.7	
04/05/2013	12:00	147.4	
04/05/2013	18:00	151.4	
04/06/2013	0:00	150.5	
04/06/2013	6:00	114.6	
04/06/2013	12:00	147.3	
04/06/2013	18:00	152.1	
04/07/2013	0:00	150.5	

04/07/2013	6:00	114.7
04/07/2013	12:00	147.2
04/07/2013	18:00	155.9
04/08/2013	0:00	150.9
04/08/2013	6:00	114.8
04/08/2013	12:00	147.4
04/08/2013	18:00	154.3
04/09/2013	0:00	151.6
04/09/2013	6:00	114.7
04/09/2013	12:00	147.4
04/09/2013	18:00	211.5
04/10/2013	0:00	150.0
04/10/2013	6:00	114.9
04/10/2013	12:00	147.5
04/10/2013	18:00	150.3
04/11/2013	0:00	150.5
04/11/2013	6:00	114.5
04/11/2013	12:00	147.1
04/11/2013	18:00	151.6
04/12/2013	0:00	150.9
04/12/2013	6:00	114.7
04/12/2013	12:00	147.1
04/12/2013	18:00	210.8
04/13/2013	0:00	154.5
04/13/2013	6:00	114.9
04/13/2013	12:00	147.1
04/13/2013	18:00	149.8
04/14/2013	0:00	211.5
04/14/2013	6:00	114.6
04/14/2013	12:00	146.9
04/14/2013	18:00	150.5
04/15/2013	0:00	154.1
04/15/2013	6:00	114.9
04/15/2013	12:00	147.5
04/15/2013	18:00	151.0
04/16/2013	0:00	211.1
04/16/2013	6:00	115.0
04/16/2013	12:00	147.5
04/16/2013	18:00	150.7
04/17/2013	0:00	150.2
04/17/2013	6:00	114.7
04/17/2013	12:00	147.2
04/17/2013	18:00	151.0
04/18/2013	0:00	150.1
04/18/2013	6:00	114.3
04/18/2013	12:00	146.9
04/18/2013	18:00	152.3
04/19/2013	0:00	151.9
04/19/2013	6:00	114.7
04/19/2013	12:00	147.2
04/19/2013	18:00	208.7
04/20/2013	0:00	153.0
04/20/2013	6:00	114.6
04/20/2013	12:00	147.4
04/20/2013	18:00	150.4

04/21/2013	0:00	213.2	
04/21/2013	6:00	114.8	
04/21/2013	12:00	147.3	
04/21/2013	18:00	150.7	
04/22/2013	0:00	150.3	
04/22/2013	6:00	114.9	
04/22/2013	12:00	147.3	
04/22/2013	18:00	151.1	
04/23/2013	0:00	210.5	
04/23/2013	6:00	114.7	
04/23/2013	12:00	147.7	
04/23/2013	18:00	151.6	
04/24/2013	0:00	150.7	
04/24/2013	6:00	114.7	
04/24/2013	12:00	147.3	
04/24/2013	18:00	150.9	
04/25/2013	0:00	150.5	
04/25/2013	6:00	114.7	
04/25/2013	12:00	147.2	
04/25/2013	18:00	152.2	
04/26/2013	0:00	150.4	
04/26/2013	6:00	114.9	
04/26/2013	12:00	147.3	
04/26/2013	18:00	152.7	
04/27/2013	0:00	150.8	
04/27/2013	6:00	114.8	
04/27/2013	12:00	147.1	
04/27/2013	18:00	160.5	
04/28/2013	0:00	208.4	
04/28/2013	6:00	114.6	
04/28/2013	12:00	147.1	
04/28/2013	18:00	152.7	
04/29/2013	0:00	200.0	
04/29/2013	6:00	114.8	
04/29/2013	12:00	147.0	
04/29/2013	18:00	151.5	
04/30/2013	0:00	151.7	
04/30/2013	6:00	114.8	
04/30/2013	12:00	147.6	
04/30/2013	18:00	163.8	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
05/01/2013	0:00	152.3	
05/01/2013	6:00	115.0	
05/01/2013	12:00	147.8	
05/01/2013	18:00	153.4	
05/02/2013	0:00	153.5	
05/02/2013	6:00	114.8	
05/02/2013	12:00	147.6	
05/02/2013	18:00	151.0	
05/03/2013	0:00	153.2	
05/03/2013	6:00	115.0	
05/03/2013	12:00	147.4	
05/03/2013	18:00	150.9	
05/04/2013	0:00	153.1	
05/04/2013	6:00	115.1	
05/04/2013	12:00	147.4	
05/04/2013	18:00	150.6	
05/05/2013	0:00	152.6	
05/05/2013	6:00	114.9	
05/05/2013	12:00	147.4	
05/05/2013	18:00	150.6	
05/06/2013	0:00	151.7	
05/06/2013	6:00	114.8	
05/06/2013	12:00	147.4	
05/06/2013	18:00	150.7	
05/07/2013	0:00	153.0	

05/07/2013	6:00	114.9	
05/07/2013	12:00	147.4	
05/07/2013	18:00	150.3	
05/08/2013	0:00	153.8	
05/08/2013	6:00	114.9	
05/08/2013	12:00	147.4	
05/08/2013	18:00	151.1	
05/09/2013	0:00	213.2	
05/09/2013	6:00	114.8	
05/09/2013	12:00	147.4	
05/09/2013	18:00	150.7	
05/10/2013	0:00	207.8	
05/10/2013	6:00	114.8	
05/10/2013	12:00	147.2	
05/10/2013	18:00	151.1	
05/11/2013	0:00	208.7	
05/11/2013	6:00	114.9	
05/11/2013	12:00	147.4	
05/11/2013	18:00	151.5	
05/12/2013	0:00	161.9	
05/12/2013	6:00	114.8	
05/12/2013	12:00	147.4	
05/12/2013	18:00	151.9	
05/13/2013	0:00	161.5	
05/13/2013	6:00	114.8	
05/13/2013	12:00	147.2	
05/13/2013	18:00	151.4	
05/14/2013	0:00	155.6	
05/14/2013	6:00	114.9	
05/14/2013	12:00	147.3	
05/14/2013	18:00	151.6	
05/15/2013	0:00	155.3	
05/15/2013	6:00	114.8	
05/15/2013	12:00	147.3	
05/15/2013	18:00	151.1	
05/16/2013	0:00	155.0	
05/16/2013	6:00	114.9	
05/16/2013	12:00	147.4	
05/16/2013	18:00	151.1	
05/17/2013	0:00	212.0	
05/17/2013	6:00	114.6	
05/17/2013	12:00	147.4	
05/17/2013	18:00	151.2	
05/18/2013	0:00	206.6	
05/18/2013	6:00	114.7	
05/18/2013	12:00	147.2	
05/18/2013	18:00	151.6	
05/19/2013	0:00	211.1	
05/19/2013	6:00	114.3	
05/19/2013	12:00	147.0	
05/19/2013	18:00	151.6	
05/20/2013	0:00		
05/20/2013	6:00		
05/20/2013	12:00		
05/20/2013	18:00		

05/21/2013	0:00	208.1	
05/21/2013	6:00	114.4	
05/21/2013	12:00	147.1	
05/21/2013	18:00	151.3	
05/22/2013	0:00	151.1	
05/22/2013	6:00	114.7	
05/22/2013	12:00	147.3	
05/22/2013	18:00	151.3	
05/23/2013	0:00	151.2	
05/23/2013	6:00	114.9	
05/23/2013	12:00	147.5	
05/23/2013	18:00	152.5	
05/24/2013	0:00	150.6	
05/24/2013	6:00	114.8	
05/24/2013	12:00	147.4	
05/24/2013	18:00	151.8	
05/25/2013	0:00	150.9	
05/25/2013	6:00	114.7	
05/25/2013	12:00	147.4	
05/25/2013	18:00	154.2	
05/26/2013	0:00	151.2	
05/26/2013	6:00	114.8	
05/26/2013	12:00	147.2	
05/26/2013	18:00	209.1	
05/27/2013	0:00	153.4	
05/27/2013	6:00	114.7	
05/27/2013	12:00	147.5	
05/27/2013	18:00	150.1	
05/28/2013	0:00	153.8	
05/28/2013	6:00	114.6	
05/28/2013	12:00	147.7	
05/28/2013	18:00	151.5	
05/29/2013	0:00	150.8	
05/29/2013	6:00	114.6	
05/29/2013	12:00	147.4	
05/29/2013	18:00	151.6	
05/30/2013	0:00	152.6	
05/30/2013	6:00	114.4	
05/30/2013	12:00	147.4	
05/30/2013	18:00	153.6	
05/31/2013	0:00	150.3	
05/31/2013	6:00	114.5	
05/31/2013	12:00	147.2	
05/31/2013	18:00	150.7	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
06/01/2013	0:00	152.8	
06/01/2013	6:00	114.6	
06/01/2013	12:00	147.4	
06/01/2013	18:00	160.8	
06/02/2013	0:00	150.9	
06/02/2013	6:00	114.8	
06/02/2013	12:00	147.5	
06/02/2013	18:00	151.0	
06/03/2013	0:00	156.3	
06/03/2013	6:00	114.7	
06/03/2013	12:00	147.7	
06/03/2013	18:00	214.5	
06/04/2013	0:00	178.5	
06/04/2013	6:00	114.5	
06/04/2013	12:00	147.5	
06/04/2013	18:00	151.3	
06/05/2013	0:00	151.3	
06/05/2013	6:00	114.7	
06/05/2013	12:00	147.4	
06/05/2013	18:00	151.6	
06/06/2013	0:00	151.1	
06/06/2013	6:00	114.6	
06/06/2013	12:00	147.5	
06/06/2013	18:00	150.7	
06/07/2013	0:00	154.3	

06/07/2013	6:00	114.8	
06/07/2013	12:00	147.3	
06/07/2013	18:00	205.6	
06/08/2013	0:00	207.5	
06/08/2013	6:00	114.4	
06/08/2013	12:00	147.4	
06/08/2013	18:00	151.2	
06/09/2013	0:00	151.5	
06/09/2013	6:00	114.5	
06/09/2013	12:00	147.4	
06/09/2013	18:00	152.1	
06/10/2013	0:00	154.8	
06/10/2013	6:00	114.8	
06/10/2013	12:00	147.3	
06/10/2013	18:00	199.9	
06/11/2013	0:00	153.1	
06/11/2013	6:00	114.7	
06/11/2013	12:00	147.7	
06/11/2013	18:00	151.3	
06/12/2013	0:00	151.7	
06/12/2013	6:00	114.6	
06/12/2013	12:00	147.7	
06/12/2013	18:00	212.8	
06/13/2013	0:00	154.2	
06/13/2013	6:00	114.7	
06/13/2013	12:00	147.6	
06/13/2013	18:00	150.9	
06/14/2013	0:00	150.6	
06/14/2013	6:00	114.7	
06/14/2013	12:00	147.4	
06/14/2013	18:00	151.2	
06/15/2013	0:00	152.5	
06/15/2013	6:00	114.4	
06/15/2013	12:00	147.4	
06/15/2013	18:00	161.9	
06/16/2013	0:00	156.5	
06/16/2013	6:00	114.7	
06/16/2013	12:00	147.4	
06/16/2013	18:00	150.8	
06/17/2013	0:00	150.9	
06/17/2013	6:00	114.6	
06/17/2013	12:00	147.5	
06/17/2013	18:00	151.8	
06/18/2013	0:00	154.0	
06/18/2013	6:00	114.9	
06/18/2013	12:00	148.0	
06/18/2013	18:00	161.2	
06/19/2013	0:00	153.0	
06/19/2013	6:00	114.9	
06/19/2013	12:00	148.2	
06/19/2013	18:00	214.5	
06/20/2013	0:00	152.9	
06/20/2013	6:00	114.6	
06/20/2013	12:00	147.6	
06/20/2013	18:00	152.0	

06/21/2013	0:00	151.1	
06/21/2013	6:00	114.6	
06/21/2013	12:00	147.6	
06/21/2013	18:00	206.8	
06/22/2013	0:00	213.4	
06/22/2013	6:00	114.6	
06/22/2013	12:00	147.4	
06/22/2013	18:00	153.3	
06/23/2013	0:00	153.9	
06/23/2013	6:00	114.5	
06/23/2013	12:00	147.4	
06/23/2013	18:00	151.2	
06/24/2013	0:00	151.5	
06/24/2013	6:00	114.4	
06/24/2013	12:00	147.3	
06/24/2013	18:00	151.1	
06/25/2013	0:00	152.6	
06/25/2013	6:00	114.5	
06/25/2013	12:00	147.4	
06/25/2013	18:00	212.6	
06/26/2013	0:00	206.4	
06/26/2013	6:00	114.3	
06/26/2013	12:00	147.4	
06/26/2013	18:00	211.2	
06/27/2013	0:00	155.0	
06/27/2013	6:00	114.2	
06/27/2013	12:00	147.3	
06/27/2013	18:00	151.4	
06/28/2013	0:00	151.1	
06/28/2013	6:00	114.4	
06/28/2013	12:00	147.3	
06/28/2013	18:00	151.0	
06/29/2013	0:00	158.8	
06/29/2013	6:00	114.4	
06/29/2013	12:00	147.5	
06/29/2013	18:00	153.9	
06/30/2013	0:00	152.1	
06/30/2013	6:00	114.4	
06/30/2013	12:00	147.6	
06/30/2013	18:00	151.6	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
07/01/2013	0:00	155.1	
07/01/2013	6:00	114.6	
07/01/2013	12:00	147.7	
07/01/2013	18:00	152.6	
07/02/2013	0:00	153.4	
07/02/2013	6:00	114.6	
07/02/2013	12:00	147.8	
07/02/2013	18:00	209.6	
07/03/2013	0:00	153.8	
07/03/2013	6:00	114.6	
07/03/2013	12:00	147.8	
07/03/2013	18:00	154.4	
07/04/2013	0:00	153.0	
07/04/2013	6:00	114.6	
07/04/2013	12:00	147.8	
07/04/2013	18:00	155.7	
07/05/2013	0:00	156.5	
07/05/2013	6:00	114.6	
07/05/2013	12:00	147.8	
07/05/2013	18:00	160.3	
07/06/2013	0:00	155.1	
07/06/2013	6:00	114.6	
07/06/2013	12:00	147.8	
07/06/2013	18:00	206.7	
07/07/2013	0:00	153.3	

07/07/2013	6:00	114.8
07/07/2013	12:00	148.0
07/07/2013	18:00	151.8
07/08/2013	0:00	155.0
07/08/2013	6:00	114.5
07/08/2013	12:00	148.0
07/08/2013	18:00	154.6
07/09/2013	0:00	152.2
07/09/2013	6:00	114.5
07/09/2013	12:00	147.9
07/09/2013	18:00	151.9
07/10/2013	0:00	153.6
07/10/2013	6:00	114.6
07/10/2013	12:00	147.9
07/10/2013	18:00	153.5
07/11/2013	0:00	169.4
07/11/2013	6:00	114.7
07/11/2013	12:00	147.9
07/11/2013	18:00	159.2
07/12/2013	0:00	160.9
07/12/2013	6:00	114.6
07/12/2013	12:00	148.0
07/12/2013	18:00	213.0
07/13/2013	0:00	153.1
07/13/2013	6:00	114.5
07/13/2013	12:00	148.0
07/13/2013	18:00	152.5
07/14/2013	0:00	161.6
07/14/2013	6:00	114.6
07/14/2013	12:00	148.0
07/14/2013	18:00	216.0
07/15/2013	0:00	153.0
07/15/2013	6:00	114.8
07/15/2013	12:00	148.0
07/15/2013	18:00	152.3
07/16/2013	0:00	215.5
07/16/2013	6:00	114.6
07/16/2013	12:00	148.2
07/16/2013	18:00	154.0
07/17/2013	0:00	153.5
07/17/2013	6:00	114.8
07/17/2013	12:00	148.1
07/17/2013	18:00	153.2
07/18/2013	0:00	153.5
07/18/2013	6:00	114.8
07/18/2013	12:00	147.9
07/18/2013	18:00	155.6
07/19/2013	0:00	155.0
07/19/2013	6:00	114.6
07/19/2013	12:00	148.1
07/19/2013	18:00	154.2
07/20/2013	0:00	215.5
07/20/2013	6:00	114.7
07/20/2013	12:00	148.3
07/20/2013	18:00	155.3

07/21/2013	0:00	213.6	
07/21/2013	6:00	114.7	
07/21/2013	12:00	148.1	
07/21/2013	18:00	152.9	
07/22/2013	0:00	215.8	
07/22/2013	6:00	114.9	
07/22/2013	12:00	148.2	
07/22/2013	18:00	153.2	
07/23/2013	0:00	215.3	
07/23/2013	6:00	114.9	
07/23/2013	12:00	148.3	
07/23/2013	18:00	153.2	
07/24/2013	0:00	218.3	
07/24/2013	6:00	114.9	
07/24/2013	12:00	148.3	
07/24/2013	18:00	202.3	
07/25/2013	0:00	220.1	
07/25/2013	6:00	114.9	
07/25/2013	12:00	148.2	
07/25/2013	18:00	153.4	
07/26/2013	0:00	154.3	
07/26/2013	6:00	115.0	
07/26/2013	12:00	148.5	
07/26/2013	18:00	153.8	
07/27/2013	0:00	161.7	
07/27/2013	6:00	114.7	
07/27/2013	12:00	148.3	
07/27/2013	18:00	216.3	
07/28/2013	0:00	162.2	
07/28/2013	6:00	115.1	
07/28/2013	12:00	148.4	
07/28/2013	18:00	177.8	
07/29/2013	0:00	164.5	
07/29/2013	6:00	115.0	
07/29/2013	12:00	148.4	
07/29/2013	18:00	153.3	
07/30/2013	0:00	216.1	
07/30/2013	6:00	114.9	
07/30/2013	12:00	148.5	
07/30/2013	18:00	208.3	
07/31/2013	0:00	154.5	
07/31/2013	6:00	114.6	
07/31/2013	12:00	148.3	
07/31/2013	18:00	153.4	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
08/01/2013	0:00	154.8	
08/01/2013	6:00	114.9	
08/01/2013	12:00	148.3	
08/01/2013	18:00	157.1	
08/02/2013	0:00	156.2	
08/02/2013	6:00	115.1	
08/02/2013	12:00	148.6	
08/02/2013	18:00	154.8	
08/03/2013	0:00	155.8	
08/03/2013	6:00	115.0	
08/03/2013	12:00	148.7	
08/03/2013	18:00	216.6	
08/04/2013	0:00	156.0	
08/04/2013	6:00	114.6	
08/04/2013	12:00	148.5	
08/04/2013	18:00	166.5	
08/05/2013	0:00	214.2	
08/05/2013	6:00	114.7	
08/05/2013	12:00	148.3	
08/05/2013	18:00	215.5	
08/06/2013	0:00	153.4	
08/06/2013	6:00	114.8	
08/06/2013	12:00	148.2	
08/06/2013	18:00	153.1	
08/07/2013	0:00	215.8	

08/07/2013	6:00	114.6
08/07/2013	12:00	148.3
08/07/2013	18:00	214.7
08/08/2013	0:00	153.1
08/08/2013	6:00	114.8
08/08/2013	12:00	148.3
08/08/2013	18:00	152.9
08/09/2013	0:00	171.6
08/09/2013	6:00	114.8
08/09/2013	12:00	148.3
08/09/2013	18:00	158.7
08/10/2013	0:00	152.3
08/10/2013	6:00	114.8
08/10/2013	12:00	148.3
08/10/2013	18:00	152.7
08/11/2013	0:00	153.8
08/11/2013	6:00	114.9
08/11/2013	12:00	148.2
08/11/2013	18:00	153.1
08/12/2013	0:00	155.7
08/12/2013	6:00	114.9
08/12/2013	12:00	148.5
08/12/2013	18:00	156.9
08/13/2013	0:00	153.9
08/13/2013	6:00	115.0
08/13/2013	12:00	148.7
08/13/2013	18:00	212.5
08/14/2013	0:00	154.8
08/14/2013	6:00	114.9
08/14/2013	12:00	148.6
08/14/2013	18:00	154.8
08/15/2013	0:00	154.0
08/15/2013	6:00	114.9
08/15/2013	12:00	148.6
08/15/2013	18:00	155.2
08/16/2013	0:00	212.0
08/16/2013	6:00	115.1
08/16/2013	12:00	148.8
08/16/2013	18:00	154.5
08/17/2013	0:00	216.2
08/17/2013	6:00	114.9
08/17/2013	12:00	148.7
08/17/2013	18:00	154.1
08/18/2013	0:00	159.7
08/18/2013	6:00	114.9
08/18/2013	12:00	148.7
08/18/2013	18:00	153.6
08/19/2013	0:00	183.0
08/19/2013	6:00	115.0
08/19/2013	12:00	148.6
08/19/2013	18:00	153.4
08/20/2013	0:00	157.2
08/20/2013	6:00	114.8
08/20/2013	12:00	148.7
08/20/2013	18:00	215.8

08/21/2013	0:00	159.9	
08/21/2013	6:00	115.1	
08/21/2013	12:00	148.7	
08/21/2013	18:00	207.4	
08/22/2013	0:00	159.9	
08/22/2013	6:00	115.1	
08/22/2013	12:00	148.9	
08/22/2013	18:00	216.2	
08/23/2013	0:00	156.8	
08/23/2013	6:00	115.2	
08/23/2013	12:00	148.9	
08/23/2013	18:00	215.2	
08/24/2013	0:00	154.8	
08/24/2013	6:00	115.0	
08/24/2013	12:00	148.9	
08/24/2013	18:00	164.4	
08/25/2013	0:00	154.1	
08/25/2013	6:00	115.0	
08/25/2013	12:00	148.9	
08/25/2013	18:00	154.9	
08/26/2013	0:00	154.6	
08/26/2013	6:00	115.1	
08/26/2013	12:00	148.5	
08/26/2013	18:00	152.5	
08/27/2013	0:00	217.5	
08/27/2013	6:00	115.4	
08/27/2013	12:00	148.7	
08/27/2013	18:00	218.4	
08/28/2013	0:00	217.5	
08/28/2013	6:00	115.1	
08/28/2013	12:00	148.9	
08/28/2013	18:00	211.0	
08/29/2013	0:00	156.2	
08/29/2013	6:00	115.0	
08/29/2013	12:00	148.7	
08/29/2013	18:00	153.7	
08/30/2013	0:00	156.5	
08/30/2013	6:00	115.2	
08/30/2013	12:00	148.8	
08/30/2013	18:00	156.2	
08/31/2013	0:00	153.7	
08/31/2013	6:00	115.2	
08/31/2013	12:00	148.7	
08/31/2013	18:00	153.1	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
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DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
09/01/2013	0:00	151.9	
09/01/2013	6:00	115.3	
09/01/2013	12:00	148.7	
09/01/2013	18:00	155.1	
09/02/2013	0:00	156.7	
09/02/2013	6:00	115.3	
09/02/2013	12:00	148.8	
09/02/2013	18:00	155.7	
09/03/2013	0:00	158.7	
09/03/2013	6:00	115.3	
09/03/2013	12:00	149.1	
09/03/2013	18:00	161.3	
09/04/2013	0:00	155.3	
09/04/2013	6:00	115.4	
09/04/2013	12:00	149.1	
09/04/2013	18:00	214.4	
09/05/2013	0:00	157.5	
09/05/2013	6:00	115.2	
09/05/2013	12:00	149.2	
09/05/2013	18:00	219.4	
09/06/2013	0:00	211.8	
09/06/2013	6:00	115.3	
09/06/2013	12:00	149.1	
09/06/2013	18:00	156.8	
09/07/2013	0:00	218.3	

09/07/2013	6:00	115.8
09/07/2013	12:00	149.1
09/07/2013	18:00	154.4
09/08/2013	0:00	157.5
09/08/2013	6:00	115.4
09/08/2013	12:00	149.0
09/08/2013	18:00	208.9
09/09/2013	0:00	161.7
09/09/2013	6:00	115.4
09/09/2013	12:00	148.8
09/09/2013	18:00	212.9
09/10/2013	0:00	158.9
09/10/2013	6:00	115.4
09/10/2013	12:00	149.0
09/10/2013	18:00	214.7
09/11/2013	0:00	172.2
09/11/2013	6:00	115.6
09/11/2013	12:00	149.4
09/11/2013	18:00	212.5
09/12/2013	0:00	157.6
09/12/2013	6:00	115.7
09/12/2013	12:00	149.3
09/12/2013	18:00	214.4
09/13/2013	0:00	163.3
09/13/2013	6:00	115.6
09/13/2013	12:00	149.3
09/13/2013	18:00	216.9
09/14/2013	0:00	217.3
09/14/2013	6:00	115.5
09/14/2013	12:00	149.1
09/14/2013	18:00	154.5
09/15/2013	0:00	153.4
09/15/2013	6:00	115.6
09/15/2013	12:00	149.2
09/15/2013	18:00	154.4
09/16/2013	0:00	155.2
09/16/2013	6:00	115.6
09/16/2013	12:00	149.1
09/16/2013	18:00	218.7
09/17/2013	0:00	153.9
09/17/2013	6:00	115.5
09/17/2013	12:00	148.9
09/17/2013	18:00	152.6
09/18/2013	0:00	154.5
09/18/2013	6:00	115.4
09/18/2013	12:00	148.6
09/18/2013	18:00	158.4
09/19/2013	0:00	214.1
09/19/2013	6:00	115.6
09/19/2013	12:00	148.5
09/19/2013	18:00	152.2
09/20/2013	0:00	152.3
09/20/2013	6:00	115.4
09/20/2013	12:00	148.6
09/20/2013	18:00	153.8

09/21/2013	0:00	153.9	
09/21/2013	6:00	115.5	
09/21/2013	12:00	148.6	
09/21/2013	18:00	177.3	
09/22/2013	0:00	158.4	
09/22/2013	6:00	115.2	
09/22/2013	12:00	148.5	
09/22/2013	18:00	152.1	
09/23/2013	0:00	215.6	
09/23/2013	6:00	115.6	
09/23/2013	12:00	148.6	
09/23/2013	18:00	152.9	
09/24/2013	0:00	154.6	
09/24/2013	6:00	115.5	
09/24/2013	12:00	148.7	
09/24/2013	18:00	153.8	
09/25/2013	0:00	164.5	
09/25/2013	6:00	115.5	
09/25/2013	12:00	148.6	
09/25/2013	18:00	216.9	
09/26/2013	0:00	156.9	
09/26/2013	6:00	115.5	
09/26/2013	12:00	148.7	
09/26/2013	18:00	152.8	
09/27/2013	0:00	152.7	
09/27/2013	6:00	115.4	
09/27/2013	12:00	148.5	
09/27/2013	18:00	152.8	
09/28/2013	0:00	155.4	
09/28/2013	6:00	115.4	
09/28/2013	12:00	148.6	
09/28/2013	18:00	154.3	
09/29/2013	0:00	213.3	
09/29/2013	6:00	115.4	
09/29/2013	12:00	148.4	
09/29/2013	18:00	152.4	
09/30/2013	0:00	153.4	
09/30/2013	6:00	115.2	
09/30/2013	12:00	148.4	
09/30/2013	18:00	153.2	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
10/01/2013	0:00		
10/01/2013	6:00		
10/01/2013	12:00		
10/01/2013	18:00		
10/02/2013	0:00		
10/02/2013	6:00		
10/02/2013	12:00		
10/02/2013	18:00		
10/03/2013	0:00		
10/03/2013	6:00		
10/03/2013	12:00		
10/03/2013	18:00		
10/04/2013	0:00		
10/04/2013	6:00		
10/04/2013	12:00		
10/04/2013	18:00		
10/05/2013	0:00		
10/05/2013	6:00		
10/05/2013	12:00		
10/05/2013	18:00		
10/06/2013	0:00		
10/06/2013	6:00		
10/06/2013	12:00		
10/06/2013	18:00		
10/07/2013	0:00		

10/07/2013	6:00		
10/07/2013	12:00		
10/07/2013	18:00		
10/08/2013	0:00		
10/08/2013	6:00		
10/08/2013	12:00		
10/08/2013	18:00		
10/09/2013	0:00		
10/09/2013	6:00		
10/09/2013	12:00		
10/09/2013	18:00		
10/10/2013	0:00		
10/10/2013	6:00		
10/10/2013	12:00		
10/10/2013	18:00		
10/11/2013	0:00		
10/11/2013	6:00		
10/11/2013	12:00		
10/11/2013	18:00		
10/12/2013	0:00		
10/12/2013	6:00		
10/12/2013	12:00		
10/12/2013	18:00		
10/13/2013	0:00		
10/13/2013	6:00		
10/13/2013	12:00		
10/13/2013	18:00		
10/14/2013	0:00		
10/14/2013	6:00		
10/14/2013	12:00		
10/14/2013	18:00		
10/15/2013	0:00		
10/15/2013	6:00		
10/15/2013	12:00		
10/15/2013	18:00		
10/16/2013	0:00	151.8	
10/16/2013	6:00	115.1	
10/16/2013	12:00	257.8	
10/16/2013	18:00	220.9	
10/17/2013	0:00	157.1	
10/17/2013	6:00	115.3	
10/17/2013	12:00	257.8	
10/17/2013	18:00	220.9	
10/18/2013	0:00	151.3	
10/18/2013	6:00	115.1	
10/18/2013	12:00	257.8	
10/18/2013	18:00	152.1	
10/19/2013	0:00	153.7	
10/19/2013	6:00	115.2	
10/19/2013	12:00	257.8	
10/19/2013	18:00	163.1	
10/20/2013	0:00	151.6	
10/20/2013	6:00	115.2	
10/20/2013	12:00	257.8	
10/20/2013	18:00	151.6	

10/21/2013	0:00	151.1	
10/21/2013	6:00	115.2	
10/21/2013	12:00	257.8	
10/21/2013	18:00	150.9	
10/22/2013	0:00	221.8	
10/22/2013	6:00	115.3	
10/22/2013	12:00	257.8	
10/22/2013	18:00	207.8	
10/23/2013	0:00	153.2	
10/23/2013	6:00	115.0	
10/23/2013	12:00	257.8	
10/23/2013	18:00	152.6	
10/24/2013	0:00	151.8	
10/24/2013	6:00	115.2	
10/24/2013	12:00	257.8	
10/24/2013	18:00	151.3	
10/25/2013	0:00	152.6	
10/25/2013	6:00	115.0	
10/25/2013	12:00	257.8	
10/25/2013	18:00	151.1	
10/26/2013	0:00	151.4	
10/26/2013	6:00	115.3	
10/26/2013	12:00	257.8	
10/26/2013	18:00	151.5	
10/27/2013	0:00	154.3	
10/27/2013	6:00	115.1	
10/27/2013	12:00	257.8	
10/27/2013	18:00	221.7	
10/28/2013	0:00	151.8	
10/28/2013	6:00	115.2	
10/28/2013	12:00	257.8	
10/28/2013	18:00	152.2	
10/29/2013	0:00	151.3	
10/29/2013	6:00	115.1	
10/29/2013	12:00	257.8	
10/29/2013	18:00	151.2	
10/30/2013	0:00	156.4	
10/30/2013	6:00	114.9	
10/30/2013	12:00	257.8	
10/30/2013	18:00	221.7	
10/31/2013	0:00	151.6	
10/31/2013	6:00	114.9	
10/31/2013	12:00	257.8	
10/31/2013	18:00	151.4	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
11/01/2013	0:00	211.4	
11/01/2013	6:00	115.1	
11/01/2013	12:00	257.8	
11/01/2013	18:00	150.8	
11/02/2013	0:00	153.0	
11/02/2013	6:00	115.1	
11/02/2013	12:00	257.8	
11/02/2013	18:00	153.3	
11/03/2013	0:00	153.5	
11/03/2013	6:00	114.9	
11/03/2013	12:00	257.8	
11/03/2013	18:00	155.9	
11/04/2013	0:00	151.4	
11/04/2013	6:00	115.2	
11/04/2013	12:00	257.8	
11/04/2013	18:00	151.5	
11/05/2013	0:00	151.0	
11/05/2013	6:00	115.0	
11/05/2013	12:00	257.8	
11/05/2013	18:00	150.6	
11/06/2013	0:00	154.8	
11/06/2013	6:00	115.1	
11/06/2013	12:00	257.8	
11/06/2013	18:00	156.4	
11/07/2013	0:00	151.8	

11/07/2013	6:00	115.2	
11/07/2013	12:00	257.8	
11/07/2013	18:00	151.8	
11/08/2013	0:00	152.8	
11/08/2013	6:00	115.0	
11/08/2013	12:00	257.8	
11/08/2013	18:00	150.8	
11/09/2013	0:00		
11/09/2013	6:00		
11/09/2013	12:00		
11/09/2013	18:00		
11/10/2013	0:00	222.3	
11/10/2013	6:00	115.1	
11/10/2013	12:00	257.8	
11/10/2013	18:00	151.0	
11/11/2013	0:00	153.6	
11/11/2013	6:00	115.2	
11/11/2013	12:00	257.8	
11/11/2013	18:00	152.6	
11/12/2013	0:00	151.9	
11/12/2013	6:00	115.1	
11/12/2013	12:00	257.8	
11/12/2013	18:00	152.1	
11/13/2013	0:00	150.7	
11/13/2013	6:00	114.9	
11/13/2013	12:00	257.8	
11/13/2013	18:00	150.7	
11/14/2013	0:00	220.7	
11/14/2013	6:00	114.8	
11/14/2013	12:00	257.8	
11/14/2013	18:00	212.6	
11/15/2013	0:00	150.6	
11/15/2013	6:00	115.1	
11/15/2013	12:00	257.8	
11/15/2013	18:00	152.1	
11/16/2013	0:00	154.1	
11/16/2013	6:00	114.6	
11/16/2013	12:00	257.8	
11/16/2013	18:00	212.7	
11/17/2013	0:00	151.6	
11/17/2013	6:00	114.9	
11/17/2013	12:00	257.8	
11/17/2013	18:00	150.9	
11/18/2013	0:00	151.0	
11/18/2013	6:00	115.2	
11/18/2013	12:00	257.8	
11/18/2013	18:00	150.7	
11/19/2013	0:00	155.4	
11/19/2013	6:00	115.0	
11/19/2013	12:00	257.8	
11/19/2013	18:00	222.4	
11/20/2013	0:00	152.6	
11/20/2013	6:00	114.8	
11/20/2013	12:00	257.8	
11/20/2013	18:00	151.7	

11/21/2013	0:00	151.3	
11/21/2013	6:00	115.1	
11/21/2013	12:00	257.8	
11/21/2013	18:00	151.0	
11/22/2013	0:00	152.8	
11/22/2013	6:00	115.4	
11/22/2013	12:00	257.8	
11/22/2013	18:00	150.8	
11/23/2013	0:00	151.4	
11/23/2013	6:00	115.3	
11/23/2013	12:00	257.8	
11/23/2013	18:00	151.7	
11/24/2013	0:00	153.2	
11/24/2013	6:00	114.8	
11/24/2013	12:00	257.8	
11/24/2013	18:00	213.4	
11/25/2013	0:00	151.3	
11/25/2013	6:00	114.9	
11/25/2013	12:00	257.8	
11/25/2013	18:00	151.6	
11/26/2013	0:00	150.8	
11/26/2013	6:00	115.0	
11/26/2013	12:00	257.8	
11/26/2013	18:00	150.7	
11/27/2013	0:00	151.6	
11/27/2013	6:00	115.0	
11/27/2013	12:00	257.8	
11/27/2013	18:00	157.0	
11/28/2013	0:00	220.3	
11/28/2013	6:00	115.1	
11/28/2013	12:00	257.8	
11/28/2013	18:00	151.0	
11/29/2013	0:00	153.1	
11/29/2013	6:00	115.0	
11/29/2013	12:00	257.8	
11/29/2013	18:00	152.5	
11/30/2013	0:00	151.6	
11/30/2013	6:00	115.1	
11/30/2013	12:00	257.8	
11/30/2013	18:00	151.0	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
12/01/2013	0:00	210.1	
12/01/2013	6:00	114.9	
12/01/2013	12:00	257.8	
12/01/2013	18:00	150.5	
12/02/2013	0:00	153.0	
12/02/2013	6:00	114.7	
12/02/2013	12:00	257.8	
12/02/2013	18:00	152.8	
12/03/2013	0:00	151.6	
12/03/2013	6:00	114.7	
12/03/2013	12:00	257.8	
12/03/2013	18:00	150.9	
12/04/2013	0:00	150.4	
12/04/2013	6:00	114.8	
12/04/2013	12:00	257.8	
12/04/2013	18:00	150.5	
12/05/2013	0:00	218.5	
12/05/2013	6:00	115.1	
12/05/2013	12:00	257.8	
12/05/2013	18:00	205.6	
12/06/2013	0:00	151.4	
12/06/2013	6:00	115.1	
12/06/2013	12:00	257.8	
12/06/2013	18:00	152.7	
12/07/2013	0:00	220.1	

12/07/2013	6:00	115.1	
12/07/2013	12:00	257.8	
12/07/2013	18:00	150.8	
12/08/2013	0:00	152.2	
12/08/2013	6:00	114.7	
12/08/2013	12:00	257.8	
12/08/2013	18:00	152.1	
12/09/2013	0:00	150.4	
12/09/2013	6:00	114.9	
12/09/2013	12:00	257.8	
12/09/2013	18:00	151.0	
12/10/2013	0:00	163.1	
12/10/2013	6:00	114.8	
12/10/2013	12:00	257.8	
12/10/2013	18:00	212.3	
12/11/2013	0:00	152.8	
12/11/2013	6:00	114.9	
12/11/2013	12:00	257.8	
12/11/2013	18:00	151.8	
12/12/2013	0:00	151.0	
12/12/2013	6:00	115.0	
12/12/2013	12:00	257.8	
12/12/2013	18:00	150.8	
12/13/2013	0:00	161.2	
12/13/2013	6:00	115.0	
12/13/2013	12:00	257.8	
12/13/2013	18:00	208.8	
12/14/2013	0:00	151.8	
12/14/2013	6:00	114.9	
12/14/2013	12:00	257.8	
12/14/2013	18:00	151.8	
12/15/2013	0:00	216.6	
12/15/2013	6:00	114.7	
12/15/2013	12:00	257.8	
12/15/2013	18:00	150.6	
12/16/2013	0:00	151.4	
12/16/2013	6:00	114.9	
12/16/2013	12:00	257.8	
12/16/2013	18:00	152.8	
12/17/2013	0:00	161.4	
12/17/2013	6:00	114.8	
12/17/2013	12:00	257.8	
12/17/2013	18:00	152.1	
12/18/2013	0:00	152.8	
12/18/2013	6:00	114.8	
12/18/2013	12:00	257.8	
12/18/2013	18:00	151.3	
12/19/2013	0:00	151.8	
12/19/2013	6:00	114.9	
12/19/2013	12:00	257.8	
12/19/2013	18:00	151.2	
12/20/2013	0:00	153.5	
12/20/2013	6:00	114.7	
12/20/2013	12:00	257.8	
12/20/2013	18:00	152.8	

12/21/2013	0:00	151.7	
12/21/2013	6:00	114.8	
12/21/2013	12:00	257.8	
12/21/2013	18:00	151.2	
12/22/2013	0:00	154.1	
12/22/2013	6:00	114.8	
12/22/2013	12:00	257.8	
12/22/2013	18:00	152.7	
12/23/2013	0:00	158.0	
12/23/2013	6:00	115.1	
12/23/2013	12:00	257.8	
12/23/2013	18:00	216.9	
12/24/2013	0:00	152.6	
12/24/2013	6:00	115.0	
12/24/2013	12:00	257.8	
12/24/2013	18:00	152.4	
12/25/2013	0:00	220.7	
12/25/2013	6:00	114.6	
12/25/2013	12:00	257.8	
12/25/2013	18:00	221.0	
12/26/2013	0:00	154.0	
12/26/2013	6:00	114.9	
12/26/2013	12:00	257.8	
12/26/2013	18:00	152.1	
12/27/2013	0:00	152.2	
12/27/2013	6:00	114.8	
12/27/2013	12:00	257.8	
12/27/2013	18:00	151.7	
12/28/2013	0:00	154.0	
12/28/2013	6:00	114.7	
12/28/2013	12:00	257.8	
12/28/2013	18:00	152.7	
12/29/2013	0:00	220.8	
12/29/2013	6:00	114.9	
12/29/2013	12:00	257.8	
12/29/2013	18:00	151.6	
12/30/2013	0:00	154.9	
12/30/2013	6:00	114.8	
12/30/2013	12:00	257.8	
12/30/2013	18:00	152.6	
12/31/2013	0:00		
12/31/2013	6:00		
12/31/2013	12:00		
12/31/2013	18:00		

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
01/01/2014	0:00	164.5	
01/01/2014	6:00	114.9	
01/01/2014	12:00	257.8	
01/01/2014	18:00	159.5	
01/02/2014	0:00	154.1	
01/02/2014	6:00	114.9	
01/02/2014	12:00	257.8	
01/02/2014	18:00	152.1	
01/03/2014	0:00	151.8	
01/03/2014	6:00	114.5	
01/03/2014	12:00	257.8	
01/03/2014	18:00	151.3	
01/04/2014	0:00	155.9	
01/04/2014	6:00	114.8	
01/04/2014	12:00	257.8	
01/04/2014	18:00	155.2	
01/05/2014	0:00	152.7	
01/05/2014	6:00	114.7	
01/05/2014	12:00	257.8	
01/05/2014	18:00	151.9	
01/06/2014	0:00	158.7	
01/06/2014	6:00	114.8	
01/06/2014	12:00	257.8	
01/06/2014	18:00	180.2	
01/07/2014	0:00	222.0	

01/07/2014	6:00	114.7
01/07/2014	12:00	257.8
01/07/2014	18:00	152.2
01/08/2014	0:00	151.9
01/08/2014	6:00	114.9
01/08/2014	12:00	257.8
01/08/2014	18:00	152.4
01/09/2014	0:00	152.9
01/09/2014	6:00	114.8
01/09/2014	12:00	257.8
01/09/2014	18:00	217.7
01/10/2014	0:00	219.7
01/10/2014	6:00	114.6
01/10/2014	12:00	257.8
01/10/2014	18:00	150.8
01/11/2014	0:00	224.2
01/11/2014	6:00	114.5
01/11/2014	12:00	257.8
01/11/2014	18:00	151.6
01/12/2014	0:00	224.1
01/12/2014	6:00	114.5
01/12/2014	12:00	257.8
01/12/2014	18:00	227.7
01/13/2014	0:00	151.6
01/13/2014	6:00	114.6
01/13/2014	12:00	257.8
01/13/2014	18:00	152.8
01/14/2014	0:00	152.3
01/14/2014	6:00	114.8
01/14/2014	12:00	257.8
01/14/2014	18:00	154.0
01/15/2014	0:00	156.2
01/15/2014	6:00	114.6
01/15/2014	12:00	257.8
01/15/2014	18:00	151.0
01/16/2014	0:00	151.1
01/16/2014	6:00	114.7
01/16/2014	12:00	257.8
01/16/2014	18:00	151.1
01/17/2014	0:00	154.0
01/17/2014	6:00	114.5
01/17/2014	12:00	257.8
01/17/2014	18:00	215.3
01/18/2014	0:00	150.7
01/18/2014	6:00	114.6
01/18/2014	12:00	257.8
01/18/2014	18:00	151.1
01/19/2014	0:00	151.5
01/19/2014	6:00	114.4
01/19/2014	12:00	257.8
01/19/2014	18:00	160.6
01/20/2014	0:00	208.5
01/20/2014	6:00	114.8
01/20/2014	12:00	257.8
01/20/2014	18:00	150.5

01/21/2014	0:00	150.9	
01/21/2014	6:00	114.7	
01/21/2014	12:00	257.8	
01/21/2014	18:00	151.7	
01/22/2014	0:00	163.3	
01/22/2014	6:00	114.5	
01/22/2014	12:00	257.8	
01/22/2014	18:00	150.4	
01/23/2014	0:00	153.2	
01/23/2014	6:00	114.7	
01/23/2014	12:00	257.8	
01/23/2014	18:00	151.7	
01/24/2014	0:00	221.4	
01/24/2014	6:00	114.4	
01/24/2014	12:00	257.8	
01/24/2014	18:00	150.8	
01/25/2014	0:00	150.7	
01/25/2014	6:00	114.4	
01/25/2014	12:00	257.8	
01/25/2014	18:00	151.4	
01/26/2014	0:00	153.8	
01/26/2014	6:00	114.5	
01/26/2014	12:00	257.8	
01/26/2014	18:00	149.6	
01/27/2014	0:00	150.7	
01/27/2014	6:00	114.8	
01/27/2014	12:00	257.8	
01/27/2014	18:00	150.9	
01/28/2014	0:00	151.8	
01/28/2014	6:00	114.7	
01/28/2014	12:00	257.8	
01/28/2014	18:00	154.5	
01/29/2014	0:00	221.0	
01/29/2014	6:00	114.4	
01/29/2014	12:00	257.8	
01/29/2014	18:00	150.3	
01/30/2014	0:00	151.0	
01/30/2014	6:00	114.7	
01/30/2014	12:00	257.8	
01/30/2014	18:00	150.9	
01/31/2014	0:00	158.5	
01/31/2014	6:00	114.6	
01/31/2014	12:00	257.8	
01/31/2014	18:00	150.1	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading,pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
02/01/2014	0:00	150.9	
02/01/2014	6:00	114.6	
02/01/2014	12:00	257.8	
02/01/2014	18:00	151.2	
02/02/2014	0:00	151.4	
02/02/2014	6:00	114.8	
02/02/2014	12:00	257.8	
02/02/2014	18:00	219.4	
02/03/2014	0:00	159.6	
02/03/2014	6:00	114.8	
02/03/2014	12:00	257.8	
02/03/2014	18:00	150.3	
02/04/2014	0:00	150.6	
02/04/2014	6:00	114.9	
02/04/2014	12:00	257.8	
02/04/2014	18:00	151.3	
02/05/2014	0:00	154.5	
02/05/2014	6:00	114.8	
02/05/2014	12:00	257.8	
02/05/2014	18:00	153.5	
02/06/2014	0:00	151.0	
02/06/2014	6:00	114.6	
02/06/2014	12:00	257.8	
02/06/2014	18:00	151.2	
02/07/2014	0:00	151.9	

02/07/2014	6:00	114.7	
02/07/2014	12:00	257.8	
02/07/2014	18:00	219.9	
02/08/2014	0:00	150.0	
02/08/2014	6:00	114.8	
02/08/2014	12:00	257.8	
02/08/2014	18:00	150.3	
02/09/2014	0:00	151.2	
02/09/2014	6:00	114.8	
02/09/2014	12:00	257.8	
02/09/2014	18:00	152.9	
02/10/2014	0:00	154.2	
02/10/2014	6:00	114.7	
02/10/2014	12:00	257.8	
02/10/2014	18:00	150.3	
02/11/2014	0:00	150.3	
02/11/2014	6:00	114.6	
02/11/2014	12:00	257.8	
02/11/2014	18:00	150.9	
02/12/2014	0:00	150.1	
02/12/2014	6:00	114.7	
02/12/2014	12:00	257.8	
02/12/2014	18:00	153.0	
02/13/2014	0:00	151.3	
02/13/2014	6:00	114.5	
02/13/2014	12:00	257.8	
02/13/2014	18:00	155.3	
02/14/2014	0:00	166.7	
02/14/2014	6:00	114.5	
02/14/2014	12:00	257.8	
02/14/2014	18:00	150.0	
02/15/2014	0:00	150.6	
02/15/2014	6:00	114.6	
02/15/2014	12:00	257.8	
02/15/2014	18:00	151.2	
02/16/2014	0:00	151.3	
02/16/2014	6:00	114.7	
02/16/2014	12:00	257.8	
02/16/2014	18:00	216.4	
02/17/2014	0:00	156.9	
02/17/2014	6:00	114.4	
02/17/2014	12:00	257.8	
02/17/2014	18:00	149.8	
02/18/2014	0:00	150.0	
02/18/2014	6:00	114.6	
02/18/2014	12:00	257.8	
02/18/2014	18:00	150.4	
02/19/2014	0:00	150.8	
02/19/2014	6:00	114.4	
02/19/2014	12:00	257.8	
02/19/2014	18:00	152.5	
02/20/2014	0:00	218.3	
02/20/2014	6:00	114.2	
02/20/2014	12:00	257.8	
02/20/2014	18:00	149.9	

02/21/2014	0:00	150.6	
02/21/2014	6:00	114.4	
02/21/2014	12:00	257.8	
02/21/2014	18:00	151.1	
02/22/2014	0:00	151.3	
02/22/2014	6:00	114.6	
02/22/2014	12:00	257.8	
02/22/2014	18:00	149.7	
02/23/2014	0:00	154.6	
02/23/2014	6:00	114.6	
02/23/2014	12:00	257.8	
02/23/2014	18:00	150.2	
02/24/2014	0:00	150.3	
02/24/2014	6:00	114.8	
02/24/2014	12:00	257.8	
02/24/2014	18:00	150.8	
02/25/2014	0:00	154.4	
02/25/2014	6:00	114.8	
02/25/2014	12:00	257.8	
02/25/2014	18:00	213.6	
02/26/2014	0:00	149.9	
02/26/2014	6:00	114.6	
02/26/2014	12:00	257.8	
02/26/2014	18:00	150.3	
02/27/2014	0:00	152.0	
02/27/2014	6:00	114.6	
02/27/2014	12:00	257.8	
02/27/2014	18:00	221.5	
02/28/2014	0:00	150.4	
02/28/2014	6:00	114.6	
02/28/2014	12:00	257.8	
02/28/2014	18:00	149.8	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
03/01/2014	0:00	150.6	
03/01/2014	6:00	114.8	
03/01/2014	12:00	257.8	
03/01/2014	18:00	152.3	
03/02/2014	0:00	154.3	
03/02/2014	6:00	114.9	
03/02/2014	12:00	257.8	
03/02/2014	18:00	149.9	
03/03/2014	0:00	211.3	
03/03/2014	6:00	114.8	
03/03/2014	12:00	257.8	
03/03/2014	18:00	150.7	
03/04/2014	0:00	150.6	
03/04/2014	6:00	114.6	
03/04/2014	12:00	257.8	
03/04/2014	18:00	151.6	
03/05/2014	0:00	154.0	
03/05/2014	6:00	114.9	
03/05/2014	12:00	257.8	
03/05/2014	18:00	150.0	
03/06/2014	0:00	149.8	
03/06/2014	6:00	114.5	
03/06/2014	12:00	257.8	
03/06/2014	18:00	150.5	
03/07/2014	0:00	151.1	

03/07/2014	6:00	114.7	
03/07/2014	12:00	257.8	
03/07/2014	18:00	152.0	
03/08/2014	0:00	151.1	
03/08/2014	6:00	114.7	
03/08/2014	12:00	257.8	
03/08/2014	18:00	150.5	
03/09/2014	0:00	156.7	
03/09/2014	6:00	114.5	
03/09/2014	12:00	257.8	
03/09/2014	18:00	150.0	
03/10/2014	0:00	150.1	
03/10/2014	6:00	114.5	
03/10/2014	12:00	257.8	
03/10/2014	18:00	150.5	
03/11/2014	0:00	150.6	
03/11/2014	6:00	114.5	
03/11/2014	12:00	257.8	
03/11/2014	18:00	151.8	
03/12/2014	0:00	151.5	
03/12/2014	6:00	114.7	
03/12/2014	12:00	257.8	
03/12/2014	18:00	150.0	
03/13/2014	0:00	156.6	
03/13/2014	6:00	114.2	
03/13/2014	12:00	257.8	
03/13/2014	18:00	150.0	
03/14/2014	0:00	150.2	
03/14/2014	6:00	114.6	
03/14/2014	12:00	257.8	
03/14/2014	18:00	150.4	
03/15/2014	0:00	150.8	
03/15/2014	6:00	114.9	
03/15/2014	12:00	257.8	
03/15/2014	18:00	152.8	
03/16/2014	0:00	150.8	
03/16/2014	6:00	114.6	
03/16/2014	12:00	257.8	
03/16/2014	18:00	159.7	
03/17/2014	0:00	153.9	
03/17/2014	6:00	114.3	
03/17/2014	12:00	257.8	
03/17/2014	18:00	214.0	
03/18/2014	0:00	212.4	
03/18/2014	6:00	114.7	
03/18/2014	12:00	257.8	
03/18/2014	18:00	150.4	
03/19/2014	0:00	150.4	
03/19/2014	6:00	114.6	
03/19/2014	12:00	257.8	
03/19/2014	18:00	151.0	
03/20/2014	0:00	154.2	
03/20/2014	6:00	114.7	
03/20/2014	12:00	257.8	
03/20/2014	18:00	149.9	

03/21/2014	0:00	150.5	
03/21/2014	6:00	114.7	
03/21/2014	12:00	257.8	
03/21/2014	18:00	150.1	
03/22/2014	0:00	150.6	
03/22/2014	6:00	114.8	
03/22/2014	12:00	257.8	
03/22/2014	18:00	156.5	
03/23/2014	0:00	152.6	
03/23/2014	6:00	114.7	
03/23/2014	12:00	257.8	
03/23/2014	18:00	149.8	
03/24/2014	0:00	215.8	
03/24/2014	6:00	114.6	
03/24/2014	12:00	257.8	
03/24/2014	18:00	150.2	
03/25/2014	0:00	150.6	
03/25/2014	6:00	114.5	
03/25/2014	12:00	257.8	
03/25/2014	18:00	151.5	
03/26/2014	0:00	156.6	
03/26/2014	6:00	114.5	
03/26/2014	12:00	257.8	
03/26/2014	18:00	149.5	
03/27/2014	0:00	150.1	
03/27/2014	6:00	114.6	
03/27/2014	12:00	257.8	
03/27/2014	18:00	150.2	
03/28/2014	0:00	152.2	
03/28/2014	6:00	114.7	
03/28/2014	12:00	257.8	
03/28/2014	18:00	209.3	
03/29/2014	0:00	149.8	
03/29/2014	6:00	114.6	
03/29/2014	12:00	257.8	
03/29/2014	18:00	150.0	
03/30/2014	0:00	150.0	
03/30/2014	6:00	114.6	
03/30/2014	12:00	257.8	
03/30/2014	18:00	151.6	
03/31/2014	0:00	151.0	
03/31/2014	6:00	114.3	
03/31/2014	12:00	257.8	
03/31/2014	18:00	222.5	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
04/01/2014	0:00	161.7	
04/01/2014	6:00	114.7	
04/01/2014	12:00	257.8	
04/01/2014	18:00	149.6	
04/02/2014	0:00	150.4	
04/02/2014	6:00	114.7	
04/02/2014	12:00	257.8	
04/02/2014	18:00	150.6	
04/03/2014	0:00	150.6	
04/03/2014	6:00	114.4	
04/03/2014	12:00	257.8	
04/03/2014	18:00	221.9	
04/04/2014	0:00	222.3	
04/04/2014	6:00	114.7	
04/04/2014	12:00	257.8	
04/04/2014	18:00	149.5	
04/05/2014	0:00	150.0	
04/05/2014	6:00	114.6	
04/05/2014	12:00	257.8	
04/05/2014	18:00	150.7	
04/06/2014	0:00	150.5	
04/06/2014	6:00	114.5	
04/06/2014	12:00	257.8	
04/06/2014	18:00	159.1	
04/07/2014	0:00	153.7	

04/07/2014	6:00	114.5	
04/07/2014	12:00	257.8	
04/07/2014	18:00	149.6	
04/08/2014	0:00	149.8	
04/08/2014	6:00	114.7	
04/08/2014	12:00	257.8	
04/08/2014	18:00	150.4	
04/09/2014	0:00	150.2	
04/09/2014	6:00	114.4	
04/09/2014	12:00	257.8	
04/09/2014	18:00	152.1	
04/10/2014	0:00	151.1	
04/10/2014	6:00	114.8	
04/10/2014	12:00	257.8	
04/10/2014	18:00	218.6	
04/11/2014	0:00	158.9	
04/11/2014	6:00	114.5	
04/11/2014	12:00	257.8	
04/11/2014	18:00	149.8	
04/12/2014	0:00	150.0	
04/12/2014	6:00	114.7	
04/12/2014	12:00	257.8	
04/12/2014	18:00	150.8	
04/13/2014	0:00	150.3	
04/13/2014	6:00	114.8	
04/13/2014	12:00	257.8	
04/13/2014	18:00	152.4	
04/14/2014	0:00	150.4	
04/14/2014	6:00	114.7	
04/14/2014	12:00	257.8	
04/14/2014	18:00	151.9	
04/15/2014	0:00	156.3	
04/15/2014	6:00	114.6	
04/15/2014	12:00	257.8	
04/15/2014	18:00	150.0	
04/16/2014	0:00	151.5	
04/16/2014	6:00	114.6	
04/16/2014	12:00	257.8	
04/16/2014	18:00	150.3	
04/17/2014	0:00	150.6	
04/17/2014	6:00	114.9	
04/17/2014	12:00	257.8	
04/17/2014	18:00	150.1	
04/18/2014	0:00	155.3	
04/18/2014	6:00	114.8	
04/18/2014	12:00	257.8	
04/18/2014	18:00	149.8	
04/19/2014	0:00	149.9	
04/19/2014	6:00	114.5	
04/19/2014	12:00	257.8	
04/19/2014	18:00	150.3	
04/20/2014	0:00	150.3	
04/20/2014	6:00	114.7	
04/20/2014	12:00	257.8	
04/20/2014	18:00	153.0	

04/21/2014	0:00	155.1	
04/21/2014	6:00	114.6	
04/21/2014	12:00	257.8	
04/21/2014	18:00	149.5	
04/22/2014	0:00	150.1	
04/22/2014	6:00	114.9	
04/22/2014	12:00	257.8	
04/22/2014	18:00	150.4	
04/23/2014	0:00	151.4	
04/23/2014	6:00	114.7	
04/23/2014	12:00	257.8	
04/23/2014	18:00	152.6	
04/24/2014	0:00	219.6	
04/24/2014	6:00	114.8	
04/24/2014	12:00	257.8	
04/24/2014	18:00	149.7	
04/25/2014	0:00	150.1	
04/25/2014	6:00	114.9	
04/25/2014	12:00	257.8	
04/25/2014	18:00	150.4	
04/26/2014	0:00	163.3	
04/26/2014	6:00	114.7	
04/26/2014	12:00	257.8	
04/26/2014	18:00	149.2	
04/27/2014	0:00	149.9	
04/27/2014	6:00	114.4	
04/27/2014	12:00	257.8	
04/27/2014	18:00	150.4	
04/28/2014	0:00	150.0	
04/28/2014	6:00	114.4	
04/28/2014	12:00	257.8	
04/28/2014	18:00	152.6	
04/29/2014	0:00	159.1	
04/29/2014	6:00	114.3	
04/29/2014	12:00	257.8	
04/29/2014	18:00	149.0	
04/30/2014	0:00	150.0	
04/30/2014	6:00	114.3	
04/30/2014	12:00	257.8	
04/30/2014	18:00	150.0	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
05/01/2014	0:00	155.6	
05/01/2014	6:00	114.4	
05/01/2014	12:00	257.8	
05/01/2014	18:00	149.2	
05/02/2014	0:00	149.3	
05/02/2014	6:00	114.4	
05/02/2014	12:00	257.8	
05/02/2014	18:00	149.9	
05/03/2014	0:00	150.8	
05/03/2014	6:00	114.4	
05/03/2014	12:00	257.8	
05/03/2014	18:00	148.8	
05/04/2014	0:00	174.1	
05/04/2014	6:00	114.5	
05/04/2014	12:00	257.8	
05/04/2014	18:00	149.4	
05/05/2014	0:00	221.4	
05/05/2014	6:00	114.3	
05/05/2014	12:00	257.8	
05/05/2014	18:00	150.6	
05/06/2014	0:00	150.1	
05/06/2014	6:00	114.4	
05/06/2014	12:00	257.8	
05/06/2014	18:00	150.6	
05/07/2014	0:00	149.1	

05/07/2014	6:00	114.3	
05/07/2014	12:00	257.8	
05/07/2014	18:00	148.8	
05/08/2014	0:00	160.9	
05/08/2014	6:00	114.3	
05/08/2014	12:00	257.8	
05/08/2014	18:00	149.0	
05/09/2014	0:00	149.9	
05/09/2014	6:00	114.2	
05/09/2014	12:00	257.8	
05/09/2014	18:00	150.2	
05/10/2014	0:00	150.1	
05/10/2014	6:00	114.5	
05/10/2014	12:00	257.8	
05/10/2014	18:00	152.5	
05/11/2014	0:00	220.5	
05/11/2014	6:00	114.4	
05/11/2014	12:00	257.8	
05/11/2014	18:00	148.9	
05/12/2014	0:00	149.8	
05/12/2014	6:00	114.5	
05/12/2014	12:00	257.8	
05/12/2014	18:00	150.4	
05/13/2014	0:00	157.3	
05/13/2014	6:00	114.5	
05/13/2014	12:00	257.8	
05/13/2014	18:00	149.0	
05/14/2014	0:00	149.7	
05/14/2014	6:00	114.5	
05/14/2014	12:00	257.8	
05/14/2014	18:00	150.0	
05/15/2014	0:00	151.7	
05/15/2014	6:00	114.7	
05/15/2014	12:00	257.8	
05/15/2014	18:00	221.7	
05/16/2014	0:00	149.1	
05/16/2014	6:00	114.6	
05/16/2014	12:00	257.8	
05/16/2014	18:00	149.7	
05/17/2014	0:00	149.9	
05/17/2014	6:00	114.5	
05/17/2014	12:00	257.8	
05/17/2014	18:00	150.4	
05/18/2014	0:00	150.6	
05/18/2014	6:00	114.5	
05/18/2014	12:00	257.8	
05/18/2014	18:00	149.3	
05/19/2014	0:00	159.1	
05/19/2014	6:00	114.2	
05/19/2014	12:00	257.8	
05/19/2014	18:00	149.5	
05/20/2014	0:00	149.7	
05/20/2014	6:00	114.4	
05/20/2014	12:00	257.8	
05/20/2014	18:00	150.1	

05/21/2014	0:00	154.7	
05/21/2014	6:00	114.5	
05/21/2014	12:00	257.8	
05/21/2014	18:00	149.0	
05/22/2014	0:00	224.0	
05/22/2014	6:00	114.2	
05/22/2014	12:00	257.8	
05/22/2014	18:00	150.1	
05/23/2014	0:00	150.9	
05/23/2014	6:00	114.5	
05/23/2014	12:00	257.8	
05/23/2014	18:00	151.5	
05/24/2014	0:00	150.1	
05/24/2014	6:00	114.4	
05/24/2014	12:00	257.8	
05/24/2014	18:00	153.0	
05/25/2014	0:00	150.7	
05/25/2014	6:00	114.4	
05/25/2014	12:00	257.8	
05/25/2014	18:00	215.9	
05/26/2014	0:00	152.5	
05/26/2014	6:00	114.4	
05/26/2014	12:00	257.8	
05/26/2014	18:00	149.3	
05/27/2014	0:00	222.7	
05/27/2014	6:00	114.3	
05/27/2014	12:00	257.8	
05/27/2014	18:00	150.0	
05/28/2014	0:00	214.2	
05/28/2014	6:00	114.6	
05/28/2014	12:00	257.8	
05/28/2014	18:00	150.6	
05/29/2014	0:00	218.1	
05/29/2014	6:00	114.2	
05/29/2014	12:00	257.8	
05/29/2014	18:00	151.1	
05/30/2014	0:00	215.4	
05/30/2014	6:00	114.4	
05/30/2014	12:00	257.8	
05/30/2014	18:00	151.0	
05/31/2014	0:00	149.8	
05/31/2014	6:00	114.5	
05/31/2014	12:00	257.8	
05/31/2014	18:00	151.6	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
06/01/2014	0:00	150.3	
06/01/2014	6:00	114.2	
06/01/2014	12:00	257.8	
06/01/2014	18:00	221.9	
06/02/2014	0:00	155.0	
06/02/2014	6:00	114.3	
06/02/2014	12:00	257.8	
06/02/2014	18:00	149.3	
06/03/2014	0:00	149.6	
06/03/2014	6:00	114.5	
06/03/2014	12:00	257.8	
06/03/2014	18:00	150.1	
06/04/2014	0:00	150.0	
06/04/2014	6:00	114.4	
06/04/2014	12:00	257.8	
06/04/2014	18:00	151.2	
06/05/2014	0:00	150.8	
06/05/2014	6:00	114.3	
06/05/2014	12:00	257.8	
06/05/2014	18:00	221.9	
06/06/2014	0:00	155.1	
06/06/2014	6:00	114.3	
06/06/2014	12:00	257.8	
06/06/2014	18:00	149.4	
06/07/2014	0:00	149.6	

06/07/2014	6:00	114.5	
06/07/2014	12:00	257.8	
06/07/2014	18:00	149.9	
06/08/2014	0:00	150.4	
06/08/2014	6:00	114.2	
06/08/2014	12:00	257.8	
06/08/2014	18:00	167.3	
06/09/2014	0:00	151.8	
06/09/2014	6:00	114.3	
06/09/2014	12:00	257.8	
06/09/2014	18:00	216.5	
06/10/2014	0:00	222.2	
06/10/2014	6:00	114.3	
06/10/2014	12:00	257.8	
06/10/2014	18:00	149.5	
06/11/2014	0:00	216.7	
06/11/2014	6:00	114.1	
06/11/2014	12:00	257.8	
06/11/2014	18:00	150.3	
06/12/2014	0:00	149.9	
06/12/2014	6:00	114.5	
06/12/2014	12:00	257.8	
06/12/2014	18:00	150.7	
06/13/2014	0:00	150.5	
06/13/2014	6:00	114.5	
06/13/2014	12:00	257.8	
06/13/2014	18:00	221.4	
06/14/2014	0:00	213.5	
06/14/2014	6:00	114.0	
06/14/2014	12:00	257.8	
06/14/2014	18:00	149.1	
06/15/2014	0:00	149.6	
06/15/2014	6:00	114.1	
06/15/2014	12:00	257.8	
06/15/2014	18:00	150.4	
06/16/2014	0:00	150.4	
06/16/2014	6:00	114.2	
06/16/2014	12:00	257.8	
06/16/2014	18:00	158.3	
06/17/2014	0:00	155.6	
06/17/2014	6:00	114.2	
06/17/2014	12:00	257.8	
06/17/2014	18:00	149.1	
06/18/2014	0:00	149.5	
06/18/2014	6:00	114.3	
06/18/2014	12:00	257.8	
06/18/2014	18:00	149.8	
06/19/2014	0:00	150.0	
06/19/2014	6:00	113.8	
06/19/2014	12:00	257.8	
06/19/2014	18:00	152.1	
06/20/2014	0:00	148.8	
06/20/2014	6:00	113.9	
06/20/2014	12:00	257.8	
06/20/2014	18:00	148.8	

06/21/2014	0:00	150.1	
06/21/2014	6:00	113.9	
06/21/2014	12:00	257.8	
06/21/2014	18:00	156.1	
06/22/2014	0:00	149.3	
06/22/2014	6:00	113.9	
06/22/2014	12:00	257.8	
06/22/2014	18:00	148.6	
06/23/2014	0:00	149.3	
06/23/2014	6:00	113.9	
06/23/2014	12:00	257.8	
06/23/2014	18:00	150.9	
06/24/2014	0:00	151.4	
06/24/2014	6:00	114.1	
06/24/2014	12:00	257.8	
06/24/2014	18:00	218.6	
06/25/2014	0:00	220.8	
06/25/2014	6:00	114.2	
06/25/2014	12:00	257.8	
06/25/2014	18:00	149.3	
06/26/2014	0:00	149.3	
06/26/2014	6:00	114.0	
06/26/2014	12:00	257.8	
06/26/2014	18:00	150.0	
06/27/2014	0:00	153.6	
06/27/2014	6:00	113.9	
06/27/2014	12:00	257.8	
06/27/2014	18:00	148.5	
06/28/2014	0:00	215.2	
06/28/2014	6:00	113.7	
06/28/2014	12:00	257.8	
06/28/2014	18:00	149.3	
06/29/2014	0:00	149.3	
06/29/2014	6:00	113.9	
06/29/2014	12:00	257.8	
06/29/2014	18:00	150.5	
06/30/2014	0:00	149.8	
06/30/2014	6:00	114.0	
06/30/2014	12:00	257.8	
06/30/2014	18:00	154.6	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
07/01/2014	0:00	155.7	
07/01/2014	6:00	114.0	
07/01/2014	12:00	257.8	
07/01/2014	18:00	148.6	
07/02/2014	0:00	215.4	
07/02/2014	6:00	114.2	
07/02/2014	12:00	257.8	
07/02/2014	18:00	149.8	
07/03/2014	0:00	151.2	
07/03/2014	6:00	114.2	
07/03/2014	12:00	257.8	
07/03/2014	18:00	150.8	
07/04/2014	0:00	150.1	
07/04/2014	6:00	114.2	
07/04/2014	12:00	257.8	
07/04/2014	18:00	223.2	
07/05/2014	0:00	152.0	
07/05/2014	6:00	114.0	
07/05/2014	12:00	257.8	
07/05/2014	18:00	149.3	
07/06/2014	0:00	152.6	
07/06/2014	6:00	114.0	
07/06/2014	12:00	257.8	
07/06/2014	18:00	149.6	
07/07/2014	0:00	152.7	

07/07/2014	6:00	114.1
07/07/2014	12:00	257.8
07/07/2014	18:00	149.9
07/08/2014	0:00	223.9
07/08/2014	6:00	114.0
07/08/2014	12:00	257.8
07/08/2014	18:00	149.8
07/09/2014	0:00	223.2
07/09/2014	6:00	114.1
07/09/2014	12:00	257.8
07/09/2014	18:00	150.4
07/10/2014	0:00	162.0
07/10/2014	6:00	114.1
07/10/2014	12:00	257.8
07/10/2014	18:00	150.8
07/11/2014	0:00	221.1
07/11/2014	6:00	114.0
07/11/2014	12:00	257.8
07/11/2014	18:00	150.7
07/12/2014	0:00	149.7
07/12/2014	6:00	114.2
07/12/2014	12:00	257.8
07/12/2014	18:00	151.0
07/13/2014	0:00	150.0
07/13/2014	6:00	114.2
07/13/2014	12:00	257.8
07/13/2014	18:00	151.1
07/14/2014	0:00	150.0
07/14/2014	6:00	114.2
07/14/2014	12:00	257.8
07/14/2014	18:00	152.1
07/15/2014	0:00	150.1
07/15/2014	6:00	114.1
07/15/2014	12:00	257.8
07/15/2014	18:00	152.9
07/16/2014	0:00	215.9
07/16/2014	6:00	114.1
07/16/2014	12:00	257.8
07/16/2014	18:00	153.2
07/17/2014	0:00	150.3
07/17/2014	6:00	114.2
07/17/2014	12:00	257.8
07/17/2014	18:00	151.4
07/18/2014	0:00	221.9
07/18/2014	6:00	114.0
07/18/2014	12:00	257.8
07/18/2014	18:00	152.0
07/19/2014	0:00	149.8
07/19/2014	6:00	114.0
07/19/2014	12:00	257.8
07/19/2014	18:00	150.7
07/20/2014	0:00	224.4
07/20/2014	6:00	113.9
07/20/2014	12:00	257.8
07/20/2014	18:00	152.7

07/21/2014	0:00	162.5	
07/21/2014	6:00	114.1	
07/21/2014	12:00	257.8	
07/21/2014	18:00	151.3	
07/22/2014	0:00	164.2	
07/22/2014	6:00	114.3	
07/22/2014	12:00	257.8	
07/22/2014	18:00	150.9	
07/23/2014	0:00	159.5	
07/23/2014	6:00	114.2	
07/23/2014	12:00	257.8	
07/23/2014	18:00	151.2	
07/24/2014	0:00	155.5	
07/24/2014	6:00	114.0	
07/24/2014	12:00	257.8	
07/24/2014	18:00	151.4	
07/25/2014	0:00	223.8	
07/25/2014	6:00	114.1	
07/25/2014	12:00	257.8	
07/25/2014	18:00	150.5	
07/26/2014	0:00	223.3	
07/26/2014	6:00	114.2	
07/26/2014	12:00	257.8	
07/26/2014	18:00	151.4	
07/27/2014	0:00	220.8	
07/27/2014	6:00	114.1	
07/27/2014	12:00	257.8	
07/27/2014	18:00	150.8	
07/28/2014	0:00	159.7	
07/28/2014	6:00	114.1	
07/28/2014	12:00	257.8	
07/28/2014	18:00	151.3	
07/29/2014	0:00	161.4	
07/29/2014	6:00	114.3	
07/29/2014	12:00	257.8	
07/29/2014	18:00	150.9	
07/30/2014	0:00	157.0	
07/30/2014	6:00	114.3	
07/30/2014	12:00	257.8	
07/30/2014	18:00	151.4	
07/31/2014	0:00	225.3	
07/31/2014	6:00	113.9	
07/31/2014	12:00	257.8	
07/31/2014	18:00	151.1	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
08/01/2014	0:00	156.4	
08/01/2014	6:00	114.2	
08/01/2014	12:00	257.8	
08/01/2014	18:00	151.2	
08/02/2014	0:00	151.6	
08/02/2014	6:00	114.4	
08/02/2014	12:00	257.8	
08/02/2014	18:00	151.7	
08/03/2014	0:00	223.8	
08/03/2014	6:00	114.2	
08/03/2014	12:00	257.8	
08/03/2014	18:00	223.5	
08/04/2014	0:00	158.0	
08/04/2014	6:00	114.3	
08/04/2014	12:00	257.8	
08/04/2014	18:00	152.5	
08/05/2014	0:00	150.4	
08/05/2014	6:00	114.3	
08/05/2014	12:00	257.8	
08/05/2014	18:00	151.7	
08/06/2014	0:00	224.3	
08/06/2014	6:00	114.3	
08/06/2014	12:00	257.8	
08/06/2014	18:00	149.6	
08/07/2014	0:00	158.1	

08/07/2014	6:00	114.3	
08/07/2014	12:00	257.8	
08/07/2014	18:00	153.4	
08/08/2014	0:00	155.3	
08/08/2014	6:00	114.4	
08/08/2014	12:00	257.8	
08/08/2014	18:00	152.1	
08/09/2014	0:00	152.1	
08/09/2014	6:00	114.5	
08/09/2014	12:00	257.8	
08/09/2014	18:00	210.0	
08/10/2014	0:00	175.5	
08/10/2014	6:00	114.3	
08/10/2014	12:00	257.8	
08/10/2014	18:00	154.1	
08/11/2014	0:00	196.0	
08/11/2014	6:00	114.3	
08/11/2014	12:00	257.8	
08/11/2014	18:00	151.7	
08/12/2014	0:00	157.6	
08/12/2014	6:00	114.1	
08/12/2014	12:00	257.8	
08/12/2014	18:00	151.8	
08/13/2014	0:00	157.0	
08/13/2014	6:00	114.4	
08/13/2014	12:00	257.8	
08/13/2014	18:00	151.6	
08/14/2014	0:00	156.8	
08/14/2014	6:00	114.6	
08/14/2014	12:00	257.8	
08/14/2014	18:00	151.9	
08/15/2014	0:00	152.4	
08/15/2014	6:00	114.4	
08/15/2014	12:00	257.8	
08/15/2014	18:00	152.1	
08/16/2014	0:00	224.6	
08/16/2014	6:00	114.3	
08/16/2014	12:00	257.8	
08/16/2014	18:00	158.9	
08/17/2014	0:00	223.9	
08/17/2014	6:00	114.3	
08/17/2014	12:00	257.8	
08/17/2014	18:00	152.2	
08/18/2014	0:00	168.7	
08/18/2014	6:00	114.4	
08/18/2014	12:00	257.8	
08/18/2014	18:00	151.5	
08/19/2014	0:00	223.7	
08/19/2014	6:00	114.1	
08/19/2014	12:00	257.8	
08/19/2014	18:00	151.3	
08/20/2014	0:00	160.9	
08/20/2014	6:00	114.1	
08/20/2014	12:00	257.8	
08/20/2014	18:00	151.1	

08/21/2014	0:00	225.2	
08/21/2014	6:00	114.2	
08/21/2014	12:00	257.8	
08/21/2014	18:00	151.0	
08/22/2014	0:00	156.9	
08/22/2014	6:00	114.3	
08/22/2014	12:00	257.8	
08/22/2014	18:00	151.8	
08/23/2014	0:00	224.4	
08/23/2014	6:00	114.5	
08/23/2014	12:00	257.8	
08/23/2014	18:00	150.9	
08/24/2014	0:00	158.5	
08/24/2014	6:00	114.6	
08/24/2014	12:00	257.8	
08/24/2014	18:00	151.1	
08/25/2014	0:00	169.2	
08/25/2014	6:00	114.4	
08/25/2014	12:00	257.8	
08/25/2014	18:00	151.0	
08/26/2014	0:00	160.4	
08/26/2014	6:00	114.3	
08/26/2014	12:00	257.8	
08/26/2014	18:00	151.3	
08/27/2014	0:00	173.9	
08/27/2014	6:00	114.6	
08/27/2014	12:00	257.8	
08/27/2014	18:00	151.2	
08/28/2014	0:00	223.3	
08/28/2014	6:00	114.3	
08/28/2014	12:00	257.8	
08/28/2014	18:00	151.2	
08/29/2014	0:00	150.1	
08/29/2014	6:00	114.4	
08/29/2014	12:00	257.8	
08/29/2014	18:00	151.1	
08/30/2014	0:00	150.2	
08/30/2014	6:00	114.5	
08/30/2014	12:00	257.8	
08/30/2014	18:00	153.9	
08/31/2014	0:00	152.9	
08/31/2014	6:00	114.3	
08/31/2014	12:00	257.8	
08/31/2014	18:00	149.8	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
09/01/2014	0:00	211.4	
09/01/2014	6:00	114.2	
09/01/2014	12:00	257.8	
09/01/2014	18:00	150.0	
09/02/2014	0:00	215.3	
09/02/2014	6:00	114.3	
09/02/2014	12:00	257.8	
09/02/2014	18:00	151.3	
09/03/2014	0:00	149.9	
09/03/2014	6:00	114.1	
09/03/2014	12:00	257.8	
09/03/2014	18:00	151.2	
09/04/2014	0:00	150.8	
09/04/2014	6:00	114.1	
09/04/2014	12:00	257.8	
09/04/2014	18:00	160.6	
09/05/2014	0:00	224.9	
09/05/2014	6:00	114.4	
09/05/2014	12:00	257.8	
09/05/2014	18:00	149.7	
09/06/2014	0:00	159.2	
09/06/2014	6:00	114.5	
09/06/2014	12:00	257.8	
09/06/2014	18:00	151.3	
09/07/2014	0:00	210.9	

09/07/2014	6:00	114.4	
09/07/2014	12:00	257.8	
09/07/2014	18:00	150.6	
09/08/2014	0:00	216.5	
09/08/2014	6:00	114.4	
09/08/2014	12:00	257.8	
09/08/2014	18:00	151.5	
09/09/2014	0:00	150.0	
09/09/2014	6:00	114.2	
09/09/2014	12:00	257.8	
09/09/2014	18:00	151.3	
09/10/2014	0:00	151.6	
09/10/2014	6:00	114.4	
09/10/2014	12:00	257.8	
09/10/2014	18:00	167.8	
09/11/2014	0:00	223.9	
09/11/2014	6:00	114.4	
09/11/2014	12:00	257.8	
09/11/2014	18:00	149.7	
09/12/2014	0:00	150.3	
09/12/2014	6:00	114.6	
09/12/2014	12:00	257.8	
09/12/2014	18:00	151.0	
09/13/2014	0:00	150.3	
09/13/2014	6:00	114.2	
09/13/2014	12:00	257.8	
09/13/2014	18:00	159.3	
09/14/2014	0:00	151.3	
09/14/2014	6:00	114.4	
09/14/2014	12:00	257.8	
09/14/2014	18:00	206.2	
09/15/2014	0:00	155.9	
09/15/2014	6:00	114.4	
09/15/2014	12:00	257.8	
09/15/2014	18:00	150.0	
09/16/2014	0:00	150.1	
09/16/2014	6:00	114.3	
09/16/2014	12:00	257.8	
09/16/2014	18:00	150.6	
09/17/2014	0:00	150.7	
09/17/2014	6:00	114.1	
09/17/2014	12:00	257.8	
09/17/2014	18:00	216.6	
09/18/2014	0:00	151.8	
09/18/2014	6:00	114.1	
09/18/2014	12:00	257.8	
09/18/2014	18:00	222.6	
09/19/2014	0:00	164.5	
09/19/2014	6:00	114.1	
09/19/2014	12:00	257.8	
09/19/2014	18:00	149.9	
09/20/2014	0:00	149.9	
09/20/2014	6:00	114.0	
09/20/2014	12:00	257.8	
09/20/2014	18:00	150.5	

09/21/2014	0:00	151.3	
09/21/2014	6:00	114.4	
09/21/2014	12:00	257.8	
09/21/2014	18:00	152.0	
09/22/2014	0:00	153.5	
09/22/2014	6:00	114.4	
09/22/2014	12:00	257.8	
09/22/2014	18:00	214.2	
09/23/2014	0:00	149.8	
09/23/2014	6:00	114.4	
09/23/2014	12:00	257.8	
09/23/2014	18:00	150.3	
09/24/2014	0:00	150.8	
09/24/2014	6:00	114.2	
09/24/2014	12:00	257.8	
09/24/2014	18:00	153.4	
09/25/2014	0:00	156.5	
09/25/2014	6:00	114.3	
09/25/2014	12:00	257.8	
09/25/2014	18:00	149.6	
09/26/2014	0:00	221.5	
09/26/2014	6:00	114.3	
09/26/2014	12:00	257.8	
09/26/2014	18:00	150.6	
09/27/2014	0:00	150.4	
09/27/2014	6:00	114.5	
09/27/2014	12:00	257.8	
09/27/2014	18:00	151.4	
09/28/2014	0:00	151.0	
09/28/2014	6:00	114.1	
09/28/2014	12:00	257.8	
09/28/2014	18:00	163.0	
09/29/2014	0:00	150.4	
09/29/2014	6:00	114.2	
09/29/2014	12:00	257.8	
09/29/2014	18:00	223.7	
09/30/2014	0:00	150.8	
09/30/2014	6:00	114.1	
09/30/2014	12:00	257.8	
09/30/2014	18:00	154.0	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
10/01/2014	0:00	156.1	
10/01/2014	6:00	114.2	
10/01/2014	12:00	257.8	
10/01/2014	18:00	204.2	
10/02/2014	0:00	194.5	
10/02/2014	6:00	114.2	
10/02/2014	12:00	257.8	
10/02/2014	18:00	150.4	
10/03/2014	0:00	150.5	
10/03/2014	6:00	114.2	
10/03/2014	12:00	257.8	
10/03/2014	18:00	150.7	
10/04/2014	0:00	152.1	
10/04/2014	6:00	114.1	
10/04/2014	12:00	257.8	
10/04/2014	18:00	220.8	
10/05/2014	0:00	221.4	
10/05/2014	6:00	114.1	
10/05/2014	12:00	257.8	
10/05/2014	18:00	149.8	
10/06/2014	0:00	149.8	
10/06/2014	6:00	114.0	
10/06/2014	12:00	257.8	
10/06/2014	18:00	151.3	
10/07/2014	0:00	150.5	

10/07/2014	6:00	114.1	
10/07/2014	12:00	257.8	
10/07/2014	18:00	215.3	
10/08/2014	0:00	151.7	
10/08/2014	6:00	114.4	
10/08/2014	12:00	257.8	
10/08/2014	18:00	223.6	
10/09/2014	0:00	149.7	
10/09/2014	6:00	114.2	
10/09/2014	12:00	257.8	
10/09/2014	18:00	149.9	
10/10/2014	0:00	151.8	
10/10/2014	6:00	114.3	
10/10/2014	12:00	257.8	
10/10/2014	18:00	159.2	
10/11/2014	0:00	149.6	
10/11/2014	6:00	114.3	
10/11/2014	12:00	257.8	
10/11/2014	18:00	149.7	
10/12/2014	0:00	151.1	
10/12/2014	6:00	114.5	
10/12/2014	12:00	257.8	
10/12/2014	18:00	153.0	
10/13/2014	0:00	150.8	
10/13/2014	6:00	114.1	
10/13/2014	12:00	257.8	
10/13/2014	18:00	149.6	
10/14/2014	0:00	216.4	
10/14/2014	6:00	114.1	
10/14/2014	12:00	257.8	
10/14/2014	18:00	149.5	
10/15/2014	0:00	150.6	
10/15/2014	6:00	114.1	
10/15/2014	12:00	257.8	
10/15/2014	18:00	151.1	
10/16/2014	0:00	148.8	
10/16/2014	6:00	114.1	
10/16/2014	12:00	257.8	
10/16/2014	18:00	149.4	
10/17/2014	0:00	151.3	
10/17/2014	6:00	114.3	
10/17/2014	12:00	257.8	
10/17/2014	18:00	153.8	
10/18/2014	0:00	149.7	
10/18/2014	6:00	114.1	
10/18/2014	12:00	257.8	
10/18/2014	18:00	149.6	
10/19/2014	0:00	151.5	
10/19/2014	6:00	114.1	
10/19/2014	12:00	257.8	
10/19/2014	18:00	220.0	
10/20/2014	0:00	151.9	
10/20/2014	6:00	114.2	
10/20/2014	12:00	257.8	
10/20/2014	18:00	149.6	

10/21/2014	0:00	149.6	
10/21/2014	6:00	114.2	
10/21/2014	12:00	257.8	
10/21/2014	18:00	149.8	
10/22/2014	0:00	151.6	
10/22/2014	6:00	114.2	
10/22/2014	12:00	257.8	
10/22/2014	18:00	152.9	
10/23/2014	0:00	150.0	
10/23/2014	6:00	114.0	
10/23/2014	12:00	257.8	
10/23/2014	18:00	149.7	
10/24/2014	0:00	221.8	
10/24/2014	6:00	114.1	
10/24/2014	12:00	257.8	
10/24/2014	18:00	148.8	
10/25/2014	0:00	150.4	
10/25/2014	6:00	114.0	
10/25/2014	12:00	257.8	
10/25/2014	18:00	150.6	
10/26/2014	0:00	167.7	
10/26/2014	6:00	114.0	
10/26/2014	12:00	257.8	
10/26/2014	18:00	149.3	
10/27/2014	0:00	150.0	
10/27/2014	6:00	114.0	
10/27/2014	12:00	257.8	
10/27/2014	18:00	150.2	
10/28/2014	0:00	149.2	
10/28/2014	6:00	114.1	
10/28/2014	12:00	257.8	
10/28/2014	18:00	148.8	
10/29/2014	0:00	151.8	
10/29/2014	6:00	114.0	
10/29/2014	12:00	257.8	
10/29/2014	18:00	154.2	
10/30/2014	0:00	155.9	
10/30/2014	6:00	114.1	
10/30/2014	12:00	257.8	
10/30/2014	18:00	149.7	
10/31/2014	0:00		
10/31/2014	6:00		
10/31/2014	12:00		
10/31/2014	18:00		

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
11/01/2014	0:00	217.9	
11/01/2014	6:00	114.4	
11/01/2014	12:00	257.8	
11/01/2014	18:00	149.2	
11/02/2014	0:00	150.1	
11/02/2014	6:00	114.1	
11/02/2014	12:00	257.8	
11/02/2014	18:00	150.6	
11/03/2014	0:00	158.0	
11/03/2014	6:00	114.2	
11/03/2014	12:00	257.8	
11/03/2014	18:00	149.0	
11/04/2014	0:00	150.7	
11/04/2014	6:00	114.1	
11/04/2014	12:00	257.8	
11/04/2014	18:00	150.3	
11/05/2014	0:00	149.2	
11/05/2014	6:00	114.0	
11/05/2014	12:00	257.8	
11/05/2014	18:00	149.3	
11/06/2014	0:00	150.0	
11/06/2014	6:00	114.2	
11/06/2014	12:00	257.8	
11/06/2014	18:00	152.3	
11/07/2014	0:00	154.5	

11/07/2014	6:00	114.2	
11/07/2014	12:00	257.8	
11/07/2014	18:00	216.3	
11/08/2014	0:00		
11/08/2014	6:00		
11/08/2014	12:00		
11/08/2014	18:00		
11/09/2014	0:00	218.0	
11/09/2014	6:00	114.4	
11/09/2014	12:00	257.8	
11/09/2014	18:00	148.8	
11/10/2014	0:00	150.8	
11/10/2014	6:00	114.0	
11/10/2014	12:00	257.8	
11/10/2014	18:00	150.9	
11/11/2014	0:00	149.6	
11/11/2014	6:00	114.1	
11/11/2014	12:00	257.8	
11/11/2014	18:00	149.3	
11/12/2014	0:00	154.7	
11/12/2014	6:00	114.2	
11/12/2014	12:00	257.8	
11/12/2014	18:00	216.9	
11/13/2014	0:00	150.3	
11/13/2014	6:00	114.2	
11/13/2014	12:00	257.8	
11/13/2014	18:00	150.2	
11/14/2014	0:00	149.1	
11/14/2014	6:00	114.0	
11/14/2014	12:00	257.8	
11/14/2014	18:00	149.3	
11/15/2014	0:00	149.6	
11/15/2014	6:00	114.0	
11/15/2014	12:00	257.8	
11/15/2014	18:00	154.8	
11/16/2014	0:00	151.4	
11/16/2014	6:00	114.0	
11/16/2014	12:00	257.8	
11/16/2014	18:00	216.7	
11/17/2014	0:00	149.6	
11/17/2014	6:00	113.9	
11/17/2014	12:00	257.8	
11/17/2014	18:00	149.7	
11/18/2014	0:00	160.4	
11/18/2014	6:00	113.9	
11/18/2014	12:00	257.8	
11/18/2014	18:00	148.6	
11/19/2014	0:00	150.3	
11/19/2014	6:00	114.0	
11/19/2014	12:00	257.8	
11/19/2014	18:00	150.0	
11/20/2014	0:00	221.0	
11/20/2014	6:00	114.1	
11/20/2014	12:00	257.8	
11/20/2014	18:00	149.2	

11/21/2014	0:00	149.5	
11/21/2014	6:00	114.0	
11/21/2014	12:00	257.8	
11/21/2014	18:00	150.6	
11/22/2014	0:00	154.8	
11/22/2014	6:00	113.8	
11/22/2014	12:00	257.8	
11/22/2014	18:00	148.8	
11/23/2014	0:00	149.6	
11/23/2014	6:00	113.6	
11/23/2014	12:00	257.8	
11/23/2014	18:00	149.8	
11/24/2014	0:00	150.3	
11/24/2014	6:00	113.9	
11/24/2014	12:00	257.8	
11/24/2014	18:00	148.7	
11/25/2014	0:00	184.6	
11/25/2014	6:00	113.9	
11/25/2014	12:00	257.8	
11/25/2014	18:00	149.3	
11/26/2014	0:00	150.6	
11/26/2014	6:00	114.0	
11/26/2014	12:00	257.8	
11/26/2014	18:00	150.1	
11/27/2014	0:00	149.3	
11/27/2014	6:00	114.0	
11/27/2014	12:00	257.8	
11/27/2014	18:00	149.4	
11/28/2014	0:00	151.2	
11/28/2014	6:00	114.0	
11/28/2014	12:00	257.8	
11/28/2014	18:00	155.5	
11/29/2014	0:00	149.3	
11/29/2014	6:00	113.8	
11/29/2014	12:00	257.8	
11/29/2014	18:00	149.0	
11/30/2014	0:00	151.9	
11/30/2014	6:00	114.0	
11/30/2014	12:00	257.8	
11/30/2014	18:00	220.9	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
12/01/2014	0:00	149.5	
12/01/2014	6:00	114.2	
12/01/2014	12:00	257.8	
12/01/2014	18:00	150.0	
12/02/2014	0:00	151.9	
12/02/2014	6:00	114.0	
12/02/2014	12:00	257.8	
12/02/2014	18:00	223.3	
12/03/2014	0:00	149.7	
12/03/2014	6:00	114.0	
12/03/2014	12:00	257.8	
12/03/2014	18:00	149.6	
12/04/2014	0:00	150.1	
12/04/2014	6:00	114.0	
12/04/2014	12:00	257.8	
12/04/2014	18:00	149.3	
12/05/2014	0:00	156.5	
12/05/2014	6:00	114.2	
12/05/2014	12:00	257.8	
12/05/2014	18:00	149.0	
12/06/2014	0:00	150.1	
12/06/2014	6:00	114.1	
12/06/2014	12:00	257.8	
12/06/2014	18:00	150.1	
12/07/2014	0:00	163.4	

12/07/2014	6:00	113.9	
12/07/2014	12:00	257.8	
12/07/2014	18:00	149.3	
12/08/2014	0:00	150.5	
12/08/2014	6:00	114.0	
12/08/2014	12:00	257.8	
12/08/2014	18:00	150.3	
12/09/2014	0:00	149.1	
12/09/2014	6:00	114.0	
12/09/2014	12:00	257.8	
12/09/2014	18:00	149.6	
12/10/2014	0:00	151.1	
12/10/2014	6:00	114.0	
12/10/2014	12:00	257.8	
12/10/2014	18:00	152.6	
12/11/2014	0:00	224.0	
12/11/2014	6:00	113.5	
12/11/2014	12:00	257.8	
12/11/2014	18:00	149.5	
12/12/2014	0:00	150.2	
12/12/2014	6:00	113.9	
12/12/2014	12:00	257.8	
12/12/2014	18:00	150.5	
12/13/2014	0:00	222.7	
12/13/2014	6:00	113.8	
12/13/2014	12:00	257.8	
12/13/2014	18:00	149.3	
12/14/2014	0:00	149.7	
12/14/2014	6:00	113.9	
12/14/2014	12:00	257.8	
12/14/2014	18:00	150.3	
12/15/2014	0:00	155.0	
12/15/2014	6:00	113.8	
12/15/2014	12:00	257.8	
12/15/2014	18:00	148.7	
12/16/2014	0:00	150.0	
12/16/2014	6:00	113.8	
12/16/2014	12:00	257.8	
12/16/2014	18:00	150.0	
12/17/2014	0:00	222.5	
12/17/2014	6:00	113.9	
12/17/2014	12:00	257.8	
12/17/2014	18:00	149.2	
12/18/2014	0:00	151.0	
12/18/2014	6:00	113.8	
12/18/2014	12:00	257.8	
12/18/2014	18:00	150.6	
12/19/2014	0:00	152.1	
12/19/2014	6:00	113.8	
12/19/2014	12:00	257.8	
12/19/2014	18:00	149.4	
12/20/2014	0:00	149.4	
12/20/2014	6:00	113.8	
12/20/2014	12:00	257.8	
12/20/2014	18:00	149.7	

12/21/2014	0:00	150.7	
12/21/2014	6:00	113.6	
12/21/2014	12:00	257.8	
12/21/2014	18:00	154.5	
12/22/2014	0:00	149.0	
12/22/2014	6:00	113.6	
12/22/2014	12:00	257.8	
12/22/2014	18:00	149.0	
12/23/2014	0:00	153.2	
12/23/2014	6:00	113.5	
12/23/2014	12:00	257.8	
12/23/2014	18:00	215.2	
12/24/2014	0:00	149.2	
12/24/2014	6:00	113.6	
12/24/2014	12:00	257.8	
12/24/2014	18:00	149.5	
12/25/2014	0:00	158.7	
12/25/2014	6:00	113.5	
12/25/2014	12:00	257.8	
12/25/2014	18:00	148.7	
12/26/2014	0:00	149.9	
12/26/2014	6:00	113.9	
12/26/2014	12:00	257.8	
12/26/2014	18:00	149.7	
12/27/2014	0:00	222.0	
12/27/2014	6:00	113.5	
12/27/2014	12:00	257.8	
12/27/2014	18:00	149.1	
12/28/2014	0:00	149.7	
12/28/2014	6:00	113.8	
12/28/2014	12:00	257.8	
12/28/2014	18:00	150.6	
12/29/2014	0:00	150.2	
12/29/2014	6:00	113.9	
12/29/2014	12:00	257.8	
12/29/2014	18:00	225.2	
12/30/2014	0:00	151.4	
12/30/2014	6:00	114.1	
12/30/2014	12:00	257.8	
12/30/2014	18:00	162.4	
12/31/2014	0:00		
12/31/2014	6:00		
12/31/2014	12:00		
12/31/2014	18:00		

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
01/01/2015	0:00	151.9	
01/01/2015	6:00	113.7	
01/01/2015	12:00	257.8	
01/01/2015	18:00	212.7	
01/02/2015	0:00	149.5	
01/02/2015	6:00	113.6	
01/02/2015	12:00	257.8	
01/02/2015	18:00	149.3	
01/03/2015	0:00	150.6	
01/03/2015	6:00	113.9	
01/03/2015	12:00	257.8	
01/03/2015	18:00	152.9	
01/04/2015	0:00	158.2	
01/04/2015	6:00	113.8	
01/04/2015	12:00	257.8	
01/04/2015	18:00	149.2	
01/05/2015	0:00	150.1	
01/05/2015	6:00	113.8	
01/05/2015	12:00	257.8	
01/05/2015	18:00	150.3	
01/06/2015	0:00	149.2	
01/06/2015	6:00	113.9	
01/06/2015	12:00	257.8	
01/06/2015	18:00	210.4	
01/07/2015	0:00	148.9	

01/07/2015	6:00	113.8	
01/07/2015	12:00	257.8	
01/07/2015	18:00	148.9	
01/08/2015	0:00	222.7	
01/08/2015	6:00	113.5	
01/08/2015	12:00	257.8	
01/08/2015	18:00	194.7	
01/09/2015	0:00	154.7	
01/09/2015	6:00	113.6	
01/09/2015	12:00	257.8	
01/09/2015	18:00	150.3	
01/10/2015	0:00	149.6	
01/10/2015	6:00	113.8	
01/10/2015	12:00	257.8	
01/10/2015	18:00	149.5	
01/11/2015	0:00	149.3	
01/11/2015	6:00	113.9	
01/11/2015	12:00	257.8	
01/11/2015	18:00	149.0	
01/12/2015	0:00	171.6	
01/12/2015	6:00	113.8	
01/12/2015	12:00	257.8	
01/12/2015	18:00	188.7	
01/13/2015	0:00	152.1	
01/13/2015	6:00	114.0	
01/13/2015	12:00	257.8	
01/13/2015	18:00	150.1	
01/14/2015	0:00	150.3	
01/14/2015	6:00	113.8	
01/14/2015	12:00	257.8	
01/14/2015	18:00	149.5	
01/15/2015	0:00	148.7	
01/15/2015	6:00	113.8	
01/15/2015	12:00	257.8	
01/15/2015	18:00	148.6	
01/16/2015	0:00	148.7	
01/16/2015	6:00	113.6	
01/16/2015	12:00	257.8	
01/16/2015	18:00	152.6	
01/17/2015	0:00	150.3	
01/17/2015	6:00	113.6	
01/17/2015	12:00	257.8	
01/17/2015	18:00	219.4	
01/18/2015	0:00	148.7	
01/18/2015	6:00	113.6	
01/18/2015	12:00	257.8	
01/18/2015	18:00	148.8	
01/19/2015	0:00	150.4	
01/19/2015	6:00	113.6	
01/19/2015	12:00	257.8	
01/19/2015	18:00	152.2	
01/20/2015	0:00	148.8	
01/20/2015	6:00	113.5	
01/20/2015	12:00	257.8	
01/20/2015	18:00	149.0	

01/21/2015	0:00	151.6	
01/21/2015	6:00	113.7	
01/21/2015	12:00	257.8	
01/21/2015	18:00	158.1	
01/22/2015	0:00	149.2	
01/22/2015	6:00	113.8	
01/22/2015	12:00	257.8	
01/22/2015	18:00	149.5	
01/23/2015	0:00	149.4	
01/23/2015	6:00	113.6	
01/23/2015	12:00	257.8	
01/23/2015	18:00	148.5	
01/24/2015	0:00	150.9	
01/24/2015	6:00	113.6	
01/24/2015	12:00	257.8	
01/24/2015	18:00	148.8	
01/25/2015	0:00	149.0	
01/25/2015	6:00	113.6	
01/25/2015	12:00	257.8	
01/25/2015	18:00	149.2	
01/26/2015	0:00	150.8	
01/26/2015	6:00	113.8	
01/26/2015	12:00	257.8	
01/26/2015	18:00	152.6	
01/27/2015	0:00	148.8	
01/27/2015	6:00	113.7	
01/27/2015	12:00	257.8	
01/27/2015	18:00	149.3	
01/28/2015	0:00	151.0	
01/28/2015	6:00	113.6	
01/28/2015	12:00	257.8	
01/28/2015	18:00	156.1	
01/29/2015	0:00	149.2	
01/29/2015	6:00	113.8	
01/29/2015	12:00	257.8	
01/29/2015	18:00	149.2	
01/30/2015	0:00	150.3	
01/30/2015	6:00	113.6	
01/30/2015	12:00	257.8	
01/30/2015	18:00	152.2	
01/31/2015	0:00	149.1	
01/31/2015	6:00	113.9	
01/31/2015	12:00	257.8	
01/31/2015	18:00	148.8	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
02/01/2015	0:00	150.6	
02/01/2015	6:00	113.8	
02/01/2015	12:00	257.8	
02/01/2015	18:00	154.6	
02/02/2015	0:00	148.7	
02/02/2015	6:00	113.6	
02/02/2015	12:00	257.8	
02/02/2015	18:00	149.0	
02/03/2015	0:00	149.1	
02/03/2015	6:00	113.6	
02/03/2015	12:00	257.8	
02/03/2015	18:00	163.0	
02/04/2015	0:00		
02/04/2015	6:00		
02/04/2015	12:00		
02/04/2015	18:00		
02/05/2015	0:00	0.0	
02/05/2015	6:00	0.0	
02/05/2015	12:00	0.0	
02/05/2015	18:00	0.0	
02/06/2015	0:00	0.0	
02/06/2015	6:00	0.0	
02/06/2015	12:00	0.0	
02/06/2015	18:00	0.0	
02/07/2015	0:00	0.0	

02/07/2015	6:00	0.0	
02/07/2015	12:00	0.0	
02/07/2015	18:00	0.0	
02/08/2015	0:00	0.0	
02/08/2015	6:00	0.0	
02/08/2015	12:00	0.0	
02/08/2015	18:00	0.0	
02/09/2015	0:00	225.5	
02/09/2015	6:00	120.7	
02/09/2015	12:00	257.8	
02/09/2015	18:00	148.9	
02/10/2015	0:00	148.5	
02/10/2015	6:00	113.9	
02/10/2015	12:00	257.8	
02/10/2015	18:00	149.3	
02/11/2015	0:00	149.3	
02/11/2015	6:00	114.3	
02/11/2015	12:00	257.8	
02/11/2015	18:00	151.6	
02/12/2015	0:00	148.7	
02/12/2015	6:00	113.9	
02/12/2015	12:00	257.8	
02/12/2015	18:00	148.6	
02/13/2015	0:00	148.5	
02/13/2015	6:00	114.0	
02/13/2015	12:00	257.8	
02/13/2015	18:00	152.9	
02/14/2015	0:00	149.0	
02/14/2015	6:00	114.3	
02/14/2015	12:00	257.8	
02/14/2015	18:00	153.0	
02/15/2015	0:00	149.1	
02/15/2015	6:00	114.4	
02/15/2015	12:00	257.8	
02/15/2015	18:00	215.2	
02/16/2015	0:00	149.2	
02/16/2015	6:00	114.1	
02/16/2015	12:00	257.8	
02/16/2015	18:00	148.5	
02/17/2015	0:00		
02/17/2015	6:00		
02/17/2015	12:00		
02/17/2015	18:00		
02/18/2015	0:00		
02/18/2015	6:00		
02/18/2015	12:00		
02/18/2015	18:00		
02/19/2015	0:00	148.9	
02/19/2015	6:00	114.2	
02/19/2015	12:00	257.8	
02/19/2015	18:00	148.4	
02/20/2015	0:00	148.5	
02/20/2015	6:00	114.2	
02/20/2015	12:00	257.8	
02/20/2015	18:00	150.7	

02/21/2015	0:00	148.8	
02/21/2015	6:00	114.2	
02/21/2015	12:00	257.8	
02/21/2015	18:00	149.3	
02/22/2015	0:00	227.9	
02/22/2015	6:00	120.6	
02/22/2015	12:00	257.8	
02/22/2015	18:00	150.1	
02/23/2015	0:00	226.9	
02/23/2015	6:00	120.3	
02/23/2015	12:00	257.8	
02/23/2015	18:00	149.0	
02/24/2015	0:00	148.4	
02/24/2015	6:00	114.2	
02/24/2015	12:00	257.8	
02/24/2015	18:00	149.0	
02/25/2015	0:00	148.5	
02/25/2015	6:00	114.1	
02/25/2015	12:00	257.8	
02/25/2015	18:00	149.6	
02/26/2015	0:00	149.1	
02/26/2015	6:00	114.3	
02/26/2015	12:00	257.8	
02/26/2015	18:00	151.0	
02/27/2015	0:00	149.3	
02/27/2015	6:00	114.4	
02/27/2015	12:00	257.8	
02/27/2015	18:00	222.2	
02/28/2015	0:00	149.9	
02/28/2015	6:00	114.6	
02/28/2015	12:00	257.8	
02/28/2015	18:00	148.3	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
03/01/2015	0:00		
03/01/2015	6:00		
03/01/2015	12:00		
03/01/2015	18:00		
03/02/2015	0:00	150.2	
03/02/2015	6:00	114.7	
03/02/2015	12:00	257.8	
03/02/2015	18:00	148.7	
03/03/2015	0:00	148.5	
03/03/2015	6:00	114.6	
03/03/2015	12:00	257.8	
03/03/2015	18:00	148.4	
03/04/2015	0:00	148.7	
03/04/2015	6:00	114.6	
03/04/2015	12:00	257.8	
03/04/2015	18:00	147.8	
03/05/2015	0:00	147.6	
03/05/2015	6:00	114.5	
03/05/2015	12:00	257.8	
03/05/2015	18:00	148.0	
03/06/2015	0:00	148.0	
03/06/2015	6:00	114.4	
03/06/2015	12:00	257.8	
03/06/2015	18:00	151.7	
03/07/2015	0:00	148.4	

03/07/2015	6:00	114.5	
03/07/2015	12:00	257.8	
03/07/2015	18:00	147.5	
03/08/2015	0:00	148.7	
03/08/2015	6:00	114.8	
03/08/2015	12:00	257.8	
03/08/2015	18:00	147.7	
03/09/2015	0:00		
03/09/2015	6:00		
03/09/2015	12:00		
03/09/2015	18:00		
03/10/2015	0:00	149.2	
03/10/2015	6:00	114.8	
03/10/2015	12:00	257.8	
03/10/2015	18:00	147.8	
03/11/2015	0:00	150.3	
03/11/2015	6:00	115.1	
03/11/2015	12:00	257.8	
03/11/2015	18:00	148.0	
03/12/2015	0:00	148.2	
03/12/2015	6:00	114.7	
03/12/2015	12:00	257.8	
03/12/2015	18:00	148.4	
03/13/2015	0:00	148.9	
03/13/2015	6:00	114.8	
03/13/2015	12:00	257.8	
03/13/2015	18:00	212.3	
03/14/2015	0:00	148.6	
03/14/2015	6:00	114.9	
03/14/2015	12:00	257.8	
03/14/2015	18:00	147.9	
03/15/2015	0:00	148.2	
03/15/2015	6:00	114.7	
03/15/2015	12:00	257.8	
03/15/2015	18:00	147.7	
03/16/2015	0:00		
03/16/2015	6:00		
03/16/2015	12:00		
03/16/2015	18:00		
03/17/2015	0:00	148.1	
03/17/2015	6:00	114.8	
03/17/2015	12:00	257.8	
03/17/2015	18:00	150.1	
03/18/2015	0:00	148.3	
03/18/2015	6:00	114.7	
03/18/2015	12:00	257.8	
03/18/2015	18:00	150.2	
03/19/2015	0:00		
03/19/2015	6:00		
03/19/2015	12:00		
03/19/2015	18:00		
03/20/2015	0:00	148.3	
03/20/2015	6:00	114.8	
03/20/2015	12:00	257.8	
03/20/2015	18:00	147.6	

03/21/2015	0:00	148.5	
03/21/2015	6:00	115.0	
03/21/2015	12:00	257.8	
03/21/2015	18:00	147.7	
03/22/2015	0:00		
03/22/2015	6:00		
03/22/2015	12:00		
03/22/2015	18:00		
03/23/2015	0:00	150.0	
03/23/2015	6:00	115.1	
03/23/2015	12:00	257.8	
03/23/2015	18:00	147.9	
03/24/2015	0:00	149.1	
03/24/2015	6:00	114.7	
03/24/2015	12:00	257.8	
03/24/2015	18:00	147.9	
03/25/2015	0:00	151.0	
03/25/2015	6:00	115.1	
03/25/2015	12:00	257.8	
03/25/2015	18:00	147.7	
03/26/2015	0:00	224.0	
03/26/2015	6:00	126.6	
03/26/2015	12:00	257.8	
03/26/2015	18:00	148.0	
03/27/2015	0:00	149.5	
03/27/2015	6:00	115.1	
03/27/2015	12:00	257.8	
03/27/2015	18:00	148.3	
03/28/2015	0:00	148.3	
03/28/2015	6:00	114.6	
03/28/2015	12:00	257.8	
03/28/2015	18:00	147.9	
03/29/2015	0:00	148.4	
03/29/2015	6:00	114.7	
03/29/2015	12:00	257.8	
03/29/2015	18:00	147.3	
03/30/2015	0:00	154.1	
03/30/2015	6:00	115.7	
03/30/2015	12:00	257.8	
03/30/2015	18:00	225.8	
03/31/2015	0:00	147.5	
03/31/2015	6:00	114.9	
03/31/2015	12:00	257.8	
03/31/2015	18:00	148.2	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
04/01/2015	0:00	147.8	
04/01/2015	6:00	114.5	
04/01/2015	12:00	257.8	
04/01/2015	18:00	151.6	
04/02/2015	0:00	148.2	
04/02/2015	6:00	114.6	
04/02/2015	12:00	257.8	
04/02/2015	18:00	147.2	
04/03/2015	0:00	148.4	
04/03/2015	6:00	114.9	
04/03/2015	12:00	257.8	
04/03/2015	18:00	147.5	
04/04/2015	0:00	148.3	
04/04/2015	6:00	115.0	
04/04/2015	12:00	257.8	
04/04/2015	18:00	147.6	
04/05/2015	0:00	147.6	
04/05/2015	6:00	114.7	
04/05/2015	12:00	257.8	
04/05/2015	18:00	150.1	
04/06/2015	0:00	149.6	
04/06/2015	6:00	115.4	
04/06/2015	12:00	257.8	
04/06/2015	18:00	150.1	
04/07/2015	0:00	149.4	

04/07/2015	6:00	115.3	
04/07/2015	12:00	257.8	
04/07/2015	18:00	148.2	
04/08/2015	0:00	149.8	
04/08/2015	6:00	115.1	
04/08/2015	12:00	257.8	
04/08/2015	18:00	148.0	
04/09/2015	0:00	153.1	
04/09/2015	6:00	115.4	
04/09/2015	12:00	257.8	
04/09/2015	18:00	147.8	
04/10/2015	0:00	148.5	
04/10/2015	6:00	115.0	
04/10/2015	12:00	257.8	
04/10/2015	18:00	147.8	
04/11/2015	0:00	150.4	
04/11/2015	6:00	115.1	
04/11/2015	12:00	257.8	
04/11/2015	18:00	147.7	
04/12/2015	0:00	151.4	
04/12/2015	6:00	115.3	
04/12/2015	12:00	257.8	
04/12/2015	18:00	148.0	
04/13/2015	0:00		
04/13/2015	6:00		
04/13/2015	12:00		
04/13/2015	18:00		
04/14/2015	0:00	151.8	
04/14/2015	6:00	115.4	
04/14/2015	12:00	257.8	
04/14/2015	18:00	147.9	
04/15/2015	0:00	148.5	
04/15/2015	6:00	114.9	
04/15/2015	12:00	257.8	
04/15/2015	18:00	148.2	
04/16/2015	0:00	148.6	
04/16/2015	6:00	114.9	
04/16/2015	12:00	257.8	
04/16/2015	18:00	193.3	
04/17/2015	0:00	149.5	
04/17/2015	6:00	115.0	
04/17/2015	12:00	257.8	
04/17/2015	18:00	147.8	
04/18/2015	0:00	151.0	
04/18/2015	6:00	115.5	
04/18/2015	12:00	257.8	
04/18/2015	18:00	147.9	
04/19/2015	0:00	212.0	
04/19/2015	6:00	122.4	
04/19/2015	12:00	257.8	
04/19/2015	18:00	148.0	
04/20/2015	0:00	147.4	
04/20/2015	6:00	114.6	
04/20/2015	12:00	257.8	
04/20/2015	18:00	147.9	

04/21/2015	0:00	153.9	
04/21/2015	6:00	115.9	
04/21/2015	12:00	257.8	
04/21/2015	18:00	211.1	
04/22/2015	0:00	213.3	
04/22/2015	6:00	123.8	
04/22/2015	12:00	257.8	
04/22/2015	18:00	152.8	
04/23/2015	0:00	163.0	
04/23/2015	6:00	116.0	
04/23/2015	12:00	257.8	
04/23/2015	18:00	149.5	
04/24/2015	0:00	148.1	
04/24/2015	6:00	114.9	
04/24/2015	12:00	257.8	
04/24/2015	18:00	212.0	
04/25/2015	0:00	149.4	
04/25/2015	6:00	115.4	
04/25/2015	12:00	257.8	
04/25/2015	18:00	147.4	
04/26/2015	0:00	215.0	
04/26/2015	6:00	122.6	
04/26/2015	12:00	257.8	
04/26/2015	18:00	150.0	
04/27/2015	0:00	213.2	
04/27/2015	6:00	122.4	
04/27/2015	12:00	257.8	
04/27/2015	18:00	148.8	
04/28/2015	0:00	149.2	
04/28/2015	6:00	115.3	
04/28/2015	12:00	257.8	
04/28/2015	18:00	148.9	
04/29/2015	0:00	213.6	
04/29/2015	6:00	124.1	
04/29/2015	12:00	257.8	
04/29/2015	18:00	148.1	
04/30/2015	0:00	157.6	
04/30/2015	6:00	116.2	
04/30/2015	12:00	257.8	
04/30/2015	18:00	148.8	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
05/01/2015	0:00	211.9	
05/01/2015	6:00	123.6	
05/01/2015	12:00	257.8	
05/01/2015	18:00	148.6	
05/02/2015	0:00	153.4	
05/02/2015	6:00	115.9	
05/02/2015	12:00	257.8	
05/02/2015	18:00	148.7	
05/03/2015	0:00	151.7	
05/03/2015	6:00	115.8	
05/03/2015	12:00	257.8	
05/03/2015	18:00	148.4	
05/04/2015	0:00	152.5	
05/04/2015	6:00	115.9	
05/04/2015	12:00	257.8	
05/04/2015	18:00	148.7	
05/05/2015	0:00	212.8	
05/05/2015	6:00	123.3	
05/05/2015	12:00	257.8	
05/05/2015	18:00	149.0	
05/06/2015	0:00	212.5	
05/06/2015	6:00	123.1	
05/06/2015	12:00	257.8	
05/06/2015	18:00	148.7	
05/07/2015	0:00	148.6	

05/07/2015	6:00	115.3	
05/07/2015	12:00	257.8	
05/07/2015	18:00	148.6	
05/08/2015	0:00	147.8	
05/08/2015	6:00	115.0	
05/08/2015	12:00	257.8	
05/08/2015	18:00	147.8	
05/09/2015	0:00	146.9	
05/09/2015	6:00	114.8	
05/09/2015	12:00	257.8	
05/09/2015	18:00	147.5	
05/10/2015	0:00	150.6	
05/10/2015	6:00	115.6	
05/10/2015	12:00	257.8	
05/10/2015	18:00	146.9	
05/11/2015	0:00	146.9	
05/11/2015	6:00	114.5	
05/11/2015	12:00	257.8	
05/11/2015	18:00	147.8	
05/12/2015	0:00	148.4	
05/12/2015	6:00	115.3	
05/12/2015	12:00	257.8	
05/12/2015	18:00	149.2	
05/13/2015	0:00	150.0	
05/13/2015	6:00	115.6	
05/13/2015	12:00	257.8	
05/13/2015	18:00	147.9	
05/14/2015	0:00	147.4	
05/14/2015	6:00	114.8	
05/14/2015	12:00	257.8	
05/14/2015	18:00	148.0	
05/15/2015	0:00	147.9	
05/15/2015	6:00	115.1	
05/15/2015	12:00	257.8	
05/15/2015	18:00	149.3	
05/16/2015	0:00	150.0	
05/16/2015	6:00	115.4	
05/16/2015	12:00	257.8	
05/16/2015	18:00	147.5	
05/17/2015	0:00	156.5	
05/17/2015	6:00	116.0	
05/17/2015	12:00	257.8	
05/17/2015	18:00	147.8	
05/18/2015	0:00	150.0	
05/18/2015	6:00	115.3	
05/18/2015	12:00	257.8	
05/18/2015	18:00	148.3	
05/19/2015	0:00	148.2	
05/19/2015	6:00	115.1	
05/19/2015	12:00	257.8	
05/19/2015	18:00	148.2	
05/20/2015	0:00	149.5	
05/20/2015	6:00	115.5	
05/20/2015	12:00	257.8	
05/20/2015	18:00	206.9	

05/21/2015	0:00	151.0	
05/21/2015	6:00	115.5	
05/21/2015	12:00	257.8	
05/21/2015	18:00	148.0	
05/22/2015	0:00	150.2	
05/22/2015	6:00	115.5	
05/22/2015	12:00	257.8	
05/22/2015	18:00	148.7	
05/23/2015	0:00	151.1	
05/23/2015	6:00	115.8	
05/23/2015	12:00	257.8	
05/23/2015	18:00	148.4	
05/24/2015	0:00	149.2	
05/24/2015	6:00	115.3	
05/24/2015	12:00	257.8	
05/24/2015	18:00	148.3	
05/25/2015	0:00	148.4	
05/25/2015	6:00	115.2	
05/25/2015	12:00	257.8	
05/25/2015	18:00	147.6	
05/26/2015	0:00	149.6	
05/26/2015	6:00	115.5	
05/26/2015	12:00	257.8	
05/26/2015	18:00	152.4	
05/27/2015	0:00	150.3	
05/27/2015	6:00	115.6	
05/27/2015	12:00	257.8	
05/27/2015	18:00	149.2	
05/28/2015	0:00	152.3	
05/28/2015	6:00	116.0	
05/28/2015	12:00	257.8	
05/28/2015	18:00	206.3	
05/29/2015	0:00	207.9	
05/29/2015	6:00	122.4	
05/29/2015	12:00	257.8	
05/29/2015	18:00	149.1	
05/30/2015	0:00	211.7	
05/30/2015	6:00	123.1	
05/30/2015	12:00	257.8	
05/30/2015	18:00	148.4	
05/31/2015	0:00	160.4	
05/31/2015	6:00	116.2	
05/31/2015	12:00	257.8	
05/31/2015	18:00	148.5	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
06/01/2015	0:00	215.0	
06/01/2015	6:00	122.9	
06/01/2015	12:00	257.8	
06/01/2015	18:00	148.6	
06/02/2015	0:00	151.1	
06/02/2015	6:00	115.8	
06/02/2015	12:00	257.8	
06/02/2015	18:00	210.9	
06/03/2015	0:00	207.0	
06/03/2015	6:00	122.7	
06/03/2015	12:00	257.8	
06/03/2015	18:00	148.4	
06/04/2015	0:00	148.8	
06/04/2015	6:00	115.2	
06/04/2015	12:00	257.8	
06/04/2015	18:00	148.2	
06/05/2015	0:00	149.3	
06/05/2015	6:00	115.5	
06/05/2015	12:00	257.8	
06/05/2015	18:00	149.2	
06/06/2015	0:00	149.3	
06/06/2015	6:00	115.3	
06/06/2015	12:00	257.8	
06/06/2015	18:00	149.2	
06/07/2015	0:00	148.9	

06/07/2015	6:00	115.6	
06/07/2015	12:00	257.8	
06/07/2015	18:00	210.0	
06/08/2015	0:00	151.9	
06/08/2015	6:00	115.7	
06/08/2015	12:00	257.8	
06/08/2015	18:00	149.0	
06/09/2015	0:00	149.6	
06/09/2015	6:00	115.6	
06/09/2015	12:00	257.8	
06/09/2015	18:00	148.4	
06/10/2015	0:00	149.3	
06/10/2015	6:00	115.5	
06/10/2015	12:00	257.8	
06/10/2015	18:00	150.2	
06/11/2015	0:00	155.9	
06/11/2015	6:00	116.0	
06/11/2015	12:00	257.8	
06/11/2015	18:00	149.0	
06/12/2015	0:00	149.0	
06/12/2015	6:00	115.7	
06/12/2015	12:00	257.8	
06/12/2015	18:00	148.4	
06/13/2015	0:00		
06/13/2015	6:00		
06/13/2015	12:00		
06/13/2015	18:00		
06/14/2015	0:00	149.7	
06/14/2015	6:00	115.7	
06/14/2015	12:00	257.8	
06/14/2015	18:00	150.0	
06/15/2015	0:00	150.1	
06/15/2015	6:00	115.9	
06/15/2015	12:00	257.8	
06/15/2015	18:00	149.1	
06/16/2015	0:00	150.6	
06/16/2015	6:00	116.0	
06/16/2015	12:00	257.8	
06/16/2015	18:00	149.4	
06/17/2015	0:00	150.7	
06/17/2015	6:00	115.8	
06/17/2015	12:00	257.8	
06/17/2015	18:00	150.0	
06/18/2015	0:00	150.2	
06/18/2015	6:00	116.0	
06/18/2015	12:00	257.8	
06/18/2015	18:00	150.7	
06/19/2015	0:00	155.7	
06/19/2015	6:00	116.3	
06/19/2015	12:00	257.8	
06/19/2015	18:00	149.3	
06/20/2015	0:00	207.6	
06/20/2015	6:00	123.2	
06/20/2015	12:00	257.8	
06/20/2015	18:00	152.4	

06/21/2015	0:00	150.6	
06/21/2015	6:00	116.1	
06/21/2015	12:00	257.8	
06/21/2015	18:00	205.3	
06/22/2015	0:00	149.6	
06/22/2015	6:00	115.7	
06/22/2015	12:00	257.8	
06/22/2015	18:00	207.9	
06/23/2015	0:00	152.2	
06/23/2015	6:00	116.2	
06/23/2015	12:00	257.8	
06/23/2015	18:00	149.4	
06/24/2015	0:00	214.1	
06/24/2015	6:00	123.4	
06/24/2015	12:00	257.8	
06/24/2015	18:00	153.0	
06/25/2015	0:00	213.6	
06/25/2015	6:00	123.1	
06/25/2015	12:00	257.8	
06/25/2015	18:00	209.4	
06/26/2015	0:00	151.2	
06/26/2015	6:00	116.1	
06/26/2015	12:00	257.8	
06/26/2015	18:00	151.1	
06/27/2015	0:00	163.8	
06/27/2015	6:00	116.5	
06/27/2015	12:00	257.8	
06/27/2015	18:00	148.7	
06/28/2015	0:00	151.0	
06/28/2015	6:00	115.8	
06/28/2015	12:00	257.8	
06/28/2015	18:00	150.7	
06/29/2015	0:00	149.7	
06/29/2015	6:00	115.7	
06/29/2015	12:00	257.8	
06/29/2015	18:00	217.3	
06/30/2015	0:00	150.6	
06/30/2015	6:00	115.9	
06/30/2015	12:00	257.8	
06/30/2015	18:00	150.2	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
07/01/2015	0:00	150.8	
07/01/2015	6:00	115.9	
07/01/2015	12:00	257.8	
07/01/2015	18:00	149.8	
07/02/2015	0:00	149.7	
07/02/2015	6:00	115.9	
07/02/2015	12:00	257.8	
07/02/2015	18:00	149.8	
07/03/2015	0:00	209.8	
07/03/2015	6:00	122.9	
07/03/2015	12:00	257.8	
07/03/2015	18:00	168.8	
07/04/2015	0:00	210.9	
07/04/2015	6:00	122.8	
07/04/2015	12:00	257.8	
07/04/2015	18:00	152.0	
07/05/2015	0:00	149.6	
07/05/2015	6:00	115.9	
07/05/2015	12:00	257.8	
07/05/2015	18:00	149.2	
07/06/2015	0:00	149.5	
07/06/2015	6:00	115.6	
07/06/2015	12:00	257.8	
07/06/2015	18:00	213.3	
07/07/2015	0:00	149.3	

07/07/2015	6:00	115.7	
07/07/2015	12:00	257.8	
07/07/2015	18:00	206.8	
07/08/2015	0:00	209.8	
07/08/2015	6:00	122.8	
07/08/2015	12:00	257.8	
07/08/2015	18:00	210.3	
07/09/2015	0:00	0.0	
07/09/2015	6:00	0.0	
07/09/2015	12:00	0.0	
07/09/2015	18:00	0.0	
07/10/2015	0:00	185.3	
07/10/2015	6:00	117.2	
07/10/2015	12:00	257.8	
07/10/2015	18:00	154.5	
07/11/2015	0:00	212.0	
07/11/2015	6:00	123.5	
07/11/2015	12:00	257.8	
07/11/2015	18:00	173.6	
07/12/2015	0:00	153.4	
07/12/2015	6:00	116.3	
07/12/2015	12:00	257.8	
07/12/2015	18:00	153.5	
07/13/2015	0:00	150.8	
07/13/2015	6:00	116.1	
07/13/2015	12:00	257.8	
07/13/2015	18:00	152.7	
07/14/2015	0:00	150.0	
07/14/2015	6:00	116.0	
07/14/2015	12:00	257.8	
07/14/2015	18:00	150.5	
07/15/2015	0:00	154.1	
07/15/2015	6:00	116.3	
07/15/2015	12:00	257.8	
07/15/2015	18:00	210.6	
07/16/2015	0:00	149.3	
07/16/2015	6:00	115.9	
07/16/2015	12:00	257.8	
07/16/2015	18:00	151.9	
07/17/2015	0:00	211.5	
07/17/2015	6:00	123.1	
07/17/2015	12:00	257.8	
07/17/2015	18:00	212.3	
07/18/2015	0:00	207.9	
07/18/2015	6:00	123.7	
07/18/2015	12:00	257.8	
07/18/2015	18:00	158.5	
07/19/2015	0:00	172.7	
07/19/2015	6:00	116.6	
07/19/2015	12:00	257.8	
07/19/2015	18:00	203.0	
07/20/2015	0:00	151.6	
07/20/2015	6:00	116.4	
07/20/2015	12:00	257.8	
07/20/2015	18:00	152.6	

07/21/2015	0:00	152.5	
07/21/2015	6:00	116.5	
07/21/2015	12:00	257.8	
07/21/2015	18:00	151.2	
07/22/2015	0:00	151.2	
07/22/2015	6:00	116.3	
07/22/2015	12:00	257.8	
07/22/2015	18:00	151.3	
07/23/2015	0:00	150.6	
07/23/2015	6:00	116.3	
07/23/2015	12:00	257.8	
07/23/2015	18:00	150.1	
07/24/2015	0:00	152.1	
07/24/2015	6:00	116.3	
07/24/2015	12:00	257.8	
07/24/2015	18:00	207.8	
07/25/2015	0:00	149.5	
07/25/2015	6:00	115.9	
07/25/2015	12:00	257.8	
07/25/2015	18:00	212.7	
07/26/2015	0:00	152.2	
07/26/2015	6:00	116.3	
07/26/2015	12:00	257.8	
07/26/2015	18:00	157.0	
07/27/2015	0:00	155.0	
07/27/2015	6:00	116.6	
07/27/2015	12:00	257.8	
07/27/2015	18:00	156.5	
07/28/2015	0:00	152.0	
07/28/2015	6:00	116.2	
07/28/2015	12:00	257.8	
07/28/2015	18:00	152.5	
07/29/2015	0:00	153.2	
07/29/2015	6:00	116.5	
07/29/2015	12:00	257.8	
07/29/2015	18:00	154.8	
07/30/2015	0:00	213.6	
07/30/2015	6:00	123.6	
07/30/2015	12:00	257.8	
07/30/2015	18:00	151.8	
07/31/2015	0:00	212.3	
07/31/2015	6:00	124.7	
07/31/2015	12:00	257.8	
07/31/2015	18:00	209.6	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
08/01/2015	0:00	152.7	
08/01/2015	6:00	116.1	
08/01/2015	12:00	257.8	
08/01/2015	18:00	155.5	
08/02/2015	0:00	150.2	
08/02/2015	6:00	116.2	
08/02/2015	12:00	257.8	
08/02/2015	18:00	151.3	
08/03/2015	0:00	156.2	
08/03/2015	6:00	116.8	
08/03/2015	12:00	257.8	
08/03/2015	18:00	149.6	
08/04/2015	0:00	152.2	
08/04/2015	6:00	116.5	
08/04/2015	12:00	257.8	
08/04/2015	18:00	153.3	
08/05/2015	0:00	150.8	
08/05/2015	6:00	116.3	
08/05/2015	12:00	257.8	
08/05/2015	18:00	151.3	
08/06/2015	0:00	149.8	
08/06/2015	6:00	116.1	
08/06/2015	12:00	257.8	
08/06/2015	18:00	214.1	
08/07/2015	0:00	150.5	

08/07/2015	6:00	116.2
08/07/2015	12:00	257.8
08/07/2015	18:00	149.3
08/08/2015	0:00	149.6
08/08/2015	6:00	116.2
08/08/2015	12:00	257.8
08/08/2015	18:00	150.1
08/09/2015	0:00	149.8
08/09/2015	6:00	115.9
08/09/2015	12:00	257.8
08/09/2015	18:00	203.3
08/10/2015	0:00	193.4
08/10/2015	6:00	117.2
08/10/2015	12:00	257.8
08/10/2015	18:00	211.9
08/11/2015	0:00	153.2
08/11/2015	6:00	116.6
08/11/2015	12:00	257.8
08/11/2015	18:00	152.6
08/12/2015	0:00	151.9
08/12/2015	6:00	116.6
08/12/2015	12:00	257.8
08/12/2015	18:00	153.1
08/13/2015	0:00	151.8
08/13/2015	6:00	116.5
08/13/2015	12:00	257.8
08/13/2015	18:00	150.5
08/14/2015	0:00	211.4
08/14/2015	6:00	124.0
08/14/2015	12:00	257.8
08/14/2015	18:00	150.7
08/15/2015	0:00	152.8
08/15/2015	6:00	116.7
08/15/2015	12:00	257.8
08/15/2015	18:00	157.9
08/16/2015	0:00	149.6
08/16/2015	6:00	116.2
08/16/2015	12:00	257.8
08/16/2015	18:00	151.0
08/17/2015	0:00	149.8
08/17/2015	6:00	116.2
08/17/2015	12:00	257.8
08/17/2015	18:00	151.7
08/18/2015	0:00	150.9
08/18/2015	6:00	116.1
08/18/2015	12:00	257.8
08/18/2015	18:00	213.7
08/19/2015	0:00	154.6
08/19/2015	6:00	116.5
08/19/2015	12:00	257.8
08/19/2015	18:00	210.9
08/20/2015	0:00	151.0
08/20/2015	6:00	116.3
08/20/2015	12:00	257.8
08/20/2015	18:00	152.6

08/21/2015	0:00	149.4	
08/21/2015	6:00	116.1	
08/21/2015	12:00	257.8	
08/21/2015	18:00	150.5	
08/22/2015	0:00	154.4	
08/22/2015	6:00	116.7	
08/22/2015	12:00	257.8	
08/22/2015	18:00	160.8	
08/23/2015	0:00	150.5	
08/23/2015	6:00	116.2	
08/23/2015	12:00	257.8	
08/23/2015	18:00	148.8	
08/24/2015	0:00	150.0	
08/24/2015	6:00	116.3	
08/24/2015	12:00	257.8	
08/24/2015	18:00	150.8	
08/25/2015	0:00	151.4	
08/25/2015	6:00	116.4	
08/25/2015	12:00	257.8	
08/25/2015	18:00	211.0	
08/26/2015	0:00	154.7	
08/26/2015	6:00	117.0	
08/26/2015	12:00	257.8	
08/26/2015	18:00	151.6	
08/27/2015	0:00	150.5	
08/27/2015	6:00	116.4	
08/27/2015	12:00	257.8	
08/27/2015	18:00	152.0	
08/28/2015	0:00	151.6	
08/28/2015	6:00	116.6	
08/28/2015	12:00	257.8	
08/28/2015	18:00	175.6	
08/29/2015	0:00	153.5	
08/29/2015	6:00	116.8	
08/29/2015	12:00	257.8	
08/29/2015	18:00	150.3	
08/30/2015	0:00	151.4	
08/30/2015	6:00	116.5	
08/30/2015	12:00	257.8	
08/30/2015	18:00	152.0	
08/31/2015	0:00	150.9	
08/31/2015	6:00	116.4	
08/31/2015	12:00	257.8	
08/31/2015	18:00	151.2	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
Please submit to gwlevelcoor.dnr@state.mn.us as required by your appropriations permit

DNR Permit Number: 77-6448

Permittee Name: City of Norwood Young America

Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

**Measurint Point Height Above
Ground Surface:** 18 inches

**Measuring Point Description(top of
casing, top of innercasing, etc):** Top of Casing

**Method of measurement (steel tape,
SCADA
reading,pressuretransducer, etc.):** Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
09/01/2015	0:00	150.5	
09/01/2015	6:00	116.5	
09/01/2015	12:00	257.8	
09/01/2015	18:00	150.2	
09/02/2015	0:00	151.0	
09/02/2015	6:00	116.4	
09/02/2015	12:00	257.8	
09/02/2015	18:00	171.9	
09/03/2015	0:00	212.4	
09/03/2015	6:00	122.1	
09/03/2015	12:00	257.8	
09/03/2015	18:00	150.6	
09/04/2015	0:00	184.4	
09/04/2015	6:00	117.3	
09/04/2015	12:00	257.8	
09/04/2015	18:00	153.6	
09/05/2015	0:00	149.0	
09/05/2015	6:00	116.1	
09/05/2015	12:00	257.8	
09/05/2015	18:00	151.4	
09/06/2015	0:00	149.3	
09/06/2015	6:00	116.1	
09/06/2015	12:00	257.8	
09/06/2015	18:00	211.7	
09/07/2015	0:00	150.3	

09/07/2015	6:00	116.2	
09/07/2015	12:00	257.8	
09/07/2015	18:00	153.4	
09/08/2015	0:00	150.0	
09/08/2015	6:00	116.1	
09/08/2015	12:00	257.8	
09/08/2015	18:00	155.2	
09/09/2015	0:00	150.1	
09/09/2015	6:00	116.4	
09/09/2015	12:00	257.8	
09/09/2015	18:00	154.5	
09/10/2015	0:00	151.0	
09/10/2015	6:00	116.6	
09/10/2015	12:00	257.8	
09/10/2015	18:00	213.6	
09/11/2015	0:00	150.1	
09/11/2015	6:00	116.3	
09/11/2015	12:00	257.8	
09/11/2015	18:00	150.2	
09/12/2015	0:00	151.5	
09/12/2015	6:00	116.7	
09/12/2015	12:00	257.8	
09/12/2015	18:00	160.2	
09/13/2015	0:00	150.6	
09/13/2015	6:00	116.4	
09/13/2015	12:00	257.8	
09/13/2015	18:00	151.3	
09/14/2015	0:00	150.1	
09/14/2015	6:00	116.3	
09/14/2015	12:00	257.8	
09/14/2015	18:00	151.0	
09/15/2015	0:00	150.6	
09/15/2015	6:00	116.3	
09/15/2015	12:00	257.8	
09/15/2015	18:00	214.5	
09/16/2015	0:00	150.2	
09/16/2015	6:00	116.2	
09/16/2015	12:00	257.8	
09/16/2015	18:00	150.9	
09/17/2015	0:00	151.0	
09/17/2015	6:00	116.6	
09/17/2015	12:00	257.8	
09/17/2015	18:00	209.7	
09/18/2015	0:00	149.7	
09/18/2015	6:00	116.1	
09/18/2015	12:00	257.8	
09/18/2015	18:00	150.9	
09/19/2015	0:00	150.5	
09/19/2015	6:00	116.4	
09/19/2015	12:00	257.8	
09/19/2015	18:00	149.3	
09/20/2015	0:00	149.4	
09/20/2015	6:00	116.2	
09/20/2015	12:00	257.8	
09/20/2015	18:00	150.5	

09/21/2015	0:00	153.6	
09/21/2015	6:00	116.7	
09/21/2015	12:00	257.8	
09/21/2015	18:00	214.4	
09/22/2015	0:00	150.3	
09/22/2015	6:00	116.4	
09/22/2015	12:00	257.8	
09/22/2015	18:00	155.1	
09/23/2015	0:00	151.5	
09/23/2015	6:00	116.5	
09/23/2015	12:00	257.8	
09/23/2015	18:00	150.1	
09/24/2015	0:00	154.6	
09/24/2015	6:00	116.7	
09/24/2015	12:00	257.8	
09/24/2015	18:00	214.4	
09/25/2015	0:00	149.8	
09/25/2015	6:00	116.2	
09/25/2015	12:00	257.8	
09/25/2015	18:00	149.2	
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09/26/2015	6:00	116.0	
09/26/2015	12:00	257.8	
09/26/2015	18:00	148.6	
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09/27/2015	6:00	116.2	
09/27/2015	12:00	257.8	
09/27/2015	18:00	148.4	
09/28/2015	0:00	150.7	
09/28/2015	6:00	116.2	
09/28/2015	12:00	257.8	
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09/29/2015	0:00	151.5	
09/29/2015	6:00	116.5	
09/29/2015	12:00	257.8	
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09/30/2015	0:00	148.2	
09/30/2015	6:00	115.7	
09/30/2015	12:00	257.8	
09/30/2015	18:00	152.3	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
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DNR Permit Number: 77-6448

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Permitte Well Number: North Plant Well 2

MDH Unique Well Number: 132256

Well Address: 102 Third Ave. SE.

Measurint Point Height Above Ground Surface: 18 inches

Measuring Point Description(top of casing, top of innercasing, etc): Top of Casing

Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
10/01/2015	0:00	148.7	
10/01/2015	6:00	115.8	
10/01/2015	12:00	257.8	
10/01/2015	18:00	148.2	
10/02/2015	0:00	151.8	
10/02/2015	6:00	116.4	
10/02/2015	12:00	257.8	
10/02/2015	18:00	159.0	
10/03/2015	0:00	213.7	
10/03/2015	6:00	123.7	
10/03/2015	12:00	257.8	
10/03/2015	18:00	148.8	
10/04/2015	0:00	149.8	
10/04/2015	6:00	116.2	
10/04/2015	12:00	257.8	
10/04/2015	18:00	205.0	
10/05/2015	0:00	154.0	
10/05/2015	6:00	116.4	
10/05/2015	12:00	257.8	
10/05/2015	18:00	149.4	
10/06/2015	0:00	150.6	
10/06/2015	6:00	116.3	
10/06/2015	12:00	257.8	
10/06/2015	18:00	213.4	
10/07/2015	0:00	149.7	

10/07/2015	6:00	116.2	
10/07/2015	12:00	257.8	
10/07/2015	18:00	150.3	
10/08/2015	0:00	150.0	
10/08/2015	6:00	116.4	
10/08/2015	12:00	257.8	
10/08/2015	18:00	148.9	
10/09/2015	0:00	149.5	
10/09/2015	6:00	116.1	
10/09/2015	12:00	257.8	
10/09/2015	18:00	149.3	
10/10/2015	0:00	154.7	
10/10/2015	6:00	116.6	
10/10/2015	12:00	257.8	
10/10/2015	18:00	149.0	
10/11/2015	0:00	150.0	
10/11/2015	6:00	116.1	
10/11/2015	12:00	257.8	
10/11/2015	18:00	148.4	
10/12/2015	0:00	149.7	
10/12/2015	6:00	116.0	
10/12/2015	12:00	257.8	
10/12/2015	18:00	149.6	
10/13/2015	0:00	150.0	
10/13/2015	6:00	116.2	
10/13/2015	12:00	257.8	
10/13/2015	18:00	148.9	
10/14/2015	0:00	149.7	
10/14/2015	6:00	116.1	
10/14/2015	12:00	257.8	
10/14/2015	18:00	150.1	
10/15/2015	0:00	149.9	
10/15/2015	6:00	116.2	
10/15/2015	12:00	257.8	
10/15/2015	18:00	150.4	
10/16/2015	0:00	154.8	
10/16/2015	6:00	116.8	
10/16/2015	12:00	257.8	
10/16/2015	18:00	150.1	
10/17/2015	0:00	149.0	
10/17/2015	6:00	116.2	
10/17/2015	12:00	257.8	
10/17/2015	18:00	149.1	
10/18/2015	0:00	149.7	
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10/18/2015	18:00	148.4	
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10/19/2015	18:00	148.4	
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10/22/2015	12:00	257.8	
10/22/2015	18:00	148.6	
10/23/2015	0:00	149.2	
10/23/2015	6:00	116.0	
10/23/2015	12:00	257.8	
10/23/2015	18:00	148.5	
10/24/2015	0:00	149.4	
10/24/2015	6:00	116.2	
10/24/2015	12:00	257.8	
10/24/2015	18:00	148.3	
10/25/2015	0:00	149.8	
10/25/2015	6:00	115.9	
10/25/2015	12:00	257.8	
10/25/2015	18:00	149.4	
10/26/2015	0:00	149.5	
10/26/2015	6:00	116.3	
10/26/2015	12:00	257.8	
10/26/2015	18:00	208.4	
10/27/2015	0:00	149.5	
10/27/2015	6:00	115.9	
10/27/2015	12:00	257.8	
10/27/2015	18:00	148.5	
10/28/2015	0:00	149.5	
10/28/2015	6:00	115.6	
10/28/2015	12:00	257.8	
10/28/2015	18:00	148.1	
10/29/2015	0:00		
10/29/2015	6:00		
10/29/2015	12:00		
10/29/2015	18:00		
10/30/2015	0:00	148.6	
10/30/2015	6:00	115.8	
10/30/2015	12:00	257.8	
10/30/2015	18:00	148.3	
10/31/2015	0:00	149.0	
10/31/2015	6:00	115.7	
10/31/2015	12:00	257.8	
10/31/2015	18:00	147.9	

Ground Water level Measurement Form for Minnesota DNR Ground Water Permit Appropriatic
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Method of measurement (steel tape, SCADA reading, pressuretransducer, etc.): Coaxial Cable Water Level Indicator

Date of Measurement(MM/DD/YYYY)	Time of Measurement(24 hour time)	Depth to water Static(Feet) in decimal format	Hand Measurement Depth to Water (feet) in decimal format
11/01/2015	0:00	150.1	
11/01/2015	6:00	115.9	
11/01/2015	12:00	257.8	
11/01/2015	18:00	148.4	
11/02/2015	0:00		
11/02/2015	6:00		
11/02/2015	12:00		
11/02/2015	18:00		
11/03/2015	0:00	149.8	
11/03/2015	6:00	116.1	
11/03/2015	12:00	257.8	
11/03/2015	18:00	148.9	
11/04/2015	0:00	148.8	
11/04/2015	6:00	115.7	
11/04/2015	12:00	257.8	
11/04/2015	18:00	210.2	
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11/06/2015	0:00	149.6	
11/06/2015	6:00	116.1	
11/06/2015	12:00	257.8	
11/06/2015	18:00	148.4	
11/07/2015	0:00	149.7	

11/07/2015	6:00	116.0	
11/07/2015	12:00	257.8	
11/07/2015	18:00	148.5	
11/08/2015	0:00	150.4	
11/08/2015	6:00	116.0	
11/08/2015	12:00	257.8	
11/08/2015	18:00	148.3	
11/09/2015	0:00	149.2	
11/09/2015	6:00	115.9	
11/09/2015	12:00	257.8	
11/09/2015	18:00	148.6	
11/10/2015	0:00	149.9	
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11/10/2015	18:00	148.3	
11/11/2015	0:00	166.5	
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11/11/2015	18:00	148.3	
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11/13/2015	6:00	115.6	
11/13/2015	12:00	257.8	
11/13/2015	18:00	148.6	
11/14/2015	0:00	149.2	
11/14/2015	6:00	115.7	
11/14/2015	12:00	257.8	
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11/19/2015	18:00	151.4	
11/20/2015	0:00	209.6	
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11/23/2015	6:00	116.0	
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11/25/2015	0:00	149.8	
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11/26/2015	0:00	149.6	
11/26/2015	6:00	116.0	
11/26/2015	12:00	257.8	
11/26/2015	18:00	149.1	
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11/27/2015	12:00	257.8	
11/27/2015	18:00	148.9	
11/28/2015	0:00	150.5	
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11/29/2015	18:00	148.7	
11/30/2015	0:00	150.3	
11/30/2015	6:00	115.9	
11/30/2015	12:00	257.8	
11/30/2015	18:00	148.9	

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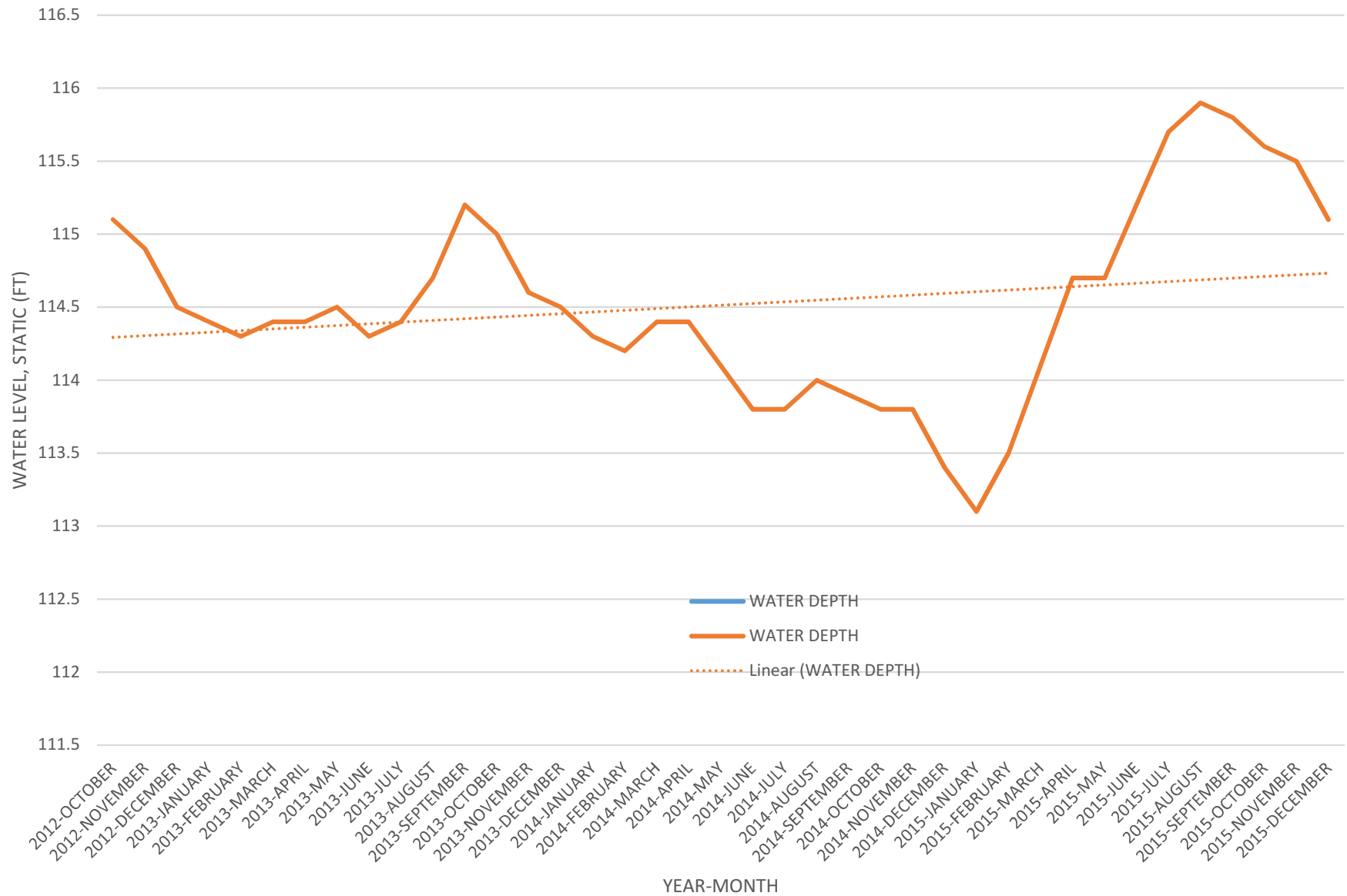
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12/01/2015	12:00	257.8	
12/01/2015	18:00	154.0	
12/02/2015	0:00	149.3	
12/02/2015	6:00	115.4	
12/02/2015	12:00	257.8	
12/02/2015	18:00	149.0	
12/03/2015	0:00	154.2	
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12/04/2015	6:00	115.8	
12/04/2015	12:00	257.8	
12/04/2015	18:00	211.0	
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12/07/2015	6:00	115.5	
12/07/2015	12:00	257.8	
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12/08/2015	6:00	115.5	
12/08/2015	12:00	257.8	
12/08/2015	18:00	211.3	
12/09/2015	0:00	152.6	
12/09/2015	6:00	115.7	
12/09/2015	12:00	257.8	
12/09/2015	18:00	148.2	
12/10/2015	0:00	214.6	
12/10/2015	6:00	122.9	
12/10/2015	12:00	257.8	
12/10/2015	18:00	148.1	
12/11/2015	0:00	149.0	
12/11/2015	6:00	115.4	
12/11/2015	12:00	257.8	
12/11/2015	18:00	148.0	
12/12/2015	0:00	211.9	
12/12/2015	6:00	123.3	
12/12/2015	12:00	257.8	
12/12/2015	18:00	148.2	
12/13/2015	0:00	150.2	
12/13/2015	6:00	115.4	
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12/13/2015	18:00	148.5	
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12/15/2015	6:00	115.5	
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12/18/2015	6:00	115.6	
12/18/2015	12:00	257.8	
12/18/2015	18:00	149.6	
12/19/2015	0:00	149.0	
12/19/2015	6:00	115.3	
12/19/2015	12:00	257.8	
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12/20/2015	0:00	165.3	
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12/20/2015	12:00	257.8	
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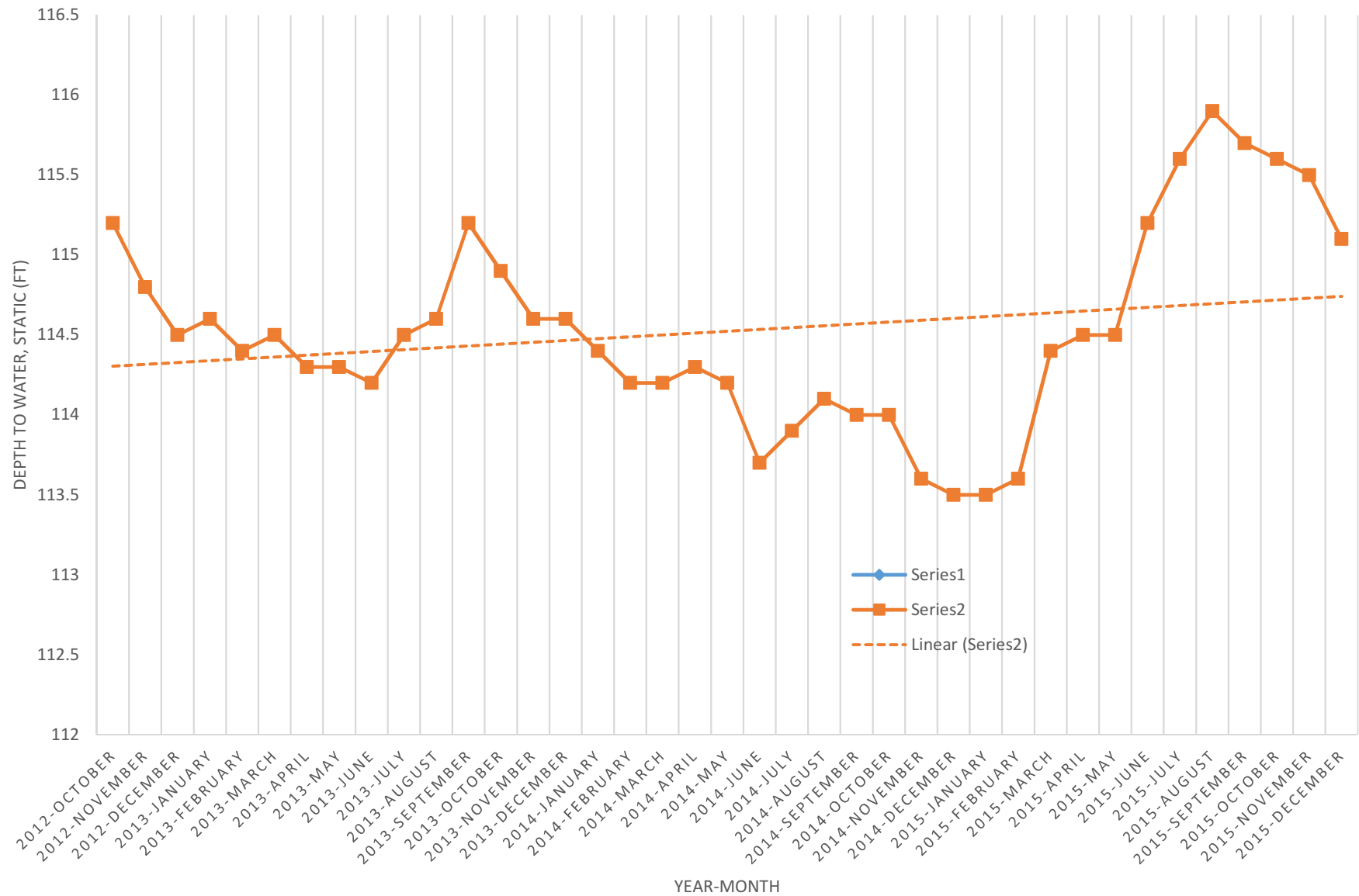
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12/22/2015	18:00	148.4	
12/23/2015	0:00	148.9	
12/23/2015	6:00	115.2	
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12/24/2015	12:00	257.8	
12/24/2015	18:00	148.7	
12/25/2015	0:00	149.0	
12/25/2015	6:00	115.4	
12/25/2015	12:00	257.8	
12/25/2015	18:00	148.6	
12/26/2015	0:00	149.2	
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12/27/2015	6:00	115.4	
12/27/2015	12:00	257.8	
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12/29/2015	6:00	115.5	
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12/30/2015	12:00	257.8	
12/30/2015	18:00	161.8	
12/31/2015	0:00	210.6	
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12/31/2015	12:00	257.8	
12/31/2015	18:00	148.8	

Appendix 3

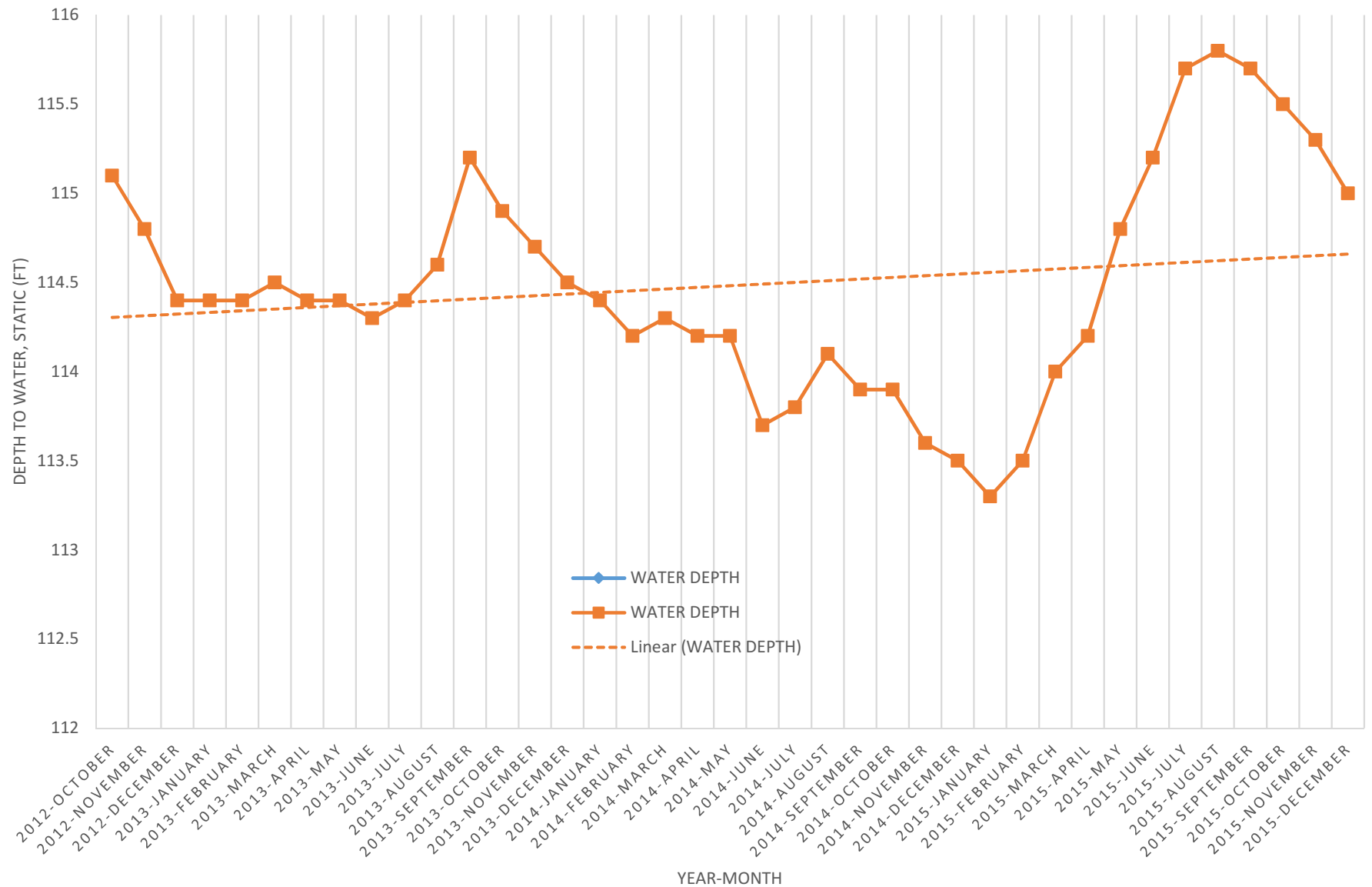
WELL 3 NOR (420969) - WATER LEVEL 2012-2015



WELL 2 (132256) - WATER LEVEL 2012-2015



WELL 3 (482765) - WATER DEPTH 2012-2015



Appendix 4



CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
2016 - 2020 FINANCIAL PLAN
OCTOBER 27, 2015

Prepared by Abdo, Eick & Meyers, LLP

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
2016 - 2020 FINANCIAL PLAN
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INTRODUCTORY SECTION

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
2016 - 2020 FINANCIAL PLAN

Honorable Mayor and City Council
City of Norwood Young America
310 Elm Street West
Norwood Young America, MN 55368

Introduction

We have prepared the attached 2016 -2020 Financial Plan for the City that is intended to give a big picture view of the status now and through year 2020. We have scheduled projected tax levy, cash balances, planned capital and debt for the City based on assumptions by management. We have not examined the projection and do not express an opinion or any other form of assurance on the accompanying schedules or assumptions. Furthermore, there will usually be differences between the forecasted and actual results, because events and circumstances frequently do not occur as expected and those differences may be material. We have no responsibility to update this report for events and circumstances occurring after the date of this report. The City's assumptions made are as follows:

Assumptions

1. Normal operating expenses will increase by a three percent inflation rate.
2. Housing growth is assumed at five units per year each with an average market value of \$142,700 increasing by 1 percent per year starting in 2015.
3. Equipment has been identified in the capital plan and is to be expended in the capital fund (275).
4. The general fund tax levy increases to balance the increase in the budget and to grow and sustain a 50 percent reserve compared to the following years budget.
5. No new debt or new projects are included in the plan through 2020. We have included potential equipment certificates for large equipment purchases in 2017 and 2020.
6. The 2010B G.O. refunding bond fund has sufficient resources to allow the City to reduce the scheduled levies in future years. The projection currently has a levy reduction each year based on the scheduled levies.
7. The TIF districts are assumed to receive increment through the life of the district similar to what the City has received in the past and current year amounts.

Assumptions with Future Action

1. Fund 520 (2013B Bond Fund) - the 2013 levy collectable in 2014 was not certified to the County. Future levies have been adjusted by an increase of \$11K per year to ensure the City has adequate reserves to bond maturity.
2. The City will strive to reduce its reliance on the State's Local Government Aid (LGA) program, by reducing the budget for LGA over a 15 year period beginning in year 2016 budget. This budget reduction, if received, will go to increase reserve balances within the General fund.
3. The first two bonds to mature are the 2013B Infrastructure bonds and the 2008 bonds both of which mature in the 2024. Council will need to decide how to utilize remaining cash in the funds if there is any. Options for the remaining cash reserves could be transferred to other debt service funds or any other fund.
4. Fund 320 - 2013 Infrastructure fund. There currently is approximately \$75K of cash in the fund. Council has discussed utilizing these funds for the Oak Lane project.

Key Highlights

1. The General fund builds on the reserve throughout the life of the projection with the assumptions of increasing levy to build the General fund balance reserve, while decreasing the City's reliance on local government aid. The City will also maintain debt service reserve balances to meet the required principal and interest payments.
2. The General fund operating tax levy increases 16.8 percent in 2016 from 2015. The debt service levy increased 8.4 percent from 2015 and the capital levy decrease 35 percent. The overall proposed levy increase is 9.98 percent.
3. Fund 275 - Capital Fund - Council certified a tax levy for 2016 of \$70,900 to fund future capital purchases. The projection includes future levies to continue to this fund. The fund cash begins to decrease in 2016 through 2020 to approximately \$50,000. This fund will be analyzed each year as part of the budget process.
4. The Water and Sewer enterprise funds are projected by a study prepared by Bolton and Menk assuming a 5 percent increase in rates each year after 2016. In the projection period, the cash balance in the Water fund declines from \$596,257 in 2013 to \$380,224 in 2020. The Sewer fund declines from \$41,404 to a deficit balance based on projected capital purchases.
5. The Sewer and Storm Water funds currently do not have funds set aside to pay for capital related purchases. Using the current increases included in the rate study, neither of the funds will have funds set aside throughout the projection period. This is based on first meeting the operating cash reserve goal and determining the amount in excess of that balance. The financial goal is shown as the third bullet in the financial goals section.

Financial Goals

- Reach a 50 percent cash reserve in the General fund. The 50 percent balance will fund half of the budget through June of each year until the 1st half tax settlement is received from the County.
- Maintain positive resources in the City's debt service funds throughout the life of the bonds.
- Ensure enterprise funds (Water & Sewer) reach an operating cash balance that is equal or above 50 percent of the annual operating expenses plus 100 percent of debt service requirements. In addition to the operating cash balance, a cash balance established to fund future capital purchases based on the capital needs of the fund.
- Build and maintain capital resources to fund the capital improvement/equipment replacement plan.
- Reduce the City reliance on local government aid over a 15 year period.
- Build and maintain positive cash balances in all City funds.
- Annually determine whether or not there are available resources in the Water fund that can be used to improve the cash position of the Sewer fund.
- Incorporate an infrastructure improvement plan into the long range plan focusing on planning projects to fit the debt management goals of the City. Council has created the following list of important projects that will be addressed in future years:
 - Street/Infrastructure improvements
 - a. Webster and Merger Streets Reconstruction
 - b. 2nd Avenue Improvements/relocate main lift station
 - c. Mill and overlay project, phase II
 - Capital Equipment Fund
 - a. Proactive vs. Reactive budgeting
 - Pavilion
 - a. Structural integrity improvements
 - Image and Appearance of the City
 - a. Public Facilities/Property - clean-up
 - b. New community entrance signs, Faxon road banners & decorative lighting poles
 - Replace South Fire Station

FINANCIAL SECTION

**CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
2016 - 2020 FINANCIAL PLAN**

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
SCHEDULE OF PROPERTY TAXES LEVIED AND TAX RATES
FOR THE YEARS ENDED DECEMBER 31, 2013 - 2016 ACTUAL AND 2017 TO 2020 (ESTIMATED)

		2013	2014	2015	2016	2017	2018	2019	2020
		Actual Amounts	Actual Amounts	Actual Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Property Taxes Levied for General Purposes									
101	General fund	\$ 836,694	\$ 891,741	\$ 930,445	\$ 1,071,596	\$ 1,139,307	\$ 1,219,431	\$ 1,289,054	\$ 1,382,593
	Additional levy for general fund to increase reserve balance	-	-	-	15,000	15,000	-	-	-
	Total general fund operating levy	836,694	891,741	930,445	1,086,596	1,154,307	1,219,431	1,289,054	1,382,593
Property Taxes Levied for Debt Service									
501	2010 Infrastructure Debt Service	35,035	34,578	33,910	33,003	37,466	36,327	35,187	34,048
515	Industrial Park Debt Service	36,762	-	-	-	-	-	-	-
516	2008 Debt Service	86,527	89,099	91,325	88,112	89,792	91,262	95,522	88,322
517	Oak Grove Debt Service	206,899	199,793	197,905	185,113	199,373	202,628	200,528	198,428
518	G.O Refunding Debt Service	217,354	315,360	161,102	254,262	258,357	256,729	254,787	257,778
518	EDA levy	36,792	34,995	39,300	43,753	43,753	43,753	43,753	43,753
519	2011A G.O Refunding Debt Service	73,383	104,901	103,792	94,777	105,758	102,654	103,587	110,030
520	2013B Infrastructure Debt Service	-	-	164,121	160,971	163,071	159,816	161,811	156,771
601	Water fund 2010B G.O. Refunding	18,600	19,215	19,215	18,427	17,955	17,482	22,260	21,630
	Potential levies for equipment certificate	-	-	-	-	13,800	27,600	27,600	27,600
N/A	Matured Bond Series	-	-	-	-	-	-	-	-
	<i>Subtotal</i>	711,352	797,941	810,670	878,418	929,325	938,230	945,035	938,360
Property Taxes Levied for Capital Replacement Fund									
275	Capital outlay reserve fund	-	11,695	110,056	70,900	110,000	152,000	175,000	200,000
	Total Taxes Levied	\$ 1,548,046	\$ 1,701,377	\$ 1,851,171	\$ 2,035,914	\$ 2,193,631	\$ 2,309,682	\$ 2,409,089	\$ 2,520,953
	Operational percent increase (decrease in levy)		6.6%	4.3%	16.8%	6.2%	5.6%	5.7%	7.3%
	Debt percent increase (decrease in levy)		12.2%	1.6%	8.4%	5.8%	1.0%	0.7%	-0.7%
	Capital percent increase (decrease in levy)		100.0%	841.1%	-35.6%	55.1%	38.2%	15.1%	14.3%
	Total percent increase (decrease in levy)		9.9%	8.8%	9.98%	7.7%	5.3%	4.3%	4.6%

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
SCHEDULE OF TAX CAPACITIES AND TAX RATES
FOR THE YEARS ENDED DECEMBER 31, 2013 - 2015 ACTUAL AND 2016 TO 2020 (ESTIMATED)

	2013	2014	2015	2016	2017	2018	2019	2020
	Actual Amounts	Actual Amounts	Actual Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Total levy (excluding EDA special levy)	\$ 1,511,254	\$ 1,666,382	\$ 1,811,871	\$ 1,992,161	\$ 2,149,878	\$ 2,265,929	\$ 2,365,336	\$ 2,477,200
Less EMV levy	(18,600)	(19,215)	(19,215)	(18,427)	(19,215)	(19,215)	(19,215)	(19,215)
Less area-wide fiscal disparities distribution	(328,850)	(414,684)	(430,356)	(463,066)	(463,066)	(463,066)	(463,066)	(463,066)
Total Local Levy (non EDA special levy)	1,163,804	1,232,483	1,362,300	1,510,668	1,667,597	1,783,648	1,883,055	1,994,919
Tax Rate Calculation (non EDA)								
Total tax capacity from the county	2,131,874	2,267,489	2,532,646	2,704,785	2,798,280	2,894,726	2,994,216	3,096,843
Assumed new growth (5 homes each year)								
Assumed commercial growth (\$1m MV = \$10K in TC)	(36,357)	(66,623)	(77,890)	(96,148)	(99,032)	(102,003)	(105,064)	(108,215)
Less: Captured Tax Increment	(286,240)	(277,701)	(290,521)	(327,014)	(327,014)	(327,014)	(327,014)	(327,014)
Less: Contribution to fiscal disparities								
Adjusted Tax capacity used for local rate	1,809,277	1,923,165	2,164,235	2,281,623	2,372,233	2,465,709	2,562,138	2,661,614
Calculated Tax rate (non EDA special levy rate)	64.3343%	64.0862%	62.9460%	66.2102%	70.2965%	72.3381%	73.4955%	74.9515%
Total EDA special levy	36,792	34,995	39,300	43,753	43,753	43,753	43,753	43,753
Less area-wide fiscal disparities distribution	(8,450)	(10,417)	(8,582)	(10,442)	(10,442)	(10,442)	(10,442)	(10,442)
Total Local EDA special Levy (non EDA special levy)	28,342	24,578	30,718	33,311	33,311	33,311	33,311	33,311
Calculated Tax rate - EDA special levy rate	1.5665%	1.2780%	1.4193%	1.4600%	1.4042%	1.3510%	1.3001%	1.2515%
TOTAL TAX RATE	65.89%	65.36%	64.37%	67.67%	71.70%	73.69%	74.80%	76.20%
Rate change from prior year		-0.53%	-1.00%	3.30%	4.03%	1.99%	1.11%	1.41%
Tax Capacity								
Total tax capacity from the county	2,131,874	2,267,489	2,532,646	2,704,785	2,785,929	2,882,228	2,981,568	3,084,042
Assumed new growth (5 homes each year)								
Assumed commercial growth (\$500k MV = \$5K in TC)								
Adjusted Tax capacity used for local rate	2,131,874	2,267,489	2,532,646	2,704,785	2,798,280	2,894,726	2,994,216	3,096,843
Tax Rates								
General	36.40%	34.26%	32.35%	36.12%	37.73%	38.91%	40.02%	41.79%
Scheduled debt levies	29.49%	30.66%	28.19%	29.20%	29.92%	29.05%	28.48%	27.53%
Scheduled capital levies	0.00%	0.45%	3.83%	2.36%	3.60%	4.85%	5.43%	6.05%
Proposed additional debt levies	0.00%	0.00%	0.00%	0.00%	0.45%	0.88%	0.86%	0.83%
Total Direct Tax Rate (factors Fiscal Disparities not reflected in tax capacity)	65.89%	65.36%	64.37%	67.67%	71.70%	73.69%	74.80%	76.20%
Population	3,608	3,608	3,621	3,633	3,646	3,658	3,671	3,683
Taxes per Capita	\$ 429	\$ 472	\$ 511	\$ 560	\$ 602	\$ 631	\$ 656	\$ 684
Median Home Value	\$ 142,700	\$ 142,700	\$ 144,127	\$ 145,568	\$ 147,024	\$ 149,964	\$ 152,963	\$ 156,022
Median Home Taxes (from city)	780	773	771	822	882	930	969	1,012
% change from prior year \$s	-0.80%	-0.80%	-0.23%	6.51%	7.34%	5.45%	4.13%	4.51%
Tax Capacity Growth Rates	0.00%	0.00%	11.69%	3.00%	3.00%	3.00%	3.00%	3.00%

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
SCHEDULE OF ANNUAL FUND CASH BALANCES
FOR THE YEARS ENDED DECEMBER 31, 2013 - 2014 ACTUAL AND 2015 TO 2020 (ESTIMATED)

	2013	2014	2015	2016	2017	2018	2019	2020	Trend
	Actual Amounts	Actual Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	
GOVERNMENT-TYPE									
General Operations									
101 General	\$ 598,979	\$ 804,279	\$ 809,285	\$ 852,285	\$ 919,127	\$ 994,811	\$ 1,094,337	\$ 1,217,705	●
	34%	-1%	-1%	44%	47%	50%	55%		
Special Revenue									
201 Park Dedication	87,024	86,475	86,475	86,475	86,540	86,605	86,670	86,735	●
Prev 603 Storm Sewer	N/A	(207,195)	(211,557)	(232,980)	(251,445)	(266,994)	(279,961)	(289,770)	●
Subtotal	87,024	(120,720)	(125,082)	(146,505)	(164,905)	(180,389)	(193,292)	(203,036)	
Debt Service (maturity)									
501 2010 Infrastructure Debt Service (2026)	53,787	58,773	52,328	52,056	57,207	57,134	56,998	56,800	●
516 2008 Debt Service (2024)	310,656	310,397	310,397	304,497	303,605	302,682	304,719	298,457	●
517 Oak Grove Debt Service (2039)	218,081	263,334	268,739	263,352	274,022	284,805	290,446	295,991	●
518 G.O Refunding Debt Service (2027)	987,308	973,614	827,751	852,046	881,318	865,310	834,047	807,753	●
519 2011A G.O Refunding Debt Service (2032)	313,611	329,184	330,702	329,787	337,834	345,800	353,677	371,956	●
520 2013B Infrastructure Debt Service (2024)	48,732	63,221	88,642	98,763	118,800	133,646	153,599	167,477	●
Subtotal	1,932,175	1,998,523	1,878,559	1,900,501	1,972,787	1,989,377	1,993,485	1,998,433	
Capital Projects									
225 Economic Recovery	133,233	135,594	135,594	135,594	135,696	135,797	135,899	136,001	●
253 2014 Flooding event	-	(110,926)	-	-	-	-	-	-	●
275 Capital Fund	435,846	504,619	608,675	600,675	375,946	269,262	327,690	116,328	●
320 2013 Infrastructure	230,129	77,825	77,825	77,825	77,883	77,942	78,000	78,059	●
401 Special Capital Projects (closed in 2014)	329,085	-	-	-	-	-	-	-	●
407 TIF 1-5	-	5,369	5,369	5,369	5,373	5,377	5,381	5,385	●
420 TIF 2-1	240	13,081	60,881	51,521	41,713	(0)	(0)	(0)	●
421 TIF 3-1	7,761	-	12,800	13,351	13,623	13,600	(0)	(0)	●
422 TIF 3-2	-	-	7,800	7,800	7,755	7,710	7,665	7,620	●
423 TIF 3-3	-	-	2,200	2,200	2,200	2,200	2,200	2,200	●
424 TIF 3-4	-	-	-	-	-	-	-	-	●
425 TIF 3-5	-	-	-	-	-	-	-	-	●
Subtotal	1,141,663	625,562	911,144	894,335	660,188	511,888	556,835	345,593	
Total - Governmental-type Funds	\$ 3,759,841	\$ 3,307,644	\$ 3,473,906	\$ 3,500,616	\$ 3,387,197	\$ 3,315,687	\$ 3,451,366	\$ 3,358,695	
BUSINESS-TYPE									
Enterprise Funds									
601 Water	596,257	743,903	708,683	656,481	551,603	430,917	372,886	380,274	●
602 Sewer	41,404	102,615	88,661	133,889	122,590	48,264	(36,310)	(253,682)	●
251 Harbor at Peace	679,221	585,461	585,461	N/A	N/A	N/A	N/A	N/A	●
603 Storm Water	(233,726)	-	-	-	-	-	-	-	●
Total - Business-type Funds	\$ 1,083,156	\$ 1,431,979	\$ 1,382,805	\$ 790,370	\$ 674,193	\$ 479,181	\$ 336,576	\$ 126,542	
TOTAL CASH RESERVES - ALL CITY FUNDS	\$ 4,842,997	\$ 4,739,623	\$ 4,856,711	\$ 4,290,986	\$ 4,061,390	\$ 3,794,868	\$ 3,787,942	\$ 3,485,237	

● - Cash balance trending positively
○ - Cash balance trending at break even
● - Cash balance trending negatively and should be addressed

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA

OUTSTANDING DEBT SCHEDULE
FOR THE YEARS ENDED DECEMBER 31, 2013 ACTUAL AND 2014 TO 2020 (ESTIMATED)

Fund	Issue	Original Issue	Issue Date	Maturity Date	Call Date	Interest Rate	2013 Actual Balance	2014 Estimated Balance	2015 Estimated Balance	2016 Estimated Balance	2017 Estimated Balance	2018 Estimated Balance	2019 Estimated Balance	2020 Estimated Balance
ENTERPRISE FUND DEBT														
Water Fund														
601	Water 2012A (refunded 2003A bonds)	\$ 1,430,625	3/14/2012	2/1/2024	2/1/2021	.40 - 2.00 %	\$ 1,430,625	\$ 1,312,500	\$ 1,194,375	\$ 1,072,500	\$ 948,750	\$ 823,125	\$ 695,625	\$ 566,250
601	General Obligation Bonds, Series 2011A	245,000	9/15/2011	2/1/2032	2/1/2020	3.00 - 3.75	235,000	220,000	205,000	190,000	175,000	160,000	145,000	130,000
601	GO Water Revenue Bonds 2008B	2,715,000	10/30/2008	2/1/2029	2/1/2018	3.75 - 5.00	2,495,000	2,380,000	2,260,000	2,135,000	2,010,000	1,880,000	1,745,000	1,600,000
601	General Obligation Bonds, Series 2010A	120,000	8/4/2010	2/1/2026	2/1/2018	1.45 - 3.65	115,000	110,000	105,000	100,000	90,000	80,000	70,000	60,000
601	General Obligation Refunding Bonds, Series 2010B	255,000	12/7/2010	2/1/2021	2/1/2019	2.00 - 3.00	225,000	200,000	175,000	150,000	125,000	100,000	70,000	35,000
601	(PFA) GO Water Revenue Note, Series 2010	1,966,604	11/24/2010	8/20/2039		2.461	1,816,000	1,765,000	1,713,000	1,660,000	1,606,000	1,550,000	1,493,000	1,434,000
							6,316,625	5,987,500	5,652,375	5,307,500	4,954,750	4,593,125	4,218,625	3,825,250
Sewer Fund														
602	Sewer 2012A (refunded 2003A bonds)	2,384,375	3/14/2012	2/1/2024	2/1/2021	.40 - 2.0	2,384,375	2,187,500	1,990,625	1,787,500	1,581,250	1,371,875	1,159,375	943,750
602	General Obligation Bonds, Series 2011A	110,000	9/15/2011	2/1/2032	2/1/2020	3.00 - 3.75	105,000	100,000	95,000	90,000	85,000	80,000	75,000	70,000
602	GO Bonds 2013B	130,000	9/12/2013	2/1/2024	2/1/2021	2.0 - 3.0	130,000	130,000	120,000	110,000	100,000	90,000	75,000	60,000
							2,619,375	2,417,500	2,205,625	1,987,500	1,766,250	1,541,875	1,309,375	1,073,750
Harbor at Peace Debt														
251	2012A Housing Gross Revenue Refunding Bonds	3,090,000	12/01/2012	8/1/2031	8/1/2021	2.70 - 3.10	3,015,000	2,870,000	2,720,000	2,570,000	2,415,000	2,255,000	2,095,000	1,930,000
251	2012B G.O. Housing Revenue Refunding Bonds	3,000,000	12/01/2012	8/1/2040	8/1/2021	1.00 - 4.30	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
							6,015,000	5,870,000	5,720,000	5,570,000	5,415,000	5,255,000	5,095,000	4,930,000
							14,951,000	14,275,000	13,578,000	12,865,000	12,136,000	11,390,000	10,623,000	9,829,000
TOTAL ENTERPRISE FUND DEBT														
GOVERNMENT-TYPE														
G.O. Improvement Bonds														
501	2010 Infrastructure Debt Service	535,000	08/04/2010	2/1/2026	2/1/2018	1.45 - 3.65	475,000	445,000	415,000	385,000	355,000	320,000	285,000	250,000
501	2010 Infrastructure Debt Service (Storm portion)	65,000	8/4/2010	2/1/2026	2/1/2018	1.45 - 3.65	65,000	60,000	55,000	50,000	45,000	40,000	35,000	30,000
516	2008 Debt Service	1,325,000	07/02/2008	2/1/2024	2/1/2017	3.00 - 4.10	1,040,000	965,000	885,000	800,000	715,000	625,000	530,000	430,000
517	Oak Grove Debt Service	1,420,000	11/05/2009	2/1/2039	2/1/2020	6.00 - 6.15	1,420,000	1,420,000	1,420,000	1,420,000	1,420,000	1,420,000	1,420,000	1,420,000
517	G.O. Improvement Bonds 2013A	1,920,000	06/20/2013	2/1/2031	2/1/2022	2.0 - 3.25	1,920,000	1,875,000	1,785,000	1,695,000	1,605,000	1,510,000	1,410,000	1,310,000
518	G.O. Refunding Debt Service, series 2010B	5,560,000	12/07/2010	2/1/2027	2/1/2019	2.00 - 3.63	5,560,000	5,215,000	4,865,000	4,505,000	4,135,000	3,750,000	3,355,000	2,950,000
519	2011A G.O. Refunding Debt Service	2,770,000	09/15/2011	2/1/2032	2/1/2020	3.00 - 3.75	2,630,000	2,480,000	2,325,000	2,165,000	2,000,000	1,830,000	1,655,000	1,475,000
519	2011A G.O. Refunding Debt Service (Storm Portion)	125,000	9/15/2011	2/1/2032	2/1/2020	3.00 - 3.75	120,000	115,000	110,000	105,000	100,000	95,000	90,000	85,000
520	G.O. Bonds 2013B	1,575,000	9/12/2013	2/1/2024	2/1/2021	2.0 - 3.0	1,575,000	1,575,000	1,440,000	1,290,000	1,140,000	985,000	830,000	670,000
							Potential	-	-	-	215,740	196,660	176,809	756,157
							14,805,000	14,150,000	13,300,000	12,415,000	11,730,740	10,771,660	9,786,809	9,376,157
Total G.O. Improvement Bonds														
Total Governmental-type Debt														
							\$ 14,805,000	\$ 14,150,000	\$ 13,300,000	\$ 12,415,000	\$ 11,730,740	\$ 10,771,660	\$ 9,786,809	\$ 9,376,157
							\$ 4,172	\$ 3,987	\$ 3,748	\$ 3,498	\$ 3,305	\$ 3,035	\$ 2,758	\$ 2,642
							4,144	3,956	3,750	3,541	3,329	3,114	2,894	2,669
							\$ 8,315	\$ 7,944	\$ 7,498	\$ 7,039	\$ 6,634	\$ 6,149	\$ 5,652	\$ 5,311

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
SCHEDULE OF DEBT TRANSFERS BY YEAR AND FUND
FOR THE YEARS ENDED DECEMBER 31, 2015 TO 2020 (ESTIMATED)

Fund	2015	2016	2017	2018	2019	2020
2010 Infrastructure Debt Service Fund (501)						
Transfer in from fund 603 (Storm Water)	\$ 7,169	\$ 7,038	\$ 6,906	\$ 6,759	\$ 6,597	\$ 6,434
	7,169	7,038	6,906	6,759	6,597	6,434
2008 Debt Service fund (516)						
Transfer in from fund 602 (Sewer)	\$ 11,810	\$ 11,810	\$ 11,810	\$ 11,810	\$ 11,810	\$ 11,810
Transfer in from fund 601 (Water)	683	683	683	683	683	683
	12,493	12,493	12,493	12,493	12,493	12,493
2010B G.O. Refunding Debt Service fund (518)						
Transfer in from fund 603 (Storm Water)	\$ 7,281	\$ 7,281	\$ 7,281	\$ 7,281	\$ 7,281	\$ 7,281
Transfer in from fund 602 (Sewer)	75,312	75,312	75,312	75,312	75,312	75,312
Transfer in from fund 601 (Water)	42,573	42,573	42,573	42,573	42,573	42,573
	125,166	125,166	125,166	125,166	125,166	125,166
2011A Debt Service fund (519)						
Transfer in from fund 603 (Storm Water)	\$ 32,369	\$ 32,190	\$ 31,987	\$ 31,763	\$ 32,054	\$ 32,278
Transfer in from fund 602 (Sewer)	66,423	66,691	64,849	67,977	65,916	68,818
Transfer in from fund 601 (Water)	21,455	21,434	21,393	21,331	21,747	22,101
	120,247	120,315	118,229	121,071	119,717	123,197
Water enterprise fund (601)						
Transfer out to fund 516 (2008 Bonds)	\$ (683)	\$ (683)	\$ (683)	\$ (683)	\$ (683)	\$ (683)
Transfer out to fund 518 (2010B bonds)	(42,573)	(42,573)	(42,573)	(42,573)	(42,573)	(42,573)
Transfer out to fund 519 (2011A bonds)	(21,455)	(21,434)	(21,393)	(21,331)	(21,747)	(22,101)
	(64,711)	(64,690)	(64,649)	(64,587)	(65,003)	(65,357)
Sewer enterprise fund (602)						
Transfer out to fund 516 (2008 Bonds)	\$ (11,810)	\$ (11,810)	\$ (11,810)	\$ (11,810)	\$ (11,810)	\$ (11,810)
Transfer out to fund 518 (2010B bonds)	(75,312)	(75,312)	(75,312)	(75,312)	(75,312)	(75,312)
Transfer out to fund 519 (2011A bonds)	(66,423)	(66,691)	(64,849)	(67,977)	(65,916)	(68,818)
	(153,545)	(153,813)	(151,971)	(155,099)	(153,038)	(155,940)
Storm Water special revenue fund (603)						
Transfer out to fund 518 (2010B bonds)	\$ (7,281)	\$ (7,281)	\$ (7,281)	\$ (7,281)	\$ (7,281)	\$ (7,281)
Transfer out to fund 519 (2011A bonds)	(32,369)	(32,190)	(31,987)	(31,763)	(32,054)	(32,278)
Transfer out to fund 501 (2010 infrastructure bonds)	(7,169)	(7,038)	(6,906)	(6,759)	(6,597)	(6,434)
	(46,819)	(46,508)	(46,174)	(45,803)	(45,932)	(45,992)

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
CAPITAL EQUIPMENT PLAN - CAPITAL OUTLAY RESERVE FUND 275
SCHEDULE OF PLANNED CAPITAL OUTLAY 2015 TO 2020

Department	Year to Replace	Item	Purchase Price	Net Cost	2015		2016		2017		2018		2019		2020	
					Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Administration	2019	City Code codification	\$ 10,000	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fire department (equipment)	2017	Civil Defense - new siren	25,000	25,000	-	-	-	-	25,000	-	-	-	10,000	-	-	-
Fire department (equipment)	2017	Turnout gear	60,000	6,000	-	-	6,000	-	6,180	-	6,365	-	6,556	-	6,753	-
Fire department (equipment)	2017	SCBA's	20,000	20,000	-	-	-	-	20,000	-	20,600	-	21,218	-	21,855	-
Fire department (vehicles)	2020	Tanker chassis (1995 & 1996)	50,000	50,000	-	-	-	-	-	-	-	-	-	-	50,000	-
Fire department (vehicles)	2017	Quick Attack Pumper Truck	225,000	225,000	-	-	-	-	225,000	-	-	-	-	-	-	-
Fire department (vehicles)	2020	Ladder truck	600,000	600,000	-	-	-	-	-	-	-	-	-	-	600,000	-
Fire department (vehicles)	2021	Utility 21 (1218 responder) peterbuilt 330	220,000	220,000	-	-	-	-	-	-	-	-	-	-	-	-
Fire department (vehicles)	2022	Rescue 11 (1222 rescue vehicle) 2003 Ford F350	40,000	40,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2017	Flail mower diamond river 1549HD (arm mower)	18,500	17,000	-	-	-	-	17,000	-	-	-	-	-	-	-
Public Works	2017	Utility carts for bobcats 2100 & 3400	17,000	15,000	-	-	-	-	15,000	-	-	-	-	-	-	-
Public Works	2019	Speed alert sign board	7,500	7,500	-	-	-	-	-	-	-	-	7,500	-	-	-
Public Works	2016	Hwy. 212 signal lights pole painting	27,000	27,000	-	-	27,000	-	-	-	-	-	-	-	-	-
Public Works	2016	Replace P-4 Ford F-450	60,000	60,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2016	Disc mower new holland 615	4,200	2,500	-	-	2,500	-	-	-	-	-	-	-	-	-
Public Works	2020	Painter (for crosswalks and lines)	8,000	8,000	-	-	8,000	-	-	-	-	-	-	-	-	-
Public Works	2020	T3 2007 sterling 17500 dump truck	230,000	225,000	-	-	-	-	-	-	-	-	-	-	225,000	-
Public Works	2021	T2 dump truck 2010 mack truck	235,000	200,000	-	-	-	-	-	-	-	-	20,000	-	-	-
Public Works	2019	Plow & hitch (V-plow)	20,000	20,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2015	Bobcat snow blower SBX240 (attaches to bobcat 3400)	60,000	6,000	-	-	6,000	-	-	-	-	-	-	-	-	-
Public Works	2016	Skid steer bobcat S250	62,000	25,000	-	-	25,000	-	90,000	-	-	-	-	-	-	-
Public Works	2017	T5 2003 Ford F550 bucket truck 40' (need 50')	110,000	90,000	-	-	-	-	5,000	-	-	-	-	-	-	-
Public Works	2019	Angle broom (attached to bobcat/snow sweeping)	5,000	5,000	-	-	-	-	-	-	-	-	43,000	-	-	-
Public Works	2020	Tractor new holland TN75D	48,000	43,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2021	Chipper 2003 morbak 13" tornado brush chipper	30,000	25,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2022	Bobcat 3400 utility vehicle	17,000	15,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2023	Brine distributor	15,000	15,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2022	Planer bobcat - milling machine	30,000	28,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2021	Blacktop roller wacker RD11	80,000	50,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2018	P3 2012 Ford F550 truck	225,000	220,000	-	-	-	-	-	-	220,000	-	-	-	-	-
Public Works	2023	T7 2004 sterling L8500 dump truck	30,000	30,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2023	2004 John Deere Loader 624J	110,000	110,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2017	Pickup F150, replace 2007 (P2)	35,000	25,000	-	-	-	-	25,000	-	-	-	-	-	-	-
Public Works	2030	Hot Mix Trailer KM-8000T	30,000	30,000	-	-	-	-	-	-	-	-	-	-	-	-
Public Works	2017	Homemade - trailer for misc projects and hauling	20,000	11,000	-	-	-	-	11,000	-	-	-	-	-	-	-
Parks	2018	M1 Kubota mower	25,000	12,000	-	-	-	-	-	-	12,000	-	-	-	-	-
Parks	2017	Club car (replace the 2004)	15,000	8,000	-	-	-	-	8,000	-	-	-	-	-	-	-
Parks	2017	Utility Vehicle Bobcat 3400 Utility Vehicle	17,000	15,000	-	-	-	-	15,000	-	-	-	-	-	-	-
Parks	2020	Ball Field Fence (Willkommen)	60,000	60,000	-	-	-	-	-	-	-	-	-	-	-	-
Parks	2017	16' Mower	128,000	128,000	-	-	-	-	80,000	-	-	-	-	-	-	-
Parks	2017	Willkommen Park Bathroom	10,000	10,000	-	-	-	-	128,000	-	-	-	-	-	-	-
Parks	2017	Skating Rink Warming House	8,000	8,000	-	-	-	-	10,000	-	-	-	-	-	-	-
Parks	2020	Outlet A - feasibility study	15,000	15,000	-	-	-	-	8,000	-	-	-	-	-	-	-
Parks	2016	Hockey/Skating rink Boards	5,000	5,000	-	-	-	-	-	-	-	-	-	-	-	-
Parks	2020	Paint ball field light towers (Norwood)	5,400	5,400	-	-	-	-	-	-	-	-	-	-	-	-
Parks	2020	Pool turtles	8,000	8,000	-	-	-	-	-	-	-	-	-	-	-	-
Parks	2019	M2 Lawn mower	12,000	8,500	-	-	-	-	-	-	-	-	8,500	-	-	-
TOTAL					\$ 6,000	\$ 78,900	\$ 688,180	\$ 258,965	\$ 116,774	\$ 1,011,608						

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
CAPITAL EQUIPMENT PLAN - CAPITAL OUTLAY RESERVE FUND 275
SCHEDULE OF PLANNED CAPITAL OUTLAY 2015 TO 2020 - CONTINUED

	2015	2016	2017	2018	2019	2020
General government	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Administration	-	-	-	-	10,000	-
Public Works	6,000	62,500	163,000	220,000	70,500	250,000
Industrial Park marketing	-	-	-	-	-	-
Fire department (equipment)	-	6,000	51,180	26,965	27,774	28,608
Fire department (vehicles)	-	-	225,000	-	-	650,000
Emergency management	-	-	-	-	-	-
Parks	-	10,400	249,000	12,000	8,500	83,000
Total	\$ 6,000	\$ 78,900	\$ 688,180	\$ 258,965	\$ 116,774	\$ 1,011,608

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
CAPITAL EQUIPMENT PLAN - CAPITAL OUTLAY RESERVE FUND 275
SCHEDULE OF PROJECTED REVENUE, EXPENDITURES AND DEBT 2015 TO 2020

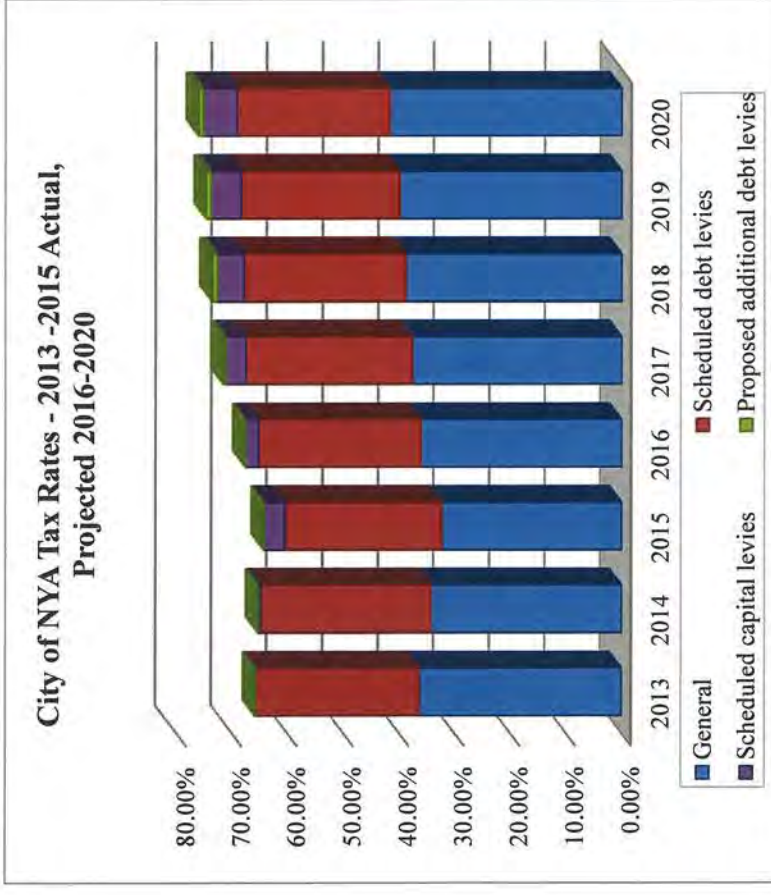
Capital Projects Fund Projected Activity

	2015	2016	2017	2018	2019	2020
Revenue						
Capital Levy	\$ 208,056	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
Potential reduction of levy	(98,000)	(179,100)	(140,000)	(98,000)	(75,000)	(50,000)
	<u>110,056</u>	<u>70,900</u>	<u>110,000</u>	<u>152,000</u>	<u>175,000</u>	<u>200,000</u>
Net Capital Levy						
Equipment Certificates (potential)	-	-	225,000	-	-	600,000
Other revenue	-	-	128,000	-	-	-
Other expenses	-	-	-	-	-	-
Interest	-	-	406	237	157	201
Transfers in	-	-	-	-	-	-
	<u>110,056</u>	<u>70,900</u>	<u>463,406</u>	<u>152,237</u>	<u>175,157</u>	<u>800,201</u>
Total Revenue						
	<u>110,056</u>	<u>70,900</u>	<u>463,406</u>	<u>152,237</u>	<u>175,157</u>	<u>800,201</u>
	(66,000)	(78,900)	(688,180)	(258,965)	(116,774)	(1,011,608)
Total Expenditures						
	<u>44,056</u>	<u>(8,000)</u>	<u>(224,774)</u>	<u>(106,728)</u>	<u>58,383</u>	<u>(211,407)</u>
Net Change in cash balance						
Beginning balance	504,619	548,675	540,675	315,901	209,172	267,555
Ending balance	<u>\$ 548,675</u>	<u>\$ 540,675</u>	<u>\$ 315,901</u>	<u>\$ 209,172</u>	<u>\$ 267,555</u>	<u>\$ 56,148</u>

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
CAPITAL EQUIPMENT PLAN - ENTERPRISE FUNDS
SCHEDULE OF PLANNED CAPITAL OUTLAY 2015 TO 2020

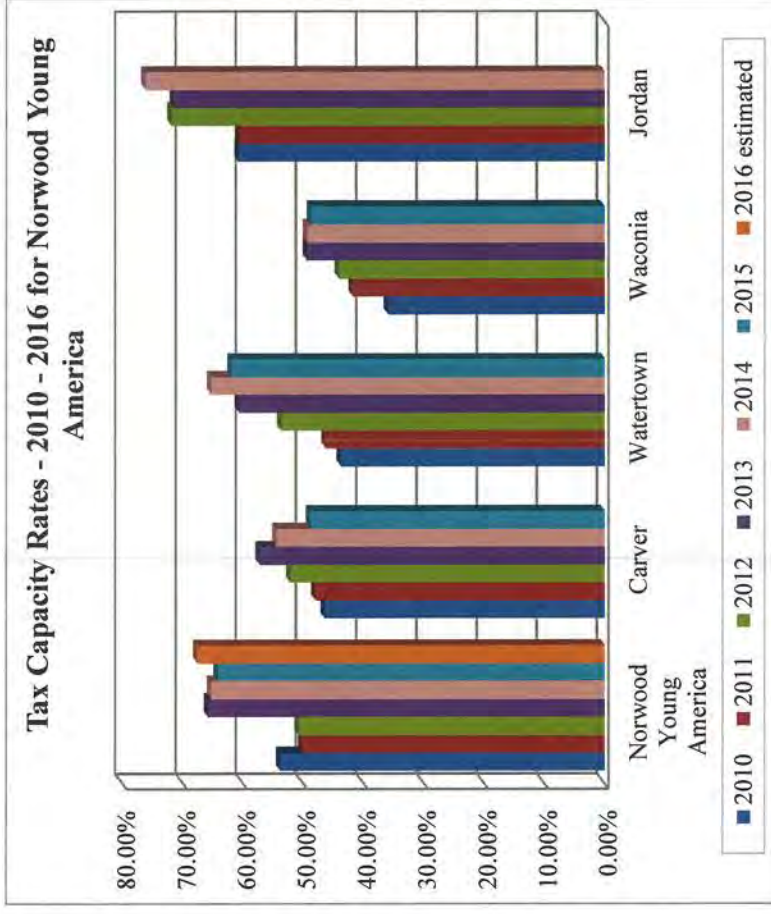
Fund	Year to Replace	Item	Purchase Price	Cost	2015 Estimated Amounts	2016 Estimated Amounts	2017 Estimated Amounts	2018 Estimated Amounts	2019 Estimated Amounts	2020 Estimated Amounts
Water	2017	W2 Ford F350 with plow	\$ 25,000	\$ 20,000	\$ -	\$ -	\$ 20,000	\$ -	\$ -	\$ -
Water	2018	4" Portable Pump-Wisconsin pump	62,500	62,500	-	-	-	62,500	-	-
Water	2016	Lift Station/Water Towers SCADA installation	7,500	7,500	-	7,500	7,500	7,500	-	-
Water	2018	Hand held meter reader	7,500	7,500	-	-	-	7,500	-	-
Water	2023	W1 Ford F550	20,000	17,500	-	-	-	-	-	-
Water	2025	W1 Ford F550 - Crane on Truck	25,000	25,000	-	-	-	-	-	-
Water	2019	Bobcat 2100 Utility Cart	4,500	4,000	-	-	-	-	4,000	-
Water	2023	T6 2006 Mack Truck	15,000	15,000	-	-	-	-	-	-
Water	2025	SF2500 Ridgid Freeze Kit	5,000	5,000	-	-	-	-	-	-
Water	2023	T6 Pump	15,000	15,000	-	-	-	-	-	-
Water	2017	North water tower painting and maintenance	120,000	120,000	-	-	40,000	40,000	40,000	13,000
Sewer	2016	Trickling Filter Pump	14,000	14,000	-	14,000	-	-	-	-
Sewer	2016	Methane Gas Burning Unit	10,000	10,000	-	10,000	-	-	-	-
Sewer	2016	RAS Pumps Check Valves	4,000	4,000	-	4,000	-	-	-	-
Sewer	2016	Gate Valves	5,000	5,000	-	5,000	-	-	-	-
Sewer	2023	T6 2006 Mack Truck	15,000	15,000	-	-	-	-	-	-
Sewer	2021	Tractor- New Holland MC35	40,000	30,000	-	-	-	-	-	-
Sewer	2018	4" Portable Pump-Wisconsin pump	62,500	62,500	-	-	-	62,500	-	120,000
Sewer	2020	Versa-Vac	120,000	120,000	-	-	-	-	-	-
Sewer	2019	Bobcat 2100 Utility Cart	4,500	4,000	-	-	-	-	4,000	-
Sewer	2016	Lift Station/Water Towers SCADA installation	7,500	7,500	-	7,500	7,500	7,500	-	-
Sewer	2018	Hand held meter reader	7,500	7,500	-	-	-	7,500	-	-
Sewer	2020	Replace Jetter	150,000	150,000	-	-	-	-	-	150,000
Sewer	2015	Portable Generator	10,725	10,725	10,725	-	-	-	-	-
Sewer	2019	Camera Unit	100,000	100,000	-	-	-	-	100,000	-
Sewer	2018	W2 Ford F350 with plow	25,000	20,000	-	-	-	20,000	-	-
Sewer	2023	W1 Ford F550	20,000	17,500	-	-	-	-	-	-
Sewer	2025	W1 Ford F550 - Crane on Truck	25,000	25,000	-	-	-	-	-	-
Sewer	2023	Pump Trailer	30,000	25,000	-	-	-	-	-	-
Sewer	2016	Lift Station pumps	16,000	16,000	-	-	16,000	16,000	16,000	16,000
Sewer	2021	Burn expansion	40,000	40,000	-	-	-	-	-	-
					\$ 10,725	\$ 48,000	\$ 91,000	\$ 231,000	\$ 164,000	\$ 299,000
Summary by Fund										
Water					\$ -	\$ 7,500	\$ 67,500	\$ 117,500	\$ 44,000	\$ 13,000
Sewer					10,725	40,500	23,500	113,500	120,000	286,000
					\$ 10,725	\$ 48,000	\$ 91,000	\$ 231,000	\$ 164,000	\$ 299,000

Tax Rates

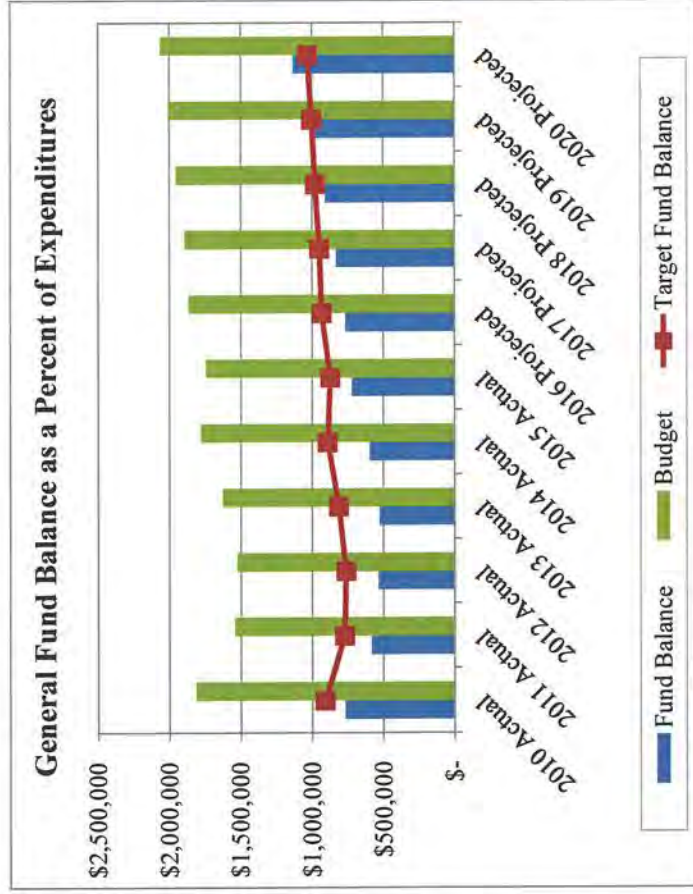


Tax Rates:

Tax rates are a function of the levy and total tax base. The city tax rate is computed by dividing the city levy by the taxable tax capacity. Comparable communities are provided for reference.

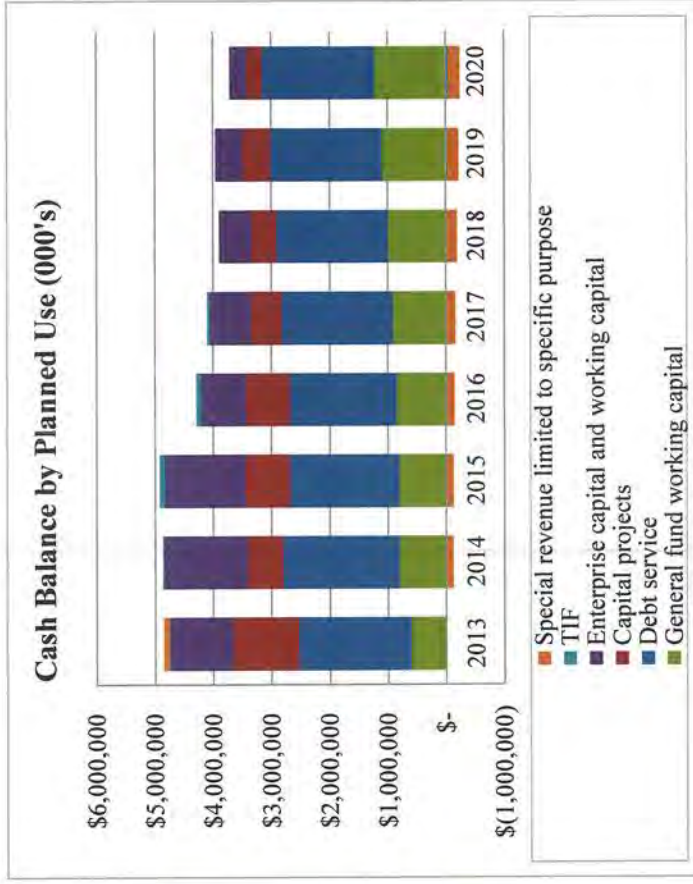


General Fund Operations and All Funds Cash Balances



General Fund Balance as a Percent of Revenue:

The General fund fund balance should be maintained at a level to provide for adequate working capital reserves. The City has established a 50% target to sustain.

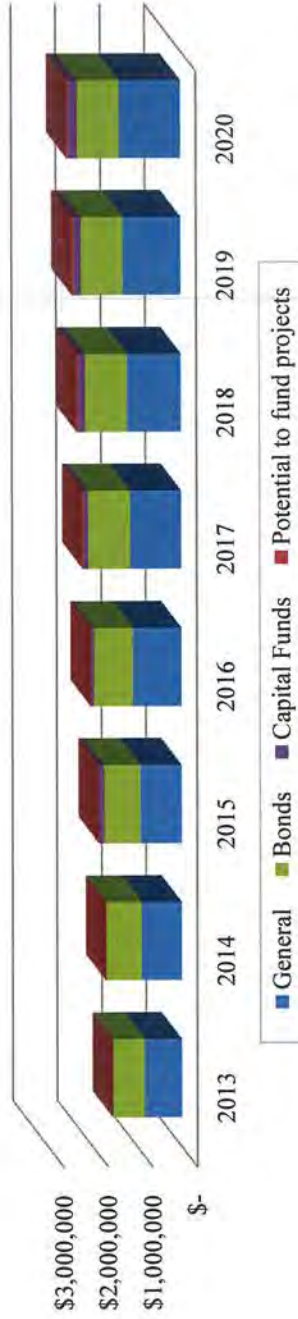


Cash Balance by Planned Use (000's):

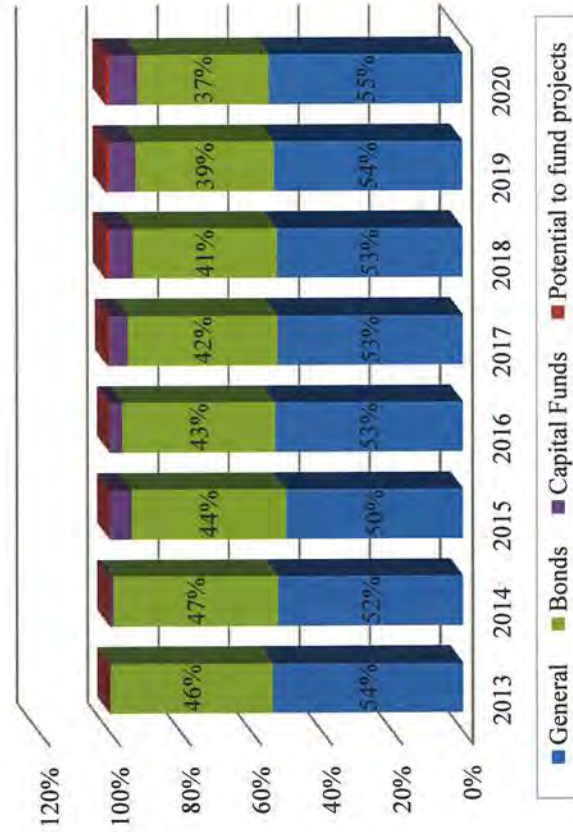
The balances represented in this graph are categorized by the planned use and/or limitations determined by statute.

Property Taxes by Type

Property Taxes - General Levy, Bonds and Potential Levies to Balance Projects



Percent of Property Taxes - General Levy, Bonds and Potential Levies to Balance Projects



Percent of Property Taxes - General Levy and Bonds

This graph highlights the percent of levy by planned use. It is notable that 46% of the levy is allocated to debt in 2014 and is scheduled to decrease. The overall city tax burden for a \$142,700 house in 2014 is shown in the graph on the right.

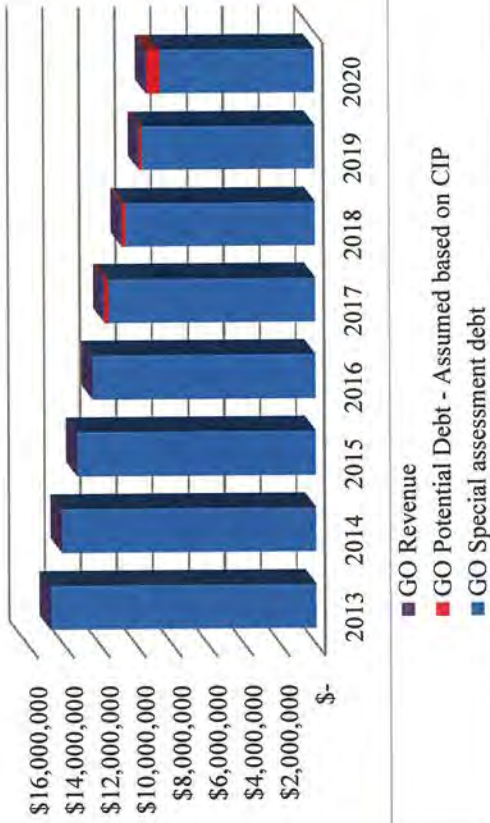
Projected City Tax Impact on a Median Valued Residential Property



Projected City Tax Impact - 2014 \$142,700 home

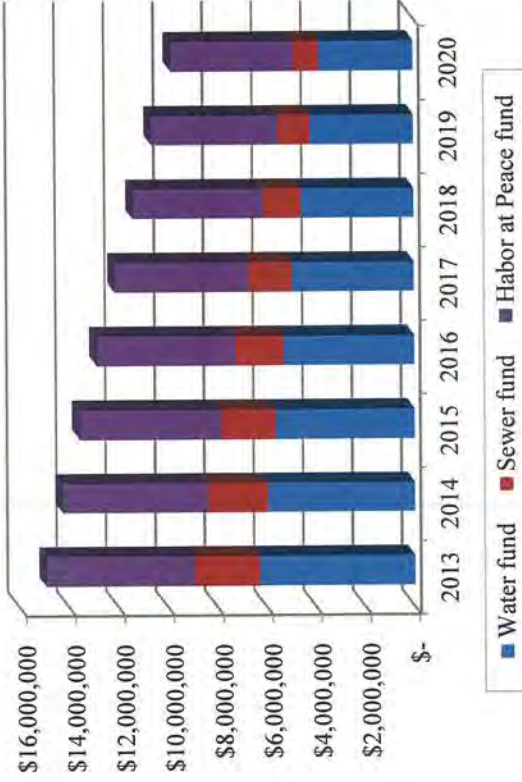
The overall property tax levy for a median valued house is highlighted above.

Projected Governmental Debt Balances Based on Current Amortizations



The above assumes no new debt. From 2013 to 2020, as presented above, total governmental type debt is reduced from \$14.8 million to \$9.2 million. A reduction of approximately \$5.6 million.

Enterprise Funds Outstanding Debt Balances



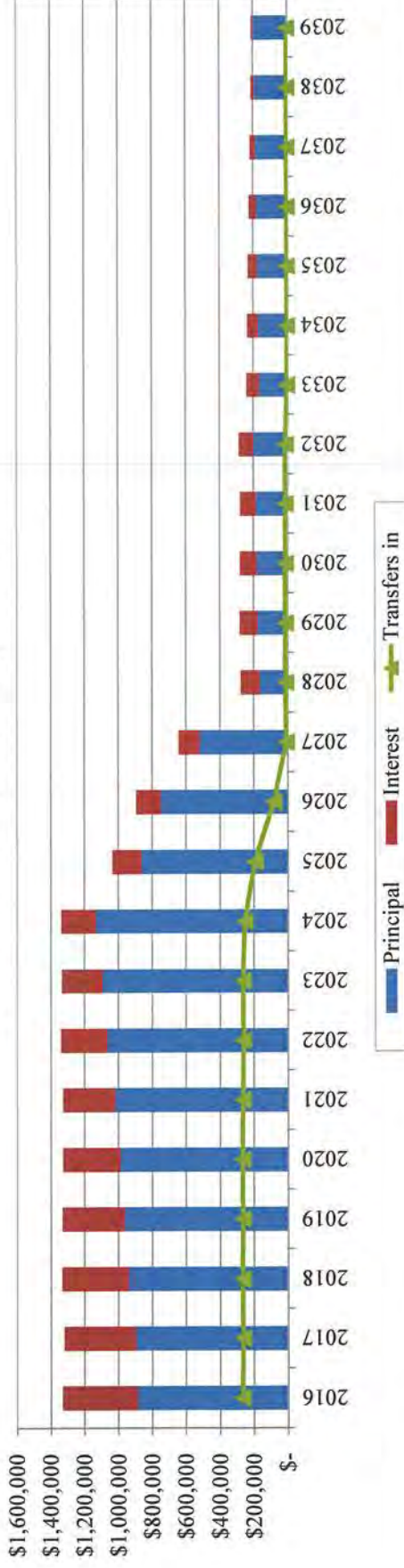
The above assumes no new debt. From 2013 to 2020, as presented above, total enterprise fund debt is reduced from \$14.9 million to \$9.8 million. A reduction of approximately \$5.1 million.

Total Debt per Capita



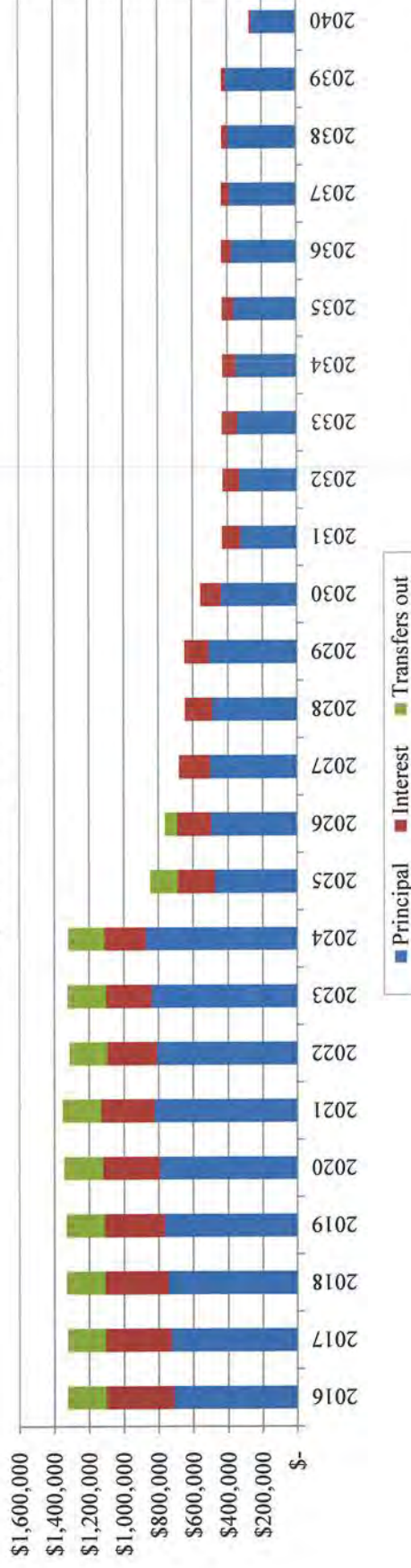
Annual Debt Service Requirements

Governmental Debt Service Requirements



Beginning in 2015, the City has approximately \$1.3 million in governmental debt service requirements that are paid with tax levy, special assessments and, as shown above, transfer in from enterprise and special revenue funds. Transfers in approximate \$260 thousand each year to assist in the debt service requirements.

Enterprise Debt Service Requirements



Enterprise funds pay approximately \$1.1 million each year for debt service requirements for bonds recorded in the Water, Sewer, and Harbor at Peace funds. The Water and Sewer funds transfer approximately \$220K of funds to debt service funds for their share of the bonds recorded in the Debt Service funds.

City of Norwood Young America

2016 Rate Study Update



December 4, 2015

BOLTON & MENK, INC.
Consulting Engineers & Surveyors

Data Input Items – Actual #'s

- Utility Rates Reflect 2016 Rates as Approved at the November 23, 2015 City Council Meeting
- Billing Volumes Based on Pumping Records from Previous Years
- Revenue & Expense Information Reflect Actual 2015 Data & Budgeted 2016 Data
- Equipment Costs Reflect Capital Equipment Plan (to Year 2020)
- Planned Bond Payments

BOLTON & MENK, INC.
Consulting Engineers & Surveyors

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Data Input Items – 2016 Rates

▪ Rates Unchanged from 2015

– Residential Water Base Charge =	\$15.20/unit
– Commercial Water Base Charge =	\$26.39/unit
– Water Plant Charge =	\$8.20/connection
– Water Gallonage Charge (Tier I) =	\$3.45/kgal
– Water Gallonage Charge (Tier II) =	\$4.46/kgal
– Water Gallonage Charge (Tier III) =	\$5.25/kgal
– Water Gal. Charge (Tier IV - Res. Only) =	\$6.77/kgal
– Watermain Trunk Charge =	\$3,900/ERU
– Sewer Base Charge (Res. & Com.) =	\$9.00/unit
– Sanitary Sewer Trunk Charge =	\$3,900/ERU

▪ Rates Increased from 2015

– Sewer Gallonage Charge (Res. & Com.) =	\$7.16/kgal
– Sewer Plant Charge =	\$5.00/connection

BOLTON & MENK, INC.
Consulting Engineers & Surveyors

3

Data Input Items – Estimated #'s

- Assumed Future Project Bonding Costs Based on Financing for 20 Years at Rate of 4.5%
- Estimated Water & Sewer Costs of Future Projects
- Assumed a 3% Annual Increase to Operation, Maintenance, and Salary Expenses
- Estimated the Billing Splits for the Water Tiers
- Assumed Residential & Commercial/Industrial Growth

BOLTON & MENK, INC.
Consulting Engineers & Surveyors

4

Primary Factors Affecting Estimated Year End Fund Balances

- **Growth**
 - 5 New SF Homes Every Year
 - 1 New Commercial/Industrial Connection Every Other Year
- **Projects**
 - Oak Lane / Tacoma Avenue Utility Project in 2016
 - Merger Street / Webster Street Reconstruction Project
 - Project from Previous Infrastructure Rehabilitation Plan Every 3 Years (Starting in 2020)
 - Water Plant Expansion in 2024
 - Sewer Plant Upgrade in 2026
- **Rate Increases**

BOLTON & MENK, INC.
Consulting Engineers & Surveyors

5

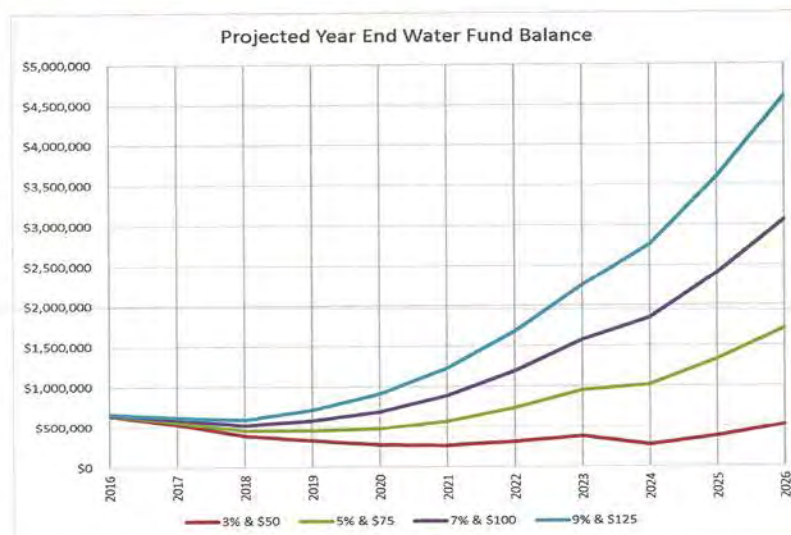
Future Rate Increases

- **Water & Sewer Rate Increase Options (2017 & Beyond)**
 - Option 1 = 3% Increase to Rates & \$50 Increase to Trunk Charges
 - Option 2 = 5% Increase to Rates & \$75 Increase to Trunk Charges
 - Option 3 = 7% Increase to Rates & \$100 Increase to Trunk Charges
 - Option 4 = 9% Increase to Rates & \$125 Increase to Trunk Charges
- **Rate Increase Options and the Resultant Fund Balances are Shown on the Following Graphs**

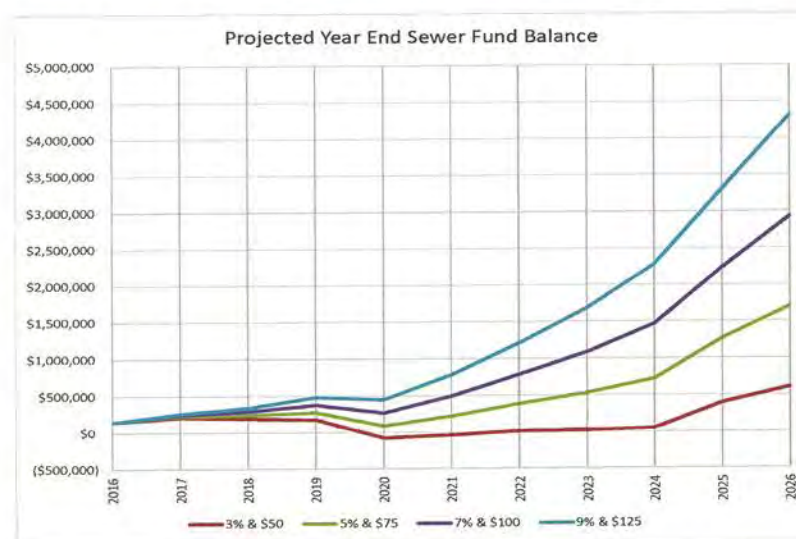
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6

Projected Year End Fund Balance - Water



Projected Year End Fund Balance - Sewer



Primary Factors Affecting Estimated Year End Fund Balances

- **Growth**
 - 1 SF Home in the Meadows or Preserve Generates Approx. \$7,800 in Trunk Fees + \$4,000 in SAC/WAC Fees + Ongoing Revenue from User Fees (Year 1 Total ≈ \$12,300 / Unit)
- **Projects**
 - Every \$100,000 Bonded for at Term = 20 Years and Rate = 4.5% Results in a Cost of ≈ \$7,700 / Year
- **Water Rates** - Every 1% Increase to the Water Fund Starting in 2017 Increases the 2017 Year End Fund Balance by \$14,000 and the 2018 Year End Fund Balance by \$33,000
- **Sewer Rates** - Every 1% Increase to the Sewer Fund Starting in 2017 Increases the 2017 Year End Fund Balance by \$8,000 and the 2018 Year End Fund Balance by \$24,000

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Summary & Conclusions

- Current Combined Utility Fund Balance is Below the Recommended Amount of ≈ \$1mil
- Continued Annual Rate Increases, Particularly to the Sewer Fund, are Necessary to Achieve Adequate Funding Levels to Operate & Maintain the Water and Sewer Systems
- The Addition of a New Sewer Plant Charge Greatly Improves the Long-Term Status of the Sewer Fund
- The 2016 Billing Increase to a Typical Residential User (4,000 gal/mo.) is \$0.00 for the Water Bill and \$7.37 for the Sewer Bill for All Proposed Rate Increase Options

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Appendix 5
Emergency Contact List

Attachment 5
City of Norwood Young America
Emergency Telephone List

Emergency Response Team	Name	Work Telephone	Alternate Telephone
Emergency Response Lead	Steve Helget	507-581-2679	952-467-1800
Alternate Emergency Response Lead	Brent Aretz	952-212-0226	952-467-1830
Water Operator	Dan Stender	952-212-0246	952-467-1861
Alternate Water Operator	Chris Niesen	952-836-7120	952-467-1861
Public Communications	Steve Helget	507-581-2679	952-467-1800

State and Local Emergency Response Contacts	Name	Work Telephone	Alternate Telephone
State Incident Duty Officer	Minnesota Duty Officer	800/422-0798 Out State	651-649-5451 Metro
County Emergency Director	Deb Paige	952-361-1292	952-457-7324
National Guard	Minnesota Duty Officer	800/422-0798 Out State	651-649-5451 Metro
Mayor/Board Chair	Tina Diedrick	952-467-4310	
Fire Chief	Steve Zumberge	952-467-1845	
Sheriff	Jim Olson	952-361-1212	
Police Chief	Carver County Sheriff	952-361-1212	

State and Local Agencies	Name	Work Telephone	Alternate Telephone
MDH District Engineer	Amy Lynch	507-344-2713	
MDH	Drinking Water Protection	651-201-4700	
State Testing Laboratory	Minnesota Duty Officer	800/422-0798 Out State	651-649-5451 Metro
MPCA	St. Paul Office	651-296-6300	
DNR Area Hydrologist	Jennie Skancke	651-259-5790	
County Water Planner	Paul Moline	952-361-1828	

Utilities	Name	Work Telephone	Alternate Telephone
Electric Company	Xcel Energy - primary	1-800-895-1999	
Electric Company	Minnesota Valley Electric	952-492-2313	
Gas Company	Center Point	612-372-5050	800-296-9815
Telephone Company	Century Link	877-348-9007	
General Communications	Mediacom	800-332-0245	
General Communications	Jaguar Communications	800-250-1517	
Gopher State One Call	Utility Locations	800-252-1166	651-454-0002
Highway Department	Carver County	952-466-5200	

Mutual Aid Agreements	Name	Work Telephone	Alternate Telephone
All neighboring communities will provide aid in an emergency			

Technical/Contracted Services/Supplies	Name	Work Telephone	Alternate Telephone
MRWA Technical Services	MN Rural Water Association	800-367-6792	
Engineering firm	Bolton & Menk, Inc.	952-448-8838	

Communications	Name	Work Telephone	Alternate Telephone
News Paper	NYA Times	952-467-2271	
Radio Station	1310 KGLB	320-864-2010	
School Superintendent	Brian Corlett	952-467-7000	

Property & Casualty Insurance	League of MN Cities Insurance Trust	651-281-1200	
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Critical Water Users	Name	Work Telephone	Alternate Telephone
Hospital Critical Use:	Lakeview Clinic	952-467-2888	
Nursing Home Critical Use:	The Harbor / The Haven & Peace Village	952-467-3692	

Appendix 6

Agreements

Cooperative Agreements for Emergency Water Services

The City of Norwood Young America does not currently have any Cooperative Agreements for Emergency Water Services. There is no communities close enough to justify an emergency interconnection.

Appendix 7

proceedings or pursuant to the provisions of Section 650, has not been paid or is not in the process of being paid in regular installments with the real estate taxes levied against the premises.

920.12 Deficiency of Water and Shutting Off Water. The City shall not be liable for any deficiency or failure in the supply of water to consumer from any cause whatever. In case of fire, or alarm of fire, water may be shut off to insure a supply for fire fighting.

920.13 Use of Fire Hydrants. No person other than an employee of the City in the course of his or her employment, or as a member of the Fire Department in performance of department operations, shall operate fire hydrants.

920.14 Use Confined to Premises. No consumer shall permit water from the City water supply system to be used for any purpose except upon his or her own premises.

920.15 Restricted Hours for Sprinkling. Whenever it shall be determined that a shortage of water supply threatens the City, the City Administrator and/or the Public Utilities Director may limit the times and hours during which water may be used from the City water supply system for lawn and garden sprinkling, irrigation, car washing, air conditioning or other uses specified therein. Any water customer who shall cause or permit water to be used in violation of the provisions of the ordinance shall be charged a penalty as set in the fee schedule adopted from time to time by the Council for each day of the violation, which charge shall be added to his or her next water bill. Continued violation shall be hereby prohibited and shall be cause for discontinuance of water service. *(Amended by Ord. 141, 7-23-2001)*

920.16 Access to Premises. The owner or occupant of premises served by the water supply system shall give the water superintendent access to the premises at a reasonable time for the purpose of making inspections in connection with the enforcement of these regulations.

Section 930 – Residential and Commercial Sewer and Water Rates

930.01 Sewer Charges. Sewer charges shall be as set in the fee schedule adopted by the Council. The sewer charges for residential and commercial users shall be calculated from the volume of metered water used. The per month billable flow shall be based on the average of the winter quarter (January, February, March) actual water used. *(Amended by Ord. 217, 11-23-2009)*

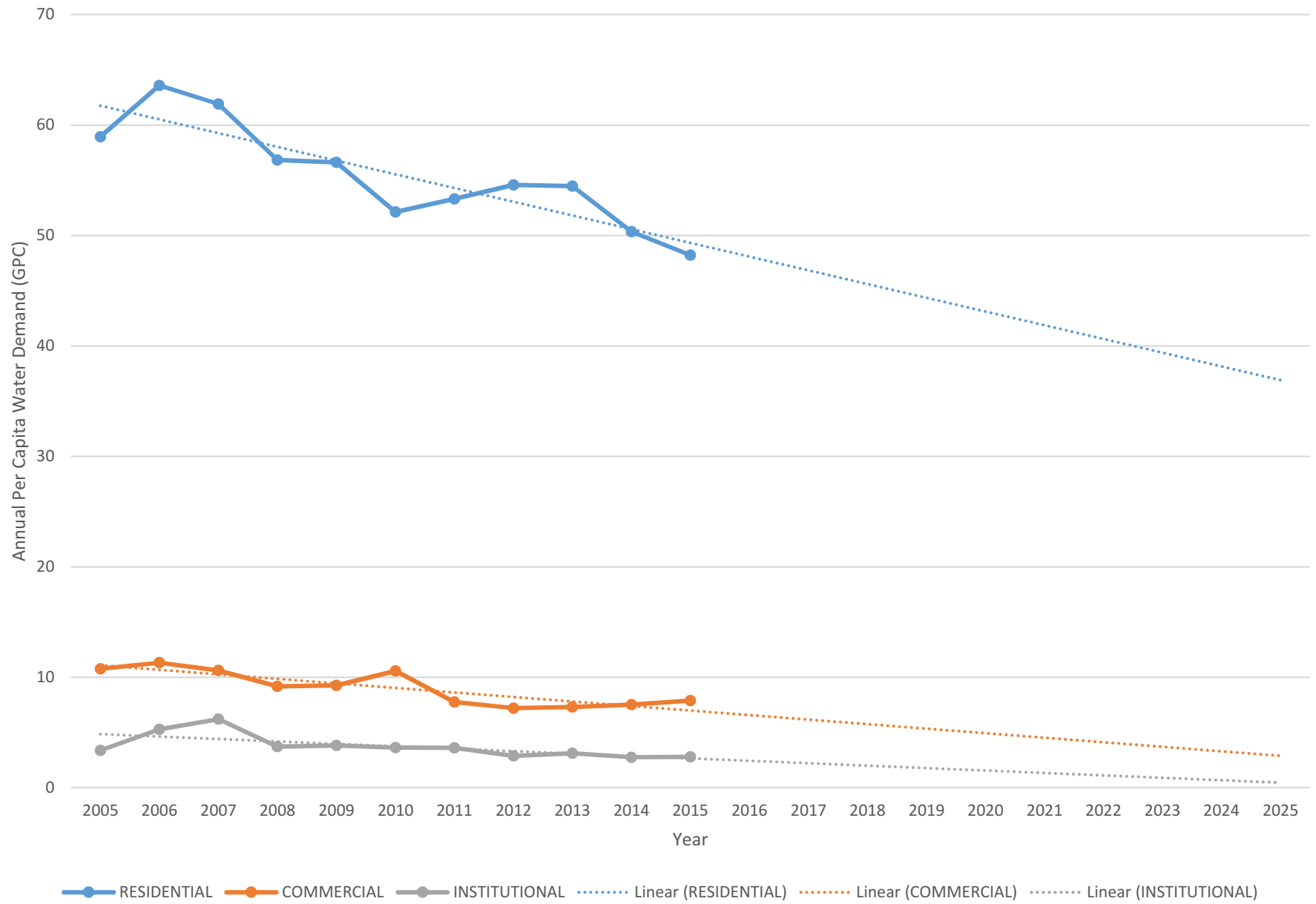
930.02 Water Charges. Water charges shall be as set in the fee schedule adopted from time to time by the Council.

930.03 Base Charges. Water and Sewer Base Charges, as set in the fee schedule adopted from time to time by the Council, shall be billed to all users with sewer and/or water connections, whether or not consumption occurs, except for those users who have had their service lines disconnected at the curb-stop. *(Amended by Ord. 234, 01-09-2012)*

930.04 Responsible Party. The owner(s) of any premises shall be solely responsible for the payment of any water or sewer usage or service charge, whether or not the water or sewer, usage or service have been used by the owner(s) or by tenants.

Appendix 8

Per Capita Water Demand by Customer Category (2005-2015)



Appendix 9

Towing and Storage of Vehicles	Actual Cost from Tow Company	-
Nuisance Violation	Per Violation + Administrative Penalty + Cost of Abatement	50.00
Administrative Penalties	1st offense	50.00
	2nd offense	62.50
	3rd offense	78.13
	4th offense	97.66
	each additional offense increases by 25%	

G. Utility Rates

<i>Water</i>	Residential Water Base Charge per unit	Per month	15.20
	Commercial Water Base Charge per unit	Per month	26.39
	Residential Water Usage Charge (Per 1,000 gallons)	Tier I - 0 to 6,000 gallons used	3.45
		Tier II - 6,001 to 52,000 gallons used	4.46
		Tier III - 52,001 to 88,000 gallons used	5.25
		Tier IV - 88,001+ gallons used	6.77
	Commercial Water Usage Charge (Per 1,000 gallons)	Tier I - 0 to 6,000 gallons used	3.45
		Tier II - 6,001 to 52,000 gallons used	4.46
		Tier III - 52,001+ gallons used	5.25
	Water Plant Charge	Per month	8.20
<i>Sewer</i>	Residential Sewer Base Charge per unit	Per month	9.00
	Commercial Sewer Base Charge per unit	Per month	9.00
	Residential Sewer Usage Charge (Per 1,000 gallons)	Based on average water used in winter quarter	6.57 7.16
	Commercial Sewer Usage Charge (Per 1,000 gallons)	Based on average water used in winter quarter	6.57 7.16
	Sewer Plant Charge	per month	5.00
	Water Sales	Private Truck	25.00
		Per 1000 gallons for NYA residents	3.60
		Per 1000 gallons for non-residents	8.30
	On-line Utility Payment User Fee	Per transaction	3.50
	Late Payment Penalty	% of unpaid balance	10 percent
<i>Storm Water Drainage</i>			
	REC Unit	Per month	4.90
	Special Parcels		
	Impervious Area	Per month	18.44/acre
	Pervious Area	Per month	5.81/acre
	SF Attached (Townhouse)	Per month	2.47
	Commercial/Industrial		
	0%-50% Impervious	Per month	8.98/acre
	>50%-75% Impervious	Per month	13.69/acre
	>75% Impervious	Per month	16.84/acre
	Open Space	Per month	5.81/acre

H. Utility Connection Charges

	Watermain Trunk Charge - per ERU	3900.00
	Sewermain Trunk Charge - per ERU	3900.00
	Water Hook-up Charge	125.00
	Sewer Hook-up Charge	125.00
	Storm Sewer Trunk Charge	Per ERU 750.00
	Barnes Lake Outlet	Per ERU 250.00
	Tacoma Ave N Improvement Fee	634.00
	SAC/WAC Fees	See Spreadsheet -
	3/4" Residential Water Meter	Includes Meter, Horn, Swivels & Remote 360.00
	1" Residential Water Meter	Includes Meter, Horn, Swivels & Remote 475.00
	1 1/2" Commercial Water Meter	Includes Meter, Flange, & Remote 1,420.00
	2" Commercial Water Meter	Includes Meter, Flange, & Remote 1,620.00

Appendix 10

proceedings or pursuant to the provisions of Section 650, has not been paid or is not in the process of being paid in regular installments with the real estate taxes levied against the premises.

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930.04 Responsible Party. The owner(s) of any premises shall be solely responsible for the payment of any water or sewer usage or service charge, whether or not the water or sewer, usage or service have been used by the owner(s) or by tenants.

CHAPTER 10. BUILDING, HOUSING AND MOBILE HOMES**Section 1000 – Building Code**

1000.01 Codes Adopted by Reference. The Minnesota State Building Code, as adopted by the Commissioner of Labor and Industry pursuant to Minnesota Statutes Chapter 16B.59 to 16B.75, including all of the amendments, rules and regulations established, adopted and published from time to time by the Minnesota Commissioner of Labor and Industry, through the Building Codes and Standards Unit, is hereby adopted by reference with the exception of the optional chapter, unless specifically adopted in this ordinance. The Minnesota State Building Code is hereby incorporated in this ordinance as if fully set out herein. *(Amended by Ord. 196, 7/23/07)*

1000.02 Application, Administration, and Enforcement. The application, administration, and enforcement of the code shall be in accordance with Minnesota State Building Code. The code shall be enforced within the extraterritorial limits permitted by Minnesota States, 16B.62, Subdivision 1, when so established by this ordinance. *(Amended by Ord. 196, 7/23/07)*

The code enforcement agency of the City of Norwood Young America is called the contracted Building Officials Department of Paul A. Waldron and Associates. *(Amended by Ord. 196, 7/23/07)*

This code shall be enforced by the Minnesota Certified Building Official designated by the City of Norwood/Young America to administer the code (Minnesota Statute 16B.65) Subdivision 1.

(Amended by Ord. 155, 8/11/03)

1000.03 Permits and Fees. The issuance of permits and the collection of fees shall be as authorized in Minnesota Statutes, 16B.62, Subdivision 1. Permit fees shall be assessed for work governed by this code in accordance with the fee schedule adopted by the City in Chapter 20 of the Norwood Young America City Code. In addition, a surcharge fee shall be collected on all permits issued for work governed by this code in accordance with Minnesota Statute 16B.70. *(Amended by Ord. 196, 7/23/07)*

An investigation fee, in addition to the permit fee, shall be collected whenever any work for which a permit is required by this code has been commenced without first obtaining said permit. The investigation fee shall be set in the Fee Schedule by the City Council. The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this code nor from any penalty prescribed by law. *(Amended by Ord. 188, 2/12/2007)*

A reinspection fee may be assessed for each reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made. Reinspection fees may be assessed when the inspection record card is not readily available, approved plans are not readily available, failure to provide access on the date for which inspection is requested or for deviating from plans requiring the approval of the building official. The fee shall be in accordance with the fee schedule adopted by the jurisdiction. *(Amended by Ord. 155, 8/11/03)*

In order to renew a building permit, the applicant must pay a fee equal to one half the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work. *(Amended by Ord. 160, 9/13/04)*

shall also be determined with due regard for the requirements of approach grades and future grade separations.

Subd. 10 Topography and Arrangement. The grid street pattern shall be followed except in instances where topography or other physical conditions will prevent the strict application of the basic grid pattern.

Subd. 11 Street Trees. Street trees shall be placed within 6 feet of the right-of-way of the road or roads within and abutting the subdivision. One tree shall be planted for every forty (40) feet of frontage along the road, unless the City Council grants a waiver. Such waiver shall be granted only if there are trees growing along such right-of-way or on the abutting property which in the opinion of the City Council comply with this Chapter. The following types of trees shall not be planted as a street tree as herein defined: Boxelder, Silver Maple, Birch, Catalpa, Black Walnut, Mulberry, Poplars, Black Locust, Willows and the Elm species. This prohibition will be prospective in effect. Planting of a prohibited type will be a misdemeanor.

Subd. 12 Street Names. Names of new streets shall not duplicate existing or platted street names unless a new street is a continuation of or in alignment with the existing or platted street, in which event it shall bear the same name as the existing or platted street so in alignment.

1130.03 Alleys.

Subd. 1 Locational Requirements. Except in the case of a planned unit development, either a public or private alley shall be provided in a block where commercially zoned property abuts a major arterial or a major street.

Subd. 2 Widths. An alley right-of-way and pavement widths shall conform to the following minimum standards:

<u>Classification</u>	<u>ROW</u>	<u>Pavement</u>
Residential (two way)	20 ft	16 ft
Residential (one way)	16 ft	12 ft
Commercial/Industrial	24 ft	20 ft

Subd. 3 Grades. All center line gradients shall be at least .5% and shall not exceed 8%.

1130.04 Intersections.

Subd. 1 Angle of Intersection. The angle formed by the intersection of streets shall be 90 degrees unless natural features such as topography and trees are to be protected wherein, an intersection shall not be less than 75 degrees.

Subd. 2 Size of Intersection. Intersections of more than four corners shall be prohibited.

Subd. 1. Purpose and Findings

- A. Minnesota Statutes Section 462.358. Subd. 2b provides that municipal subdivision regulations may require that a reasonable portion of any proposed subdivision be dedicated to the public or preserved for conservation purposes or for public use as parks, playgrounds, trails, wetlands, or open space, and that the municipality may alternatively accept an equivalent amount in cash. *(Amended by Ord. 165, 2/14/2005)*
- B. The City Council finds that:
 - 1. The preservation and development of parks, playgrounds, and open space areas within the City are essential to maintaining a healthy and desirable environment for residents and employees within the City. Further, the value and attractiveness of residential and commercial/industrial developments is enhanced by the presence of parks and open space amenities.
 - 2. New developments place a burden upon the City's parks and open space system. New facilities must be developed to maintain the current level of service and the quality of the environment for all. Therefore, new developments shall be required to contribute toward the City's park system in rough proportion to the relative burden they will place upon the park system. *(Amended by Ord. 165, 2/14/2005)*

Subd. 2. Dedication Required

- A. At the time of subdivision, the developer shall dedicate land for public open space and public use as parks, playgrounds, recreation facilities, trails, in an amount equal to the development's proportional share of the City park system, as determined by this ordinance. *(Amended by Ord. 165, 2/14/2005)*
- B. Any land dedicated shall be in a location and of a character consistent with and suitable for meeting the needs identified by the City's Comprehensive Plan. In order to be accepted for the required dedication, land must be suitable for public uses. Land located within wetlands, areas subject to flooding, and land used for ponding or infiltration areas will not be accepted to meet the land dedication requirements. The City may consider accepting ownership of these lands without giving credit for park dedication. *(Amended by Ord. 165, 2/14/2005)*
- C. Existing natural features which enhance the attractiveness of the community, such as trees, watercourses, historical places, and similar irreplaceable assets such be preserved, insofar as possible, in the design of the subdivision and in meeting park land dedication requirements. *(Amended by Ord. 165, 2/14/2005)*
- D. If the City Council determines that land is not needed in the area of the proposed subdivision, the City requires payment of an equivalent amount in cash. Any money paid to the city for this purpose shall be placed in a special fund and used only for the acquisition of land for parks, open space, playgrounds, and recreational facilities, and for the development of new and existing park and playground sites. *(Amended by Ord. 165, 2/14/2005)*
- E. If the City Council determines that land is needed with a subdivision, but in a lesser amount than what is required, the Council may require payment of cash in lieu of land dedication based on a proportional share of the land dedication that would otherwise be required. *(Amended by Ord. 165, 2/14/2005)*
- F. The undeveloped land value shall be used to determine the cash payment required in lieu of land dedication. The amount required for payment is evaluated annually and is listed in the City of Norwood Young America Fee Schedule. *(Amended by Ord. 165, 2/14/2005)*

- G. The City Council may waive the park dedication fee under special circumstances, such as economic development projects, where public funding and subsidies are utilized for project feasibility. *(Amended by Ord. 165, 2/14/2005)*

Subd. 3. Land Dedication/Payment of Fees. Dedication of land and/or payment of park dedication fees shall be as follows:

A. Calculation of Dedication.

1. For residential subdivisions, a minimum of 10% of the total area of the property is deemed a reasonable portion to meet dedication requirements. The land must be suitable for public use and the City is not required to accept land which will not be usable for park purposes or which would require extensive expenditures on the part of the public to make them usable. *(Amended by Ord. 165, 2/14/2005)*
2. For non-residential subdivisions, such as commercial or industrial plats, the city requires a minimum cash park dedication on a per acre basis, as specified in the Fee Schedule. However, where the City Council deems it in the public interest, it may require a minimum land dedication of five percent of the commercial or industrial land to be subdivided in lieu of a cash dedication. The lands must be indicated on the City's Comprehensive Plan or must be designated on specific area plans for parks, trails, and public open space. *(Amended by Ord. 165, 2/14/2005)*

B. Land Dedication.

1. When land is to be dedicated to satisfy the park dedication requirement, separate lots or outlots shall be indicated on the plat drawings for the area(s) to be dedicated. *(Amended by Ord. 165, 2/14/2005)*
2. Signed deeds for the lots or outlots shall be given to the City prior to the City's release of the final plat for filing. No building permits shall be issued for the development until the required deeds are received by the City. *(Amended by Ord. 165, 2/14/2005)*
3. The developer shall be responsible for finished grading and ground cover and construction of trails in all lands to be dedicated to the City. No credit toward the required dedication shall be given for this work, except that credit for the cost of improvements to trails included in the City's adopted trail plan may be reimbursed by the City. *(Amended by Ord. 165, 2/14/2005)*

C. Cash Fee. When a cash fee is to be paid in lieu of land dedication, the payment of such fee shall be required as follows:

1. For all residential developments, park dedication fees shall be paid prior to the City releasing the signed final plat for recording. An exception may be granted by the City Council for multiple-family structures, including multi-unit townhomes, condos and apartments, to allow payment of the fee prior to the issuance of building permits. Payment shall be made for all units within each building prior to issuance of any building permits for that structure. *(Amended by Ord. 165, 2/14/2005)*
2. For commercial and industrial developments, the total fee shall be paid prior to issuance of any building permits for the development. The City Council may grant deferral of a portion of the fees if the subdivider proposes to construct significantly less square

CHAPTER 12. ZONING**Section 1200 – Introductory Provisions**

1200.01 Title. This Ordinance shall be known and referred to as the “Norwood Young America Zoning Ordinance” except as referred to herein, where it shall be known as “this Ordinance”.

1200.02 Intent. It is the intent of this Ordinance to protect the public health, safety and general welfare of the community and its people through the establishment of minimum regulations in regard to location, construction, alteration and use of structures and land in the City of Norwood Young America. Such regulations are established to:

1. Support the compact and orderly growth of urban development and redevelopment;
2. Promote quality development;
3. Enhance community character and identity;
4. Enhance community and neighborhood livability;
5. Protect historic community resources including districts, buildings, sites or events;
6. Provide adequate light, air, and convenience of access to property;
7. Provide for compatibility of different land uses;
8. Minimize land use conflicts;
9. Provide for administration of this Ordinance;
10. Provide for amendments and;
11. Prescribe penalties for the violation of such regulations.

1200.03 Authority. This Ordinance is enacted pursuant to the authority granted by the Municipal Planning Act, Minnesota Statutes, Sections 462.351 to 462.364 as amended.

1200.04 Definitions. The following words and terms, as they occur in this Ordinance, shall be interpreted as herein defined.

Accessory Use or Structure. A subordinate detached building or use, which is located on the same lot on which the main building or use is situated and which is reasonably necessary and incidental to the conduct of the primary use of such main building or use.

Adult Arcade. Any place to which the public is permitted or invited wherein coin-operated or slug-operated or electronically, electrically, or mechanically controlled still or motion picture machines, projectors, or other image-producing devices are maintained to show images to five (5) or fewer persons per machine at any one time, and where the images so displayed are distinguished or characterized by the depicting or describing of “specified sexual activities” or “specified anatomical areas.”

Adult Bookstore, Adult Video Store, or Adult Store. A commercial establishment which devotes 10% or more of the floor area of the business (not including storerooms, stock areas, bathrooms, basements, or any portion of the business not open to the public) to the barter, sale or rental for any form of consideration any one (1) or more of the following:

- A. Books, magazines, periodicals, or other printed matter, or photographs, films, motion pictures, video cassettes or video reproductions, slides, or other visual representations which depict or describe “specified sexual activities” or “specified anatomical areas” or
- B. Instruments, devices, or paraphernalia which are designed for use in connection with “specified sexual activities.” (*Amended by Ord. 153, 7/28/03*)

Adult Cabaret. A nightclub, bar, restaurant, or similar commercial establishment which regularly features:

- A. Persons who appear in a state of nudity: or
- B. Live performances which are characterized by the exposure of “specified sexual activities”, or
- C. Films, motion pictures, videocassettes, slides, or other photographic reproductions which are characterized by the depiction or description of “specified sexual activities” or “specified anatomical areas.”

Adult Massage Parlor. A massage parlor which excludes minors by reason of age, or which provides, for any form of consideration, the rubbing, stroking, kneading, tapping, or rolling of the body, if the service provided by massage parlor is distinguished or characterized by an emphasis on “specified sexual activities” or “specified anatomical areas.”

Adult Motel. A hotel, motel or similar commercial establishment which:

- A. Offers accommodations to the public for any form of consideration; provides patrons with closed-circuit television transmission, films, motion pictures, video cassettes, slides or other photographic reproductions which are characterized by the depiction or description of “specified sexual activities” or “specified anatomical areas,” and has a sign visible from the public right-of-way which advertises the availability of this adult type of photographic reproductions; or
- B. Offers a sleeping room for rent for a period of time that is less than ten (10) hours; or
- C. Allows a tenant or occupant of a sleeping room to sub-rent the room for a period of time that is less than ten (10) hours.

Adult Motion Picture Theater. A commercial establishment where, for any form of consideration, films, motion pictures, video cassettes, slides, or similar photographic reproductions are regularly shown which are characterized by the depiction or description of “specified sexual activities” or “specified anatomical areas.”

Adult Theater. A theater, concert hall, auditorium, or similar commercial establishment which regularly features persons who appear in a state of nudity or live performances which are characterized by the exposure of “specified sexual activities” or “specified anatomical areas.”

Adult Uses. Adult uses include:

- A. Adult arcades,
- B. Adult bookstores; adult video stores; adult stores,
- C. Adult cabarets,
- D. Adult motels/hotels,

- E. Adult massage parlors,
- F. Adult motion picture theaters,
- G. Adult theaters,
- H. Escort agencies,
- I. Nude model studios, and
- J. Sexual encounter centers.

Amendment. Any modification of the Ordinance text or map. A map amendment shall be known as a rezoning.

Amusement/Entertainment Facilities. A business devoted primarily to entertain and amuse its customers including bowling alleys, billiard halls, and video arcades.

Antenna. A system of wires, poles, rods, reflecting discs, or similar devices used for the transmission or reception of electromagnetic waves, which system is external to or attached to the exterior of any structure.

Appeal. An action brought by an applicant where it is alleged that there is an error in any order, request, decision or determination by the City Administrator in the enforcement of the Zoning Ordinance.

Automobile repair, major. General repair, rebuilding or reconditioning of engines, motor vehicles or trailers, including body work, frame work and major painting service.

Automobile repair, minor. Incidental repairs, replacement of parts and motor service to automobiles, but not including any operation specified under *Automobile repair, major*.

Automobile service station. Any building or premises used for the dispensing or sale of automobile fuels, lubricating oil or grease, tires, batteries or minor automobile accessories. Services offered may include the installation of tires, batteries or minor accessories; minor automobile repairs; and greasing or washing of individual automobiles. When sales, services and repairs as detailed here are offered to the public, the premises will be classified as a public garage. Automobile service stations shall not include the sale or storage of vehicles; shall not include premises offering major automobile repairs, automobile wrecking or detached car washes.

Basement. A portion of a building located partly underground, but having half or less of its floor-to-ceiling height below the average grade of the adjoining ground.

Bed and Breakfast. An owner-occupied single-family dwelling where lodging, in up to four guest rooms, and breakfast are provided to the traveling public by the resident owner for compensation. (*Amended by Ord. 220; 2-22-2010*)

Bluff. A topographic feature such as a hill, cliff, or embankment having the following characteristics (an area with an average slope of less than 18 percent over a distance for 50 feet or more shall not be considered part of the bluff):

- A. Part or all of the feature is located in a shoreland area;
- B. The slope rises at least 25 feet above the ordinary high water level of the waterbody;

- C. The grade of the slope from the toe of the bluff to a point 25 feet or more above the ordinary high water level averages 30 percent or greater; and
- D. The slope must drain toward the waterbody. *(Amended by Ord. 170; 9-12-2005)*

Bluff Impact Zone. A bluff and land located within 20 feet from the top of a bluff
(Amended by Ord. 170; 9-12-2005)

Board. The Board of Adjustment and Appeals. The City Council shall act as the Board of Adjustment and Appeals.

Boarding House. A building, other than a hotel, where for compensation and by prearrangement for definite periods, meals, or lodging and meals, are provided for three (3) or more non-transient persons, but not exceeding ten (10) persons.

Boathouse. A structure designed and used solely for the storage of boats or boating equipment.
(Amended by Ord. 170; 9-12-2005)

Building. Any structure used or intended for supporting or the sheltering of any use or occupancy.

Building Height. The vertical distance measured from the average elevation of the finished grade along the front of the building to: the cornice of a flat roof, the deck line of a mansard roof, a point on the roof directly above the highest wall of a shed roof, the uppermost point on a round or other arch-type roof, or the mean distance of the highest gable on a pitched or hip roof.
(Amended by Ord. 216; 8-24-2009).

Building Line. The line parallel to a lot line or the ordinary high water level at the required setback beyond which a structure may not extend

Cellar. That portion of the building having more than one-half of the floor to ceiling height below the average grade of the adjoining ground.

Cemetery. Land used or intended to be used for the burial of the dead and dedicated for cemetery purposes, including crematories, mausoleums, and mortuaries.

Commercial Recreational Uses. Uses including, miniature golf, waterslides, amusement centers, bowling alley, pool hall, dance hall, skating and similar uses.

Commissioner. The commissioner of the Department of Natural Resources.
(Amended by Ord. 170; 9-12-2005)

Conditional Use. A land use or development as defined by ordinance that would not be appropriate generally but may be allowed with appropriate restrictions as provided by official controls upon a finding that certain conditions as detailed in the zoning ordinance exist, the use or development conforms to the comprehensive land use plan of the community, and the use is compatible with the existing neighborhood. *(Amended by Ord. 170; 9-12-2005)*

Condominium. A multiple dwelling or development containing individually owned dwelling units and jointly owned and shared areas and facilities, which dwelling or development is subject to the

provisions of the Minnesota Condominium Act, Minnesota Statutes, Chapter 515, or the Uniform Condominium Act, Minnesota Statutes, Chapter 515A.

Contractor Operations. An area and/or building devoted to use by a business that contracts to supply materials or work in the building trade field.

(Amended by Ord. 181, 5/22/2006)

Convenience Store. A retail establishment, which generally sells a limited range of food products, nonprescription drugs, candy and other perishable goods. This includes soda and similar beverage dispensing and food products, which can be heated and/or prepared onsite, and has over 400 square feet of floor area for retailing of nonautomotive goods.

Convenience Store with Motor Fuel Sales. A convenience store as defined herein that also sells gasoline from pump islands.

Converted Single Family Dwelling. A single-family dwelling which has been converted or modified for use as two or more family dwellings. *(Amended by Ord. 117, 8-24-1998)*

Cutoff Angle. The angle formed by a line drawn from the direction of the light rays at the light source and a line perpendicular to the ground from the light source beyond which no light is emitted. *(Amended by Ord. 152, 7/28/03)*

Day Care Facility. Any state licensed facility, public or private, which provides one or more persons with care, training, supervision, habitation, rehabilitation, or developmental guidance on a regular basis, for periods of less than twenty-four (24) hours per day, in a place other than the person's own home. Day care facilities include, but are not limited to: family day care homes, group family day care homes, day care centers, day nurseries, nursery schools, daytime activity center, day treatment programs, and day services as defined by Minn. Stat. Section 245.782, Subd. 5.

Deck. A horizontal, unenclosed platform with or without attached railings, seats, trellises, or other features, attached or functionally related to a principal use or site and at any point extending more than three feet above ground. *(Amended by Ord. 170; 9-12-2005)*

Drive-In Establishments. Any use where products and/or services are provided to the customer under conditions where the customer does not have to leave the car or where fast service to the automobile occupants is a service offered regardless of whether service is also provided within a building.

Dwelling. A building or portion thereof designed or used exclusively for residential occupancy, including single-family, two-family and multiple-family dwelling units, but not including hotels, motels, boarding or lodging houses.

Dwelling Unit. One or more rooms in a dwelling designed for occupancy by one family for living purposes and having separate permanently installed cooking and sanitary facilities.

Earth Sheltered. A building constructed so that more than 50% of the exterior surface area of the building, excluding garages or other accessory buildings, is covered with earth and the building code standards are satisfied.

Escort. A person who, for consideration, agrees or offers to act as a companion, guide, or date for another person, or who agrees or offers to privately model lingerie or to privately perform a striptease for another person.

Escort Agency. A person or business association who furnishes, offers to furnish, or advertises to furnish escorts as one of its primary business purposes, for a fee, tip, or other consideration.

Family. Any number of individuals related by blood, legal adoption or marriage, or three or less unrelated individuals living together on the premises or in a single housekeeping unit.

Farm. Any tract of land, with a house and usually a barn plus other buildings on which crops and livestock are raised but excluding feedlots.

Farm Animals. Cattle, hogs, bees, sheep, goats, chickens, turkeys, horses and other animals commonly accepted as farm animals in the State of Minnesota.

Feedlot. A confined drylot area for finish feeding of cattle, swine, sheep, etc. on concentrated feeds with no facilities for pasturing or grazing.

Fence. A lineal structure including walls, footings and posts, or similar barriers used to prevent access by persons or animals or prevent visual or sound transference.

Fence, ornamental. A fence through which clear vision is possible from one side to the other for 50 percent or more of the structure, as viewed on a horizontal plane. Such fence may include picket, post and rail, split rail, but not chain link.

Fence, privacy. A fence, which when constructed provides 100% opaqueness from either side. A privacy fence shall be constructed of wood, vinyl or similar materials that is characteristic of surrounding improvements and shall not include chain-link with slats or other attachments that provide screening.

Finance, Insurance and Real Estate. Establishments operating primarily in the fields of finance, insurance and real estate including, but not limited to, depository institutions, credit institutions, investment companies, security and commodity exchanges, insurance agents and brokers, real estate developers, buyers, agents and lessees.

Foot-candle. The international unit of illumination produced on a surface.
(Amended by Ord. 152, 7/28/03)

Frontage. That part of a lot fronting on one side of a street between the side lot lines or between a street right-of-way and a side lot line.

Garden Center. A place of business where retail and wholesale products and produce are sold to the retail consumer. These centers, which may include a nursery and/or greenhouses, import most of its items sold. These items may include paints, handicrafts, nursery products and stock, fertilizers, potting soil, hardware, lawn and garden power equipment and machinery, hoes, rakes, shovels and other garden and farm tools and utensils.

Glare. The effect produced by the intensity and direction of any artificial illumination sufficient to cause annoyance, discomfort, or temporary loss or impairment of vision. (*Amended by Ord. 152, 7/28/03*)

Gross Floor Area. The sum of the gross horizontal areas of the several floors of the building, measured from the exterior faces of the exterior walls including basements but excluding cellars.

Guest Cottage. A building solely used for one or more of the following purposes: scrap booking, stamping, greeting card making, quilting, beading, hosting a book club, hosting a wedding or hosting a baby shower. Such a building may include lodging for persons then using the building for a permitted use. No part of such a building, however, shall be used by its owner or operator as a dwelling. (*Amended by Ord. 220; 2-22-2010*)

Hardship. A situation where property in question cannot be put to a reasonable use if used under the conditions allowed by the official controls; the plight of the landowner is due to circumstances unique to the property, not created by the landowner, and the variance, if granted, will not alter the essential character of the locality. Economic considerations alone shall not constitute an undue hardship if reasonable use for the property exists under the terms of the official control. (*Amended by Ord. 170; 9-12-2005*)

Home Occupation. Any occupation or profession carried on by members of the immediate family residing on the premises.

Hotel/Motel. A building in which there are more than ten (10) sleeping rooms usually occupied singly and temporarily by individuals who are lodged with or without meals and where no provision is made for cooking in any individual room.

Impervious Surface. An artificial or natural surface through which water, air, or roofs cannot penetrate including roofs, driveways, parking lots, sidewalks and similar hard surfaces.

Industry, Heavy. A use engaged in the basic processing and manufacturing of materials or products predominately from extracted or raw materials, or a use engaged in storage of, or manufacturing processes using flammable or explosive materials, or storage or manufacturing processes that potentially involve hazardous or commonly recognized offensive conditions.

Industry, Light. A use engaged in the manufacture, predominantly from previously prepared materials, of finished products or parts, including processing, fabrication, assembly, treatment, packaging, incidental storage, sales, and distribution of such products, but excluding basic industrial processing.

Intensive Vegetation Clearing. The complete removal of trees or shrubs in a contiguous patch, strip, row, or block.

Interim Use. A temporary use of property until a particular date, until the occurrence of a particular event, or until the use is no longer allowed by zoning regulations. (*Amended by Ord. 163, 1/24/05*)

Interim Use Permit. A permit issued by the City Council in accordance with procedures specified in this Chapter. (*Amended by Ord. 163, 1/24/05*)

Kennels. An establishment licensed to operate a facility housing dogs, cats, or other household pets and where grooming, breeding, boarding, training or selling of animals is conducted as a business.

Light Distribution Plan. A point-by-point plan formulated according to standard practices of the Illuminating Engineering Society (IES), depicting the intensity and location of lighting on the property. (*Amended by Ord. 152, 7/28/03*)

Livestock. Farm animals, raised for home use or for profit.

Lot. A parcel of land, separated from other parcels by description, intended for building development or for transfer of ownership.

Lot Area. The area of a horizontal plane within the lot lines.

Lot, Corner. A lot abutting on two or more streets other than an alley, at their intersection.

Lot Coverage. The area of a lot occupied by impervious surface.

Lot Depth. The shortest horizontal distance between the front lot line and the rear lot line measured from a ninety (90) degree angle from the street right-of-way within the lot boundaries.

Lot, Double Frontage/Through. A lot having its front and rear yards each abutting on a street, not including an alley.

Lot Line. The property line bounding a lot.

Lot Line, Front. The lot line separating the lot from the street other than the alley. In the case of a corner lot, the front lot line is the shortest lot line along a street other than an alley. In the case of a through lot, each street has a front lot line.

Lot Line, Rear. The lot line which is opposite and most distant from the front lot line. In the case of an irregular, triangular or other shaped lot, a line 10 feet in length within the lot paralleled to and at a maximum distance from the front lot line.

Lot Line, Side. Any lot line not a front or rear lot line.

Lot Width. The average horizontal distance between the side lot lines, ordinarily measured parallel to the front lot line at the minimum required setback line. Lots width on a cul-de-sac shall be measured from the building setback line.

Lot of Record. A lot or parcel for which a deed has been recorded in the office of the County Register of Deeds prior to the date of adoption of this Ordinance.

Luminaire. A complete lighting unit consisting of a light source and all necessary

mechanical, electrical and decorative parts. A luminaire does not include a pole or other support.
(Amended by Ord. 152, 7/28/03)

Manufactured Dwelling. A structure, not affixed to or part of real estate, transportable in one or more sections and built on a permanent chassis and designed to be used as a single-family dwelling with or without a permanent foundation.

Manufactured Home Park. Any site, lot, field or tract of land upon which two or more occupied manufactured homes are located, either free of charge or for compensation, and includes any building, structure, tent, vehicle or enclosure used or intended for use as part of the equipment of the manufactured home park.

Multiple-Family Dwelling. A dwelling containing three or more dwelling units designed with more than one dwelling unit connecting to a common corridor or entranceway.

Home based Business Sign. A sign, which bears the name or address of the home business.

Nonconforming Lot. A lot or parcel which does not meet the lot size requirements of the district within which located.

Nonconforming Structure. A structure, which is used in accordance with the use requirements of the zoning district but does not meet the dimensional requirements (setbacks, etc.) of the district within which located.

Nonconforming Use. A use of land or structure, which is not permitted in the zoning district within which located.

Nonconformity. Any use, structure or lot of record existing or authorized before this Ordinance became effective but prohibited thereafter.

Nonconforming lot, expansion of. Any proposed decrease in the existing dimensions of a lot of record that does not meet the minimal standards set forth for the district in which the lot is located. Intensifying the use shall mean any use of the property that increases the outdoor storage or any of the performance standards established in Section 1245.01 of this Chapter from currently established conditions. (Amended by Ord. 216; 8-24-2009)

Nonconforming structure, expansion of. Any addition to a nonconforming structure that encroaches further into the nonconforming setback of the structure, increases the existing nonconforming lot coverage or surpasses the existing nonconforming height.

Nonconforming use, expansion of. Any alteration of a nonconforming use that increases the footprint of the principal structure or intensifies the use of the property.

Nude Model Studio. Any place where a person who appears in a state of nudity or displays "specified anatomical areas" is provided to be observed, sketched, drawn, painted, sculptured, photographed, or similarly depicted by other persons who pay money or any form of consideration.

Nudity or State of Nudity. The appearance of a human bare buttock, anus, male genitals, female genitals, or female breast; or a state of dress which fails to opaquely cover a human buttock, anus, male genitals, female genitals, or areola of the female breast.

Nurseries or Greenhouses. A place where plants are grown for sale, transplanting or experimentation.

Nursing Home, Rest Home or Convalescent. A private home for the care of children or the aged or infirm, or a place of rest for those suffering bodily disorders, but not containing equipment for surgical care or for treatment of disease or injury.

Office. A building or portion of a building wherein services are performed involving predominantly administrative, professional, or clerical operations.

On-sale liquor establishment. Any establishment wherein alcoholic beverages are sold, served or given away for consumption on the premises. Typical on-sale uses include but are not limited to the following establishments: ballrooms, dance bars, piano bars, billiard and/or game parlors, nightclubs, or other private clubs. This definition shall not include standard restaurants as defined herein, or veterans clubs.

Ordinary High Water Level (OHWL). The boundary of public waters and wetlands, and shall be an elevation delineating the highest water level which has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial, as determined by the Department of Natural Resources. For watercourses, the ordinary high water level is the elevation of the top of the bank of the channel.

Personal Services. An establishment or place of business primarily engaged in providing individual services generally related to personal needs, such as a beauty salon, spa, tanning salon, tailor shop, or similar.

Planned Unit Development. An integrated development involving two or more principal uses or structures, including but not specifically limited to single-family residential uses, multiple-family residential uses, offices, or commercial uses, or any combination thereof, and similar such uses or combinations.

Principal Use or Structure. The main building on a lot in which the intended allowable use of the property is conducted and any additions thereof.

Public Waters. Any waters as defined in Minnesota Statutes, Section 103G.005, Subd. 15, 15a. (*Amended by Ord. 170; 9-12-2005*)

Restaurant, Fast Food. An establishment whose principal business is the sale of food and/or beverages in a ready-to-consume state for consumption:

- A. Within restaurant building;
- B. Within a motor vehicle parked on the premises; or

C. Off the premises as carry-out orders; and whose principal method of operation includes the following characteristics:

1. Food and/or beverages are usually packaged prior to sale and are served in edible containers or in paper, plastic, or other disposable containers;
2. The customer is not served food at a table by an employee, but receives it at a counter window, or similar facility and carries it to another location on or off the premises for consumption.

Restaurant, Standard. An establishment whose principal business is the sale of food and beverages, including alcohol, to customers in a ready-to-consume state, but not including an on-sale liquor establishment, and whose method of operation includes one or both of the following characteristics:

- A. Customers, normally provided with an individual menu, are served their food and beverages by a restaurant employee at the same table or counter at which food and beverages are consumed;
- B. A cafeteria-type operation where food and beverages generally are consumed within the restaurant building.

Retail Trade. Establishments engaged in selling merchandise to the general public for personal or household consumption and rendering services incidental to the sale of the goods. Retail trade includes the selling and renting of goods and products including but not limited to apparel, health and beauty products, food, appliances, furniture, tools, hardware, toys, and sporting goods.

Right-of-way. The area between property lines of a road, street, alley, pedestrian way or easement or other street

Satellite Dish. Any combination of: antenna or dish antenna whose purpose is to receive communication or other signals from orbiting satellites and other extraterrestrial sources.

Semipublic Use. The use of land by a private, nonprofit organization to provide a public service that is ordinarily open to some persons outside the regular constituency of the organization. *(Amended by Ord. 170; 9-12-2005)*

Sensitive Resource Management. The preservation and management of areas unsuitable for development in their natural state due to constraints such as shallow soils over groundwater or bedrock, highly erosive or expansive soils, steep slopes, susceptibility to flooding, or occurrence of flora or fauna in need of special protection. *(Amended by Ord. 170; 9-12-2005)*

Setback. The minimum horizontal distance between a structure, sewage treatment system, or other facility and an ordinary high water level, sewage treatment system, top of a bluff, road, highway, property line, or other facility. *(Amended by Ord. 170; 9-12-2005)*

Sewage Treatment System. A septic tank and soil absorption system or other individual or cluster type sewage treatment system as described and regulated in Subsection 1277.05 Subd. 8 of this Chapter. *(Amended by Ord. 170; 9-12-2005)*

Sewer System. Pipelines or conduits, pumping stations, and force main, and all other construction, devices, appliances, or appurtenances used for conducting sewage or industrial waste or other wastes to a point of ultimate disposal. (*Amended by Ord. 170; 9-12-2005*)

Sexual Encounter Center. A business or commercial enterprise that, as one of its primary business purposes, offers for any form of consideration:

- A. Physical contact in the form of wrestling or tumbling between persons of the opposite sex, or
- B. Activities between male and female persons and/or persons of the same sex when one (1) or more of the persons is in a state of nudity or semi-nude

Significant Historic Site. Any archaeological site, standing structure, or other property that meets the criteria for eligibility to the National Register of Historic Places or is listed in the State Register of Historic Sites, or is determined to be an unplatted cemetery that falls under the provisions of Minnesota Statutes, section 307.08. A historic site meets these criteria if it is presently listed on either register or if it is determined to meet the qualifications for listing after review by the Minnesota state archaeologist or the director of the Minnesota Historical Society. All unplatted cemeteries are automatically considered to be significant historic sites. (*Amended by Ord. 170; 9-12-2005*)

Shore Impact Zone. Land located between the ordinary high water level of a public water and a line parallel to it at a setback of 50 percent of the required structure setback.

Shoreland. Land located within the following distances from public water: 1,000 feet from the ordinary high water level of a lake, pond, or flowage; and 300 feet from a river or stream, whichever is greater. The limits of shorelands may be reduced whenever the waters involved are bounded by topographic divides which extend landward from the waters for lesser distances.

Single-family Dwelling. A detached dwelling designed exclusively for occupancy by one family.

Specified Anatomical Areas.

- A. Less than completely and opaquely covered human genitals, pubic region, buttock, anus, or female breast(s) below a point immediately above the top of the areola, and
- B. Human male genitals in a discernibly turgid state, even if completely and/or opaquely covered. (*Amended by Ord. 153, 7/28/03*)

Specified Sexual Activities. Includes any of the following:

- A. The fondling or touching of human genitals, pubic region, buttock, anus, or female breasts,
- B. Sex acts, normal or perverted, actual or simulated, including intercourse, oral copulation, anal intercourse, oral-anal copulation, bestiality or sodomy; direct physical stimulation of unclothed genitals; flagellation or torture in the context of a sexual relationship,
- C. The use of human or animal ejaculation, sodomy, oral copulation, coitus, or masturbation,
- D. The use of excretory functions in the context of a sexual relationship; anilingus; buggery; coprophagy; coprophilia; cunnilingus; fellatio; necrophilia; pederasty; pedophilia; piquerism; sapphism; or zooerastia,
- E. Clearly depicted human genitals in the state of sexual stimulation, arousal, or tumescence,

- F. Situations involving a person or persons, any of whom are nude, clad in undergarments or in sexually revealing costumes and engaged in the flagellation, torture, fettering, binding, or other physical restraint of any person; or
- G. Erotic or lewd touching, fondling, or other sexually oriented contact with an animal by a human being. (*Amended by Ord. 153, 7/28/03*)

Stables. An accessory building in which horses are kept for private or commercial use including boarding, hire, or sale.

Steep Slope. Land where agricultural activity or development is either not recommended or described as poorly suited due to slope steepness and the site's soil characteristics, as mapped and described in available county soil surveys or other technical reports, unless appropriate design and construction techniques and farming practices are used in accordance with the provisions of these regulations. Where specified information is not available, steep slopes are lands having average slopes over 12 percent, as measured over horizontal distances of 50 feet or more.

Story. That portion of a building included between the surface of any floor and the surface of the floor next above it, or, if there is no such floor above, the space between such floor and the ceiling next above it.

Street. A public way for vehicular traffic, whether designated as a street, highway, arterial, arterial parkway, throughway, road, avenue, lane, place, or however otherwise designated.

Street, cul-de-sac. A street with a single common ingress and egress and with a turn-around at the end. (*Amended by Ord. 220; 2-22-2010*)

Street, dead-end. A local street open at one end only and without a special provision for vehicles turning around. (*Amended by Ord. 220; 2-22-2010*)

Street Frontage. That portion of a parcel of land abutting one or more streets. An interior lot has one street frontage and a corner lot two such frontages.

Street, loop. A short, independent street that usually terminates along the same collector street of its origin. (*Amended by Ord. 220; 2-22-2010*)

Street, through. A major collector or arterial street that serves more than one neighborhood, or carries traffic between neighborhoods, or streets that extend continuously between other major street in the community. Through Streets shall not include Cul-De-Sac Streets, Dead-End Streets or Loop Streets. (*Amended by Ord. 220; 2-22-2010*)

Structural Alteration. A change to the supporting members of a structure including foundations, bearing walls or partitions, columns, beams, girders, or any structural change in the roof or in the exterior walls.

Structure. Anything constructed or erected including buildings and streets, the use of which requires permanent location of the ground or attachment to something having a permanent location on the ground.

Substandard Use or Structure. Any use in existence prior to the date of this Ordinance which is permitted within the applicable zoning district but does not meet the minimum dimensional requirements of this Ordinance.

Surface Water-Oriented Commercial Use. The use of land for commercial purposes, where access to and use of a surface water feature is an integral part of the normal conductance of business. Marinas, resorts, and restaurants with transient docking facilities are examples of such use. *(Amended by Ord. 170; 9-12-2005)*

Swimming Pool. “Swimming Pool” is a structure that holds water, the filter unit, pump, heating unit, and any other equipment needed to operate the pool.

Toe of the Bluff. The lower point of a 50-foot segment with an average slope exceeding 18 percent. *(Amended by Ord. 170; 9-12-2005)*

Top of the Bluff. The higher point of a 50-foot segment with an average slope exceeding 18 percent. *(Amended by Ord. 170; 9-12-2005)*

Townhouse. A single structure consisting of three or more dwelling units having the first story at or near the ground level with no other dwelling unit connected to the other dwelling unit except by a party wall with no openings.

Twin Home. A single structure consisting of two dwelling units, each designed for occupancy by one family with separate entrances connected only by a party wall with no openings.

Two-family Dwelling. A dwelling with two units designed with a common corridor or entryway exclusively for occupancy by two families living independently of each other.

Use. The purpose of which land or a structure is designated, arranged or intended, or for which it is occupied or maintained.

Variance. A modification or variation of the provisions of this chapter, as applied to a specific piece of property.

Water-Oriented Accessory Structure or Facility. A small, above ground building or other improvement, except stairways, fences, docks, and retaining walls, which, because of the relationship of its use to a surface water feature, reasonably needs to be located closer to public waters than the normal structure setback. Examples of such structures and facilities include boathouses, gazebos, screen houses, fish houses, pump houses, and detached decks. *(Amended by Ord. 170; 9-12-2005)*

Wetland. A surface water feature classified as a wetland in the United States Fish and Wildlife Service Circular No. 39 (1971 edition). *(Amended by Ord. 170; 9-12-2005)*

Wholesale Trade. Establishments primarily engaged in selling merchandise to retailers; to industrial, commercial, institutional, farm, construction contractors, or professional business users; or to other wholesalers; or acting as agents or brokers in buying merchandise for or selling merchandise to such persons or companies.

Yard. Means an open space on the same lot with a building or structure, which is unoccupied and unobstructed from its lowest level to the sky, except as otherwise permitted in this chapter.

Yard, Front. An unoccupied space extending across the front of a lot between the side yard lines and lying between the front street line of the lot and the front principal building line. For corner lots, the front yard shall be that yard having the least street frontage.

Yard, Rear. The space between the rear principal building line and the rear lot line, extending for the full width of the lot.

Yard, Side. The space between the side principal building lines and the adjacent side lot line, extending from the front to the rear building lines.

Yard, Street Side. The space between the side principal building line and the street.

Zoning Map. The map or maps incorporated into this chapter as a part thereof designating the zoning districts.

Section 1205 – General Provisions

1205.01 Interpretation. In their interpretation and application, the provisions of this Ordinance shall be held to be the minimum requirements for the promotion of the public health, safety, morals, and welfare.

1205.02 Compatibility with Other Regulations. Where the conditions of this Ordinance are comparable with conditions imposed by any other law, ordinance, statute, resolution, or regulation, the regulations, which are more restrictive shall prevail.

1205.03 Conformance to Ordinance. No building or structure shall be erected, converted, enlarged, reconstructed, moved or structurally altered nor shall any building or land be used except for the purpose permitted in the district in which the building or land is located.

1205.04 Maintenance of Minimum Requirements. No lot area, yard or other open space existing on or after the effective date of this Ordinance shall be reduced below the minimum required for it by this Ordinance, and no lot area, yard or other open space which is required by this Ordinance for one use shall be used as the required lot area, yard or other space for another use.

1205.05 Application. All applications required by this Ordinance shall be fully completed and filed in the Planning Commission records.

1205.06 Fees and Expenses. Any person filing a petition for an application required by this Ordinance shall pay a prescribed fee according to a fee schedule establish by the City Council. All fees shall be set annually by Ordinance of the City Council.

1205.07 Building Permits. As required, no person shall erect, alter, or move any building or part thereof without first securing a building permit.

1210 – Administration and Enforcement

1210.01 Zoning Administrator. The specific duties of the Zoning Administrator include:

- A. Providing Zoning Information. Providing zoning information upon request.
- B. Receiving/Referring Applications. Receiving applications for conditional use permits, variances, site plans, amendments and appeals, referring such applications to the appropriate official body, notifying affected property owners of required public hearings, and publishing notice of such hearings.
- C. Notifying Applicants. Notifying applicants for Conditional Use Permits, variances, amendments and appeals of actions taken by the official bodies relative to their application.
- D. Inspections. Conducting inspections to determine and assure compliance with Ordinance provisions
- E. Violations. Investigate violations, notifying persons guilty of violations and describing the nature of such, and initiating appropriate actions against violators as provided by law.
- F. Records. Maintaining permanent and current records of this Ordinance and the official Zoning Map including, but not limited to, Conditional Use Permits, variances, amendments, appeals and applications thereof.

1210.02 Board of Appeals.

Subd. 1 Establishment. The City Council is hereby established as the required board of appeals and adjustments, such board to be hereinafter referred to as the board of appeals or the board. The City Council, acting as the board of appeals, shall be vested with such administrative authority as is hereinafter provided or as provided by state law.

Subd. 2 Duties. The duties of the board of appeals shall be to:

- A. Hear and decide appeals where it is alleged that there is an error in any order, requirement, decision or determination made by the zoning administrator.
- B. Hear and decide requests for variances from the literal provisions of this Chapter, pursuant to Section 1210.04.

Subd. 3 Proceedings.

- A. The board of appeals shall adopt rules necessary to the conduct of its affairs and in keeping with the provisions of this chapter. Meetings shall be held at the call of the chairperson and at such other times as the board may determine. The chairperson, or in his or her absence the acting chairperson, may request the attendance of witnesses. All meetings shall be open to the public.
- B. The board of appeals shall keep minutes of its proceedings showing the vote of each member upon each question, or if absent or failing to vote indicating such fact, and shall keep records of its examinations and other official actions, all of which shall be a public record and be immediately filed in the office of the clerk-treasurer.

Subd. 4 Appeals.

- A. Appeals to the board of appeals may be taken by any person aggrieved or by any official or department of the city affected by any decision of the zoning administrator. Such appeals shall be taken within 60 days of such decision by filing with the zoning administrator a notice of appeal specifying the grounds thereof. The zoning administrator shall forthwith transmit to the board all papers constituting the record upon which the action appealed from was taken.
- B. The board shall fix a time for the hearing of the appeal, which hearing shall be held not less than ten (10) days nor more than 45 days after filing of said appeals. Hearings before the Board under Minnesota Statutes Sec. 462.359 Subd. (4) (Official Maps) shall require notice published in the official newspaper ten (10) days before the hearing; for all other hearings before the Board, notice of the date, time and place of such hearing shall be given to all interested parties. A decision on said appeal by the Board shall be made within a reasonable time after the hearing. At the hearing, any party may appeal in person by agent or attorney.
- C. Appeal request decisions of the Board shall be final. Appeals of Board decisions shall be made to the District Court within sixty (60) days.

1210.03 Planning Commission.

Subd. 1 Duties. Planning Commission duties in zoning administration shall be to:

- A. Hold public hearings on applications for amendments to this chapter. The commission shall not have the authority to make changes or amendments to this chapter, it shall act in a purely advisory manner to the City Council making its recommendation in all cases referred to it, and transmitting them to the City Council for final action.
- B. Consider applications for conditional use and interim use permits provided for within this chapter and to transmit its recommended action to the City Council for final action.
- C. Consider applications for variances and appeals provided for within this chapter and to transmit a recommendation to the board of appeals.
- D. Consider applications for site plans provided for within this chapter and to transmit its recommended action to the City Council for final action.

1210.04 Variances.

Subd. 1 Purpose. The City Council may grant variances from the literal provisions of this Ordinance where their strict enforcement would cause practical difficulties because of circumstances unique to the individual property under consideration, and to grant such variances only when it is demonstrated that such actions will be in harmony with the general purpose and intent of this Ordinance, and consistent with the comprehensive plan.

- A. *Practical Difficulties.* Practical difficulties as used in connection with the granting of a variance means that
 1. the property owner proposed to use the property in a reasonable manner not permitted by the zoning ordinance.
 2. the plight of the landowner is due to circumstances unique to the property not created by the landowner, and
 3. the variance, if granted, will not alter the essential character of the locality.Practical difficulty also includes, but is not limited to, inadequate access to direct sunlight for solar energy systems.

- B. *Economic Considerations.* Economic considerations alone shall not constitute a practical difficulty
- C. *Use Variances Prohibited.* The board of appeals may not permit as a variance any use that is not permitted under the Ordinance for property in the district where the affected person's land is located. The City Council may permit as a variance the temporary use of a one family dwelling as a two family dwelling. The City Council may impose conditions in the granting of a variance to insure compliance and to protect adjacent properties.
- D. *Restrictions and Conditions of Approval.* The board may impose such restrictions and conditions upon the premises benefited by a variance to ensure compliance and protect the public health, safety and general welfare of adjacent properties. Such restrictions and/or conditions must be directly related to and must bear a rough proportionality to the impact created by the variance.

Subd. 2 Procedure. The procedure for applying for a variance from the regulations of this chapter shall be as follows:

- A. The property owner or agent of the property owner shall meet with the zoning administrator to explain the situation, learn the procedures and obtain an application form.
- B. The applicant shall file the completed application form, together with the required exhibits, with the zoning administrator and shall pay the required filing fee.
- C. The zoning administrator shall transmit the application and one copy of the exhibits to the chairperson of the board of appeals and planning commission. Written notice of the public hearing shall be mailed at least ten days before the date of the hearing to the property owners adjacent to the property in question. Failure of any property owner to receive notification shall not invalidate the proceedings.
- D. The Planning Commission shall conduct a public hearing and consider application for variance and make recommendations to the board of appeals.
- E. The Board of Appeals may hold such public hearings as it may consider necessary on a proposed variance, consider application materials and the recommendation of the planning commission and make a final decision on the variance request.

Subd. 3 Revocation of Variance. The granting of a variance from the provisions of this Ordinance shall be subject to the following conditions, which conditions shall apply to all variances granted and said conditions shall be continuing:

- A. The variance shall be effective only for the specific purposes set forth in the variance grant. A violation of any condition set forth in granting a variance shall be a violation of this Ordinance and shall automatically terminate the variance;
- B. The variance shall become null and void without further action by the Planning Commission or City Council upon failure of the applicant to utilize such variance by commencement of construction or installation of the specific purpose within one (1) year of variance grant and completion within a reasonable time after commencement.

Subd. 4 Extensions. A variance may be renewed by the board of appeals for good cause should the applicant file for an extension. Such extension shall be requested in writing and filed with the Zoning Administrator at least thirty (30) days before the expiration of the original variance. The extension may be granted for up to a period of one (1) year.

Subd. 5 Filing. A certified copy of any variance shall be filed with the Carver County Recorder or Registrar of Titles and shall include a legal description of the subject property.

1210.05 Amendments.

Subd. 1 Adoption. This chapter may be amended, changed or altered only by a favorable (two-thirds) majority vote of all members of the City Council, and only after a public hearing has been duly advertised and held by the Planning Commission.

Subd. 2 Kinds of Amendments. An amendment to this chapter may be one of the following:

- A. A change in a district's boundary (rezoning).
- B. A change in a district's regulations.
- C. A change in any other provision of this chapter.

Subd. 3 Initiation of Proceedings. Proceedings for amending this chapter shall be initiated by at least one of the following three methods:

- A. By petition of an owner or owners of property which is proposed to be rezoned, or for which district regulations changes are proposed.
- B. By recommendation of the Planning Commission.
- C. By action of the City Council.

Subd. 4. Procedure. The procedure for a property owner or owners to initiate a rezoning or district regulation change applying to their property is as follows:

- A. The property owner or their agent shall meet with the zoning administrator to explain the situation, learn the procedures and obtain an application form.
- B. The applicant shall file the completed application form together with the required exhibits with the zoning administrator and shall pay the required filing fee.
- C. The zoning administrator shall transmit the application and required exhibits to the Planning Commission. When the amendment involves changes in district boundaries (rezoning) affecting an area of five (5) acres or less, written notice of the public hearing shall be mailed at least ten (10) days before the date of the hearing to the property owners within the affected zone and within 350 feet of the outer boundaries of the area in question. Failure of any property owner to receive notification shall not invalidate the proceedings.
- D. The zoning administrator shall have notice of the required public hearing published in the official municipal newspaper not less than ten (10) calendar days prior to the date of the hearing.
- E. The Planning Commission shall hold the public hearing, consider the application materials and provide a recommendation to the City Council for its official action.
- F. The City Council may hold such public hearings as it may consider necessary on a proposed amendment, consider application materials and the recommendation of the planning commission and make a final decision on the amendment request.

1210.06 Conditional Use Permits.

Subd. 1 Purpose. In order to give the district use regulations of this Ordinance the flexibility necessary to achieve the objectives of the Comprehensive Plan, certain uses are permitted subject to the granting of a Conditional Use Permit. Because of their unusual characteristics, such conditional uses require special consideration so they may be located properly with respect to the objectives of the Comprehensive Plan and with respect to their effects on surrounding properties. In order to achieve these purposes, the City Council is empowered to grant and to deny applications for Conditional Use Permits and to impose reasonable conditions upon the granting of these permits.

Subd. 2 Procedure. The procedure for obtaining a conditional use permit is as follows:

- A. The property owner or their agent shall meet with the zoning administrator to explain the situation, learn the procedures and obtain an application form.
- B. The applicant shall file the completed application form together with the required exhibits and filing fee with the zoning administrator.
- C. The zoning administrator shall transmit the application and exhibits to the Planning Commission. Written notice of the public hearing shall be mailed at least ten days before the date of the hearing to the property owners within 350 feet of the outer boundaries of the area in question. Failure of any property owner to receive notification shall not invalidate the proceedings.
- D. The zoning administrator shall have notice of the required public hearing published in the official municipal newspaper not less than ten (10) calendar days prior to the date of the hearing.
- E. The Planning Commission shall hold a public hearing, study the application to determine possible adverse effects of the proposed conditional use, determine what additional requirements may be necessary to reduce such adverse effects and provide a recommendation to the City Council for its official action.
- F. The City Council may hold such public hearings as it may consider necessary on a proposed conditional use permit, consider application materials and the recommendation of the planning commission and make a final decision on the conditional use permit request.

Subd. 3 Standards for Granting a Conditional Use Permit. No conditional use permit shall be granted, unless the City Council determines that all of the following standards, along with standards for a specific use and any other conditions the City Council deems necessary to protect the health, safety and general welfare of the public, will be met:

A. General Standards.

1. The use is consistent with goals, policies and objectives of the Comprehensive Plan.
2. The use is consistent with the intent of this Ordinance.
3. The use does not have an undue adverse impact on governmental facilities, utilities, services or existing or proposed improvements.
4. The use does not have an undue adverse impact on the public health, safety or welfare.
5. The use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purpose already permitted, nor substantially diminish and impair property values within the neighborhood.
6. The use will not impede the normal and orderly development and improvement of surrounding property for uses permitted in the district.

7. Adequate utilities, access roads, drainage and necessary facilities have been or will be provided.
8. Adequate measures have been or will be taken to provide for vehicular and pedestrian safety and convenience to, from and within the site.
9. The use meets all of the performance criteria requirements as established in Section 1245.01 of this chapter.
10. The use shall, in all other respects, conform to the applicable regulations of the district in which it is located.

B. Specific Conditional Use Provisions. In addition to the general standards specified in Subd. 3.A. of this Section, no conditional use permit shall be granted unless the City Council determined that each of the following specific standards have been met for the following uses.

1. Adult Entertainment Uses/Sexually Oriented Businesses.

- a. A sexually oriented business shall not be located within six hundred (600) feet of any of the following:
 - i. A public or private preschool, elementary, junior or high school site;
 - ii. A licensed day care center;
 - iii. A residential zoning district boundary or site used for residential purposes;
 - iv. A public park adjacent to a residential district;
 - v. Church site;
 - vi. Civic site;
 - vii. Another sexually oriented business site.
- b. A sexually oriented business:
 - i. Shall be prohibited from serving or locating in any place, which is also used to dispense or consume alcoholic beverages.
 - ii. Shall require all entrances to the business, with the exception of emergency fire exits, which are not useable by patrons to enter the business, be visible from a street-facing public right-of-way.
 - iii. Shall have no customer parking at the rear of the building.
 - iv. Shall have no doors on video viewing booths.
 - v. Shall have the layout of the display areas designed so that the management of the established and any law enforcement personnel inside the store can observe all patrons while they have access to any merchandise offered for sale or viewing including but not limited to books, magazines, photographs, video tapes, or any other material.
 - vi. Shall have no display of sexual activity, sexually explicit material or paraphernalia that is visible by the public from the exterior of the building.
 - vii. Shall be limited in operation to the house of 10:00 a.m. to midnight.
 - viii. Shall have signage that complies with the sign ordinance regulations addressed in Section 1260 of this Chapter. In addition, signs for sexually oriented businesses shall not contain representational depiction of an adult nature or graphic descriptions of the adult theme of the operation.
 - ix. Shall have lighting that complies with the lighting ordinance addressed in Section 1245.08 of this Chapter. In addition, illumination of the premises exterior shall be

adequate to observe the location and activities of all persons on the exterior premises.

2. Antennas, Satellite Dishes, Communication and Amateur Radio Towers.

- a. In all residential districts, only one of the following are permitted per lot:
 - i. Satellite dish
 - ii. Amateur radio tower
 - iii. Ground-mounted vertical antenna
- b. A ground-mounted satellite dish shall not exceed fifteen (15) feet in height above the ground level.
- c. No ground-mounted satellite dish, amateur radio tower, or ground-mounted vertical antenna shall be located within the required front yard setback or side yard setback.
- d. Ground-mounted satellite dish, amateur radio tower, or ground-mounted vertical antennas shall be set back from all adjoining lots a distance equivalent to the height of the dish, tower, or antenna. If a portion of the tower or antenna is collapsible or securely fastened to a building, only the portion which can fall will be used to determine the setback from the property lines. Location shall not adversely obstruct views from adjacent property.
- e. A building permit shall be required for the installation of any satellite dish, amateur tower, or ground-cover mounted vertical antenna. Building permit applications shall require the submission of a site plan and structural components.
- f. Each satellite dish, amateur radio tower, and ground-mounted vertical antenna shall be grounded to protect against natural lightning strikes and be designed and installed in conformance with the National Electrical Code.

3. Bed and Breakfast

- a. The owner must reside on the premises and be the operator of the facility.
- b. There is a maximum of four (4) guest rooms in the principal structure.
- c. All units are located within the principal structure.
- d. Occupancy shall be event driven and no stay shall be permitted for longer than thirty (30) consecutive days.
- e. A building code inspection is conducted and any necessary building permit is issued prior to occupancy to assure conformance to Health, Building and Fire Codes.
- f. The exterior façade shall not be altered from its Single Family character.
- g. On-premise advertising signs shall be limited to either one wall sign up to 4 square feet or a free-standing sign up to 2 square feet.
- h. The sign shall be designed in character with the principal structure, identifying not more than the name and address of the facility.
- i. The facility shall be located on a through street.
- j. A minimum of one off-street parking stall for each guest room plus two off-street parking stalls for the permanent residents shall be provided, and the facility must be able to accommodate all guest parking off-street without the need to alter the existing off-street parking arrangement. A piggy-back or tandem parking arrangement is permitted.
- k. On-site dumpsters or other waste containers shall be screened from public view.
(Amended by Ord. 220, 2-22-2010)

4. Cemeteries. Cemeteries shall conform to the following standards:
 - a. Shall be located at least 25 feet from adjacent uses.
 - b. Shall have adequate off-street parking.
5. Churches, schools and similar public uses.
 - a. The site shall have access on a collector or arterial roadway or shall be otherwise located so that access can be provided without generating significant traffic on local residential streets.
 - b. Parking areas shall be set back at least ten (10) feet property lines.
 - c. An off-street passenger loading area shall be provided.
 - d. The structure must be setback at least 50 feet from a residential use.
 - e. Outdoor recreation and play areas shall be located at least 25 feet from a residential use and buffered by appropriate landscape materials.
 - f. No more than seventy (70) percent of the site shall be covered with impervious surface.
 - g. Site plan approval shall be obtained pursuant to Section 1210.08 of this Chapter.
6. Contractor Operations. Contractor Operations in the C-3, Downtown District shall conform to the following standards:
 - a. No outdoor storage of any kind, including but not limited to materials, equipment or machinery shall be permitted.
 - b. All business vehicles shall be accommodated by off-street parking.
 - c. The office area shall be maintained at the front (street-facing) side of the building to the greatest extent possible.

(Amended by Ord. 216; 8-24-2009)
7. Day Care Centers. State Licensed Commercial Day Care Centers shall conform to the following standards:
 - a. The site shall have loading and drop off points designed to avoid interfering with traffic and pedestrian movements.
 - b. Outdoor recreation and play areas shall be located at least 25 feet from a residential use and buffered by appropriate landscape materials.
 - c. Each center shall obtain applicable licenses.
8. Farms, including Livestock. Farms including Livestock shall conform to the following standards:
 - a. The structures used in conjunction with the livestock operation must be in compliance with Chapter 5.
 - b. The site must be located on a collector street.
 - c. The structures must be a minimum of two hundred feet from a wetland area.
 - d. The use shall be setback a minimum of 500 feet from a residential district.

9. Group Homes. The following applies to state licensed residential facilities for seven to sixteen persons. State licensed residential facilities shall conform to the following standards:
- The structure must be in compliance with the state licensing requirements.
 - The structure must be in compliance with local building and fire codes.
 - The site shall have adequate off-street parking to accommodate one parking space for each employee on the major shift.
10. Guest Cottages
- The owner must be the operator of the facility.
 - There is a maximum of four (4) guest rooms in the principal structure, all of which are located within the principal structure.
 - No more than 12 guests per overnight stay are permitted.
 - Occupancy shall be event driven and no stay shall be permitted for longer than seven (7) consecutive days to one entity.
 - A building code inspection is conducted and any necessary building permit is issued prior to occupancy to assure conformance to Health, Building and Fire Codes. This information, including contact information for the owner/operator, shall be posted in a conspicuous location in the facility.
 - The exterior façade shall not be altered from its Single Family character.
 - On-premise advertising signs shall be limited to either one wall sign up to 4 square feet or a free-standing sign up to 2 square feet, and designed in character with the principal structure, identifying not more than the name and address of the facility.
 - The facility shall be located on a through street.
 - The site shall be able to accommodate a minimum of four off-street parking spaces and must be able to accommodate all guest parking off-street without altering the existing off-street parking arrangement. A piggy-back or tandem parking arrangement is permitted.
 - On-site dumpsters or other waste containers shall be screened from public view.
(Amended by Ord. 220, 2-22-2010)
11. Industry. Industry shall conform to the following standards for both light and heavy industrial uses:
- Landscaping: all open areas of any site, lot, tract or parcel shall be graded to provide proper drainage, and except for areas used for parking, drives or storage, shall be landscaped with trees, shrubs or planted ground cover. Such landscaping shall conform with the planting plan approved by the City Council. It shall be the owner's responsibility to see that this landscaping is maintained in an attractive and well-kept condition. All vacant lots, tracts or parcels shall also be properly maintained.
 - All raw materials, supplies, finished or semi-finished products and equipment shall be stored within a completely enclosed building, provided, however, that motor vehicles necessary to the operation of the principal use and of not more than three-quarter ton capacity may be stored within the permitted parking lot space.

- c. Building Design and Construction. In addition to other restrictions of this Chapter and any other regulations of the City, any industrial building or structure shall meet the following standards:
 - i. All exterior wall surfaces shall employ high exterior finishes such as glass, brick and stone. Specifically designed pre-cast concrete units shall be allowed if the surfaces have been integrally treated with an applied decorative material or texture. Factory fabricated and finished metal-framed panel construction, if the panel materials be any of those named above, other than unpainted galvanized iron or plastic.
 - ii. All subsequent additions and outbuildings constructed after the erection of an original building or buildings shall be constructed of the same materials as the original construction and shall be designed in a manner conforming with the original architectural design and general appearance.
 - d. Heavy Industry. In addition to meeting the above requirements for light industry, heavy industry shall conform to the following additional standards:
 - i. Shall be located at least 50 feet from non-heavy industrial uses.
 - ii. The site shall have direct access to collector or arterial streets.
 - iii. Shall encourage shared parking with like heavy industrial uses.
12. Hospitals and Health Care Facilities. Hospitals and health care facilities shall conform to the following standards:
- a. The site shall have direct access to collector or arterial streets.
 - b. Emergency vehicle access shall not be adjacent to or located across a street from any residential use.
13. Kennels. The following applies to commercial kennels:
- a. The use shall not be located within 500 feet of any residential district.
 - b. Any outdoor exercise area shall be screened from view from abutting property with a landscaping buffer strip having a minimum width of eight (8) feet, consisting of coniferous and deciduous trees.
 - c. The site must be located on a collector street.
 - d. The structures associated with the kennel operation must be a minimum of two hundred feet from a wetland area.
14. Manufactured Home Park. Manufactured Home Parks shall conform to the following standards:
15. Multiple Family. Multiple family shall conform to the following standards:
- a. Adequate off-street parking and off-street loading is provided.
 - b. The development is adequately served by a collector or arterial street or shall be otherwise located so that access can be provided without generating significant traffic on local residential streets.
 - c. Development is compatible in design and layout with existing and planned use of the area.
 - d. The lot, setback and building requirements are complied with.

- e. The following requirements are established to provide uniform building design and to insure the quality of construction to provide adequate protection to all persons residing within the structure:
 - i. Window glass should be a minimum of 10% of the floor space of the living area in each unit.
 - ii. All below grade units shall have a floor grade not greater than 36 inches below ground.
 - iii. No building of a height greater than three (3) stories shall contain below grade dwelling units.
 - iv. Any multiple dwelling over three stories in height shall contain an elevator.
 - v. A multiple dwelling building over three stories shall supply building plans including site plans that are certified by an architect registered in the State of Minnesota, stating that the design of the building and the site has been prepared under their direct supervision. Any building of Type I or Type II construction, as provided in the Uniform Building Code, shall have its electrical, mechanical or structural systems designed by engineers registered in the State of Minnesota.
 - vi. The minimum floor area of an efficiency dwelling unit shall not be less than four hundred square feet. That of a one bedroom unit shall not be less than six hundred and fifty (650) square feet, and that of a two bedroom unit shall not be less than eight hundred (800) square feet.
- 16. Outdoor Auto, Truck, Recreational Vehicle, Equipment Sales and Display. Outdoor auto, truck, recreational vehicle, equipment sales and display shall comply with the following standards:
 - a. Shall have adequate off-street parking.
 - b. All access drives, parking and storage areas shall be surfaced with concrete or bituminous with curb and gutter.
 - c. Shall be screened from adjacent residential districts by buffer fence of adequate design or a planting buffer screen.
 - d. All used vehicles associated with the use shall comply with the following additional standards:
 - i. Shall be in an operable condition.
 - ii. Shall not be extensively damaged, with the damage including such things as broken or missing tires and wheels, motor, body parts, windows, drive train or transmission.
 - iii. Shall have a fair market value greater than the approximate value of the scrap in it.
- 17. Outdoor Dining.
 - a. Outdoor dining on public sidewalks shall comply with the following standards:
 - i. Sidewalk pedestrian pass-by area must be wide enough to accommodate the six-foot (6') seating and pedestrian pass-by requirement.
 - ii. Outdoor dining and related obstructions shall be prohibited from the pedestrian pass-by area.

- iii. Outdoor dining and seating shall not be placed in areas that negatively impact the line-of-sight of vehicles, specifically at intersections.
 - iv. Outdoor dining hours shall be restricted to the hours of 11 a.m. to 8 p.m.
 - v. Noise levels from the outdoor dining activity shall not exceed those levels stated within the City Code.
 - vi. The sale of alcoholic beverages in the outdoor dining area shall be prohibited entirely.
 - vii. The permit holder must show that the outdoor area is in compliance with federal, state, and local regulations regarding the preparation, sale, and service of food.
 - viii. The permit holder must reapply annually for a permit.
 - ix. Along with the application, a diagram indicating the location and size of tables, chairs, and walk area and exits must be submitted. The location of entryways and exits to the restaurant, with dimensions, must also be included along with any other information deemed necessary for the provision of the permit.
 - x. Fencing or an acceptable barrier shall be used to surround the outdoor dining area, separating the dining area from the pedestrian space.
 - xi. Tables, chairs and other items associated with the outdoor dining operation shall be removed at the end of each business day, thus restoring the sidewalk to its normal condition.
- b. Outdoor dining areas on private property on decks and patios shall comply with the following standards:
- i. Outdoor dining may be allowed between the hours of 11:00 a.m. to 1:00 a.m.
 - ii. Railings or fencing shall be used to surround the outdoor dining area.
 - iii. Noise levels from the outdoor dining area shall not exceed levels stated within the City Code.
 - iv. Dining areas shall be constructed in compliance with all standards in the Zoning Ordinance and applicable Building and Fire Codes.
 - v. The sale of alcoholic beverages in the outdoor dining area shall be regulated and subject to the requirements of Chapter 4 Alcoholic Beverages of the City Code. All outdoor alcohol sales shall comply with the standards in Section 440 – Outdoor Sales.
- (Amended by Ord. 179, 4/24/2006)*

18. Outdoor Storage. Outdoor storage shall conform to the following standards:

- a. All outdoor storage yards shall be completely screened from roads or developed areas with a solid fence or wall 6 feet or more in height, maintained in good condition, and screened with suitable planting.
- b. No un-screened outdoor storage yards established after the effective date of this Chapter shall be located closer than 500 feet to existing State and Federal roads, nor closer than 100 feet to any other City streets.

19. Recreational Facilities in the C-2, or C-3 District. Recreational facilities in the C-2, or C-3 District shall comply with the following standards:

- a. Recreational facilities may be permitted as a conditional accessory use of one of the following permitted uses:

- i. Restaurant
- ii. Hotel/Motel
- iii. Bar/Licensed Liquor Establishment
- b. The recreational facility shall be fenced in its entirety with a 6-foot privacy fence, with access of ingress from the principal structure only. The privacy fence shall be constructed of wood, vinyl or similar, but shall not include chain link and slats.
- c. The recreational facilities, including the fenced area, shall conform to the setback requirements for the District.
- d. Recreational facilities shall not be permitted in any front yard or side street yard.
- e. A diagram of the proposed facility, including walk areas and exits, must be submitted for review. The number of egress points shall be determined by the Fire Inspector or Code Official, based on occupant load. At least one point of egress shall be provided from the fenced in area directly to the outside of the fenced in area. The proposed plan must meet the minimum requirements of the current Fire and Building codes and shall be approved by the Fire Inspector or Code Official prior to issuance of a permit.
- f. Use of the facility may be allowed between the hours of 9:00 a.m. to 10:00 p.m.
- g. Noise levels from the recreational activity shall not exceed those levels stated within the City Code.
- h. The sale of alcoholic beverages in the recreational area shall be prohibited entirely.
- i. Any lighting associated with the recreational facility shall meet the standards of Section 1230.

20. Stables

- a. Submittal of a site plan showing stable operation, fencing, drainage, buildings, sewage treatment and well systems.
- b. A minimum lot size of ten (10) acres.
- c. Applicable animal densities may be increased for in-house operations pending submittal of the stables' functional plans showing that the animals' needs will be adequately cared for and including an area for daily exercise. In no event shall in-house confinement areas be less than 100 square feet per horse.
- d. All structures, parking lots and storage areas shall be located at least 300 feet from an existing residential use or district boundary.
- e. Submittal of a plan for removal and distribution of manure and other waste materials, which meets all requirements of the Minnesota Pollution Control Feedlot Rules. The plan shall provide for the storage of manure and other waste materials at least 300 feet from an existing residential use or district boundary and at least 100 feet from a well.
- f. Depending upon the size of the operation, one or more caretaker units may be allowed as part of a public stable operation.

21. Vocational and Technical Schools. Vocational and Technical Schools shall conform to the following standards:

- a. Any automotive and/or machine repair or similar uses shall be contained entirely within a building.

- b. The site shall have access on a collector or arterial roadway or shall be otherwise located so that access can be provided without generating significant traffic on local residential streets.
 - c. An off-street passenger loading area shall be provided.
 - d. Buildings associated with the school must be setback at least 75 feet from a residential use.
22. Custom or limited manufacturing, assembly, or treatment of articles or merchandise from previously prepared materials, such as cloth, fiber, leather, metal, paper, plastic, stone, wax, wood, and wool in the C-3, Downtown Districts shall conform to the following standards:
- a. No outdoor storage of any kind, including but not limited to materials, equipment, or machinery shall be permitted.
 - b. All business vehicles shall be accommodated by off-street parking.
 - c. Office or retail sales areas shall be maintained at the front (street-facing) side of the building.
 - d. The standards of Section 1245.01 (Performance Standards) and 1245.02 (Architectural Standards and Guidelines) apply. *(Amended by Ord. 261, 5-11-2015)*

Subd. 4 Amendment of a Conditional Use Permit. Any modification to the conditions of a conditional use permit shall be required to complete a conditional use permit amendment. A conditional use permit amendment is subject to all conditions and approvals required for conditional use permit review as specified in Section 1210.06. *(Amended by Ord. 216; 8-24-2009).*

Subd. 5 Revocation of Conditional Use Permits.

- A. A conditional use permit shall become null and void without further action by the Planning Commission or City Council unless work thereon commences within one year of the date of granting such conditional use.
- B. A conditional use shall expire if that use shall cease for more than 12 consecutive months.
- C. Inspections will be conducted at least annually and an update provided to the City Council to determine compliance with the terms of a conditional use permit.
- D. Failure to comply with any condition set forth in a conditional use permit shall be a misdemeanor and shall also constitute sufficient cause for the revocation of the conditional use permit by the City Council following a public hearing. The property owner shall be notified in advance of the City Council's review of the permit. A public hearing established to consider the revocation of a conditional use permit shall be conducted pursuant to the provisions of Subd. 2.C. of this Section.

Subd. 6 Uses by Conditional Use Permit not Nonconforming Uses. Uses authorized by conditional permit under this section shall not be deemed a nonconforming use, but shall without further action be considered a conforming use, but only in accordance with the conditions set forth in the conditional use permit.

Subd. 7 Filing. A certified copy of any Conditional Use Permit shall be filed with the Carver County Recorder or Registrar of Titles and shall include a legal description of the subject property.

1210.07 Interim Use Permits.

Subd. 1 Purpose and Intent. The purpose and intent of allowing interim uses is:

- A. To allow a use for a brief period of time until a permanent location is obtained or while the permanent location is under construction.
- B. To allow a use that is presently judged acceptable by the City Council, but that with anticipated development or redevelopment, will not be acceptable in the future or will be replaced in the future by a permitted or conditional use allowed within the respective district.
- C. To allow a use which is reflective of anticipated long-range change to an area and which is in compliance with the Comprehensive Plan provided that said use maintains compatibility with surrounding uses.
- D. To establish predictable and balanced regulations for the establishment of interim uses in the location and circumstances under which the uses may be established without detriment to the public health, safety, and welfare of neighboring property owners or occupants.

Subd. 2 Procedure. Uses defined as interim uses which do not presently exist within a respective zoning district shall be processed according to the criteria and procedures for a conditional use permit as established by Section 1210.06 of this chapter.

Subd. 3 General Standards. An interim use shall comply with the following:

- A. Meet the standards of a conditional use permit set forth in Section 1210.06 of this chapter.
- B. Conform to the applicable performance standards of Section 1245.01 of this chapter.
- C. The use is allowed as an interim use in the respective zoning district.
- D. The date or event that will terminate the use can be identified with certainty.
- E. The use will not impose additional unreasonable costs on the public.
- F. The user agrees to any conditions that the City Council deems appropriate for permission of the use.
- G. All obsolete and unused buildings and equipment shall be removed within six (6) months of cessation of operation at the site, unless an exemption is granted by the City Council.

Subd. 4 Termination. An interim use shall terminate subject to any of the following events, whichever occurs first:

- A. The date of termination stated within the approving resolution
- B. Upon violation of conditions under which the permit was approved.
- C. Upon change in the City's zoning regulations, which render the use nonconforming.
- D. The redevelopment of the use and property upon which it is located to a permitted or conditional use as allowed within the respective zoning district.

1210.08 Site Plan Review.

Subd. 1 Purpose and Intent. The purpose of this Section is to establish a formal site plan review procedure for commercial, industrial, institutional, and multi-family development projects and provide regulations pertaining to the enforcement of site design standards consistent with the requirements of this Section. The site plan review process is intended to ensure that the negative impacts of newly developed properties or redeveloped properties are minimized to the greatest

extent possible while maintaining and improving the City's tax base, preserving and enhancing the built environment, promoting the orderly and safe flow of traffic, ensuring compatibility with adjacent developments, the proper orderly development of the City, and compliance with the City Code.

Subd. 2 Scope. Site Plan approval shall be required as a condition to issuance of a building permit for construction or enlargement of any building or structure other than the following:

- A. Single and two-family dwellings and associated accessory structures.
- B. Buildings for agricultural uses on land zoned and utilized for agricultural purposes.

Subd. 3 Procedures.

- A. Application. A written application for site plan approval, along with the proposed site plan, application fee and any other information required, shall be filed with the City.
- 1. Required Materials. The applicant shall file with the City ten (10) 24" x 36" copies and two (2) 11" x 17" copies of the site plan, drawn to scale and dimensioned, with North arrow showing, completed and signed by a registered architect, civil engineer, landscape architect or other licensed design professional as approved by the City. At a minimum, the site plan shall contain the following information:
 - a. A current certificate of survey, prepared and signed by a Minnesota licensed land surveyor, depicting the following:
 - i. Scale of plan, at one (1) inch equals fifty (50) feet or less.
 - ii. North point indication.
 - iii. Existing boundaries with lot dimensions and area.
 - iv. Existing site improvements.
 - v. All encroachments.
 - vi. Easements of record.
 - vii. Legal description of the property.
 - viii. Two-foot contours and spot elevations
 - ix. Ponds, lakes, rivers or other water features bordering on or running through the subject property.
 - x. Species, quantity and diameter of existing vegetation.
 - b. A site plan utilizing a copy of the current certificate of survey as a base for the subject property, depicting the following:
 - i. Name and address of developer/owner.
 - ii. Name and address of architect/designer.
 - iii. Date of plan preparation.
 - iv. Dates and descriptions of all revisions.
 - v. Name of project or development
 - vi. All proposed improvements, including, but not limited to:
 - (1). Required and proposed setbacks.
 - (2). Location, setback, and dimensions of all proposed buildings and structures.
 - (3). Location of all adjacent buildings located within one-hundred (100) feet of the exterior boundaries of the property in question.

- (4). Location, number, and dimensions of proposed parking and loading spaces.
 - (5). Location, width, and setbacks of proposed curb cuts and driveways.
 - (6). Vehicular circulation.
 - (7). Sidewalks, trails, and walkways.
 - (8). Location and type of all proposed lighting, including details of all proposed fixtures.
 - (9). Species, quantity and diameter of all existing vegetation to be removed.
 - (10). Location of recreation and service areas.
 - (11). Location of rooftop equipment and proposed screening.
 - (12). Provisions of storage and disposal of waste, garbage and recyclables, including details for screening exterior trash/recycling enclosures.
 - (13). Location, size and type of water and sewer system mains and proposed service connections.
- vii. A grading/storm water management plan in accordance with the provisions established in Chapter 13 of the City Code.
 - viii. A landscaping plan in accordance with the provisions of Section 1255
 - ix. A lighting plan in accordance with the provisions of Section 1245.08
 - x. Other plans and information as required by the Zoning Administrator, including but not limited to:
 - (1). Architectural elevations, color drawings or renderings, and sample building materials or all principal and accessory buildings, identifying type and color of materials used on all exterior surfaces.
 - (2). Typical floor plan and room plan drawn to scale with a summary of square footage for each use or activity.
 - (3). Type, location, and size of all proposed signage.
 - (4). Vicinity map showing the property in relation to nearby highways or major street sections.
 - (5). Sound source control plan.

Subd. 4 Process.

- A. *Staff Review.* Upon acceptance of a complete site plan application, the Zoning Administrator shall forward the plans to the appropriate review committee members, including but not limited to the City Administrator, City Engineer, City Attorney, Public Works Director, Fire Chief, Police Chief, Building Inspector and any outside agencies or consultants determined necessary for review. The site plan shall be evaluated based on its compliance with the Comprehensive Plan, provisions of this Title, and other applicable City codes and policies.
 1. *Revision of Plan Sets.* Upon receipt of comments, the Zoning Administrator shall forward them to the applicant for inclusion in revised plan sets. The Zoning Administrator shall determine when the plan sets are sufficient to be forwarded to the Planning Commission for their review.
- B. *Planning Commission Review.* Upon completion of the Staff Review, the Zoning Administrator shall forward the site plan and a summary of Staff's findings to the Planning Commission. The Planning Commission shall make a recommendation on the site plan to the City Council. The Planning Commission may recommend approval, approval subject to conditions or that the site plan be denied. The reasons for any recommendation shall be stated in the record.

- C. *City Council Review.* The City Council shall, upon receipt of the recommendations of the Planning Commission, either approve, approve with conditions, or disapprove the site plan. The reasons for any decision shall be stated in the record.
- D. *Filing of Approved Plans.* Upon final action by the City Council on any site plan, five (5) copies consistent with the City Council's approval shall be provided and stamped approved by the Zoning Administrator and kept on file. One copy of the approved site plan shall be returned to the applicant.
- E. *Building Permit Review.* Upon receipt of the approved site plan, the building official will be authorized to release a building permit for the proposed project pursuant to adopted building and fire codes. The site plan approval process does not imply compliance with the requirements of said building and fire codes.

Subd. 5 Minor Modifications. In the case of minor modifications of the site plan, the Zoning Administrator may give approval if the decision does not modify the overall theme of the development, affect public safety, or result in the reduction of any minimum standard as provided in this zoning chapter. Nothing contained herein shall be construed to allow the Zoning Administrator to vary the provisions of any statute, ordinance, city policy, or previous directives of the City Council. The Zoning Administrator shall have the discretion to refer any minor modification requests to the Planning Commission and City Council for their review and approval. Minor modifications may include the following:

- A. Lighting location and fixture type;
- B. Location, height, and style of fences and walls;
- C. Location of trash enclosures;
- D. Location and size of building signs and monument signs;
- E. Location and construction of on-site sidewalks, except on City right-of-way;
- F. Location, type, and size of plantings, provided the modification would have the same effective cover and screening;
- G. Location and construction of accessory buildings of less than 400 square feet;
- H. Minor relocation or addition of driveways or parking spaces.

Subd. 6 Site Plan Amendment. Any modification deemed not to be minor pursuant to Section 1210.08, Subd 5. of this Chapter shall be required to complete a site plan amendment. A site plan amendment is subject to all conditions and approvals required for site plan review.

Subd. 7 Financial Guarantee. The City may require a performance bond or escrow in an amount equal to one hundred (100) percent of the estimated cost to complete the site and landscape plan improvements, exclusive of structures, to be filed with the City.

Subd. 8 Fees. The applicant shall provide an application fee. The fee shall be set by Ordinance of the City Council in the fee schedule from time to time. In addition to the application fee, the applicant shall pay all cost incurred by the City for legal services, engineering services, and services of other persons or entities employed by the City (other than City Staff personnel) for, or in any way involved in, the review and inspection of the site plan. Under no condition shall the fee be refunded or waived for failure of the City to approve the site plan.

Subd. 9 Expiration. A site plan approved under the provisions of this chapter shall expire one year after the date of approval unless the property owner or applicant received a building permit and commenced construction of improvements on-site in accordance with the approved plan.

Subd. 10 Extension of Approval. If, at least 30 days prior to the expiration of the site plan approval, the applicant makes a written request to the zoning administrator for an extension of time to commence construction, setting forth the reasons for the requested extension, the City Council may grant one extension of not greater than one year. Extension requests shall state facts showing a good faith effort to complete work permitted under the original approval.

1210.09 Zoning Administrator Approval and Zoning Permit Approval Process.

Subd. 1 Purpose. The purpose of this Section is to establish a procedure for administrative review by the Zoning Administrator and the issuance of administrative permits where necessary.

Subd. 2 Scope. Approval by the Zoning Administrator or designee is required as specified within a zoning district, individual zoning standard, or for certain activities as provided within Chapter 12 of the City Code. An administrative permit is required as specified within a zoning district or zoning standard contained in Chapter 12 of the City Code. This Section does not apply where a specified process exists for review, including by not limited to those prescribed under Sections 1210.04 (Variance), 1210.05 (Amendment), 1210.06 (Conditional Use Permit), 1210.07 (Interim Use Permit), or 1240.02 (Planned Unit Development).

Subd. 3 Procedures, Administrative Permit. The Applicant shall file a written application for an administrative permit, along with any proposed plans, application fee, and any other information required by the Zoning Administrator. The written application shall be on a form provided by the City. The Zoning Administrator may waive information required under Section 1210.09, Subd. 3(A).

A. Information Requirement. The information required for all administrative permit applications shall include:

1. A concise statement describing the proposed use, event or activity, including the purpose, type of merchandise involved, dates and times of operation, number of employees involved, provisions for on-site security, provisions for on-site parking, and other pertinent information required by the Zoning Administrator to fully evaluate the application.
2. A copy of the approved site plan for the property or a sketch using an approved “as built” survey as the basis which accurately represents existing conditions on the site, including entrances and exits, bona fide parking and driving areas, and which accurately indicates any proposed temporary structures, including tents, stands and signs.
3. An accurate floor plan, when in the judgment of the Zoning Administrator, such a plan is necessary to properly evaluate the location of the event and the effectiveness of available entrances and exits.
4. Information identified in Subsection 500.03.10, Subd. 3 of this Chapter as required by the Zoning Administrator.

- B. The Zoning Administrator shall review the application and related materials to determine whether or not the application is complete. If the application is not complete the Zoning Administrator shall notify the applicant in writing of an incomplete application within fifteen (15) days of the date the application was submitted.
- C. When the application is complete, the Zoning Administrator shall review the proposal to determine whether or not the activity proposed is consistent with required standards contained in the applicable section of Chapter 12. The Zoning Administrator shall make a determination and notify the Applicant of the decision in writing within sixty (60) days of filing a complete application. In making a determination, the Zoning Administrator shall consider possible adverse effects of the proposed events or activity. Judgment shall be based upon (but not limited to) the following factors the following:
 - 1. Compliance with and effect upon the Comprehensive Plan and public facilities plans, as may be amended.
 - 2. The establishment, maintenance or operation of the use, event or activity will promote and enhance the general public welfare and will not be detrimental to or endanger the public health, safety or welfare.
 - 3. The use event, or activity will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted.
 - 4. The establishment of the use, event or activity will not impede the normal and orderly development and improvement of surrounding property for uses permitted in the district.
 - 5. Adequate public facilities and services are available or can be reasonably provided to accommodate the use, event or activity which is proposed.
 - 6. The use, event or activity shall, in all other respects, conform to the applicable regulations of the district in which it is located.
- D. If approval is contemplated, a written permit shall be issued to the applicant when a determination of compliance has been made. Specific conditions to assure compliance with applicable evaluation criteria, codes, ordinances and the standards of this Chapter shall be attached to the permit.
- E. If denial is contemplated, a determination of non-compliance with applicable codes, ordinances and the standards in this paragraph shall be communicated to the applicant in writing and the application for the permit shall be considered denied; unless, within ten (10) days of the date of such notice, the applicant submits revised plans and/or information with which the Zoning Administrator is able to determine compliance.
- F. Unresolved disputes as to administrative application of the requirements of this paragraph shall be subject to appeal as defined by Section 1210.02 (Appeals) of the City Code.

Subd. 4 Administrative Approval (Non-Permit) Process. In instances where administrative review and approval is required but a written administrative permit is not required, review by the Zoning Administrator shall follow the general procedures required under Section 1210.09, Subd. 3. All uses, events or activities allowed by administrative approval shall conform to the applicable standards outlined in the zoning district in which such use, event or activity is proposed and any/all standards applicable to the proposed request. *(Amended by Ord. 259, 4-27-15)*

Section 1215- Nonconforming Uses, Structures and Lots

1215.01 Purpose. It is the purpose of this section to provide for the regulation of existing structures, uses and lots that do not conform to the requirements of the district in which they are located and to specify the requirements, circumstances and conditions under which the nonconformity may be continued.

1215.02 Regulations.

- A. Any nonconformity, including the lawful use or occupation of land or premises existing at the time of the effective date of this chapter may be continued, including through repair, replacement, restoration, maintenance, or improvement, but not including expansion, unless:
 - 1. The nonconformity or occupancy is discontinued for a period of more than one year; or
 - 2. Any nonconforming use is destroyed by fire or other peril to the extent of greater than 50 percent of its market value, and no building permit has been applied for within 180 days of when the property is damaged. In this case, the City may impose reasonable conditions upon a building permit in order to mitigate any newly created impact on adjacent property.
- B. A nonconforming use shall not be changed to another nonconforming use. When any nonconforming use has been changed to a conforming use, it shall not thereafter be changed to any nonconforming use.
- C. A nonconforming use may be changed to lessen the nonconformity of that use. Thereafter, the use may not be so altered as to increase the nonconformity.
- D. A nonconforming lot shall be deemed buildable if it is a lot of record as of the date of adoption of this Ordinance, the proposed building meets all of the setback requirements and is a conforming use of the zoning district within which located and the site is able to be connected to city sewer and water systems.

1215.03 Exceptions.

- A. This section does not apply to sexually oriented business, as defined by this chapter.
- B. The City may impose upon nonconformities reasonable regulations to prevent and abate nuisances and to protect the public health, welfare and safety.
- C. Notwithstanding Section 1215.02 A. the City shall regulate the repair, replacement, maintenance, improvement, or expansion of nonconforming uses and structures in floodplain and shoreland areas to the extent necessary to maintain eligibility in the National Flood Insurance Program and not increase flood damage potential or increase the degree of obstruction to flood flows in the floodway.

Section 1220- General Exceptions

1220.01 Permitted Height Exceptions. The following shall be permitted to exceed the height restrictions for the district within which the use is located, including the Shoreland Overlay District, provided they are not for human occupancy:

- A. Ornamentation such as church spires, belfries, bell towers, cupolas, domes, monuments and flagpoles.
- B. Mechanical appurtenances such as solar collectors, chimneys, smoke stacks, elevators, and public utility facilities (i.e. water towers, transmission and power lines)

- C. Communication towers such as television antennae and radio and telephone transmissions towers.
- D. Buildings used for agricultural purposes such as grain elevators and silos.

1220.02 Permitted Yard Encroachments. Elements such as the following shall be permitted to encroach into required yards.

- A. Steps and ramps provided they do not encroach to a distance less than five (5) feet from a side yard and rear lot lines, or more than five (5) feet into a required front yard. No encroachment shall be permitted in existing or required drainage and utility easements.
- B. Architectural features such as cantilevers, cornices, eaves, canopies, sunshades, gutters, chimneys and flutes.
- C. Additions to an existing nonconforming principal structures in the R-2, R-3, and RC-1 District may encroach into the required front, rear or side yard setback provided that they are no closer to the property line than the established structure, are not constructed in any easement, drainage way or adjacent property and do not endanger the public health, safety or welfare.
- D. Construction in the R-3 and RC-1 District may encroach into the front yard setback at a distance equal to the average front yard setback of the houses located on the same side of the street within the same block provided that:
 - 1. There is a minimum setback of five (5) feet from the front property line;
 - 2. Construction does not occur in any easement or drainage way; and,
 - 3. Construction does not endanger the public health, safety or welfare of the surrounding properties and/or general public.

For purposes of this provision, there must be at least two other houses within the same block in order to compute the average, otherwise the front yard setback shall be established per the regulations of Section 1230.06

Section 1225 – Establishment of Districts

1225.01 Classification of Districts. For the purpose of this Ordinance, the following districts are hereby established:

T-A Transition/Agriculture District
R-1 Low Density Single Family Residential District
R-2 Medium Density Single Family Residential District
R-3 Medium Density Mixed Residential District
R-4 Multiple Family Residential District
RC-1 Residential Neighborhood Commercial District
C-2 General Commercial District
C-3 Downtown District
B-1 Business Industrial District
I-1 Light Industrial District
P-1 Parks/Open Space
(Amended by Ord. 216; 8-24-2009)

1225.02 Location of Districts. The boundaries for the zones listed in this Ordinance are indicated on the Zoning Map, which is hereby adopted by reference. The boundaries shall be modified in accordance with zoning map amendments, which shall be adopted by reference.

1225.03 Interpretation of District Boundaries. Where uncertainty exists with respect to the boundaries of any zoning district indicated on the Zoning Districts Map, the following rules shall apply:

- A. Boundaries indicated as approximately following the center lines of streets or highways shall be construed as following the center lines of streets or highways.
- B. Boundaries indicated as approximately following lot lines shall be construed as following such lot lines.
- C. Boundaries indicated as approximately following City boundary lines shall be construed as following such City boundaries.
- D. Boundaries indicated as approximately parallel to the center lines of streets or highways shall be construed as being parallel thereto and at such distance there from as may be indicated on the Zoning Districts Map. If no distance is given, such dimensions shall be determined by the use of the scale shown on the Zoning Districts Map.
- E. Boundaries following the shoreline of a stream, lake or other body of water shall be construed to follow the ordinary high water elevation (OHWE) and in the event of change in the shoreline shall be construed as moving with the OHWE. Boundaries indicated as approximately following the center-line of streams, rivers, channels or other bodies of water shall be construed to follow such center lines.
- F. Where the application of the aforementioned rules leaves a reasonable doubt as to the boundaries between two districts, the regulations of the more restrictive district shall govern the entire parcel in question, unless otherwise determined by the City Board of Adjustments after recommendation from the City Planning Commission.

1225.04 Official Zoning Map. The zoning map or zoning map amendment shall be dated with the effective date of the ordinance that adopts the map or map amendment. A certified print of the adopted map or map amendment shall be maintained in the office of the Zoning Administrator.

1225.05 Annexations. All territory which may hereafter be annexed to the City shall be considered zoned as T-A, Transition/Agriculture until otherwise classified.

Section 1230 –Districts

1230.01 Purpose of Districts. The districts are established with the following purposes established in each district below. These districts correlate with the Comprehensive Plan land use categories.

1230.02 Use Regulations.

Subd. 1. Prohibited Uses. It shall be unlawful to use or permit the use of any building or premises within the City of Norwood Young America for any purpose other than as listed or described below. Uses not listed or described within this Section or within any Planned Development District shall be prohibited, except as provided in Subd. 3 below. Accessory uses or structures shall not be permitted unless the property has already been occupied by a principal structure. Unless otherwise provided in this Chapter, only one principal structure per lot of record shall be permitted.

Subd. 2. Additional Regulations. In addition to regulations and standards contained within this Section, all uses and structures shall be subject to all regulations contained within Section 1245 through 1265 of this Ordinance, all performance criteria established in the Comprehensive Plan and shall comply with all applicable local, State and Federal laws, rules and regulations.

Subd. 3. Determination of Use Classification. Any landowner may request a determination of the use classification (permitted, not permitted, conditional, interim or accessory) for a use not expressly listed as permitted, conditional, interim or accessory or which involves a combination of uses. An application for a determination shall be submitted to the Community Development Director and referred to the planning commission for recommendation to the council for decision. Use determinations shall be based on substantial similarity to existing use classifications and shall not be detrimental to the integrity of the applicable District. Use determinations shall become of future-binding force and effect and be maintained on file by the city clerk.

1230.03 T/A Transition/Agricultural District.

Subd. 1 Intent. The T/A, Transition/Agricultural District, is intended to serve as the district which will allow suitable areas of the City and newly annexed land to be retained and utilized by low density residential, open space and/or agricultural uses until such time as the land on which these uses lie are ready for urban development. The specific intent of this district is:

- A. To protect such areas against development patterns that may hinder their ultimate transition to the intended urban use.
- B. To prohibit those uses and densities, which would require the premature extension of urban public facilities and services.
- C. To promote logical and orderly development in the best interest of the health, safety, and welfare of the citizens of the community.

Subd. 2 Permitted Uses. The following uses are permitted in the Transition/Agricultural District.

- A. Farms, excluding livestock;
- B. Nurseries and Greenhouses;
- C. Single-family detached dwellings provided that:
 - 1. No more than one dwelling is located per quarter quarter section and;
 - 2. The dwelling shall be located within the quarter quarter section on a separately owned parcel at least 2.5 acres in size.
- D. A State licensed residential facility serving six (6) or fewer persons, a State licensed day care facility serving 12 or fewer persons, and a group family day care facility licensed under Minnesota Rules, parts 9502.0315 to 9502.0445 to serve 14 or fewer children;
- E. Parks, wildlife refuges or preserves, open space preservation areas, and other recreational facilities of a non-commercial nature.

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the Transition/Agricultural District.

- A. Home occupations, subject to Section 1245.09
- B. Swimming pools and other recreational facilities, subject to Section 1245.06
- C. Decks, patios, gazebos and porches, subject to Section 1245.04

- D. Fences, subject to Section 1245.05
- E. Detached garages, tool houses, sheds and outbuildings for storage of domestic supplies and noncommercial recreation equipment subject to Section 1245.04;
- F. Buildings used for agricultural purposes such as grain elevators and silos.

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

- A. Farms, including livestock, at a maximum of one animal unit per acre:

<u>Animal</u>	<u>Animal Unit</u>	<u>Animal/Acre</u>
Horse	1.0	1.0
Cattle	1.0	1.0
Sheep, goats, or similar	0.2	5.0
Large poultry (turkeys, duck, or similar)	0.04	25.0
Small poultry and animals (chickens, rabbits, or similar)	0.02	50.0

- B. Cemeteries;
- C. Kennels;
- D. Antennas, satellite dishes, communication and radio towers;
- E. Stables

Subd. 5 Lot Requirements and Setbacks. The following requirements and setbacks are the minimum amount allowed in the T/A District, with the exception of “Lot Coverage” and “Building Height” which shall be the maximum amount allowed:

- A. Lot Area:
 - Farmstead: 40 acres
 - Single-Family: 2.5 acres (one per quarter-quarter section)
 - Stable/Kennel: 10 acres
 - All other uses: 10 acres
- B. Lot Width: 200 feet
- C. Lot Coverage: 30%
- D. Building Height: 35 feet (principal structure)
25 feet (accessory structure*)

*Agriculture accessory structures may exceed maximum height requirements per Section 1220.01

- E. Setbacks:

Principal Structures:

Front yard:	50 feet
Side yard:	10 feet
Street side yard:	30 feet
Rear yard:	50 feet

Accessory Structures:

Front yard:	not permitted in front yards
Side yard:	5 feet
Street side yard:	30 feet
Rear yard:	5 feet

Alley rear yard: 10 feet

1230.04 R-1 Low Density Single Family Residential District.

Subd. 1 Intent. The R-1, Low Density Single Family Residential District, is intended to provide and preserve areas within the City currently established or primarily designated for low-density residential development by the Comprehensive Plan.

Subd. 2 Permitted Uses. The following uses are permitted in the R-1, Low Density Single Family Residential District:

- A. Single-family dwellings;
- B. A State licensed residential facility serving six (6) or fewer persons, a State licensed day care facility serving 12 or fewer persons, and a group family day care facility licensed under Minnesota Rules, parts 9502.0315 to 9502.0445 to serve 14 or fewer children;
- C. Public parks, open spaces and other recreational uses, non-commercial in nature;

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the R-1, Low-Density Single Family Residential District.

- A. Home occupations, subject to Section 1245.09
- B. Swimming pools and other recreational facilities, subject to Section 1245.06
- C. Decks, gazebos, patios and porches, subject to Section 1245.04
- D. Fences, subject to Section 1245.05
- E. Detached garages, tool houses, sheds and similar buildings for storage of domestic supplies and noncommercial recreation equipment, subject to Section 1245.04

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

- A. Bed and Breakfasts
- B. Churches, schools and similar public uses.
- C. Guest Cottages

Subd. 5 Lot Requirements and Setbacks. The following requirements and setbacks are established as the minimum amount allowed in the R-1 District, with the exception of “Lot Coverage” and “Building Height” which shall be the maximum amount allowed:

- A. Lot Area: 10,000 square feet
- B. Lot Width: 80 feet
- C. Lot Coverage: 30%
- D. Building Height: 35 feet (principal structure)
25 feet (accessory structure)
- E. Setbacks:

Principal Structures:

- Front yard: 30 feet
- Side yard: 10 feet
- Street side yard: 30 feet

Rear yard: 25 feet

Accessory Structures:

Front yard: not permitted in front yards

Side yard: 5 feet

Street side yard: 30 feet

Rear yard: 5 feet

Alley rear yard: 10 feet

- F. Minimum foundation size for detached and attached single family residential units: 900 square feet. (*Amended by Ord 265, 7-27-15*).

1230.05 R-2 Medium Density Single Family Residential District.

Subd. 1 Intent. The R-2, Medium Density Single Family Residential District, is intended to provide and preserve areas within the City currently established for low-medium density residential development by the Comprehensive Plan at densities slightly higher than the R-1 District.

Subd. 2 Permitted Uses. The following uses are permitted in the Medium Density Single Family Residential District:

- A. Single-family dwellings;
- B. Twin Homes;
- C. A State licensed residential facility serving six (6) or fewer persons, a State licensed day care facility serving 12 or fewer persons, and a group family day care facility licensed under Minnesota Rules, parts 9502.0315 to 9502.0445 to serve 14 or fewer children;
- D. Public parks, open spaces and other recreational uses, non-commercial in nature;

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the Medium-Density Single Family Residential District.

- A. Home occupations, subject to Section 1245.09
- B. Swimming pools and other recreational facilities, subject to Section 1245.06
- C. Decks, gazebos, patios and porches, subject to Section 1245.04
- D. Fences, subject to Section 1245.05
- E. Detached garages, tool houses, sheds and similar buildings for storage of domestic supplies and noncommercial recreation equipment, subject to Section 1245.04

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

- A. Churches, schools and similar public uses
- B. Bed and Breakfast
- C. Guest Cottages

Subd. 5 Lot Requirements and Setbacks. The following requirements and setbacks are the minimum amount allowed in the R-2 District, with the exception of “Lot Coverage” and “Building Height” which shall be the maximum amount allowed:

- A. Lot Area: 8,500 square feet (single-family)

- 7,000 square feet (per unit, Twin Home)
- B. Lot Width: 70 feet
- C. Lot Coverage: 30%
- D. Building Height: 35 feet (principal structure)
25 feet (accessory structure)
- E. Setbacks:
- Principal Structures:***
- Front yard: 25 feet
- Side yard: 5 feet
0 feet (twin home common wall side lot line)
- Street side yard: 25 feet
- Rear yard: 20 feet
- Accessory Structures:***
- Front yard: not permitted in front yards
- Side yard: 5 feet
- Street side yard: 25 feet
- Rear yard: 5 feet
- Alley rear yard: 10 feet
- F. Minimum foundation size for detached and attached single family residential units: 900 square feet. (*Amended by Ord 265, 7-27-15*).

1230.06 R-3 Medium Density Mixed Residential

Subd. 1 Intent. The R-3, Medium Density Mixed Residential District, is intended to preserve the residential areas established with the City's original plat and provide for a variety of housing types to be developed at densities slightly higher than the traditional single-family dwelling as guided by the Comprehensive Plan.

Subd. 2 Permitted Uses. The following uses are permitted in the Medium Density Mixed Residential District:

- A. Single-family dwellings;
- B. Twin homes;
- C. Two-family dwellings;
- D. Townhomes, up to 4 units per attached group;
- E. A State licensed residential facility serving six (6) or fewer persons, a State licensed day care facility serving 12 or fewer persons, and a group family day care facility licensed under Minnesota Rules, parts 9502.0315 to 9502.0445 to serve 14 or fewer children;
- G. Public parks, open spaces and other recreational uses, non-commercial in nature;

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the Medium Density Mixed Residential District.

- A. Home occupations, subject to Section 1245.09
- B. Swimming pools and other recreational facilities, subject to Section 1245.06
- C. Decks, gazebos, patios and porches, subject to Section 1245.04
- D. Fences, subject to Section 1245.05

- E. Detached garages, tool houses, sheds and similar buildings for storage of domestic supplies and noncommercial recreation equipment, subject to Section 1245.04

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

- A. Churches, schools and similar public uses
- B. Bed and Breakfast
- C. Guest Cottages
- D. Multi-family dwellings, up to 4 units per structure;

Subd. 5 Lot Requirements and Setbacks. The following requirements and setbacks are the minimum amount allowed in the R-3 District, with the exception of “Lot Coverage” and “Building Height” which shall be the maximum amount allowed:

- A. Lot Area: 7,000 square feet (single-family detached structure)
6,000 square feet (per unit, twin homes and two- family structures)
3,000 square feet (per unit up to four units)
- B. Lot Width: 50 feet (single-family)
70 feet (two-family, multi-family up to 4 units)
30 feet (town home)
- C. Lot Coverage: 35%
- D. Building Height: 35 feet (principal structure)
25 feet (accessory structure)
- E. Setbacks:
 - Principal Structures:**
 - Front yard*: 20 feet
10 feet (unenclosed porches, decks, patios)
 - Side yard: 5 feet
0 feet (twin home and town home common wall side lot line)
 - Street side yard: 20 feet
 - Rear yard: 20 feet
 - Accessory Structures:**
 - Front yard: not permitted in front yards
 - Side yard: 5 feet
 - Street side yard: 20 feet
 - Rear yard: 5 feet
 - Alley rear yard: 10 feet

*See additional provisions regarding front yard setbacks in Section 1220.02- Permitted Yard Encroachments

- F. Minimum foundation size for detached and attached single family residential units: 900 square feet. (*Amended by Ord 265, 7-27-15*).

1230.07 R-4 Multiple Family Residential District.

Subd. 1 Intent. The R-4, Multiple Family Residential District, is intended to provide for multifamily residential structures at a maximum net density of 18 dwelling units per acre on land guided for high density residential uses by the city comprehensive plan.

Subd. 2 Permitted Uses. The following uses are permitted in the Multiple Family Residential District:

- A. Multiple-family dwellings of 5 or more units per structure;
- B. Nursing homes, assisted living and retirement homes;
- C. Public parks, open spaces and other recreational uses, non-commercial in nature;

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the Multiple Family Residential District.

- A. Home occupations, subject to Section 1245.09
- B. Swimming pools and other recreational facilities, subject to Section 1245.06
- C. Decks, gazebos, patios and porches, subject to Section 1245.04
- D. Fences, subject to Section 1245.05
- E. Detached garages, tool houses, sheds and similar buildings for storage of domestic supplies and noncommercial recreation equipment, subject to Section 1245.04

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

- A. Licensed Daycare Center
- B. Manufactured Home Parks
- C. A state licensed residential facility serving from 7 through 16 persons
- D. Churches, schools and similar public uses

Subd. 5 Lot Requirements and Setbacks. The following requirements and setbacks are the minimum amount allowed in the R-4 District, with the exception of “Lot Coverage” and “Building Height” which shall be the maximum amount allowed:

- A. Lot Area:

2,400 square feet per unit	(efficiency units)
3,000 square feet per unit	(1-bedroom units)
3,500 square feet per unit	(2-bedroom units)
4,000 square feet per unit	(3-bedroom units)
30,000 square feet	(all other uses)

 - 1. *Lot area reduction.* Up to 400 square feet may be deducted from the total required lot area for every tuck-under or underground garage proposed.
- B. Lot Width:

150 feet	(up to 7 multi-family units)
200 feet	(8+ multi-family units and all other uses)
- C. Lot Coverage: 50%
- D. Building Height:

45 feet	(principal structure) (<i>Amended by Ord. 216; 8-24-2009</i>)
25 feet	(accessory structure)
- E. Setbacks:

Principal Structures:

Front yard:	35 feet
Side yard:	10 feet
Street side yard:	35 feet
Rear yard:	35 feet

Accessory Structures:

Front yard:	not permitted in front yards
Side yard:	10 feet
Street side yard:	35 feet
Rear yard:	10 feet
Alley rear yard:	10 feet

1230.08 RC-1 Residential/Neighborhood Commercial District

Subd. 1. Intent. The intent of the RC-1 District is to provide certain areas of the City for the development of specialty service and commercial focusing on neighborhood related business in areas where residential dwellings predominate. The District is intended to include primarily established residential areas where changing conditions have made certain commercial uses suitable and not incompatible with the basic residential character of the district. The district is also intended for certain residential areas which, by reason of proximity to existing commercial areas and major streets, would be suitable for limited office use. It is further the intention of this Section that the classification as RC-1 of an area will aid in the preservation and stabilization of property values. To this end, it is the intention that the conversion and alteration of existing residential structures or construction of new residential structures be compatible by means of landscaping, open space, and architectural treatment with neighboring residences and that new commercial buildings be compatible with the requirements set forth in Section 1245.02.

Subd. 2. Permitted Uses. The following uses are permitted in the Residential Neighborhood Commercial District

- A. Single-family dwellings;
- B. Twin homes;
- C. Two-family dwellings;
- D. Townhomes, up to 4 units per attached group;
- E. A State licensed residential facility serving six (6) or fewer persons, a State licensed day care facility serving 12 or fewer persons, and a group family day care facility licensed under Minnesota Rules, parts 9502.0315 to 9502.0445 to serve 14 or fewer children;
- F. Public parks, open spaces and other recreational uses, non-commercial in nature;
- G. Professional services, such as medical/dental clinics, law offices, and accounting offices
- H. Finance, Insurance and Real Estate
- I. Personal or Business Services
- J. Retail Trade
- K. Specialty shops, such as book and stationary stores, candy stores, ice cream parlors, tobacco, coffee, gift and florist shops.
- L. Standard Restaurants
- M. Residential uses in conjunction with commercial uses permitted in this district

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the Residential/Neighborhood Commercial District:

- A. Off-street parking and loading facilities, subject to Section 1250
- B. Fences, subject to Section 1245.05
- C. Lighting, subject to Section 1245.08

- D. Decks, patios and porches in conjunction with the principal use;
- E. Signs, subject to Section 1260
- F. Home occupations for residential uses
- G. Detached garages, tool houses, sheds and similar buildings for use accessory to the principal use, subject to Section 1245.04

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

Principal Uses:

- A. Churches, schools and similar public uses
- B. Condominiums
- C. Contractor Operations (*Amended by Ord. 216; 8-24-2009*)
- D. Licensed Daycare Facilities, other than those permitted in Subd. 2.E. above
- E. Converted residential dwellings for lodging services, such as hotels, motels and bed and breakfasts.
- F. Multifamily, up to 4-units per dwelling

Accessory Uses:

- A. Outdoor Dining

Subd. 5 Lot Requirements and Setbacks. The following requirements and setbacks are the minimum amount allowed in the RP-1 District, with the exception of “Lot Coverage” and “Building Height” which shall be the maximum amount allowed:

- A. Lot Area: 7,000 square feet
- B. Lot Width: 50 feet
- C. Lot Coverage: 70%
- D. Building Height: 35 feet (principal structure)
25 feet (accessory structure)

E. Setbacks*:

Principal Structures:

- Front yard: 10 feet
- Side yard: 5 feet
- Street side yard: 10 feet
- Rear yard: 10 feet

Accessory Structures:

- Front yard: not permitted in front yards
- Side yard: 5 feet
- Street side yard: 10 feet
- Rear yard: 5 feet
- Alley rear yard: 10 feet

*See additional provisions regarding setbacks in Section 1220.02- Permitted Yard Encroachments

- F. Minimum foundation size for detached and attached single family residential units: 900 square feet. (*Amended by Ord 265, 7-27-15*).

1230.09 C-2 General Commercial District

Subd. 1 Intent. The C-2, General Commercial District is intended to recognize development opportunity and the need for commercial establishments fronting on or with direct access to major highways, a frontage road, or a major street intersecting a highway, serving area residents as well as vehicular traffic generated from the surrounding area.

Subd. 2 Permitted Uses. The following uses are permitted in the General Commercial District:

- A. Banking/Financial institutions.
- B. Churches and schools
- C. Commercial recreational uses.
- D. Convenience stores, without motor fuel facilities.
- E. Daycare Centers
- F. Dwelling Units, if located above the street level in non-residential structures
- G. Funeral homes/Mortuaries
- H. Garden Centers
- I. Grocery stores.
- J. Medical, professional and commercial offices.
- K. Motels/hotels
- L. Personal Services
- M. Retail Trade
- N. Standard restaurants.

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the General Commercial District.

- A. Commercial or business buildings and structures for a use accessory to the principal use;
- B. Fences, subject to Section 1245.05;
- C. Lighting, subject to Section 1245.08;
- D. Signs, subject to Section 1260;

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

Principal Uses:

- A. Adult Entertainment;
- B. Auto, Truck, Recreational Vehicle and Equipment Sales and Display;
- C. Automobile Service Station
- D. Convenience stores with motor fuel sales;
- E. Fast Food Restaurant
- F. Hospitals;
- G. Veterinary clinic or animal hospital;

Accessory Uses:

- A. Recreational Facilities in association with an on-sale liquor establishment or standard restaurant.
- B. Outdoor Dining;
- C. Outdoor Storage;

Subd. 5 Interim Uses. The following uses are permitted as an interim use, subject to the provisions of Section 1210.07:

A. Outdoor Storage

Subd. 6 Lot Requirements and Setbacks. The following requirements and setbacks are the minimum amount allowed in the C-2 District; with the exception of “Lot Coverage” which shall be the maximum amount allowed:

- A. Lot Area: 20,000 square feet
- B. Lot Width: 200 feet
- C. Lot Coverage: 80%
- D. Building Height: 35 feet (principal structure)
25 feet (accessory structure)
- E. Setbacks:
 - Principal Structures:***
 - Front yard: 25 feet
 - Side yard: 5 feet
 - Side yard: 30 feet (if adjacent to a residential district)
 - Street side yard: 25 feet
 - Rear yard: 20 feet
 - Rear yard: 30 feet (if adjacent to a residential district)
 - Accessory Structures:***
 - Front yard: not permitted in front yards
 - Side yard: 5 feet
 - Street side yard: 25 feet
 - Rear yard: 5 feet
 - Alley rear yard: 10 feet

Subd. 7 Architectural Standards and Guidelines. Architectural Standards and Guidelines shall follow the provisions of Section 1245.03 of this Chapter.

1230.10 C-3 Downtown Districts

Subd. 1 Intent. The C-3, Downtown Districts, which include the original Norwood downtown, known as “Downtown Business” and the original Young America downtown, known as “Community Uptown”, is intended to serve as the specialized service, retail, employment, and public business district for the community. The specific intent of this district is:

- A. To be the focal point for specialty services and goods focusing on neighborhood service related businesses;
- B. To allow for mixed commercial and residential uses since the district offers convenient access to services.
- C. To promote pedestrian-friendly design and development and encourage gathering areas.

Subd. 2 Permitted Uses. The following uses are permitted in the Downtown District:

- A. General commercial office space;

- B. Professional Services, such as medical/dental clinics, law offices, and accounting offices;
- C. Finance, Insurance and Real Estate;
- D. Personal or Business Services, such as laundry, barber, shoe repair, beauty salons, photography studios and physical fitness centers less than 5,000 square feet
- E. Public facilities serving all or portions of the city, such as municipal offices, library, post office.
- F. Retail Trade, such as grocery, hardware, drug, clothing, appliance and furniture stores.
- G. Dwelling units, if located above the street level in nonresidential structures.
- H. Specialty Shops, such as book and stationary stores, candy stores, ice cream parlors, tobacco, coffee, gift and florist shops;
- I. Standard restaurants
- J. On and off-sale liquor establishments
- K. Public Parks

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the Downtown Districts.

- A. Off-street parking and loading facilities, subject to Section 1250
- B. Fences, subject to Section 1245.05
- C. Lighting, subject to Section 1245.08
- D. Decks, patios and porches in conjunction with the principal use;
- E. Signs, subject to Section 1260

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

Principal Uses:

- A. Contractor Operations (*Amended by Ord. 216; 8-24-2009*)
- B. Lodging Services, such as hotels, motels and bed and breakfasts.
- C. Entertainment Services, such as motion picture theaters and bowling alleys
- D. Licensed Daycare Facilities
- E. Custom or limited manufacturing, assembly, or treatment of articles or merchandise from previously prepared materials, such as cloth, fiber, leather, metal, paper, plastic, stone, wax, wood, and wool (*Amended by Ord. 261, 5-11-2015*)

Accessory Uses:

- A. Outdoor Dining;
- B. Recreational Facilities;

Subd. 5 Lot Requirements and Setbacks. The following requirements and setbacks are the minimum amount allowed in the C-3 District, with the exception of “Lot Coverage” and building height, which shall be the maximum amount allowed:

- A. Lot Area: no minimum established
- B. Lot Width: no minimum established
- C. Lot Coverage: no maximum established
- D. Building Height: 45 feet (principal structure) (*Amended by Ord. 216; 8-24-2009*)
25 feet (accessory structure)
- E. Setbacks:

Principal Structures:

Front yard:	0 feet
Side yard:	0 feet
Side yard:	5 feet (if adjacent to a residential district)
Street side yard:	0 feet
Rear yard:	0 feet
Rear yard:	10 feet (if adjacent to a residential district or alley)

Accessory Structures:

Front yard:	not permitted in front yards
Side yard:	5 feet
Street side yard:	0 feet
Rear yard:	5 feet
Alley rear yard:	10 feet

Subd. 6 Architectural Standards and Guidelines. Architectural standards and guidelines shall follow the provisions of Section 1245.02 of this Chapter.

1230.11 B-1 Business Industrial District

Subd. 1 Intent. The B-1, Business Industrial District is intended to provide an area identified for light industrial and large-scale office-park development.

Subd. 2 Permitted Uses. The following uses are permitted in the Business Industrial District:

- A. Automobile repair, major
- B. Contractor Yards
- C. Light Industrial
- D. Office Complexes
- E. Garden and landscaping services
- F. Mini-storage facilities
- G. Retail in association with a contractor yard or wholesale trade business
- H. Vocational and Technical Schools
- I. Warehouses
- J. Wholesale Trade and Showrooms

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the Business Industrial District.

- A. Commercial or business buildings and structures for a use accessory to the principal use;
- B. Fences, subject to Section 1245.05;
- C. Lighting, subject to Section 1245.08;
- D. Signs, subject to Section 1260.

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

Principal Uses:

- A. Adult Entertainment;

Accessory Uses:

- A. Outdoor Auto, Truck, Recreational Vehicle and Equipment Sales and Display;
- B. Outdoor Storage;
- C. Barbed-wire Fencing

Subd. 5 Interim Uses. The following uses are permitted as an interim use, subject to the provisions of Section 1210.07:

- A. Outdoor Storage

Subd. 6 Lot Requirements and Setbacks. The following requirements and setbacks are the minimum amount allowed in the B-1 District; with the exception of “Lot Coverage” which shall be the maximum amount allowed:

- A. Lot Area: 30,000 square feet
- B. Lot Width: 200 feet
- C. Lot Coverage: 80%
- D. Building Height: 40 feet (principal structure)
25 feet (accessory structure)
- E. Setbacks:
 - Principal Structures:***
 - Front yard: 25 feet
 - Side yard: 5 feet
 - Side yard: 30 feet (if adjacent to a residential district)
 - Street side yard: 25 feet
 - Rear yard: 20 feet
 - Rear yard: 30 feet (if adjacent to a residential district)
 - Accessory Structures:***
 - Front yard: not permitted in front yards
 - Side yard: 5 feet
 - Street side yard: 25 feet
 - Rear yard: 5 feet
 - Alley rear yard: 10 feet

Subd. 7 Architectural Standards and Guidelines. Architectural standards and guidelines shall follow the provisions of Section 1245.03 of this Chapter.

1230.12 I-1 Light Industrial District

Subd. 1 Intent. The purpose of the I-1, Light Industrial District, is to create industrial areas within the City that will be acceptable and will not adversely affect adjacent business or residential neighborhoods. The overall character of the I-1 District is intended to have low-impact manufacturing/warehouse character. Industrial uses allowed within the District shall be either:

- A. Those whose operations are relatively free from objectionable influences; or
- B. Those whose objectionable features will be mitigated by design or appropriate devices.

Subd. 2 Permitted Uses. The following uses are permitted in the Light Industrial District:

- A. Contractor Operations;
- B. Laboratories;
- C. Light Industry;
- D. Utilities (public sewer, water);
- E. Warehousing;
- F. Wholesale Trade and Showrooms

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the Low-Density Residential District.

- A. Commercial or business buildings and structures for a use accessory to the principal use.
- B. Fences, subject to Section 1245.05
- C. Lighting, subject to Section 1245.08

Subd. 4 Conditional Uses. The following uses are permitted, subject to the provisions of Section 1210.06:

Principal Uses:

- A. Antennas, satellite dishes, communication and radio towers;
- B. Vocational and Technical Schools;

Accessory Uses:

- C. Freight and yard equipment;
- D. Outdoor Auto, Truck, Recreational Vehicle and Equipment Sales and Display;
- E. Outdoor Storage;
- F. Barbed-wire Fencing

Subd. 5 Lot Requirements and Setbacks. The following requirements and setbacks are the minimum amount allowed in the R-4 District, with the exception of “Lot Coverage” which shall be the maximum amount allowed:

- A. Lot Area: 87,120 square feet (2 acres)
- B. Lot Width: 200 feet
- C. Lot Coverage: 80%
- D. Building Height: 40 feet (principal structure)
25 feet (accessory structure)
- E. Setbacks:

Principal Structures:

- Front yard: 30 feet
- Side yard: 15 feet
- Street side yard: 30 feet
- Rear yard: 50 feet
- Rear yard: 75 feet (if adjacent to a residential district)

Accessory Structures:

- Front yard: not permitted in front yards
- Side yard: 10 feet
- Street side yard: 30 feet
- Rear yard: 10 feet

Alley rear yard: 10 feet

1230.13 P-1 Parks/Open Space

Subd. 1 Intent. It is the intent of the P-1 Parks/Open Space District, to provide for recreational areas for enjoyment by the general public as well as preserve significant natural features and amenities such as lakes, rivers, marshes, steep hills, extensive woodlands and woodlands in their natural state in order to assure continuation of the existing natural drainage system, to prevent harmful soil erosion, and to maintain ecological balance to the greatest extent possible.

Subd. 2 Permitted Uses. The following uses are permitted in the Parks/Open Space District:

- A. Public parks, open spaces and other recreational uses, non-commercial in nature;

Subd. 3 Permitted Accessory Uses. The following accessory uses are permitted in the Parks/Open Space District:

- A. Essential service structures including but not limited to playgrounds, gazebos, shelters, concession areas, grandstands, and athletic fields;

Section 1235 – *Reserved*

Section 1240 – Overlay District

1240.01 Shoreland Management Overlay District

Subd. 1 Statutory Authorization and Policy

- A. Statutory Authorization. This section is adopted pursuant to the authorization and policies contained in Minnesota Statutes, Chapter 103F, Minnesota Regulations, Parts 6120.2500 - 6120.3900, and the planning and zoning enabling legislation in Minnesota Statutes, Chapter 462.
- B. Policy. The uncontrolled use of shorelands of the City of Norwood Young America, Minnesota affects the public health, safety and general welfare not only by contributing to pollution of public waters, but also by impairing the local tax base. Therefore, it is in the best interests of the public health, safety and welfare to provide for the wise subdivision, use and development of shorelands of public waters. The Legislature of Minnesota has delegated responsibility to local governments of the state to regulate the subdivision, use and development of the shorelands of public waters and thus preserve and enhance the quality of surface waters, conserve the economic and natural environmental values of shorelands, and provide for the wise use of waters and related land resources. This responsibility is hereby recognized by the City of Norwood Young America.

Subd. 2 General Provisions

- A. Jurisdiction. The provisions of this section shall apply to the shorelands of the public water bodies as classified in Subd. 4. Pursuant to Minnesota Regulations, Parts 6120.2500 - 6120.3900, no lake, pond, or flowage less than 10 acres in size in municipalities or 25 acres

in size in unincorporated areas need be regulated in a local government's shoreland regulations. A body of water created by a private user where there was no previous shoreland may, at the discretion of the governing body, be exempt from this section.

- B. Compliance. The use of any shoreland of public waters; the size and shape of lots; the use, size, type and location of structures on lots; the installation and maintenance of water supply and waste treatment systems, the grading and filling of any shoreland area; the cutting of shoreland vegetation; and the subdivision of land shall be in full compliance with the terms of this section and other applicable regulations.
- C. Enforcement. The Zoning Administrator is responsible for the administration and enforcement of this section. Any violation of the provisions of this section or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or conditional uses) shall constitute a misdemeanor and shall be punishable as defined by law. Violations of this section can occur regardless of whether or not a permit is required for a regulated activity pursuant to this Chapter.
- D. Interpretation. In their interpretation and application, the provisions of this section shall be held to be minimum requirements and shall be liberally construed in favor of the governing body and shall not be deemed a limitation or repeal of any other powers granted by State Statutes.
- E. Severability. If any part, clause, provision, or portion of this section is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this section shall not be affected thereby.
- F. Abrogation and Greater Restrictions. It is not intended by this section to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this section imposes greater restrictions, the provisions of this section shall prevail. All other sections inconsistent with this section are hereby repealed to the extent of the inconsistency only.

Subd. 3 Administration

- A. Variances.
 - 1. Requests for variances shall be made in accordance with the procedures and requirements set forth in Section 1210.04 of this Chapter.
 - 2. Variances shall only be granted when the standards and criteria set forth in Section 1210.04 of this Chapter have been met; variances shall not be granted which would circumvent the purposes and intent of this section.
 - 3. A copy of all notices of any Public Hearings scheduled to consider requests for variances from this section shall be sent to the Commissioner of the Department of Natural Resources and post marked at least ten (10) days prior to the hearing.
 - 4. A copy of the final decision granting a requested variance from this section shall be sent to the Commissioner of the Department of Natural Resources and post marked within ten (10) days of the final action.
 - 5. In considering a variance request, the Planning Commission must also consider whether the property owner has reasonable use of the land without the variance, whether the property is used seasonally or year-round, whether the variance is being requested solely on the basis of economic considerations, and the characteristics of development on adjacent properties.
- B. Notifications to the Department of Natural Resources.

1. Copies of all notices of any public hearings to consider variances, amendments, or conditional uses under local shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked at least ten days before the hearings. Notices of hearings to consider proposed subdivisions/plats must include copies of the subdivision/plat.
2. A copy of approved amendments and subdivisions/plats, and final decisions granting variances or conditional uses under local shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked within ten days of final action.

Subd. 4 Shoreland Classification System and Land Use Districts

A. Shoreland Classification System. The public waters of the City of Norwood Young America have been classified below consistent with the criteria found in Minnesota Regulations, Part 6120.3300, and the Protected Waters Inventory Map for Carver County, Minnesota.

1. The shoreland area for the waterbodies listed in Subd. 4.A.2 and Subd. 4.A.3 shall be as defined in Subsection 1200.04 of this Chapter and as shown on the Official Zoning Map.

2. Natural Environment Lakes	Protected Waters Inventory I.D.#
Brand Lake	110P
Braunworth Lake	107P
Young America Lake	105P
Barnes Lake	109P
Tiger Lake	108P
3. Rivers and Streams-Tributary System	Protected Waters Inventory I.D.#
Unnamed to Unnamed, from Section 14 (Basin 110—Brand Lk), Twp 115, Range 26 to Section 14, Twp 115, Range 26	10009A

B. Land Use District Descriptions

1. Criteria For Designation. The subdivision, use, and development of shoreland areas must be consistent with the following goals, policies, and objectives:
 - a. General Considerations and Criteria for All Land Uses:
 - i. preservation of natural areas;
 - ii. present ownership and development of shoreland areas;
 - iii. shoreland soil types and their engineering capabilities;
 - iv. topographic characteristics;
 - v. vegetative cover;
 - vi. in-water physical characteristics, values, and constraints;
 - vii. recreational use of the surface water;
 - viii. road and service center accessibility;
 - ix. socioeconomic development needs and plans as they involve water and related land resources;
 - x. the land requirements of industry which, by its nature, requires location in shoreland areas; and

- xi. the necessity to preserve and restore certain areas having significant historical or ecological value.
- b. Factors and Criteria for Planned Unit Developments:
 - i. existing recreational use of the surface water and likely increases in use associated with planned unit developments;
 - ii. physical and aesthetic impacts of increased density;
 - iii. suitability of lands for the planned unit development approach;
 - iv. level of current development in the area; and
 - v. amounts and types of ownership of undeveloped lands.
- 2. Land Use District Descriptions. Uses permitted in shoreland areas shall be those permitted by the underlying zoning districts specified in Section 1230 of this Chapter.

Subd. 5 Zoning and Water Supply/Sanitary Provisions

- A. Lot Area and Width Standards. The lot area (in square feet) and lot width standards (in feet) for single, duplex, triplex and quad residential lots created after the date of enactment of this section for lakes and river/stream classifications are the following:

1. Unsewered Lakes

	Riparian Lots		Nonriparian Lots	
	Area	Width	Area	Width
Single	80,000	200	80,000	200
Duplex	120,000	300	160,000	400
Triplex	160,000	400	240,000	600
Quad	200,000	500	320,000	800

2. Sewered Lakes

	Riparian Lots		Nonriparian Lots	
	Area	Width	Area	Width
Single	40,000	125	20,000	125
Duplex	70,000	225	35,000	220
Triplex	100,000	325	52,000	315
Quad	130,000	425	65,000	410

3. River/Stream Lot Width Standards. There are no minimum lot size requirements for rivers and streams. The lot width standards for single, duplex, triplex and quad residential developments for river/stream classifications are:

	Urban & Tributary	
	No sewer	Sewer
Single	100	75
Duplex	150	115
Triplex	200	150
Quad	250	190

4. Additional Special Provisions.

- a. Residential subdivisions with dwelling unit densities exceeding those in the tables in Subd. 5.A.2 and Subd. 5.A.3 can only be allowed if designed and approved as residential planned unit developments under Subd. 8. Only land above the ordinary high water level of public waters can be used to meet lot area standards, and lot width

standards must be met at both the ordinary high water level and at the building line. The sewer lot area dimensions in Subd. 5.A.2 can only be used if publicly owned sewer system service is available to the property.

- b. Subdivisions of duplexes, triplexes, and quads on Natural Environment Lakes must also meet the following standards:
 - i. each building must be set back at least 200 feet from the ordinary high water level;
 - ii. each building must have common sewage treatment and water systems in one location and serve all dwelling units in the building;
 - iii. watercraft docking facilities for each lot must be centralized in one location and serve all dwelling units in the building; and
 - iv. no more than 25 percent of a lake's shoreline can be in duplex, triplex, or quad developments.
- c. Lots intended as controlled accesses to public waters or as recreation areas for use by owners of nonriparian lots within subdivisions are permissible and must meet or exceed the following standards:
 - i. they must meet the width and size requirements for residential lots, and be suitable for the intended uses of controlled access lots;
 - ii. if docking, mooring, or over-water storage of more than six (6) watercraft is to be allowed at a controlled access lot, then the width of the lot (keeping the same lot depth) must be increased by the percent of the requirements for riparian residential lots for each watercraft beyond six, consistent with the following table:

Controlled Access Lot Frontage Requirements

Ratio of lake size to shore length (acres/mile)	Required increase in frontage (percent)
Less than 100	25
100-200	20
201-300	15
301-400	10
Greater than 400	5

- iii. they must be jointly owned by all purchasers of lots in the subdivision or by all purchasers of nonriparian lots in the subdivision who are provided riparian access rights on the access lot; and
- iv. covenants or other equally effective legal instruments must be developed that specify which lot owners have authority to use the access lot and what activities are allowed. The activities may include watercraft launching, loading, storage, beaching, mooring, or docking. They must also include other outdoor recreational activities that do not significantly conflict with general public use of the public water or the enjoyment of normal property rights by adjacent property owners. Examples of the non-significant conflict activities include swimming, sunbathing, or picnicking. The covenants must limit the total number of vehicles allowed to be parked and the total number of watercraft allowed to be continuously moored, docked, or stored over water, and must require centralization of all common facilities and activities in the most suitable locations on the lot to minimize topographic and vegetation alterations. They must also require all parking areas, storage buildings, and other facilities to be screened by vegetation or topography as much as practical from view from the public water, assuming summer, leaf-on conditions.

B. Placement, Design, and Height of Structures.

1. Placement of Structures on Lots. When more than one setback applies to a site, structures and facilities must be located to meet all setbacks. Where structures exist on the adjoining lots on both sides of a proposed building site, structure setbacks may be altered without a variance to conform to the adjoining setbacks from the ordinary high water level, provided the proposed building site is not located in a shore impact zone or in a bluff impact zone. Structures shall be located as follows:

- a. Structure and On-Site Sewage System Setbacks (in feet) from Ordinary High Water Level.*

Classes of Public Waters	Setbacks*		
	Structures Unsewered	Sewage Treatment Sewered System	
Lakes			
Natural Environment	150	150	150
Rivers			
Urban, and Tributary	100	50	75

*One water-oriented accessory structure designed in accordance with Subd. 5.B.2 may be set back a minimum distance of ten (10) feet from the ordinary high water level.

- b. Additional Structure Setbacks. The following additional structure setbacks apply, regardless of the classification of the waterbody:

Setback From:	Setback (in feet)
i. top of bluff	30
ii. unplatted cemetery	50
iii. right-of-way line of federal, state, or county highway; and	50
iv. right-of-way line of town road, public street, or other roads or streets not classified.	20

- c. Bluff Impact Zones. Structures and accessory facilities, except stairways and landings, must not be placed within bluff impact zones.
 - d. Uses Without Water-oriented Needs. Uses without water-oriented needs must be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.
2. Design Criteria For Structures.
 - a. High Water Elevations. Structures must be placed in accordance with any floodplain regulations applicable to the site. Where these controls do not exist, the elevation to

which the lowest floor, including basement, is placed or flood-proofed must be determined as follows:

- i. for lakes, by placing the lowest floor at a level at least three feet above the highest known water level, or three feet above the ordinary high water level, whichever is higher;
 - ii. for rivers and streams, by placing the lowest floor at least three feet above the flood of record, if data are available. If data are not available, by placing the lowest floor at least three feet above the ordinary high water level, or by conducting a technical evaluation to determine effects of proposed construction upon flood stages and flood flows and to establish a flood protection elevation. Under all three approaches, technical evaluations must be done by a qualified engineer or hydrologist consistent with parts 6120.5000 to 6120.6200 governing the management of flood plain areas. If more than one approach is used, the highest flood protection elevation determined must be used for placing structures and other facilities; and
 - iii. water-oriented accessory structures may have the lowest floor placed lower than the elevation determined in this item if the structure is constructed of flood-resistant materials to the elevation, electrical and mechanical equipment is placed above the elevation and, if long duration flooding is anticipated, the structure is built to withstand ice action and wind-driven waves and debris.
- b. Water-oriented Accessory Structures. Each lot may have one water-oriented accessory structure not meeting the normal structure setback in Subd. 5.B.1 if this water-oriented accessory structure complies with the following provisions:
- i. the structure or facility must not exceed ten feet in height, exclusive of safety rails, and cannot occupy an area greater than 250 square feet. Detached decks must not exceed eight feet above grade at any point;
 - ii. the setback of the structure or facility from the ordinary high water level must be at least ten feet;
 - iii. the structure or facility must be treated to reduce visibility as viewed from public waters and adjacent shorelands by vegetation, topography, increased setbacks or color, assuming summer, leaf-on conditions;
 - iv. the roof may be used as a deck with safety rails, but must not be enclosed or used as a storage area;
 - v. the structure or facility must not be designed or used for human habitation and must not contain water supply or sewage treatment facilities; and
- c. Stairways, Lifts, and Landings. Stairways and lifts are the preferred alternative to major topographic alterations for achieving access up and down bluffs and steep slopes to shore areas. Stairways and lifts must meet the following design requirements:
- i. stairways and lifts must not exceed four feet in width on residential lots. Wider stairways may be used for commercial properties, public open-space recreational properties, and planned unit developments;
 - ii. landings for stairways and lifts on residential lots must not exceed 32 square feet in area. Landings larger than 32 square feet may be used for commercial properties, public open-space recreational properties, and planned unit developments;
 - iii. canopies or roofs are not allowed on stairways, lifts, or landings;

- iv. stairways, lifts, and landings may be either constructed above the ground on posts or pilings, or placed into the ground, provided they are designed and built in a manner that ensures control of soil erosion;
 - v. stairways, lifts, and landings must be located in the most visually inconspicuous portions of lots, as viewed from the surface of the public water assuming summer, leaf-on conditions, whenever practical; and
 - vi. facilities such as ramps, lifts, or mobility paths for physically handicapped persons are also allowed for achieving access to shore areas, provided that the dimensional and performance standards of subitems (1) to (5) are complied with in addition to the requirements of Minnesota Regulations, Chapter 1340.
 - d. Significant Historic Sites. No structure may be placed on a significant historic site in a manner that affects the values of the site unless adequate information about the site has been removed and documented in a public repository.
 - e. Steep Slopes. The Zoning Administrator must evaluate possible soil erosion impacts and development visibility from public waters before issuing a permit for construction of sewage treatment systems, roads, driveways, structures, or other improvements on steep slopes. When determined necessary, conditions must be attached to issued permits to prevent erosion and to preserve existing vegetation screening of structures, vehicles, and other facilities as viewed from the surface of public waters, assuming summer, leaf-on vegetation.
- 3. Height of Structures. All structures in residential districts, except churches and nonresidential agricultural structures, must not exceed 25 feet in height.
- 4. Cantilevers. Cantilevers may be allowed at a maximum of 2 feet within the required structure setback to the OHWL. In all cases, the footings shall be located outside the required setback to the OHWL.
- C. Shoreland Alterations. Alterations of vegetation and topography will be regulated to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent bank slumping, and protect fish and wildlife habitat.
 - 1. Vegetation Alterations.
 - a. Vegetation alteration necessary for the construction of structures and sewage treatment systems and the construction of roads and parking areas regulated by Subd. 4 5.D are exempt from the vegetation alteration standards that follow.
 - b. Removal or alteration of vegetation, except for agricultural and forest management uses as regulated in Subd. 5.F.2 and Subd. 5.F.3, respectfully, is allowed subject to the following standards:
 - i. Intensive vegetation clearing within the shore and bluff impact zones and on steep slopes is not allowed. Intensive vegetation clearing for forest land conversion to another use outside of these areas is allowable as a conditional use if an erosion control and sedimentation plan is developed and approved by the soil and water conservation district in which the property is located.
 - ii. In shore and bluff impact zones and on steep slopes, limited clearing of trees and shrubs and cutting, pruning, and trimming of trees is allowed to provide a view to the water from the principal dwelling site and to accommodate the placement of stairways and landings, picnic areas, access paths, livestock watering areas, beach and watercraft access areas, and permitted water-oriented accessory structures or facilities, provided that:
 - (1) the screening of structures, vehicles, or other facilities as viewed from the water, assuming summer, leaf-on conditions, is not substantially reduced;

- (2) along rivers, existing shading of water surfaces is preserved; and
 - (3) the above provisions are not applicable to the removal of trees, limbs, or branches that are dead, diseased, or pose safety hazards.
2. Topographic Alterations/Grading and Filling.
- a. Grading and filling and excavations necessary for the construction of structures, sewage treatment systems, and driveways under validly issued construction permits for these facilities do not require the issuance of a separate grading and filling permit. However, the grading and filling standards in Subd. 5.C must be incorporated into the issuance of permits for construction of structures, sewage treatment systems, and driveways.
 - b. Public roads and parking areas are regulated in Subd. 5.D
 - c. Notwithstanding Items a. and b. above, a grading and filling permit will be required for:
 - i. the movement of more than ten (10) cubic yards of material on steep slopes or within shore or bluff impact zones; and
 - ii. the movement of more than 50 cubic yards of material outside of steep slopes and shore and bluff impact zones.
 - d. The following considerations and conditions must be adhered to during the issuance of construction permits, grading and filling permits, conditional use permits, variances and subdivision approvals:
 - i. Grading or filling in any type 2, 3, 4, 5, 6, 7, or 8 wetland must be evaluated to determine how extensively the proposed activity would affect the following functional qualities of the wetland*:
 - (1) sediment and pollutant trapping and retention;
 - (2) storage of surface runoff to prevent or reduce flood damage;
 - (3) fish and wildlife habitat;
 - (4) recreational use;
 - (5) shoreline or bank stabilization; and
 - (6) noteworthiness, including special qualities such as historic significance, critical habitat for endangered plants and animals, or others.

*This evaluation must also include a determination of whether the wetland alteration being proposed requires permits, reviews, or approvals by other local, state, or federal agencies such as a watershed district, the Minnesota Department of Natural Resources, or the United States Army Corps of Engineers. The applicant will be so advised.
 - ii. Alterations must be designed and conducted in a manner that ensures only the smallest amount of bare ground is exposed for the shortest time possible;
 - iii. Mulches or similar materials must be used, where necessary, for temporary bare soil coverage, and a permanent vegetation cover must be established as soon as possible;
 - iv. Methods to minimize soil erosion and to trap sediments before they reach any surface water feature must be used;
 - v. Altered areas must be stabilized to acceptable erosion control standards consistent with the field office technical guides of the local soil and water conservation districts and the United States Soil Conservation Service;
 - vi. Fill or excavated material must not be placed in a manner that creates an unstable slope;

- vii. Plans to place fill or excavated material on steep slopes must be reviewed by qualified professionals for continued slope stability and must not create finished slopes of 30 percent or greater;
 - vii. Fill or excavated material must not be placed in bluff impact zones;
 - ix. Any alterations below the ordinary high water level of public waters must first be authorized by the commissioner under Minnesota Statutes, section 103G;
 - x. Alterations of topography must only be allowed if they are accessory to permitted or conditional uses and do not adversely affect adjacent or nearby properties; and
 - xi. Placement of natural rock riprap, including associated grading of the shoreline and placement of a filter blanket, is permitted if the finished slope does not exceed three feet horizontal to one foot vertical, the landward extent of the riprap is within ten feet of the ordinary high water level, and the height of the riprap above the ordinary high water level does not exceed three feet.
- e. Connections to public waters. Excavations where the intended purpose is connection to a public water, such as boat slips, canals, lagoons, and harbors, must be controlled by local shoreland controls. Permission for excavations may be given only after the commissioner has approved the proposed connection to public waters.
- D. Placement and Design of Roads, Driveways, and Parking Areas.
- 1. Public and private roads and parking areas must be designed to take advantage of natural vegetation and topography to achieve maximum screening from view from public waters. Documentation must be provided by a qualified engineer that all roads and parking areas are designed and constructed to minimize and control erosion to public waters consistent with the field office technical guides of the local soil and water conservation district, or other applicable technical materials.
 - 2. Roads, driveways, and parking areas must meet structure setbacks and must not be placed within bluff and shore impact zones, when other reasonable and feasible placement alternatives exist. If no alternatives exist, they may be placed within these areas, and must be designed to minimize adverse impacts.
 - 3. Public and private watercraft access ramps, approach roads, and access-related parking areas may be placed within shore impact zones provided the vegetative screening and erosion control conditions of this subpart are met. For private facilities, the grading and filling provisions of Subd. 5.C.2 must be met.
- E. Stormwater Management. The following general and specific standards shall apply:
- 1. General Standards:
 - a. When possible, existing natural drainageways, wetlands, and vegetated soil surfaces must be used to convey, store, filter, and retain stormwater runoff before discharge to public waters.
 - b. Development must be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential, and reduce and delay runoff volumes. Disturbed areas must be stabilized and protected as soon as possible and facilities or methods used to retain sediment on the site.
 - c. When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle stormwater runoff using natural features and vegetation, various types of constructed facilities such as diversions, settling basins, skimming devices, dikes, waterways, and ponds may be used. Preference must be given to designs using surface drainage, vegetation, and infiltration rather than buried pipes and man-made materials and facilities.
 - 2. Specific Standards:

- a. Impervious surface coverage of lots must not exceed 25 percent of the lot area.
 - b. When constructed facilities are used for stormwater management, documentation must be provided by a qualified engineer that they are designed and installed consistent with the field office technical guide of the local soil and water conservation districts.
 - c. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming of surface debris before discharge.
- F. Special Provisions for Commercial, Industrial, Public/Semipublic, Agricultural, Forestry and Extractive Uses and Mining of Metallic Minerals and Peat.
- 1. Standards for Commercial, Industrial, Public, and Semipublic Uses.
 - a. Surface water-oriented commercial uses and industrial, public, or semipublic uses with similar needs to have access to and use of public waters may be located on parcels or lots with frontage on public waters. Those uses with water-oriented needs must meet the following standards:
 - i. in addition to meeting impervious coverage limits, setbacks, and other zoning standards in this section, the uses must be designed to incorporate topographic and vegetative screening of parking areas and structures;
 - ii. uses that require short-term watercraft mooring for patrons must centralize these facilities and design them to avoid obstructions of navigation and to be the minimum size necessary to meet the need; and
 - iii. uses that depend on patrons arriving by watercraft may use signs and lighting to convey needed information to the public, subject to the following general standards:
 - (1) no advertising signs or supporting facilities for signs may be placed in or upon public waters. Signs conveying information or safety messages may be placed in or on public waters by a public authority or under a permit issued by the county sheriff;
 - (2) signs may be placed, when necessary, within the shore impact zone if they are designed and sized to be the minimum necessary to convey needed information. They must only convey the location and name of the establishment and the general types of goods or services available. The signs must not contain other detailed information such as product brands and prices, must not be located higher than ten feet above the ground, and must not exceed 32 square feet in size. If illuminated by artificial lights, the lights must be shielded or directed to prevent illumination out across public waters; and
 - (3) other outside lighting may be located within the shore impact zone or over public waters if it is used primarily to illuminate potential safety hazards and is shielded or otherwise directed to prevent direct illumination out across public waters. This does not preclude use of navigational lights.
 - b. Uses without water-oriented needs must be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.
 - 2. Agriculture Use Standards
 - a. General cultivation farming, grazing, nurseries, horticulture, truck farming, sod farming, and wild crop harvesting are permitted uses if steep slopes and shore and

bluff impact zones are maintained in permanent vegetation or operated under an approved conservation plan (Resource Management Systems) consistent with the field office technical guides of the local soil and water conservation districts or the United States Soil Conservation Service, as provided by a qualified individual or agency. The shore impact zone for parcels with permitted agricultural land uses is equal to a line parallel to and 50 feet from the ordinary high water level.

- b. Animal feedlots must meet the following standards:
 - i. new feedlots must not be located in the shoreland of watercourses or in bluff impact zones and must meet a minimum setback of 300 feet from the ordinary high water level of all public waters basins; and
 - ii. modifications or expansions to existing feedlots that are located within 300 feet of the ordinary high water level or within a bluff impact zone are allowed if they do not further encroach into the existing ordinary high water level setback or encroach on bluff impact zones.
3. Forest Management Standards. The harvesting of timber and associated reforestation must be conducted consistent with the provisions of the Minnesota Nonpoint Source Pollution Assessment-Forestry and the provisions of Water Quality in Forest Management "Best Management Practices in Minnesota."
4. Extractive Use Standards.
 - a. Site Development and Restoration Plan. An extractive use site development and restoration plan must be developed, approved, and followed over the course of operation of the site. The plan must address dust, noise, possible pollutant discharges, hours and duration of operation, and anticipated vegetation and topographic alterations. It must also identify actions to be taken during operation to mitigate adverse environmental impacts, particularly erosion, and must clearly explain how the site will be rehabilitated after extractive activities end.
 - b. Setbacks for Processing Machinery. Processing machinery must be located consistent with setback standards for structures from ordinary high water levels of public waters and from bluffs.
5. Mining of Metallic Minerals and Peat. Mining of metallic minerals and peat, as defined in Minnesota Statutes, sections 93.44 to 93.51, shall be a permitted use provided the provisions of Minnesota Statutes, sections 93.44 to 93.51, are satisfied.
- G. Conditional Uses. Conditional uses allowable within shoreland areas shall be subject to the review and approval procedures as specified in Section 1210.06 of this Chapter. The following additional evaluation criteria and conditions apply within shoreland areas:
 1. Evaluation criteria. A thorough evaluation of the waterbody and the topographic, vegetation, and soils conditions on the site must be made to ensure:
 - a. The prevention of soil erosion or other possible pollution of public waters, both during and after construction;
 - b. The visibility of structures and other facilities as viewed from public waters is limited;
 - c. The site is adequate for water supply and on-site sewage treatment; and
 - d. The types, uses, and numbers of watercraft that the project will generate are compatible in relation to the suitability of public waters to safely accommodate these watercraft.
 2. Conditions attached to conditional use permits. The City Council, upon consideration of the criteria listed above and the purposes of this section, shall attach such conditions to

the issuance of the conditional use permits as it deems necessary to fulfill the purposes of this section. Such conditions may include, but are not limited to, the following:

- a. Increased setbacks from the ordinary high water level;
- b. limitations on the natural vegetation to be removed or the requirement that additional vegetation be planted; and
- c. special provisions for the location, design, and use of structures, sewage treatment systems, watercraft launching and docking areas, and vehicle parking areas.

H. Water Supply and Sewage Treatment

1. Water Supply. Any public or private supply of water for domestic purposes must meet or exceed standards for water quality of the Minnesota Department of Health and the Minnesota Pollution Control Agency.
2. Sewage treatment. Any premises used for human occupancy must be provided with an adequate method of sewage treatment, as follows:
 - a. Publicly-owned sewer systems must be used where available.
 - b. All private sewage treatment systems must meet or exceed the Minnesota Pollution Control Agency's standards for individual sewage treatment systems contained in the document titled, "Individual Sewage Treatment Systems Standards, Chapter 7080," a copy of which is hereby adopted by reference and declared to be a part of this Section.
 - c. On-site sewage treatment systems must be set back from the ordinary high water level in accordance with the setbacks contained in Subd. 5.B.1.
 - d. All proposed sites for individual sewage treatment systems shall be evaluated in accordance with the criteria in subitems (i)-(iv). If the determination of a site's suitability cannot be made with publicly available, existing information, it shall then be the responsibility of the applicant to provide sufficient soil borings and percolation tests from on-site field investigations.

Evaluation Criteria:

- (1). Depth to the highest known or calculated ground water table or bedrock;
- (2). soil conditions, properties, and permeability;
- (3). slope;
- (4). the existence of lowlands, local surface depressions, and rock outcrops;
- e. Nonconforming sewage treatment systems shall be regulated and upgraded in accordance with Subd. 6.3.

Subd. 6 Nonconformities. Nonconformities will be managed according to Section 1215 of this Chapter; except that the following standards will also apply in shoreland areas:

A. Construction on nonconforming lots of record.

1. Lots of record in the office of the county recorder on the date of enactment of local shoreland controls that do not meet the requirements of Subd. 5.A may be allowed as building sites without variances from lot size requirements provided the use is permitted in the zoning district, the lot has been in separate ownership from abutting lands at all times since it became substandard, was created compliant with official controls in effect at the time, and sewage treatment and setback requirements of this Section are met.
2. A variance from setback requirements must be obtained before any use, sewage treatment system, or building permit is issued for a lot. In evaluating the variance, the Planning Commission shall consider sewage treatment and water supply capabilities or constraints of the lot and shall deny the variance if adequate facilities cannot be provided.

3. If, in a group of two or more contiguous lots under the same ownership, any individual lot does not meet the requirements of Subd. 5.A, the lot must not be considered as a separate parcel of land for the purposes of sale or development. The lot must be combined with the one or more contiguous lots so they equal one or more parcels of land, each meeting the requirements of Subd. 5.A as much as possible.
- B. Additions/Expansions to Nonconforming Structures.
 1. All additions or expansions to the outside dimensions of an existing nonconforming structure must meet the setback, height, and other requirements of Subd. 5. Any deviation from these requirements must be authorized by a variance pursuant to Subd. 3.A.
 2. Deck additions may be allowed without a variance to a structure not meeting the required setback from the ordinary high water level if all of the following criteria and standards are met:
 - a. The structure existed on the date the structure setbacks were established;
 - b. a thorough evaluation of the property and structure reveals no reasonable location for a deck meeting or exceeding the existing ordinary high water level setback of the structure;
 - c. the deck encroachment toward the ordinary high water level does not exceed 15 percent of the existing setback of the structure from the ordinary high water level or does not encroach closer than 30 feet, whichever is more restrictive; and
 - d. the deck is constructed primarily of wood, and is not roofed or screened.
- C. Nonconforming Sewage Treatment Systems.
 1. A sewage treatment system not meeting the requirements of Subd. 5.H must be upgraded, at a minimum, at any time a permit or variance of any type is required for any improvement on, or use of, the property. For the purposes of this provision, a sewage treatment system shall not be considered nonconforming if the only deficiency is the sewage treatment system's improper setback from the ordinary high water level.
 2. The governing body of the City of Norwood Young America has by formal resolution notified the commissioner of its program to identify nonconforming sewage treatment systems. The City of Norwood Young America will require upgrading or replacement of any nonconforming system identified by this program within a reasonable period of time which will not exceed 2-years. Sewage systems installed according to all applicable local shoreland management standards adopted under Minnesota Statutes, section 103F, in effect at the time of installation may be considered as conforming unless they are determined to be failing, except that systems using cesspools, leaching pits, seepage pits, or other deep disposal methods, or systems with less soil treatment area separation above groundwater than required by the Minnesota Pollution Control Agency's Chapter 7080 for design of on-site sewage treatment systems, shall be considered nonconforming.

Subd. 7 Subdivision/Platting Provisions.

- A. Land suitability. Each lot created through subdivision, including planned unit developments authorized under Subd. 8, must be suitable in its natural state for the proposed use with minimal alteration. Suitability analysis by the City Council shall consider susceptibility to flooding, existence of wetlands, soil and rock formations with severe limitations for development, severe erosion potential, steep topography, inadequate water supply or sewage treatment capabilities, near-shore aquatic conditions unsuitable for water-based recreation, important fish and wildlife habitat, presence of significant historic sites, or any other feature

of the natural land likely to be harmful to the health, safety, or welfare of future residents of the proposed subdivision or the City.

- B. Consistency with other controls. Subdivisions must conform to all applicable regulations, including Chapter 11 of the City Code. A subdivision will not be approved where a later variance from one or more standards in official controls would be needed to use the lots for their intended purpose. In areas not served by publicly owned sewer and water systems, a subdivision will not be approved unless domestic water supply is available and a sewage treatment system consistent with Subd. 5.B and Subd. 5.H can be provided for every lot. Each lot shall meet the minimum lot size and dimensional requirements of Subd. 5.A, including at least a minimum contiguous lawn area, that is free of limiting factors sufficient for the construction of two standard soil treatment systems.
- C. Information requirements. Sufficient information must be submitted by the applicant for the community to make a determination of land suitability. The information shall include at least the following:
 - 1. Topographic contours at ten-foot intervals or less from United States Geological Survey maps or more accurate sources, showing limiting site characteristics;
 - 2. The surface water features required in Minnesota Statutes, section 505.02, subdivision 1, to be shown on plats, obtained from United States Geological Survey quadrangle topographic maps or more accurate sources;
 - 3. Adequate soils information to determine suitability for building and on-site sewage treatment capabilities for every lot from the most current existing sources or from field investigations such as soil borings, percolation tests, or other methods;
 - 4. Information regarding adequacy of domestic water supply; extent of anticipated vegetation and topographic alterations; near-shore aquatic conditions, including depths, types of bottom sediments, and aquatic vegetation; and proposed methods for controlling stormwater runoff and erosion, both during and after construction activities;
 - 5. A line or contour representing the ordinary high water level, the “toe” and the “top” of bluffs, and the minimum building setback distances from the top of the bluff and the lake or stream.
- D. Dedications. When a land or easement dedication is a condition of subdivision approval, the approval must provide easements over natural drainage or ponding areas for management of stormwater and significant wetlands.
- E. Platting. All subdivisions that create five or more lots or parcels that are 2-1/2 acres or less in size shall be processed as a plat in accordance with Minnesota Statutes, Chapter 505. No permit for construction of buildings or sewage treatment systems shall be issued for lots created after these official controls were enacted unless the lot was approved as part of a formal subdivision.
- F. Controlled Access or Recreational Lots. Lots intended as controlled accesses to public waters or for recreational use areas for use by nonriparian lots within a subdivision must meet or exceed the sizing criteria in Subd. 5.A.4.C

Subd. 8 Planned Unit Developments (PUD's)

- A. Intent. Developments with modification of density and design standards as set forth in Subsection 1240.01 Subd. 8 may be allowed as exceptions for Planned Unit Developments (PUD) which are proposed and approved in accordance with Subsection 1240.02 of this Chapter, and with the requirements in Subsection 1240.01, Subd. 8.

- B. Coordination with Other Zoning Regulations. P.U.D.s shall comply with general and specific P.U.D. standards as listed in Subsection 1240.02 Subd. 6-7.
- C. Application for a PUD. Notice of hearing for the required PUD sent to the Commissioner of the Department of Natural Resources as prescribed by Subsection 1240.01 Subd. 8 shall include a copy of the Preliminary PUD Plan, Plat, and other pertinent materials submitted with the application to permit review with respect to that portion of the Planned Unit Development, which is within the Shoreland Management Overlay District.
- D. Site “Suitable Area” Evaluation. Proposed new or expansions to existing planned unit developments must be evaluated using the following procedures and standards to determine the suitable area for the dwelling unit/dwelling site density evaluation in Subsection 1240.01 Subd. 8.E.

1. The project parcel must be divided into tiers by locating one or more lines approximately parallel to a line that identifies the ordinary high water level at the following intervals, proceeding landward:

Shoreland Tier Dimensions

	Unsewered (feet)	Sewered (feet)
Natural environment lakes	400	320
All river classes	300	300

2. The suitable area within each tier is next calculated by excluding from the tier area all wetlands, bluffs, or land below the ordinary high water level of public waters. This suitable area and the proposed project are then subjected to the residential planned unit development density evaluation steps to arrive at an allowable number of dwelling units or sites.
- E. Residential PUD Density Evaluation. The procedures for determining the “base” density of a PUD and density increase multipliers are as follows. Allowable densities may be transferred from any tier to any other tier further from the waterbody, but must not be transferred to any other tier closer.
1. Residential PUD “Base” Density Evaluation. The suitable area within each tier is divided by the single residential lot size standard for lakes or, for rivers, the single residential lot width standard times the tier depth. Proposed locations and numbers of dwelling units or sites for the residential planned unit developments are then compared with the tier, density, and suitability analyses herein and the design criteria in Subsection 1240.01, Subd. 8.F.
 2. Density Increase Multipliers:
 - a. Increases to the dwelling unit or dwelling site base densities previously determined are allowable if the dimensional standards in Subsection 1240.01, Subd. 5 are met or exceeded and the design criteria in Subsection 1240.01, Subd. 8.F are satisfied. The allowable density increases in Item 2 below will only be allowed if structure setbacks from the ordinary high water level are increased to at least 50 percent greater than the minimum setback, or the impact on the waterbody is reduced an equivalent amount through vegetative management, topography, or additional means acceptable to the local unit of government and the setback is at least 25 percent greater than the minimum setback.
 - b. Allowable Dwelling Unit or Dwelling Site Density Increases for Residential Planned Unit Developments:

Density evaluation tiers

Maximum density increase

	within each tier (percent)
First	50
Second	100
Third	200
Fourth	200
Fifth	200

F. Maintenance and Design Criteria

1. Maintenance and Administration Requirements.
 - a. Before final approval of a planned unit development, adequate provisions must be developed for preservation and maintenance in perpetuity of open spaces and for the continued existence and functioning of the development.
 - b. Open Space Preservation. Deed restrictions, covenants, permanent easements, public dedication and acceptance, or other equally effective and permanent means must be provided to ensure long-term preservation and maintenance of open space. The instruments must include all of the following protections:
 - i. vegetation and topographic alterations other than routine maintenance prohibited;
 - ii. construction of additional buildings or storage of vehicles and other materials prohibited; and
 - iii. uncontrolled beaching of watercraft prohibited.
 - c. Development organization and functioning. Unless an equally effective alternative community framework is established, when applicable, all residential planned unit developments must use an owners association with the following features:
 - i. membership must be mandatory for each dwelling unit or site purchaser and any successive purchasers;
 - ii. each member must pay a pro rata share of the association's expenses, and unpaid assessments can become liens on units or sites;
 - iii. assessments must be adjustable to accommodate changing conditions; and
 - iv. the association must be responsible for insurance, taxes, and maintenance of all commonly owned property and facilities.
2. Open Space Requirements. Planned unit developments must contain open space meeting all of the following criteria:
 - a. At least 50 percent of the total project area must be preserved as open space;
 - b. Dwelling units or sites, road rights-of-way, or land covered by road surfaces, parking areas, or structures, except water-oriented accessory structures or facilities, are developed areas and shall not be included in the computation of minimum open space;
 - c. Open space must include areas with physical characteristics unsuitable for development in their natural state, and areas containing significant historic sites or unplatted cemeteries;
 - d. Open space may include outdoor recreational facilities for use by owners of dwelling units or sites, by guests staying in commercial dwelling units or sites, and by the general public;
 - e. Open space may include subsurface sewage treatment systems if the use of the space is restricted to avoid adverse impacts on the systems;
 - f. Open space may contain water-oriented accessory structures or facilities;
 - g. The appearance of open space areas, including topography, vegetation, and allowable uses, must be preserved by use of restrictive deed covenants, permanent easements,

- public dedication and acceptance, or other equally effective and permanent means; and
- h. The shore impact zone, based on normal structure setbacks, must be included as open space. For residential PUD's, at least 50 percent of the shore impact zone area of existing developments or at least 70 percent of the shore impact zone area of new developments must be preserved in its natural or existing state.
3. Erosion Control and Stormwater Management. Erosion control and stormwater management plans must be developed and the PUD must:
- a. Be designed, and the construction managed, to minimize the likelihood of serious erosion occurring either during or after construction. This must be accomplished by limiting the amount and length of time of bare ground exposure. Temporary ground covers, sediment entrapment facilities, vegetated buffer strips, or other appropriate techniques must be used to minimize erosion impacts on surface water features. Erosion control plans approved by a soil and water conservation district may be required if project size and site physical characteristics warrant; and
 - b. Be designed and constructed to effectively manage reasonably expected quantities and qualities of stormwater runoff. Impervious surface coverage within any tier must not exceed 25 percent of the tier area.
4. Centralization and Design of Facilities. Centralization and design of facilities and structures must be done according to the following standards:
- a. Planned unit developments must be connected to publicly owned water supply and sewer systems, if available. On-site water supply and sewage treatment systems must be centralized and designed and installed to meet or exceed applicable standards or rules of the Minnesota Department of Health and Subsections 1240.01 Subd. 5. B. and H. On-site sewage treatment systems must be located on the most suitable areas of the development, and sufficient lawn area free of limiting factors must be provided for a replacement soil treatment system for each sewage system;
 - b. Dwelling units or sites must be clustered into one or more groups and located on suitable areas of the development. They must be designed and located to meet or exceed the following dimensional standards for the relevant shoreland classification: setback from the ordinary high water level, elevation above the surface water features, and maximum height. Setbacks from the ordinary high water level must be increased in accordance with Subsection 1240.01, Subd. 8.E.2. for developments with density increases;
 - c. Shore recreation facilities, including but not limited to swimming areas, docks, and watercraft mooring areas and launching ramps, must be centralized and located in areas suitable for them. Evaluation of suitability must include consideration of land slope, water depth, vegetation, soils, depth to groundwater and bedrock, or other relevant factors. The number of spaces provided for continuous beaching, mooring, or docking of watercraft must not exceed one for each allowable dwelling unit or site in the first tier (notwithstanding existing mooring sites in an existing commercially used harbor). Launching ramp facilities, including a small dock for loading and unloading equipment, may be provided for use by occupants of dwelling units or sites located in other tiers;
 - d. structures, parking areas, and other facilities must be treated to reduce visibility as viewed from public waters and adjacent shorelands by vegetation, topography, increased setbacks, color, or other means acceptable to the local unit of government,

- assuming summer, leaf-on conditions. Vegetative and topographic screening must be preserved, if existing, or may be required to be provided;
- e. accessory structures and facilities, except water oriented accessory structures, must meet the required principal structure setback and must be centralized; and
 - f. water-oriented accessory structures and facilities may be allowed if they meet or exceed design standards contained in Subsection 1240.01, Subd. 5.B. and are centralized.

1240.02 Planned Unit Development Overlay District.

Subd. 1 Purpose. The purpose of this Section is to provide for the public health, safety, and general welfare, of the community and its people by providing for flexibility in site design requirements when exceptional quality site development and/or subdivision designs result in planned developments that:

- A. Preserve environmentally significant and/or environmentally sensitive areas; and/or
- B. Provide exceptional or unique open space amenities; and/or
- C. Achieve land use, housing, Legacy Greenway, and other goals set forth in plans approved by the City Council which may from time to time be amended; and/or
- D. Incorporate creative design in the layout of buildings, open space and use of land through such site design approaches/techniques as conservation design, open space design, traditional neighborhood design, and/or low impact development.

In addition, this Section must result in planned unit developments that:

- A. Are compatible with surrounding land uses and neighborhood character; and,
- B. Conform to the goals and policies of the Comprehensive Plan, the Legacy Greenway Concept Plan, trail/sidewalk plans, transportation plans, sub-area plans; and,
- C. Support compact and orderly growth of urban development and redevelopment; and,
- D. Promote quality development; and,
- E. Provide efficiency in the layout and provision of roads, utilities, land use, and other infrastructure.

Subd. 2 Intent. This Section is intended to promote an efficient arrangement of land uses, design innovation and variety, improved amenities, orderly development, and compatibility with adjacent and nearby development. This Section is also intended to facilitate flexibility in the development and use of land and other resources in compliance with the City's Comprehensive Plan, the Legacy Greenway Concept Plan, and other planning instruments approved by the City. For those reasons, the PUD Overlay District provides a way to regulate the development and use of land to the same degree as do other districts, but to vary from the uniform requirements of other districts in order to respond to development requests resulting in a demonstrated public benefit and/or to employ alternative design/development techniques such as conservation design, open space design, traditional neighborhood design, and/or low impact development.

It is the intent of the City Council through the regulations of this Section that Planned Unit Developments be allowed only upon a determination by the City Council that the criteria in this Section are or will be met.

Throughout this Section, “PUD” shall mean the same as “planned unit development.”

Subd. 3 Definitions. The following definitions shall apply to this Section 1240.04- Planned Unit Development Overlay District:

- A. *Density* shall mean the number of dwelling units (residential) based on minimum lot size of the underlying zoning district classification as a portion of the entire developable site area, or building square footage (non-residential) as a portion of the entire developable site area, based on the minimum lot size and structural coverage limits of the underlying zoning district classification.
- B. *Developable Area* shall mean “*Project Area, Net*”.
- C. *Intensity* shall mean the amount of building coverage as a percentage of the lot size.
- D. *Planned Unit Development (PUD)* shall refer to a site and/or subdivision development of one or more lots, tracts, or parcels of land to be developed as a single entity. The plan for the PUD may propose density or intensity transfers, density or intensity increases, mixing of land uses, or any combination thereof. Under a PUD, the City Council may allow departure from strict conformance with lot size, bulk, type of dwelling or building, density, intensity, lot coverage, parking, required common open space, or other standards of the underlying zoning district requirements that are otherwise applicable to the area in which it is located or certain design standards such as street width and curbing contained in the Subdivision Ordinance.
- E. *Project Area, Gross* shall mean the total area proposed to be developed as a PUD.
- F. *Project Area, Net* shall mean the remaining project area after subtracting from the gross project area all stream areas, public waters, wetlands (National Wetland Inventory), preserved floodplains, steep slopes, all floodways, significant/sensitive resources included in the City of Norwood Young America Comprehensive Plan, and other natural resource areas in which development is prohibited under the City’s Zoning Ordinance or Subdivision Ordinance.

Subd. 4 Demonstrated Public Benefit Required. Planned Unit Developments shall demonstrate at least one of the following benefits to the public. The Applicant shall submit factual evidence to support an intended public benefit(s) will result from the planned development. The Applicant bears the burden of proving a public benefit(s) exist, the City Council shall make a determination a public benefit exists.

- A. The preservation in perpetuity of environmentally significant and/or environmentally sensitive areas including surface waters, ravines, shorelands, public water basins, wetlands (National Wetland Inventory), prime agricultural soils, hydric soil, pre-settlement vegetation, drainageways, and resources identified within the Carver County Biological Survey, the Norwood Young America Comprehensive Plan, or a Natural Resource Inventory. Preservation of such areas will require the establishment and implementation of best management practices to protect and enhance said environmentally significant and/or sensitive areas. Preservation in perpetuity may be achieved through a permanent conservation easement and/or dedication to the public. The open space may or may not be required to provide access to the public as determined by the City Council and dictated by the nature of the amenity being preserved or protected.
- B. The preservation in perpetuity or establishment and preservation in perpetuity of exceptional quality open space amenities such as those which provide: for continuity and/or connectivity

of the Legacy Greenway Corridor, for the establishment or protection of scenic views/visual amenities; for the establishment or linkage of habitat areas, wildlife corridors, or drainage facilities; for linkage to existing or planned park or linear pathway facilities; and/or for preservation, protection and enhancement of significant mature stands of vegetation. An open space preservation plan and a maintenance plan shall be established and implemented. Preservation in perpetuity may be achieved through a permanent conservation easement and/or dedication to the public. The open space may or may not be required to provide access to the public as determined by the City Council and dictated by the nature of the amenity being preserved or protected.

- C. The creation of a master planned community within a development featuring a variety of housing types (i.e. single family, attached; single family, detached; and/or apartments) and/or values (i.e. affordable, market rate, luxury rate) combined with: above average open space and/or construction of a unique or scenic recreational facility (e.g. golf course, equestrian facility, artificially constructed lake [but not a required stormwater facility] and similar facilities) and/or commercial uses in transitional zoning areas such as those providing a transition from a high intensity use like commercial or industrial to a low intensity use such as single family residential.
- D. The preservation of buildings that are architecturally or historically significant or significantly contribute to the character of the City and/or retaining of scenic vistas or viewsheds that contribute to the character of the community. Such determination as 'significant' or 'contributing to the character of the City' shall be defined by a professional historian, a representative from the State Historic Preservation Office, a representative from MnDOT Cultural Resources Department, or by listing on the National Register of Historic Places.
- E. The elimination of blighted areas, deteriorated structures or incompatible uses within a previously built-up urban area through redevelopment or rehabilitation. A finding of 'blighted area' shall be made by the City Council with Federal Small Cities Development Program guidelines used as a reference. A finding of 'deteriorated structure' shall be made by the City Building Official. A finding of an incompatible use shall be made by the Community Development Director. A minimum of fifty (50) percent of the PUD must meet "blighted area" or "deteriorated structure" standards.
- F. The creation of a master planned community in conjunction with enhanced amenities such as the construction of a unique or scenic recreational facility or amenity such as a golf course, an equestrian facility, an artificially constructed lake (but not a required stormwater facility) and similar facilities. Such amenities shall be held in perpetuity. Preservation in perpetuity may be achieved through a permanent conservation easement, and/or dedication to the public, and/or other means approved by the City Council.
- G. The incorporation of low impact design/development strategies and best management practices that mimic a site's natural hydrology by using techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source resulting in a hydrologically functional landscape.

Subd. 5 Planned Unit Development as an Overlay District.

- A. Planned unit developments shall be superimposed over existing zoning classifications.
- B. Allowable uses within the PUD shall be those uses allowed in the underlying zoning classification or classifications.
- C. Maximum density standards of the underlying zoning district(s) apply, except that:

1. Allowable net densities may be transferred from one area of the development and/or subdivision and clustered in another area of the same development and/or subdivision meaning that lots within the PUD may vary in size but the total of lots may not exceed those allowed as calculated under this Section using the underlying zoning classification as a base.
2. A density increase may be allowed provided:
 - a. A public benefit resulting in
 - i. The preservation of environmentally significant or sensitive areas (under Section 1240.02.04, Subd. 1A); or
 - ii. The preservation or establishment of exceptional quality open space amenities (under Section 1240.02.04, Subd. 1B); or,
 - iii. The creation of a master planned community (under Section 1240.02.04, Subd. 1C or Section 1240.02.04, Subd. 1F).
 - b. Is combined with a public benefit under:
 - i. The preservation of buildings that are architecturally or historically significant or scenic views (under Section 1240.02.04, Subd. 1D); or,
 - ii. The elimination of blighted areas, deteriorated structures, or incompatible uses within a previously built up urban area (under Section 1240.02.04, Subd. 1E); or,
 - iii. The incorporation of low impact design/development strategies and best management practices (under Section 1240.02.04, Subd. 1G).
 - c. Such density increases shall not be greater 133% of that allowed by the underlying zoning district(s).
3. The Community Development Director shall calculate the number of units (residential portions) or square footage (non-residential portions) allowed within a PUD by calculating the net project area, and then:
 - a. For residential portion(s) of the PUD: The Community Development Director shall calculate the number of units available by dividing the net project area by the smallest lot size required by the underlying zoning district or districts that that apply to the project.
 - b. For non-residential portion(s) of the PUD: The Community Development Director shall calculate the maximum square footage of building coverage allowed based on the smallest lot size allowed by the underlying zoning district and the maximum allowable lot structural coverage.

Subd. 6 Allowable Types of Planned Unit Development and Where Permitted

A. Required Conditions for each type and where permitted:

Type of PUD	Required Conditions	Standards Considered	Where Permitted
PUD, Residential Cluster	Residential development site design plan and/or plat which proposes a transfer and/or increase of allowable net density from one portion of the PUD to another as a means of:	As a result of approved density transfers or increases: <ul style="list-style-type: none"> Requirements of the underlying zoning district related to: lot area, lot size, lot 	Subject to verification of a public benefit and approval of the use of PUD by the City Council, Residential Clusters are permitted in

	<ul style="list-style-type: none"> Preserving environmentally significant or sensitive areas, Preserving architectural or historically important existing structures under Elimination of blighted areas, deteriorated structures or incompatible uses within a previously built-up urban area through redevelopment or rehabilitation 	<p>coverage, lot width, and lot depth may be decreased.</p> <ul style="list-style-type: none"> Setbacks may be reduced as per Subd. 7.D. of this Section. In addition, the width requirements for local streets and right of way required under Chapter 1130 of the City Code (Subdivision/Platting Standards Design Standards as amended) may be reduced under Subd. 7.D. of this Section. In the event low impact development standards are proposed, the City may allow alternatives to traditional roll-over or high back curbing as required under Chapter 1150 of the City Code (Subdivision/Platting Standards, Required Improvements as amended). 	<p>areas within the Comprehensive Plan Urban Growth Boundary, as may be amended, that coincide with the Legacy Greenway Conceptual Area provided necessary greenway continuity, establishment, and/or connectivity are provided and, that, if subdivided, is not determined to be 'premature' under Chapter 11 of the City Code.</p>
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Type of PUD	Required Conditions	Standards Considered	Where Permitted
PUD, Open Space	Residential development site design plan and/or plat proposing a transfer and/or increase of allowable net density from one portion of the PUD to another as a means of preserving in perpetuity or establishing and preserving in perpetuity open space amenities.	<p>As a result of approved density transfers or increases:</p> <ul style="list-style-type: none"> Requirements of the underlying zoning district related to: lot area, lot size, lot coverage, lot width, and lot depth may be decreased. Setbacks may be reduced as per Subd. 7.D. of this Section. In addition, the width requirements for local streets and right of way required under Chapter 1130 of the City Code (Subdivision/Platting Standards Design Standards as amended) may be reduced under Subd. 7.D. of this Section. 	<p>Subject to verification of a public benefit and approval of the use of PUD by the City Council, Open Space PUDs are allowed within all residential zoning classifications providing:</p> <ul style="list-style-type: none"> The entire project area is at least twenty (20) acres in size. The size limitation is intended to retain adequate useful open space and development opportunities; and, The subject area is within the Comprehensive Plan

		<ul style="list-style-type: none"> In the event low impact development standards are proposed, the City may allow alternatives to traditional roll-over or high back curbing as required under Chapter 1150 of the City Code (Subdivision/Platting Standards, Required Improvements as amended). 	<p>Urban Growth Boundary, as may be amended, that coincides with the Legacy Greenway Conceptual Area and provided said open space creates necessary greenway continuity, establishment, and/or connectivity; and,</p> <ul style="list-style-type: none"> That, if subdivided, is not determined to be 'premature' under Chapter 11 of the City Code.
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Type of PUD	Required Conditions	Standards Considered	Where Permitted
PUD, Residential Amenity	A primarily residential development site design plan and/or plat proposing a transfer and/or an increase of allowable net density from one portion of the PUD to another as a means of providing for a unique scenic or recreational amenity or facility.	<p>As a result of approved density transfers or increases:</p> <ul style="list-style-type: none"> Requirements of the underlying zoning district related to: lot area, lot size, lot coverage, lot width, and lot depth may be decreased. Setbacks may be reduced as per Subd. 7.D. of this Section. In addition, the width requirements for local streets and right of way required under Chapter 1130 of the City Code (Subdivision/Platting Standards Design Standards as amended) may be reduced under Subd. 7.D. of this Section. In the event low impact development standards are proposed, the City may allow alternatives to traditional roll-over or high back curbing as required under Chapter 1150 of the City Code (Subdivision/Platting 	<p>Subject to verification of a public benefit and approval of the use of PUD by the City Council, Residential Amenity PUDs are allowed within all residential zoning classifications providing:</p> <ul style="list-style-type: none"> The entire project area is at least twenty (20) acres in size. The size limitation is intended to retain adequate useful open space and development opportunities; and, The subject area is within the Comprehensive Plan Urban Growth Boundary, as may be amended, with consideration given to the Legacy Greenway Conceptual Area and creation of necessary

		Standards, Required Improvements as amended).	<p>greenway continuity, establishment, and/or connectivity; and,</p> <ul style="list-style-type: none"> • That, if subdivided, is not determined to be 'premature' under Chapter 11 of the City Code.
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Type of PUD	Required Conditions	Standards Considered	Where Permitted
PUD, Residential Mixed Use	A primarily residential development site design plan and/or plat proposing a transfer of allowable net density from one portion of the PUD to another and/or an increase in density as a means of providing for mixed housing types and values combined with superior site amenities.	<p>As a result of approved density transfers or increases:</p> <ul style="list-style-type: none"> • Requirements of the underlying zoning district related to: lot area, lot size, lot coverage, lot width, and lot depth may be decreased. • Setbacks may be reduced as per Subd. 7.D. of this Section. • In addition, the width requirements for local streets and right of way required under Chapter 1130 of the City Code (Subdivision/Platting Standards Design Standards as amended) may be reduced under Subd. 7.D. of this Section. • In the event low impact development standards are proposed, the City may allow alternatives to traditional roll-over or high back curbing as required under Chapter 1150 of the City Code (Subdivision/Platting Standards, Required Improvements as amended). 	<p>Subject to verification of a public benefit and approval of the use of PUD by the City Council, Residential Mixed Use PUDs are allowed within the R-2 Medium Density Single Family Residential, the R-3 Medium Density Mixed Residential, the R-4 Multiple Family Residential, and/or the RC-1 Residential Neighborhood Commercial Districts, providing:</p> <ul style="list-style-type: none"> • The entire project area is at least twelve (12) acres in size. The size limitation is intended to retain adequate space for the creation of superior amenities and a mix of residential development; and, • The majority of the project area is envisioned as a transitional area from higher intensity uses such as commercial or industrial to lower intensity uses such as single family

			residential; and, <ul style="list-style-type: none"> • That, if subdivided, is not determined to be ‘premature’ under Chapter 11 of the City Code.
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Type of PUD	Required Conditions	Standards Considered	Where Permitted
PUD, Traditional Neighborhood Design	<p>A primarily residential development site design plan and/or plat with or without a subordinate commercial component that includes a transfer of allowable net density from one portion of the PUD to another or an increase in density as a means of creating a traditional neighborhood reminiscent of neighborhoods within the original townsite which often feature buildings forward on lots, rear or alley loading garages, front porches, front sidewalks/walks, smaller lot sizes, reduced setbacks and lots which frame streets and/or public ‘greens’.</p> <p>Traditional neighborhood design concepts may include a combination of commercial and residential uses on separate parcels within one neighborhood design.</p>	<p>As a result of approved density transfers or increases:</p> <ul style="list-style-type: none"> • Requirements of the underlying zoning district related to: lot area, lot size, lot coverage, lot width, and lot depth may be decreased. • Setbacks may be reduced as per Subd. 7.D. of this Section. • In addition, the width requirements for local streets and right of way required under Chapter 1130 of the City Code (Subdivision/Platting Standards Design Standards as amended) may be reduced under Subd. 7.D. of this Section. 	<p>Subject to verification of a public benefit and approval of the use of PUD by the City Council, Traditional Neighborhood Design PUDs are allowed within the R-2 Medium Density Single Family Residential District, the R-3 Medium Density Mixed Residential District, the R-4 Multiple Family Residential District, the RC-1 Residential Neighborhood Commercial District, the C-3 Downtown District, or any combination thereof, providing:</p> <ul style="list-style-type: none"> • The development consists of separate parcels within a master planned area which is intended to eliminate blight, deteriorated structures, or incompatible uses within a previously built-up urban area through redevelopment or rehabilitation; and, • That, if subdivided, is not determined to be ‘premature’ under Chapter 11 of the City Code.

Type of PUD	Required Conditions	Standards Considered	Where Permitted
PUD, Non-Residential Single Use	A non-residential single use (commercial, industrial, or institutional) development site design plan and/or plat that includes a transfer of allowable net density from one portion of the PUD to another provided at least one public benefit is demonstrated. Density increases are not allowed.	<p>As a result of approved density transfers:</p> <ul style="list-style-type: none"> • Requirements of the underlying zoning district related to: lot area, lot size, lot coverage, lot width, and lot depth may be decreased. • Setbacks may be reduced as per Subd. 7.D. of this Section. • In addition, the width requirements for local streets and right of way required under Chapter 1130 of the City Code (Subdivision/Platting Standards Design Standards as amended) may be reduced under Subd. 7.D. of this Section. • In the event low impact development standards are proposed, the City may allow alternatives to traditional roll-over or high back curbing as required under Chapter 1150 of the City Code (Subdivision/Platting Standards, Required Improvements as amended). 	<p>Subject to verification of a public benefit and approval of the use of PUD by the City Council, Non-Residential Single Use PUDs are allowed within the any commercial, industrial, or public/institutional district, providing:</p> <ul style="list-style-type: none"> • The entire project area consists of a commercial, an industrial, or a public/institutional use and not a combination thereof; and, • That, if subdivided, is not determined to be 'premature' under Chapter 11 of the City Code.

- B. A PUD may be comprised of one or more of the above types, subject to compliance with allowable uses within the underlying zone(s) in which the PUD is proposed to be located, the standards contained in Subd. 6.A. above, and all other requirements of this Section.
- C. Prohibited Planned Unit Developments. Any type not identified by the City Council as reasonably similar to those expressly allowed are prohibited from qualifying for PUD overlay status and must conform to the standards of the City of Norwood Young America Zoning and Subdivision Ordinances.

Subd. 7 General Requirements for all PUDs.

- A. Ownership. An application for PUD approval must be filed by the landowner or jointly by all landowners of the property included in a project. The application and all submissions must be directed to the development of the property as a unified whole. In the case of multiple owners, the approved final plan shall be binding on all owners.

- B. The design of a PUD shall take into account the relationship of the site to the surrounding areas. The perimeter of the PUD shall be so designed as to minimize the impact of the PUD on adjacent properties and, conversely, to minimize the impact of adjacent land use and development characteristics on the PUD.
- C. Comprehensive Plan Consistency. The proposed PUD shall be consistent with the City's Comprehensive Land Use Plan.
- D. The PUD plan shall contain provisions to assure the continued operation and maintenance of such open space, common areas, amenities, preservation areas, and service facilities to a pre-determined reasonable standard. Common areas, open space, amenities, and/or preservation areas shall be held in perpetuity through:
 - 1. Dedication to the public, where a community-wide use is anticipated and the Council agrees to accept the dedication;
 - 2. Landlord control, where only the use by tenants is anticipated;
 - 3. Placement in a conservation or similar easement; or a
 - 4. Property Owners Association, provided all of the following conditions are met:
 - a. Prior to the use or occupancy or sale or the execution of contracts for sale or rental of an individual building unit, parcel, tracts, townhouse, apartment or common area, a declaration of covenants, conditions and restrictions shall be filed with the City.
 - b. The declaration of covenants, conditions and restrictions or equivalent documents shall specify that deeds, leases or documents of conveyance affecting buildings, units, parcels, tracts, townhouses or apartments shall subject said properties to the terms of said declaration.
 - c. The declaration of covenants, conditions and restrictions shall provide that an owners association or corporation shall be formed and that all owners shall be members of said association or corporation which shall maintain all properties and common areas in good repair and which shall assess individual property owners proportionate shares of joint or common costs. This declaration shall be subject to the review and approval of the City Attorney. The intent of this requirement is to protect the property values of the individual owner through establishing private control.
 - d. The declaration shall additionally, among other things, provide that in the event the association or corporation fails to maintain properties in accordance with the applicable rules and regulations of the City or fails to pay taxes or assessments on properties as they become due and in the event the City incurs any expenses in enforcing its rules and regulations, with said expenses are not immediately reimbursed by the association or corporation, then the City shall have the right to assess each property its prorata share of said expenses. Such assessments, together with interest thereon and costs of collection, shall be a lien on each property against which each such assessment is made.
 - e. Membership must be mandatory for each owner and any successive buyer.
 - f. The common area, open space, amenity, and/or preserved area restrictions must be permanent and not for a given period of years.
 - g. The Association must be responsible for liability insurance, local taxes, and the maintenance of the open space facilities to be deeded to it.
 - h. Property owners must pay their prorata share of the cost of the Association by means of an assessment to be levied by the Association which meets the requirements for becoming a lien on the property in accordance with Minnesota Statutes.

- i. The Association must be able to adjust the assessment to meet changed needs.
 - j. The by-laws and rules of the Association and all covenants and restrictions to be recorded must be approved by the Council prior to the approval of the final PUD plan.
5. Whenever possible, common open space shall be linked to the open space areas of adjoining developments. Common open space shall be of such size, shape, character, and locations as to be useable for its proposed purpose.
6. To prevent the appearance of excessive structural bulk, a single structure shall not have a single exterior wall longer than forty (40) feet without an offset in the exterior wall height or depth. The employment of windows and doors may be substituted for offsets in wall height or depth if approved by the City Administrator and provided such windows/doors are designed in a manner which is substantially consistent with the windows/door styles employed in the building front (entry).
7. Building Height. Building height shall be governed by the requirements of the underlying zone district classification.
8. All permitted, permitted accessory and or conditional uses contained in the underlying zoning district shall be allowed uses in PUD overlay district. Uses not listed as permitted or conditional in the underlying zoning district(s) shall be prohibited unless the City Council finds the use is complimentary to the functionality of the development and the other uses found therein.
9. Off-street parking and loading space shall be provided in each PUD in the same ratios for types of buildings and uses as required in the underlying zoning district. However, the City may reduce the number of parking spaces required provided PUD applicants submit information reasonably demonstrating a reduced need for parking facilities, including but not limited to, senior housing complex, PUD's featuring joint parking facilities, submittal of a parking study, and, proximity to and availability of bus service coupled with transit-friendly design.
10. The streets connecting with any planned unit development must be of sufficient size and character to accommodate the traffic to be produced by the project. The streets connecting with any PUD shall not significantly alter the character of existing residential neighborhoods. Evaluation of the proposal pursuant to this section shall include consideration of:
 - a. The increase in traffic which will be generated by the development;
 - b. The present width and condition of streets to be affected;
 - c. Presence or absence of improved sidewalks;
 - d. Potential impacts upon the value of surrounding properties;
 - e. Anticipated effect upon availability of parking;
 - f. Existence of a particular conflict between vehicular and pedestrian traffic; and,
 - g. The street type designated in the comprehensive plan.
11. The required right-of-way width for streets with a functional classification of 'local' may be reduced up to 30% provided the proposed width is adequate to accommodate pavement width and other improvements required within the right-of-way. In exchange relief in required paved portions of streets, parking may be restricted on one or both sides streets with reduced right-of-way widths. The minimum paved width available for

vehicular travel shall not be less than 24 feet so as to provide adequate clearance for emergency vehicles.

12. Utilities. In any PUD, all utilities, including telephone, electricity, gas, and telecable shall be installed underground.

13. Setbacks.

- a. The front, side and rear yard restrictions of the periphery of the PUD site at a minimum shall be the same as imposed in the respective districts as illustrated in the Table below.
- b. No building shall be located less than twenty (20') feet from the front property line along streets within the PUD.
- c. No building within a PUD shall be located less than five (5) feet from the side property line, except that:
 - i. Attached units may share lot lines.
 - ii. Structures with an underlying zoning of C-3 may share lot lines.
 - iii. Structures exceeding two (2) stories or thirty (30) feet in height, whichever is less, shall be setback an additional one-half (1/2) foot for each one (1) foot of building height.
- d. No building within a PUD shall be located less than ten (10) feet from the rear property line.
- e. No building within the project shall be nearer to another building than ten (10) feet.

Subd. 8 Subdivision Requirements.

- A. The approval of a subdivision shall be required of all projects which involve or contemplate the platting or replatting of land.
- B. Property currently described by metes and bounds shall be platted if contemplated for development as a PUD.
- C. The procedures and data requirements set forth in the Subdivision Ordinance shall be followed concurrently with the PUD standards. The Community Development Director may waive requirements determined to be redundant.
- D. Required data, parkland/fee in-lieu of parkland dedication, design standards and required improvements shall be the same as per a conventional subdivision and as set forth within the City's Subdivision Ordinance unless changes to design standards are permitted under this Section.
- E. Consideration of applicability of parkland dedication standards, shall take into consideration the Developer's contribution in the form of a public benefit(s) and shall be reduced accordingly.

Subd. 9 Phased Development.

- A. Development of a PUD may be phased, in which case each complete phase may be processed separately through both preliminary development plan review and final development plan review, subject to the following.

1. The Developer shall submit a map illustrating all property owned or controlled by the Developer which is contiguous to the development site or which is within the area

determined by the City to be relevant for comprehensive planning and environmental assessment purposes.

2. A map with a conceptual plan of said properties' eventual development through all potential phases shall be submitted with the application for the first phase. The conceptual plan shall conform to the purposes of this chapter and shall be used by the city to review all phases of the development. All phases of the development shall conform to the conceptual plan, all conditions of approval, and applicable regulations

- B. A Master PUD and/or Subdivision Agreement shall be required for all phased projects. The Master PUD and/or Subdivision Agreement shall be in addition to Developer or Development Agreements required for individual phases.

Subd. 10 PUD Development Process: Informational Meeting and Concept Plan Required; Preliminary and Final Plan Required.

- A. Prior to contemplating any development, including conceiving or drafting conceptual plans, the applicant of the proposed PUD shall arrange for and attend an informational meeting with City staff. At such conference, the City Administrator shall describe City planning documents, ordinances, and policies applicable to the subject parcel(s). The primary purpose of the meeting shall be to provide the applicant with an opportunity to gain an understanding of City expectations concerning the subject parcel and the potential flexibility in design and development standards under a PUD versus conventional development. The pre-application meeting is specifically required prior to conceiving or drafting conceptual plans so as to provide guidance as to City planning documents, ordinances, and policies relating to specific parcel(s) prior to the Developer incurring substantial expense in the preparation of plans, surveys, and other data.
- B. Following the pre-application meeting but prior to submitting a preliminary plan/plat application, the Developer shall submit to the City a general concept plan. The general concept plan shall be reviewed by the Community Development Director, the Planning Commission, and the City Council. The general concept plan provides an opportunity for the applicant to submit a plan to the City showing their basic intent and the general nature of the entire development without incurring substantial cost and after being informed of City plans, ordinances, and policies relating to the subject parcel(s) at the pre-application meeting. The following elements of the proposed general concept plan represent the immediate significant elements which the City shall review and for which a decision shall be rendered regarding the suitability of a PUD for the subject parcel(s):

1. Public benefit contemplated.
2. Type of PUD contemplated.
3. Overall maximum PUD density range.
4. General location of major streets and pedestrian walkways.
5. General location and extent of public and/or common open space.
6. Preservation areas.
7. General location of residential and non-residential land uses with approximate intensities of development.
8. Staging and timetable of development.
9. Other special criteria for development.

C. Preliminary PUD and Final PUD Plan Required.

1. Each PUD shall require preliminary and final plan approval.
2. The preliminary development plan and the final development plan may be combined and together processed through review as a final development plan. In addition the applicant may file a concurrent rezone application in accordance with the procedures set forth in the zoning ordinance.
3. The approved final development plan shall be a binding site plan.

Subd. 11 Preliminary PUDs- Content of Complete Application

- A. The applicant shall file with the City a preliminary development plan (five large scale copies, one 11 X 17 reproducible copy, and one electronic copy).
- B. The data submittal requirements of the following Table entitled “*Table of Data Submittal Requirements*” for preliminary PUD Plans shall apply.
- C. Text describing conditions or features which cannot be adequately displayed on maps or drawings;
- D. A narrative stating how the proposed development complies with the goals and policies of the Comprehensive Plan;
- E. A narrative stating how the proposed plan impacts adjacent property owners;
- F. A narrative describing in factual terms the public benefit of the proposed PUD;
- G. A narrative describing proposed operation/maintenance of the development including open areas, preservation areas, stormwater features and recreational facilities resulting from the subdivision;
- H. Information normally required within the underlying zoning classification relating to site plan review.
- I. Other information required by the City.

Subd. 12 Table of Data Submittal Requirements.**TABLE OF DATA SUBMITTAL REQUIREMENTS**

X = required at indicated review stage

Item Description	Preliminary PUD Plan	Preliminary Plat	Final PUD Plan	Final Plat
General Information				
Name, address of owner and applicant	X	X	X	X
Name, license number, address, and signature of persons involved in preparation of the plan/plat (i.e. architect, surveyor, engineer)	X	X	X	X
Title block	X	X	X	X
Key map showing location of tract with reference to surrounding area	X	X	X	X
A listing of required and proposed performance standards including lot area, width, depth, setbacks, lot coverage, and	X	X	X	X

TABLE OF DATA SUBMITTAL REQUIREMENTS

X = required at indicated review stage

Item Description	Preliminary PUD Plan	Preliminary Plat	Final PUD Plan	Final Plat
required parking.				
North arrow and scale	X	X	X	X
Proof taxes are current	X	X	X	X
Appropriate certification blocks		X		X
Existing and proposed legal descriptions		X		X
Acreage of tract	X	X	X	X
Location and dimensions of existing and proposed streets	X	X	X	X
Proposed lot lines and area of lots in square feet	X	X	X	X
Existing or proposed deed restrictions or covenants	X	X	X	X
Existing or proposed easements or land reserved for or dedicated to public use	X	X	X	X
Proposed development staging or timeline for development	X	X	X	X
List of required regulatory approvals or permits	X	X	X	X
Requested or obtained variances	X	X	X	X
Requested or obtained rezoning	X	X	X	X
Payment of application fee	X	X	X	X
Setting & Environmental Information				
Property boundaries of all parcels within 200' of the subject parcel	X	X	X	X
Existing streets, water courses, flood plains, wetlands, or other environmentally sensitive areas on and within 200 feet of the subject site	X	X	X	X
Existing rights-of-way and/or easements on and within 200' of the subject site	X	X	X	X
Topographical features of the subject property	X	X	X	X
Existing and proposed contour intervals for subject property and within 200' of the subject site	X	X	X	X
Boundary, limits, nature, and extent of wooded areas, specimen trees, and other significant physical features	X	X	X	X
Existing system of drainage of subject	X	X	X	X

TABLE OF DATA SUBMITTAL REQUIREMENTS

X = required at indicated review stage

Item Description	Preliminary PUD Plan	Preliminary Plat	Final PUD Plan	Final Plat
site				
Drainage area map	X	X	X	X
Drainage calculations	X	X	X	X
Percolation tests	X	X	X	X
Improvements & Construction Information				
Proposed utility infrastructure plans, including sanitary sewer, water, and storm water management	X	X	X	X
Soil erosion and sediment control plans	X	X	X	X
Spot and finished elevations at all property corners, corners of all structures or dwellings, existing or proposed first floor elevations	X	X	X	X
Construction details	X	X	X	X
Road and paving cross sections and profiles	X	X	X	X
Proposed street names	X	X	X	X
New block and lot numbers	X	X	X	X
Lighting plan and details	X	X	X	X
Landscape plan and details	X	X	X	X
Site identification signs, traffic control signs, and directional signs	X	X	X	X
Vehicular and pedestrian circulation patterns	X	X	X	X
Parking plan showing spaces, size and type, aisle width, curb cuts, drives, driveways, and all ingress and egress areas and dimensions	X	X	X	X
Preliminary architectural plan and elevations			X	X

Subd. 13 Process for Processing Preliminary PUD Plan.

- A. Following the pre-application meeting and following review of the concept plan, the applicant shall prepare a request for approval of the preliminary plan for the planned unit development, as provided within this Section. The request shall be filed with the City on an official application form. A fee as provided for by City Council Ordinance shall accompany such application.
- B. The Community Development Director shall review the application to determine whether or not the application and required material submissions are complete. The preliminary plan shall be considered as being officially submitted only when all of the information requirements are complied with and the appropriate fees paid. If the Community Development Director

determines the application is incomplete, the applicant shall be notified of all deficiencies in the application within fifteen (15) calendar days of receipt of the application. The Council shall approve or disapprove the preliminary plan within one hundred twenty (120) days following the receipt of a completed application in compliance with this Ordinance unless an extension of the review period has been approved.

- C. Upon receipt of the completed application the Community Development Director shall set a public hearing for public review of the preliminary plan by the Planning Commission. Notice of the hearing may be a legal or display advertisement and shall consist of a legal property description, description of the request, and shall be published in the official newspaper at least ten (10) days prior to the hearing. Written notification of the hearing shall be mailed at least ten (10) days prior to the hearing. Requests affecting and located within non-planted areas of the City shall be noticed to all property owners within three hundred fifty (350) feet of the property in question. A copy of the notice and a list of the property owners and addresses to which the notice was sent shall be attested and made a part of the records of the proceeding.
- D. Failure of a property owner to receive said notice shall not invalidate any such proceedings as set forth within this Section provided a bona fide attempt has been made to comply with the notice requirements of this Section.
- E. The Community Development Director shall prepare technical reports or cause such technical reports to be created. The Community Development Director shall provide general assistance in preparing a recommendation on the action to the Planning Commission. Technical reports may include those from the City Engineer, City Planner, Building Official, City Attorney, and public or private utility departments, and others.
- F. The Community Development Director or designee shall also refer copies of the plan map to the following individuals or bodies:
 - 1. City Engineer;
 - 2. City Attorney;
 - 3. School District;
 - 4. Commissioner of Transportation if the proposed planned unit development includes land abutting an established or proposed trunk highway;
 - 5. County Engineer if the proposed planned unit development includes land abutting a County or County State-Aid Highway;
 - 6. State Commissioner of Natural Resources if the proposed planned unit development adjoins a public body of water;
 - 7. The Watershed District Board, if applicable;
 - 8. Other City department heads as appropriate;
 - 9. Park and Recreation Commission;
 - 10. Planning Commission.
- G. The Park and Recreation Commission, Planning Commission, City Council, and City staff shall have the authority to request additional information from the applicant concerning the proposed planned unit development and its operational factors or impact, or to retain expert testimony with the consent and at the expense of the applicant concerning operational factors or impacts, when said information is to be declared necessary to establish performance conditions in relation to all pertinent sections of this Ordinance. Failure on the part of the applicant to supply all necessary supportive information may be grounds for denial of the request.
- H. The Planning Commission shall conduct a public hearing. The applicant or a designated representative thereof may appear before the Council at the public hearing in order to answer

questions concerning the proposed request. Following the closing of the public hearing, the Planning Commission shall take one of the courses of action:

1. Approval of the preliminary plan: as presented – with findings of fact.
 2. Conditional approval of the preliminary plan: conditions for approval and findings of fact itemized.
 3. Denial of the preliminary plan, with findings of fact.
 4. The Planning Commission may, at its discretion and with the approval of the applicant, postpone action on the matter pending further information from the applicant that will help it render a recommendation to the City Council. An extension of the preliminary plan review period (i.e. total of 120 days) may be necessary.
- I. The Community Development Director shall notify the applicant of the Planning Commission's recommended action together with the findings of fact for such recommended action and what requirements, if any, will be necessary for the Planning Commission to recommend approval of the Plan. The recommended approval of the Preliminary Plan does not constitute an acceptance of the planned unit development.
- J. Following review by the Planning Commission, the request shall be scheduled for review by the City Council.
- K. City Council Action:
1. The reports and recommendations of City staff, Park and Recreation Commission and the Planning Commission shall be entered in and made part of the permanent written record of the City Council meeting.
 2. The Council shall approve or disapprove the preliminary plan within one hundred twenty (120) days following delivery of an application completed in compliance with this Ordinance unless an extension of the review period has been agreed upon by the applicant and the City.
 3. When the preliminary plan is approved, conditionally approved or denied by the City Council, the findings of fact for such action shall be recorded in the proceedings of the Council and shall be transmitted in writing to the applicant. If the preliminary plan is approved or conditionally approved, such approval shall not constitute acceptance of the final design and layout. Subsequent approval will be required of the engineering proposals and other features and requirements as specified by this Ordinance to be indicated on the final plan. The City Council may impose such conditions and restrictions as it deems appropriate or require such revisions or modifications in the preliminary plan or final plan as it deems necessary to protect the health, safety, comfort, general welfare and convenience of the City.
- L. Preliminary PUD, Criteria For Approval
1. Preliminary PUD approval shall be granted by the City only if the applicant demonstrates:
 - a. The proposed project shall not be detrimental to present and potential surrounding land use.
 - b. There is a factual and defined public benefit.
 - c. Land surrounding the proposed development can be planned in coordination with the proposed development and can be developed so as to be mutually compatible.

- d. Streets and sidewalks, existing and proposed, are suitable and adequate to carry anticipated traffic within the proposed project and in the vicinity of the proposed project, in light of the criteria set forth in the Subdivision Ordinance and the Comprehensive Plan.
 - e. Services including potable water, sanitary sewer and storm drainage are available or can be provided by the development prior to occupancy.
 - f. Each phase of the proposed development, as it is planned to be completed, contains the required parking spaces, recreation spaces, landscape and utility areas necessary for creating and sustaining a desirable and stable environment.
 - g. The project conforms with the purpose of this Section and the standards prescribed herein.
 - h. The project conforms to the Comprehensive Plan.
 - i. The project determined not to be 'premature' for development.
2. Conformance with the design standards and required improvements as set forth within the Subdivision Ordinance.

Subd. 14 Minor/Major Changes to Approved Preliminary PUD Prior to Final PUD Approval.

- A. Proposed minor changes to an approved PUD do not require a public hearing and shall be incorporated into the application for final PUD approval, and any notification regarding such final PUD approval shall describe the proposed minor change(s). A "minor change" means any departure from the conditions of preliminary approval which is not a "major change" and includes but is not limited to the following:
 1. Revisions to number of dwelling units in an approved residential structure not increasing density;
 2. Revisions to number of non-residential structures not increasing density approved;
 3. Revisions to heights of buildings and other structures provided they do not exceed the standard contained in the underlying zoning district;
 4. Revisions to exact location of internal roads that do not alter the PUD design concept;
 5. Revisions similar in nature to those above as determined by the City.
- B. A proposed major change to an approved preliminary PUD shall require reapplication for preliminary PUD approval and any notification regarding such preliminary PUD approval shall describe the proposed major change or changes. A major change is any departure from the conditions of preliminary PUD approval which would result in any of the following:
 1. Revisions to the approved design concept;
 2. Revisions to the approved use(s);
 3. Revisions to approved public benefit(s);
 4. An increase in residential density;
 5. An increase in square footage of non-residential structures;
 6. A decrease in the amount of landscaping, site perimeter buffering, and open space that has the affect of altering the approved design concept as determined by the City; or
 7. An increase in traffic volumes or change in circulation patterns which impacts surrounding development that has the affect of altering the approved design concept as determined by the City.

Subd. 15 Final PUDs- Contents of Complete Application

- A. Unless otherwise approved within a Master PUD agreement, within 12 months following the approval of the preliminary PUD, the applicant shall file with the City a final PUD conforming to the approved preliminary PUD.
- B. The final PUD shall meet the data submittal requirements illustrated in the “*Table of Data Submittal Requirements*” contained in Section 1240.02.12 of this Section apply.
- C. The applicant shall submit with the final plan a current Abstract of Title or Registered Property Certificate, along with any unrecorded documents, and a Certificate of Title.
- D. When the City has agreed to install improvements in a development, the developer may be required to furnish a financial statement satisfactory to the City indicating the developer’s ability to develop the plan.
- E. In the event that development standards were submitted and approved as part of the preliminary development plan, development standards shall be made binding upon all future developers of the property in a manner acceptable to the city and may be submitted in lieu of elevation and perspective drawings of project improvements.

Subd. 16 Procedures for Processing a Final PUD Plan.

- A. Once a preliminary plan has been approved by the City Council, the developer may submit a request for final plan approval. In certain cases the City may allow a final plan to be submitted concurrent with a request for preliminary plan approval.
- B. The applicant shall prepare a request for approval of the final plan for the planned unit development filed with the City on an official application form. A fee as provided for by City Council Ordinance shall accompany such application. The application shall be accompanied by one (1) reduced scale (not less than 11”x17”) copy and an electronic copy of the final plan and supportive information in conformity with the requirements of this Ordinance. The final plan shall incorporate all changes, modifications and revisions required by the City, otherwise, it shall strictly conform to the approved preliminary plan.
- C. The Community Development Director shall review the application to determine whether or not the application and required material submissions are complete. The final plan shall be considered as being officially submitted only when all of the information requirements are complied with and the appropriate fees paid. If the Community Development Director determines the application is incomplete, the applicant shall be notified of all deficiencies in the application, in writing within fifteen (15) calendar days of receipt of the application. The Council shall approve or disapprove the final plan within sixty (60) days following the receipt of a completed application in compliance with this Ordinance unless an extension of the review period has been approved.
- D. Upon receipt of a final plan, copies shall be referred to the City Council, appropriate City staff and to all applicable utility companies, County and State agencies.
- E. Prior to approval of a final plan, the applicant shall have executed a Development Agreement with the City, which controls the installation of all required improvements and assures compliance with all conditions of approval unless determined unnecessary by the City Attorney. Said agreement will require all improvements and approval conditions to comply with approved engineering standards and applicable regulations.

- F. The City Council shall take action on a final plan not more than sixty (60) days after the final plan is filed with the City. If the final plan is not approved, the findings of fact for such action shall be recorded in the official proceedings of the City and shall be transmitted to the applicant.
- G. Required findings for final plan. The City Council shall make each of the following findings before granting final plan approval:
 - 1. The applicant demonstrates that the final PUD substantially conforms to the approved preliminary PUD and any/all conditions for approval of the preliminary plan. For the purposes of this section, “substantially conforms” means that, as compared to the preliminary PUD, the final PUD contains no revisions in density, uses, design or development standards or in the site plan, other than the minor changes.
 - 2. All submission requirements have been satisfied.
 - 3. The plan conforms to all applicable requirements of this Section, subject only to approved rule exceptions.
- H. The applicant shall be notified by the City of the City Council’s action together with the findings of fact for such action.
- I. Final PUD, Extension of Filing Period. For good cause shown, the City, at its discretion, may grant an extension of time of one year for filing the final PUD and required accompanying papers, and may grant additional one-year extensions; provided, however, the city shall have the right to re-examine and update any conditions made to mitigate development impact.
- J. Final PUD, Failure to File, Termination.
 - 1. In the event the final PUD or any required attendant papers are not filed within twelve (12) months following approval of a preliminary PUD. The approval of the preliminary PUD shall lapse unless extended and the approval shall be deemed null and void and without force or effect.
 - 2. When it is determined as part of the preliminary PUD approval that the final PUD is to be phased, the final PUD for the first phase shall be submitted within twelve (12) months of preliminary approval. The final development plan for each subsequent phase shall be submitted within the schedule established at the time of preliminary PUD approval.
 - 3. The time period for filing of final PUDs shall not include periods of time during which progress on the final PUD was reasonably halted or delayed due to the filing and pendency of legal actions challenging an approval granted by the city pursuant to this chapter; provided, that in all cases when more than two years have elapsed subsequent to the date of approval of a preliminary PUD the permittee shall be required to comply with all current building, construction, subdivision and other applicable standards of the city prior to being granted approval of the final PUD; provided, that a change in zoning district classification enacted subsequent to approval of the final development plan shall not affect the project.

Subd. 17 Adjustments to Final PUD Plan.

- A. The Community Development Director is authorized to allow adjustments in accordance with Section 1240.02.17, Subdivision 2 (which immediately follows this Section) of this Ordinance. The Community Development Director shall allow only such adjustments as are consistent with guidelines established in Subdivision 2 of this section, and in no case shall an adjustment be allowed if it will increase the total amount of floor space authorized in the approved final PUD, or the number of dwelling units or density, or decrease the amount of

parking or loading facilities or permit buildings to locate substantially closer to any boundary line or change substantially any point of ingress or egress to the site.

B. For the purposes of this section, “adjustments” means any departure from the conditions of final PUD approval which complies with the following criteria:

1. The adjustment maintains the design intent, public benefit, and integrity of the original approval;
2. The amount of landscaping, buffering, and open space shall not be reduced;
3. The number of dwelling units in residential developments and the square footage of non-residential structures shall not increase;
4. The adjustment shall not relocate a building, street, or other use so as to alter the design concept;
5. The adjustment shall not reduce any required yard and/or setback;
6. The height of buildings and other structures provided they do not exceed the standard contained in the underlying zoning district;
7. Views from structures on-site and off-site shall not be substantially reduced;
8. Traffic volumes shall not increase and pedestrian and vehicular circulation patterns shall not substantially change;
9. Minor changes in colors, plant material and parking lot configurations may be approved;
10. The adjustment does not add significant new environmental impacts or significantly increase environmental impacts disclosed in the original documents;
11. The Community Development Director determines that the change will not increase any adverse impacts or undesirable effects of the project, or that the change in no way significantly alters the project.

Subd. 18 Financial Guarantee Required. No final PUD shall be implemented until the applicant files an adequate financial guarantee with the City. The Financial Guarantee shall be determined to be adequate provided it is consistent with that required under the Subdivision Ordinance.

Subd. 19 Operation and Maintenance Requirements.

- A. Whenever common open space or service facilities are provided within the PUD, the PUD plan shall contain provisions to assure the continued operation and maintenance of such open space and service facilities to a predetermined reasonable standard.
- B. Staging of common open space. The construction and provision of all common or public open space and/or public improvements and recreational facilities that are shown on the final development plan for a PUD must proceed at the same rate as the installation of improvements. The total area of common or public open space or land escrow security in any stage of development shall, at a minimum, bear the same relationship to the total open space to be provided in the entire PUD as the stages or units completed or under development bear to the entire PUD.

Subd. 20 Building Permits, Certificates of Occupancy. The City shall issue building permits for buildings and structures which conform with the approved final PUD and with all other applicable City ordinances and regulations. The City shall issue a certificate of occupancy for completed buildings or structures which conform to the requirements of the approved final PUD and all other applicable city ordinances and regulations. The construction and development of all the open spaces

and public and recreational facilities of each project phase must be completed or bonded before any certificate of occupancy will be issued.

Subd. 21 Extension of Construction Timeline. For good cause shown, the City, at its discretion, may grant one extension of time for commencement or continuation of construction subsequent to approval of the final PUD.

Subd. 22 Termination of PUD, Failure to Commence or Continue Construction.

- A. If the construction has not been started within five years from the date of approval of a final PUD with an associated subdivision, or two years from the date of approval of any other final PUD, or if construction has been commenced but the work has been abandoned for a period of one year or more, and if no extension of time has been granted as provided in herein, the authorization granted for the planned unit development project shall terminate and all permits and approvals issued pursuant to such authorization shall expire and be null and void.
- B. The time period of commencing or continuing construction shall not include periods of time during which commencement of construction or continuation of construction was reasonably halted or reasonably delayed due to the filing of a pendency of legal action challenging an approval granted by the City pursuant to this chapter; however, in all cases, when more than five years have elapsed subsequent to the date of approval of a final PUD with associated subdivision, or more than two years have elapsed subsequent to the date of approval of any other final PUD the permittee shall be required to comply with all current building, construction, subdivision and other applicable standards of the City; provided, that a change in zoning district classification enacted subsequent to approval of the final development plan shall not affect the project.

Subd. 23 Sale of Lots. Lots in a platted planned unit development may be sold to separate owners according to the separate lots as shown in the plat filed and approved in connection therewith. No sale shall be permitted which subdivides a lot in such a manner as to create a new lot line except as provided in the subdivision ordinance, minor subdivision standard.

Subd. 24 Lots Subject to Final PUD. All lots or other divisions of a subdivided planned unit development shall remain subject to compliance with the final development plan regardless of the fact of subdivision in compliance with the subdivision ordinance or lot(s)/division(s) of a subdivided PUD were subsequently conveyed.

Section 1245- Supplementary District Regulations

1245.01 Performance Standards.

Subd. 1 Purpose. Performance Criteria establish specific and quantifiable limitations on identified types of pollution and other activities, which have a high nuisance potential. The performance standards apply in all zoning districts unless specifically stated to the contrary.

Subd. 2 Noise and Vibration. Noises emanating from any use shall be in compliance with and regulated by the standards of the Minnesota Pollution Control Agency. Any use established or remodeled after the effective date of this Ordinance shall be so operated to prevent vibration

discernible at any point beyond the lot line of the site on which such use is located. The City may also limit the hours of operation of outdoor noise if it is deemed necessary to reduce impacts on the surrounding neighborhoods. Ground vibration and noise caused by motor vehicles, trains, aircraft operations or temporary construction or demolition shall be exempt from these regulations. However, if deemed appropriate, the City may establish limits on the hours of operation of temporary construction or demolition operation to limit off-site impacts.

Subd. 3 Smoke and Particulate Matter. No use shall produce or emit smoke, dust or particulate matter exceeding applicable regulations established by the Minnesota Pollution Control Agency at any point beyond the lot line of the site on which the use is located.

Subd. 4 Odor. No use shall produce unreasonable or disturbing odors beyond the property line exceeding applicable regulations established by the Minnesota Pollution Control Agency.

Subd. 5 Sewage and Water Facilities. All new developments shall be connected to City sewer and water facilities.

Subd. 6 Refuse. All waste material, debris, refuse, or garbage shall be kept in an enclosed building or property contained in a closed container designed for such purposes. The owner of vacant land shall be responsible for keeping such land free of refuse.

Subd. 7 Radioactivity, Electrical, Toxic or Noxious Disturbance. No activity shall emit dangerous radioactivity at any point, or electrical disturbances adversely affecting the operation of any equipment at any point other than that of the creator of such disturbance, nor any concentration of toxic or noxious matter across the property line which exceeds applicable regulations of the Minnesota Pollution Control Agency.

1245.02 Architectural Standards and Guidelines in the Residential Neighborhood Commercial and Downtown Districts.

Subd. 1. Purpose and Intent. It is the intent of the City to promote and encourage high standards of creative, traditionally based, architectural design in the Residential Neighborhood Commercial and Downtown Districts. New development within the Districts shall comply with the following design standards and guidelines. The restoration, remodeling and/or expansion of existing buildings shall, to the maximum extent possible, bring exterior facades back to the appearance they had when they were originally constructed, or maintain a similar architectural style to the original construction, or comply to the extent possible with these design standards and guidelines.

Subd. 2. Standards and Guidelines.

- A. *Setbacks.* Property owners shall construct new development or significant redevelopment to the property line for front facades. For corner buildings, this applies to each façade that fronts a public street.
- B. *Building width.* Buildings more than 45 feet in width are encouraged to be divided into smaller increments through the articulation of facades.
- C. *Building height.* Building height shall be at least 24 feet and shall not exceed four stories or 45 feet. Buildings less than two stories shall be designed so that the main floor frontage is

visually distinct from the upper portion of the building. The addition of windows in the upper portion is encouraged.

- D. *Ground level.* The ground level of multistory structures shall be visually distinct from the upper stories. This distinction can be achieved a number of ways including an intermediate cornice line, awning, arcade or portico, change in building materials or detailing or a change in window shape or treatment. All ground-level equipment shall be screened using fencing or vegetation. Windows and doors shall comprise at least 50 percent of the length and at least 30 percent of the area of the ground-level façade facing a public street. Reflective glass is not permitted.
- E. *Roof design.* Flat or pitched roofs, or combinations of these, may be used. Pitched roofs should have a minimum roof pitch of one foot rise to four feet of run. Flat roofs shall be defined with an ornamental parapet or cornice.
- F. *Building materials.* Buildings shall be constructed of high-quality materials. The following list is allowed for primary materials:
 - 1. Brick
 - 2. Natural Stone
 - 3. Wood consisting of horizontal lap siding with a painted surface.
 - 4. Precast concrete units and concrete block, provided that surfaces are molded, serrated or treated with a textured material.
 - 5. Transparent glass

Accent materials shall not consist of more than 20 percent of the building's face, and include the following:

- 1. Metal
- 2. Glass block
- 3. Spandrel glass
- 4. Other materials as approved by the planning commission.

The following materials are prohibited:

- 1. Plain or painted concrete block
 - 2. Tip-up concrete panels
 - 3. Prefabricated steel or sheet metal panels
 - 4. Aluminum, vinyl, fiberglass, asphalt or fiberboard siding.
 - 5. Pole buildings
- G. *Building colors.* Building colors shall consist of subtle, neutral or muted colors with low reflectance. Recommended colors include browns, grays, tans, beiges, and dark or muted green, blues and reds. No more than two principal colors shall be used on a façade. Bright, white or primary colors shall be used only as accents.
 - H. *Building lighting.* Buildings shall be lit with external lighting consistent with the style, materials and details of the building.
 - I. *Vacant buildings.* Vacant buildings in the downtowns shall be kept up so that the visual appearance does not deteriorate and the building does not become hazardous. Windows shall be maintained as if the building were occupied and shall not be boarded up.
 - J. *Signs.* Signs in the Residential Neighborhood Commercial and Downtown District are regulated in Section 1260. Signs should be architecturally compatible with the style, compositions, materials, colors and details of the building.

1245.03 Architectural Standards and Guidelines for Commercial and Business Industrial.

Subd. 1 Purpose and Intent. The City of Norwood Young America recognizes that the visual character of the City is an important attribute of its quality of life. The City intends that all commercial, and business-industrial development within the City should strive towards the highest level of quality in both design and construction. The architectural standards and design guidelines have been established to guide the quality, character and compatibility of new development and redevelopment within the City.

Subd. 2 Applicability. The provisions of this Section shall apply to all new construction of commercial, business industrial, office/institutional and multifamily development. Within each zoning district, the standards shall be in addition to the underlying requirements. The following activities are exempt from design review unless staff determines that the project creates a significant change in the design characteristics of the development:

- A. Internal alteration to buildings that do not result in a change to the building height, roof line or footprint.
- B. Replacement or repair of existing materials
- C. The standards shall apply only to the building or site elements being developed or altered.

Subd. 3 Building Material and Detail.

- A. *Exterior Wall Finish.* All exterior wall finishes on any building structure shall be constructed of the following materials or combination of materials:
 - 1. Brick
 - 2. Stone
 - 3. Glass
 - 4. Textured masonry units
 - 5. Wood, consisting of lap siding and painted
 - 6. Stucco
 - 7. Tilt up concrete panels
 - 8. Prefabricated steel or sheet metal panels or pre-engineered buildings for Permitted Industrial Uses in the B-1 District only, assuming that permitted materials listed in 1-7 above shall occupy 100% of the street-facing side(s) of the building and the lot shall be landscaped as required by the City which solely reserves the right to require additional landscaping in exchange for allowing the pre-engineered or prefabricated application. Commercial uses (retail or service occupying fifty percent or more of the site) are specifically excluded from this clause (1245.03, A, 10) as may be amended.
 - 9. Fiber cement or cement/concrete board lapsiding
 - 10. Metal subject to the following limitations:
 - a. Aluminum is prohibited in any form.
 - b. Minimum metal gauge of 24.
 - c. Concealed fasteners required.
 - d. Horizontal application is required, that is lapsiding versus vertical steel panel.
 - e. When façade of the building faces a public right of way; a minimum of twenty-seven percent (27%) of the façade must be transparent (e.g. window, door openings) and twenty-five percent (25) must be an accent material consisting of brick, stone, textured masonry units, or stucco.
 - f. Portions of facades not facing public streets are exempt from subsection (e) relating

to transparency and accent material.

- g. Metal roofing shall feature standing seams, concealed fasteners, and guards above building openings to prevent snow from accumulating in entrances.

Accent material may occupy up to 25 percent of the building's façade. These may include:

1. Metal
2. Glass Block
3. Spandrel glass
4. Similar materials as approved by the City

The following materials may not be used in any visible exterior application except when specifically permitted by the City in areas with limited public view or accent areas:

1. Unadorned plain or painted concrete block
2. Painted brick
3. Unfinished, corrugated, or galvanized metal panels.
4. Reflective glass
5. Aluminum, vinyl, fiberglass, asphalt or fiberboard siding

- B. *Color.* Colors shall be harmonious and consist of muted colors with low reflectance. Recommended colors include browns, grays, tans, beiges and dark or muted greens, blues and reds. Bright or brilliant colors and sharply contrasting colors may be used only for accent purposes.
- C. *Horizontal Articulation.* To avoid long unbroken expanses, building of more than 40 feet in width shall be divided into smaller increments through articulation of the façade. This can be achieved through combinations of the following techniques:
 1. Façade modulation- stepping back or forward or extending a portion of the façade.
 2. Vertical divisions using different textures or materials.
 3. Variation in the rooflines by alternating dormers and stepped roofs, gables or other roof elements to reinforce the modulation or articulation intervals.
- D. *Ground-level Articulation.* The ground level of any multi-story structure shall be visually distinct from the upper stories. This can be achieved through the use of one or more of the following techniques. Others that may meet the objective shall be reviewed and approved by the Planning Commission:
 1. An intermediate cornice line
 2. A sign band
 3. An awning arcade or portico
 4. A change in the building materials, texture or detailing
 5. A change in window shape or treatment
- E. *Entries.* The main entrance should always face the primary street and shall be placed at grade. Main entries shall be designed with one or more of the following:
 1. Canopy, portico, overhang or arch above the entrance
 2. Recesses or projections in the building façade surrounding the entrance
 3. Peaked roof or raised parapet over the door
 4. Display windows surrounding the entrance
 5. Architectural detailing such as tile work or ornamental moldings
- F. *Building Placement.* All buildings in the General Commercial District shall be located as close as possible to the front yard setback line and building entrances shall be as close as

possible to abutting streets. Parking shall be to the rear or side of the building to the greatest extent possible.

- G. Pre-fabricated and/or pre-engineered buildings are prohibited in the C-2 and B-I Districts, except as provided under 1245.03, Subd. 3, A, 10. Pre-fabricated buildings are those primarily built in a factory off-site and then shipped to and assembled on site. Pre-engineered buildings are products generally designed by manufacturers according to standard design models as opposed to buildings designed by a stand-alone architect and project engineer who select/employ materials from a variety of independent sources for the specific needs of the property and building.

Subd. 4 Loading and Refuse Areas. Screening of service yards, refuse, and waste-removal areas, loading docks, truck parking areas, and other areas which tend to be unsightly shall be accomplished by use of walls, privacy fencing, dense planting, or any combination of these elements. Screening shall block views from public right-of-way.

Subd. 5 Lot Frontage and Parking Location.

- A. *Highway 212 and Highway 5 Corridor.*
1. In any lot that abuts Highway 212 or Highway 5, directly, the lot line abutting the highway shall be considered the front lot line.
 2. In any lot that abuts either an access boulevard parallel to Highway 212 or Highway 5, the lot line abutting the boulevard shall be considered the front lot line.
 3. The majority of parking shall be located to the side or rear yards of the building.
- B. *All other non-commercial districts listed under the provisions of this section.* Parking areas should be distributed around large buildings in order to shorten the distance to the entrance and to other buildings and reduce the overall scale of the paved surface. No more than 50 percent of the parking area for the site shall be located between the front façade of the principal building and the primary abutting street.

Subd. 6 Franchise Architecture. Franchise architecture (building design that is trademarked or identified with a particular chain or corporation and is generic in nature) shall be incorporated in such a manner to comply with the design standards of this Section.

1245.04 Accessory Structures

Subd. 1 Purpose. The intent of this section is to establish the minimum regulations for accessory structures in order to protect the public health, safety and welfare; to protect use areas; to promote orderly development; to provide adequate light, air, and convenience of access to property; to provide for compatibility of different uses; to prevent overcrowding of land and undue concentration of structures.

Subd. 2 General Provisions.

- A. *Setbacks.* Detached accessory structures shall be located in the side or rear buildable lot area subject to meeting the setback requirements. Unenclosed Decks, Porches, and Patios are permissible in the front yard subject to meeting the setback requirements.
- B. *Aggregate Coverage Limitation.* In the R-1, R-2, R-3, R-4 and RC-1 Districts, the sum of the building area of all garages, utility buildings and other detached accessory structures shall not exceed a total of:

Lot Area (in square feet)	Maximum Total Floor Area of all Accessory Structures*	Maximum Number of Detached Accessory Structures
10500 and smaller	1,000 square feet	Two
10,501 to 21,780	1,200 square feet	Two
21,781 to 43,560	1,400 square feet	Two
43,561 and larger	1,600 square feet	Two, unless variance granted

- (1) Subject to maximum lot coverage limit contained in the underlying zoning district.
 - (2) Commercial, industrial, or business buildings and structures for a use accessory to the principal use shall not exceed thirty (30) percent of the gross floor area of the principal use.
 - (3) At no time shall the ground floor area of a detached residential accessory structure within an R-1, R-2, R-3, R-4, or RC-1 District exceed forty (40) percent of the combined ground floor area of the principal and accessory structure.
 - (4) Notwithstanding the provisions of Section 1245.04, Subd. 2(B)(2) or Section 1245.04, Subd 2 (B)(3) of the City Code, Single-family residential properties located in the C-3 (Downtown) and C-2 (General Business) Districts shall be allowed one (1) accessory structure up to 1,000 square feet in gross floor area.
- C. *Design characteristics.* Detached accessory structures shall be constructed of material similar to the principal structure, and in character with the surrounding built environment. Design characteristics shall include, but not be limited to, the following:
1. Roof type (e.g. gabled, hipped, mansard), roof orientation, and roof pitch
 2. Eave, overhang depth, and fascia/soffit type and appearance.
 3. Exterior building material, and,
 4. Exterior color.
- D. *Minimum Roof Pitch.* The minimum accessory structure roof pitch shall be 4:12ths
- E. *Prohibited Roof Types.* Rolled roofs and mono-sloped roofs are prohibited
- F. *Prohibited Exterior Materials.* Galvanized and unpainted metal are prohibited as exterior building materials.
- G. *Exceptions.* Agricultural buildings on agricultural lots shall be exempt from this Section.
- H. *Attachment Required.* In cases where an accessory building is attached to the principal structure, it shall be made structurally part of the principal structure and shall comply in all respects with the requirements for principal structures.
- I. *Principal Structure Required.* No accessory structure or building shall be constructed on any lot prior to the time of construction of the principal building to which it is accessory.
- J. *Front Yard Placement Prohibited.* No accessory structure shall be place in the front yard.
- K. *Structures 120 Square Feet or Less.* Structures sized 120 square feet or less are exempt from this Section, except those standards relating to required setbacks and number of total detached structures allowed.
- L. *Accessory Structures Must Be Subordinate Structures.* Detached accessory structures shall be clearly and reasonable subordinate to the principal structure in terms of height, footprint, and total square footage.
- M. *Maximum Height.* Sidewall height for detached accessory structures may not exceed ten (10) feet. Total detached accessory structure height may not exceed eighteen (18) feet as measured from the ground level to the highest point of the roof. Where these standards conflict with other standards, the strictest rule shall apply.

N. *Setbacks.* Setbacks established in the underlying zoning district classification shall apply as indicated for accessory structures.

(Amended by Ord. 258; 2-23-2015)

1245.05 Fences

Subd. 1 Building Permit Required. No fence, except temporary fencing, shall be constructed without a building permit. The application shall be accompanied by a plot plan clearly describing the type, location, and method of anchoring the fence.

Subd. 2 Setbacks. Boundary line fences shall be located at least one (1) foot from the property line, except as provided for in Subd. 4 and 5 of this Section. The persons, firms or corporations constructing or causing the construction of such fence shall be responsible for maintaining that part of their property between fence and property line. City staff shall require any applicant for a fence permit to establish the boundary lines of his property by a certificate of survey thereof to be made by any registered land surveyor or by showing the accurate stake markers of the surveyed lot.

Subd. 3 Fencing Conformity. Fencing in all districts shall conform to the following:

- A. Fences in all districts shall be maintained so that the exposed outer/inner surface shall be uniformly painted or stained in a neat and aesthetically acceptable condition.
- B. The side of the fence considered to be the face (finished side as opposed to structural supports) shall face abutting property.
- C. No fence shall be permitted on a public right-of-way or boulevard area.
- D. No fence shall be erected on a corner lot that will obstruct or impede the clear view of an intersection by approaching traffic.
- E. All snow-stop fencing may be used from November 1 to April 1. No permit shall be required for temporary fencing.
- F. All fencing shall be constructed straight, true, and plum
- G. Fences which are in need of repair or maintenance through type of construction or otherwise, or are otherwise dangerous to the public safety or general welfare and health are considered a public nuisance and the City may commence proceedings for the abatement thereof under Chapter 6, Nuisance Abatement of the City Ordinance. Electric fences may not be used. Material such as chicken, sheep, or hog wire fencing, barbed wire fencing, or snow fencing will not be allowed as permanent fencing, except as stated in paragraph c in this section.
- H. All fences shall have a gate or opening to allow access from the exterior of the lot.

Subd. 4 Fencing in All Residential and Agricultural Districts.

- A. *Setback and design.* A fence may be located within the rear yard and side yard to a maximum height of six (6) feet up to the point where it is parallel with the front edge of the building. Fences located within the front yard or side-street yard to the right-of-way shall be ornamental in design and the height of the fence shall not exceed three and one-half (3 ½) feet as measured from grade.
- B. Fences around dog kennels not exceeding one hundred (100) square feet in size, fences around garden fences will not require building permits but shall adhere to the other regulations of this subdivision.

- C. All garbage can areas in multi-family developments shall be protected by a privacy fence not less than six (6) feet in height. The privacy fence shall be constructed of wood, vinyl or similar, but shall not include chain link with slats. All gates shall have a self-closing and self-latching latch installed on the outside of the fence.

Subd. 5 Fencing in Commercial, Business and Industrial Districts.

- A. Business and industrial fences may be erected up to eight (8) feet in height as measured from grade. Fences in excess of eight (8) feet shall require a conditional use permit.
- B. Business and industrial fences with barbed wire security arms shall be erected a minimum of six (6) feet in height as measured from grade (measured without the security arm) and shall require a Conditional Use Permit. The security arm shall be angled in such a manner that it extends only over the property of the permit holder and does not endanger the public.
- C. Single-family residential properties located in the Civic (C), Central Business District (CBD), and Commercial/Industrial (C-I) Districts shall conform to the provisions of Subd. 3 of this Section.

1245.06 Swimming Pools

Subd. 1 Permit Required. A permit is required for the installation of any in-ground swimming pool, or any above ground swimming pool 5,000 gallons or larger. The construction, plumbing and electrical work connected with any pool to be constructed shall be subject to inspection and shall conform to all applicable building codes of the City and State.

- A. The fee for the permit shall be based on the state chart of fees, and shall be determined by the Building Inspector.
- B. The permit shall include the following information:
 - 1. Two sets of plans drawn to scale that show in sufficient detail the following:
 - a. The proposed location and its relationship to the other principal buildings on the lot and on adjacent properties.
 - b. The size of the pool.
 - c. Fencing and other fixtures existing on the lot, such as utility location and trees.
 - d. The location, size and a statement as to the types of equipment to be used in connection with the pool including but not limited to the filter unit, pump, wiring, heating unit, fencing, and the pool itself.

Subd. 2 Setbacks Required.

- A. All swimming pools shall be at least 10 feet from underground or overhead utility lines, walkways, or other easements, both public and private.
- B. The filter unit, pump, heat unit, and any other noise making mechanical equipment shall be located at least 25 feet from any residential structure on adjacent property.
- C. All swimming pools shall be at least 10 feet from any side or rear lot line, and six feet from any principal building.
- D. No swimming pool, as regulated in this Section, shall be located within any front yard.
- E. Private swimming pools located on the site of multiple-family dwellings shall have no part of the water surface, any pumps, filters, or other apparatus located less than 50 feet from any lot line or easement.

Subd. 3 General Requirements.

- A. *Drainage.* To the extent feasible, back flush water or water from the pool drainage shall be directed onto the owner's property or onto approved public drainage ways. In no case may the water be drained into the sanitary sewer.
- B. *Fence/Guard Required.* All pools that are submerged fully or partially shall be provided with safeguards to prevent children from gaining uncontrolled access. This can be accomplished with fencing, screening or other enclosure or any combination thereof with sufficient density as to be inaccessible.
 - 1. If fences are used they shall be at least four feet high. The bottom of the fence shall not be more than four inches from the ground.
 - 2. Fences shall be of non-corrosive material. If lumber is used it shall be treated, redwood or cedar.
 - 3. Fences shall be constructed so as to not be easily climbed. All fence openings points of entry into the pool area shall be equipped with gates or doors. All gates or doors shall be equipped with self-closing and self-latching devices placed at a sufficient height so as to be non-accessible to small children.
 - 4. The fence or safeguard used shall be completely installed before filling the pool.
- C. *Damages.* The lot owner shall be liable for any damages to public or private property caused by the swimming pool construction.
- D. *Lighting.* Any pool lighting above the ground shall be directed toward the pool and not the adjacent property.

1245.07 Mail Receptacles

Subd. 1 Mailboxes in the Public Right-of-way. The installation and maintenance of mailboxes or receptacles for the receiving and sending of mail by residents is permitted within the right-of-way of the public streets, subject to the standards and regulations of the United States Postal Service and such standards and regulations as may from time to time be promulgated by the City not otherwise set forth in this section. The use of street receptacles is not required. Residents may continue to use post office boxes at the local post office.

- A. The mailbox must be installed along the side of the street and in such a manner as to not interfere with or impede the normal flow of vehicle traffic.
- B. All residents wishing curbside delivery and existing rural routes within the city must apply for an Extension of Mail Service with the United States Postal Service. Mailboxes cannot be installed unless extension is approved by the United States Postal Service.
- C. It is the responsibility of each resident user to maintain the mailbox in such a manner that it functions properly according to United States Postal Service Standards.
- D. Pursuant to United States Postal Service regulations, mail delivery is not allowed to individual locations within cul-de-sacs. Mail delivery for these locations will be made only to mailboxes that are located at the entrance or exit of the cul-de-sac to be served. Mailboxes serving such cul-de-sacs shall be grouped together in a manner approved by the City and at a location determined by the United States Postal Service and the City.
- E. Mailboxes may be grouped together in a manner approved by the City and at a location determined by the United States Postal Service and the City.

- F. One additional receptacle for deliveries such as newspapers and advertisements is allowed but must be installed directly underneath the mailbox.
- G. The City may establish regulations by resolution for the use of a certain type or design of mail receptacle in order to be uniform throughout the city.
- H. The City shall not be responsible or liable for any damages to mail receptacles not in compliance with this ordinance or damages to mail receptacles from snow thrown or moved as a result of snow plowing.
- I. The City is not responsible for snow removal on or around the mail receptacles. It is the responsibility of each resident user of the mail receptacle to remove snow or other obstructions from around the mail receptacle.

1245.08 Lighting

Subd. 1 Light Distribution Plan Required. Except for one and two family dwellings, a light distribution plan as defined herein shall be required for all new development, redevelopment and addition which exceed 20% of the floor area of the principal structure. This plan shall include the type and arrangement of proposed lighting and proposed lighting levels in foot-candles at all locations on the site including its property boundaries. *(Amended by Ord. 152, 7/28/03)*

Subd. 2 Illumination and Glare. Exterior lighting shall be designed and arranged to limit direct illumination and glare in any contiguous parcel of land. Reflected glare or spill light shall not exceed five tenths (0.5) foot-candle when the source of light abuts any residential or public use parcel, or one (1.0) foot-candle when the source of light abuts any commercial or industrial parcel or any public right-of-way measured at one (1) foot above the ground at the property line. The latter requirement shall not apply to properties abutting public streets having foot-candle levels above one (1). *(Amended by Ord. 152, 7/28/03)*

Subd. 3 Hours of Operation. The City may limit the hours of operation of outdoor lighting equipment if the City believes it is necessary to reduce the impact of light on the surrounding neighborhood. *(Amended by Ord. 152, 7/28/03)*

Subd. 4 Height Restrictions. Light poles or standards for exterior lighting shall not exceed a height of 35 feet, except when a luminaire is located within 100 feet of a residential property, in which case the maximum height shall be 25 feet. *(Amended by Ord. 152, 7/28/03)*

Subd. 5 Cut-off Angle. All luminaires shall have a cutoff angle equal to or less than 70 degrees. *(Amended by Ord. 152, 7/28/03)*

Subd. 6 Wall Mounted Luminaries. Wall mounted luminaries should not be used to illuminate parking lots; instead pole lights should be used in order to minimize off-site glare. The height of wall-mounted luminaries shall not exceed 18 feet above ground level at the building line. *(Amended by Ord. 152, 7/28/03)*

Subd. 7 Flashing Light. No light which is flashing, revolving or otherwise resembles a traffic-control signal shall be allowed in any area where it could create a hazard for passing vehicular traffic.

1245.09 Home Occupations.

Subd 1 In General. Home Occupations may be allowed in any district where they do not jeopardize the health, safety and general welfare of the surrounding neighborhood. All home occupations conducted in the home shall comply with the provisions of this Section. This Section shall not be construed, however, to apply to home occupations accessory to farming.

Subd. 2 Purpose and Intent.

- A. The purpose of this Section is to provide for the conducting of home occupations while protecting the health, safety, and general welfare of the surrounding neighborhood.
- B. The intent of this Section is to establish operational standards and review procedures for home occupations.

Subd. 3 Scope.

- A. All occupations conducted in a dwelling unit or on the premises of a principal residential use shall comply with the provisions of this Section, the provisions of the district in which it is located, and all other Sections of the City Code.
- B. Home occupations are defined as and limited to all of the following:
 - 1. Gainful occupations or professions engaged in by the occupant(s) of a dwelling;
 - 2. Which are carried on within a dwelling unit or structure(s) accessory thereto; and,
 - 3. Which are clearly incidental to the principal use of the property as a residential dwelling unit.
- C. Nothing in this Section is intended to prohibit or regulate non-commercial activities in residential neighborhoods.

Subd. 4 Prohibited Home Occupations.

- A. Home occupations involving illegal substances, illegal devices, and/or unlawful activities are prohibited.
- B. Home occupations involving sexually oriented materials and/or activities as defined by Mn. Statutes as may be amended are prohibited.
- C. Home occupations conducted in a manner which produce noise, vibration, smoke, dust, odors, heat, electrical interference, or glare detectable at or beyond the premises are prohibited.
- D. Home occupations involving materials or storage of items declared a public nuisance, as defined in Chapter Six of the City Code, as may be amended are prohibited.
- E. Home occupations with outdoor storage of items, including but not limited to, materials, products, merchandise, equipment, or parts relating to said home occupation are prohibited.
- F. Home occupations with contractor storage yards are prohibited. Contractor storage yards are defined as areas out-of-doors used for the storage of tools, equipment, building materials, sand, soil, rock, gravel, vegetation, paints, pipe, or electrical components which are used in or associated with building or construction contractor. Building or construction contractors include general contractors, excavation contractors, landscaping contractors, building contractors, plumbing contractors, electrical contractors, HVAC contractors, concrete or masonry contractor, and other specialty contractors.
- G. Home occupations generating hazardous waste or noxious matter are prohibited.

Subd. 5 Performance Standards.

A. Home Occupations shall comply with all of the following Performance Standards.

1. Home occupations shall be conducted in a manner which produces no indication of light, glare, noise, odor, vibration, smoke, dust, or heat detectable at or beyond the premises.
2. Equipment used in conjunction with a home occupation shall not create electrical interference to surrounding properties.
3. Home occupations shall comply with Chapter Six of the City Code relating to nuisances.
4. Home occupations shall be clearly incidental, secondary, and subordinate to a principal residential use of the property and shall not change the residential character of the neighborhood, be incompatible with surrounding land uses, disturb surrounding residential uses, or be intrusive to surrounding dwellings.
5. Home occupations shall not require internal or exterior structural modifications or alterations or involve construction features not customarily found in dwellings except where required to comply with local and state fire and police recommendations.
6. Operation of a home occupation shall be limited to the residential dwelling, an attached garage, or an accessory structure.
7. Home occupation walk-in traffic shall be conducted only between the hours of 6:00 a.m. and 10:00 p.m.
8. Only two other persons beyond those who customarily reside on the premises shall be employed.
9. Home occupations shall not occupy or use greater than twenty-five percent (25%) of the combined footprint of structures on the subject parcel. In addition, a home occupation shall not occupy or use greater than twenty-five percent (25%) of the lot area; except that home day care providers may use greater than twenty-five percent (25%) of the lot area for play/recreation purposes.
10. Signage for home occupations shall be limited to one (1) non-illuminated sign which shall not exceed four (4) square feet in area.
11. Exterior storage of items related to the home occupation is prohibited unless specifically allowed elsewhere within the City Code.
12. Home occupations shall not generate excessive employee, customer, or client traffic that is detrimental to the character of the surrounding properties.
13. Areas used for home occupations shall meet all applicable fire and building codes.
14. A home occupation shall not be established before a dwelling unit exists on the subject property.
15. Home occupations shall be operated and licensed as required by applicable state and/or federal law.

Subd. 6 Nonconforming Use. Home occupations lawfully existing on the date of this Ordinance may continue as nonconforming uses. Expansion of a nonconforming home occupation is prohibited. Any existing occupation that is discontinued for a period of more than one (1) year, or is in violation of the Ordinance provisions under which it was initially established, shall be brought into conformity with the provisions of this Section.

Subd. 7 Inspection. The City of Norwood Young America hereby reserves the right to inspect the premises in which the home occupation is being conducted to insure compliance with the provisions

of the Section. Administrative standards contained in Chapter One, Section 120 of the City Code, as may be amended, shall apply. (*Amended by Ord. 262, 8/24/2015*)

Section 1250 – Off-street Parking and Loading

1250.01 Scope. Off-street parking and loading regulations shall apply to all buildings and uses of land established after the effective date of this chapter.

1250.02 Required Site Plan. Any application for a building permit shall include a site plan or plot plan drawn to scale and dimensioned showing off-street parking and loading space to be provided in compliance with this chapter.

1250.03 Reduction and Use of Space. Off-street parking facilities existing at the effective date of this chapter shall not subsequently be reduced to an amount less than that required under this chapter for a similar new building or use. Off-street parking facilities provided to comply with the provisions of this chapter shall not subsequently be reduced below the requirements of this chapter. Such required parking or loading space shall not be used for storage of goods or for storage vehicles that are inoperable or for sale or rent.

1250.04 Computing Requirements. In computing the number of parking spaces required, the following rules shall apply:

- A. Floor space shall mean the gross floor area of the specific use.
- B. Where fractional spaces result, the parking spaces required shall be construed to be the nearest whole number.

1250.05 Yards. Off-street parking and loading facilities shall be subject to the front yard, side yard and rear yard regulations for the use district in which the parking is located, except that:

- A. In any of the residence districts, parking or loading space may not be located within fifteen (15) feet of any property line.
- B. In the R-4, Multiple Family Residential District, C-2, General Commercial District, B-1, Business Industrial District or I-1, Light Industrial District, no parking or loading space shall be located within ten (10) feet of any property line nor shall any parking space be located within twenty-five (25) feet of any residence district.
- C. In the C-3, Downtown District or RC-1, Residential Neighborhood Commercial District, no parking and loading space shall be located within five (5) feet of any property line nor shall any parking space be located within ten (10) feet of any residence district.

1250.06 Buffer Fences and Planting Screens. Off-street parking and loading areas in, near or adjoining residence districts, except areas serving single-family dwellings, shall be screened by a buffer fence of adequate design or a planting buffer screen. Plans of such screen or fence shall be submitted for approval as a part of the required site or plot plan and such fence or landscaping shall be installed as part of the initial construction.

1250.07 Access.

- A. Parking and loading space shall have adequate access from a public right-of-way.

- B. Access drives shall be so located as to minimize traffic and congestion and abnormal traffic hazards. No driveway shall be closer than fifty (50) feet to any right-of-way line of a street intersection.
- C. Access drives shall be located a minimum of five (5) feet from a side property line.
- D. Access drive widths shall not exceed forty (40) feet for multiple family, commercial, or industrial uses. The established width for multiple family, commercial, or industrial uses may be exceeded if the City Engineer finds traffic circulation purposes warrant increased width.
- E. Residential, commercial, and industrial driveways shall be hard-surfaced with materials such as concrete, asphalt, or brick/paver, except that driveways accessed from non-hard-surfaced alleys may be non-hard-surfaced.
- F. Residential parking pads shall be setback a minimum of five (5) feet from side property lines.
(Amended by Ord. 267; 11-9-2015)

1250.08 Combined Facilities. Combined or joint parking facilities may be provided for one (1) or more buildings or uses provided that the total number of spaces shall be determined as provided in Section 1250.12.

1250.09 Construction and Maintenance. In all districts, parking areas, access drives and curb and gutter shall be hard-surfaced with materials such as concrete, asphalt, or brick/paver, except that in industrial districts parking areas in side or rear yards may be surfaced with compacted gravel or red rock. Plans for surfacing and drainage of driveways and stalls for five (5) or more vehicles shall be submitted to the City Engineer for review and the final plans shall be subject to the Engineer's written approval. (Amended by Ord. 267; 11-9-2015)

1250.10 Lighting. Light of parking and loading spaces shall be indirect or diffused and shall not be directed upon the public right-of-way or adjacent properties.

1250.11 Parking Lot Dimensions.

Table 1

Angle of Parking	Stall Width	Stall Length	Aisle Width
45°	12.5' 15.5' handicapped	18'	16'
60°	10.5' 13.5' handicapped	18'	18'
90°	9.0' 12.0' handicapped	18'	24'

Note: All angle parking requires one-way aisles

1250.12 Required Number of Off-street Parking Spaces. Off-street parking areas of sufficient size to provide parking for patrons, customers, suppliers, visitors, residents and employees shall be provided on the premises of each use. The following standards are minimum criteria. The city may increase the requirements beyond the minimum based upon findings that, due to proposed use and/or design, that additional parking demand is anticipated. The City may decrease the number of spaces required for uses in the C, Civic District and CBD, Central Business District. The number of required parking spaces shall comply with the following:

- A. Calculating the number of spaces shall be in accordance with the following:

1. If the number of off-street parking spaces results in a fraction, each fraction of one-half or more shall constitute another space.
 2. In churches and other places of public assembly in which patrons or spectators occupy benches, pews or other similar seating facilities, each twenty-four (24) inches of such seating shall be counted as one (1) seat for the purpose of this division.
 3. Except in shopping centers or where joint parking arrangements have been approved, if a structure contains two (2) or more uses, each use shall be calculated separately in determining the total off-street parking spaces required.
 4. For mixed use buildings, parking requirements shall be determined by the City based on the existing and potential uses of the building. In cases where future potential uses of a building will generate additional parking demand, the City may require a proof of parking plan for the difference between minimum parking requirements and anticipated future demand.
 5. If warranted by unique characteristics and/or documented parking demand for similar developments, the City may allow reductions in the number of parking spaces actually constructed as long as the applicant provides a proof of future parking plan. The plan must show the location for all minimum required parking spaces in conformance with applicable setback requirements. The city may require installation of the additional parking spaces wherever a need arises.
 6. One (1) handicapped parking stall shall be provided for each fifty (50) stalls. Handicapped parking spaces shall be in compliance with the Uniform Building Code and State Law.
 7. The parking requirements for uses not listed in this division may be established by the City based on the characteristics of the use and available information on parking demand for such use.
- B. Table 2 designates the minimum number of parking spaces that are required to be provided and maintained at the time any new use or structure is occupied, or any existing use or structure is enlarged or increased in capacity.
- C. For uses not specifically listed in this chapter or for joint parking facilities serving two or more different uses, the planning commission shall determine the number of spaces to be required by utilizing the requirements of the most similar use listed below.

Table 2

Type	Required Parking Spaces
Assembly or exhibition hall, auditorium, theater or sports arena	One parking space for each four (4) seats, based upon design capacity.
Auto sales, trailer sales, marine and boat sales, implement sales, garden supply store, building materials sale, auto repair	One parking space for each five hundred (500) square feet of floor area
Automobile service station	Four (4) parking spaces, plus two (2) parking spaces for each service stall; such parking spaces shall be in addition to parking space required for gas pump areas
Boarding and Lodging Houses	Two (2) parking spaces for each four beds
Bowling alley	Five (5) parking spaces for each bowling lane
Car Washes (in addition to stacking space) Automatic Drive-Through Service Self-Service	Two (2) spaces per attendant Ten (10) spaces per attendant
Churches	One (1) parking space for each three (3) seats, based on the design capacity of the main seating

	area, plus one (1) space per classroom
Cinemas and Movie Theaters	One (1) space for every three seats
Convenience Stores	One (1) parking space per 200 square feet of floor space
Day Care Centers	One (1) stall for each six (6) children of design capacity
Dwellings: Single-Family and Two-Family Townhouses/Multi-Family Senior Housing	Two (2) parking spaces Two (2) parking spaces per dwelling unit Dependent upon parking study
Financial institutions	One (1) space for each two hundred fifty (250) square feet of floor space
Furniture or appliance store	One (1) space for each four hundred (400) feet of floor space
Hospitals and nursing homes	One (1) space for every two (2) beds, plus one (1) space for every two (2) employees on the largest single shift
Manufacturing or processing plant	One (1) parking space for each employee on the major shift and one (1) parking space for each motor vehicle when customarily kept on the premises
Medical and Dental clinics and animal hospitals	One (1) parking space for each one hundred fifty (150) square feet of floor area
Mortuaries	One (1) parking space for every three (3) seats
Motel or hotel	One (1) parking space for each rental room or suite, plus one (1) space for every two (2) employees
Office buildings (administrative, business or professional)	4.5 stalls per 1,000 square feet gross floor area
Public Service buildings – including municipal administrative buildings, community center, public library, post office, etc.	One (1) parking space for each five hundred (500) square feet of floor area in the principle structure, plus one (1) parking space for each four (4) seats within public assembly or meeting rooms
Recreational facilities, including country club, swimming club, racquet club, public swimming pool	20 (twenty) spaces, plus one (1) space for each five hundred (500) square feet of floor area in the principal structure or two (2) spaces per court
Research, experimental or testing stations	One (1) parking space for each four hundred (400) square feet of gross floor area within the building, whichever is greater
Restaurant, café, nightclub, tavern or bar Without full liquor license	One space per sixty (60) square feet of gross floor area or one (1) space per two and one-half (2 ½) seats whichever is greater
With full liquor license	One space per fifty (50) square feet of gross

	floor area or one (1) space per two (2) seats, whichever is greater
Retail stores and service establishments	One (1) space for each two hundred (200) square feet of gross floor area
Schools: Elementary (public, private or parochial)	One parking space for each classroom plus one space for every 50 students
Junior, Senior High School and Colleges	One parking space for every classroom plus one space for every 4 students
Shopping Center: Up to 50,000 square feet	Five (5) parking spaces for every 1,000 square feet of floor space
More than 50,000 square feet	Four (4) parking spaces for every 1,000 square feet of floor space
Storage, wholesale, or warehouse establishments For each 2,000 square feet	One (1) space, or one space for every employee on the shift utilizing the most employees, whichever is greater. One (1) space for each company vehicle operating from the premises

Section 1255 – Landscaping

1255.01 Intent. The primary purpose of these regulations is to establish minimum standards for landscaping and ground cover to provide an aesthetic environment. These standards shall be implemented concurrently with site plan approval by the city.

1255.02 Landscaping Area. All areas designated to be landscaped and street boulevards that are not devoted to drives, sidewalks, patios or other such uses shall be landscaped. All landscaped areas shall be kept neat, clean and uncluttered. No landscaped area shall be used for the parking of vehicles or the storage or display of materials, supplies or merchandise.

1255.03 Landscape Requirements for All Uses. Ground cover shall be established within one year of issuance of Certificate of Occupancy.

1255.04 Landscape Requirements for New Non-Residential Uses.

- A. Tree planting at the rate of one (1) tree per 1000 square feet of gross building area;
- B. A combination of berming, shrub and tree planting; and
- C. Berming with low ground cover (slopes shall be no greater than one foot in elevation per three horizontal feet).

1255.05 Landscape Requirements for Expansion of Non-Residential Uses. Tree planting of a minimum of one (1), or one (1) tree per 1000 square feet of gross expanded building area.

1255.06 Landscape requirements for Multi-Family Residential Uses. Townhomes, manufactured home parks and apartment dwelling structures shall require as a minimum: one (1) new tree per dwelling unit, unless otherwise approved by the City Council.

1255.07 Size Standards. The minimum size of planted trees shall be a minimum two and one half (2 ½) caliper inches for deciduous trees and six feet in height for coniferous trees.

1255.08 Species. Types of trees allowed shall be species listed on the city landscaping list.

1255.09 Landscape Warranty. All required landscape plants shall be alive and in satisfactory growth for a minimum of two (2) years after planting, or be replaced at the owners expense.

1255.10. Compliance Time Frame. All planting and sodding shall be completed, and all seeding established within one (1) year of issuance of Certificate of Occupancy.

(Amended by Ord. 180, 5/22/2006)

Section 1260 – Signs

1260.01 Purpose and Intent. The purpose of the sign ordinance is to establish regulations that govern the use, approval, construction, change, replacement, location and design of signs and related informational tools within the city. The sign ordinance is not intended to and does not restrict, limit, or control the content or message of signs. The sign ordinance has a number of specific purposes:

1. To encourage the effective use of signs as a means of communication.
2. To protect, conserve, and enhance property values.
3. To enhance the attractiveness and economic well being of Norwood Young America as a place to live and conduct business.
4. To encourage creative and well-designed signs that contribute in a positive way to the city's visual environment, express local character, and help develop a distinctive pedestrian image in the city.
5. To recognize that signs are a necessary form of communication and provide flexibility within the sign review and approval process to allow for unique circumstances.
6. To create a framework for a comprehensive and balanced system for sign regulation, to facilitate an easy and pleasant communication between people and their environment, and to avoid the visual clutter that is potentially harmful to traffic and pedestrian safety, property values, business opportunities, and overall community appearance.
7. To encourage and, to the maximum extent feasible, require that all signs within the city be brought into compliance with the terms of the sign ordinance.

1260.02 Definitions

Abandoned Sign: A sign (including any structure whose primary function is to support such Sign) whose: a) display surface remains blank for a period exceeding sixty (60) days; b) which pertains to a time, building, event or purpose that passed or ceased to apply more than sixty (60) days prior to the then applicable date; or c) that has remained for more than sixty (60) days after demolition of the building that it served.

Address Sign: A sign including postal identification numbers, whether written or in number form, and, optionally, the name of a building occupant.

Advertising Sign: Also known as a “billboard”, a sign, including the supporting sign structure, advertising a business, commodity, or service which is not located or performed on the premises on which the sign is located.

Area Identification Sign: A freestanding sign, on the identified premises, which identifies the name of a neighborhood, residential subdivision, multiple residential complex, shopping center, industrial area, office complex, park or any combination of the above.

Awning Sign: A Sign permanently affixed to an awning providing a shelter or cover over the approach to any building entrance or shading a window area.

Banner: A Temporary Sign made out of flexible paper, cloth or plastic-like material identifying: 1) a special, unique or limited event, service or product, 2) a sale of limited duration; or 3) a grand opening.

Building Face: That portion of any exterior elevation of a building or other structure extending from grade to the top of a wall and the entire width of that particular building or structure elevation.

Campaign Sign: A Temporary Sign promoting the candidacy of a person running for a government office, or promoting an issue to be voted on at a governmental election.

Canopy and Marquee: A roof-like structure projecting over the entrance to a building.

Development: A commercial use of three or more principal structures with common characteristics, as determined by the City, or a platted residential use of twenty (20) or more lots with common characteristics, as determined by the City. Common characteristics may include shared access, similar architecture, single ownership or history or site plan review approval.

Directional Sign: A Sign erected on a property by the owner of such property solely for the purpose of guiding vehicular and pedestrian traffic, which does not contain any advertising.

Dynamic Sign: A Sign or portion thereof that appears to have movement or that appears to change using any method other than a person physically removing and replacing the Sign or its components. This includes a display that incorporates a technology or method allowing the sign face to change the image without having to physically or mechanically replace the sign face or its components. This also includes any rotating, revolving, moving, flashing, blinking, or animated display and any display that incorporates rotating panels, LED lights manipulated through digital input, “digital ink” or any other method or technology that allows the sign face to present a series of images or displays.

Freestanding Sign: A Sign which is placed in the ground and not affixed to any part of any structure.

Government Sign: A Sign which is erected or maintained by a governmental unit.

Illuminated Sign: A Sign or portion thereof that: 1) incorporates an artificial light source as part of the Sign including, but not limited to, a Sign with LED lights, neon lights or an interior light; or 2) a Sign that has an artificial light source directed upon it.

Institutional Sign: A Sign or bulletin board, which identified the name and other characteristics of a public or private institution (i.e. church or school) on the site where the sign is located.

Marquee Sign: A Sign that is permanently attached to a marquee.

Monument Sign: Any one-sided or two-sided free-standing Sign with its entire Sign Area mounted on the ground or mounted on a base at least eighty percent (80%) as wide as the Sign Area.

Mural: A work of graphic art painted or applied to a wall of a building or other structure which contains no advertising or logos.

Nonconforming Sign: A Sign lawfully existing prior to the adoption of this ordinance but does not conform to the newly enacted requirements of the ordinance.

Portable Sign: A Sign designed to move from one location to another, not permanently attached to the ground or any other surface.

Promotional Devices: Promotional devices, including air inflated devices, Banners exceeding forty (40) square feet in area, non-mechanical whirling devices, spotlights, or any Sign resembling the same.

Pylon Sign: Any free-standing sign supported by a column-like structure, posts or poles set firmly in or below the ground surface.

Real Estate Sign: Any sign pertaining to the sale, lease or rental of land or buildings.

Roof Sign: A Sign erected or painted upon or above a roof or parapet of a building.

Scoreboard: A sign associated with an athletic field that includes information and/or statistics pertinent to an on-site game or activity and also includes any sponsor or identification panels.

Shielded Light Source: Shall have the meaning associated with the nature of the light source, as follows: 1) For an artificial light source directing light upon a Sign, Shield Light Source shall mean a light source diffused or directed so as to eliminate glare and housed to prevent damage or danger. 2) For light source located within a Sign, Shielded Light Source shall mean a light source shielded with a translucent material of sufficient opacity to prevent the visibility of the light source. 3) For a light source designed to directly display a message (e.g. LED and neon lighting), Shielded Light Source means a light source specifically designed by its manufacturer for outdoor use.

Sidewalk Sign: A temporary, freestanding, Portable Sign placed at ground level, with no moving parts or flashing lights, displayed on a public or private sidewalk adjacent to and directly in front of a business to advertise the business hours of operation, an event, or a promotion.

Sign: Any letter, symbol, device, poster, picture, statuary, reading matter or representation in the nature of any advertisement, announcement, message, or visual communication, whether painted, pasted, printed, affixed or constructed, which is displayed outdoors for informational or communicative purposes.

Sign Area: The entire area within a continuous perimeter enclosing the extreme limits of the Sign message and background. However, such perimeter shall not include any structural elements lying outside of such sign and not forming an integral part of the Sign. The area of a Sign within a continuous perimeter shall be computed by means of the smallest circle, rectangle or triangle that will encompass the extreme limits of the writing, representation, emblem or other display, together with any material or color forming an integral part of the background of the display or used to differentiate the sign from the building façade against which it is placed.

Special Events Sign: A Temporary Sign erected by a civic or other non-profit organization to promote or identify a fund raiser, festival, tournament, or other non commercial one-time or annual event; examples of which are Stiftungsfest, Music in the Park, Relay for Life, and the Carver County Fair.

Temporary Sign: A Sign placed for a specific purpose that is of limited time duration, after which the Sign is to be removed, which does not necessarily meet the structural requirements for a permanent sign.

Wall Sign: Any Sign which is affixed to the wall of any building or structure.

1260.03 Jurisdiction. No sign permit shall be issued for any lot, tenant, or development after the effective date of and which is not in substantial conformity with the provisions of these regulations. Nor shall any sign, except as hereinafter specified, be erected, substantially improved, converted, enlarged, moved, or structurally altered without conforming with the provisions of these regulations. The lawful use of a sign existing at the time of the enactment of this chapter may be continued although such use may not conform to the regulations herein. For those signs permitted before the adoption of these regulations, such signs shall be classified as "permitted nonconforming" structures.

1260.04 Permit Required. Except as herein exempted, no person firm or corporation shall maintain, install, erect, relocate or modify any sign in the City without first obtaining a permit therefore. The fee for the permit shall be based on the state chart of fees as adopted by the City Council by Ordinance from time to time, and shall be determined by the Building Inspector.

The permit shall include the following information:

A. Two sets of plans drawn to scale that show in sufficient detail the following:

1. The proposed location and its relationship to the other principal buildings on the lot and on adjacent properties.
2. The size and height of the sign.
3. The elevation of the centerline of the roadway upon which the sign is oriented, when applicable.
4. Material of the sign and supporting pole.
5. Drawing of any landscaping or other base upon which the sign will be placed. Including the height or increase in elevation resulting from the base or landscaping.
6. Any other information required by the Building Inspector to accurately review the application for conformance to the code. Including but not limited to a certified land survey.

1260.05 Registration Required. Those signs permitted within this section, not requiring a permit which must be registered with the City, shall include the following information.

- A. Name of the person or company responsible for the sign.
- B. Address of the responsible party.
- C. Number of signs and their location(s).
- D. Dates signs will be posted.
- E. Description of the sign including the size, height and copy of any text or graphics shown on the sign.

1260.06 Variance. A variance may be sought from this regulation in accordance with the variance procedure outline in Section 1210.04 of this Chapter.

1260.07 Maintenance and Continuation. All signs shall be constructed in such manner and of such material as to be safe and substantial. The exposed backs of all signs and sign structures shall be painted a neutral color. Signs determined by the Zoning Administrator to be in a state of disrepair shall be considered a nuisance pursuant to Chapter 6 of the City Code. Any sign hereafter existing which no longer advertises or identifies a bona-fide business conducted, or a service rendered, or a product sold shall be taken down and removed by the owner, agent or person having the beneficial use and/or control of the buildings or structure upon which the sign may be found. Any sign found to be in violation of this Section shall be enforced in the same manner as described in Chapter 6, Section 610- General Abatement Procedures.

1260.08 General Provisions Applicable to All Districts.

Subd. 1 Prohibited Signs. The following signs are prohibited in all districts:

- A. Signs in, upon, or projecting into any public right-of-way or easement, excepting Government Signs.
- B. Signs containing any indecent or offensive material.
- C. Any type of sign painted, attached, or in any manner affixed to trees, rocks, or similar natural surfaces.
- D. Roof Signs.
- E. Signs which interfere with the ability of vehicle operators or pedestrians to see traffic signs or signals, or which impedes the vision of traffic by vehicle operators or pedestrians.
- F. Signs that contain or are an imitation of an official traffic sign or signal or include the terms “stop”, “look”, “caution”, “danger”, “warning” or similar words, phrases, symbols, or characters in such a manner as to interfere with, mislead or confuse motorists.
- G. Signs which obstruct any window, door, fire escape or opening intended to provide ingress or egress to any structure or building.
- H. Portable Signs, except for sidewalk signs expressly permitted within.
- I. Any Sign not in conformance with these regulations, other than a Non-Conforming Sign.
- J. Any other Sign not expressly permitted by the provisions of these regulations.

Subd. 2 Illuminated Signs. The following standards apply to Illuminated Signs:

- A. Each Illuminated Sign shall:
 - 1. Have a Shielded Light Source

2. Not exceed a maximum light intensity of 5000 nits (candelas per square meter) during daylight hours and a maximum light intensity of 500 nits between dusk to dawn as measured from the sign's face at maximum brightness; and
 3. Be equipped with (i) an automatic dimmer control to produce the illumination change required by Section 1260.08, Subd. 2, A, 2 above and (ii) a means to immediately turn off the display or lighting if the Illuminated Sign malfunctions.
- B. Prior to the issuance of a sign permit, the applicant shall provide a written certification from the sign manufacturer that the light intensity has been factory pre-set not to exceed the levels specified in Section 1260.08, Subd. 2, A, 2 above.

Subd. 3 Promotional Devices. Promotional Devices are prohibited except when used in conjunction with a grand opening (the initial commencement of business). For a grand opening, Promotional Devices shall be allowed for a period of one week.

Subd. 4 Campaign Signs. Campaign Signs shall be regulated by the laws of the State of Minnesota, as amended from time to time. All Campaign Signs must be removed within seven (7) days following the date of the election. In the event the signs are not removed within seven (7) days, the city may remove the signs at the expense of the sign or property owner. No permit or registration is required for this type of sign.

Subd. 5. Address Signs. One address sign shall be required per residential and commercial building in all districts. No permit or registration is required.

Subd. 6. Scoreboards. One scoreboard up to 450 square feet per playing field, located in a public or private park, shall be permitted.

Subd. 7. Temporary Signs. The following regulations apply to Temporary Signs within the City. If they are not removed by the date specified, the signs may be taken down by the City and the cost of removal charged to the registrant.

- A. *Banners.* Banners may be permitted for up to forty-five (45) days. Banners may be up to 40 square feet in area. They must be registered with the City under the guidelines established in this chapter and removed within 5 business days of the closing date listed on the registration permit.
- B. *Special Event Signs.* Special Event Signs may be permitted with the following conditions:
 1. Such Special Event Signs may be erected and maintained for a period not to exceed thirty (30) days prior to the date of the event and shall be removed within five (5) business days following the event.
 2. The City of Norwood Young America may place Special Event Signs within the public right-of-way, subject to the same restrictions as set forth above.
- C. *Real Estate Signs.* A Temporary Real Estate Sign may be placed in any District for the purpose of advertising the lease or sale of the property upon which it is placed. Only one Sign shall be permitted per street frontage with the following conditions:
 1. Each such Sign shall be removed within seven (7) days following the date of leasing or sale.
 2. The maximum Sign Area for each such Sign is as follows:
 - a. R-1, R-2, R-3, T-A Districts- nine (9) square feet

- b. R-4, RC-1 Districts- eighteen (18) square feet
- c. Commercial and Industrial Districts- thirty-two (32) square feet
- 3. No such Sign shall exceed eight (8) feet in height.
- 4. Subdivision developments which have more than two sites remaining available may advertise the development with one sign at each entry point. Such signs shall not be greater than 32 square feet and not to exceed eight (8) feet in height.
- D. *Identification Signs.* One Temporary identification sign setting forth the name of a construction project, project architects, contractors and financing agencies may be installed at a construction site in any district for the period of the construction only with the following conditions:
 - 1. The Sign must be registered with the City under the guidelines established in this chapter.
 - 2. The Sign shall be removed within five (5) days of the closing listed on the registration permit or end of construction period, whichever is sooner.
 - 3. No such Sign shall exceed twenty-four (24) square feet or eight (8) feet in height.
- E. *Garage Sale Signs.* Garage Sale Signs shall be removed within one (1) day after the end of the sale and shall have a Sign Area of four (4) square feet or less. The City shall have the right to remove and destroy Signs not conforming to the provisions of this Chapter.

Subd. 7 Advertising Signs. Advertising Signs are permitted in the C-2, B-1 and I-1 Districts, on properties with frontage on Highway 212 or Highway 5 only. Advertising Signs must conform to the following standards:

- 1. Advertising signs which face the same general direction shall be 2640 feet apart measured down the centerline of the road from which the signs are to be seen. Advertising signs with advertising facing the same direction, but on either side of the road, shall be 2640 feet apart measured down the centerline of the road.
- 2. Only one advertising sign per lot shall be permitted.
- 3. No outdoor advertising sign shall be closer than 100 feet from any other free-standing sign on the same side of the street.
- 4. Back to Back signs are permissible. A back to back sign shall constitute one advertising sign.
- 5. V-type construction is not permitted.
- 6. The maximum area for any one sign facing shall be 300 square feet inclusive of border and trim but excluding the base or apron, supports and other structural members.
- 7. The maximum size limitations shall apply to each facing of a sign structure with one display to each facing not exceeding the maximum sign area.
- 8. No outdoor advertising sign shall be established closer than 15 feet from the right-of-way line. No portion of any outdoor advertising sign may be placed on, or extend over the right-of-way line of any street or highway.
- 9. No outdoor advertising sign or part thereof shall be located on any property without the written consent of the owner, holder, lessee, agent or trustees.
- 10. No outdoor advertising sign shall exceed 30 feet in overall height above the ground level. Ground level shall be regarded as the average elevation of the natural ground on which the sign is located.
- 11. All outdoor advertising signs must be equipped with a steel monopole, be painted in an earth tone color and have appropriate landscaping. (*Amended by Ord. 140, 2-26-2001*)

Subd. 8 Dynamic Signs. Dynamic Signs may be permitted with the following conditions:

- A. Dynamic displays are permitted as follows:
1. R-1, R-2, R-3 and R-4 Districts- only on monument signs for conditionally permitted uses. Dynamic displays may occupy no more than 35 percent of the Monument Sign Area.
 2. C-2 District- on monument and pylon signs for any permitted or conditionally permitted use, occupying up to 35 percent of the Sign Area, and on permitted Advertising Signs, occupying up to 100 percent of the Sign Area.
 3. B-1 and I-1 Districts- only on monument and pylon signs for any permitted or conditionally permitted use, occupying up to 35 percent of the Sign Area, and on permitted Advertising Signs, occupying up to 100 percent of the Sign Area.
- B. Dynamic displays may not change or move more often than the following, except one for which changes are necessary to correct hour-and minute, date, or temperature information:

Speed Limit	Maximum number of changes
25-34	Once every two (2) minutes
35-54	Once every five (5) minutes
55 and over	Once every ten (10) minutes

- C. Time, date, or temperature information is considered one dynamic display and may not be included as a component of any other dynamic display.
- D. A display of time, date, or temperature must remain for at least the minimal allowable display time for the district in which it is located before changing to a different display, but the time, date, or temperature information itself may change no more often than once every three (3) seconds.
- E. The images and messages displayed must be static, and the transition from one static display to another must be instantaneous without any special effects.
- F. The images and messages displayed must be complete in themselves, without continuation in content to the next image or message or to any other sign.
- G. Every line of copy and graphics in a dynamic display must be at least seven inches in height on a road with a speed limit of 25 to 34 miles per hour, nine inches on a road with a speed limit of 35 to 44 miles per hour, 12 inches on a road with a speed limit of 45 to 54 miles per hour and 15 inches on a road with a speed limit of 55 miles per hour or more.
- H. Dynamic displays must be designed and equipped to freeze the device in one position if a malfunction occurs. The displays must also be equipped with a means to immediately discontinue the display if it malfunctions, and the sign owner must immediately stop the dynamic display when notified by the City that it is not complying with the standards of this ordinance.
- I. Dynamic displays must comply with the brightness standards contained in Subd. 2 of this Section 1260.08.

Subd. 9. Interior Building Signs. Unless specifically named in this ordinance, signs which are located on the interior of a building shall be exempt from the provisions of this ordinance.

Subd. 10. Public Signs. The City may exempt a public sign from the permitting and size standards of this ordinance. (Amended by Ord. 114, 7-27-1998)

1260.09 District Regulations. Signs herein designated shall be permitted in each specified District and shall conform as to size, location, and character according to the requirements herein set forth.

Subd. 1 Residential District (R-1, R-2 and R-3) Regulations. The following signs are permitted within the residential districts.

- A. Address Sign: One sign not to exceed two (2) square feet in area for each dwelling unit.
- B. Monument Signs: One Monument Sign per street frontage shall be permitted for a church, public institution, daycare center, nursing home, apartment building or recreational facility. Such Sign shall not exceed forty-eight (48) square feet in area and shall not exceed twelve (12) feet in width and six (6) feet in height. No Sign shall be placed closer than five (5) feet to any public right-of-way.
- C. Area Identification Signs: A residential subdivision of twenty (20) or more acres shall be permitted a maximum of two (2) Monument Signs. All other residential subdivisions shall be permitted one (1) Monument Sign. The Sign Area of each such Sign shall not exceed forty-eight (48) square feet. The dimensions of each such Sign shall not exceed twelve (12) feet in width and six (6) feet in height. Such Signs shall be located near the main entrances of the subdivision and shall be limited to one (1) Sign per intersection.
- D. Directional Signs: Directional Signs for non-single-family uses are allowed up to three (3) per lot. The Sign Area of each such Sign shall not exceed four (4) square feet or four (4) feet in height.

Subd. 2 Multiple Family Residential District (R-4) Regulations. The following signs are permitted within the Multiple Family Residential District:

- A. Address Sign: One sign not to exceed four (4) square feet in area for each building.
- B. Monument Signs: One Monument Sign per street frontage shall be permitted for a church, public institution, daycare center, nursing home, apartment building or recreational facility. Such Sign shall not exceed forty-eight (48) square feet in area and shall not exceed twelve (12) feet in width and six (6) feet in height. No Sign shall be placed closer than five (5) feet to any public right-of-way. In addition to any Monument Sign, one Wall Sign shall be permitted on each Building Face, not to exceed two Wall Signs per Building. The Sign Area of each such Wall Sign shall not exceed 5% of the Building Face on which it is located. *(Amended by Ord. 216; 8-24-2009)*
- C. Area Identification Signs: A residential subdivision of twenty (20) or more acres shall be permitted a maximum of two (2) Monument Signs. All other permitted and conditional uses shall be permitted one (1) Monument Sign, except for those listed in Subd. 2.B. above. The Sign Area of each such Sign shall not exceed forty-eight (48) square feet. The dimensions of each such Sign shall not exceed twelve (12) feet in width and six (6) feet in height. Such Signs shall be located near the main entrances of the development and shall be limited to one (1) Sign per intersection. In addition to any Monument Sign, one Wall Sign shall be permitted on each Building Face, not to exceed two Wall Signs per Building. The Sign Area of each such Wall Sign shall not exceed 5% of the Building Face on which it is located.
- D. Directional Signs: Directional Signs are allowed up to three (3) per lot. The Sign Area of each such Sign shall not exceed four (4) square feet or four (4) feet in height.

Subd. 3 Downtown Districts (C-3) Regulations. The following signs are permitted within the Downtown Districts.

- A. Address Sign: One sign not to exceed four (4) square feet in area for each building.
- B. Monument Signs: Where a building does not cover the full area of the property, one Monument Sign is allowed per lot. The Sign Area of any such Monument Sign shall not exceed thirty-two (32) square feet and shall not exceed ten (10) feet in width or six (6) feet in height.
- C. Wall Signs: One Wall Sign shall be permitted per Building Face, not to exceed two Wall Signs per building. For multi-tenant buildings, one Wall Sign per tenant is allowed provided that the Building Face coverage limitation set forth below is met.
 - 1. A maximum of 10% of the Building Face may be used for a Wall Sign.
 - 2. Signs shall not project above the roof level.
- D. Sidewalk Signs: Sidewalk Signs shall be permitted on the premises of a business, provided the following provisions are followed:
 - 1. Only one sidewalk sign per business is allowed.
 - 2. Signs shall be displayed during business hours only.
 - 3. Maximum allowable sign size, including the frame and support structure, shall not exceed 6-square feet. Two sides of the sign may contain graphics and/or text. The maximum depth or spread of the sign shall not exceed 2 feet.
 - 4. Quality of said signs shall be of professional craftsmanship only
 - 5. Signs shall not create any hazards or interfere with pedestrian or vehicular traffic.
 - 6. Signs shall be placed only on the business property or on sidewalks directly abutting the business property. *(Amended by Ord. 172; 11/28/2005)*
- E. Awning Signs: One Awning Sign is allowed per lot, provided the Sign Area does not exceed eight (8) square feet. The Sign Area of any Awning Sign shall reduce, square foot for square foot, the Sign Area of any permitted Wall Signs on the same building face. Awnings shall have a minimum clearance of eight (8) feet above a public sidewalk or right-of-way and be an integral part of the awning, not projecting above or below the vertical awning face.

Subd. 4 C-2, B-1 and I-1 Regulations. The following uses are permitted within the C-2, B-1 and I-1 Districts.

- A. Address Sign: One sign not to exceed four (4) square feet in area for each building.
- B. Monument Signs: One Monument Sign facing each street frontage may be permitted per lot. The Sign Area of any such Monument Sign shall not exceed sixty (60) square feet and shall not exceed twelve (12) feet in width or six (6) feet in height, except when adjacent to a major arterial. The total area of any such Monument Sign facing a major arterial shall not exceed eighty (80) square feet and shall not exceed fifteen (15) feet in width and eight (8) feet in height. No Monument Sign shall be placed closer than five (5) feet to any public right-of-way line. For multi-tenant buildings, one Monument Sign per lot is allowed. The Sign Area of each such Monument Sign shall not exceed eighty (80) square feet, with a maximum Sign Area of forty (40) square feet per tenant, except when adjacent to a major arterial. The total area of any such multi-tenant Sign facing a major arterial shall not exceed one hundred (100) square feet, with a maximum Sign Area of fifty (50) square feet per tenant.
- C. Wall Signs: One Wall Sign shall be permitted per Building Face, not to exceed two Wall Signs per building. For multi-tenant buildings, one Wall Sign per tenant is allowed provided that the Building Face coverage limitation set forth below is met.
 - 1. A maximum of 10% of the Building Face may be used for a Wall Sign.
 - 2. Signs shall not project above the roof level.

- D. Area Identification Signs: One Area Identification Sign per development entrance is allowed. The Sign Area of each such Sign shall not exceed sixty (60) square feet and shall not exceed fifteen (15) feet in width and six (6) feet in height. No Area Identification Sign shall be placed closer than five (5) feet to any public right-of-way line. The Area Identification Sign shall only identify the name of the business or industrial park.
- E. Pylon Signs: One Pylon Sign facing each street frontage may be permitted per lot. The Sign Area of any such Sign shall not exceed forty-eight (48) square feet and shall not exceed twelve (12) feet in width or six (6) feet in height, except when adjacent to a major arterial. The total area of any such Pylon Sign facing a major arterial shall not exceed sixty (60) square feet and shall not exceed fifteen (15) feet in width and eight (8) feet in height. No Pylon Sign shall be placed closer than five (5) feet to any public right-of-way line. For multi-tenant buildings, one Pylon Sign per lot is allowed. The Sign Area of each such Sign shall not exceed sixty (60) square feet, with a maximum Sign Area of thirty (30) square feet per tenant, except when adjacent to a major arterial. The total area of any such multi-tenant Sign facing a major arterial shall not exceed eighty (80) square feet, with a maximum Sign Area of forty (40) square feet per tenant. The height of any Pylon Sign shall not exceed thirty (30) as measured from the elevation of the centerline of the roadway upon which the sign is orientated. The maximum actual sign height shall be no more than forty (40) feet. The sign shall not be raised up by use of a natural or manmade material so as to create a base for the placement of the sign resulting in a height greater than thirty (30) feet as measured from the elevation of the centerline of the roadway.
- F. Directional Signs: Up to four (4) Directional Signs per lot are permitted. The Sign Area of each such Sign shall not exceed four (4) square feet or four (4) feet in height.

Section 1265- *Reserved*

Appendix 11

The City of Norwood Young America is a developing City with a steadily increasing number of water users. The City plans to focus on education and policies to maintain its current low residential per capita demand.

Activity Implemented	Activity or Action Item	Timeframe
X	Revise city ordinances/codes to limit irrigation	Ongoing. City continues to review and revise as needed
X	Make water system infrastructure improvements	Ongoing
X	Conduct audience-appropriate water conservation education and outreach.	Ongoing
X	Conduct a facility water use audit for both indoor and outdoor use, including system components	Ongoing
X	Maintain existing storm water management plan	Ongoing
X	Repair leaking system components (e.g., pipes, valves)	Ongoing
X	Reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	Ongoing
X	Perform Water Audit to track water usage and loss	Ongoing
X	Revise comprehensive Plan that guides development and infrastructure expansion for efficient use of municipal water systems.	2018

Minnesota Water Supply Plan Instructions & Checklist 2016-2018



Public Water Suppliers

All public water suppliers in Minnesota that operate a public water distribution system, serve more than 1,000 people and/or all cities in the seven-county metropolitan area, must have a water supply plan approved by the Department of Natural Resources (DNR). Water supply plans must be updated and submitted to the DNR for approval every ten years. This requirement, in place since the 1990s, is designed to encourage communities to deal proactively with providing sustainable drinking water for citizens, businesses, and industry.¹

These plan updates will be due between 2016 and 2018; the DNR will be notifying communities of the due date for each specific city water plan. All sections of the water supply plan must be completed in order for the plan to be approved. A checklist is included with these instructions on pages 4 and 5.

What is New?

- Plans can be submitted through Minnesota DNR Permitting and Reporting System (MPARS).
- DNR Hydrologists will be meeting with clusters of communities rather than individually. In the Twin Cities metropolitan area, Metropolitan Council staff will also provide technical assistance and in Greater MN, staff from MN Rural Waters Association will join us.
- There is a greater emphasis on water conservation/demand reduction and on developing rate structures that encourage conservation.
- Simplified reporting: More tables with check boxes; less writing required.
- Part 4 of the plan, required for communities in the seven-county metropolitan area, now reflects the Twin Cities metropolitan area Master Water Supply Plan
- Resources - can be found at www.mndnr.gov/watersupplyplans including copies of sample rate structures, conservation ordinances, education programs, water level recording forms, certificate of adoption, and other items as well as links to useful conservation web pages.

Submitting a Plan for DNR Approval

Preferably, please submit plans electronically to:

<https://webapps11.dnr.state.mn.us/mpars/public/authentication/login>

Steps for electronic submission:

1. Follow the above link and log into MPARS.
2. From your Account Overview Permits Tab, click on your primary Water Supply Permit Number.
3. Then click on Communication Tab.
4. Click New Message to Hydrologist (under Communication heading)

¹ see [Minn. Stat. 103G.291](#)

Individual Permit: 1958-0647

Status: Active

Actions
Communicate With Hydrologist
Request a Change to Permit

Overview Parties Attachments History Financial Water Use Communication

Communication

New Message to Hydrologist

5. Type in the Subject heading and a brief message

Communicate with Hydrologist

To: Julie Aadland

CC'd Staff:

If you want to cc any other Parties that are affiliated with this application/permit, select them from the list below:

Serocki, Tony

Parties must have an email address in our database to be in this list.
(Use Ctrl to select multiple)

Subject

Water Supply Plan

Message

Here's our latest plan

Attachments

Document Type	File
Add attachment	

Send Cancel

6. Click Add Attachment
7. Under Document Type drop down, select Water Supply Plan
8. Click choose file and attach your Water Supply Plan - **Naming convention:**
WSP_cityname_permitnumber_date.doc
Please include list of all permit numbers associated with this Water Supply in the message field
9. Hit Send at the bottom of the page

Or submit completed plans to:

DNR Waters
Water Permit Programs Supervisor
500 Lafayette Road
St. Paul, MN 55155-4025

Plans for communities in the seven-county metropolitan area will be automatically shared with the Metropolitan Council.

If you have questions regarding water supply plans, please call (651) 259-5034 or e-mail questions to wateruse.dnr@state.mn.us

Twin Cities Metropolitan Area Requirements

All communities that operate a public water supply system within the seven county Twin Cities metropolitan area, even those with fewer than 1,000 people, must complete a local water supply plan and submit it to the Metropolitan Council, adjacent communities, and the county for review and comment. These plans include completion of Part 4 of the local water supply plan template.



Please submit plans to DNR Ecological and Water Resources Division as described above. Plans for communities in the seven-county metropolitan area will be shared with the Metropolitan Council.

Final Plan Adoption by City or Board

Communities give the plan preliminary approval subject to DNR review and, for communities in the seven-county metropolitan area, by Metropolitan Council review.

If the DNR or Metropolitan Council have recommended changes, the community should incorporate them into the plan or respond before the plan is finally adopted.

Communities and utility boards must officially adopt the plan after it is approved by the DNR and, for metro communities, reviewed by Metropolitan Council.

A template of a city certification of adoption is found at www.mndnr.gov/watersupplyplans

Water Supply Plan Checklist

All sections of the plan must be completed in order for the plan to be approved. The following checklist can be used to make sure all elements of the plan have been completed.

Part 1. Water Supply System Description and Evaluation

<input checked="" type="checkbox"/>	Table 1. DNR Water Appropriation Permit Number & Utility Contact Information
<input checked="" type="checkbox"/>	Table 2. Historic Water Demand (Part 1, A)
<input checked="" type="checkbox"/>	Table 1. Large volume users (Part 1, A)
<input checked="" type="checkbox"/>	Table 2. Water treatment capacity and treatment processes (Part 1, B)
<input checked="" type="checkbox"/>	Table 3. Storage capacity, as of the end of the last calendar year (Part 1, B)) & discussion of current and future storage capacity needs
<input checked="" type="checkbox"/>	Table 4. Water sources & status (Part 1, C) & discussion of limitations
<input checked="" type="checkbox"/>	Table 5. Projected annual water demand (Part 1, D) & discussion of water use trends & projection method
<input checked="" type="checkbox"/>	Table 6. Source water quality monitoring (Part 1, E)
<input checked="" type="checkbox"/>	Table 9. Water level data (Part 1, E)
<input checked="" type="checkbox"/>	Table 10. Natural resource impacts (Part 1, E)
<input checked="" type="checkbox"/>	Table 11. Status of Wellhead Protection and Source Water Protection Plans (Part 1, E)
<input checked="" type="checkbox"/>	Table 12. Adequacy of Water Supply System (Part 1, F)
<input checked="" type="checkbox"/>	Table 13. Proposed future installations/sources (Part 1, F)
<input checked="" type="checkbox"/>	Table 14. Alternative water sources (Part 1, F)
<input checked="" type="checkbox"/>	Appendix 1: Well records and maintenance summaries
<input checked="" type="checkbox"/>	Appendix 2: Water level monitoring plan
<input checked="" type="checkbox"/>	Appendix 3: Water level graphs for each water supply well
<input checked="" type="checkbox"/>	Appendix 4: Capital Improvement Plan

Part 2. Emergency Planning and Response Procedures

<input checked="" type="checkbox"/>	Table 15. Emergency response plan contact information (Part 2, A) & Y/N questions
<input checked="" type="checkbox"/>	Table 16. Interconnections with other water supply systems to supply water in an emergency (Part 2, C) & Y/N questions
<input checked="" type="checkbox"/>	Table 17. Utilizing Surface Water as an Alternative Source (Part 2, C) & discussion of additional emergency water provisions
<input checked="" type="checkbox"/>	Table 18. Water use priorities (Part 2, C)
<input checked="" type="checkbox"/>	Table 19. Emergency demand reduction conditions, triggers and actions (Part 2, C)
<input checked="" type="checkbox"/>	Table 20. Plan to Inform Customers Regarding Conservation Requests, Water Use Restrictions, and Suspensions (Part 2, C) & discussion of restriction authority
<input checked="" type="checkbox"/>	Appendix 5: Emergency Telephone List
<input checked="" type="checkbox"/>	Appendix 6: Cooperative Agreements for Emergency Services
<input checked="" type="checkbox"/>	Appendix 7: Municipal Critical Water Deficiency Ordinance

Part 3. Water Conservation Plan

<input checked="" type="checkbox"/>	Table 21. Implementation of previous ten-year Conservation Plan (Part 3, A) & discussion of progress and results
<input checked="" type="checkbox"/>	Table 22. Short and long-term demand reduction conditions, triggers & actions (Part 3, A)
<input checked="" type="checkbox"/>	Y/N & discussion of leak detection monitoring, water audits & water loss (Part 3, B)
<input checked="" type="checkbox"/>	Table 23. Customer Meters (Part 3, B)
<input checked="" type="checkbox"/>	Table 24. Water Source Meters (Part 3, B)
<input checked="" type="checkbox"/>	Y/N & discussion of water use trends in residential GPCD (Part 3, B)
<input checked="" type="checkbox"/>	Table 25. Strategies and timeframe to reduce residential per capita demand (Part 3, B)
<input checked="" type="checkbox"/>	Table 26. Strategies and timeframe to reduce institutional, commercial, industrial, and agricultural and non-revenue use demand (Part 3, B)
<input checked="" type="checkbox"/>	Describe trends in customer use categories (Part 3, B)
<input checked="" type="checkbox"/>	Calculate ratio of maximum day demand to average day demand (Part 3, B)
<input checked="" type="checkbox"/>	Table 27. Rate structures for each customer category (add additional rows as needed)
<input checked="" type="checkbox"/>	Table 28. Additional strategies to Reduce Water Use & Support Wellhead Protection (Part 3, B)
<input checked="" type="checkbox"/>	Discuss how you will track success (Part 3, B)
<input checked="" type="checkbox"/>	Table 29. Regulations for short-term reductions in demand and long-term improvements in water efficiencies (Part 3, B)
<input checked="" type="checkbox"/>	Table 30. Retrofitting programs (Part 3, B)
<input checked="" type="checkbox"/>	Table 31. Current and Proposed Education Programs (Part 3, C) and discussion of future education plans
<input checked="" type="checkbox"/>	Appendix 8: Graph showing annual per capita water demand for each customer category during the last ten-years
<input checked="" type="checkbox"/>	Appendix 9: Water Rate Structure
<input checked="" type="checkbox"/>	Appendix 10: Adopted or proposed regulations to reduce demand/improve water efficiency
<input checked="" type="checkbox"/>	Appendix 11: Implementation Checklist

Part 4. Items Metropolitan Area Water Suppliers

<input checked="" type="checkbox"/>	Table 32. Alternative Approaches (Part IV, D)
<input checked="" type="checkbox"/>	Complete Technical Assistance question

Plan Submittal and Adoption

- ☐ Follow MPARS submission guidelines on page 1 of this document (preferred) or
Mail to: DNR Ecological & Water Resources
Water Permit Programs Supervisor
500 Lafayette Road
St. Paul, MN 55155-4032 Or e-mail to <http://www.dnr.state.mn.us/mpars/index.html>
- ☐ *(Metro communities with less than 1,000 people only)*
Follow MPARS submission guidelines on page 1 of this document (preferred) or
Mail to: Metropolitan Council
Reviews Coordinator
390 N Robert St
St. Paul, MN 55101 Or e-mail to ReviewsCoordinator@metc.state.mn.us

Certification of Plan Adoption

Date:



July 20, 2018

Minnesota Department of Natural Resources
Ecological and Water Resources
1200 Warner Road
St. Paul, MN 55106

RE: Norwood Young America Water Supply Plan

Dear Mr. Richter:

In response to your December 26, 2017 letter outlining issues that need to be addressed in order to have an approvable plan we have made the following modifications.

- Table 22 has been modified to eliminate the stream flow condition for short term demand reduction.
- Table 10 has been modified to add public water identification numbers for the two public water bodies that will be monitored for reduction in water elevation.

We would also offer the following statement in regard to water level monitoring and reporting.

The City of Norwood Young America is aware of its commitment to monitor water levels on a daily basis for Production wells #2 (Unique Number 132256) and #3NOR (Unique Number 420969). The City of Norwood Young America is also aware of its obligation to report water levels to the DNR groundwater level coordinator on a quarterly basis. Regretfully, due to staff turnover water levels for 2016 and 2017 were not recorded and are subsequently not available. However, the City will immediately reinstate recording of water levels of the two previously mentioned production wells and also resume quarterly submittal of collected data.

I am available to discuss this matter at your convenience.

Sincerely,


Steven Helget
City Administrator

Norwood Young America

APPENDIX C

Surface Water Management Plan



**BOLTON
& MENK**

Real People. Real Solutions.

SURFACE WATER MANAGEMENT PLAN

CITY OF NORWOOD YOUNG AMERICA, MN

November 2019

Submitted by:

Bolton & Menk, Inc.
2638 Shadow Lane, Suite 200
Chaska, MN 55318
P: 952-448-8838

Surface Water Management Plan

Norwood Young America, Minnesota

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.



By: _____

Robert Bean, Jr., P.E.
Registration No. 40410

Date: 11/18/2019

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1.0 EXECUTIVE SUMMARY

1.1 General Plan Description

The City of Norwood Young America's Surface Water Management Plan has been developed as a guide for the Norwood Young America City Council in its future decision making for related matters. The Plan thoughtfully considers Surface Water Management, identifies Water Resource management and the City's partners therein, includes an inventory of Land and Water Resources, raises major issues, goals, and policy objectives, begins to develop an assessment and implementation plan, and charts administrative procedures to enact the Plan.

The Surface Water Management Plan, as adopted by the City of Norwood Young America, is intended to provide context for the future decisions the City will face. It is not intended to be an absolute document – but rather a dynamic and flexible tool which considers the ever-changing pressures related to Surface Water Management. The Plan will address mandated requirements as defined by other Local, State, and Federal agencies. The City will consider these mandates carefully to ensure that its implementation is in the best interest of the broader community.

Many of the action items within the Plan require additional study – including an in-depth investigation into alternative strategies, methods, and processes. This additional study will be completed when it is determined to be most efficient and effective by the City.

The regulations outlined in this plan do not supersede those put forth by the Carver County Watershed Management Organization (CCWMO) or other Local, State, or Federal agencies. If a discrepancy exists between regulations contained in this plan and other agencies, the more restrictive requirement shall govern.

This plan is divided into eight sections as follows:

1. **Section 1.0. Executive Summary** provides background information and summarizes the plan contents.
2. **Section 2.0. Surface Water Management Plan Purpose** outlines the purpose of this plan.
3. **Section 3.0. Water Resources Management Responsibilities and Related Agreements** identifies resource management authority and any water resources related agreements existing between Norwood Young America and nearby cities, state, or county.
4. **Section 4.0. Land and Water Resources Inventory** presents information about the topography, geology, groundwater, soils, land use, public utilities, surface waters, hydrologic system and data, as well as the existing drainage system.
5. **Section 5.0. Major Issues, Goals, and Policies** outlines Norwood Young America's major issues, goals and policies, as well as implementation strategies, pertaining to water resources management.
6. **Section 6.0. Water Resources Assessment and Implementation Plan** presents information about existing water resources along with current and potential issues. This section provides solutions in the form of proposed restorations or stormwater treatment improvements, provides a general opinion of probable costs, discusses funding mechanisms, identifies project partners, provides prioritization and a potential schedule for surface water management capital improvement projects, and discusses educational

opportunities.

7. **Section 7.0. Administration** describes potential methods of ensuring that this plan is maintained and identifies a procedure to keep the modeled data current as various developments occur. This section also includes an evaluation of the implementation of this plan.
8. **Section 8.0. Appendices** provide a general location for attachments, relative documentation and initial modeled system data sheets.

1.2 Background

The City of Norwood Young America (2010 census population 3,549) is in southwest Carver County. US Highway 212 runs east to west through the city and TH 5/25 runs southwest to northeast along the northwest side of the City. Norwood Young America's nearest incorporated neighbor is Hamburg, which lies approximately 6.2 miles to the southwest. Most of the surrounding land use outside of the city is agriculture at this time. The study area is indicated in **Figure 1**.

Norwood Young America is completely located within the boundary of the Carver County Watershed Management Organization (CCWMO). Runoff from the City drains either north to Eagle Lake or Tiger Lake and the South Fork of the Crow River or south to Bevens Creek. For this plan, the study area was divided into multiple subwatershed regions (**Figure 10**).

The area around Norwood Young America is predominantly undeveloped agricultural land. The City can expand in most directions and is only limited by the existing lakes and wetlands; however, care should be exercised in maintaining the naturally forested areas and providing ecological corridors and enhanced natural-area connectivity wherever feasible. Measures must be taken to mitigate future runoff rates and volumes to maintain the integrity of surface water bodies within and around Norwood Young America. An ordered growth with consideration given to storm water management is the primary goal of this Surface Water Management Plan.

1.3 Major Issues

Section 5.0 outlines Norwood Young America's major issues, goals and policies, as well as implementation strategies, pertaining to water resources management. Following is a summary of the major issues identified:

- 1.3.1 **Surface Water Management.** Poor management of surface water resources can lead to flooding and low water quality.
- 1.3.2 **Impaired Waters.** No impaired waters are located with the 2030 boundary of Norwood Young America; however, receiving waters for runoff from the City both to the north and south are impaired. Eagle Lake is impaired for mercury in fish tissue and nutrient/eutrophication biological indicators, which inhibit aquatic consumption and recreation. The Crow River, South Fork is impaired for chloride, fish bioassessment, turbidity, fecal coliform, and mercury in fish tissue, which inhibit aquatic life, recreation, and consumption. Bevens Creek is impaired by fecal coliform and turbidity, which inhibit aquatic life.

- 1.3.3 **Urban Stormwater Management.** Land development substantially increases the rate and volume of surface water runoff due to the increase in impervious surfaces. Unmanaged runoff increases sedimentation, pollution, erosion, and flooding downstream and decreases groundwater recharge.
 - 1.3.4 **Wetlands Management.** Draining, filling, or excavating wetlands significantly impacts the water quality of downstream surface waters. The loss of existing wetlands leads to increases in sedimentation, pollution, erosion, and flooding downstream and decreases the diversity and integrity of vegetation and wildlife.
 - 1.3.5 **Upland Natural Resources.** Loss of natural upland areas can lead to a decrease in the function and quality of surface water resources.
 - 1.3.6 **Ground Water Management.** Groundwater quality and availability can be significantly impacted by many different land use activities.
 - 1.3.7 **Education.** Most potential contamination threats, sources of pollution, and increases in stormwater runoff to water resources are related to human activities.
- 1.4 Goals

Section 5.0 outlines Norwood Young America's major issues, goals and policies, as well as implementation strategies, pertaining to water resources management. Following is a summary of the City's goals:

- 1.4.1 **Surface Water Management.** Maintain or improve the physical, chemical, biological, and aesthetic condition of surface water resources.
- 1.4.2 **Impaired Waters.** Develop and implement plans as necessary to reduce pollutant loads for waters that do not meet Total Maximum Daily Loads (TMDLs) approved by the EPA. Coordinate City efforts with applicable Implementation Plans as approved by the Minnesota Pollution Control Agency. See Section 5.2.1S for a list of approved TMDLs and Implementation Plans.
- 1.4.3 **Urban Stormwater Management.** Minimize and mitigate the impacts of urban stormwater runoff on water resources.
- 1.4.4 **Wetlands Management.** Manage and protect wetlands to maximize wetland functions and improve surface water resources.
- 1.4.5 **Upland Natural Resources.** Manage and protect natural upland areas adjacent to surface water resources to mitigate degradation of surface waters and increase the quantity, quality and biological diversity of natural areas.
- 1.4.6 **Ground Water Management.** Protect the quality and quantity of groundwater resources.
- 1.4.7 **Education.** Provide the public with the knowledge, skills, and motivation to protect and improve surface water and groundwater resources.

1.5 Policies and Implementation Strategies

A list of policies and implementation strategies is included in **Section 5.0** for each major issue. The policies and implementation strategies discuss responsible parties, define specific City policies, and outline strategies to implement this plan. The policies and implementation strategies are intended to guide City planning. Following is a summary of the City's policies:

1.5.1 **Surface Water Management.**

1. Continue to administer and maintain the Shoreland Management Overlay District ordinance in accordance with state regulations and the County's CWRMP.
2. Evaluate and correct flooding issues on City property as necessary to protect public safety and minimize potential for property damage.
3. Provide support to landowners in evaluating and correcting localized flooding issues.
4. Promote additional storage and runoff reduction through wetland restoration, ponding, infiltration, filtration, and stream or ditch diversions.
5. Evaluate outlet control structures for performance and work with landowners, CCWMO, and/or the Minnesota Department of Natural Resources (MnDNR) to replace or repair the structures if needed.
6. Promote education regarding the benefits of proper surface water resources management.

1.5.2 **Impaired Waters.**

1. Reduce pollutant loading to Impaired Waters in order to restore water quality to State standards.
2. Promote education regarding the benefits of pollutant load reduction.

1.5.3 **Urban Stormwater Management.**

1. Continue to meet or exceed the National Pollutant Discharge Elimination System (NPDES) requirements as they apply to the City of Norwood Young America.
2. Apply regulatory standards that help the City meet its goal for Urban Stormwater Management.
3. Prioritize potential stormwater projects that will decrease local runoff rates and volumes and increase water quality.
4. Maintain the stormwater drainage system using the practices described in this plan. Public Services Department is responsible for implementing the plan.
5. Maintain roads using the practices described in this plan. Public Services Department is responsible for implementing the O&M Plan.
6. Maintain City's database for stormwater related data.
7. Promote education regarding the benefits of proper urban stormwater management.

1.5.4 **Wetlands Management.**

1. Achieve no net loss in the quantity, quality, and diversity of existing wetlands through enforcement of Wetland Management regulations.
2. Promote wetland restoration, to mitigate historical impacts to wetlands and increase the quantity and quality of wetlands locally.
3. Promote education regarding the benefits of proper wetland management.

1.5.5 **Upland Natural Resources.**

1. Increase the quantity and quality of existing natural areas through

enforcement of existing regulations and the participation of willing landowners in existing preservation and restoration programs.

2. Promote the restoration of natural upland areas, to mitigate the degradation and fragmentation of natural resources and improve water quality of surface water resources.
3. Promote education regarding the benefits of proper natural upland management.

1.5.6 **Ground Water Management.**

1. Protect groundwater quality and groundwater supplies.
2. Promote groundwater recharge, if soil conditions allow.
3. Promote education regarding the benefits of proper groundwater management.

1.5.7 **Education.**

1. Increase public awareness, understanding, and involvement in water and natural resource issues and management.

2.0 SURFACE WATER MANAGEMENT PLAN PURPOSE

This Surface Water Management Plan (SWMP) meets the requirements of Minnesota Statute 103B.235 and Minnesota Rule 8410. Minnesota Statute 103B.201 states that the purposes of the water management programs are to:

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

This SWMP complies with Carver County Code – Section 153 – Water Resource Management Rules and the Carver County Watershed Management Organization Comprehensive Water Resources Management Plan (CWRMP).

3.0 WATER RESOURCE MANAGEMENT RESPONSIBILITIES AND RELATED AGREEMENTS

The City of Norwood Young America is responsible for construction, maintenance, and other projects in or along the City's storm water management systems (i.e., ponds, pipes, channels, etc.). However, the City of Norwood Young America must comply with the Carver County Watershed Management Organization Rules (County Code – Section 153), as well as the MPCA's NPDES General Stormwater Permit for Construction Activity (MN R100001). **Section 5.0** of this plan further outlines responsibilities and a summary of responsibilities is included in **Appendix E**. Following are a list of water resources related agreements between the City and other entities:

- With Carver County regarding inspection of SSTs within City limits.
- With Carver County regarding Water Resources-Related Education (in development).

The regulations outlined in this plan do not supersede those put forth by the Carver County Watershed Management Organization (CCWMO) or other Local, State, or Federal agencies. If a discrepancy exists between regulations contained in this plan and other agencies, the more restrictive requirement shall govern.

4.0 LAND AND WATER RESOURCES INVENTORY

4.1 Physical Environment

4.1.1 Climate and Precipitation

Norwood Young America has a Humid Continental Climate, typified by considerable seasonal temperature differences, hot and humid summers, and cold to extremely cold winters, and is in USDA Plant Hardiness Zone 4b. Native vegetation has a seven-month growing season (April to October) and crops have a five-month growing season (May to September). Two-thirds of the precipitation occurs during the crop growing season, with a total of almost 32 inches annually. Refer to **Table 4-1** for a 30-year average of temperature and precipitation Data. Refer to Point Precipitation Frequency Estimates provided by the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 for estimated precipitation amounts for specific frequencies, durations, and locations at the link listed below.

https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=mn

Table 4-1: 1981-2010 Monthly Climate Normals (Chaska, MN)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Daily Maximum Temperature (°F)	26.0	30.9	43.3	60.4	72.2	81.2	85.3	82.2	74.3	61.0	42.9	29.0	57.5
Daily Minimum Temperature (°F)	6.6	11.2	23.5	36.3	48.5	57.8	62.5	60.5	51.7	39.1	25.8	11.8	36.4
Average Daily Temperature (°F)	16.3	21.0	33.4	48.4	60.3	69.5	73.9	71.4	63.0	50.1	34.3	20.4	46.9
Precipitation (in)	0.84	0.58	1.73	2.87	3.59	4.24	4.26	4.96	3.43	2.48	1.73	1.14	31.85
Snowfall (in)	10.5	7.0	8.7	2.0	0.0	0.0	0.0	0.0	0.0	0.1	9.3	8.3	45.9

Source: U.S. Climate Normals 1981-2010. National Climate Data Center

4.1.2 Topography and Drainage

The topography of Norwood Young America is undulating. Runoff from the northern part of the City that drains to Braunworth Lake and then to Eagle Lake and the western part of the City that drains to Tiger Lake ultimately discharges north to the South Fork of the Crow River. Runoff from the remainder of the study area, including the watersheds of Brand Lake, Fredericks Lake, Young America Lake, and Barnes Lake, drain southeast through County Ditches No. 4 and 5 to County Ditch 4A and ultimately Bevens Creek. Refer to **Figure 10**.

4.1.3 Geology

Refer to CCWMO's Comprehensive Water Resources Management Plan (CWRMP) for a description of Carver County geology.

4.1.4 Soils

Infiltration capacities of soils affect the amount of direct runoff resulting from rainfall. Higher infiltration rates result in lower runoff, and low infiltration rates produce high runoff volumes and high peak discharge rates. Therefore, the Natural Resource Conservation Service (NRCS) developed a system to classify the effect soil has on runoff volumes. Refer to **Table 4-2** for descriptions of each soil classification.

Table 4-2: Hydrologic Soil Groups

A	<p>Soils in this group have low runoff potential when thoroughly wet. Water is transmitted freely through the soil. Group A soils typically have less than 10% clay and more than 90% sand or gravel and have gravel or sand textures. Some soils having loamy sand, sandy loam, loam or silt loam textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35% rock fragments.</p> <p>The saturated hydraulic conductivity of all soil layers exceeds 5.67 in/hr. The depth to any water impermeable layer is greater than 20". The depth to the water table is greater than 24". Soils that are deeper than 40" to a water impermeable layer are in group A if the saturated hydraulic conductivity of all soil layers within 40" of the surface exceeds 1.42 in/hr.</p>
B	<p>Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded. Group B soils typically have between 10- 20% clay and 50- 90% sand and have loamy sand or sandy loam textures. Some soils having loam, silt loam, silt, or sandy clay loam textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35% rock fragments.</p> <p>The saturated hydraulic conductivity in the least transmissive layer between the surface and 20" ranges from 1.42 to 5.67 in/hr. The depth to any water impermeable layer is greater than 20". The depth to the water table is greater than 24". Soils that are deeper 40" to a water impermeable layer or water table are in group B if the saturated hydraulic conductivity of all soil layers within 40" of the surface exceeds 0.57 in/hr but is less than 1.42 in/hr.</p>
C	<p>Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted. Group C soils typically have between 20- 40% clay and less than 50% sand and have loam, silt loam, sandy clay loam, clay loam, and silty clay loam textures. Some soils having clay, silty clay, or sandy clay textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35% rock fragments.</p> <p>The limits on the diagnostic physical characteristics of group C are as follows. The saturated hydraulic conductivity in the least transmissive layer between the surface and 20" is between 0.14-1.42 in/hr. The depth to any water impermeable layer is greater than 20". The depth to the water table is greater than 24". Soils that are deeper than 40" to a restriction or water table are in group C if the saturated hydraulic conductivity of all soil layers within 40" of the surface exceeds 0.06 in/hr but is less than 0.57 in/hr.</p>
D	<p>Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted. Group D soils typically have greater than 40% clay, less than 50% sand, and have clayey textures. In some areas, they also have high shrink-swell potential. All soils with a depth to a water impermeable layer less than 20" and all soils with a water table within 24" of the surface are in this group, although some may have a dual classification, as described in the next section, if they can be adequately drained.</p> <p>The limits on the physical diagnostic characteristics of group D are as follows. For soils with a water impermeable layer at a depth between 20-40", the saturated hydraulic conductivity in the least transmissive soil layer is less than or equal to 0.14 in/hr. For soils that are deeper than 40" to a restriction or water table, the saturated hydraulic conductivity of all soil layers within 40" of the surface is less than or equal to 0.06 in/hr.</p>
A/D B/D C/D	<p>Certain wet soils are placed in group D based solely on the presence of a water table within 24" of the surface even though the saturated hydraulic conductivity may be favorable for water transmission. If these soils can be adequately drained, then they are assigned to dual hydrologic soil groups (A/D, B/D, and C/D) based on their saturated hydraulic conductivity and the water table depth when drained. The first letter applies to the drained condition and the second to the undrained condition. For the purpose of hydrologic soil group, adequately drained means that the seasonal high-water table is kept at least 24" below the surface in a soil where it would be higher in a natural state.</p>

Source: Natural Resource Conservation Service

The underlying soils in and around the city are primarily Type B and Type D, with inclusions of A and C scattered throughout. Many of the Type D soils will act as Type A or B soils when containing draitiles, such as those installed for agricultural purposes.

During the development process these tiles will be removed and the soils will revert to their less-permeable state leading to increased surface runoff. Refer to **Figure 4** for location of soil types. In general, Norwood Young America soils are mostly the Lester-Hayden-Peat association in the north, with some Lester-LeSueur-Peat to the south. Additional information regarding area soils can be found in the CWRMP.

4.1.5 Unique Features, Scenic Areas, & Water-based Recreation

Barnes Lake, Brand Lake, Braunworth Lake, Eagle Lake, Fredericks Lake, Tiger Lake, Young America Lake, the South Fork of the Crow River, Bevens Creek, Carver Creek and the other surrounding lakes, wetlands, and streams provide scenic views in the Norwood Young America area and water-based recreational opportunities. Several parks are scattered throughout the city. Community parks include Casper Park, Friendship Park, Kehrer Park, Legion Park (Pool Park), Prairie Dawn Park, Skate Park,

South Park, the Sports Complex, and Willkommen Park. Amenities provided by the City parks include playgrounds, benches, baseball and softball diamonds, soccer fields, a community pool, skateboarding, ice rinks and warming houses, picnic areas and shelters, tennis courts, volleyball courts, basketball courts, and natural spaces. City sidewalks and local trails provide walking, running, and biking opportunities. Also, several regional parks and wildlife management areas are located within the county. Additional information regarding unique features, scenic areas, and water-based recreation can be found in the CWRMP.

4.2 Biological Environment

4.2.1 Land Cover

Very little of the vegetation present prior to European settlement remains in and around Norwood Young America. Land cover now consists of mainly agricultural land, urban development, and wetlands. In 2007, all land within Carver County was mapped using the Minnesota Land Cover Classification System (MLCCS). Refer to **Figure 5** for the portion of area in and around Norwood Young America. The MLCCS was developed by the Minnesota Department of Natural Resources (MnDNR) and categorizes all areas by type of land cover into two categories. Natural/Semi-natural areas consist of forests, grasslands, wetlands, etc, and Cultural areas consist of urban and agricultural areas. The two categories are further subdivided based on plant types, soil hydrology, plant species, and amount of impervious surface. At this point the city has no goals or policies relating to these classifications; however, the city is interested in preserving critical natural areas and working with the county to establish appropriate policies. Additional information regarding land cover can be found in the CWRMP.

4.2.2 Rare, Threatened, and Endangered Species

The Department of Natural Resources' Natural Heritage and Nongame Research Program maintains a database listing natural communities and rare plant and animal observations. Currently, the database lists one natural community and one animal aggregation within a one-mile radius of the city limits of Norwood Young America. Tiger Lake is surrounded by a mixed emergent marsh and is also the location of a colonial water bird nesting site. Additional information regarding rare, threatened, and endangered species can be found in the CWRMP.

4.2.3 Natural Resource Assessment

Carver County completed a natural resource assessment in 2007. Utilizing the county's land cover inventory as the base, a GIS-based tool was developed to prioritize networks of connected, high quality open areas and identify areas where natural systems should be preserved or restored. The resource assessment component analyzed existing natural areas for benefits provided to both wildlife and humans and established a natural area ranking system from which land use decisions can be made. The restoration assessment component evaluated and prioritized restoration opportunities. Within the study boundary, the areas surrounding Barnes Lake, Brand Lake, Braunworth Lake, Fredericks Lake, Tiger Lake, and Young America Lake were assessed as moderate to high natural resource value. Several wetland areas were also assessed as moderate to high natural resource value, and the area adjacent to County Ditches 4, 4A, and 5 was assessed as high restoration potential. Additional information regarding the natural resource assessment can be found in the CWRMP.

4.2.4 Fish and Wildlife Habitat

In the Norwood Young America area, Barnes Lake, Brand Lake, Braunworth Lake, Eagle Lake, Fredericks Lake, Tiger Lake, Young America Lake, the South Fork of the

Crow River, Bevens Creek, Carver Creek, and multiple wetlands and woodlands provide habitat for a wide variety of fish, birds, and animals. Fish species include Black Bullhead, Black Crappie, Bluegill, Brown Bullhead, Golden Shiner, Hybrid Sunfish, Largemouth Bass, Northern Pike, Pumpkin Seed, Tiger Muskellunge, Walleye, and Yellow Perch. Bird species include several of both migratory and non-migratory varieties. Animal species include badger, bat, beaver, chipmunk, coyote, ermine, fox (Gray and Red), Heather vole, Least shrew, Long-tailed weasel, mink, mole, muskrat, Plains pocket mouse, porcupine, rabbit (Eastern Cottontail and White-tailed Jack), raccoon, river otter, Striped skunk, squirrel (Fox, Gray, Red, and Thirteen-lined Ground), Virginia Opossum, and white-tailed deer. Additional information regarding county fish and wildlife habitat can be found in the CWRMP.

4.3 Human Environment

4.3.1 Existing and Planned Land Use

The City of Norwood Young America has developable space in most directions and is limited only by area wetlands and lakes. Land use is an important factor in estimating surface water runoff, as the impervious surface associated with each land use greatly affects the amount of runoff generated. **Figure 2** exhibits existing land uses in Norwood Young America and **Figure 3** exhibits the projected land uses for the year 2040. It is presumed that continued development will be predominantly residential with some commercial/industrial expansion to the east. With these projections, priority areas have been identified for future water resource improvements or enhancements. Additional information regarding existing and planned land use in the area can be found in the City of Norwood Young America 2040 Comprehensive Plan and the CWRMP.

4.3.2 Metropolitan Urban Service Area (MUSA)

The MUSA is the area in which the Metropolitan Council oversees the planning, installation, and maintenance of regional facilities, such as sewers and highways. No portion of Norwood Young America is located within the Metropolitan Urban Service Area. Additional information regarding the Metropolitan Urban Service Area can be found in the CWRMP.

4.3.3 Open Space and Recreation

Eagle Lake provides opportunities for sport fishing and water recreational activities. Numerous city parks provide outdoor recreational opportunities, and local sidewalks and trails provide a location for walking, running, and biking. Also, several regional parks, trails and wildlife management areas are located within the county. Additional information regarding open space and recreation can be found in the CWRMP.

4.3.4 Potential Environmental Hazards

Potential environmental hazards within the City include known and potential sources of soil and groundwater contamination listed by the Minnesota Pollution Control Agency (MPCA), feedlots, and wells.

Known and Potential Sources of Soil and Groundwater Contamination: The MPCA maintains a database of sites with known or potential soil and groundwater contamination, including Superfund candidate sites, contaminated soil treatment facilities, leak sites, petroleum brownfields, state assessment sites, and voluntary investigation and cleanup sites. The database contains sites that have already been investigated and cleaned up, sites currently enrolled in MPCA cleanup programs, and sites suspected of contamination but found to be clean after investigation. Additional information regarding known or potential contamination sites can also be found in the

CWRMP. A complete listing of sources and interactive map is provided on the MPCA's website at the following location:

<https://www.pca.state.mn.us/data/contaminated-sites-data>

Feedlots: An animal feedlot is defined by MN Administrative Rule 7020.0300 as “a lot or building or combination of lots and buildings intended for the confined feeding, breeding, raising, or holding of animals and specifically designed as a confinement area in which manure may accumulate, or where the concentration of animals is such that a vegetative cover cannot be maintained within the enclosure. For purposes of these parts, open lots used for the feeding and rearing of poultry (poultry ranges) shall be considered animal feedlots.” Due to the high density of animals and lack of vegetation in feedlots, these areas are likely to produce runoff contaminated with animal waste, sediment, and other pollutants. According to the MPCA's database, several feedlots exist in and around Norwood Young America. Additional information regarding feedlots can be found on the MPCA's website or in the CWRMP.

Wells: Wells are commonplace in Carver County, and when properly installed, they pose no threat for potential contamination of groundwater. However, if improperly installed or abandoned, wells can provide a conduit for pollutants to enter groundwater. The County maintains an Index of known wells, some of which have been properly abandoned and sealed. However, those still in operation or abandoned but not properly sealed may allow for contamination of aquifers. Additional information regarding wells can be found in the CWRMP.

4.4 Hydrologic Systems

4.4.1 Surface Water Resources

Watershed Boundaries:

Norwood Young America is completely located within the boundary of the Carver County Watershed Management Organization (CCWMO). Runoff from the City drains either north to Eagle Lake and the South Fork of the Crow River or south to Bevens Creek. For this plan, the study area was divided into multiple subwatershed regions (**Figure 10**).

Stormwater Drainage and Treatment System

The areas of Norwood Young America consisting of newer developments typically contain storm sewer in good condition, stormwater treatment ponds, and infiltration basins. The older areas of town do not contain any treatment ponds or infiltration basins. However, the storm sewer in the areas without treatment measures does effectively convey runoff. Refer to **Figure 11** for the Storm Sewer System Map.

Public Waters

Public waters are lakes, wetlands, and watercourses that are under the regulatory jurisdiction of the Minnesota Department of Natural Resources (MnDNR). In and around Norwood Young America, the MnDNR's Public Water Inventory identifies Barnes Lake, Brand Lake, Braunworth Lake, Eagle Lake, Tiger Lake, Young America Lake, the South Fork of the Crow River, Bevens Creek, Carver Creek, and several smaller basins and wetlands as public waters. Refer to **Figure 6** for a map of the National Wetland Inventory and DNR Public Waters.

Lakes

Barnes Lake (Lake ID 10-0109-00): Barnes Lake is 175-acre highly eutrophic lake with a watershed comprised of approximately half developed land and half agricultural land. It is in the eastern portion of the study boundary and discharges to County Ditch No. 4. Barnes Lake is classified as a Natural Environment lake and the City of Norwood Young America requires controlled development of its shoreland. The DNR OHWL of the lake is 971.00, with the highest level ever recorded being 973.5 and the lowest level being 969.94.

Brand Lake (Lake ID 10-0110-00): Brand Lake is a 134-acre highly eutrophic lake with a watershed comprised of approximately half developed land and half agricultural land. It is in the southwestern portion of the study boundary and discharges to County Ditch No. 4. Brand Lake is classified as a Natural Environment lake and the City of Norwood Young America requires controlled development of its shoreland. The DNR OHWL of the lake is 980.60, with the highest level ever recorded being 981.10 and the lowest level being 979.60.

Braunworth Lake (Lake ID 10-0107-00): Braunworth Lake is a 93-acre highly eutrophic lake with a watershed comprised mostly of developed land. It is in the northern portion of the study boundary and discharges to Eagle Lake. Braunworth Lake is classified as a Natural Environment lake and the City of Norwood Young America requires controlled development of its shoreland. The DNR OHWL of the lake is 976.60, with the highest level ever recorded being 976.90 and the lowest level being 976.42.

Eagle Lake (Lake ID 10-0121-00): Eagle Lake is a 233-acre highly eutrophic lake with a watershed comprised primarily of agricultural land. It is located northwest of the study boundary and discharges to the South Fork of the Crow River. The lake is listed by the State as impaired for mercury in fish tissue and nutrient/ eutrophication biological indicators. Mercury in fish tissue is a widespread issue and the State has prepared a state-wide TMDL to reach mercury reduction goals. The TMDL for nutrient/eutrophication biological indicators was approved by the EPA on September 28, 2010 as part of the South Fork Crow River Lakes: Excess Nutrients (Metro) TMDL. The corresponding Implementation Plan was approved by the MPCA on November 3, 2010. The DNR ordinary high-water level (OHWL) of the lake is 965.70, with the highest level ever recorded (since 1960) being 967.53 (2001) and the lowest level being 965.06 (2000).

Fredericks Lake (Lake ID 10-0112-00): Fredericks Lake is a shallow 145-acre basin with a watershed comprised of primarily agricultural land. It is located on the southern edge of the study boundary and discharges to County Ditch No. 5.

Tiger Lake (Lake ID 10-0108-00): Tiger Lake is a 575-acre highly eutrophic lake with a watershed comprised mostly of agricultural land. It is located adjacent to the western edge of the study boundary and discharges to the South Fork of the Crow River. Tiger Lake is classified as a Natural Environment lake and the City of Norwood Young America requires controlled development of its shoreland. The DNR has not established an OHWL for the lake. The highest level ever recorded is 972.43, and the lowest level ever recorded is 969.50.

Young America Lake (Lake ID 10-0105-00): Young America Lake is a 110-acre highly eutrophic lake with a watershed comprised of approximately half developed land and half agricultural land. It is in the northeastern portion of the study boundary and discharges to Barnes Lake. Young America Lake is classified as a Natural Environment

lake and the City of Norwood Young America requires controlled development of its shoreland. The DNR OHWL of the lake is 972.60, with the highest level ever recorded being 972.68 and the lowest level being 972.56.

Streams

South Fork of the Crow River (Stream ID 07010205-508): The South Fork of the Crow River is located northwest of the study boundary and is the ultimate receiving water for discharge from Tiger Lake and Eagle Lake. This stretch of the South Fork of the Crow River is on the State's 303(d) Impaired Waters list for chloride, fish bioassessment, turbidity, fecal coliform, and mercury in fish tissue. Mercury in fish tissue is a widespread issue and the State has prepared a state-wide TMDL to reach mercury reduction goals. The TMDLs for the other impairments have not yet been completed. As development occurs, the fecal coliform concentration in the river should be reduced through the reduction in the number of feedlots contributing runoff and natural fertilizer applied to fields. Additionally, as agricultural land is developed the untreated runoff currently reaching the river should have improved water quality as a result of required Best Management Practices.

Bevens Creek (Stream ID 07020012-717): Bevens Creek is located south of the study boundary and is the ultimate receiving water for the majority of runoff from Norwood Young America. Runoff drains to County Ditch No. 4 (CD4) and County Ditch No. 5 (CD5), which join approximately ½ mile southeast of the study boundary to form County Ditch 4A (CD4A). CD4A then discharges to Bevens Creek approximately 2 miles southeast of the study boundary. The creek is on the State's 303(d) Impaired Waters list for turbidity and fecal coliform. The Carver-Bevens-Silver Creeks Fecal Coliform TMDL was approved by the EPA on March 14, 2007, and the corresponding Implementation Plan was also approved by the MPCA in March 2007. The Bevens Creek Turbidity TMDL was approved by the EPA on September 20, 2012, but the corresponding Implementation Plan is yet to be approved by the MPCA. As development occurs, the fecal coliform concentration in the river should be reduced through the reduction in the number of feedlots contributing runoff and natural fertilizer applied to fields. Additionally, as agricultural land is developed the untreated runoff currently reaching the river should have improved water quality as a result of required Best Management Practices.

Public Ditches

Brand Lake and Barnes Lake discharge to County Ditch No. 4 (CD4) on the southeast corner of the study boundary. County Ditch No. 5 (CD5) provides drainage for the southern portion of the study boundary, including Fredericks Lake. CD4 and CD5 connect approximately ½ mile southeast of the study boundary to form County Ditch No. 4A (CD4A). CD4A discharges to Bevens Creek approximately 2 miles southeast of the study boundary.

Wetlands

In 1986, the Emergency Wetland Resources Act mandated the U.S. Fish and Wildlife Service to complete a National Wetland Inventory (NWI). Wetlands in Minnesota were mapped between 1991 and 1994, and the NWI map indicates potential wetlands scattered throughout the City of Norwood Young America (**Figure 6**).

In 2003, CCWMO completed a Wetland Function and Value Assessment (WFVA) for wetlands located within their watershed. Wetlands were evaluated for surface water

runoff, flood water storage, shoreline stabilization, water quality, habitat, landscape and wetland characteristics, and aesthetics, with basins smaller than one acre being excluded from the assessment. Rankings of high, medium, or low were then assigned to each wetland or potential wetland restoration site. These rankings are now being used to apply buffer standards, for stormwater and natural resource planning for growth and redevelopment areas, and to prioritize restoration opportunities. The wetlands in and around Norwood Young America currently vary in rank from low all the way to high. Also, several potential restoration sites within the study boundary with rankings of low to high have been identified by the WFVA (**Figure 7**).

Floodplain

The State defines floodplain as the area covered by a flood that has a 1% chance of occurring in a given year, also known as the 100yr flood. A floodplain is divided into two parts: the floodway and flood fringe. The floodway includes the basin, river channel, and portion of the floodplain necessary to discharge the 100yr flood. The flood fringe is the portion of floodplain outside the floodway. The MnDNR oversees administration of the state Floodplain Management Program. This program promotes and ensures sound development in floodplain areas to protect public safety and health and minimize economic impacts from flood damage. Therefore, MnDNR has created minimum standards for floodplain management and requires all local floodplain regulations to be compliant with these standards. The City does not participate in the National Flood Insurance Program and does not currently have a city ordinance pertaining to floodplain management. Refer to the following link for more information regarding the FEMA 100-year floodplain areas around the City.

<https://msc.fema.gov/portal/advanceSearch#>

Flood Insurance Studies

- No FEMA map for Norwood Young America is currently available.
- Flood Insurance Study for Carver County, MN and Incorporated Areas (FIS # 27109CV000A-1) dated December 21, 2018

Known Flooding Issues

- Poplar Ridge Drive: Water in the area of Poplar Ridge Drive and Industrial Blvd sheet drains to the north causing flooding near two apartment buildings. Previously, a swale was constructed to assist in conveying the water to the wetland located to the east. Additional storm sewer is planned as part of a future street project to intercept some of the water upstream of the problem area on Poplar Ridge Drive.
- South Park: South Park is in a low area that frequently ponds water. The storm sewer outlet from the park discharges to the east through undersized pipes located in back yards that do not contain easements. Preliminary design has been completed that relocates the outlet piping into South Street. South Street is proposed to be reconstructed as the next street project and this work would be able to be completed at that time. The downstream portion of this outlet piping was previously constructed as part of the Faxon Road project. Additional improvements in the park to reduce volume and treat the stormwater will also be evaluated as part of that project.
- Trilane Drive: The ditch along TH 5 is extremely flat, and runoff ponds in the

adjacent yards on Trilane Drive even during smaller events.

- Oak Lane Trail: Due to low elevations, the trail adjacent to Oak Lane and the driveway to 425 3rd Avenue are overtopped during medium to large events and during spring snowmelt.
- Ditch: The City conveys most of its stormwater through a ditch that meanders through town. This ditch is monitored for water levels and sediment/deadfall/debris levels. As capacity of the ditch is reduced over time adjacent properties begin to have flooding issues. To maintain proper conveyance the City cleans/excavates this ditch as necessary. Each segment of the ditch is cleaned approximately every 10 years.

Stormwater Runoff Treatment

The older portions of Norwood Young America contain very little stormwater runoff treatment facilities (i.e. wet ponds, rain gardens, sump manholes, treatment devices, etc.). However, the new areas of town have been constructed to meet County Ordinances for stormwater management current at the time of construction, and as such these areas contain wet retention ponds, rain gardens, and other Best Management Practices to provide water quality improvement. Refer to **Figure 9** for differing areas of stormwater runoff treatment. Treated Areas – Surface Storage includes ponds and bioretention basins. Treated Areas – WQ Device includes water quality treatment devices (i.e. sump manholes with baffles, hydrodynamic separators, etc.). Untreated Urban Areas include areas of residential, commercial, and industrial development that currently have no treatment measures for stormwater runoff prior to discharge to surface waters. Areas with no hatching indicated are currently undeveloped areas.

Water Quality Data & Monitoring Sites

Norwood Young America does not monitor surface water resources nor is it equipped to do so. However, the City will continue to support monitoring of surface waters within the City. Data will be obtained through cooperation and coordination with other various agencies, including the CCWMO, Minnesota Pollution Control Agency (MPCA), and the Department of Natural Resources. Refer to the CWRMP for more information on water quality data and monitoring.

Impaired Waters

The Federal Clean Water Act requires States to establish water quality standards, to test surface waters, and formally list those as "impaired" that do not meet the water quality standards. Subsequent sections present more detail on the impaired waters program and its relationship to Norwood Young America's stormwater management program. A Total Maximum Daily Load (TMDL) study is the next step for an impaired water, although it can be delayed years after identification of the impairment. The TMDL study can result in very specific water quality obligations for Cities. Once the TMDL Study is accepted by the MPCA, an Implementation Plan must be developed to meet the obligations identified in the TMDL Study.

In and around Norwood Young America, Eagle Lake and the north line to County Ditch 4A are the surface waters listed as impaired. The South Fork Crow River Lakes Excess Nutrients TMDL addresses impairment to Eagle Lake due to high levels of nutrients. A TMDL for the impairment of the north line to County Ditch 4A due to bacteria has not

been approved yet. Impaired waters in Norwood Young America, or those receiving discharge from the City, are summarized in **Table 4.3**. Mapping of impaired waters is also depicted on **Figure 8**.

Table 4-3: Impaired Waters

Waterbody/ Watercourse	DNR ID#	Listed Pollutant	Impaired Use	Year Listed	Year TMDL Approved
Eagle Lake	10-0121-00	Nutrient/ Eutrophication	- Aquatic Recreation	2002	2010
North Line to CD4A	07020012-533	- E. Coli	- Limited Resource Value	2018	na

Shoreland Ordinance

The City's Shoreland Management Overlay District ordinance (Section 1240.01) meets the standards set forth in Minnesota Rules Chapter 6120 and can be found at the following link:

<https://www.cityofnva.com/document-center/#citycode>

4.4.2 Groundwater Resources

Water quality of surface waters can have great effect on groundwater due to the interaction via groundwater recharge and discharge. Norwood Young America relies strictly on groundwater (aquifers) for drinking water, and therefore, groundwater quality is equally as important as surface water quality. Multiple aquifers exist within Carver County, but most wells are finished in the Prairie du Chien-Jordan Aquifer.

Wellhead Protection

The Safe Drinking Water Act requires states to implement protection programs to prevent contamination of public drinking water sources. Therefore, the Minnesota Department of Health requires public water suppliers to delineate and manage Wellhead Protection Areas (WHPA) surrounding public water sources. Norwood Young America has currently not completed a Wellhead Protection Study and has not designated a Drinking Water Supply Management Area. Additional information regarding groundwater resources can be found in the CWRMP.

5.0 MAJOR ISSUES, GOALS, AND POLICIES

The City of Norwood Young America highly values the natural resources within its jurisdiction and seeks to protect surface and groundwater storage systems, effectively manage expenditures to correct flooding and water quality problems, prevent erosion into surface waters, promote groundwater recharge, enhance wildlife habitats and water recreational facilities, and improve the water quality of all water resources. Therefore, the following issues requiring action have been described, and each issue is followed by the City's goal, specific policies, and implementation strategies.

5.1 Surface Water Management

Issues

- 5.1I Poor management of surface water resources can lead to flooding and low water quality.

Goal

- 5.1G Maintain or improve the physical, chemical, biological, and aesthetic condition of surface water resources.

Policies

- 5.1.1P Continue to administer and maintain the Shoreland Management Overlay District ordinance in accordance with state regulations and the County's CWRMP.

The way shoreland areas are used and developed can affect water quality, water use, and wildlife habitat. In order to maintain or improve these areas, the County has adopted a Shoreland Management Ordinance for unincorporated areas that implements the state standards. These standards set guidelines for the use and development of shoreland property including: a sanitary code, lot sizes, water frontage, and building setbacks and heights. However, cities in the county are not covered under the county's ordinance. State law and the CWRMP require that each City within its jurisdiction also adopt a shoreland ordinance that is at least as restrictive as state standards. Norwood Young America's ordinance must be updated to be in accordance with these requirements.

- 5.1.2P Evaluate and correct flooding issues on City property as necessary to protect public safety and minimize potential for property damage.

Flooding can create public safety issues and cause significant damage to properties. Flooding issues on public property can be the result of various factors, including temporary conveyance blockages, undersized conveyances, inadequate flood storage volume, and an increase in impervious surfaces. By evaluating and correcting flooding issues on public property, the City can improve public safety during extremely wet conditions and limit potential for erosion and damage of property.

- 5.1.3P Provide support to landowners in evaluating and correcting localized flooding issues.

Localized flooding can cause significant damage to private properties. Localized flooding issues are usually created due to improper grading and are located outside the City's jurisdiction. By providing assistance in evaluating and correcting localized flooding issues, the City can limit erosion, sedimentation, and damage to vegetation and structures.

- 5.1.4P Promote water quality improvement, runoff volume reduction, and additional storage through wetland restoration, regional ponding, infiltration, filtration, bioretention, and stream or ditch diversions.

By providing water quality improvement, runoff volume reduction, and additional storage, peak runoff rates and pollutants are reduced, and groundwater recharge is increased. These actions will help meet TMDL goals.

- 5.1.5P Evaluate outlet control structures for performance and work with landowners, CCWMO, and/or the Minnesota Department of Natural Resources (MnDNR) to replace or repair the structures if needed.

The condition of outlet control structures can have a significant impact on riparian property and wildlife habitat due to flooding or low water levels. Flooding can cause erosion, sedimentation, flooding of nesting sites and vegetation, and damage to structures. Low water levels can lower the value of recreation, impact wildlife, and reduce water supplies.

- 5.1.6P Promote education regarding the benefits of proper surface water resources management.

Public understanding and involvement are essential in maintaining and improving the quality of surface water resources.

Implementation Strategies

- 5.1.1S The City will continue to administer the Shoreland Management Overlay District ordinance in accordance with state and county requirements. The ordinance will also be maintained regularly to reflect any future revisions to the state standards.

- 5.1.2S The City will continue to monitor and evaluate flooding issues on City property as necessary to protect public safety and minimize potential for property damage. Flood improvement projects identified will be prioritized based on available funds, feasibility, potential project partners, and benefits provided. Once projects are identified, this plan will be updated to list projects in **Section 6.0**.

- 5.1.3S The City will aid landowners in evaluating and correcting localized flooding issues. If potential flooding will damage nearby dwellings or cause significant erosion and sedimentation, the City will partner with the landowner to correct drainage as feasible. The City's participation shall include engineering recommendations. Private property owners shall be responsible for all private construction costs necessary to remedy the localized drainage issue.

- 5.1.4S In order to provide water quality improvement, runoff volume reduction, and additional storage, wetland restoration, ponding, infiltration, filtration, bioretention, and stream or ditch diversion sites will be identified and prioritized. Sites will be coordinated with the CWRMP and will consider available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation Plans. Once sites are identified, this plan will be updated to list the sites in **Section 6.0**.

- 5.1.5S Outlet control structures will be evaluated for responsible authority, condition, and performance and prioritized for repair or replacement. Evaluations will consider design outflows and design outlet elevations as well as available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation

Plans. Once sites are identified, this plan will be updated to list the structures in **Section 6.0**. Structures under the authority of the City will be maintained regularly by City staff and repaired or replaced when performance is evaluated as unacceptable. For structures not under the authority of the City, the City will work with the CCWMO and MnDNR with the following activities: resolve conflicts between riparian landowners and/or the public, assist with modeling to determine appropriate outflow rate and outlet elevations, assist with structure design and construction, and provide support with maintenance.

- 5.1.6S Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies for Surface Water Management will be incorporated into public education.

5.2 Impaired Waters

Issues

- 5.2I In the area surrounding and receiving runoff from Norwood Young America, Eagle Lake is impaired for mercury in fish tissue and nutrient/eutrophication biological indicators, which inhibit aquatic consumption and recreation. The Crow River, South Fork is impaired for chloride, fish bioassessment, turbidity, fecal coliform, and mercury in fish tissue, which inhibit aquatic life, recreation, and consumption. Bevens Creek is impaired by fecal coliform and turbidity, which inhibit aquatic life. The north line of the County Ditch 4A is impaired for fecal coliform.

Goal

- 5.2G Develop and implement plans as necessary to reduce pollutant loads for waters that do not meet Total Maximum Daily Loads (TMDLs) approved by the EPA. Coordinate City efforts with applicable Implementation Plans as approved by the Minnesota Pollution Control Agency. See Section 5.2.1S for a list of approved TMDLs and Implementation Plans.

Policies

- 5.2.1P Reduce pollutant loading to Impaired Waters in order to restore water quality to State standards.

The Federal Clean Water Act (CWA) requires States to set water quality standards for surface waters. The standards assign uses for each waterbody and establish criteria to maintain water quality necessary for the designated use. Waters that do not meet State water quality standards are designated as "Impaired". For Impaired Waters, the CWA requires the development and implementation of a TMDL. A TMDL establishes the pollutant loading to an Impaired Water that still meets water quality standards and develops an allocation for the identified contributors. The TMDL includes point sources, non-point sources, natural background, reserve capacity, and a margin of safety. A TMDL must be approved by the EPA, and an Implementation Plan must be developed and approved by the MPCA within one year of TMDL approval. The City does not plan to lead any TMDL studies.

- 5.2.2P Promote education regarding the benefits of pollutant load reduction.

Public understanding and involvement are essential in maintaining and improving the quality of surface water resources.

Implementation Strategies

5.2.1S Adopt TMDLs and Implementation Plans into this plan by reference as they are approved and list below. Update this plan regularly to incorporate TMDLs approved in the future. The City will be directly involved with the portions of the studies and implementation plans that it is required to be responsible for. The City will provide support as necessary to the County for the remaining portions.

- South Fork Crow River Lakes: Excessive Nutrients TMDL and Implementation Plan
- Carver-Bevens-Silver Creeks: Fecal Coliform TMDL and Implementation Plan
- Bevens Creek: Turbidity TMDL

Refer to individual TMDLs for more detailed information regarding allocations and required reductions.

5.2.2S Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies for Impaired Waters will be incorporated into public education.

5.3 Urban Stormwater Management

Issues

5.3I Land development substantially increases the rate and volume of surface water runoff due to the increase in impervious surfaces. Unmanaged runoff increases sedimentation, pollution, erosion, and flooding downstream and decreases groundwater recharge.

Goal

5.3G Minimize and mitigate the impacts of urban stormwater runoff on water resources.

Policies

5.3.1P Continue to meet or exceed the National Pollutant Discharge Elimination System (NPDES) requirements as they apply to the City of Norwood Young America.

As authorized by the Clean Water Act and EPA, the State administers the NPDES program through the Minnesota Pollution Control Agency (MPCA). As it pertains to stormwater runoff, the NPDES program is designed to reduce pollution entering surface and ground waters through regulation of construction sites, Municipal Separate Storm Sewer Systems (MS4s), and industrial sites.

Construction: The most active portion of the NPDES program in the City is Construction Stormwater (CSW) permitting. Controlling erosion during land development/redevelopment is paramount to significantly reducing transport of sediment and pollutants. A NPDES CSW Permit is required for any construction activity that disturbs 1 or more acres, is part of a development greater than 1 acre, or is determined by the MPCA to pose a risk to water resources. The CSW also lists additional requirements for discharges to impaired or special waters that must be incorporated. The CSW must be signed by both the Owner and Contractor. Prior to obtaining the permit, a Stormwater Pollution Prevention Plan (SWPPP) must be developed that shows the BMPs to control runoff during and after construction. City, County, and MPCA inspectors are responsible for field inspections and enforcement of permit requirements.

MS4s: MS4s are systems of conveyances (curb and gutter, sewer, and ditches) owned and operated by a state, city, county, township, association or other public body having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes that discharges to waters of the United States. There are currently three categories of MS4s regulated by the NPDES program; Mandatory – urban areas with a population of at least 50,000, Designated – urban areas with a population of at least 10,000 and cities and townships with a population of at least 5,000 that discharge to valuable or impaired waters, and Petition – MS4s petitioned by the public to the Commissioner of the MPCA for regulation. Regulated MS4s must obtain a NPDES MS4 Permit and implement a SWPPP that addresses six minimum control measures as follows: 1) Public Education and Outreach, 2) Public Participation, 3) Illicit Discharge Detection and Elimination, 4) Construction Site Stormwater Runoff Control, 5) Post-construction Stormwater Management, and 6) Pollution Prevention and Good Housekeeping for Municipal Operations. Also, MS4s will be required to comply with and report on TMDLs as part of future permitting. ***Carver County and the Minnesota Department of Transportation (MnDOT) are regulated MS4s with jurisdiction in Norwood Young America, but the City itself is not currently required to obtain a NPDES MS4 permit.***

Industrial: Industrial Stormwater (ISW) permits are required for any facility engaged in a Narrative Activity or a Primary Standard Industrial Classification (SIC) code, as listed in the MPCA's Multi-Sector General Permit in order to discharge stormwater runoff. Each facility must develop and implement a SWPPP to describe and control potential significant pollutants generated or be certified for a condition of "No Exposure".

- 5.3.2P Apply regulatory standards that help the City meet its goal for Urban Stormwater Management.

As the City grows, land is converted from natural/rural landscapes to urbanized areas, increasing areas of compacted soils and impervious surfaces. This will lead to increased runoff rates and volumes. Surface water degradation occurs at relatively low levels of imperviousness (10-20%) due to increases in runoff volume and velocity, which results in flooding, sedimentation, and transportation of pollutants. Therefore, Urban Stormwater Management is essential in decreasing flooding and protecting water quality.

- 5.3.3P Prioritize potential stormwater management projects that will decrease local runoff rates and volumes and improve water quality.

Stormwater management BMP projects will help improve water quality and achieve TMDL goals by decreasing runoff rates and volumes and removing pollutants. In order to maximize benefits, projects will be prioritized by considering available funding, feasibility, project partners, number of benefits provided, bioengineered solutions, and TMDL plans.

- 5.3.4P Implement the stormwater drainage system maintenance plan using the practices described in this plan. Public Services would be responsible for implementing the plan.

As the City's drainage system (storm sewer, catchbasins, ponds, infiltration basins, etc) is a conduit for stormwater, it is also a conduit for pollutants and sediment. Therefore, regular maintenance of the system is required to maintain pollutant removal efficiencies as well as hydraulic capacity.

- 5.3.5P Implement the road operation and maintenance (O&M) Plan using the practices described in this plan. Public Services would be responsible for implementing the O&M Plan.

The City's roads can be a conduit for significant pollution. Pollution is created when chemicals, debris, fertilizers, automotive oils, salt, and litter are washed off roadways during rainstorms or snowmelt. With proper planning, maintenance BMPs will help reduce pollutant loads.

- 5.3.6P Maintain City's database for stormwater related data, such as location and type.

A database of the City's stormwater infrastructure will aid in tracking maintenance, evaluating progress toward goals, and prioritizing future projects.

- 5.3.7P Promote education regarding the benefits of proper urban stormwater management.

Public understanding and involvement are essential in maintaining and improving the quality of urban stormwater runoff.

Implementation Strategies

- 5.3.1S Any project within the City boundary that requires a NPDES CSW permit must provide a copy of the permit to the City prior to any work. Any facility required to obtain an ISW permit will be required by the City to do so in accordance with MPCA requirements. Though Norwood Young America is not currently a regulated MS4 community, the City could be designated as such in the future. In addition, a maintained copy of this plan is the first step in being prepared for potential future NPDES requirements.

- 5.3.2S Rely on the Water Resource Management Standards set forth in the Carver County Ordinances and provide the necessary resources for the implementation of those standards and this Surface Water Management Plan. Employ staff or a consultant to perform the following tasks:
- A. Review Planning and Zoning Applications with regards to Water Resource Management Standards.
 - B. Inspect BMP installations.
 - C. Enforce BMP maintenance.

The City will continue to rely on CCWMO to maintain authority for reviewing and approving applications for compliance with CCWMO's rules and enforcing those rules as necessary. The City will also review all applications to ensure it is not adversely impacted by proposed improvements (i.e. infiltration over sanitary sewer or potential conflicts with future projects).

- 5.3.3S Potential stormwater projects that decrease local runoff rates and volumes and increase water quality will be identified and prioritized. Sites will be coordinated with the CWRMP and will consider available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation Plans. Once projects are identified, this plan will be updated annually to list the improvement sites in **Section 6.0**.

- 5.3.4S Maintain the storm drainage system including the following items:
- A. An inspection program and schedule that ensures general maintenance is performed. Erosion control and stormwater treatment devices are inspected regularly.

- B. Energy dissipaters and volume control measures are maintained regularly to prevent erosion.
 - C. An inspection program and schedule for pond cleaning. Ponds are cleaned when sediment has reduced the volume below the outlet to half of the design volume.
 - D. Accumulated sediment collected from BMPs and any waste generated during maintenance is properly disposed of in accordance with state and federal regulations.
- 5.3.5S Maintain roads including the following items:
- A. An inspection program and schedule that ensures general maintenance is performed.
 - B. Retaining walls and pavements are maintained to minimize cracks and leakage and prevent failure.
 - C. Accumulated sediment collected from BMPs and any waste generated during maintenance is properly disposed of in accordance with state and federal regulations.
 - D. Techniques to prevent paint, solvents, and scrapings from becoming pollutants during bridge maintenance are used, such as suspended tarps, vacuums, or booms.
 - E. When blading gravel roads or alleys, a structurally sound surface with adequate crown is maintained to prevent erosion or scattering of gravel.
 - F. An infrastructure safety inspection program.
 - G. Drainage ditches are maintained to keep them free of debris.
 - H. Salt storage piles are covered and located outside the 100-year floodplain.
 - I. The application of deicing salts is regulated to prevent over-salting of pavements.
 - J. Alternative deicing materials, such as sand or salt substitutes, are used if possible.
 - K. Dumping of accumulated snow onto frozen surface waters is not allowed.
 - L. Vegetation on eroded or damaged areas are established in a timely manner.
 - M. Pesticide and fertilizer use are restricted as much as possible.
 - N. Native plantings are promoted within buffer strips and ditches.
 - O. Residential streets and parking lots are swept at least two times per year (in the spring after snowmelt and in the fall after leaves have dropped).
 - P. Road debris is collected and removed in a timely manner.
- 5.3.6S Employ staff or a consultant to maintain the City's database of the entire storm drainage system. The database will include all facilities associated with stormwater runoff drainage, including catchbasins, storm sewer, wet stormwater ponds, bioretention basins, infiltration/filtration basins, hydrodynamic separators, sump manholes, outlet structures, and any other device used to convey runoff. The database will also include the specific characteristics for all the facilities, including locations, sizes, materials, elevations, areas, volumes, condition, and any other information deemed necessary. The database will be updated annually to include newly constructed or replaced facilities.
- 5.3.7S Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies for Urban Stormwater Management will be incorporated into public education. Following are potential practices for the partnership to promote to the public to help reduce impacts to local water resources:
- A. Maintain a healthy lawn.
 - B. Plant native plants or plants with deep roots to capture more runoff.
 - C. Preserve and maintain native vegetation areas, especially adjacent to lakes and wetlands.
 - D. Redirect downspouts to drain on pervious surfaces (grass) instead of impervious surfaces (driveways).
 - E. Install rain gardens to capture localized runoff.
 - F. Restore and/or stabilize shorelines.
 - G. Capture rainwater from rooftops with a rain barrel or cistern and use for irrigation.
 - H. Use a compost bin for leaves, lawn clippings, and other organic waste.

- I. Test soils for nutrients in order to apply the correct amount of fertilizer.
- J. Use zero phosphorus fertilizers.
- K. Keep leaves and lawn clippings out of streets and gutters.
- L. Pick up pet wastes.
- M. Limit the use of herbicides and pesticides.
- N. Wash cars on pervious surfaces to prevent soaps from running off-site.
- O. Do not dispose any household product into the storm sewer.
- P. Keep neighborhoods free from litter and debris.

5.4 Wetland Management

Issues

- 5.4I Draining, filling, or excavating wetlands significantly impacts the water quality of downstream surface waters. The loss of existing wetlands leads to increases in sedimentation, pollution, erosion, and flooding downstream and decreases the diversity and integrity of vegetation and wildlife.

Goal

- 5.4G Manage and protect wetlands to maximize wetland functions and improve surface water resources.

Policies

- 5.4.1P Achieve no net loss in the quantity, quality, and diversity of existing wetlands through enforcement of Wetland Management regulations.

Wetlands moderate nutrient and sediment flow, provide runoff storage, filter pollutants, buffer riverbanks and lake shores from erosion, and produce abundant and diverse plant and animal life. Therefore, the protection and restoration of wetlands is critical for maintaining and improving the water quality of local water resources. Refer to County Ordinances for wetland and buffer setback requirements.

- 5.4.2P Promote wetland restoration, to mitigate historical impacts to wetlands and increase the quantity and quality of wetlands locally.

Today, less than 50 percent of pre-settlement wetlands remain in Carver County. Wetland restoration projects will help improve water quality and achieve TMDL goals by filtering sediment and pollutants, attenuating stormwater runoff, and preventing erosion. In order to maximize benefits, wetland restoration projects will be prioritized by considering available funding, feasibility, project partners, number of benefits provided, bioengineered solutions, and TMDL plans.

- 5.4.3P Promote education regarding the benefits of proper wetland management.

Public understanding and involvement are essential in maintaining and improving the quality of local wetlands.

Implementation Strategies

- 5.4.1S Implement the standards listed in Carver County Ordinances and this Surface Water Management Plan. Employ staff or a consultant to perform the following tasks:

- A. Review and approve wetland delineations and determinations.
- B. Review and approve wetland exemptions/no-loss applications.
- C. Review and approve wetland replacement plan applications.
- D. Coordinate and arrange TEP meetings for pre-application reviews and other WCA related items.
- E. Send application notices to TEP members.
- F. Send decision notices to TEP members.
- G. Enforce replacement wetland monitoring requirements, review monitoring reports, and certify replacement wetlands.
- H. Work with DNR and SWCD to identify and enforce WCA violations.

5.4.2S Potential wetland restoration projects that mitigate historical impacts and increase the quantity and quality of local wetlands will be identified and prioritized. Sites will be coordinated with the CWRMP and will consider available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation Plans. For planning purposes, the County's functional value rankings and wetland restoration potential delineations have been included as **Figure 7**. Once projects are identified, this plan will be updated annually to list the restoration sites in **Section 6.0**.

5.4.3S Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies for Wetland Management will be incorporated into public education.

5.5 Upland Natural Resources

Issues

5.5I Loss of natural upland areas can lead to a decrease in the function and quality of surface water resources.

Goal

5.5G Manage and protect natural upland areas adjacent to surface water resources to mitigate degradation of surface waters and increase the quantity, quality and biological diversity of natural areas.

Policies

5.5.1P Increase the quantity and quality of existing natural areas through enforcement of existing regulations and the participation of willing landowners in existing preservation and restoration programs.

Natural upland areas moderate nutrient and sediment flow, filter pollutants, buffer surface waters, and provide habitat for diverse species of plants and wildlife. Therefore, preserving natural upland areas is critical for maintaining and improving the water quality of local water resources.

5.5.2P Promote the restoration of natural upland areas, to mitigate the degradation and fragmentation of natural resources and improve water quality of surface water resources.

Today, only about 3 percent of pre-settlement natural areas remain in Carver County. Natural upland restoration projects will help improve water quality and achieve TMDL goals by filtering sediment and pollutants. In order to maximize benefits, natural upland

restoration projects will be prioritized by considering available funding, feasibility, project partners, number of benefits provided, bioengineered solutions, and TMDL plans.

5.5.3P Promote education regarding the benefits of proper natural upland management.

Public understanding and involvement are essential in maintaining and restoring natural upland areas.

Implementation Strategies

5.5.1S Employ staff or a consultant to implement this Surface Water Management Plan and enforce the regulations set forth in the Wetland Conservation Act, Shoreland Management Act, TMDLs, and other relevant laws and regulations.

5.5.2S Potential natural upland restoration projects that mitigate the degradation and fragmentation of natural resources and improve water quality of surface water resources will be identified and prioritized. Sites will be coordinated with the CWRMP and will consider available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation Plans. Once projects are identified, this plan will be updated annually to list the restoration sites in **Section 6.0**.

5.5.3S Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies for Upland Natural Resources will be incorporated into public education.

5.6 Groundwater Management

Issues

5.6I Groundwater quality and availability can be significantly impacted by many different land use activities.

Goal

5.6G Protect the quality and quantity of groundwater resources.

Policies

5.6.1P Protect groundwater quality and groundwater supplies.

Pollutants from land use activities within well recharge areas, areas with unused, unsealed wells, and failing storage tanks as well as unplanned or overuse of groundwater supplies due to development can impact the quality and availability of groundwater. Protection from contamination and overuse is critical in maintaining and improving the quantity and quality of groundwater resources.

5.6.2P Promote groundwater recharge, if soil conditions allow.

Construction of impervious surfaces due to development increases runoff and reduces groundwater recharge. By promoting Low Impact Development (LID) techniques and BMPs, groundwater recharge is increased, and the quality of local water resources is improved.

5.6.3P Promote education regarding the benefits of proper groundwater management.

Public understanding and involvement are essential in managing groundwater resources.

Implementation Strategies

5.6.1S The City will provide support or assistance to the following activities:

- A. Work with the CCWMO to identify and seal potential contaminate sources, such as unused, unsealed wells and failing storage tanks.
- B. Support the Metropolitan Council, MNDNR, and MDH in their efforts to monitor and protect regional groundwater supplies.
- C. Support the MPCA in regulating storage tanks.
- D. Implement water conservation efforts, as necessary.

5.6.2S The City will distribute LID materials to developers during the planning phase via comment and review letters and promote incorporation of LID techniques and BMPs into site designs.

5.6.3S Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies for Groundwater Management will be incorporated into public education.

5.7 Education

Issues

5.7I Most potential contamination threats, sources of pollution, and increases in stormwater runoff to water resources are related to human activities.

Goal

5.7G Provide the public with the knowledge, skills, and motivation to protect and improve surface water and groundwater resources.

Policies

5.7P Increase public awareness, understanding, and involvement in water and natural resource issues and management.

Because most degradation of water resources is due to human activities, education of the public is critical in implementing good water quality and conservation practices.

Implementation Strategies

5.7.1S Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies regarding protection and improvement of local water resources will be incorporated into public education. The City will meet annually with CCWMO's Education Coordinator to discuss goals and strategies and create short, specific annual education plans. Also, the City will provide support and assistance to CCWMO with the County's educational programs in the form of financial support, information sharing, and help with promotion materials as feasible. The City will collaborate with CCWMO to identify target audiences and educational needs and to

create educational opportunities to meet these needs (workshops, seminars, K-12 programs, etc.), create education tools (website, newsletter, pamphlets, fairs, etc.), and create volunteer programs.

5.7.2S The City will provide CCWMO with the following and update CCWMO as changes occur;

- Provide city staff contact information and information on media/methods of communicating with the public to Carver County WMO’s Education Coordinator. This includes city newsletter times and distribution numbers, city fairs and epos, and any other outreach methods to the public.
- Provide a list of water resource related City events.
- Provide information on major issues of concern (e.g. picking up pet waste, natural shorelines, etc.).
- Provide information on topic areas where the city would like to increase citizen awareness (e.g. stormwater ponds, wetlands, water conservation).

6.0 WATER RESOURCES ASSESSMENT AND IMPLEMENTATION PLAN

6.1 General Assessment Procedures

The general procedure and scope of this SWMP includes the development of a planning document to identify 1) outlet control structure repair or replacement sites, 2) storage, volume reduction, and water quality improvement sites, 3) wetland restoration sites, and 4) natural upland restoration sites. The sites listed here will be used for planning purposes and are intended to highlight any potential large-scale issues.

The following summarizes the major activities associated with plan development:

1. The existing City utility and storm sewer mapping was researched to determine existing drainage patterns and locations of catch basins, culverts, storm sewer, outlet structures, treatment basins, and other pertinent drainage features. Additionally, existing storm water models from recent developments were analyzed. This work was completed for the development of the plan approved March 27, 2007 and updated September 19, 2008.
2. USGS topographic mapping was correlated with the existing storm drainage data to determine and model existing drainage patterns. However, due to the level of accuracy of USGS topographic mapping, more detailed survey information would be necessary for specific improvements. This work was completed for the development of the plan approved March 27, 2007 and updated September 19, 2008.
3. Key areas of concern were identified for field inspection using topographic mapping and storm sewer data. Field inspections and surveys were then performed to identify culvert sizes and invert elevations of critical culverts in the drainage system, as well as road top elevations. This work was completed for the development of the plan approved March 27, 2007 and updated September 19, 2008.
4. Each minor drainage area flowing to a collection point, such as a low area, was identified and mapped on a master drainage area drawing. This study includes approximately 4,309 acres in and around the City. This work was completed for the development of the plan approved March 27, 2007 and updated September 19, 2008.
5. Drainage area maps were plotted for the City. This work was completed for the development of the plan approved March 27, 2007 and updated September 19, 2008. These maps were used to review existing drainage patterns and determine reasonable alternatives for future storm drainage improvements.

Surface runoff and storm drainage design is primarily dependent upon the permeability of existing surfaces, travel time and rainfall intensity. Curve Numbers for the SCS method were computed for each subwatershed to reasonably reflect the degree of existing industrial, commercial and residential development. The existing subwatershed delineation is shown in **Figure 10**.

6.2 Stormwater Treatment System Assessment

6.2.1 Existing Stormwater Treatment System:

The areas of Norwood Young America consisting of newer developments typically contain storm sewer in good condition, stormwater treatment ponds, and infiltration basins. The

older areas of town do not contain any treatment ponds or infiltration basins. However, the storm sewer in the areas without treatment measures does effectively convey runoff. Because of this, these areas are not a priority for the City to reconstruct, but as funding becomes available, the City will consider installing retrofit stormwater treatment measures.

6.2.2 Subwatershed Assessment

The following are brief descriptions of the various major subwatershed areas analyzed. The areas described correspond to the labels shown in **Figure 10**.

1. Subwatershed 1

Subwatershed 1 is located on the north side of study boundary, between County Road 33 and T.H. 5 and consists of approximately 387 acres of agricultural land, woodland, and wetlands that drains north to Eagle Lake. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. Stormwater management for this area would likely be provided by smaller, local ponds as future development occurs.

2. Subwatershed 2

Subwatershed 2 is located on the west edge of the study boundary, from the shores of Tiger Lake to the west side of town and consists of approximately 507 acres of commercial and residential development, woodland, wetland, and agricultural land. Runoff drains west to Tiger Lake, and soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. The undeveloped portion is relatively small and fragmented, making it more suitable for localized treatment measures upon development.

3. Subwatershed 3

Subwatershed 3 encompasses central Norwood Young America around U.S.H. 212, including approximately 148 acres. This area is comprised of commercial, residential and park areas and it drains southeast, through County Ditch 4A, and eventually into Bevans Creek. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. Retrofit pond treatment in this area is unlikely due to the lack of available land space. Localized stormwater treatment improvement projects (i.e. water quality devices, rain gardens, etc.) should be considered for this area when development/redevelopment projects occur (see **Section 6.4**).

4. Subwatershed 4

Subwatershed 4 is located on the north side of the study boundary, southeast of T.H. 5 around Braunworth Lake. It is approximately 159 acres of residential development, woodland, wetland, and agricultural land and drains directly to Braunworth Lake. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. The portion of the subwatershed southwest of the lake is already developed, and no space is available for the installation of wet retention ponds. However, localized stormwater treatment improvements may be considered for this area to treat currently untreated runoff (see **Section 6.4**). Also, smaller, local ponds would likely be installed to manage runoff when development occurs on the northeast side of the lake.

5. Subwatershed 5

Subwatershed 5 is located on the northeast side of the City and drains to Young America Lake. It consists of approximately 530 acres residential development, woodland, wetland,

and agricultural land. Most of the soil is relatively permeable Type B, except for hydric soils in and around wetlands and low areas. The portion of the subwatershed southwest of the lake is already developed, and no space is available for the installation of wet retention ponds. However, localized stormwater treatment improvements may be considered for this area to treat currently untreated runoff (see **Section 6.4**). Also, smaller, local ponds would likely be installed to manage runoff when development occurs on the northeast side of the lake.

6. Subwatershed 6

Subwatershed 6 is in the northeast corner of the study boundary, southwest of the 118th Street and Salem Avenue intersection. It consists of approximately 110 acres wetland, woodland, and agricultural land that drains northeast to Rice Lake. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. Stormwater management for this area would likely be provided by smaller, local ponds as future development occurs.

7. Subwatershed 7

Subwatershed 7 is located on the east side of the study boundary, surrounding Barnes Lake. It consists of approximately 626 acres residential development, wetland, woodland, and agricultural land and drains directly to Barnes Lake. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. Stormwater management for this area would likely be provided by smaller, local ponds as future development occurs.

8. Subwatershed 8

Subwatershed 8 is in the southwest portion of the study boundary, surrounding Brand Lake. It consists of approximately 650 acres residential development, wetland, woodland, and agricultural land and drains directly to Brand Lake. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. The area northeast of the lake contains existing residential development with little space available for installation of treatment ponds. However, when the areas west and south of the lake develop, stormwater management would likely be provided by smaller, local ponds.

9. Subwatershed 21

Subwatershed 21 is located northwest of the U.S. Highway 212 and T.H. 5 intersection. The area consists of approximately 134 acres wetland and agricultural land and drains west to Tiger Lake. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. When commercial and residential development occurs in this area, stormwater management would likely be provided by smaller, local ponds.

10. Subwatershed 22

Subwatershed 22 is located on the west side of the study boundary, northwest of T.H. 5 and south of County Road 34. The area consists of approximately 414 acres woodland, wetland, and agricultural land and drains east under T.H. 5 to Friendship Park. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. When commercial and residential development occurs in this area, stormwater management would likely be provided by smaller, local ponds.

11. Subwatershed 23

Subwatershed 23 is in the northern portion of the study boundary, between T.H. 5 and

Central Avenue and between 1st Street NW and 7th Street SW. The area consists of approximately 168 acres residential development and parkland and drains to a city ditch that flows southeast and connects to County Ditch No. 4. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in low areas. Due to flooding concerns in Friendship Park, culverts were upsized from 24" to 36" on 4th Street and 4th Avenue during the 2005 Infrastructure Rehabilitation project. In order to provide stormwater management for this area, a wet retention pond or bioretention basin could be constructed along the ditch in the low, grassy area north of 7th Street SW.

12. Subwatersheds 26 - 28

Subwatersheds 26 – 28 are located on the southeast side of town, southwest of the Tacoma Avenue and Railroad Street intersection. The area consists of approximately 74 acres comprised primarily of industrial development. Runoff from the Tacoma West Industrial Park drains south to bioretention areas and two stormwater treatment ponds. The ponds discharge to a county ditch on the south side of the subwatershed that flows east to County Ditch No. 4. No additional ponding or stormwater treatment is required for this area.

13. Subwatershed 30

Subwatershed 30 is located on the southeast side of town, south of the Tacoma West Industrial Park. The area consists of approximately 29 acres agricultural land and drains to the county ditch creating the north boundary of the subwatershed. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in low areas. Stormwater management for this area would likely be provided by smaller, local ponds as future development occurs.

14. Subwatershed 31

Subwatershed 31 is in the southeast corner of the study boundary, west of Tacoma Avenue. The area consists of 193 acres comprised of wetland, woodland, and agricultural land and drains southeast through lowlands to County Ditch No. 4. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. Stormwater management for this area would likely be provided by smaller, local ponds as future development occurs. In addition, the restoration of wetlands and preservation/creation of natural upland areas could provide ecological corridors from Brand Lake to Barnes Lake and from Brand Lake southeast towards Hoeffken Lake (see **Sections 6.5 and 6.6**).

15. Subwatersheds 32 & 33

Subwatersheds 32 & 33 are located on the south edge of the study boundary, east of County Road 33. Subwatershed 32 is approximately 133 acres and subwatershed 33 is approximately 57 acres. Both areas are comprised of primarily agricultural land, with medium quality wetlands in the low areas. Runoff from subwatershed 32 drains northeast to subwatershed 31, and subwatershed 33 drains south to County Ditch No. 5. The soil characteristics of these areas are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. Stormwater management for this area would likely be provided by smaller, local ponds as future development occurs.

16. Subwatersheds 34 - 37

Subwatersheds 34 - 37 are in the southeastern corner of the study boundary, between Tacoma Avenue and Stewart Avenue. The area consists of approximately 213 acres comprised of wetland, woodland, and agricultural land and drains southeast to County Ditch No. 4. The soil characteristics of this area are best described as loams (type B) in

upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. Smaller, localized ponds should be considered for this area if future residential and industrial development occurs. In addition, the restoration of wetlands and preservation/creation of natural upland areas could provide ecological corridors from Brand Lake to Barnes Lake and from Brand Lake southeast towards Hoeffken Lake (see **Sections 6.5 and 6.6**).

17. Subwatershed 38

Subwatershed 38 is located on the east side of the study boundary, north of U.S. Highway 212 and west of Salem Avenue. The area consists of approximately 42 acres comprised of wetland, woodland, and agricultural land and drains south under U.S. Highway 212 to County Ditch No. 4. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. Smaller, localized ponds should be considered for this area if future development occurs.

18. Subwatershed FL1

Subwatershed FL1 is in the southwest corner of the study boundary, northwest of Fredericks Lake. The area consists of approximately 167 acres comprised of wetland, woodland, and agricultural land and drains southeast to County Ditch No. 5. The soil characteristics of this area are best described as loams (type B) in upland areas and silty clay loams, peat and muck (type D) in and around wetlands and low areas. Stormwater management for this area would likely be provided by smaller, local ponds as future development occurs.

6.3 Outlet Control Structures Improvements

6.3.1 Proposed Outlet Control Structure Improvement Projects

Currently, no outlet control structure improvement projects have been identified. Should any outlet control structure improvement sites be identified in the future, this plan should be updated to include proposed sites.

6.4 Stormwater Runoff Management Improvements

6.4.1 Proposed Stormwater Runoff Management Improvement Projects

The following are localized stormwater treatment improvement projects identified to help manage stormwater runoff and improve water quality.

1. General Storm System Maintenance

The areas of Norwood Young America consisting of newer developments typically contain storm sewer in good condition, stormwater treatment ponds, and infiltration basins. The older areas of town do not contain any treatment ponds or infiltration basins. However, the storm sewer in the areas without treatment measures does effectively convey runoff. The drainage system in the older portion of town will likely require more annual maintenance, but the systems in the newer portions will also require periodic attention. Storm drainage system maintenance required includes ditch and pond assessment and cleaning, street sweeping, sewer televising, and GIS/mapping, as well as inlet and pipe repair.

Prioritization: **High**

Estimated Cost: \$2,000/yr

Project Partner(s): None

Funding Source(s): City

Timeframe: Ongoing

2. Street and Utility Improvement Projects

As street, sanitary sewer, and water main improvement projects are scheduled, project areas will also be reviewed for potential stormwater management and treatment improvements that were not previously identified. Potential improvements include, but are not limited to, conveyance improvements, stormwater treatment devices, bioretention basins, wet retention ponds, slope stabilizations, and native vegetation restoration.

Prioritization: **High**

Estimated Cost: 10,000/yr

Project Partner(s): CCWMO, Private Landowners

Funding Source(s): City, CCWMO, Grant Funding

Timeframe: Ongoing

3. Stormwater Runoff Management and Treatment Measures

Correct flooding issues on City property as necessary to protect public safety and minimize potential for property damage. Also, collaborate as necessary with CCWMO and willing private landowners to install stormwater treatment measures (i.e. rain gardens, stormwater treatment devices, etc.) throughout the City to provide additional runoff storage capacity, reduce runoff rates and volumes, and/or reduce pollutant loads. Coordinate stormwater treatment improvements to treat stormwater from areas with inadequate or no treatment (**Figure 9**) and improve the quality of runoff reaching area surface waters. Estimated cost includes the installation of 10 sump manholes with SAFL Baffles on outlets with no treatment currently provided upstream on various wetlands, lakes, and drainage ways throughout the City.

Prioritization: **High**

Estimated Cost: \$100,000

Project Partner(s): CCWMO

Funding Source(s): City, CCWMO, Grant Funding

Timeframe: Unknown

4. Friendship Park Bioretention Basin

Friendship Park is located east of 4th Avenue SW between 2nd Street SW and 4th Street SW.

Runoff from the park drains to a city ditch that flows southeast and connects to County Ditch No. 4. The City could collaborate with CCWMO to install a bioretention basin along the downstream side of the parking lot and upstream of the city ditch. The basin would treat the previously untreated runoff from the parking lot and reduce the runoff peak rates and volumes.

Prioritization: **Medium**

Estimated Cost: \$20,000

Project Partner(s): CCWMO

Funding Source(s): Stormwater Utility Fee, CCWMO

Timeframe: Unknown

5. SW 7th Street Pond

In order to provide stormwater management for SW 7th Street adjacent to Central Elementary School and the ballfields north of 7th Street, a wet retention pond or bioretention basin could be constructed along the ditch in the low, grassy area north of 7th Street SW. A basin in this location would provide treatment of runoff from a previously untreated area, as well as mitigate flood potential due to ditch capacity during extreme events. Along with basin construction, the potential for wetland restoration adjacent to the city ditch exists and should be considered (see **Section 6.5**). Estimated costs for improvements are based on constructing a wet retention pond with a surface area of

approximately 1.8 acres.

Prioritization: **Medium**

Estimated Cost: \$259,100

Project Partner(s): CCWMO, School District #108

Funding Source(s): Stormwater Utility Fee, CCWMO

Timeframe: Unknown

7. South Park Bioretention Basin

South Park is located south of Elm Street W between West Street S and Reform Street S. Runoff currently drains east through storm sewer to County Ditch 4. The City could collaborate with CCWMO to install a bioretention basin along the east side of the parking lot. The basin would treat the previously untreated runoff from the parking lot and reduce the runoff peak rates and volumes.

Prioritization: **Medium**

Estimated Cost: \$20,000

Project Partner(s): CCWMO

Funding Source(s): Stormwater Utility Fee, CCWMO

Timeframe: Unknown

8. Devonshire Drive Sump Manhole

Approximately 18 acres residential development along the southeast side of 2nd Avenue currently drains untreated through a 30" pipe on Devonshire Drive to a DNR protected wetland (No. 0181W), which then outlets to Young America Lake. A sump manhole with a SAFL Baffle installed prior to the outlet pipe would provide stormwater treatment for a currently untreated area and improve the quality of runoff reaching Young America Lake.

Prioritization: **High**

Estimated Cost: \$20,000

Project Partner(s): CCWMO

Funding Source(s): Stormwater Utility Fee, CCWMO

Timeframe: Unknown

Should any additional localized stormwater treatment improvement projects be identified in the future, this plan should be updated to include proposed projects.

6.5 Wetland Restorations

6.5.1 Proposed Wetland Restoration Sites

The wetland locations, descriptions, and references were taken from the National Wetlands Inventory Map (**Figure 6**), as well as the County "Functional Value" and "Restoration Potential" maps (**Figure 7**). The following are potential wetland restoration sites identified to help manage stormwater runoff and improve water quality. The sites may reference subwatersheds as described in **Section 6.2**. Refer to **Figure 10** for locations.

1. Subwatershed 5a

Collaborate with the County to restore the wetland located between SE 2nd Avenue and County Road 34. This wetland has been identified by the county to have areas with "low" to "medium" restoration potential, and the project would help meet the goal of improving the quality and quantity of wetlands in Norwood Young America and increase flood storage, as well as improve the quality of runoff to Young America Lake.

Prioritization: **Low**

Estimated Cost: \$20,000

Project Partner(s): CCWMO

Funding Source(s): Stormwater Utility Fee, CCWMO
Timeframe: Unknown

2. Subwatershed 6

Collaborate with the County and Developer to restore the wetlands along Salem Avenue and 118th Street when development occurs. These wetland areas have been identified by the county to have “medium” to “high” restoration potential, and the project would help meet the goal of improving the quality and quantity of wetlands in Norwood Young America and increase flood storage, as well as improve the quality of runoff to Carver Creek.

Prioritization: **Low**

Estimated Cost: \$20,000

Project Partner(s): CCWMO, Developer

Funding Source(s): Stormwater Utility Fee, CCWMO, Developer

Timeframe: Unknown

3. Subwatershed 23

Collaborate with the County to restore wetlands along the county ditch in the low grassy area southwest of T.H. 5 and north of SW 7th Street. These wetland areas have been identified by the county to have “low” restoration potential, and the project would help meet the goal of improving the quality and quantity of wetlands in Norwood Young America and increase flood storage, as well as improve the quality of runoff to Bevens Creek.

Prioritization: **Low**

Estimated Cost: \$20,000

Project Partner(s): CCWMO

Funding Source(s): Stormwater Utility Fee, CCWMO

Timeframe: Unknown

4. Subwatershed 31

Collaborate with the County and developer to restore wetlands in the low area draining through the center of the subwatershed southeast to County Ditch No. 4. These wetland areas have been identified by the county to have “medium” to “high” restoration potential, and the project would help meet the goal of improving the quality and quantity of wetlands in Norwood Young America and increase flood storage, as well as improve the quality of runoff to Bevens Creek.

Prioritization: **Low**

Estimated Cost: \$20,000

Project Partner(s): CCWMO, Developer

Funding Source(s): Stormwater Utility Fee, CCWMO, Developer

Timeframe: Unknown

5. Subwatershed 34 - 37

Collaborate with the County and developer to restore wetlands in the low areas adjacent to the county ditches. These wetland areas have been identified by the county to have “medium” to “high” restoration potential, and the project would help meet the goal of improving the quality and quantity of wetlands in Norwood Young America and increase flood storage, as well as improve the quality of runoff to Bevens Creek.

Prioritization: **Low**

Estimated Cost: \$20,000

Project Partner(s): CCWMO, Developer

Funding Source(s): Stormwater Utility Fee, CCWMO, Developer
Timeframe: Unknown

Should any additional wetland restoration sites be identified in the future, this plan should be updated to include proposed sites.

6.6 Natural Area Preservation and Restoration

6.6.1 Proposed Natural Area Preservation and Restoration Sites

The following are potential natural upland preservation, corridor, and restoration sites identified to help manage stormwater runoff and improve water quality. The sites reference subwatersheds as described in **Section 6.2**. Refer to **Figure 10** for locations.

1. Subwatershed 31

If this area is developed, natural areas should be considered for preservation as feasible during development planning, along with the creation of natural area corridors to connect Brand Lake to Barnes Lake and Brand Lake southeast towards Hoeffken Lake. The preservation and creation of the natural areas would help meet the goal of mitigating degradation of surface waters, provide ecological connectivity, and improve the quality of runoff to Bevens Creek.

Prioritization: **Medium**

Estimated Cost: Unknown

Project Partner(s): CCWMO, Developer

Funding Source(s): Stormwater Utility Fee, CCWMO, Developer

Timeframe: Unknown

2. Subwatershed 34 - 37

If this area is developed, natural areas should be considered for preservation as feasible during development planning, along with the creation of natural area corridors to connect Brand Lake to Barnes Lake and Brand Lake southeast towards Hoeffken Lake. The preservation and creation of the natural areas would help meet the goal of mitigating degradation of surface waters, provide ecological connectivity, and improve the quality of runoff to Bevens Creek.

Prioritization: **Medium**

Estimated Cost: Unknown

Project Partner(s): CCWMO, Developer

Funding Source(s): Stormwater Utility Fee, CCWMO, Developer

Timeframe: Unknown

Should any preservation or restorations sites be identified in the future, this plan should be updated to include proposed sites.

6.7 Education

6.7.1 Proposed Education Programs and Tools

Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies regarding protection and improvement of local water resources will be incorporated into public education. The City will meet annually with CCWMO's Education Coordinator to discuss goals and strategies and create short, specific annual education plans. The City will collaborate with CCWMO to identify target audiences and

educational needs and to create educational opportunities to meet these needs (workshops, seminars, K-12 programs, etc.), create education tools (website, newsletter, pamphlets, fairs, etc.), and create volunteer programs.

Refer to the CWRMP for additional information regarding education programs and tools provided by the County.

6.8 Surface Water Management Costs and Funding Considerations

The cost and funding considerations contained in this plan are included for scoping purposes only. Prior to including projects into the City's Capital Improvement Plan (CIP), further investigation is required into conditions meriting improvement and correction/mitigation strategies to be implemented. This plan recognizes the changing regulatory environment and evolving technologies necessary to understand prior to further developing a CIP or construction schedule.

6.8.1 Capital Improvement Plan

As part of this assessment of water resources in Norwood Young America, a Surface Water Management Capital Improvement Plan (CIP) has been developed to aid with implementation of surface water management improvements and system maintenance. The CIP includes budgeting for stormwater treatment, outlet control structure improvements, wetland restoration, natural area preservation and restoration, education, stormwater treatment system mapping, and maintenance. Since improvement projects are completed on an annual basis, City priorities can change, and new surface water management issues can arise, the CIP should be reviewed yearly and updated as necessary. Refer to **Appendix D** for Norwood Young America's 5-Year Surface Water Management Plan CIP.

6.8.2 Proposed Surface Water Management Funding

The City will use a Stormwater Utility Fee to fund items identified in the CIP. However, this fee will likely be insufficient to cover all costs associated with surface water management. Since surface water management treatment improvement and restoration projects will improve the quality of downstream waters, Norwood Young America will rely on the addition of County, State, and Federal funding as available to complete such projects.

6.8.3 Stormwater Utility Fee

The existing storm drainage system in Norwood Young America is adequate for stormwater conveyance. However, the City is continuing to grow, and the maintenance of the storm drainage system and the quality of water resources are becoming more of a priority. Therefore, the City will need a funding mechanism in place to help pay for stormwater management.

The Stormwater Utility Fee should be used to partially or completely fund stormwater drainage and treatment system improvements and maintenance of system elements. These improvement and maintenance projects should include regional stormwater system improvements, outlet control structure improvements, localized stormwater treatment improvements, wetland restoration, natural area restoration and preservation, education regarding stormwater issues, pond cleaning, pond delineation, storm sewer maintenance, street sweeping, sewer camera, flood control, grant programs for drainage improvements,

ponds and outlets inspection, land acquisition for drainage improvements, and volunteer programs for stormwater improvements.

The Stormwater Utility Fee currently has different rates for various connections. The City's fees for 2019 are \$4.90/month for single family homes, \$2.47/month for single family townhomes, \$18.44/month/acre for Special Parcel Area (Impervious), \$5.81/month/acre for Special Parcel Area (Pervious), \$8.98/month/acre for Commercial/Industrial Area (<50% Impervious), \$13.69/month/acre for Commercial/Industrial Area (50-75% Impervious), \$16.84/month/acre for Commercial/Industrial Area (>75% Impervious), and \$5.81/month/acre Open Space. With 1042 single family homes, 130 single family townhomes, 28.25 acres Special Parcel Area (Impervious), 43.79 acres Special Parcel Area (Pervious), 32.26 acres Commercial/Industrial Area (<50% Impervious), 23.01 acres Commercial/Industrial Area (50-75% Impervious), and 35.24 acres Commercial/Industrial Area (>75% Impervious), the projected monthly Stormwater Utility Revenue is \$7,400.39. However, the 5 Year CIP for Stormwater Utility Improvements and Maintenance requires an estimated budget of \$7,983.33/month. Therefore, in order to complete necessary improvements and maintenance without impacting the City's general fund, the City should consider increasing the Stormwater Utility Fee monthly rates for the next five years. The recommended rates to accomplish the objectives listed in this plan are \$5.29/month for single family homes, \$2.66/month for single family townhomes, \$19.89/month/acre for Special Parcel Area (Impervious), \$6.27/month/acre for Special Parcel Area (Pervious), \$9.69/month/acre for Commercial/Industrial Area (<50% Impervious), \$14.77/month/acre for Commercial/Industrial Area (50-75% Impervious), and \$18.17/month/acre for Commercial/Industrial Area (>75% Impervious). See **Appendix D** for the Stormwater Utility Fee Analysis. As priorities are established by the City, the Stormwater Utility Fee will be reviewed annually and adjusted accordingly.

7.0 ADMINISTRATION

7.1 Amendment Procedures

If the City proposes changes to this SWMP, the changes and their impacts will be determined by the City as either a “minor” change or a “major” change. The general descriptions of minor or major changes and the associated review and approval requirements are presented as follows:

Minor Changes would include small adjustments to subwatershed or subdistrict boundaries or other minor changes that would not significantly affect the rate or quality of stormwater runoff discharged across the municipal boundary or significantly affect high water levels within the City. Minor changes also include revisions made to the stormwater related Capital Improvements Program to best meet the City’s water resource needs and financial considerations.

For proposed minor changes, the City will prepare a document which defines the change and includes information on the scope and impacts of the change. The document will be forwarded to the CCWMO for their records. The minor change will be implemented after the document is adopted by the City Council.

Major Changes are those that could have significant impacts on the rates, volumes, water qualities and water levels of stormwater runoff within the City or across its municipal boundaries. For proposed major changes, the City will prepare a document that defines the change and includes information on the scope and impacts of the change. The document will be forwarded to the CCWMO for their review and approval. The CCWMO shall have 60 days to comment on the proposed revisions. Failure to respond within 60 days will constitute approval. After CCWMO approval, the City will adopt the amendment as part of the SWMP.

7.2 Plan Coordination

Early coordination and collaboration between the City and CCWMO are the key to maximizing shared water resource goals and community goals for private redevelopment and public capital improvements. It is the intent of the City to leverage this coordination to efficiently manage water quality, natural resource threats and opportunities that arise through land use change, our shared interest in conservation, and maximize the asset value of the City’s natural resources in the future.

Coordination Plan

The following coordination plan will be adjusted and expanded as deemed appropriate by the City and CCWMO during implementation. The City Administrator is the primary City contact and the Manager will be the CCWMO contact for the coordination plan.

1. *Annual meeting.* The City and CCWMO staff will meet during the third quarter of each year to review the following:
 - a. National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer Systems (MS4) reports and activity from the previous year
 - b. Draft Capital Improvement Plans (CIP) for each organization for the upcoming year. The City will focus coordination of the Streets, Stormwater and Park CIPs with CCWMO.
 - c. Opportunities for early or improved coordination and review of land use change applications
 - d. Regulatory coordination to identify areas of collaboration
 - e. Areas for improved coordination and process improvement.
 - f. Public Education plans, resources and opportunities.
 - g. Operation and maintenance of partnership projects.

2. *Land Use Planning and Regulatory Coordination.* The City staff will continue to route requests for land use approvals to the District to maximize water resource benefits and streamline regulatory processes. Specific areas of regulatory coordination include the following:
 - a. The City will continue to rely on CCWMO to maintain authority for reviewing and approving applications for compliance with CCWMO's rules and enforcing those rules as necessary. The City will rely on the water resource management standards set forth by CCWMO in Norwood Young America.
 - b. The City will require documentation of required CCWMO permits in advance of issuing applicable City permits. Approved CCWMO permits will be stored with other project documentation for future reference.
 - c. Pre-application meetings and permit reviews will be coordinated with CCWMO early in the planning process as necessary.
 - d. The City will continue to collaborate with CCWMO on construction site inspections and compliance.
 - e. CCWMO will keep the City apprised of water resource violations and expectations for compliance.
 - f. The primary person responsible for regulatory coordination at the City of Norwood Young America is the City Administrator and the Manager at CCWMO.
 - g. The City and CCWMO will include each other in the notification protocols for Illicit Discharges.
3. *Public Infrastructure Improvements.* The City staff will continue to route significant infrastructure improvements (streets, stormwater and parks in particular) to the CCWMO as early in the planning phase as possible in order to maximize resourcing opportunities, reduce any regulatory process delays and solicit any best practice expertise/ experience.
 - a. Infrastructure and land improvements that require CCWMO permits will be coordinated early in the planning and design process so that the regulatory process may be efficient and integrated water and natural resource improvements may be explored.
 - b. The City will brief the CCWMO on the Streets, Stormwater and Parks CIPs each year at the annual meeting. The City intends to coordinate applicable projects at the concept stage of project development for potential partnership on competitive grant programs and leverage CCWMO technical resources and planning assistance.
 - c. The City will brief the CCWMO on operation and maintenance of partnered improvements per agreements in place each year at the annual meeting. Also, the City intends to utilize CCWMO's resources as necessary throughout the year to adequately operate and maintain these improvements.
 - d. The City will discuss with CCWMO potential collaborative opportunities for cooperative funding through CCWMO's various funding programs.
4. *Education coordination and partnership.* Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies regarding protection and improvement of local water resources will be incorporated into public education. The City will meet annually with CCWMO's Education Coordinator to discuss goals and strategies and create short, specific annual education plans. The City will collaborate with CCWMO to identify target audiences and educational needs and to create educational opportunities to meet these needs (workshops, seminars, K-12 programs, etc.), create education tools (website, newsletter, pamphlets, fairs, etc.), and create volunteer programs.

7.3 Action Summary and Plan Evaluation

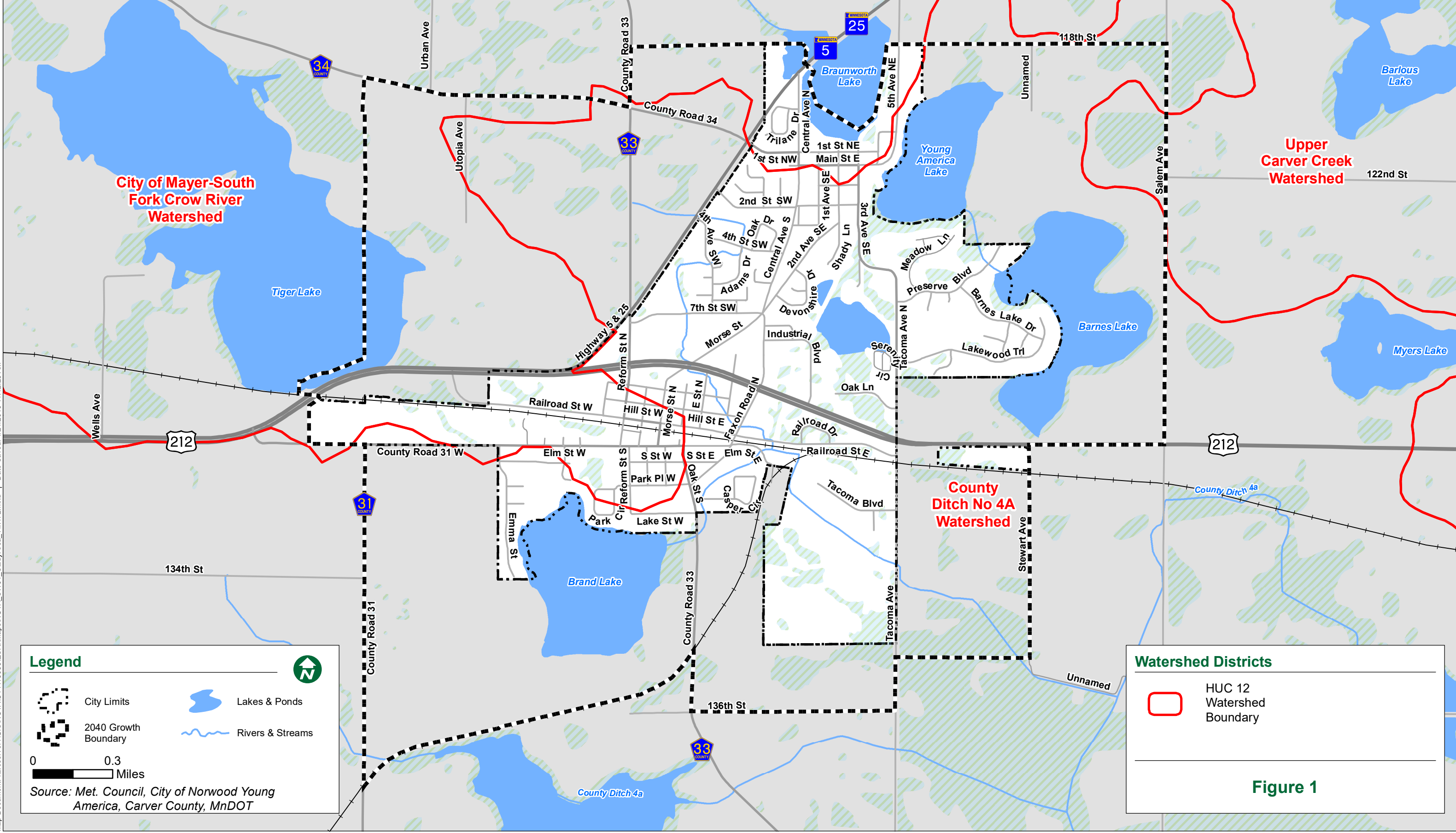
Appendix E provides a summary of actions identified in the plan, roles identified for the City and CCWMO, and activities completed. This Appendix should be reviewed and updated annually.

8.0 APPENDICES





Appendix A

Maps:

Study Area	Figure No. 1
Existing Land Use.....	Figure No. 2
Future Land Use	Figure No. 3
Soils	Figure No. 4
Minnesota Land Cover Classification System (MLCCS).....	Figure No. 5
NWI Wetlands and DNR Public Waters	Figure No. 6
Wetland Ranking & Restoration Potential	Figure No. 7
Impaired Waters	Figure No. 8
Stormwater Runoff Treatment Areas.....	Figure No. 9
Subwatershed Map	Figure No. 10
Storm Sewer Map	Figure No. 11



Legend

-  City Limits
 -  2040 Growth Boundary
 -  Lakes & Ponds
 -  Rivers & Streams
- 0 0.3 Miles
- Source: Met. Council, City of Norwood Young America, Carver County, MnDOT

Watershed Districts


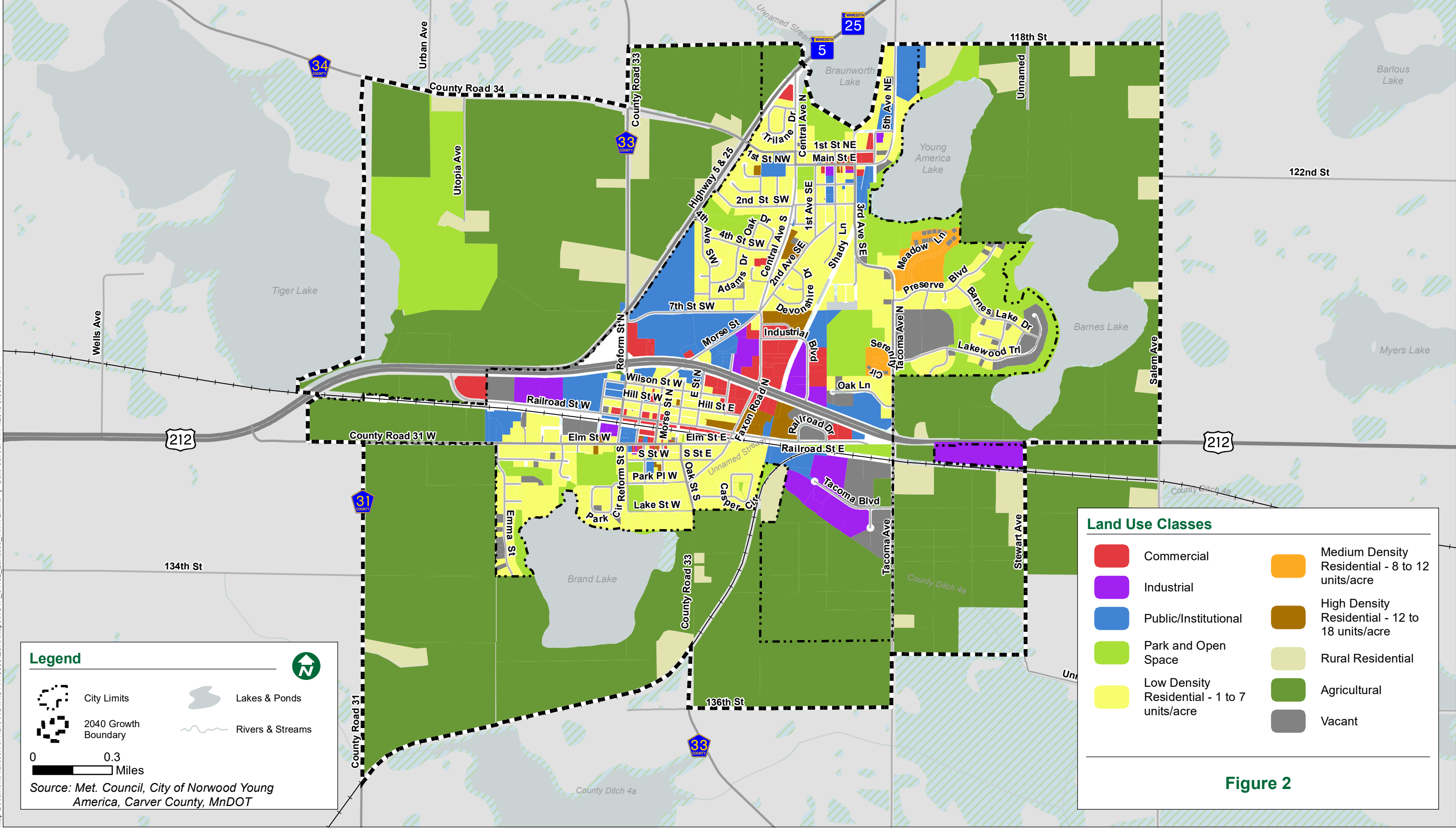
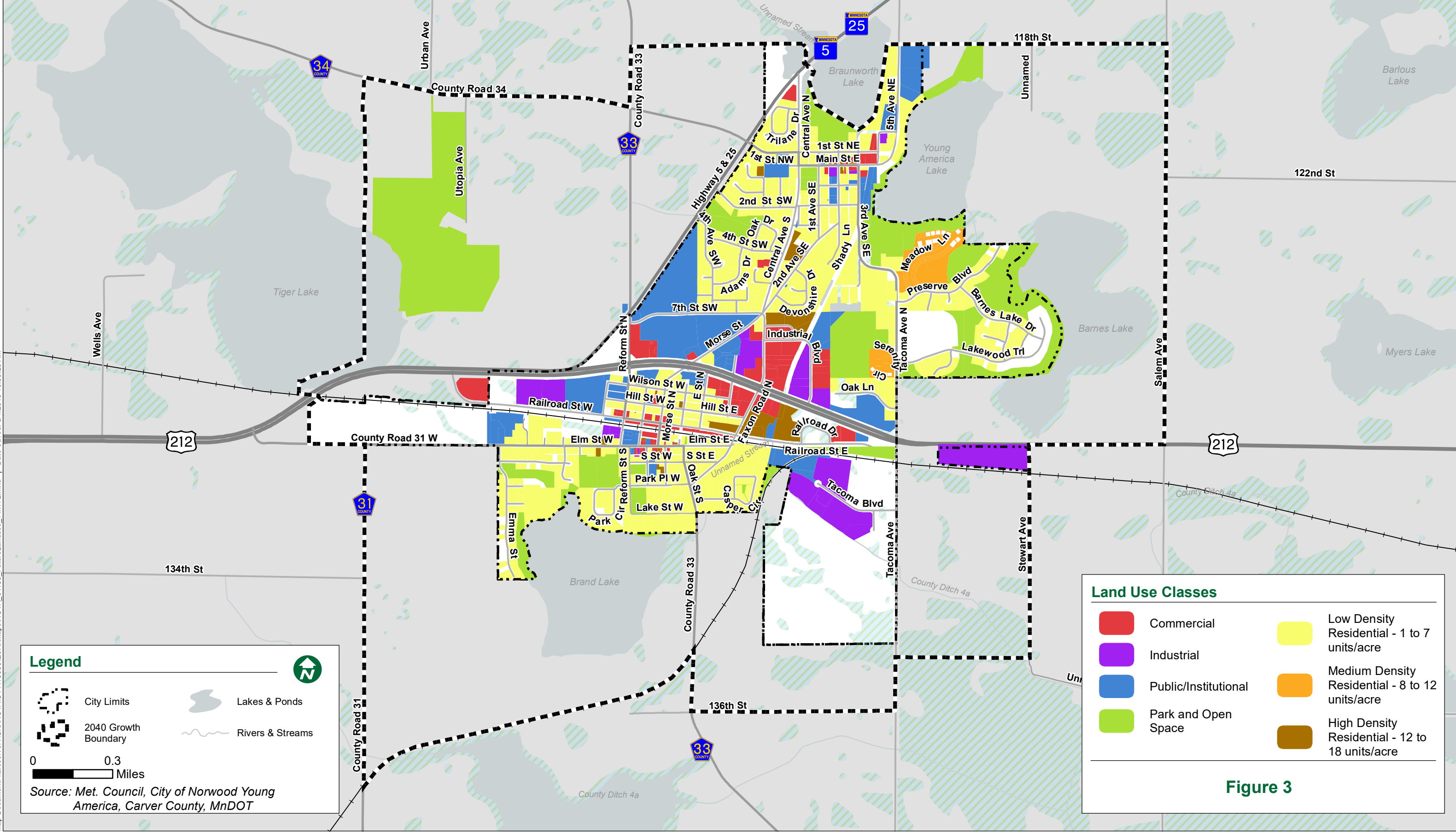
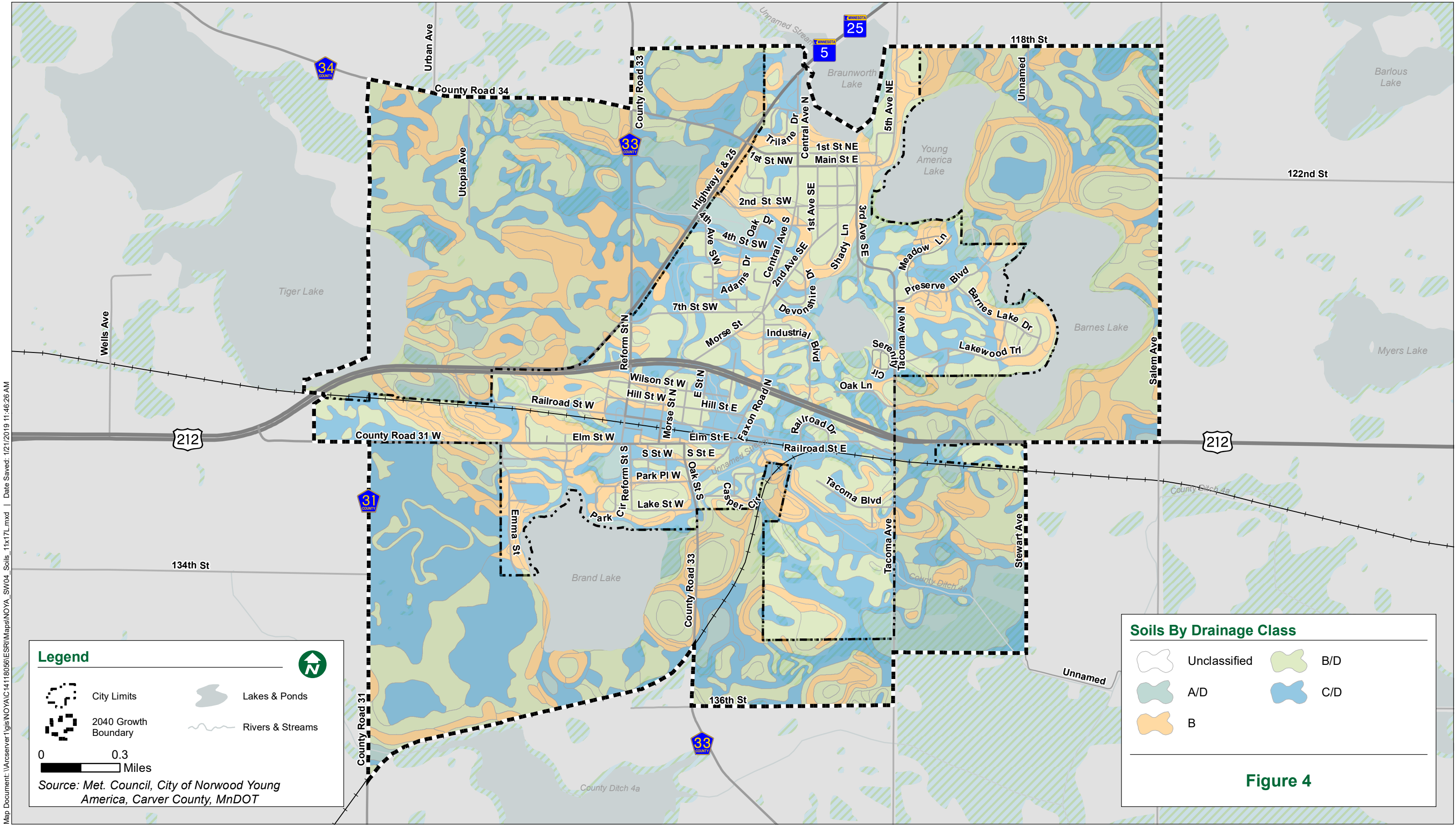
-  HUC 12 Watershed Boundary

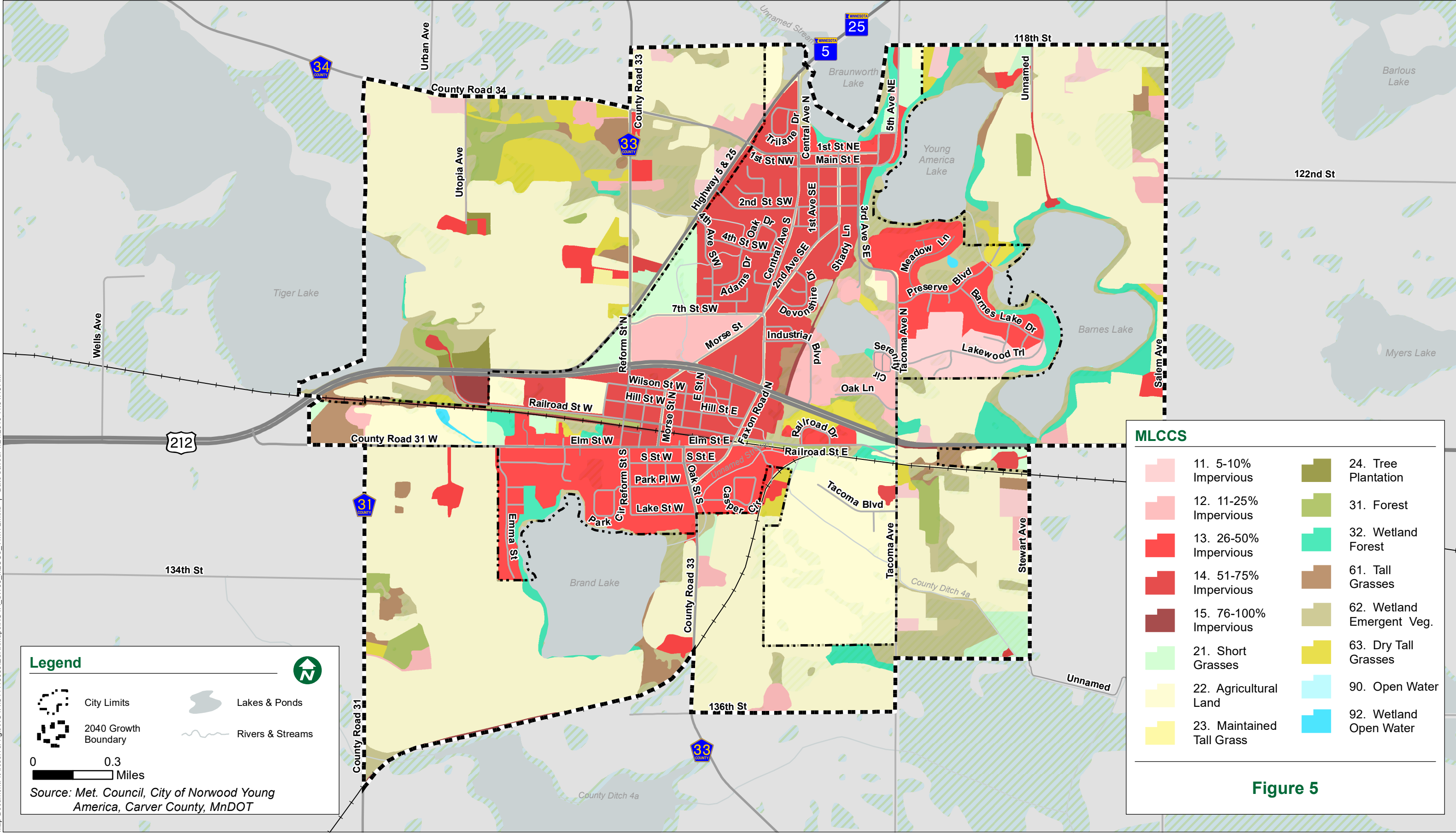
Figure 1

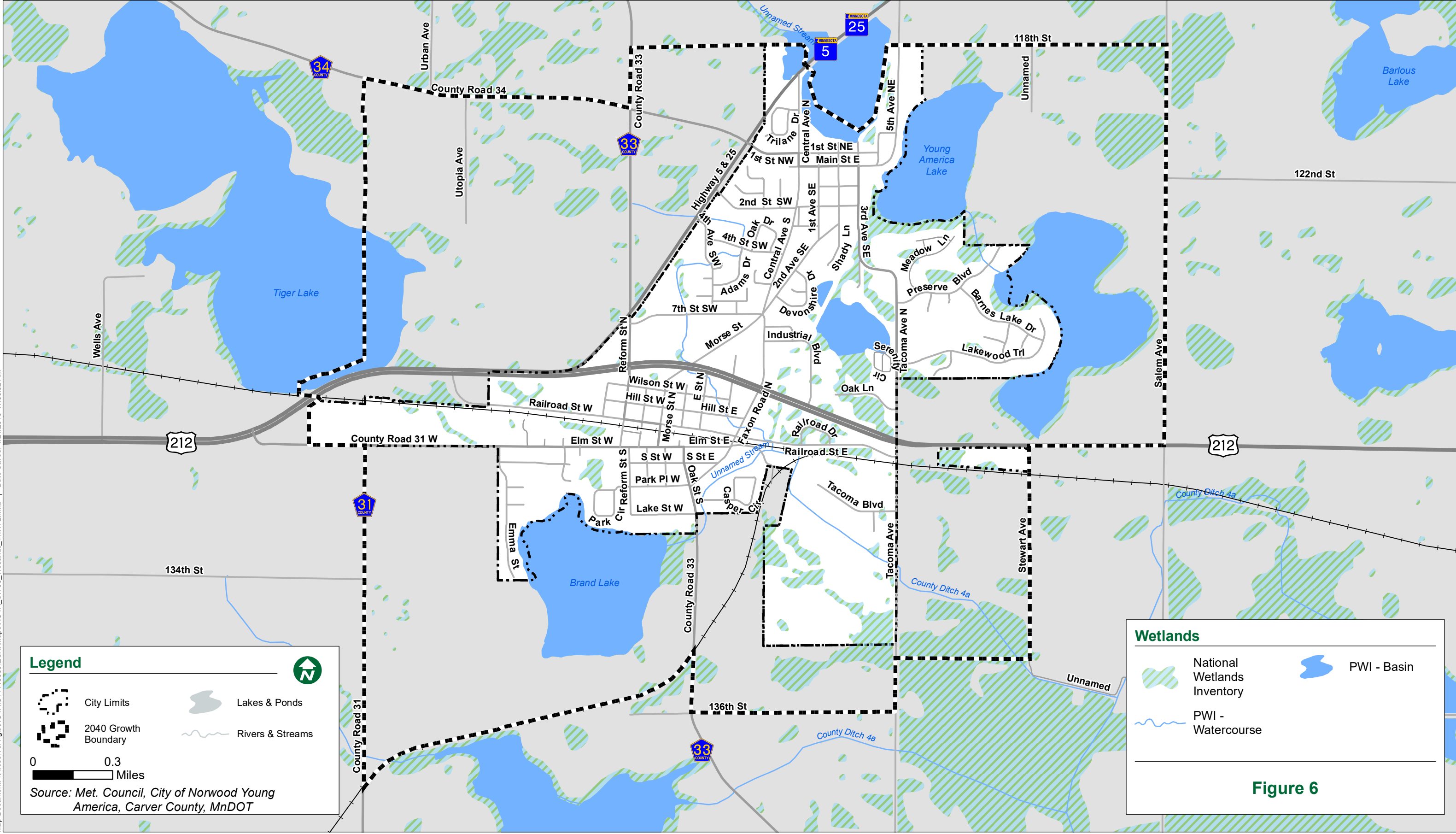


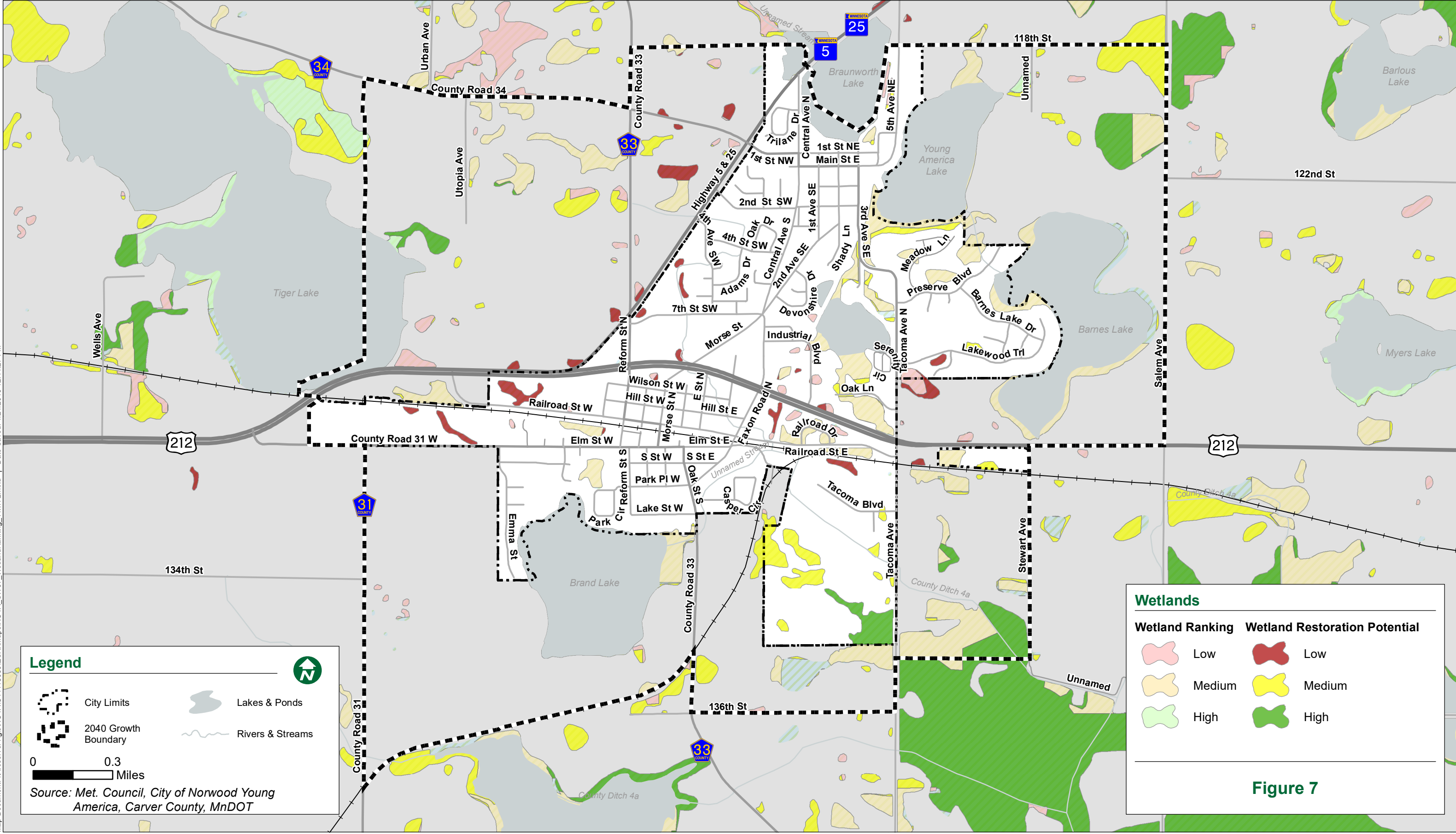




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Legend

- City Limits
 - 2040 Growth Boundary
 - Lakes & Ponds
 - Rivers & Streams
- 0 0.3 Miles
- Source: Met. Council, City of Norwood Young America, Carver County, MnDOT

Wetlands







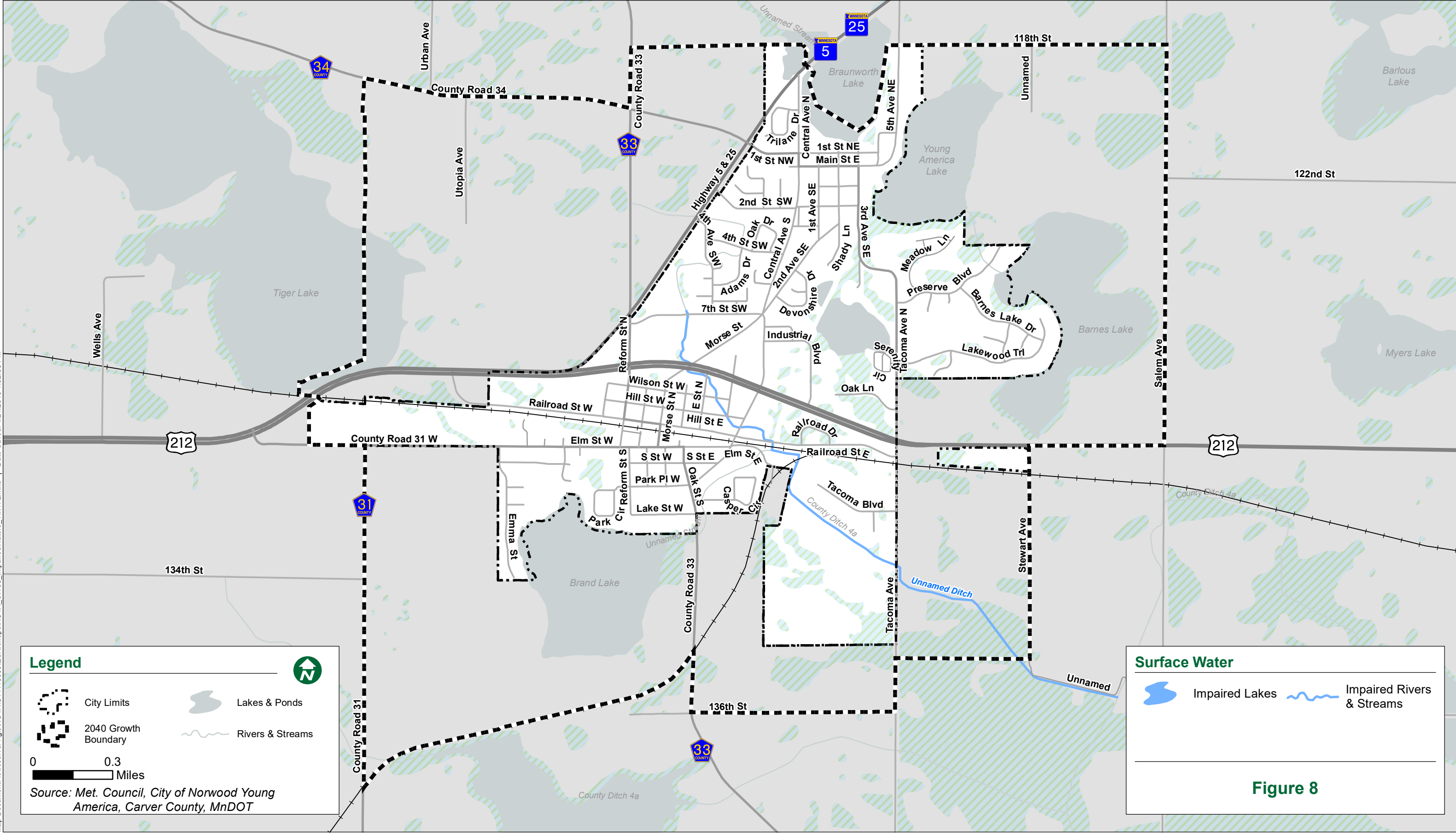
Wetland Ranking		Wetland Restoration Potential	
	Low		Low
	Medium		Medium
	High		High

Figure 7



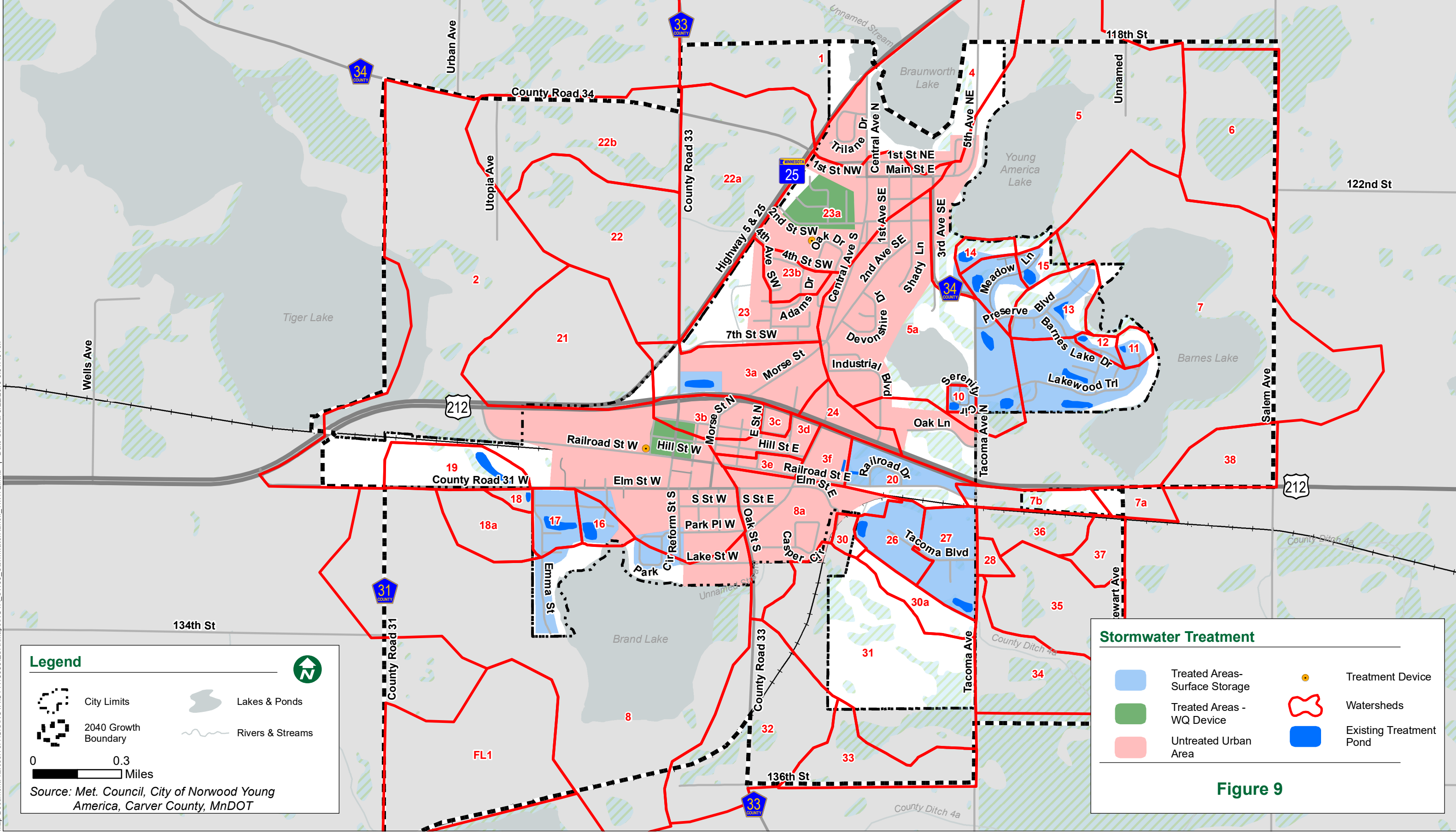
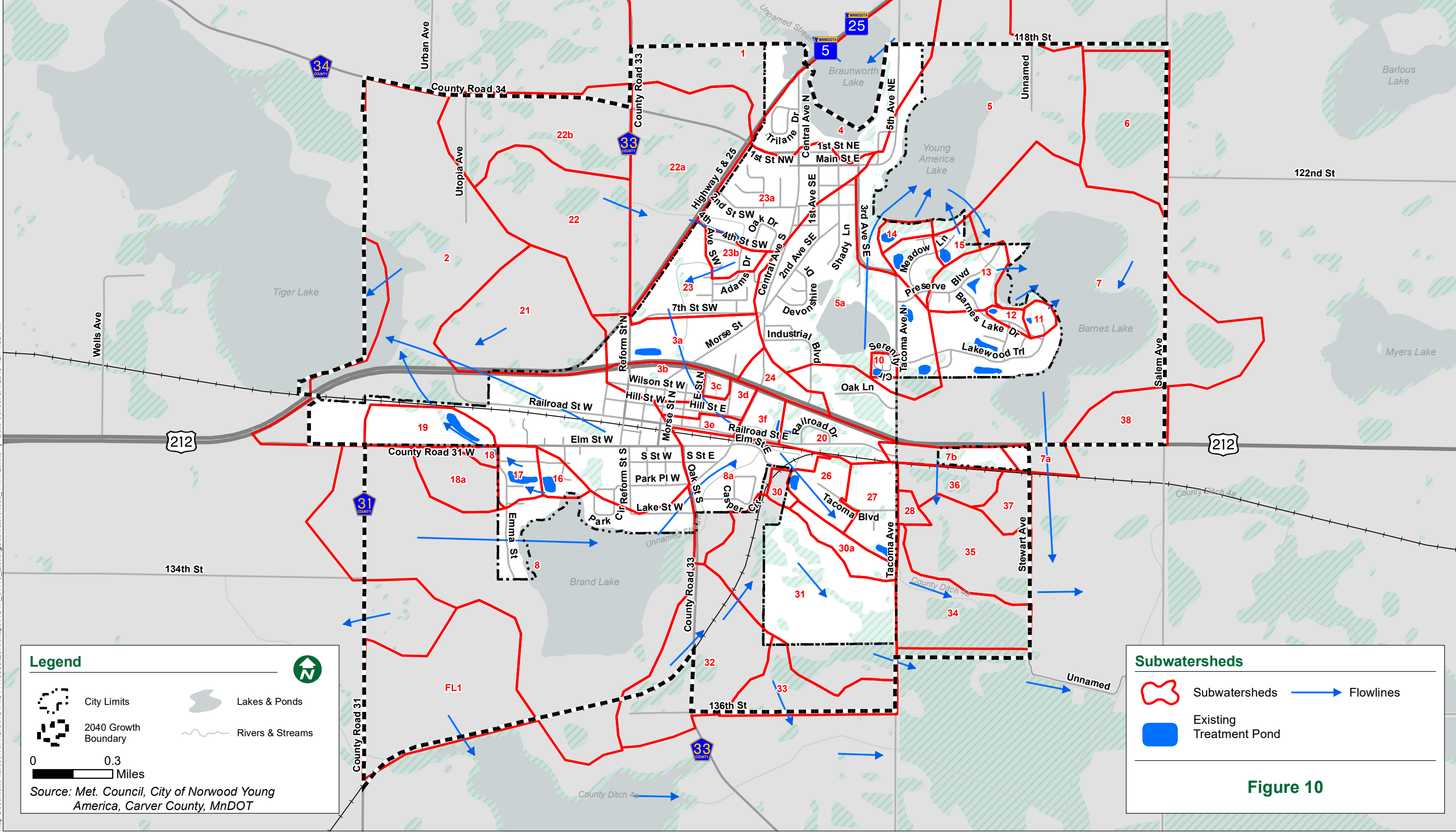
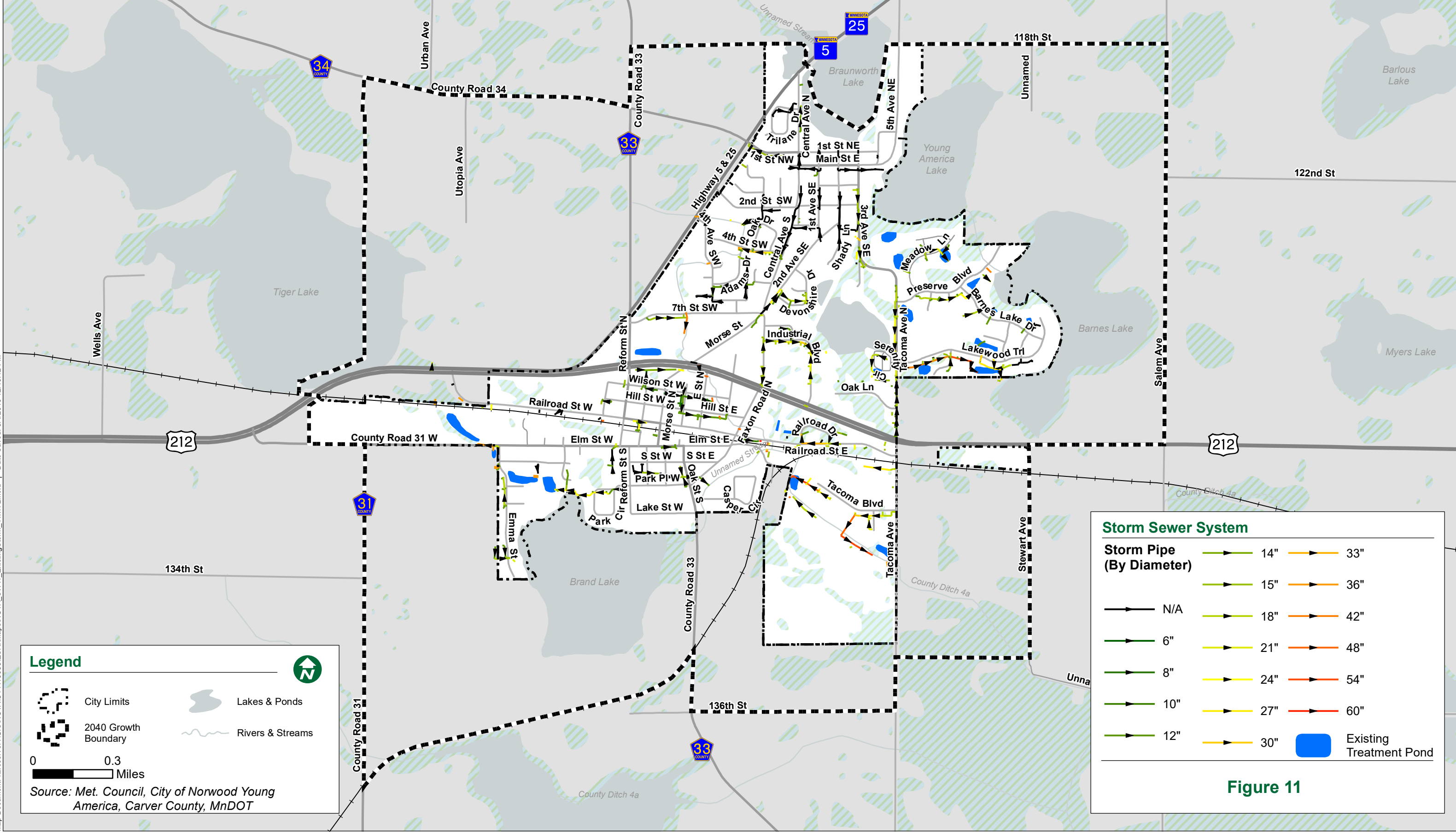


Figure 9





Appendix B

Modeling Methodology

MODELING METHODOLOGY AND MAPPING

1. The general procedure used in the runoff modeling aspects of this analysis has been performed using the XP-SWMM (Version 10.6) modeling software. The typical analysis is based on Soil Conservation Service, Technical Release No. 20 (SCS TR-20). The SCS procedure is based on a standard synthetic rainfall hydrograph, which is modified by local parameters (i.e., rainfall, soil type, time to peak flow, etc.) and is widely accepted among drainage engineers across the United States.
2. For purposes of this report, typical 24-hour rainfall events of 2.8", 4.2" and 6.0" were used to analyze runoff/development interaction. These events are best described as those having probabilities of occurring once every 2, 10 and 100 years, respectively, according to Technical Paper 40. In addition, the 10-day, 100-year snowmelt was analyzed, which can be approximated by the 10-day, 7.2" rainfall event.
3. The probabilities of occurrence do not imply that a 2.8", 4.2" or a 6.0" rainfall cannot occur multiple times within the same year; they simply say that a 2.8" rainfall will occur *on the average* once every 2 years, a 4.2" rainfall will occur *on the average* once every 10 years and a 6.0" rainfall will occur *on the average* once every 100 years. It is often better to think of the 2-year rainfall as having a 50 percent chance of occurring in any given year. Similarly, the 10-year rainfall has a 10 percent chance of occurring in any given year and the 100-year rainfall has a 1 percent chance of occurring in any given year.
4. The City's stormwater model is intended to provide only a general overview of the system to identify potential stormwater issues. Since the City has a policy of requiring developers/private owners to design and maintain on their own any stormwater management facilities necessary for their proposed improvements, the future improvements to stormwater management in the City will largely be driven by private development or re-development. With this approach, most changes due to future stormwater improvement designs will be at the discretion of the private property owner, with only input from the City regarding desired outcomes. As private developments and public street and utility improvements are planned, the City will require review of stormwater runoff modeling for potential stormwater issues in the proposed project area, potential TMDL reduction opportunities, and volume reduction opportunities. Future review for both private and public improvements will require using the most current precipitation depth data available (Atlas 14), using survey quality information to adequately evaluate existing conditions, creating site specific models for proposed conditions to evaluate potential solutions and constructability, and updating the SWMP as necessary if stormwater treatment improvements are warranted at that time.

Appendix C

HydroCad Model Results – Available Upon Request

Since the City's model is intended to provide only a general overview of the drainage system and the City desires to maintain control of dissemination of modeling results, the estimated runoff rates and volumes are not included directly in this plan. If estimated runoff data is desired by an outside entity, these results can be forwarded upon request, thus allowing the City to coordinate additional discussion regarding potential improvements.

Appendix D

Stormwater Utility Fee Analysis and Capital Improvement Plan

Storm Sewer Utility Fee

Surface Water Management Plan Norwood Young America, MN

Current Revenue	# of Units	Monthly Fee	Monthly Revenue	Percent
2018 REC Units	1042	\$ 4.90	\$ 5,105.80	68.99%
2018 SF attached (townhome) Units	130	\$ 2.47	\$ 321.10	4.34%
2018 Special Parcel Impervious (Ac)	28.25	\$ 18.44	\$ 520.93	7.04%
2018 Special Parcel Pervious	43.79	\$ 5.81	\$ 254.42	3.44%
2018 Commercial/Ind (<50% Impervious)(Ac)	32.26	\$ 8.98	\$ 289.69	3.91%
2018 Commercial/Ind (50-75% Impervious)(Ac)	23.01	\$ 13.69	\$ 315.01	4.26%
2018 Commercial/Ind (>75% Impervious)(Ac)	35.24	\$ 16.84	\$ 593.44	8.02%
Total			\$ 7,400.39	

Capital Improvement Plan

5-year CIP Budgeted Costs	\$ 479,000.00
Average monthly CIP Budgeted Costs	\$ 7,983.33

Proposed Revenue	Percent	Monthly Revenue	Monthly Fee
2018 REC Units	68.99%	\$ 5,507.99	\$ 5.29
2018 SF attached (townhome) Units	4.34%	\$ 346.39	\$ 2.66
2018 Special Parcel Impervious (Ac)	7.04%	\$ 561.96	\$ 19.89
2018 Special Parcel Pervious	3.44%	\$ 274.46	\$ 6.27
2018 Commercial/Ind (<50% Impervious)(Ac)	3.91%	\$ 312.51	\$ 9.69
2018 Commercial/Ind (50-75% Impervious)(Ac)	4.26%	\$ 339.82	\$ 14.77
2018 Commercial/Ind (>75% Impervious)(Ac)	8.02%	\$ 640.19	\$ 18.17

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11/18/2019

Surface Water Management Capital Improvement Plan

Surface Water Management Plan
Norwood Young America, MN

	Timeframe	Estimated Project Cost	Funding Source	Additional Funding Req'd	Funding Req'd From CCWMO	Funding From Other Sources	City's 5-year Budgeted Cost	2020	2021	2022	2023	2024	Long Range Annual Cost (2)	Long Range Periodic Cost (3)	Long Range One-Time Cost (4)
Stomrwater Runoff Management and Treatment Measures	Near Term	\$ 100,000.00	SUF/CCWMO	Yes	\$ 50,000.00	\$ -	\$ 50,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00			
Friendship Park Bioretention Basin	Near Term	\$ 20,000.00	SUF/CCWMO	Yes	\$ 10,000.00	\$ -	\$ 10,000.00					\$ 10,000.00			
SW 7th Street Pond	Long Term	\$ -	SUF/CCWMO	Yes	\$ -	\$ -	\$ -								\$ 259,100.00
South Park Bioretention Basin	Near Term	\$ 20,000.00	SUF/CCWMO	Yes	\$ 10,000.00	\$ -	\$ 10,000.00					\$ 10,000.00			
Devonshire Drive Sump Manhole	Near Term	\$ 20,000.00	SUF/CCWMO	Yes	\$ 10,000.00	\$ -	\$ 10,000.00					\$ 10,000.00			
Wetland Restoration (CR 34)	Near Term	\$ 20,000.00	SUF/CCWMO	Yes	\$ 10,000.00	\$ -	\$ 10,000.00					\$ 10,000.00			
Wetland Restoration (Salem Avenue)	Long Term	\$ -	SUF/CCWMO	Yes	\$ -	\$ -	\$ -								\$ 20,000.00
Wetland Restoration (SW 7th Street)	Long Term	\$ -	SUF/CCWMO	Yes	\$ -	\$ -	\$ -								\$ 20,000.00
Wetland Restoration (Subwatershed 31)	Long Term	\$ -	SUF/CCWMO	Yes	\$ -	\$ -	\$ -								\$ 20,000.00
Wetland Restoration (Subwatershed 34-37)	Long Term	\$ -	SUF/CCWMO	Yes	\$ -	\$ -	\$ -								\$ 20,000.00
Upland Preservation (Subwatershed 31)	Long Term	\$ -	SUF/CCWMO	Yes	\$ -	\$ -	\$ -								\$ 20,001.00
Upland Preservation (Subwatershed 34-37)	Long Term	\$ -	SUF/CCWMO	Yes	\$ -	\$ -	\$ -								\$ 20,002.00
Street and Utility Improvement Projects	Ongoing	\$ 50,000.00	SUF/CCWMO	Yes	\$ -	\$ -	\$ 50,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00			
Education	Ongoing	\$ 2,500.00	SUF/CCWMO	Yes	\$ -	\$ -	\$ 2,500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00		
Sealing of Abandoned Wells	Ongoing	\$ -	Stormwater Utility Fee	No	\$ -	\$ -	\$ -								
Extension of Sanitary Sewer to eliminate existing SSTs	Ongoing	\$ -	Stormwater Utility Fee	No	\$ -	\$ -	\$ -								\$ 100,000.00
Maintenance:															
Neighborhood Pond Delineation	Ongoing	\$ 15,000.00	Stormwater Utility Fee	No	\$ -	\$ -	\$ 15,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00		
Neighborhood Pond Cleaning	Ongoing	\$ 100,000.00	Stormwater Utility Fee	No	\$ -	\$ -	\$ 100,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00		
Street Sweeper	Ongoing	\$ 125,000.00	Stormwater Utility Fee	No	\$ -	\$ -	\$ 125,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00		
Sewer Camera	Ongoing	\$ 50,000.00	Stormwater Utility Fee	No	\$ -	\$ -	\$ 50,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00		
Street Sweeping Labor (3 times/year)	Ongoing	\$ 25,000.00	Stormwater Utility Fee	No	\$ -	\$ -	\$ 25,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00		
Neighborhood Pond/Outlet Control Inspection	Ongoing	\$ 2,500.00	Stormwater Utility Fee	No	\$ -	\$ -	\$ 2,500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00		
General Storm System Maintenance	Ongoing	\$ 10,000.00	Stormwater Utility Fee	No	\$ -	\$ -	\$ 10,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00		
System Mapping/GIS Update and Maintenance	Ongoing	\$ 5,000.00	Stormwater Utility Fee	No	\$ -	\$ -	\$ 5,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00		
Surface Water Management Plan Updates	Ongoing	\$ 4,000.00	Stormwater Utility Fee	No	\$ -	\$ -	\$ 4,000.00		\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00		
Total			Storm Fund		\$ 90,000.00		\$ 479,000.00	\$ 87,000.00	\$ 88,000.00	\$ 88,000.00	\$ 88,000.00	\$ 128,000.00	\$ 68,000.00	\$ -	\$ 479,103.00

- Notes:
- (1) CCWMO to provide assistance with inspecting and evaluating streams banks and channels.
 - (2) Cost liklely incurred every year
 - (3) Costs incurred in coordination with development for multiple project areas or as projects become priority.
 - (4) Costs incurred one time for a specific project when it becomes a priority.

2/11/2013

Appendix E

Action Summary and Plan Evaluation

ACTION SUMMARY AND PLAN EVALUATION

Evaluation date: November 18, 2019

ACTION ITEM	CITY ROLE	CCWMO ROLE	PG #	ACTIVITIES COMPLETED
SURFACE WATER MANAGEMENT				
Continue to administer and maintain the Shoreland Management Overlay District ordinance in accordance with state regulations and the County's CWRMP	The City will continue to administer the Shoreland Management Overlay District ordinance in accordance with state and county requirements. The ordinance will also be maintained regularly to reflect any future revisions to the state standards.	NA	18, 19	Ordinance administered as necessary per development requests received.
Evaluate and correct flooding issues on City property as necessary to protect public safety and minimize potential for property damage	The City will continue to monitor and evaluate flooding issues on City property as necessary to protect public safety and minimize potential for property damage. Flood improvement projects identified will be prioritized based on available funds, feasibility, potential project partners, and benefits provided.	NA	18, 19	Known flooding issues have been identified on Page 15 and 16 of the Plan. Drainage issues on Emma Street were corrected in 2018 as part of the 2018 Street and Utility Improvements project.
Provide support to landowners in evaluating and correcting localized flooding issues	The City will aid landowners in evaluating and correcting localized flooding issues. If potential flooding will damage nearby dwellings or cause significant erosion and sedimentation, the City will partner with the landowner to correct drainage as feasible. The City's participation shall include engineering recommendations. Private property owners shall be responsible for all private construction costs necessary to remedy the localized drainage issue.	NA	18, 19	No localized flooding issues on private property were identified in 2018/2019.
Promote water quality improvement, runoff volume reduction, and additional storage through wetland restoration, regional ponding, infiltration, filtration, bioretention, and stream or ditch diversions	In order to provide water quality improvement, runoff volume reduction, and additional storage, wetland restoration, ponding, infiltration, filtration, bioretention, and stream or ditch diversion sites will be identified and prioritized. Sites will be coordinated with the CWRMP and will consider available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation Plans.	Coordinate potential City sites for water quality improvement, wetland restoration, ponding, infiltration, filtration, bioretention, and stream or ditch diversion with the CWRMP and provide funding as feasible and available.	19	Refer to Capital Improvement Projects section below for activities completed.
Evaluate outlet control structures for performance and work with landowners, CCWMO, and/or the Minnesota Department of Natural Resources (MnDNR) to replace or repair the structures if needed	Outlet control structures will be evaluated for responsible authority, condition, and performance and prioritized for repair or replacement. Evaluations will consider design outflows and design outlet elevations as well as available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation Plans.	Coordinate potential outlet control structures identified by the City for repair or replacement with the CWRMP and provide funding as feasible and available.	19	Refer to Capital Improvement Projects section below for activities completed.
IMPAIRED WATERS				
Reduce pollutant loading to Impaired Waters in order to restore water quality to State standards	Adopt TMDLs and Implementation Plans into this plan by reference as they are approved and list below. Update this plan regularly to incorporate TMDLs approved in the future. The City will be directly involved with the portions of the studies and implementation plans that it is required to be responsible for. The City will provide support as necessary to the County for the remaining portions.	Coordinate with the City to implement load reductions as necessary for Impaired Waters within the study area and under the County's authority.	20	Refer to Capital Improvement Projects section below for activities completed.
URBAN STORMWATER MANAGEMENT				
Continue to meet or exceed the National Pollutant Discharge Elimination System (NPDES) requirements as they apply to the City of Norwood Young America	Any project within the City boundary that requires a NPDES CSW permit must provide a copy of the permit to the City prior to any work. Any facility required to obtain an ISW permit will be required by the City to do so in accordance with MPCA requirements.	Any project within the CCWMO boundary that requires a NPDES CSW permit must provide a copy of the permit to the CCWMO prior to any work. Any facility required to obtain an ISW permit will be required by the CCWMO to do so in accordance with MPCA requirements.	21, 23	NPDES permits provided to City for all developments requiring permit.
Apply regulatory standards that help the City meet its goal for Urban Stormwater Management	Rely on the Water Resource Management Standards set forth in the Carver County Ordinances. Employ staff or a consultant to review P&Z Application with regards to water resources management, inspect BMP installations, and enforce BMP maintenance.	Employ the Water Resource Management Standards set forth in the Carver County Ordinances within the City boundary. Provide inspection of development sites as necessary to confirm compliance with standards. Provide enforcement for non-compliant sites.	21, 23	CCWMO permits provided to City for all developments requiring permit.
Prioritize potential stormwater management projects that will decrease local runoff rates and volumes and improve water quality	Potential stormwater projects that decrease local runoff rates and volumes and increase water quality will be identified and prioritized. Sites will be coordinated with the CWRMP and will consider available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation Plans.	Coordinate potential City sites for water quality improvement, ponding, infiltration, filtration, and bioretention with the CWRMP and provide funding as feasible and available.	21, 23	Refer to Capital Improvement Projects section below for activities completed.

Implement the stormwater drainage system maintenance plan using the practices described in this plan. Public Services would be responsible for implementing the plan	Maintain the storm drainage system including the following items: A. An inspection program and schedule that ensures general maintenance is performed. Erosion control and stormwater treatment devices are inspected regularly. B. Energy dissipaters and volume control measures are maintained regularly to prevent erosion. C. An inspection program and schedule for pond cleaning. Ponds are cleaned when sediment has reduced the volume below the outlet to half of the design volume. D. Accumulated sediment collected from BMPs and any waste generated during maintenance is properly disposed of in accordance with state and federal regulations.	NA	21, 23	Storm drainage system adequately maintained by Public Services.
Implement the road operation and maintenance (O&M) Plan using the practices described in this plan. Public Services would be responsible for implementing the O&M Plan	Maintain roads including the following items: A. An inspection program and schedule that ensures general maintenance is performed. B. Retaining walls and pavements are maintained to minimize cracks and leakage and prevent failure. C. Accumulated sediment collected from BMPs and any waste generated during maintenance is properly disposed of in accordance with state and federal regulations. D. Techniques to prevent paint, solvents, and scrapings from becoming pollutants during bridge maintenance are used, such as suspended tarps, vacuums, or booms. E. When blading gravel roads or alleys, a structurally sound surface with adequate crown is maintained to prevent erosion or scattering of gravel. F. An infrastructure safety inspection program. G. Drainage ditches are maintained to keep them free of debris. H. Salt storage piles are covered and located outside the 100-year floodplain. I. The application of deicing salts is regulated to prevent over-salting of pavements. J. Alternative deicing materials, such as sand or salt substitutes, are used if possible. K. Dumping of accumulated snow onto frozen surface waters is not allowed. L. Vegetation on eroded or damaged areas are established in a timely manner. M. Pesticide and fertilizer use are restricted as much as possible. N. Native plantings are promoted within buffer strips and ditches. O. Residential streets and parking lots are swept at least two times per year (in the spring after snowmelt and in the fall after leaves have dropped). P. Road debris is collected and removed in a timely manner.	NA	23, 24	Roads adequately maintained by Public Services.
Maintain City's database for stormwater related data, such as location and type	Employ staff or a consultant to maintain the City's database of the entire storm drainage system.	NA	23, 24	City's storm system database was last updated in 2019.
WETLAND MANAGEMENT				
Achieve no net loss in the quantity, quality, and diversity of existing wetlands through enforcement of Wetland Management regulations	Implement the standards listed in Carver County Ordinances and this Surface Water Management Plan. Employ staff or a consultant to review P&Z Application with regards to wetland management and the Wetland Conservation Act (WCA).	Employ the standards set forth in the Carver County Ordinances with regards to wetland setbacks within the City boundary.	25, 26	WCA standards implemented by the City. CCWMO permits provided to City for all developments requiring permit.
Promote wetland restoration, to mitigate historical impacts to wetlands and increase the quantity and quality of wetlands locally	Potential wetland restoration projects that mitigate historical impacts and increase the quantity and quality of local wetlands will be identified and prioritized. Sites will be coordinated with the CWRMP and will consider available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation Plans.	Coordinate potential City sites for wetland restoration with the CWRMP and provide funding as feasible and available.	25, 26	Refer to Capital Improvement Projects section below for activities completed.
UPLAND NATURAL RESOURCES				
Increase the quantity and quality of existing natural areas through enforcement of existing regulations and the participation of willing landowners in existing preservation and restoration programs	Employ staff or a consultant to implement this Surface Water Management Plan and enforce the regulations set forth in the Wetland Conservation Act, Shoreland Management Act, TMDLs, and other relevant laws and regulations.	Employ the standards set forth in the Carver County Ordinances within the City boundary. Provide inspection of development sites as necessary to confirm compliance with standards. Provide enforcement for non-compliant sites.	26, 27	Ordinances and WCA standards implemented by the City. CCWMO permits provided to City for all developments requiring permit.
Promote the restoration of natural upland areas, to mitigate the degradation and fragmentation of natural resources and improve water quality of surface water resources	Potential natural upland restoration projects that mitigate the degradation and fragmentation of natural resources and improve water quality of surface water resources will be identified and prioritized. Sites will be coordinated with the CWRMP and will consider available funds, feasibility, possible project partners, benefits provided, bioengineered solutions, and TMDL Implementation Plans.	Coordinate potential City sites for upland preservation or restoration with the CWRMP and provide funding as feasible and available.	26, 27	Refer to Capital Improvement Projects section below for activities completed.
GROUNDWATER MANAGEMENT				

Protect groundwater quality and groundwater supplies	<p>The City will provide support or assistance to the following activities:</p> <p>A. Work with the CCWMO to identify and seal potential contaminate sources, such as unused, unsealed wells and failing storage tanks.</p> <p>B. Support the Metropolitan Council, MNDNR, and MDH in their efforts to monitor and protect regional groundwater supplies.</p> <p>C. Support the MPCA in regulating storage tanks.</p> <p>D. Implement water conservation efforts, as necessary.</p>	Employ the standards set forth in the Carver County Ordinances within the City boundary. Identify and seal potential contaminate sources with the County and monitor groundwater supplies.	27, 28	No contaminated sources were identified by the City in 2018/2019.
Promote groundwater recharge	The City will distribute LID materials to developers during the planning phase via comment and review letters and promote incorporation of LID techniques and BMPs into site designs.	Employ the standards set forth in the Carver County Ordinances within the City boundary. Identify and seal potential contaminate sources with the County and monitor groundwater supplies.	27, 28	All City reviews include comments regarding best site design.
EDUCATION				
Increase public awareness, understanding, and involvement in water and natural resource issues and management.	Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies regarding protection and improvement of local water resources will be incorporated into public education. The City will meet annually with CCWMO's Education Coordinator to discuss goals and strategies and create short, specific annual education plans. Also, the City will provide support and assistance to CCWMO with the County's educational programs in the form of financial support, information sharing, and help with promotion materials as feasible. The City will collaborate with CCWMO to identify target audiences and educational needs and to create educational opportunities to meet these needs (workshops, seminars, K-12 programs, etc.), create education tools (website, newsletter, pamphlets, fairs, etc.), and create volunteer programs.	Coordinate with the City to incorporate their goals, policies, and implementation strategies into a public education program. CCWMO Education coordinator will meet annually with the City to create short, specific annual education plans.	19 - 29	Public Education Partnership is under development. Three newsletters, including stormwater related articles, were distributed in 2019. The City intends to distribute the newsletter quarterly in 2020.
Urban Stormwater Management Education	<p>Through the City's Public Education Partnership with the CCWMO, goals, policies and implementation strategies for Urban Stormwater Management will be incorporated into public education. Following are potential practices for the partnership to promote to the public to help reduce impacts to local water resources:</p> <p>A. Maintain a healthy lawn.</p> <p>B. Plant native plants or plants with deep roots to capture more runoff.</p> <p>C. Preserve and maintain native vegetation areas, especially adjacent to lakes and wetlands.</p> <p>D. Redirect downspouts to drain on pervious surfaces (grass) instead of impervious surfaces (driveways).</p> <p>E. Install rain gardens to capture localized runoff.</p> <p>F. Restore and/or stabilize shorelines.</p> <p>G. Capture rainwater from rooftops with a rain barrel or cistern and use for irrigation.</p> <p>H. Use a compost bin for leaves, lawn clippings, and other organic waste.</p> <p>I. Test soils for nutrients in order to apply the correct amount of fertilizer.</p> <p>J. Use zero phosphorus fertilizers.</p> <p>K. Keep leaves and lawn clippings out of streets and gutters.</p> <p>L. Pick up pet wastes.</p> <p>M. Limit the use of herbicides and pesticides.</p> <p>N. Wash cars on pervious surfaces to prevent soaps from running off-site.</p> <p>O. Do not dispose any household product into the storm sewer.</p> <p>P. Keep neighborhoods free from litter and debris.</p>	Coordinate with the City to incorporate their goals, policies, and implementation strategies into a public education program. CCWMO Education coordinator will meet annually with the City to create short, specific annual education plans.	24, 25	Public Education Partnership is under development.
Communication	<p>The City will provide CCWMO with the following and update CCWMO as changes occur;</p> <ul style="list-style-type: none"> - Provide city staff contact information and information on media/methods of communicating with the public to Carver County WMO's Education Coordinator. This includes city newsletter times and distribution numbers, city fairs and epos, and any other outreach methods to the public. - Provide a list of water resource related City events. - Provide information on major issues of concern (e.g. picking up pet waste, natural shorelines, etc.). - Provide information on topic areas where the city would like to increase citizen awareness (e.g. stormwater ponds, wetlands, water conservation). 	Coordinate with the City to incorporate their goals, policies, and implementation strategies into a public education program. CCWMO Education coordinator will meet annually with the City to create short, specific annual education plans.	19 - 29	Public Education Partnership is under development.
Capital Improvement Projects				
Capital Improvement Plan	Update CCWMO on status of projects at annual meeting.	Coordinate potential stormwater improvements with projected annual City projects at the annual meeting.	42	Annual meeting held 10/31/2019
Capital Improvements	Complete capital improvements that will provide water quality improvement, runoff volume reduction, and flood mitigation.	Coordinate with the City to partner on capital improvements that will provide water quality improvement, runoff volume reduction, and flood mitigation.		Due to lack of funding and staff available, no capital improvements were completed in 2018/2019.

APPENDIX D

5-Year Financial Plan/Capital Improvement Plan



CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
2018 - 2022 FINANCIAL PLAN
DECEMBER 11, 2017

Prepared by Abdo, Eick & Meyers, LLP

City of Norwood Young America, Minnesota
2018 - 2022 Financial Plan
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INTRODUCTORY SECTION

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
2018 - 2022 FINANCIAL PLAN

Honorable Mayor and City Council
City of Norwood Young America
310 Elm Street West
Norwood Young America, MN 55368

Introduction

We have prepared the attached 2018 - 2022 Financial Plan for the City that is intended to give a big picture view of the status now and through year 2022. We have scheduled projected tax levy, cash balances, planned capital and debt for the City based on assumptions by management. We have not examined the projection and do not express an opinion or any other form of assurance on the accompanying schedules or assumptions. Furthermore, there will usually be differences between the forecasted and actual results, because events and circumstances frequently do not occur as expected and those differences may be material. We have no responsibility to update this report for events and circumstances occurring after the date of this report. The City's assumptions made are as follows:

Assumptions

1. Normal operating expenses will increase by a three percent inflation rate.
2. Housing growth is assumed at five units per year each with an average community market value of \$177,200 increasing by 2 percent per year. The City has had 23 permits (7 single family, 16 townhome units) issued in 2017.
3. Equipment has been identified in the capital plan and is to be expended in the capital fund (275).
4. The increase in the General fund tax levy assists in balancing the budget and is working toward a 50 percent cash reserve.
5. No new bonded debt or new projects are included in the plan through 2022. We have included potential equipment certificates for large equipment purchase in 2022.
6. The City purchased properties from the County in 2016 with a cash outlay from the General fund of \$260,000. This will create an approximate \$1 million cash savings by eliminating the \$48,500 annual payment that was due to the County through 2044. The City will reimburse itself by continuing to budget the \$48,500 expense until it reaches \$260,000.
7. The 2010B G.O. refunding bond fund has sufficient resources to allow the City to reduce the scheduled levies in future years. The projection currently has a levy reduction of \$4,000 each year based on the scheduled levies.
8. The TIF districts are assumed to receive increment through the life of the district similar to what the City has received in the past and current year amounts, except for TIF 3-4 (424) will receive a one-time correction of approximately \$50,000 of additional increments in 2018.
9. The plan includes \$176,600 levy to the capital fund in 2018 and \$200,000 in years thereafter.

Assumptions with Future Action

1. The City will strive to reduce its reliance on the State's Local Government Aid (LGA) program, by reducing the budget for LGA over a 15 year period that began in 2016 budget year. This budget reduction, if received, will go to increase reserve balances within the General fund. In 2018 the budget includes a reduction of \$75,418.
2. As bond obligations for each fund are completed, Council will need to make a decision for the remaining cash reserves that could be transferred to other debt service funds or any other fund.
3. Fund 320 - 2013 Infrastructure fund. There currently is approximately \$51K of cash in the fund. Council has discussed utilizing these funds for the Oak Lane Sanitary Sewer project.

Key Highlights

1. The General fund builds on the reserve throughout the life of the projection with the assumptions of increasing levy to build the General fund balance reserve, while decreasing the City's reliance on local government aid. The City will also maintain debt service reserve balances to meet the required principal and interest payments.
2. The preliminary General fund operating tax levy increases 15.9 percent in 2018 from 2017. The debt service levy increases 6.9 percent from 2017 and the capital levy decrease 11.8 percent. The general levy increases a total of 10.0 percent from 2017. The overall levy increase is 9.8 percent which includes the EDA levy.
3. Fund 275 - Capital Fund - Council certified a tax levy for 2018 of \$176,600 to fund future capital purchases. The projection includes future levies of \$200,000 for this fund. This fund will be analyzed each year as part of the budget process. In 2018, \$24,967 of cash reserves will be utilized to make the Fire Department's lease payment on the SCBA's.
4. The Water and Sewer enterprise funds are projected with no increases in rates for 2018.
5. The enterprise funds (Water and Sewer) currently do not have reserve funds set aside to pay for capital/equipment related purchases. Currently all replacements are budgeted annually with respective operating budgets. The financial goal is shown as the third bullet in the financial goals section.
6. The Storm Sewer fund had a deficit of \$191,694 at the end of 2016. By the end of the 2022, the deficit has decreased to approximately a \$25,000 deficit.

Financial Goals

- Reach a 50 percent cash reserve in the General fund. The 50 percent balance will fund half of the budget through June of each year until the 1st half tax settlement is received from the County. The projection meets this goal by the end of 2020.
- Maintain positive resources in the City's debt service funds throughout the life of the bonds.
- Ensure enterprise funds (Water & Sewer) reach an operating cash balance that is equal or above 50 percent of the annual operating expenses plus 100 percent of debt service requirements. In addition to the operating cash balance, a cash balance established to fund future capital purchases based on the capital needs of the fund.
- Build and maintain capital resources in the Capital Fund (275) following the capital improvement/equipment replacement plan.
- Reduce the City reliance on local government aid over a 15 year period.
- Build and maintain positive cash balances in all City funds.
- Annually determine whether or not there are available resources in the Water fund that can be used to improve the cash position of the Sewer fund.
- The City will strive to improve its bond rating which is current rating AA- as established by Standard and Poors, by focusing on criteria included on page 7.
- Incorporate an infrastructure improvement plan into the long range plan focusing on planning projects to fit the debt management goals of the City. Council has created the following unprioritized list of important projects that will be addressed in future years:
 - Street/Infrastructure improvements
 - a. Webster Street total reconstruction
 - b. Merger Street Mill & Overlay and Storm Sewer improvements
 - c. 2nd Avenue total reconstruction plus new main lift station
 - d. 1st Street NE total reconstruction
 - e. Railroad Street total reconstruction
 - f. South Street/Reform Street total reconstruction
 - g. Oak Grove Well - extend forcemain
 - h. Oak Lane Water and Sewer installation/extension
 - i. Mill and Overlay project, Phase II
 - Capital Equipment Fund
 - a. Proactive vs. Reactive budgeting
 - Pavilion
 - a. Structural integrity improvements
 - Image and Appearance of the City
 - a. New community entrance signs, Faxon road banners & decorative lighting poles

Bond Rating Criteria

2016 S&P Report

S & P's Seven Rating Factors	City Score	Weighting	Weighted Score
Institutional Framework	Strong	10%	0.20
Economy	Strong	30%	0.60
Management	Adequate	20%	0.60
Financial - Budgetary Flexibility	Very Strong	10%	0.10
Financial - Budgetary Performance	Adequate	10%	0.30
Financial - Liquidity	Very Strong	10%	0.10
Debt & Contingent Liabilities	Very Weak	10%	0.50
Total Indicated Weighted Score		AA-	2.40

Indicative Rating Outcomes from 7 Factors	
Score Range	Indicative Rating
1 - 1.64	AAA
1.65 - 1.94	AA+
1.95 - 2.34	AA
2.35 - 2.84	AA-

Standard & Poor's utilizes a weighted scoring of seven main factors to evaluate a municipality's baseline credit score. Final determination of the rating is assigned after review of this scoring and evaluation of other subjective characteristics. For the 2016A Bond issue S&P re-evaluated the City and affirmed its "AA-" rating: the 4th highest rating grade placing the city at the median level nationally for municipalities. S&P assigned a stable outlook, meaning it expects this rating to hold up over the near term two-year horizon. S&P also provided both an upside and downside scenario. The rating could improve upon reduction of the City's debt profile and a sustained improvement of the City's budgetary performance: operating revenues exceeding expenditures in the general fund and across all governmental funds. S&P only noted the rating could decline after a period of declining of reserve levels.

2016 Year End Results

The City's indicated results from 2016 show the following potential impacts to various S&P factors:

Budgetary Flexibility & Liquidity – The City projects to maintain a top score due to maintaining level to slight improvement in overall governmental cash and "available" fund balances anticipating the City's end of year tax collections and planned transfers. Any growth in negative storm sewer balances will act as a drag on improved levels within the general fund. The City's debt service reserves provide additional stability, but do not directly impact this scoring.

Budgetary Performance – The City can achieve a 0.1 point potential improvement in the scoring by sustaining current projections for > 5% general fund year end results are coupled with a break even result in total governmental funds' performance.

Debt & Contingent Liabilities – After repayment of scheduled debt, the 2016A refinancing, and no plans for additional issuance, the city can expect modest improvement on the debt profile but not yet at a level to improve scoring.

2018 Budget

The 2018 Budget indicates continued improvement of the debt profile as principal is retired. Balanced operations in the general fund and breakeven to modest improvement across all governmental funds will further justify the 0.1 point potential improvement to the Budgetary Performance score.

Other Considerations

Financial Management: The City's financial "Management" score is a 3 on a scale of 1 to 5. S&P's 2016 report is complimentary of the City's utilization of a multi-year financial plan to monitor projected revenue, expenditure, and fund balance levels. S&P notes improvement to its assessment would be achieved through demonstrating continued adherence to the City's formal fund balance/reserve policy, implementation of a formal long term capital plan, and adoption of a formal debt management plan which sets management responsibilities and policy restrictions on what types of projects, and at what levels, debt can be issued for. A minor improvement within the assessment would also be the implementation of monthly reporting to the governing body of budget-to-actual and investment performance.

Budgetary Flexibility: The primary rating criteria within the City's annual control is the preservation of fund and cash balance levels. Deterioration of those metrics will directly result in degrading the City's credit rating.

Debt: The City's debt profile will continue to improve as principal is retired and annual payments shrink in relation to size of the City's overall budget. Considering S&P's rating criteria, the decision to add additional debt for future capital needs should consider amortizing at least 65% of principal within a 10-year horizon as long as fund balance levels are not negatively impacted. The rating agencies will also omit from its calculations debt of the utility enterprises as long as those funds are self-supporting from enterprise revenues and do not receive support from governmental funds.

FINANCIAL SECTION

CITY OF NORWOOD YOUNG AMERICA, MINNESOTA
2018 - 2022 FINANCIAL PLAN

City of Norwood Young America, Minnesota
Schedule of Property Taxes Levied and Tax Rates
For the Years Ended December 31, 2016 Actual and 2017 to 2022 (Estimated)

	2016	2017	2018	2019	2020	2021	2022
	Actual Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Property Taxes Levied for General Purposes							
101 General Fund	\$ 1,086,596	\$ 1,152,880	\$ 1,336,288	\$ 1,331,365	\$ 1,388,210	\$ 1,446,133	\$ 1,505,276
101 Additional levy for general fund to increase reserve balance	-	-	-	75,000	145,000	60,000	140,000
Total General Fund Operating Levy	1,086,596	1,152,880	1,336,288	1,406,365	1,533,210	1,506,133	1,645,276
Property Taxes Levied for Debt Service							
501 2010 Infrastructure Debt Service	33,003	32,532	32,327	31,187	30,048	34,067	32,660
516 2008 Debt Service	88,112	81,882	-	-	-	-	-
517 Oak Grove Debt Service 2013A	52,110	-	-	-	-	-	-
517 Public Project Lease Rev Bonds	133,003	136,500	150,518	148,418	146,318	148,943	151,436
518 G.O Refunding Debt Service	254,262	249,262	243,729	254,787	257,778	260,300	255,955
519 2011A G.O Refunding Debt Service	94,777	88,338	93,654	94,587	92,030	98,128	108,922
520 2013B Infrastructure Debt Service	160,971	160,971	169,816	171,811	166,771	166,981	167,034
521 2016A G.O. Refunding Debt Service	-	30,792	146,167	149,212	146,902	144,592	38,246
601 Water fund 2010B G.O. Refunding	18,427	17,955	17,482	22,260	21,630	-	-
590 Potential Levy (212 underpass project)	-	-	-	-	-	66,686	65,688
Subtotal	834,665	798,232	853,693	872,262	861,477	919,697	819,941
Property Taxes Levied for Capital Replacement Fund							
275 Capital outlay reserve fund	70,900	200,325	176,600	200,000	200,000	200,000	200,000
Total Taxes Levied - General Levy	1,992,161	2,151,437	2,366,581	2,478,627	2,594,687	2,625,830	2,665,217
Tax Levy Increase (Not including EDA)	10.83%	8.00%	10.00%	4.73%	4.68%	1.20%	1.50%
518 EDA levy	43,753	46,299	47,284	47,284	47,284	47,284	47,284
Total Taxes Levied	\$ 2,035,914	\$ 2,197,736	\$ 2,413,865	\$ 2,525,911	\$ 2,641,971	\$ 2,673,114	\$ 2,712,501
Operational Percent Increase (Decrease) in Levy	18.6%	6.1%	15.9%	5.2%	9.0%	4.2%	4.1%
Debt Percent Increase (Decrease) in Levy	8.2%	-4.4%	6.9%	2.2%	-1.2%	6.8%	-10.8%
Capital Percent Increase (Decrease) in Levy	-35.6%	182.5%	-11.8%	13.3%	0.0%	0.0%	0.0%
EDA Percent Increase (Decrease) in Levy	13.1%	5.8%	2.1%	0.0%	0.0%	0.0%	0.0%
Total Percent Increase (Decrease) in General Levy	10.8%	8.0%	10.0%	4.7%	4.7%	1.2%	1.5%

City of Norwood Young America, Minnesota
Schedule of Tax Capacities and Tax Rates
For the Years Ended December 31, 2016 and 2017 Actual and 2018 to 2022 (Estimated)

	2016	2017	2018	2019	2020	2021	2022
	Actual Amounts	Actual Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Total Levy (Excluding Eda Special Levy)	\$ 1,992,161	\$ 2,151,437	\$ 2,366,581	\$ 2,478,627	\$ 2,594,687	\$ 2,625,830	\$ 2,665,217
Less EMV levy	(18,427)	(17,955)	(17,482)	(22,260)	(21,630)	-	-
Less area-wide fiscal disparities distribution	(463,066)	(511,709)	(556,774)	(556,774)	(556,774)	(556,774)	(556,774)
Total Local Levy (non EDA special levy)	1,510,668	1,621,773	1,792,325	1,899,593	2,016,283	2,069,056	2,108,443
Tax Rate Calculation (non EDA)							
Total tax capacity from the county	2,704,785	2,743,609	2,982,298	3,094,664	3,219,619	3,324,646	3,432,730
Less: Captured Tax Increment	(96,148)	(139,593)	(185,537)	(191,103)	(196,836)	(202,741)	(208,824)
Less: Contribution to fiscal disparities	(327,014)	(354,225)	(299,953)	(299,953)	(299,953)	(299,953)	(299,953)
Adjusted Tax capacity used for local rate	2,281,623	2,249,791	2,496,808	2,603,608	2,722,830	2,821,952	2,923,953
Calculated Tax rate (non EDA special levy rate)	66.21%	72.09%	71.78%	72.96%	74.05%	73.32%	72.11%
Total EDA special levy	43,753	46,299	47,284	47,284	47,284	47,284	47,284
Less area-wide fiscal disparities distribution	(10,442)	(11,284)	(12,029)	(12,029)	(12,029)	(12,029)	(12,029)
Total Local EDA special Levy (non EDA special levy)	33,311	35,015	35,255	35,255	35,255	35,255	35,255
Calculated Tax rate - EDA special levy rate	1.46%	1.56%	1.41%	1.35%	1.29%	1.25%	1.21%
TOTAL TAX RATE	67.67%	73.64%	73.20%	74.31%	75.35%	74.57%	73.32%
Rate change from prior year	4.00%	5.97%	-0.45%	1.12%	1.03%	-0.78%	-1.25%

City of Norwood Young America, Minnesota
 Schedule of Tax Capacities and Tax Rates (Continued)
 For the Years Ended December 31, 2016 and 2017 Actual and 2018 to 2022 (Estimated)

	2016	2017	2018	2019	2020	2021	2022
	Actual	Actual	Estimated	Estimated	Estimated	Estimated	Estimated
	Amounts	Amounts	Amounts	Amounts	Amounts	Amounts	Amounts
Tax Capacity							
Total tax capacity from the county	\$ 2,704,785	\$ 2,743,609	\$ 2,982,298	\$ 3,071,767	\$ 3,187,504	\$ 3,283,129	\$ 3,381,623
Assumed new growth (5 homes each year)				17,897	27,115	36,517	46,107
Assumed commercial growth (\$500k MV = \$5K in TC)				5,000	5,000	5,000	5,000
Adjusted Tax capacity used for local rate	2,704,785	2,743,609	2,982,298	3,094,664	3,219,619	3,324,646	3,432,730
Tax Rates							
General	36.11%	38.63%	40.54%	41.41%	43.78%	40.22%	42.77%
Scheduled Debt Levies	27.74%	26.75%	25.89%	25.66%	24.57%	25.66%	22.16%
Scheduled Capital Levies	2.36%	6.71%	5.36%	5.88%	5.70%	5.58%	5.41%
Proposed EDA Levies	1.46%	1.56%	1.41%	1.35%	1.29%	1.25%	1.21%
Proposed Additional Debt Levies	0.00%	0.00%	0.00%	0.00%	0.00%	1.86%	1.78%
Total Direct Tax Rate (Factors Fiscal Disparities not Reflected in Tax Capacity)	67.67%	73.64%	73.20%	74.31%	75.35%	74.57%	73.32%
Population	3,782	3,877	3,973	4,073	4,175	4,279	4,386
Taxes per Capita	\$ 538	\$ 567	\$ 607	\$ 620	\$ 633	\$ 625	\$ 618
Median Home Value	\$ 145,568	\$ 147,024	\$ 177,200	\$ 180,744	\$ 184,359	\$ 188,046	\$ 191,807
Median Home Taxes (from city)	822	906	1,141	1,187	1,233	1,251	1,260
% change from prior year \$'s	7.68%	10.25%	25.97%	4.04%	3.89%	1.40%	0.72%
Tax Capacity Growth Rates	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%

City of Norwood Young America, Minnesota
Schedule of Annual Fund Cash Balances
For the Years Ended December 31, 2016 Actual and 2017 to 2022 (Estimated)

		2016	2017	2018	2019	2020	2021	2022
		Actual Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Government-Type								
General Operations								
101	General	\$ 795,171	\$ 892,171	\$ 929,171	\$ 1,004,171	\$ 1,149,171	\$ 1,209,171	\$ 1,349,171
Cash balance as a percent of the following years budget		37%	42%	46%	48%	54%	55%	60%
Special Revenue								
201	Park Dedication	95,382	95,382	55,382	55,424	55,466	55,508	55,550
603	Storm Sewer	(191,694)	(169,003)	(170,927)	(152,278)	(131,279)	(107,804)	(81,163)
Subtotal		(96,312)	(73,621)	(115,545)	(96,854)	(75,813)	(52,296)	(25,613)
Debt Service (Maturity)								
501	2010 Infrastructure Debt Service (2026)	63,434	63,435	57,170	52,894	48,554	49,350	44,987
516	2008 Debt Service (refunded with 2016A bond)	137,931	-	-	-	-	-	-
517	Oak Grove Debt Service (2031)	265,837	129,337	140,105	145,828	151,454	161,961	172,530
518	G.O Refunding Debt Service (2027)	888,393	915,939	975,861	902,346	833,767	765,033	690,271
519	2011A G.O Refunding Debt Service (2032)	336,720	336,720	329,738	326,372	324,402	317,404	314,187
520	2013B Infrastructure Debt Service (2024)	111,038	114,159	125,175	150,292	169,338	193,408	217,423
521	2016A General Obligation bonds (2035)	-	94,073	110,688	135,768	155,706	176,000	91,712
590	Potential Levy (212 underpass project)	-	-	-	-	-	3,176	6,304
Subtotal		1,803,353	1,653,662	1,738,738	1,713,500	1,683,221	1,666,330	1,537,414
Capital Projects								
225	Economic Recovery	124,630	125,820	127,010	128,006	129,030	130,083	131,166
257	Oak Grove	90	90	90	90	90	90	90
275	Capital Fund	557,585	579,640	555,645	642,267	625,754	533,223	528,623
320	2013 Infrastructure	51,939	51,939	51,939	51,978	52,017	52,056	52,095
407	TIF 1-5	-	-	(65)	24,405	48,859	73,297	97,718
420	TIF 2-1	4,869	4,869	4,869	4,873	4,877	4,881	4,885
421	TIF 3-1	-	-	(815)	(815)	(815)	(815)	(815)
422	TIF 3-2	573	58	(757)	(570)	(570)	(570)	(570)
423	TIF 3-3	-	(4,415)	(5,230)	(5,520)	(5,784)	(6,020)	(6,227)
424	TIF 3-4	7,839	(42,461)	(16,276)	(17,115)	(17,979)	(18,869)	(19,786)
425	TIF 3-5	14,413	14,113	23,298	22,459	21,595	20,705	19,788
Subtotal		761,938	729,653	739,708	850,058	857,074	788,061	806,967
Total - Governmental-type Funds		\$ 3,264,150	\$ 3,201,865	\$ 3,292,072	\$ 3,470,875	\$ 3,613,653	\$ 3,611,266	\$ 3,667,939
Business-Type								
Enterprise Funds								
601	Water	\$ 725,103	\$ 689,090	\$ 516,575	\$ 500,060	\$ 487,327	\$ 483,682	\$ 531,092
602	Sewer	161,102	236,980	170,460	(196,280)	(213,096)	(251,754)	(264,536)
251	Habor at Peace	112,604	-	N/A	N/A	N/A	N/A	N/A
Total - Business-type Funds		\$ 998,809	\$ 926,070	\$ 687,035	\$ 303,780	\$ 274,231	\$ 231,928	\$ 266,557
TOTAL CASH RESERVES - ALL CITY FUNDS		\$ 4,262,959	\$ 4,127,935	\$ 3,979,107	\$ 3,774,655	\$ 3,887,884	\$ 3,843,195	\$ 3,934,496

City of Norwood Young America, Minnesota
Outstanding Debt Schedule
For the Years Ended December 31, 2016 Actual and 2017 to 2022 (Estimated)

Fund	Issue	Original Issue	Issue Date	Maturity Date	Call Date	Interest Rate	2016	2017	2018	2019	2020	2021	2022
							Actual Balance	Estimated Balance	Estimated Balance	Estimated Balance	Estimated Balance	Estimated Balance	Estimated Balance
<u>Business Type Debt</u>													
Water Fund													
601	GO Water Revenue Bonds 2012A	\$ 1,430,625	3/14/2012	2/1/2024	2/1/2021	.40 - 2.00 %	\$ 1,072,500	\$ 948,750	\$ 823,125	\$ 695,625	\$ 566,250	\$ 431,250	\$ 292,500
601	GO Water Revenue Bonds 2008B	2,715,000	10/30/2008	2/1/2029	2/1/2018	3.75 - 5.00	255,000	130,000	-	-	-	-	-
601	GO Bonds, Series 2010A	120,000	8/4/2010	2/1/2026	2/1/2018	1.45 - 3.65	100,000	90,000	80,000	70,000	60,000	50,000	40,000
601	GO Refunding Bonds, Series 2010B	255,000	12/7/2010	2/1/2021	2/1/2019	2.00 - 3.00	150,000	125,000	100,000	70,000	35,000	-	-
601	(PFA) GO Water Revenue Note, Series 2010	1,966,604	11/24/2010	8/20/2039		2.461	1,660,000	1,606,000	1,550,000	1,493,000	1,434,000	1,374,000	1,312,000
601	GO Refunding Bonds, Series 2011A	245,000	9/15/2011	2/1/2032	2/1/2020	3.00 - 3.75	190,000	175,000	160,000	145,000	130,000	115,000	100,000
601	GO Refunding Bonds, Series 2016A, Crossover Refunding 2008B	1,920,000	7/21/2016	2/1/2029	2/1/2025	2.0 - 3.0	1,920,000	1,920,000	1,920,000	1,760,000	1,595,000	1,430,000	1,260,000
	Subtotal						5,347,500	4,994,750	4,633,125	4,233,625	3,820,250	3,400,250	3,004,500
Sewer Fund													
602	GO Sewer Revenue Bonds 2012A	2,384,375	3/14/2012	2/1/2024	2/1/2021	.40 - 2.0	1,787,500	1,581,250	1,371,875	1,159,375	943,750	718,750	487,500
602	GO Refunding Bonds, Series 2011A	110,000	9/15/2011	2/1/2032	2/1/2020	3.00 - 3.75	90,000	85,000	80,000	75,000	70,000	60,000	50,000
602	GO CAPITAL IMPROVEMENT BOND 2013B	130,000	9/12/2013	2/1/2024	2/1/2021	2.0 - 3.0	110,000	100,000	90,000	75,000	60,000	45,000	30,000
	Subtotal						1,987,500	1,766,250	1,541,875	1,309,375	1,073,750	823,750	567,500
Harbor at Peace Debt													
251	GO HOUSING REV BONDS 2012B	3,090,000	12/01/2012	8/1/2031	8/1/2021	2.70 - 3.10	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
251	GOV HOUSING GROSS REV BONDS 2012A	3,000,000	12/01/2012	8/1/2040	8/1/2021	1.00 - 4.30	2,570,000	2,415,000	2,255,000	2,095,000	1,930,000	1,760,000	1,585,000
	Subtotal						5,570,000	5,415,000	5,255,000	5,095,000	4,930,000	4,760,000	4,585,000
<u>Total Business Type Debt</u>							\$ 12,905,000	\$ 12,176,000	\$ 11,430,000	\$ 10,638,000	\$ 9,824,000	\$ 8,984,000	\$ 8,157,000
<u>GOVERNMENT TYPE DEBT</u>													
516	GO Bonds, Series 2008A	1,325,000	07/02/2008	2/1/2024	2/1/2017	3.00 - 4.10	\$ 85,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
517	GO LIBRARY Bonds, Series 2009A	1,420,000	11/05/2009	21/2039	2/1/2020	6.00 - 6.15	-	-	-	-	-	-	-
517	GO CAPITAL IMPROVEMENT BOND 2013A	1,920,000	06/20/2013	2/1/2031	2/1/2022	2.0 - 3.25	1,695,000	1,605,000	1,510,000	1,410,000	1,310,000	1,210,000	1,105,000
520	GO CAPITAL IMPROVEMENT BOND 2013B	1,575,000	9/12/2013	2/1/2024	2/1/2021	2.0 - 3.0	1,290,000	1,140,000	985,000	830,000	670,000	510,000	345,000
501	GO Bonds, Series 2010A (spec asmt)	535,000	08/04/2010	2/1/2026	2/1/2018	1.45 - 3.65	385,000	355,000	320,000	285,000	250,000	215,000	175,000
501	GO Bonds, Series 2010A (rev)	65,000	8/4/2010	2/1/2026	2/1/2018	1.45 - 3.65	50,000	45,000	40,000	35,000	30,000	25,000	20,000
518	GO Refunding Bonds, Series 2010B	5,560,000	12/07/2010	2/1/2027	2/1/2019	2.00 - 3.63	4,505,000	4,135,000	3,750,000	3,355,000	2,950,000	2,530,000	2,095,000
519	GO Refunding Bonds, Series 2011A (spec asmt)	2,770,000	09/15/2011	2/1/2032	2/1/2020	3.00 - 3.75	2,165,000	2,000,000	1,830,000	1,655,000	1,475,000	1,280,000	1,075,000
519	GO Refunding Bonds, Series 2011A (rev)	125,000	9/15/2011	2/1/2032	2/1/2020	3.00 - 3.75	105,000	100,000	95,000	90,000	85,000	80,000	75,000
521	GO Refunding Bonds, Series 2016A, Crossover Refunding 2008A - Capital Improvement	85,000	7/21/2016	2/1/2022	2/1/2025	2.19	85,000	85,000	45,000	-	-	-	-
521	GO Refunding Bonds, Series 2016A, Crossover Refunding 2008A - Street Improvement	455,000	7/21/2016	2/1/2022	2/1/2025	2.19	455,000	455,000	390,000	330,000	220,000	110,000	-
521	GO Refunding Bonds, Series 2016A, Current Refunding 2009A	1,415,000	7/21/2016	2/1/2035	2/1/2025	2.19	1,415,000	1,415,000	1,415,000	1,415,000	1,415,000	1,415,000	1,415,000
590	Potential Levy (212 underpass project)						550,000	550,000	550,000	550,000	550,000	500,000	450,000
591	Potential levies for equipment certificate						-	-	-	-	-	-	-
592	Potential Debt 3						-	-	-	-	-	-	-
<u>Total Government Type Debt</u>							\$ 12,785,000	\$ 11,885,000	\$ 10,930,000	\$ 9,955,000	\$ 8,955,000	\$ 7,875,000	\$ 6,755,000
Debt Per Capita - Governmental Total							\$ 3,380.49	\$ 3,065.87	\$ 2,750.75	\$ 2,444.26	\$ 2,145.11	\$ 1,840.39	\$ 1,540.14
Debt Per Capita - Enterprise Funds							3,412.22	3,140.94	2,876.58	2,611.96	2,353.27	2,099.56	1,859.80
Total Debt Per Capita							6,792.70	6,206.81	5,627.33	5,056.23	4,498.37	3,939.95	3,399.94
Debt Per Capita Less Harbor							5,319.94	4,809.95	4,304.81	3,805.24	3,317.43	2,827.54	2,354.56

City of Norwood Young America, Minnesota
Schedule of Debt Transfers by Year and Fund
For the Year Ended December 31, 2017 to 2022 (Estimated)

Fund	2017	2018	2019	2020	2021	2022
2010 Infrastructure Debt Service Fund (501)						
Transfer in from fund 603 (Storm Water)	\$ (6,906)	\$ (6,759)	\$ (6,597)	\$ (6,434)	\$ (6,265)	\$ (6,089)
	(6,906)	(6,759)	(6,597)	(6,434)	(6,265)	(6,089)
2016A Debt Service fund (516/521)						
Transfer in from fund 602 (Sewer)	\$ (11,810)	\$ (11,810)	\$ (11,810)	\$ (11,810)	\$ (11,810)	\$ (11,810)
Transfer in from fund 601 (Water)	(683)	(683)	(683)	(683)	(683)	(683)
	(12,493)	(12,493)	(12,493)	(12,493)	(12,493)	(12,493)
2010B G.O. Refunding Debt Service fund (518)						
Transfer in from fund 603 (Storm Water)	\$ (7,281)	\$ (7,281)	\$ (7,281)	\$ (7,281)	\$ (7,281)	\$ (7,281)
Transfer in from fund 602 (Sewer)	(75,312)	(75,312)	(75,312)	(75,312)	(75,312)	(75,312)
Transfer in from fund 601 (Water)	(37,573)	(37,573)	(37,573)	(37,573)	(37,573)	(37,573)
	(120,166)	(120,166)	(120,166)	(120,166)	(120,166)	(120,166)
2011A Debt Service fund (519)						
Transfer in from fund 603 (Storm Water)	\$ (31,987)	\$ (31,763)	\$ (32,054)	\$ (32,278)	\$ (32,454)	\$ (32,025)
Transfer in from fund 602 (Sewer)	(64,849)	(67,977)	(65,916)	(68,818)	(66,434)	(63,957)
Transfer in from fund 601 (Water)	(21,393)	(21,331)	(21,747)	(22,101)	(22,411)	(22,158)
	(118,229)	(121,071)	(119,717)	(123,197)	(121,299)	(118,140)
Water enterprise fund (601)						
Transfer out to fund 521 (2016A Bonds)	\$ 683	\$ 683	\$ 683	\$ 683	\$ 683	\$ 683
Transfer out to fund 518 (2010B bonds) (scheduled)	42,573	42,573	42,573	42,573	42,573	42,573
Transfer out to fund 518 (2010B bonds) (reduction)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Transfer out to fund 519 (2011A bonds)	21,393	21,331	21,747	22,101	22,411	22,158
	59,649	59,587	60,003	60,357	60,667	60,414
Sewer enterprise fund (602)						
Transfer out to fund 521 (2016A Bonds)	\$ 11,810	\$ 11,810	\$ 11,810	\$ 11,810	\$ 11,810	\$ 11,810
Transfer out to fund 518 (2010B bonds)	75,312	75,312	75,312	75,312	75,312	75,312
Transfer out to fund 519 (2011A bonds)	64,849	67,977	65,916	68,818	66,434	63,957
	151,971	155,099	153,038	155,940	153,556	151,079
Storm Water special revenue fund (603)						
Transfer out to fund 518 (2010B bonds)	\$ 7,281	\$ 7,281	\$ 7,281	\$ 7,281	\$ 7,281	\$ 7,281
Transfer out to fund 519 (2011A bonds)	31,987	31,763	32,054	32,278	32,454	32,025
Transfer out to fund 501 (2010 infrastructure bonds)	6,906	6,759	6,597	6,434	6,265	6,089
	46,174	45,803	45,932	45,993	46,000	45,395

City of Norwood Young America, Minnesota
Capital Project/Equipment Plan - All Funds
Schedule of Planned Capital Outlay 2017 to 2022

Department	Year	Item	Purchase Cost	Net Cost	2017	2018	2019	2020	2021	2022
					Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Administration	2019	City Code codification	\$ 10,000	\$ 10,000	\$ -	\$ -	\$ 10,000	\$ -	\$ -	\$ -
Fire department	yearly	SCBA's	150,000	150,000	-	25,000	25,000	25,000	25,000	25,000
Fire department	2017	Turnout gear	60,000	multiple	5,395	5,595	5,795	5,995	-	-
Fire department	2018	Civil Defense - new siren	25,000	25,000	-	25,000	-	-	-	-
Fire department	2019	2002 Radios	65,000	65,000	-	-	65,000	-	-	-
Fire department	2022	Rescue 11 (1222 rescue vehicle) 2003 Ford F350	60,000	60,000	-	-	-	-	-	60,000
Fire department	2022	1996 Ladder 11	750,000	750,000	-	-	-	-	-	750,000
Fire department	2022	2000 Extrication tool 11	30,000	30,000	-	-	-	-	-	30,000
Fire department	2022	2001 Extrication tool #21	30,000	30,000	-	-	-	-	-	30,000
Fire department	2023	1995 Ford Tanker 11	100,000	100,000	-	-	-	-	-	-
Fire department	2025	1996 Tanker 21	100,000	100,000	-	-	-	-	-	-
Fire department	2027	2012 Engine 21 Mini pumper	350,000	350,000	132,500	-	-	-	-	-
Fire department	2031	2001 Engine 11	1,000,000	1,000,000	-	-	-	-	-	-
Fire department	2032	2012 Track Mach and Trailer	30,000	30,000	-	-	-	-	-	-
Fire department	2035	2001 Utility 21	500,000	500,000	-	-	-	-	-	-

City of Norwood Young America, Minnesota
Capital Project/Equipment Plan - All Funds
Schedule of Planned Capital Outlay 2017 to 2022 (Continued)

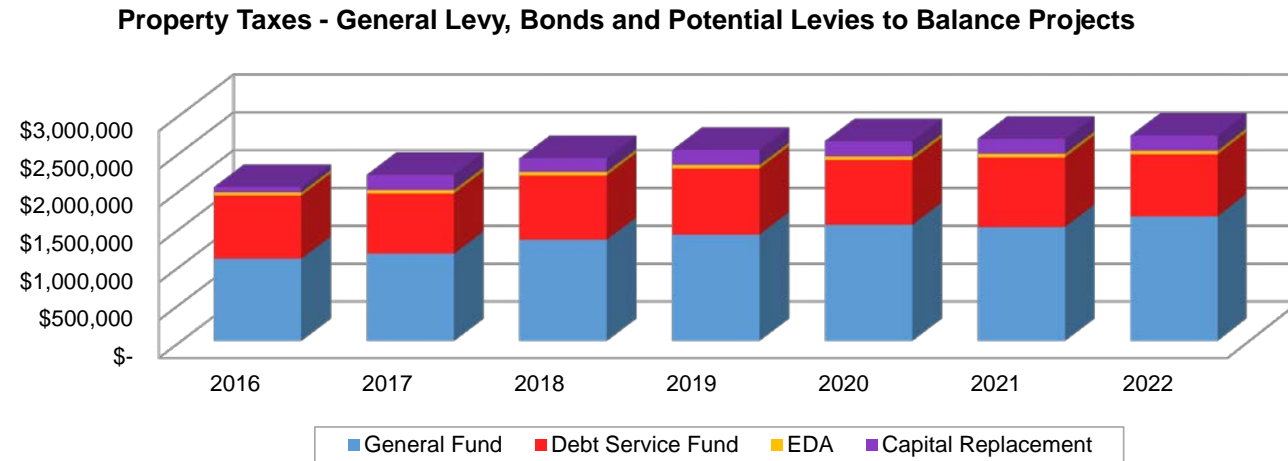
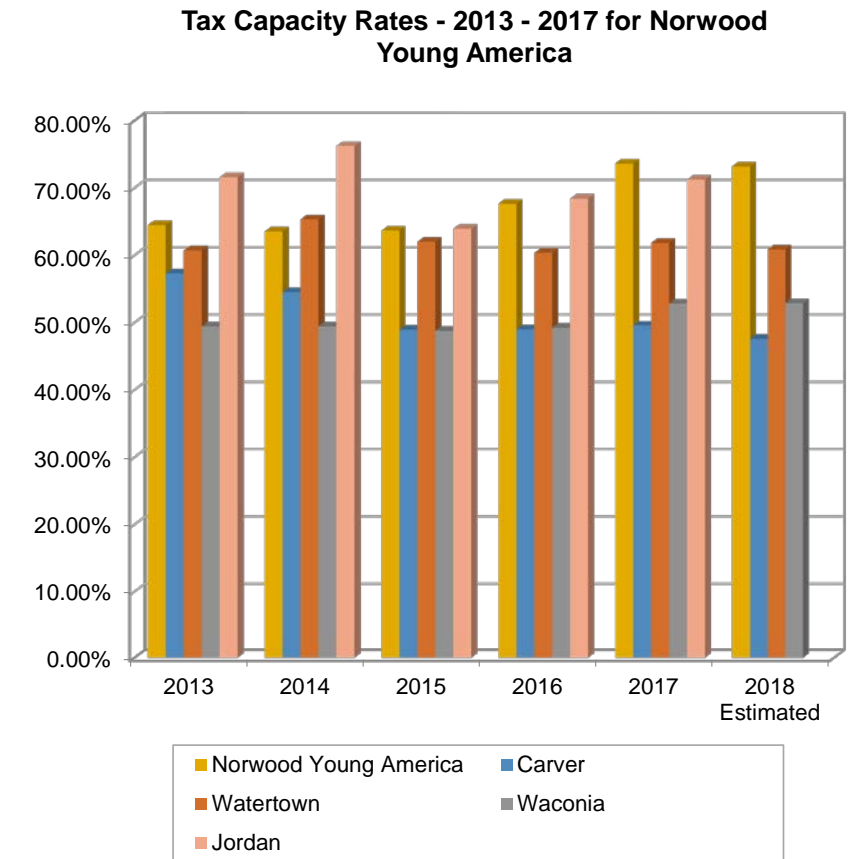
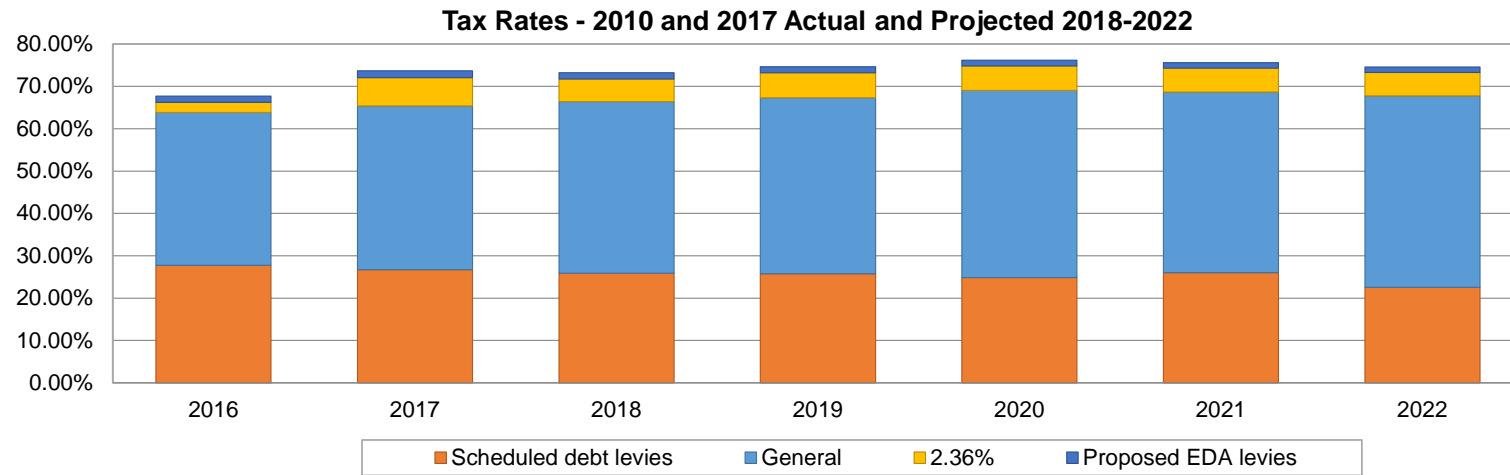
Department	Year	Item	Purchase Cost	Net Cost	2017	2018	2019	2020	2021	2022
					Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Public Works	2018	Bobcat HLA snowpusher	\$ 20,000	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ -	\$ -	\$ -
Public Works	2018	T5 2003 Ford F550 bucket truck 40' (need 50')	110,000	90,000	-	90,000	-	-	-	-
Public Works	2018	Homemade - trailer for misc projects and hauling	12,000	12,000	-	12,000	-	-	-	-
Public Works	2019	2014 Speed alert sign	8,000	8,000	-	-	8,000	-	-	-
Public Works	2020	P4 Ford F450	60,000	60,000	-	-	-	60,000	-	-
Public Works	2020	P2 2007 Ford F150 pickup	35,000	25,000	-	-	-	25,000	-	-
Public Works	2021	2016 Painter (crosswalk lines and curbs)	8,000	8,000	-	-	-	-	8,000	-
Public Works	2021	2003 Chipper Morbark 13" tornado brush chipper	30,000	25,000	-	-	-	-	25,000	-
Public Works	2021	T7 2004 Sterling dump truck L8500 (snowplow/hauling)	235,000	235,000	-	-	-	-	235,000	-
Public Works	2022	2007 Flail mower diamond river 1549HD (fence arm mower)	18,500	17,000	-	-	-	-	-	17,000
Public Works	2022	Bobcat 3400 utility vehicle	17,000	15,000	-	-	-	-	-	15,000
Public Works	2022	Blacktop roller wacker RD11 (385 hrs)	30,000	28,000	-	-	-	-	-	28,000
Public Works	2023	2003 New Holland tractor TN75D (835 hrs)	48,000	43,000	-	-	-	-	-	-
Public Works	2023	Brine distributor	15,000	15,000	-	-	-	-	-	-
Public Works	2023	T6 2006 Mack truck	30,000	30,000	-	-	-	-	-	-
Public Works	2023	2004 John Deere loader 624J (3,300 hrs)	110,000	110,000	-	-	-	-	-	-
Public Works	2024	T3 2007 Sterling L7500 dump truck	230,000	225,000	-	-	-	-	-	-
Public Works	2025	Bobcat snow blower SBX240 (attaches to bobcat 3400)	6,000	6,000	-	-	-	-	-	-
Public Works	2025	2015 Bobcat Planer - milling machine	15,000	15,000	-	-	-	-	-	-
Public Works	2026	2016 Disc mower New Holland 615	4,200	2,500	-	-	-	-	-	-
Public Works	2027	T2 2010 Mack dump truck	235,000	200,000	-	-	-	-	-	-
Public Works	2027	P3 2012 Ford F550 truck (inc. dumpbox)	80,000	50,000	-	-	-	-	-	-
Public Works	2027	2017 Ford E450 passenger bus (15 seat)	90,000	90,000	-	-	-	-	-	-
Public Works	2028	Boss 10' V-Plow	8,000	8,000	-	-	-	-	-	-
Public Works	2029	2017 Bobcat Skid Steer S750	62,000	30,000	-	-	-	-	-	-
Public Works	2029	2016 Angle broom (attachment to Bobcat/snow sweeping)	5,000	5,000	-	-	-	-	-	-
Public Works	2030	2013 Hot Mix Trailer KM-8000T	30,000	30,000	-	-	-	-	-	-
Parks and Recreation	2017	16' Mower	\$ 63,500	\$ 63,500	\$ 63,500	\$ -	\$ -	\$ -	\$ -	\$ -
Parks and Recreation	2017	Willkommen Memorial Park Restrooms	50,000	50,000	50,000	-	-	-	-	-
Parks and Recreation	2018	M1 Kubota 72" mower ZD331 (1800 hrs)	17,000	13,000	-	13,000	-	-	-	-
Parks and Recreation	2018	2004 Bobcat club car	15,000	10,000	-	10,000	-	-	-	-
Parks and Recreation	2020	Baseball Field Fence replacement (Willkommen Park)	60,000	60,000	-	-	-	60,000	-	-
Parks and Recreation	2020	Skating Rink Warming House (12'x16')	10,000	10,000	-	-	-	10,000	-	-
Parks and Recreation	2020	Hockey/Skating rink Boards	15,000	15,000	-	-	-	15,000	-	-
Parks and Recreation	2020	M2 Kubota 72" mower ZD726H (1,260 hrs)	20,000	16,000	-	-	-	16,000	-	-
Parks and Recreation	2024	2015 Swimming Pool heaters (2)	8,000	8,000	-	-	-	-	-	-
Parks and Recreation	2025	Bobcat 3400 Utility Vehicle	17,000	16,000	-	-	-	-	-	-
Parks and Recreation	2025	2017 Jacobson 16' mower HR700	90,000	70,000	-	-	-	-	-	-
Parks and Recreation	2026	2016 Swimming Pool cleaning turtle	6,000	6,000	-	-	-	-	-	-
Total Governmental Capital Outlay					251,395	200,595	113,795	216,995	293,000	955,000

City of Norwood Young America, Minnesota
Capital Project/Equipment Plan - All Funds
Schedule of Planned Capital Outlay 2017 to 2022 (Continued)

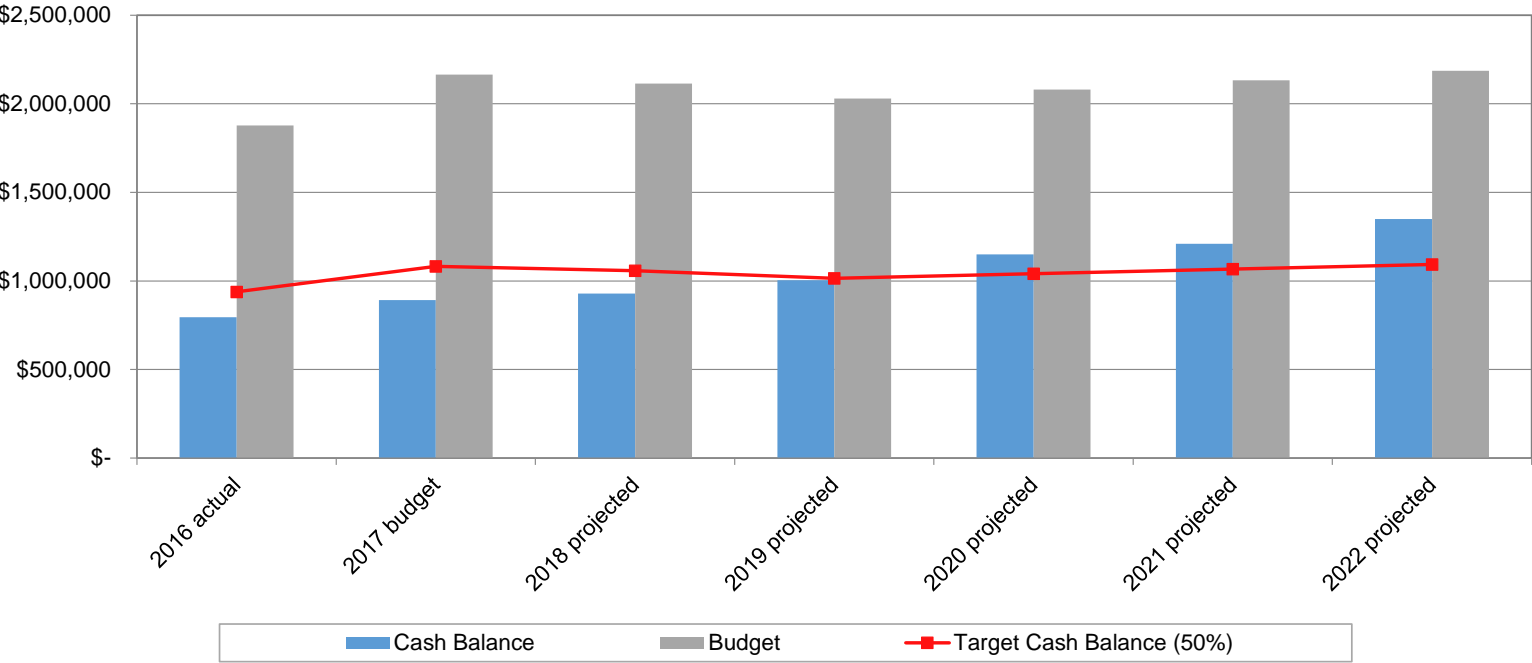
Department	Year	Item	Purchase Cost	Net Cost	2017	2018	2019	2020	2021	2022
					Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Water	2018	W2 2002 Ford F350 with plow	\$ 25,000	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ -	\$ -	\$ -
Water	2018	Water Towers SCADA installation	5,000	5,000	-	5,000	5,000	-	-	-
Water	2018	North Water tower painting	120,000	120,000	-	120,000	-	-	-	-
Water	2020	Hand held water meter reader	7,500	7,500	-	-	-	7,500	-	-
Water	2020	Bobcat 2100 Utility Cart	4,500	4,000	-	-	-	4,000	-	-
Water	2023	T6 Pump	15,000	15,000	-	-	-	-	-	-
Water	2025	SF2500 Ridgid Freeze Kit	5,000	5,000	-	-	-	-	-	-
Water	2026	Renew Water Supply plan	10,000	10,000	-	-	-	-	-	-
Water	2028	W1 2013 Ford F550 with crane	40,000	30,000	-	-	-	-	-	-
Sewer	2018	Trickling Filter Pumps (4)	16,000	16,000	-	16,000	-	-	-	-
Sewer	2018	Lift Station SCADA installation	18,000	18,000	-	18,000	-	-	-	-
Sewer	2018	W2 2002 Ford F350 with plow	25,000	20,000	-	20,000	-	-	-	-
Sewer	yearly	Inflow and Infiltration repair - slip line installation	50,000	50,000	-	-	50,000	50,000	50,000	50,000
Sewer	2019	2003 Versa-Vac and 1998 Jetter	250,000	250,000	-	-	250,000	-	-	-
Sewer	2019	Camera Unit	100,000	100,000	-	-	100,000	-	-	-
Sewer	2020	Bobcat 2100 Utility Cart	4,500	4,000	-	-	-	4,000	-	-
Sewer	2020	Hand held water meter reader	7,500	7,500	-	-	-	7,500	-	-
Sewer	2021	Burm expansion	40,000	40,000	-	-	-	-	40,000	-
Sewer	2022	New Holland Tractor MC35	40,000	30,000	-	-	-	-	-	30,000
Sewer	2023	Pump Trailer	30,000	25,000	-	-	-	-	-	-
Sewer	2025	Portable Generator (purch. 2015)	25,000	25,000	-	-	-	-	-	-
Sewer	2028	W1 2013 Ford F550 with crane	40,000	30,000	-	-	-	-	-	-
Sewer	2028	Boss V-Plow	6,500	6,500	-	-	-	-	-	-
Total Enterprise Capital Outlay					-	204,000	405,000	73,000	90,000	80,000

City of Norwood Young America, Minnesota
Capital Project/Equipment Plan - All Funds
Schedule of Planned Capital Outlay 2017 to 2022 (Continued)

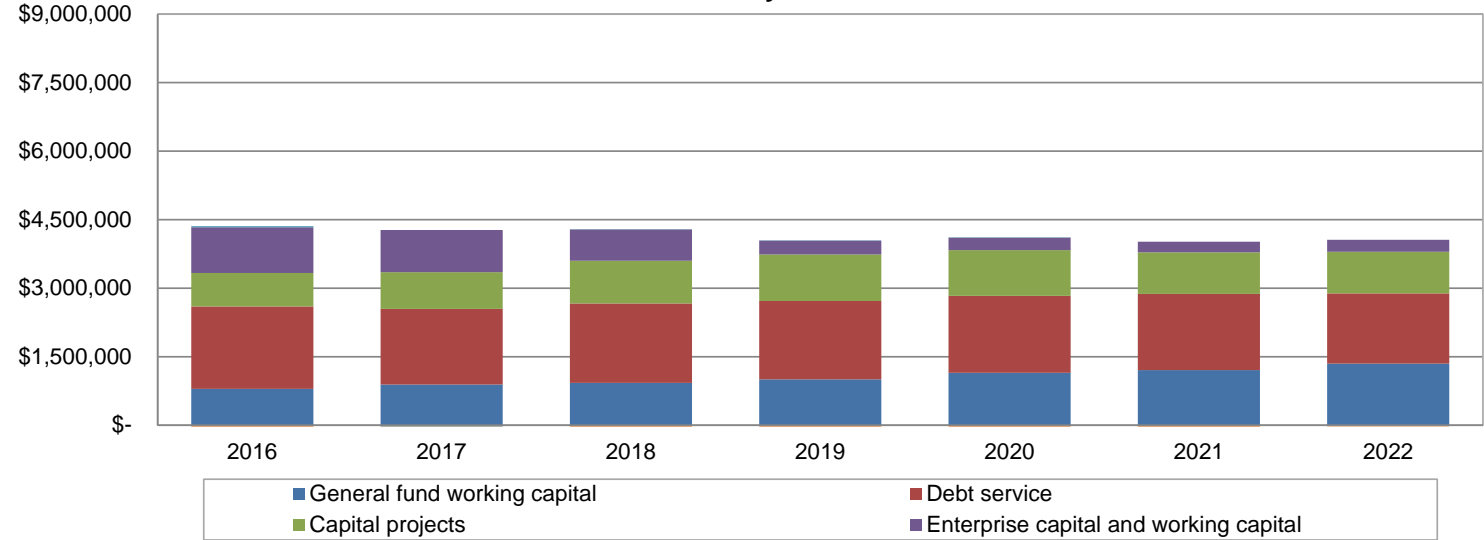
	2017	2018	2019	2020	2021	2022
	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts	Estimated Amounts
Total Capital Projects and Equipment	\$ 251,395	\$ 404,595	\$ 518,795	\$ 289,995	\$ 383,000	\$ 1,035,000
Total Capital Projects and Equipment						
Water	\$ -	\$ 150,000	\$ 5,000	\$ 11,500	\$ -	\$ -
Sewer	-	54,000	400,000	61,500	90,000	80,000
Governmental	251,395	200,595	113,795	216,995	293,000	955,000
Governmental Capital Projects ad Equipment						
Administration	-	-	10,000	-	-	-
Fire department	137,895	55,595	95,795	30,995	25,000	895,000
Public Works	-	122,000	8,000	85,000	268,000	60,000
Parks and Recreation	113,500	23,000	-	101,000	-	-
	\$ 251,395	\$ 200,595	\$ 113,795	\$ 216,995	\$ 293,000	\$ 955,000
Revenue						
Capital Levy	250,000	250,000	250,000	250,000	250,000	250,000
Potential reduction of levy	(49,675)	(73,400)	(50,000)	(50,000)	(50,000)	(50,000)
Net Capital Levy	200,325	176,600	200,000	200,000	200,000	200,000
Equipment Certificates (potential)	-	-	-	-	-	750,000
Other revenue - township portion of pumper truck	33,125	-	-	-	-	-
Other revenue - park dedication (bathroom)	40,000	-	-	-	-	-
Other expenses	-	-	-	-	-	-
Interest	-	-	417	482	469	400
Transfers in	-	-	-	-	-	-
Total Revenue	273,450	176,600	200,417	200,482	200,469	950,400
Total Expenditures	(251,395)	(200,595)	(113,795)	(216,995)	(293,000)	(955,000)
Net Change in cash balance	22,055	(23,995)	86,622	(16,513)	(92,531)	(4,600)
Beginning balance	557,585	579,640	555,645	642,267	625,754	533,223
Ending balance	\$ 579,640	\$ 555,645	\$ 642,267	\$ 625,754	\$ 533,223	\$ 528,623



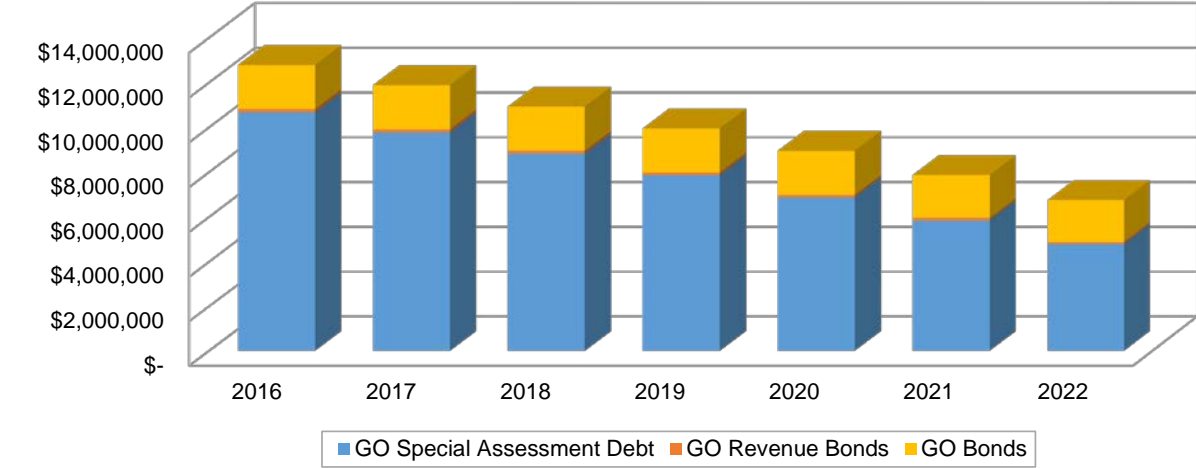
General Cash Balance as a Percent of Expenditures



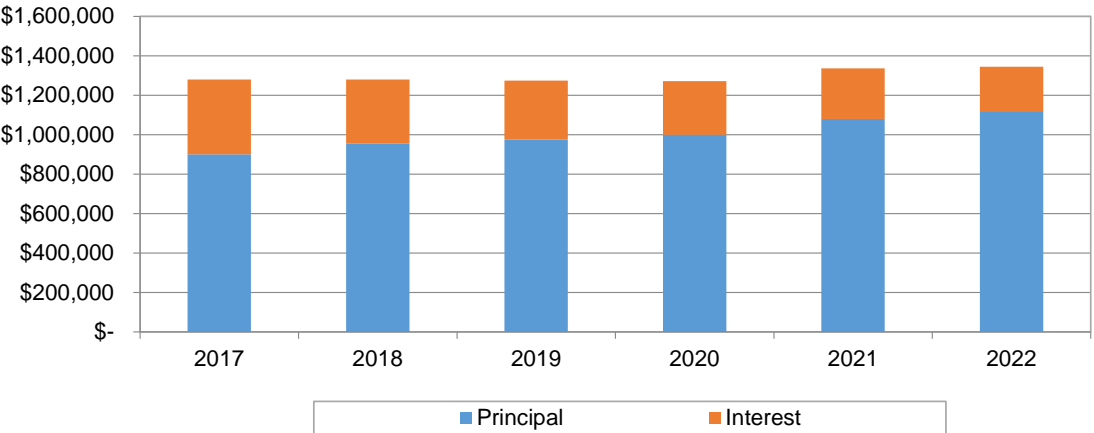
Cash Balance by Planned Use



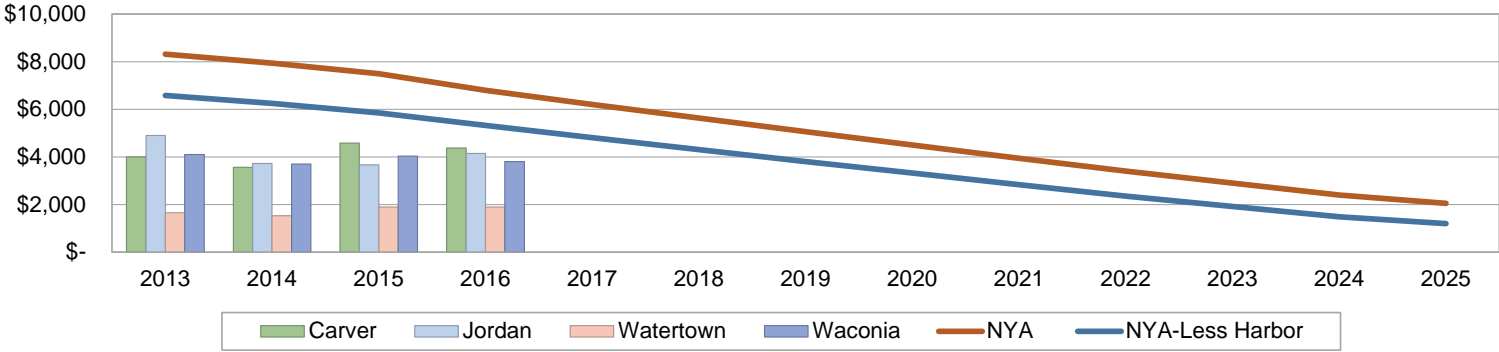
Projected Governmental Debt Balances Based on Current Amortizations



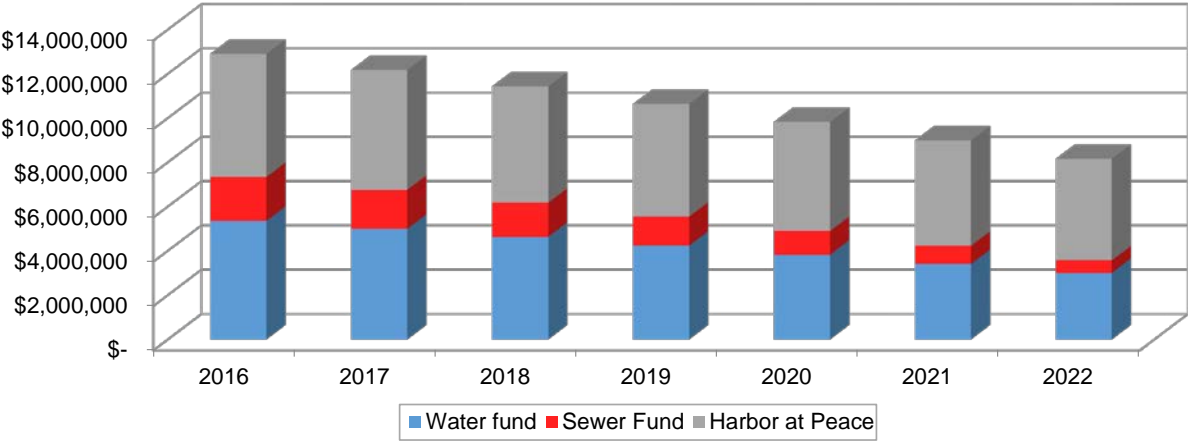
Government Debt Service Requirements



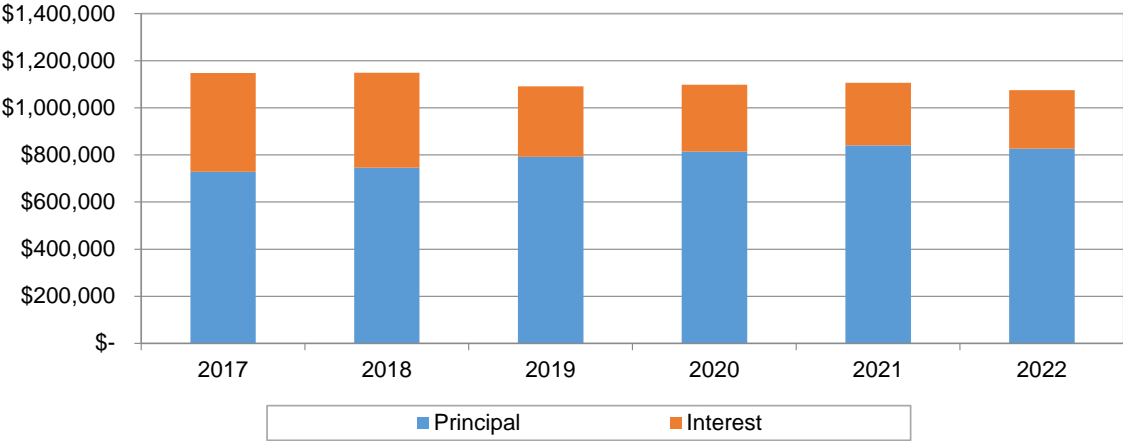
Total Debt per Capita



Enterprise Funds Outstanding Debt Balances



Enterprise Debt Service Requirements



2017 Financial Plan supplement - Utility Rates

Monthly Water Rates

	2016	2017
Base Charge – Residential per unit	\$15.20	\$16.00
Base Charge – Commercial per unit	\$26.39	\$28.00
Plant Charge – per unit	\$8.20	\$8.20
Tier 1 (0 - 6,000 gallons)	\$3.45 / kgal	\$3.45 / kgal
Tier 2 (6,001 - 52,000 gallons)	\$4.46 / kgal	\$4.46 / kgal
Tier 3 (52,001 – 88,000 gallons)	\$5.25 / kgal	\$5.25 / kgal
Tier 4 (88k + - Residential only)	\$6.77 / kgal	\$6.77 / kgal

Monthly Sewer Rates

	2016	2017
Base Charge – Residential per unit	\$9.00	\$9.00
Base Charge – Commercial per unit	\$9.00	\$9.00
Plant Charge – per unit	\$5.00	\$5.00
Tier 1 (All gallons)	\$7.16 / kgal	\$7.16 / kgal

Trunk Charges

	2016	2017
Water – per unit	\$3,900	\$3,900
Sewer – per unit	\$3,900	\$3,900

APPENDIX E

Socio-Economic Data by Transportation Analysis Zone

Met Council TAZ	Carver County TAZ	2014			2020			2030			2040		
		Population	Households	Total Empl.	Population	Households	Total Empl.	Population	Households	Total Empl.	Population	Households	Total Empl.
309	124	49	18	0	49	19	15	342	150	25	646	275	33
313	117	831	302	43	845	313	155	889	350	175	889	350	200
313	118	0	0	0	75	34	0	208	98	0	343	160	0
313	119	9	3	0	146	59	0	379	174	0	572	266	0
314	120	778	345	217	910	378	455	1,258	532	525	1,491	640	575
314	121	15	7	0	148	60	0	386	160	1	613	257	1
314	122	0	0	13	97	39	90	270	111	127	435	182	168
315	31	796	306	23	850	388	300	802	338	375	802	338	425
315	270	652	246	392	717	300	450	847	357	475	717	300	525
315	271	257	92	56	233	100	58	233	100	60	233	100	63
316	32	16	6	21	15	6	22	680	280	22	1200	500	22
316	123	23	10	0	85	40	50	241	111	60	426	192	80
316	265	443	159	4	410	164	5	665	269	5	833	340	8
Total		3,869	1,494	769	4,580	1,900	1,600	7,200	3,030	1,850	9,200	3,900	2,100