

City of Afton



2008 Comprehensive Plan

CITY OF AFTON, MINNESOTA

2008 Comprehensive Plan

As adopted and implemented on

July 19, 2011

Afton City Council

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Table of Contents

| | |
|--|-----------|
| Preamble | 7 |
| Philosophy | 7 |
| Introduction | 8 |
| Vision Statement..... | 8 |
| Purpose | 9 |
| Historical Background | 10 |
| | |
| Background Information | 11 |
| Migration & Turnover of Population | 11 |
| Housing Values | 12 |
| Conclusion | 13 |
| | |
| Environmental Resources Plan | 15 |
| Intent | 15 |
| Soils..... | 15 |
| Topography | 16 |
| Vegetation..... | 16 |
| Riparian Systems | 17 |
| Groundwater | 17 |
| Aggregate Resources | 18 |
| Energy | 18 |
| Environmental Resources Goals and Policies..... | 19 |
| | |
| Housing and Land Use Plan | 21 |
| Agricultural | 21 |
| Residential | 22 |
| Old Village..... | 23 |
| Industrial | 25 |
| Marine Services | 25 |
| State Park | 26 |
| Housing and Land Use Goals, Policies and Strategies..... | 26 |
| | |
| Transportation Plan | 29 |
| Traffic Analysis Zones | 29 |
| Roads and Highways | 31 |
| Safety | 33 |
| Access Management..... | 33 |
| Aviation..... | 33 |
| Transit | 33 |
| Non-Motorized Transportation | 33 |

Transportation Goals, Policies and Strategies 34

Groundwater and Surface Water Plan 35

 Groundwater and Surface Water Goals and Strategies..... 35

 Wastewater Plan..... 35

 Wastewater Goals & Policies 37

Parks and Open Spaces Plan..... 39

 Existing Parks & Open Space..... 39

 Parks and Open Space Goals, Policies and Strategies..... 41

Solid Waste Plan 43

 Solid Waste Goals and Policy 43

City Governance Plan 45

 City Governance Goals, Policies and Strategies..... 45

System Statement Compatibility 47

Implementation Plan..... 49

Capital Improvements Program..... 51

List of Appendices 53

Appendix A Terms and Definitions
Appendix B Demographic Information
Appendix C Watershed District Information
Appendix D Resource References
Appendix E Soils Information
Appendix F Parks and Open Spaces
Appendix G Stormwater Management Plan (draft)
Appendix H Community Survey
Appendix I Maps
Appendix J Sewage Treatment System Inspection Services Agreement & Ordinance
Appendix K Afton Flora and Fauna
Appendix L Public Involvement in Comprehensive Plan Process

List of Figures

Figure 1 Afton Population Pyramid, 2000 Census 11
Figure 2 Transportation Analysis Zones-Afton, Metropolitan Council 29
Figure 3 City of Afton Existing Transportation System, Metropolitan Council..... 32

List of Tables

Table 1 Housing Values, 2000 Census 12
Table 2 Residential Housing Units, 2000 Census 23
Table 3 Acreages by Zoning District, City of Afton 26
Table 4 Traffic Analysis Zones (TAZs), Metropolitan Council 30

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PREAMBLE

We, the residents of the City of Afton, Minnesota, in order to:
preserve our rural sanctuary amidst suburban sprawl;
preserve our agricultural heritage and land use;
preserve the character of our Old Village;
protect our groundwater and surface water from contamination;
protect our rolling hills from erosion;
provide for open spaces to be enjoyed by future generations; and
ensure a sound tax base and a sense of community
Do ordain and establish this 2008 Comprehensive Plan.

Philosophy

From the time this community was named with a river in mind and now a City on the Scenic St. Croix River, water has been *the* foremost concern of its residents. That concern has never been greater than today.

Some see urban development as excellent proof of a growing economy; we see urban development as a threat to the water we drink, the crops we grow, and the vistas we gaze upon. This preservation attitude is consistent with the long-term desires of our residents and promotes a healthy respect for the environment. As such, our ordinances do not forbid change; they require that change not harm the environment. As stewards of this land and all that is in it or on it, we can do no less. This City is different from other communities in the Metropolitan Area *and wants to stay that way.*

This City borders on another city that has a diametrically opposed philosophy about land use and urban expansion. This is one of the most significant challenges this City has ever faced. The adage in the real estate industry is that the three most important points in real estate are “location, location, and location.” The three most important points in the City of Afton are “groundwater, surface water, and groundwater recharge.” We drink this water, we fish these streams, we protect the environment for the flora and fauna with which we share the land.

In many respects, we regard agricultural and open space as the “highest and best use” of the land. We regard our position as a community trust to preserve, protect, and defend our lands and lifestyle from irreversible change. That is our right and the actions of other jurisdictions, including the Legislature and the Metropolitan Council, *should respect that vision of Afton to remain rural by choice.*

Introduction

*Flow gently, sweet Afton, among thy green braes,
Flow gently, I'll sing thee a song in thy praise;
My Mary's asleep by thy murmuring stream,
Flow gently, sweet Afton, disturb not her dream.*

When Robert Burns penned these words, he was describing his own idyllic rural sanctuary in southern Scotland. Half a century later, settlers of the St. Croix Valley would recognize the same spirit in the locale of the township and city they would name Afton.

Afton strives to remain true to the vision of a rural environment, a place neither purely agricultural, nor purely residential, but a blend of both. Located only fifteen miles from downtown St. Paul and bordering rapidly growing suburbs, Afton's unique status as a rural sanctuary is worth preserving.

This plan is divided into Sections as recommended by the Metropolitan Council: Inventory, Goals and Policies, and Implementation. The message of this plan and the story of Afton should be abundantly clear. This city is unique among communities in the Metropolitan Area and wants to stay that way. Afton's leaders are to look to the principles espoused within this plan for governing guidance as they define the ordinances that will preserve this place for current citizens and those to come. For definitions see Appendix A.

Vision Statement

The City of Afton began as a country village. The city's Old Village provides a business center and a rural village atmosphere typically only found far away from the conveniences of a metropolitan area. The Old Village is the cultural heart of the community, providing a town square and access to the river.

Afton is also a city of water. The St. Croix River and the creeks that flow through Afton shape the landscape and are a critical resource for the community. The quality of groundwater and surface water is essential to maintaining Afton's character. Wells and septic systems, rather than city water and sewers, govern every home's relationship to the land.

Afton is also a city of open fields. The farm fields of southwestern Afton represent the city's historical roots in agriculture and continue to be farmed in the face of development pressures on Afton's borders. Methods of preserving Afton's agrarian roots must be found if the city is to remain a rural sanctuary.

Afton is also a city of rolling hills. Water has carved these hills over thousands of years, but it is the impact of development which the city must protect against. Erosion and deforestation in these hills strip Afton of forests and vistas that are also an essential part of life in Afton.

Most importantly, Afton is a city of people. The community within this rural sanctuary gives meaning to the city's character. A sound tax base provides the community with the means to maintain roads, provide police and fire protection, and provide public facilities for the community.

*How lofty, sweet Afton, thy neighbouring hills,
Far mark'd with the courses of clear, winding rills;
There daily I wander as noon rises high,
My flocks and my Mary's sweet cot in my eye.*

The rural sanctuary in southern Scotland that Robert Burns wrote of has long passed into history. But on the shores of the St. Croix River, the citizens of Afton established this plan to maintain the city's deep-seated historical vision. We are stewards of this land and all that is in it or on it, and our government has been granted a trust to preserve and protect our lands.

Purpose

Afton's location within a major metropolitan area belies the rural atmosphere that greets commuters at its borders. Residents and visitors to Afton know they have arrived somewhere special. When Afton residents were asked what they like best about living in Afton, the three most prevalent responses all related to Afton's natural, rural character; each of them is crucial to making Afton a unique community:

1. Rural location and low population density;
2. Open space and dispersed pattern of development; and
3. Presence of active farms and agriculture.

Afton residents value rural location, low development density, open space, working farms, abundant wildlife, and historic places and structures such as the "Old Village." Afton residents enjoy Afton's proximity to the St. Croix River, state and regional parks, the convenient location of the City to commercial centers, reasonable taxes, good schools, and our community identity (Community Survey: General Priorities – Appendix H).

The purpose of the Afton Comprehensive Plan is to perpetuate this character. It is to identify and capture those things that make Afton a unique and special place and protect them for current and future residents.

Citizens of Afton obtain their drinking water from the ground. It is essential, therefore, that thoughtful development planning be followed in order to protect this vital resource. Because groundwater and surface water are connected, it is just as essential to protect our streams and lakes.

The primary purpose of this plan is to:

1. Provide for the preservation of our water resources through careful planning;
2. Promote the health, safety and welfare of the City of Afton and its residents;
3. Preserve agriculture and open space;
4. Protect groundwater and natural resources;
5. Maintain the historical character of the Old Village;
6. Ensure a safe and pleasant environment for residential, commercial, agricultural, industrial and public activities; and
7. Ensure a sound tax base, which will provide the resources needed to maintain our quality of life.

Historical Background

The early human inhabitants of the St. Croix Valley were Native Americans. In the early 1800's, Afton was settled by New Englanders who probably felt at home among Afton's tree covered hills and bluffs. The city retains that New England flavor with its natural beauty accented by narrow, winding roads and small, clapboard sided houses. Joseph Haskell, in 1839, planted three acres of corn and potatoes, built a farmhouse, and thus began the first farm in Minnesota. While communities north of Afton were building sawmills, the first flour mill in the state was built in Afton in 1843. A further indication of the importance of agriculture in Afton was the use of a steam-powered threshing machine in 1861.

The village of Afton was platted in 1855. The majority of the city's historical structures are located within the boundaries of the original village. The 1974 Afton Comprehensive Plan established the Village Historic Site District in recognition of the village's historical significance. The following sites are found within the boundaries of the Village Historic Site District: the Afton Theological Academy, the area's first educational academy built in 1867; the Village Hall (housing the Afton Historical Society), built in 1895 as the Congregational Church; the "Little Red House," built in 1859; the Afton House, built in 1867; and the Little Brick Schoolhouse, built in 1857.

The township of Afton, established in 1859 and named after the village, also has important historical structures and sites. Included among these are: the Bolles Mill Site, the first flour mill in Minnesota; the Bolles House, built in 1856 and the oldest frame house in the area; and, Haskell's Farm.

In 1971, the village and township incorporated to form the City of Afton. Afton is a large city geographically, approximately 25 square miles, but is sparsely populated. The eastern portion of the city contains the bluffs and tree covered hillsides that attracted the original settlers, while the western portion has rolling hills, and open farmland.

BACKGROUND INFORMATION

Afton has long been a desirable place to live. While being only minutes from St. Paul, Afton is a unique and special place due to the combination of its rural character, its scenic bluffs, and its location on a major wild and scenic river. The City has always approached land use management as a crucial component of its goal of protecting groundwater, the St. Croix River, and lakes and streams from the negative environmental impacts associated with urban development, which has set it apart.

Afton is and will remain a highly sought-after location. As surrounding areas have developed at typical suburban densities, Afton has remained steadfast in its low-density approach to development, in order to protect its environment and maintain its rural character. This contrast in development philosophy is visibly apparent as one enters Afton from the west. As these divergent development trends continue, Afton's rural character will become even more in demand.

Migration & Turnover of Population

The population of Afton, as in all of the U.S., is aging. The median age in 1990 was 35.8, in 2000 it was 42.2. Between 1990 and 2000, the number of people ages 20 to 34 declined from 432 to 262.

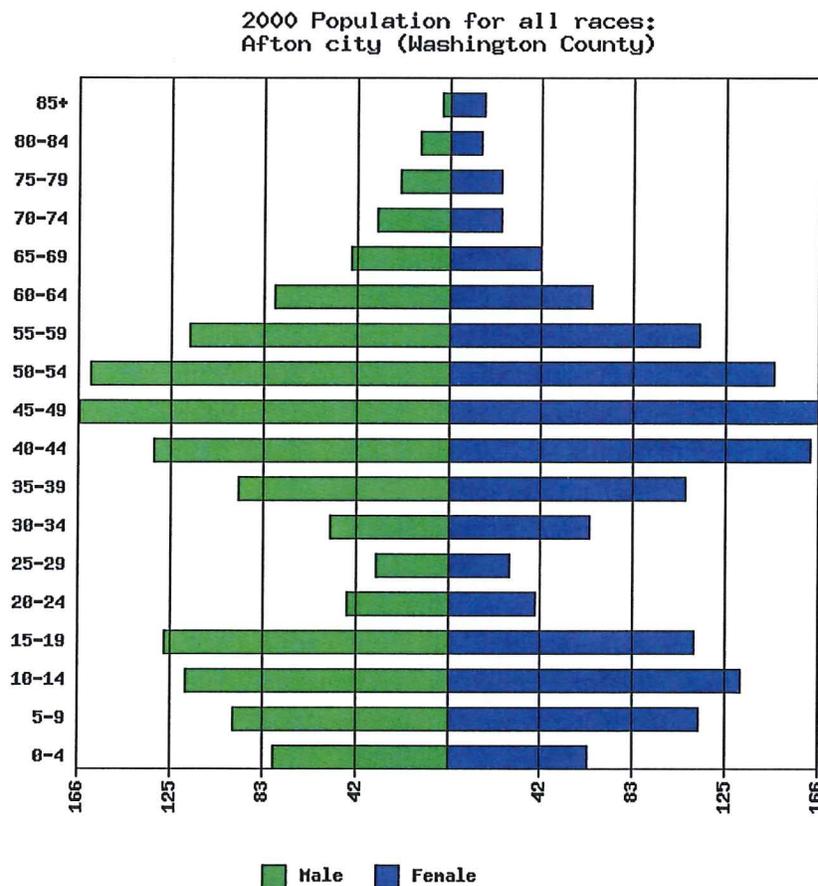


Figure 1 - Afton Population Pyramid, 2000 Census

Aging and housing trends could mean fairly widespread turnover in residential property in the next decade. As current residents decide to downsize their houses or adopt a lower maintenance lifestyle, many new homeowners will arrive from other cities. New residents will come for the same reasons current residents chose Afton: clean water, rural vistas, open spaces, and the St. Croix River. Preserving the rural character, beauty, and natural resources of Afton will be paramount for the future of the City.

This is an opportunity to be proactive in telling Afton’s story in a way that creates and manages the expectations of those who are considering developing or living in Afton, so that those who choose to develop or live in Afton are drawn here by the promise of the unique natural, open, rural character of the City vs. the urban development and services available in countless locations throughout the metro area.

Housing Values

The median housing value in Afton is significantly higher than both the median housing values of homes in Washington County and the State of Minnesota. This reflects the fact that Afton is a desirable place to live and that the demand for housing in the city is high.

Table 1 - Housing Values, 2000 Census

| | Afton | Washington County | Minnesota |
|--|---------|-------------------|-----------|
| Median value (1999 dollars) | 225,600 | 156,200 | 122,400 |
| Median monthly household costs with a mortgage payment | 1,473 | 1,263 | 1,044 |
| Median monthly rent | 1,375 | 699 | 566 |

The desirability of housing in Afton is directly tied to the rural lifestyle and the connection to the natural environment that living in Afton provides. People value the low-density development pattern and willingly pay to secure that.

....the long-term interests of all property owners in the City of Afton are with maintaining the current development pattern, which is the source of value.

Conclusion

Afton has established a development pattern that residents value and is in high demand throughout the region. The challenge for Afton will be to continue to contain infrastructure costs, maintain a low demand for services, and incorporate new residents and their ideas in a way that focuses on the interests of all Afton residents and will maintain the current development pattern.

Demographic trends will significantly increase pressures to develop Afton. These trends in Afton are important to understand because they have evolved and increased in the years since the last update of the Comprehensive Plan. This Comprehensive Plan acknowledges these pressures and seeks to address them by reinforcing the diversified rural development pattern in the City of Afton through its housing and land use goals, policies, and strategies.

For additional demographic information and sources, see Appendix B.

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ENVIRONMENTAL RESOURCES PLAN

Intent

Afton's environment is a fragile one. The citizens of Afton have a high regard for their environment and have made major efforts to preserve and protect it. Preservation of Afton's natural features has not been an easy task considering the fragile soils, steep slopes, drainage ways, vegetation, and lakes and streams that make up the city. These delicate features need protection through careful planning.

Afton will only permit development which is designed to preserve and protect the soils, wildlife, slopes, drainage ways, vegetation, lakes, streams and river that make up Afton's natural features. Preserving the health and safety of residents requires protecting Afton's environmentally sensitive areas, which preserves the aesthetic qualities of the landscape and protects the purity of the air and water.

The citizens of Afton have a high regard for their environment. Low density development based on the use of private wells and septic systems has provided Afton with unique and sustainable neighborhoods that are not only self-sufficient, but collectively have a relatively low environmental impact. While the city is only fifteen miles east of downtown St. Paul, there is a world of difference between Afton and the surrounding urban and suburban development. Citizens desire to keep the city open and rural, while still enjoying the benefits of being located close to a major metropolitan area.

Afton's natural features exist in gently rolling uplands cut by deep ravines, drainage ways, and streams that flow into the St. Croix River. This topography, while uniquely defining, presents distinct challenges, particularly with storm water and agricultural runoff. Low density development is interspersed with environmentally sensitive areas including a trout stream, a lake, bluffs, ravines, wetlands, steep slopes, floodplains and a river. The commitment to preservation is strong (Appendix H-2007 Community Survey: Groundwater, Farmland and Rural Character).

Afton plans to accommodate future development without compromising the assets that make the city an environmentally friendly area. In addition to those mentioned above, natural resources in need of preservation include view sheds, soils, wildlife habitat, wildlife corridors, groundwater resources such as springs and aquifers, geologically significant topographic features, vegetation, and drainage areas.

Soils

In the soil survey issued by Washington County Soil Conservation District in April 1980, the soils in Afton have been reviewed and different soil types categorized as to their suitability to accommodate on-site sewage treatment systems and to support a rural atmosphere, farming, groundwater protection, wildlife habitat, and a biological diversity for its citizens, flora, and fauna (see Appendix I). It is an inventory of the soils found in the city and indicates, among other things, the type of soil,

the slope gradient, the suitability of the soils to support certain uses and the degree and kind of limitation of each soil type for certain uses.

The maps that accompany the soil survey are useful as a planning tool since one is able to determine those areas that present problems for development. While the soil map is reasonably accurate, it is still recognized that unmapped pockets of different soil types can exist within a designated soil boundary line. Therefore, the soil map does not eliminate the need for soil sampling and testing on each building site. The soil map indicates the areas of prime agricultural soils and additional farmland of statewide importance.

The different types of soil in Afton are directly attributed to glacial till (Tester, J.R., Minnesota's natural Heritage, University of Minnesota press, 1995; chapter 1) and weathered limestone. Most of the Afton area includes soils overlaying bedrock having slow percolation rates, steep slopes, periodic flooding and seasonal high water tables, although there are some karst areas with rapid infiltration rates. There are also some areas in Afton that have been subject to mining. These geologic features have created deep ravines and drainage ways. Soil types associated with these features are generally unsuitable for development due to their instability, high erosion potential and low absorption rates. Development in these areas needs to be monitored to prevent further soil degradation.

While soils are a major factor in determining the importance of land for agricultural purposes (Appendix I – Map 3), there are many other factors that influence whether land is most suitable for agricultural uses. In Afton, the prime agricultural lands tend to be those areas most easily developed, having few topographic or environmental constraints. Yet, these areas provide some of the broadest expanses of non-fragmented open space in the city and are thus critical preservation areas.

Topography

Afton's steep slopes (Appendix I–Map 5) are a result of erosion by flowing water. It is vital to the community that these drainage ways be protected and maintained. It is essential that every attempt be made to limit the amount of additional storm water and agricultural runoff that flows through these drainage ways, many of them in or near the Old Village. Afton currently protects slopes with a grade over 18 percent and slopes with a grade over 12 percent if the soils on such slopes are deemed fragile (Afton City Ordinances, Section 12-132). Continued care must be taken when allowing development in the upland areas of the City.

Vegetation

The vegetative cover is an essential part of Afton's natural environment (Appendix I–Map 4). In an area where there is such dramatic topography, damage to the vegetative cover can result in such things as increased erosion, storm water runoff, and danger of flooding and siltation; lessening of water quality; loss of landscape diversity; decreased land values; detriments to surrounding wildlife and ecosystem; and degradation of soil and air quality. The tree cover is predominant where there are steep slopes, areas not being farmed and along watercourses and drainage ways. The vegetative cover consists mainly of deciduous trees, with several areas of planted conifers.

Riparian Systems

The St. Croix River, a National Wild and Scenic River, is one of the most pristine large river ecosystems in the upper Midwest. In 2009, it was named one of the Ten Most Endangered Rivers in the United States by the organization American Rivers. It is shared and highly valued by two states, Minnesota and Wisconsin. Land use along the river is governed by the Departments of Natural Resources of both states, as well as the U.S. Park Service and local municipalities. In addition to local zoning regulations, all development must conform to the provisions of the Lower St. Croix Bluffland, Shoreland, and Floodplain Management Ordinances.

Parts of the City of Afton are included in three major drainage ways (Appendix I-Map 6): the Valley Branch Watershed District, the Middle St. Croix Water Management Organization and the South Washington Watershed District. Valley Creek, South Fork Valley Creek, Trout Brook and other major ravines and drainage ways are tributaries to the St. Croix River. Much of the surface water that flows from Afton into the St. Croix River goes through or near the Old Village. It is vitally important to the safety of the Old Village, and to the health and vitality of the St. Croix River, that these drainage ways be protected and stabilized and the amount of storm water runoff through these drainage ways be kept to a minimum.

According to the 1996 National Water Quality Inventory, storm water runoff is a leading source of water pollution. Storm water runoff can harm surface waters such as rivers, lakes, and streams which in turn cause or contribute to non-compliance with water quality standards. Storm water runoff can change natural hydrologic patterns, accelerate stream flows, destroy aquatic habitats, and elevate pollutant concentrations and loadings. Development substantially increases impervious surfaces thereby increasing runoff from city streets, driveways, parking lots, and sidewalks, on which pollutants from human activities settle.

Nutrients (phosphorus and nitrogen) and sediment enter the St. Croix and its tributaries from many different sources: wastewater treatment plants, urban storm water, residential lawns, crop land, pastures, animal feeding operations, construction sites and natural sources. Common pollutants in runoff include pesticides, fertilizers, oils, metals, pathogens, salt, sediment, litter and other debris.

Groundwater

Afton must keep the groundwater in its natural condition, free from any degradation caused by human activities. All homes in Afton are served by private wells and septic systems. Afton is currently outside of the metropolitan urban services area (MUSA) and has no intention of utilizing sewer and water services even if they become available. It is of the utmost importance in order to maintain our rural residential and agricultural character, that we have ample supplies of clean drinking water throughout the city. In areas that have been mined, it is essential to monitor groundwater to prevent unfiltered septic effluent from damaging the aquifer.

Aggregate Resources

Afton contains limited mineral deposits, primarily sand and gravel. Minnesota Geological Survey indicates that much of Afton falls within an area designated as “Afton Valley Fill,” which is described as:

Colluvial material which fills in lower-lying areas within the bedrock uplands in southeastern Washington County. We interpret most of these deposits to be thin and gravel-poor.
(Minnesota Geological Survey Information Circular 46.)

The circular also indicates that, “*In all likelihood, the majority of these deposits will not continue to be available for mining because of competing land-use pressures.*”

Of the areas in Afton that could potentially be utilized for aggregate extraction, most are either within existing residential neighborhoods or encumbered by a permanent conservation easement. (For instance, lands within the Belwin Conservancy are unavailable for aggregate extraction.) The remaining areas are zoned primarily Industrial, which allows for extraction through a permitting process outlined in Chapter 12, Article X, of the Afton City Code.

Although not significant in size, there are several areas in the city that have been mined that are unsuitable for building unless it is established that they can meet all building requirements. Mining removes the topsoil and sub-soils that filter runoff and sewage system effluent. Systems installed in soils in areas previously mined may result in the effluent moving quickly and untreated through the coarse soils to the water table resulting in pollution of water wells. This is of even greater concern if the area is one of groundwater recharge. Areas of groundwater recharge are critical areas that have soil characteristics that are conducive to rapid percolation of water from the surface into the substrate and ultimately into the local water table and connected hydrologic systems (wetlands, lakes, aquifers, and rivers). Pollution of the groundwater supply would have a devastating financial and environmental effect on the community and its residents.

Energy

As a sparsely populated rural community, the City will encourage feasible methods of energy conservation and locally produced renewable forms of energy that are environmentally friendly. The Metropolitan Land Planning Act (Minnesota Statutes 473.859, Subd. 2) requires that local comprehensive plans include an element for the protection and development of access to direct sunlight for solar energy systems. The City of Afton will protect such access by requiring minimum lot sizes, abundant open space, yard setbacks, and maximum height of buildings for urban residents. Land uses should not preclude the possible use of solar energy systems. The City will review and revise, as necessary, the Zoning and Subdivision Ordinances to ensure the protection of solar access. Section 12-1258 of the Afton City Code requires new subdivisions to “be designed to accommodate extensive use of passive and active solar energy systems...” Section 12-132 prohibits the construction of any structure that will block solar access for an existing principle structure or infringe on the solar access of the buildable area of a vacant lot.

Environmental Resources Goals and Policies

The City of Afton establishes the following environmental resource goals:

1. Maintain the city's overall one housing unit per ten acres density to limit development's footprint upon the land.
2. Protect surface water resources from degradation.
3. Reduce nutrient loading by 20% (Total Maximum Daily Load).
 - a. Improve and protect water quality in Kelle's Creek, Valley Creek, Lake Edith and the St. Croix River.
4. Protect supply of groundwater in area aquifers.
 - a. Maintain springs, Lake Edith and Valley Creek at current surface elevation.
 - b. Maintain aquifers at levels supporting existing area wells.
5. Protect groundwater recharge areas from pollutants.
 - a. Prevent untreated wastewater and unfiltered storm water runoff from entering the groundwater.
6. Protect groundwater aquifers from contamination.
 - a. Provide for safe drinking water.
 - b. Prohibit mining and prevent contamination from previously mined areas.
 - c. Institute a well monitoring program.
 - d. Encourage organic farming and gardening practices.
7. Maintain and enhance fish and wildlife habitats so as to retain or expand the current diversity of species.
 - a. Ensure the long term ecological stability of the riparian system.
 - b. Restore the riparian forests that line the banks of Valley Creek.
 - c. Provide for natural corridors throughout the City.
8. Preserve existing forests, woodlands and prairies and control invasive species.
 - a. Control and eradicate noxious species.
 - b. Control and eradicate invasive species to facilitate agricultural operations.
 - c. Prohibit clear cutting.
9. Protect and preserve steep slopes and the land atop them from development.
 - a. Preserve viewsheds.
 - b. Prevent erosion.
10. Protect soils from erosion, contamination and loss.
 - a. Utilize best management practices in all development.
 - b. Provide natural buffers to stabilize soils and contain run-off where possible.
11. Protect and preserve natural features unique to the City of Afton.
 - a. Promote conservation and scenic easements.
12. Reduce the use of fossil fuels for energy production by encouraging alternative options.
13. Protect the night sky from light pollution.
14. Promote wise land stewardship.

The City of Afton establishes the following environmental resources policies:

1. Maintain the city's overall development density of one dwelling unit per ten acres.
2. Use water quality protection practices such as reducing the use of phosphorus fertilizers and support protection efforts by state, county and federal agencies, as well as the Valley Creek Protection Initiative.
3. Work with various agencies to develop a strategy for reasonable and achievable reduction of nutrient and sediment loading from wastewater treatment plants, Subsurface Sewage Treatment Systems (SSTS), storm water run-off, crop land, pastures, animal-based agricultural operations, construction sites and natural sources.
4. Strive for the highest standard possible for Individual or Communal Subsurface Sewage Treatment System technology and advanced treatment of wastewater where that technology has been tested, proven reliable and approved by regulatory agencies.
5. Work with the Wisconsin Department of Natural Resources (WDNR), the Minnesota Department of Natural Resources(DNR), and the Minnesota Pollution Control Agency (MPCA) with support from the St. Croix River Water Resources Planning Team, an interagency planning team consisting of federal, state and local members, to develop Total Maximum Daily Load requirements which will enhance the water resources in the St. Croix River Basin.
6. Prohibit clear cutting, monitor and control land uses which contribute to erosion, pollution, and well contamination by enforcement of ordinances.
7. Work with the various agencies involved with groundwater monitoring in regard to the east well-field area in the City of Woodbury.
8. Develop and provide funding for a volunteer well-monitoring program.
9. Study and consider ordinances to allow for economically sustainable, locally renewable and environmentally friendly means of energy production.
10. Actively enforce all land use ordinances, including the various special overlay districts.
11. Protect steep slopes, tree cover, wetlands and other fragile lands through conservation easements, scenic easements, and other available means; and require setbacks from the crest of all slopes of 18% or greater, except in the Lower St. Croix Bluffland District where the slope is greater than 12%.
12. Utilize data from the Natural Resources Inventory when considering all land use applications.

HOUSING AND LAND USE PLAN

The City's land use philosophy is an outgrowth of its focus on environmental protection and the resulting natural rural character of the City. The protection of groundwater is both essential to, and the result of, the City's low density development approach based on private wells and septic. The City's managed development philosophy is also based on limiting and managing storm water run-off to protect the quality of the area's main natural and recreational resource, the St. Croix River.

In the Metropolitan Council's Regional Blueprint (December 19, 1996), Afton is designated as "Permanent Rural" and "Permanent Agriculture." The residents of the City of Afton have consistently supported the concept that Afton remain Permanent Rural and Permanent Agriculture.

The residents of the City of Afton value the agricultural economy and rural character that an agricultural environment provides. This Plan intends to preserve agricultural land for permanent agricultural use, and does not accept the belief held by some that agricultural use is merely a temporary use or that agricultural lands are merely a holding area for future residential or other development. Moreover, the community values agricultural land as open space in an increasingly urban environment, a sanctuary for a rural lifestyle that Afton residents have consistently desired to maintain.

Agricultural

After several years of work, and in conformance with the Metropolitan Council's prior Development Framework Plan, in the Comprehensive Plan of 1982, the City of Afton established an Agricultural Zone with a density of 3 dwelling units per quarter-quarter section (40 acres) of land and passed ordinances to enforce that policy. At that time, and continuously to the present, the residents of the City of Afton have valued the agricultural economy and rural character that an agricultural environment provides.

Agriculture plays an important role in preserving the balance of economic conditions in the Twin Cities Metropolitan area, but productive agricultural land is being lost to nonagricultural development. Once agricultural land is developed for nonagricultural residential, commercial or industrial use, it is forever lost to agricultural production.

In April 1980, the State of Minnesota enacted the Metropolitan Agricultural Preserves Act. This act provides a package of benefits designed to give farmers in the seven-county metropolitan area the assurance that they can continue their farm operations on an equal footing with other farmers in the state, without the pressures of urbanization. These benefits include:

1. Agricultural use valuation.
2. A limit on total tax rates so that they cannot exceed 105% of the statewide average in townships for all purposes.
3. Prohibition of special assessments for sewer and water.

4. Protection for normal farm practices -- a local government would be prohibited from enacting ordinances which inhibit normal farm practices unless they bear a direct relationship to the public health and safety.
5. Protection from eminent domain -- before Ag Preserve land can be acquired by eminent domain, it must be shown that there are no reasonable, cost-effective alternatives which would have less of a negative impact on Ag Preserves. The process of review is conducted by the Environmental Quality Board. A suspension of up to one year is possible, but it cannot permanently stop eminent domain (Minn. Stat. 473H.01 – 473H.17).

In order to take advantage of these benefits, a farmer's land must be designated "agricultural" on the city's land use map and zoned at a density of no more than one dwelling unit per quarter-quarter section for residential development. In addition, the farmer must apply for and receive certification from the city stating that the property is eligible for "preserve" status. Once a farmer's land is designated a preserve, the land must remain in agricultural use indefinitely or for eight years after the landowner applies for an expiration of the preserve designation.

Agricultural Zoning District and Agricultural Preserves Overlay District

To address environmental concerns detailed within this plan and to maintain our overall 1/10 density, this plan creates an Agricultural Preserves Overlay District. With the Agricultural Preserves Overlay District, the Agricultural District is envisioned to allow for three development scenarios:

1. Agricultural Preserves Overlay District: 1 dwelling unit per quarter-quarter section (approximately 40 acres).
2. Agricultural Zoning: 3 dwelling units per quarter-quarter section (approximately 40 acres).
3. Agricultural Zoning using a Preservation and Land Conservation Development on a minimum of 80 acres: 4 dwelling units per quarter-quarter section. Land developed under this option would be subject to conservation easements, and subdividers would be required to set aside an extensive part of their property for continued farming or conservation. The City intends to provide more intensive land use planning throughout this zone so as to coordinate and link the preservation areas for maximum benefit and minimal impact to the character of the community.

Note that, pursuant to the Agricultural Preserves Act, lands in the Agricultural Preserves Program would only be allowed a density of 1 unit per 40 acres on a specific, designated parcel (Agricultural Preserves Overlay District).

Residential

According to the 2000 census, there were a total of 1,031 residential housing units in Afton.

Table 2 – Residential Housing Units, 2000 Census

| Housing Type | Afton | Afton % | Washington County % | Minnesota % |
|------------------|-------|---------|---------------------|-------------|
| 1-unit, detached | 1026 | 99.50% | 73.70% | 67.77% |
| 1-unit attached | 3 | 0.30% | 11.80% | 5.20% |
| 2 units | 2 | 0.20% | 1.10% | 3.01% |
| 3 or more units | 0 | 0.00% | 13.40% | 24.02% |

The majority of the housing stock (99.5%) that existed in Afton in 2000 was single-unit detached, which is a higher proportion than either Washington County (73.7%) or the State of Minnesota as a whole (67.77%).

The predominance of older housing is a unique feature of Afton. Nearly a quarter of Afton’s current housing was built in the 1960’s and 15% of the housing stock was built prior to World War II. Homes in Afton hold their value and have appreciated much more quickly than homes across the county and state.

The high land values in Afton have been an obstacle for those looking to locate affordable housing in the City. This is not likely to change in the near future. The City of Afton is willing to work with Washington County and the Washington County HRA to address low- and moderate-income housing needs and to identify resources to maintain and advance housing affordability in the community, where possible and in a manner consistent with the development pattern of the community.

The Rural Residential Zoning District provides for residential development with private wells and on-site sewage treatment systems, with each lot requiring a minimum of five acres, including 2.5 acres of contiguous buildable area. With the steep topography of a majority of the land in the rural residential zone, the average density attainable in this zone is expected to be about one unit per ten acres.

Old Village

The village of Afton is within the Village Historical Site zoning district, hereinafter referred to as the “Old Village,” located in sections 22 and 23 of Afton along the St. Croix River. The eastern boundary of the Old Village is established by the St. Croix River. It is bounded on the southern and western sides by steep slopes and river bluffs. The northern boundary is the intersection of St. Croix Trail South and Stagecoach Trail South. The Village Historic Site zoning district has two sub-districts, the Village Historic Site-Residential District and the Village Historic Site-Commercial District.

The only commercial area of the city is located within the Old Village (VHS Zone) which has been certified as a Historic District. This area has been the traditional commercial focus for the city and for area visitors. The existing village atmosphere needs to be preserved while allowing a balanced

and complementary mix of residential, recreational, locally attractive commercial and tourist uses. Infrastructure improvements should be designed to eliminate environmental hazards and to sustain the long term viability of the commercial area.

Commercial uses in that portion of the Old Village zoned commercial are within the Lower St. Croix Bluffland and Shoreland Management District and thus allowed by Conditional Use Permit only.

The quaint character and charm of this unique, rural village stands in stark contrast to the commercial development happening in neighboring communities. The gas lamps, with their soft, warm light, reinforce the pedestrian-friendly atmosphere. The mix of small businesses and residential properties provides a unique destination experience.

The Old Village has a special place in the history of Afton. The Old Village was platted in 1855 by R. Haskell, Joseph Haskell, H.L. Thomas, and C.S. Getchell. The plat is typical of land divisions of that time: 50 x 150-foot lots and 80-foot wide street rights-of-way designed in a grid pattern overlaying the natural topography and other physical limitations of the site.

Afton's Old Village offers unique opportunities to business owners and professionals. The Old Village has attracted a number of successful small businesses as well as professionals drawn both to the lifestyle and the natural environment. This mix of businesses fits with the residential development of the Village and, together, they reinforce the context that makes the Old Village such an important feature of the City of Afton. Because of the location and the natural constraints on development, most successful businesses in the Old Village have a focused market. The Old Village is not the place for a big box store but rather an ideal location for specialty shops, services, and as a destination for tourists.

The Old Village was established on river flats subject to flooding from the St. Croix River. A significant portion of the Old Village lies within the 100-year floodplain and, over the years, there has been periodic flooding. The City of Afton has made improvements to the levee that protects the Old Village; continued maintenance of the levee will be necessary to protect against future flooding and encourage reinvestment in existing properties. The physical features noted above, bluffs to the west and south, the St. Croix River to the east, naturally constrain expansion of the Old Village beyond its present limits.

Levee Certification

There have been various attempts to obtain certification of the levee that protects the Old Village from flooding. While certification remains a long-term objective, the reality for the foreseeable future is that the City of Afton and the property owners in the Old Village need to consider strategies for dealing with periodic flooding.

St. Croix Trail is the main thoroughfare running through the Old Village. It is maintained by Washington County at county standards. The other improved streets in the Old Village are typical of a rural village. The driving surfaces are relatively narrow, causing slower traffic speeds, a safe pedestrian environment and the aesthetic of the Old Village. Challenging soil conditions have combined with storm water management issues to prematurely deteriorate streets, damaging property and negatively impacting the aesthetics of the area. A Village-wide approach to storm water management and street maintenance is needed to protect public and private investments in the Old Village.

Old Village residences and businesses utilize private wells and on-site sewage treatment systems. Small lot sizes leave limited room on each property for sewage treatment. The overall density creates concerns over the total amount of sewage effluent being discharged into the ground in a limited area. This concern is heightened by the existing, high groundwater table, which leaves limited vertical space for soil treatment before effluent reaches the groundwater. Adding these concerns to the intermittent flooding and geography, the Old Village has a small margin for error when it comes to properly treating sewage and therefore must carefully control remodeling and new construction. The City of Afton has taken steps to require periodic inspections of wastewater treatment systems within the Old Village.

Many of the structures in the Old Village are of historical interest, which is a tremendous asset for the area. Unfortunately, some of these buildings are vacant or in disrepair. Where the historical value is not realized and the properties become blighted, it negatively impacts the entire community. A map showing structures and sites of historical value in the City of Afton is included in this plan (Appendix I-Map 8).

Industrial

Approximately 239 acres of the City are zoned for light industrial use. The light industrial area is bounded by I-94 to the north, State Highway 95 to the west, and includes one 70 acre parcel directly abutting the south side of the Interstate Frontage Road and the east side of State Highway 95, as well as all property north of the Interstate Frontage Road between State Highway 95 to the city limits to the east. Light industry and storage related activities will continue to be allowed in the light industrial area under current zoning ordinances. Afton intends to maintain this area as a relatively low intensity transitional use between the interstate highway and the nearby residential zone. The light industrial area provides a location within the city for those uses that would be incompatible with the residential and agricultural districts.

Marine Services

The City has created a separate marine services zoning district to complement the river accesses and marinas and to permit storage and repair of boats and boat trailers by Conditional Use Permit. This District is generally confined to the area just north of the Old Village that was designated General Business and Light Industry in the Township of Afton before the Lower St. Croix River Bluffland

and Shoreland Management Ordinance was adopted, and also includes a boat storage facility located on Manning Avenue just north of 8th Street.

State Park

Afton State Park is owned by the State of Minnesota, and is operated as part of the State Park System. The Park provides substantial open space and natural features, as well as recreational opportunities for Afton residents and the general public. It is anticipated that the land will continue to be used in this way far into the future. The State Park consists of 793 acres.

Table 3 - Acreages by Zoning District, City of Afton

| Zoning District | Acres |
|-------------------|-------|
| Agricultural | 7180 |
| Rural Residential | 7702 |
| Industrial | 289 |
| VHS | 176 |
| Marine Service: | 25 |

Housing and Land Use Goals, Policies and Strategies

The City of Afton establishes the following housing and land use goals:

1. Maintain the city's overall low density.
2. Preserve the rural character of Afton.
3. Encourage agricultural uses.
4. Maintain natural open spaces.
5. Promote wise land stewardship.
6. Maintain a low demand for public expenditures.
7. Avoid the need for extension of the metropolitan wastewater system into the City of Afton.
8. Resist development pressures and land speculation, which tend to create urban sprawl.
9. Ensure that development within the Old Village is sensitive to the natural environment that surrounds it.
10. Preserve the rural village character of the Old Village and promote its use as an entry point for recreational activities in the area.
11. Maintain a mix of single-family residential structures and commercial structures containing niche businesses in the Old Village.
12. Provide for adequate parking in the Old Village.
13. Encourage pedestrian-friendly sidewalks and lighting in the Old Village.
14. Promote relatively narrow driving surfaces and slower traffic speeds in the Old Village.
15. Ensure that untreated wastewater and storm water do not flow into the St. Croix River.
16. Reduce flood damage potential.

The City of Afton establishes the following housing and land use policies:

1. The overall development density of the City shall not exceed one unit per ten acres.
2. The City shall not approve any requests to permit property then within the municipal boundaries of Afton to be annexed to any other municipality.
3. The City shall maintain the current densities for the following land use classifications:
 - a. Agricultural - 3 dwelling units per quarter-quarter section.
 - b. Agricultural Preserves - 0 or 1 dwelling unit per quarter-quarter section.
 - c. Agricultural with a Preservation and Land Conservation Development and a minimum of 80 acres - 4 dwelling units per quarter-quarter section.
 - d. Rural Residential - 1 dwelling unit per 5 acres, with a minimum of 2.5 contiguous buildable acres.
 - e. Old Village – 1 unit per 22,500 square feet (1 unit is considered one structure and may include one commercial unit, one residential unit or a combination commercial unit on the main floor with residential unit above).
4. The City shall maintain the current minimum lot sizes for newly created lots in each of the following land use classifications:
 - a. Agricultural – 5 acres with a minimum of 2.5 contiguous buildable acres.
 - b. Rural Residential – 5 acres with a minimum of 2.5 contiguous buildable acres.
 - c. Old Village – 22,500 square feet.
5. Provide for a mixture of land uses which maintains a rural environment and lifestyle and prevents the installation of metropolitan sewer systems, municipal water and sewer systems, and other urban services in the Agricultural and Rural Residential Zoning Districts.
6. Prohibit land uses which are inconsistent with the rural character of the Rural Residential Zoning District and which might place excessive demand on city services.
7. Prohibit rezoning of a parcel from Agricultural to Rural Residential unless, in addition to meeting other criteria, the parcel is more than 50% contiguous to a rural residential zoning district and such a rezoning would not result in development which is inconsistent with the generally rural character of the surrounding area.
8. Discourage residential development on lands suitable for agricultural use and adhere to planning practices that will allow farms to operate without external pressures.
9. Require a minimum of 300 feet of frontage on a public street for all newly created residential lots outside of the Old Village or within the Agricultural and Rural Residential Zoning Districts.
10. Prohibit long and narrow lots and irregularly shaped lots except when deemed advisable in the Rural Residential Zoning District.
11. Restrict industrial uses to those which do not pose a threat to air or groundwater.
12. Prohibit hazardous waste facilities within the city limits of Afton.
13. Restrict industrial development to those uses that do not generate large amounts of traffic, sewage, and can operate efficiently on an onsite standard drainfield approved by City ordinances.
14. Restrict industrial uses to those which would not create the need for metropolitan sewer, municipal water or sewer, or additional urban services.

15. Commercial uses will only be in the VHS Zoning District. Retail, restaurants and other similar commercial uses are allowed as principle uses only in the VHS Zoning District. Multi-unit dwellings within the Old Village are prohibited as they are not in keeping with the context of the community.
16. Improve streets, lighting and sidewalks in the Old Village.
17. Encourage economic revitalization of the commercial portions of the Old Village.
18. Continue to allow mixed use structures in the Old Village as they are consistent with the current character of that area.
19. To ensure the preservation of the character of the historic district, current non-conforming uses that are rendered unusable may be restored to their prior use in accordance with state law.

The City of Afton will seek to implement the following land use strategies:

1. Prepare a plan establishing priority conservation areas within the Agricultural Preservation Overlay District. The plan should identify areas that are best-suited for continued agricultural production as well as linkages/wildlife corridors that should be established throughout the district.
2. Partner with the Minnesota Land Trust and other independent, non-profit organizations that can serve as holding entities for conservation easements.
3. Study parking needs in the Old Village.
4. Develop and enforce requirements for construction and maintenance of sidewalks and lighting in the Old Village.
5. Develop a management plan for unimproved right-of-ways in the Old Village.
6. Incorporate design review standards (to be) created by the Design Review/Heritage Preservation Commission for future village construction.
7. Develop a visionary plan for “Main Street” in conjunction with Washington County’s reconstruction of St. Croix Trail.
8. Complete the upgrade of the gas street lights to the new, energy efficient standard that has been used successfully in Town Square Park.
9. Encourage the use of conservation or open space design subdivisions where the subdivision permanently preserves open space or agricultural land uses or creates transition zones with adjoining zones or jurisdictions.

TRANSPORTATION PLAN

In 1855 the City of Afton consisted of a main street through the center of the village going north and south with short side streets extending up the sides of the bluffs. Today, Afton is served by an extensive network of federal, state, county and local roads.

The continued emphasis on a low density, rural development pattern will not result in significantly more roads being added to the City of Afton. The projected household growth is estimated to be 12% over the next 20 years. There is a higher growth forecast for cities and towns adjacent to Afton. This higher adjacent growth forecast may bring more traffic to roads within the City.

Development of the road system over the past few decades has focused on the construction of new roads in cooperation with the developers of the subdivisions. The developer has been responsible for the construction of paved roadways and appropriate drainage to city standards and the city has assumed maintenance and ownership of these roadways one year after completion. Where possible, consideration has been given to creating throughways to better manage traffic flow through the city. Due to the low development density of the Agricultural Zoning District, road development has been deemed unnecessary and is prohibited within this zone.

Traffic Analysis Zones

Metropolitan Council Traffic Analysis Zones (TAZ) for Afton which were used to create the 2030 forecasted traffic volumes are detailed below. The projected growth for 2030 is 150 new homes and an increase in employment by 180.

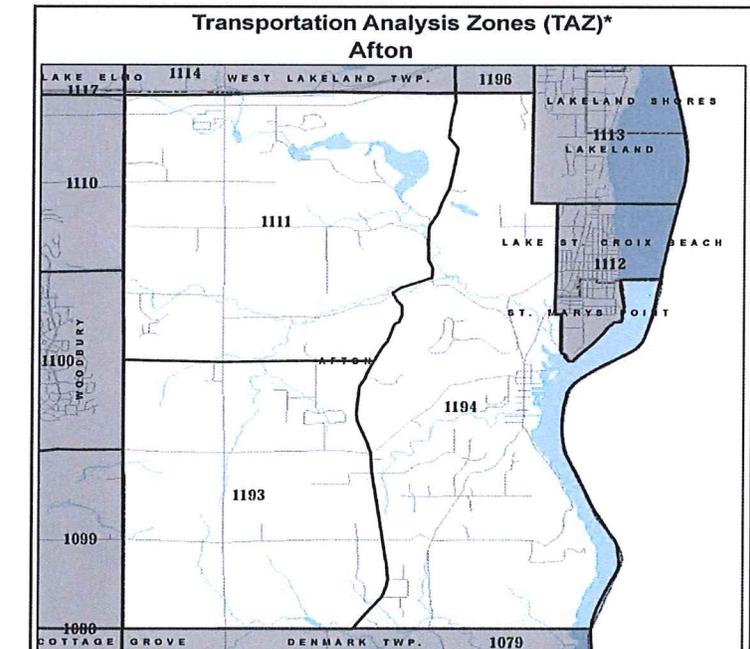


Figure 2 – Transportation Analysis Zones-Afton, Metropolitan Council

Table 4 - Traffic Analysis Zones (TAZs), Metropolitan Council

| Met Council TAZ | 2010 | | | |
|--------------------|-------------|-------------|----------------------|--------------------------|
| | Population | Households | Retail Employment | Non-retail Employment |
| 1111 | 826 | 309 | 5 | 166 |
| 1193 | 614 | 234 | 1 | 0 |
| 1194 | 1510 | 557 | 41 | 237 |
| TOTALS | 2950 | 1100 | 450 | |

| Met Council TAZ | 2010 to 2030 Growth | | | |
|--------------------|---------------------|------------|----------------------|--------------------------|
| | Population | Households | Retail Employment | Non-retail Employment |
| 1111 | 135 | 70 | 14 | 46 |
| 1193 | 24 | 29 | 3 | 12 |
| 1194 | 91 | 51 | 47 | 58 |
| TOTALS | 250 | 150 | 180 | |

| Met Council TAZ | 2030 | | | |
|--------------------|-------------|-------------|----------------------|--------------------------|
| | Population | Households | Retail Employment | Non-retail Employment |
| 1111 | 961 | 379 | 19 | 212 |
| 1193 | 638 | 263 | 4 | 12 |
| 1194 | 1601 | 608 | 88 | 295 |
| TOTALS | 3200 | 1250 | 630 | |

Roads and Highways

A combination of Federal, State, County, and local roads serve Afton as shown in the Existing Transportation System (Figure 3). Ideally, roads are designed to perform a designated function and are located to best serve the type of travel needed. The four functional classifications assigned by the Metropolitan Council that describe roads in Afton are:

1. Principal arterial;
2. Minor arterial (“A” Minor/”B” Minor);
3. Collector; and
4. Local.

Principal arterial routes are roadways intended to connect metropolitan areas, major industrial centers, etc. that are the highest traffic volume roadways such as interstate highways. Minor arterials connect urban service areas to cities and towns inside and outside the region. The emphasis of minor arterials is on mobility, as opposed to access in the urban area. Collector roadways provide connections between neighborhoods and regional business centers. Local roads provide land access by connecting blocks and land parcels.

Interstate I-94 is a principal arterial along the northern border of the City. “A” minor arterial connectors within the City are Trunk Highway (TH) 95, Washington County Road (CR) 18, and CR 21 (from the village to Denmark Township). “B” minor arterial routes are CR 71 and CR 21 (from the village to the north). Collector routes include 15th Street South (from TH 95 east to Oakgreen Avenue South). All other roads in Afton are considered local.

Washington County has proposed improvements within the City included in their 2010-2014 Capital Improvement Plan. These improvements include planning and design for CR 21 through the village (downtown) Afton. It is anticipated that the construction of CR 21 through the village will occur in 2015.

The City of Afton has a draft Capital Improvement Plan 2011 through 2016 that includes roadway improvements within the Old Village, including Pennington Avenue and other standard roadway maintenance. Other maintenance includes reconstruction of roadway approaches on 50th Street and 15th Street, seal coating, and crack filling.

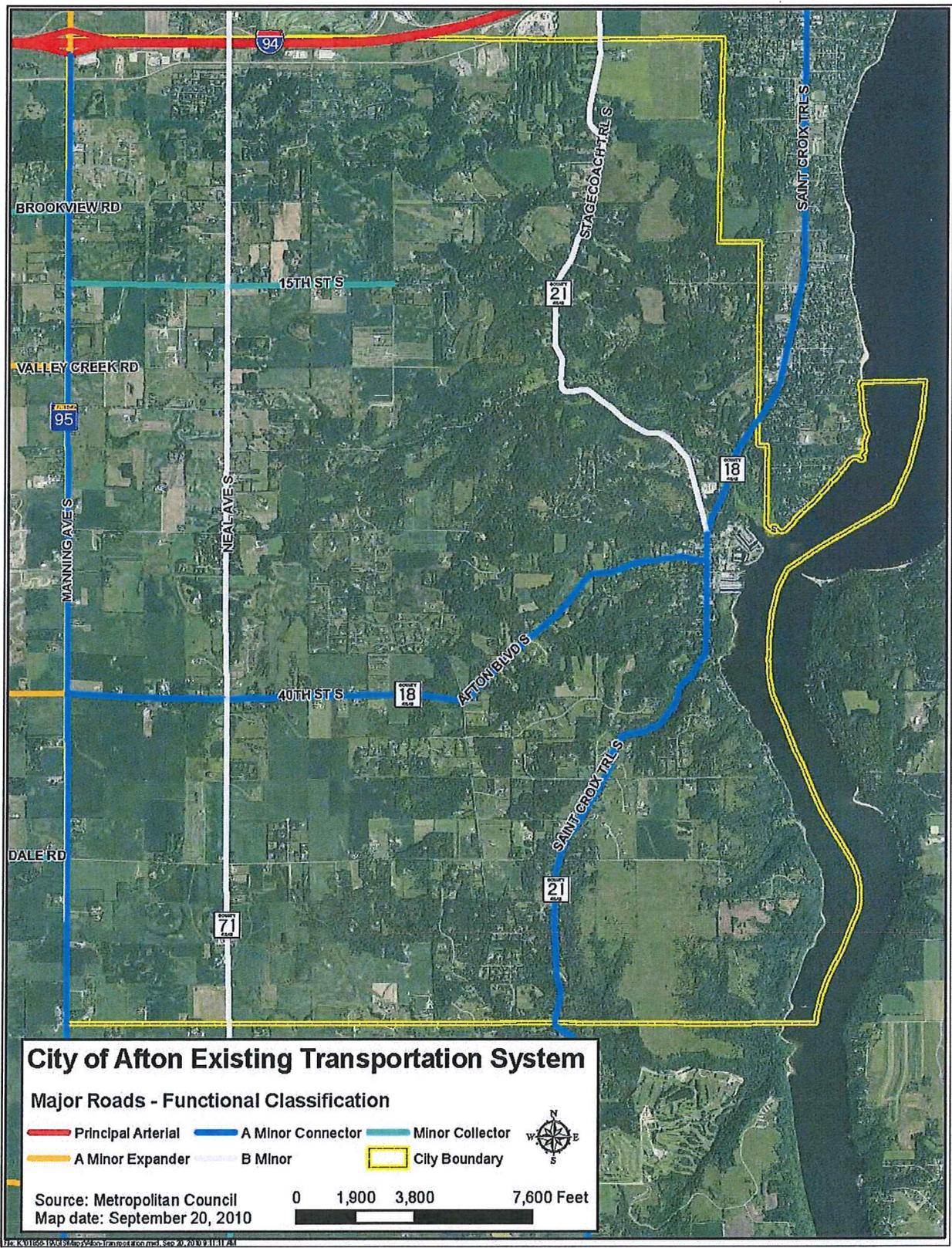


Figure 3 – City of Afton Existing Transportation System, Metropolitan Council

Safety

The City will construct new roadways and reconstruct roadways to meet City standards and increase safety and mobility.

Access Management

The City encourages the alignment of new access points with other existing access points, the provision of adequate spacing to separate and reduce conflicts, and the consideration of sight distance limitations. The City will use Washington County's access management requirements as a guide for design standards on local roadways.

Aviation

Afton does not have an airport or landing strip and will not allow any, public or private, due to the lack of central services, suitable land space, fragile soils, and noise pollution. Heliports are likewise prohibited. The City of Afton promotes the protection of airspace navigations and electronic communication. Current City ordinances prohibit any structures, including antennas and wind turbines, over 150 feet in height. Proposed, new structure construction will require a Conditional Use Permit where the applicant will be required to submit a "Notice of Proposed Construction or Alteration" to the Federal Aviation Administration (CFR – Part 77, Form 7460-1).

Transit

Afton is outside of the Metropolitan Transit Taxing District; there is no regular route transit service existing or planned in the City. There is a Park and Ride lot located at I-94 and St. Croix Trail. Washington County provides limited transit service for the elderly and disabled. The City is located in Market Area IV; service options for transit in Market Area IV include dial-a-ride, volunteer driver programs and ridesharing. The City, in conjunction with its neighboring St. Croix Valley communities and Washington County, may be an advocate for a light rail corridor along I-94 to the St. Croix River. As our population ages, our City may choose to explore the expansion of bus service into our community.

Non-motorized Transportation

While the City of Afton encourages non-motorized transportation, it is not practical as a primary mode of transport outside of the Old Village. However, with the paving of most of Afton's streets, the City has become a destination for the recreational bicyclist who would enjoy the rolling hills, open spaces, and low traffic volumes within much of the community.

Transportation Goals, Policies and Strategies

The City of Afton establishes the following transportation goals:

1. Ensure safe routes for motor vehicles, bicycles, and pedestrians.
2. Ensure that roadways are adequate for use by emergency vehicles.
3. Provide appropriate roadways for area businesses depending on their location in an industrial zone or within the historic Old Village.
4. Provide reliable access to roadways outside of the City of Afton.
5. Provide and maintain roadways and intersections by the most cost effective means possible.
6. Avoid disruption to the natural environment.
7. Promote safe, contemporaneous use of the roads by motorized and non-motorized traffic, as well as oversized and slow moving farm vehicles and implements.
8. Utilize appropriate design and construction techniques to avoid premature degradation of roads adjacent to waterways.
9. Encourage “Park and Ride” lots for commuters in areas adjoining major thoroughfares.
10. Provide for the possible extension of all local streets in new subdivisions to avoid the need for cul-de-sacs.
11. Require right-of-way dedication for existing easement roads and existing streets whenever land development is subject to City Council approval.

The City of Afton establishes the following transportation policies:

1. Prohibit the construction of new streets in the agricultural zoning district except where deemed necessary to allow a property owner to use the property in keeping with the agricultural zoning and to promote land conservation to the maximum extent.
2. Control the upgrading of existing roads and construction of new roads which would serve to encourage non-farm development in the agricultural zone.
3. Require a 150-foot setback along designated collector streets.
4. Work with Washington County to restore the historic character of St. Croix Trail through the Old Village as a slow speed, small village street.
5. Prohibit airports, landing strips and heliports within Afton.
6. Update and implement a capital improvement program.

The City of Afton will seek to implement the following strategies:

1. Post speed limits, weight and parking restrictions on City streets, where appropriate.
2. Post share-the-road signs for bicyclists, equestrians and other uses, where appropriate.
3. Design road improvements within the Old Village to slow traffic.
4. Incorporate traffic-calming and place-making techniques into road improvements within the Old Village to encourage a pedestrian friendly environment.

GROUNDWATER AND SURFACE WATER PLAN

The City's draft Surface Water Management Plan is attached as Appendix G and has been approved by the appropriate Watershed Districts and the Metropolitan Council, but has not yet been adopted by Afton City Council.

Goundwater and Surface Water Goals and Strategies

The City of Afton establishes the following ground and surface water goals:

1. Support the development and implementation of an effective storm water drainage system for the Old Village and surrounding area.
2. Explore opportunities to prevent future flooding.

The City of Afton establishes the following ground and surface water strategies:

1. Develop a plan and seek funding opportunities to deal with potential future flooding in the Old Village.

Additional Goals, Policies and Strategies are contained in Appendix G.

Wastewater Plan

Properly treating wastewater is a critical concern of the residents of Afton. There is a strong desire to ensure that wastewater is properly treated so as to limit the impact that development in Afton has on the natural environment. There is an equally strong desire to avoid the land use patterns that come with centralized collection and treatment of wastewater.

The City of Afton has no plans, or desire, to install a sewer collection system or provide centralized sewage treatment except within the boundaries of the Old Village. Continued use of highly efficient and well maintained individual sewage treatment systems will avoid public expenditures for central sewer and will prevent development at urban densities.

There are 1,119 individual, subsurface sewage treatment systems within the city limits. In addition, there is one community system that serves eleven homes.

Choosing to rely on individual, subsurface sewage treatment systems (SSTS), also commonly called "septic systems," will require the City of Afton to be diligent in protecting residents' health, safety, and welfare. Development restrictions in place limit development in areas with unsuitable soils.

While the Soils map (Appendix I-Map 2) includes numerous areas in Afton that do not appear to be suitable for on-site septic, the minimum lot sizes required in Afton enable subdivisions to be planned to ensure each lot has suitable sites for on-site systems. The general soils circumstances depicted by the map cannot be relied upon alone in determining whether a building site has suitable

locations for the installation of a septic system. An area shown on the map as containing generally suitable soils must be tested for a septic location, and vice versa, any area shown as unacceptable may by testing be proven to have an appropriate site for a septic system.

Compared with other communities in Washington County, Afton has few soils with a slow percolation rate. Slow percolation rates usually indicate a heavy or tight clay soil which does not allow sewage effluent percolation. A significant area of these soils is in the southeast corner of Afton along the St. Croix River. Other small pockets of these soils occur along the many drainage ways within the city.

The steep slopes in Afton are predominantly in the eastern half of the city. These steep slopes follow the major drainage ways. Currently, installation of an on-site sewage treatment system is prohibited on any slope exceeding 12%. Installation of septic systems on slopes over 12% may result in erosion, lateral seepage and down slope flow of effluent. The soils with a seasonal high water table or that are wet or subject to periodic flooding are also located along Afton's drainage ways. These soils are not suitable for septic systems since the effluent will either be dispersed into ground water or will back up into the residence.

Care should be taken when constructing septic systems on sloping sites. In general, as the grade of slope increases so does the likelihood that erosion will occur. When designing and constructing a septic system, it is essential to ensure that the septic system design and installation do not adversely harm the construction site and any adjacent water bodies.

The challenging soils and topography in Afton, combined with the proximity to high-value water resources, creates the need for a high standard for wastewater treatment. It is important that the City continue to monitor advanced methods of wastewater treatment that are accepted by the Minnesota Pollution Control Agency to ensure the methods used in Afton provide the highest level of treatment and monitoring.

A septic system soil suitability map (Appendix I-Map 2) created for the City of Afton indicates where septic systems may best be sited. The soils not shaded on the Soil Map are expected to be suitable for the installation of sewage treatment systems. It is probable that septic systems installed in these soils will perform satisfactorily, treat the effluent properly and present few problems to the landowner, adjacent neighbors and the environment, if the systems are properly designed, installed, and maintained. In addition, Appendix E-Soil Information includes lists of soils (taken from the Washington County Soil Conservation District Soil Survey of April 1980) that are suitable for the installation of on-site sewage treatment systems.

To further ensure the health and safety of Afton's residents, the City performs a thorough review of all SSTS designs and provides expert inspection for all installations. Afton has also implemented a maintenance program for existing systems, including an on-site, biennial mandatory inspection and the gradual upgrading of all substandard.

The installation, maintenance and inspection of all SSTS and community septic systems (cluster systems) are regulated by both the City of Afton and Washington County in accordance with Minnesota Rules Chapter 7080. An agreement is in place whereby Washington County provides individual sewage treatment system inspection services within the city (Appendix J-Individual Sewage Treatment System (ISTS) Inspection Services Agreement). As part of this agreement, the City of Afton has adopted Washington County's SSTS ordinance #179 by reference as Afton Ordinance 08-2010. The city has agreed to be consistent with, or more restrictive than, the county.

Wastewater Goals and Policies

The City of Afton establishes the following wastewater goals:

1. Reduce the volume of wastewater that is discharged to the soils of Afton.
2. Protect ground and surface waters to the greatest extent practicable by improving the quality of wastewater effluent.
3. Protect the groundwater from chemical or hazardous waste introduced from wastewater systems.
4. Explore the possibility of a municipal wastewater collection and treatment system to serve properties within the Old Village, conditioned on users and potential users paying for both the construction and ongoing operating costs.

The City of Afton establishes the following wastewater policies:

1. Encourage the use of individual, highly efficient, wastewater treatment systems for all homes and businesses within Afton.
2. Restrict industrial uses to those which would not create the need for metropolitan sewer, municipal water or additional urban services.
3. Educate all residents on the proper maintenance of a septic system.
4. Monitor and manage the upgrading of all substandard wastewater treatment systems and require the immediate upgrading or replacement of failing systems.

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PARKS AND OPEN SPACES PLAN

Residents value the rural atmosphere of Afton. Five-acre minimum lot sizes outside of the Old Village with houses that do not dominate the views of the countryside, large non-buildable areas of the City, and a large amount of farmland create an open feel to the landscape. *Open spaces, in and of themselves, are valuable to the residents of the City as preserves of nature and sanctuaries for flora and fauna.*

The preservation of open spaces, including land with steep slopes, woodlands, wetlands, scenic or environmentally sensitive areas, and agricultural land provides many benefits, including the protection of natural resources, the provision of wildlife habitat, and the preservation of the natural, rural countryside character of Afton. The preservation of these open spaces is of key importance to the City. The City will seek to accomplish this preservation through a number of means, including:

1. Parkland dedication;
2. Parkland acquisition;
3. Open space dedication incentives in land development regulations; and
4. Encouraging and supporting the long term continuation of agricultural uses.

Existing Parks and Open Space

The City of Afton, and Afton's natural, open, rural character, greatly benefit from the substantial amount of open space that has been preserved by other public and quasi-public organizations. These open space amenities include a State Park, Regional Parks and the Belwin Conservancy. In addition, the St. Croix River is a magnificent open space amenity, providing scenic and tranquil vistas, and a major recreational resource. Another significant element of Afton's open space is its scattered rural development, including large lots and large expanses of agricultural land. Rather than developing new parks, the focus of the City has been to protect and preserve the existing natural resources and open space amenities.

The City does not have a substantial amount of City-owned open space and developed parks. The City of Afton has one park for active recreation, Town Square Park, and another for passive recreation, Steamboat Park, along the St. Croix River. Both parks are located in the Old Village.

Steamboat Park lies mostly in the floodplain and is approximately thirty (30) acres in size. It serves as a sanctuary for many birds and various kinds of wildlife. It is one of the few locations on the lower St. Croix River that is not readily accessible for large boat traffic. Recreation is limited to passive recreation, such as picnicking, walking, swimming, bird and wildlife viewing.

Town Square Park is a more active site. The park provides space for basketball, baseball, picnicking, music concerts, skating and group activities. There is playground equipment, a band shell, and a picnic shelter in the park, as well as primitive restroom facilities. Town Square Park is the focal point of such annual events as the Fourth of July Parade, May Fair, Antique Car Rallies, and Art in the Park.

Over the course of many years, the City has acquired a number of other parcels throughout the city of Afton with the potential to develop into local parks. These public lands were acquired in conjunction with the approval of major subdivisions over the course of several decades and remain undeveloped. In all, there are 53.44 acres of designated park land available for public use.

Community and regional parks (Afton State Park, Lucy Winton Bell Athletic Fields, Lake Elmo Regional Park Reserve, St. Croix Bluffs Regional Park, and Cottage Grove Ravine Regional Park) also provide a variety of different types of recreation to Afton residents.

Two biking/hiking trails pass through the City. One trail follows St. Croix Trail South and extends from the northern edge of the Old Village to Interstate 94. The other, Afton Bluffs Regional Trail, is designated along County Road 18 running east and west, and is not separated from the roadway.

The planned St. Croix Valley Regional Trail will parallel the St. Croix River, and will connect Point Douglas County Park, Carpenter Nature Center, St. Croix Bluffs Regional Park, Afton State Park and the proposed Afton Bluffs Regional Trail. The St. Croix Valley Regional Trail will be aligned parallel and in close proximity to the St. Croix River.

The City seeks to protect a number of significant natural features within its boundaries. These include Trout Brook, Valley Creek and its North Branch, Bissell's Mounds and Kelle's Coulee. Bissell's Mounds in particular are unique to Washington County and are a recognized landmark in the City. Other natural features that are determined to be either unique or geologically sensitive will be preserved as the property around them is developed.

Afton State Park is located south of Afton and a portion of the park (787 acres) is located within the City's boundaries. The park was authorized by legislation in 1969 and was opened to the public in 1982. The terrain of the park is defined by a glacial moraine cut by deep ravines running into the St. Croix River. To Afton's residents, the state park offers many recreational amenities, including: backpack camping, swimming, hiking, fishing, cross country skiing, a prairie landscape, bird watching, and animal sighting. Some of the animals the park offers a home to include hawks, bluebirds, meadowlarks, deer, fox, badgers, turkeys, thirteen-lined ground squirrels, and gray and fox squirrels. Afton State Park is also home to an array of natural vegetation. It contains a combination of oak savannah and woodlands. Park wildflowers include woodland ephemerals in the spring, butterfly weed and puccoons in the summer, and sunflowers and blazing star in the fall.

Belwin Conservancy also holds considerable land within Afton under a conservation easement by the Minnesota Land Trust. This land is designated quasi-public. The Belwin land provides a substantial open space amenity for adjacent land uses, and makes a major contribution to the protection of natural resources, and to the City's rural countryside character.

Parks and Open Space Goals, Policies and Strategies

The City of Afton establishes the following parks and open space goals:

1. Preserve adequate amounts of open space to maintain a rural atmosphere (from Afton's 2000 Park Plan).
2. Obtain and maintain designated open spaces to provide for wildlife habitat and migration.
3. Reconnect Afton's historical linkages to the St. Croix River.
4. Provide expanded access to the City docks to all residents.
5. Provide safe areas to ride bicycles within the City.
6. Provide safe areas to ride horses within the City.
7. Provide pedestrian friendly means of enjoying Afton's scenic views, wildlife, and connections to the St. Croix River.
8. Preserve locally important water resources, natural and scenic features.
9. Periodically identify the recreational needs of Afton citizens and evaluate ways to meet them.
10. Consider using the Afton Bluffs Regional Trail to create an east-west connection from Afton's Old Village to the City of Woodbury.

The City of Afton establishes the following parks and open space policies:

1. Preserve open spaces and natural resources for passive use and create non-motorized trails through direct purchase, subdivision, scenic and/or conservation easements and other means to include the seeking of grants and the use of matching funds when they are available, but not the use of eminent domain.
2. Maintain central community places.
3. Maintain safe environments for children to play and for the community to gather.
4. Maintain designated open spaces to provide for wildlife habitat and migration.
5. Work cooperatively with Washington County, the Belwin Conservancy, the Science Museum of Minnesota, and other quasi-public and private entities to preserve sensitive lands and open space.
6. Develop a park plan to provide for the five small parcels obtained by the City through park dedication.

The City of Afton establishes the following parks and open space strategies:

1. Develop signage and pedestrian-friendly connections to the St. Croix River.
2. Protect Steamboat Park as a nature preserve and passive use area.

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SOLID WASTE PLAN

The City of Afton does not have and does not want a solid waste disposal site due to the fragile nature of the soils and the underlying geological substrate. The City contracts with trash haulers to collect solid waste.

The City prohibits the burning or dumping of trash and garbage and also has a very active recycling program that encourages citizens to recycle on a regular basis. The City has a contract with a recycling hauler to assist with these efforts.

Solid Waste Goals and Policy

The City of Afton establishes the following solid waste goals:

1. Significantly reduce the amount of material that Afton residents and businesses contribute to landfills or waste incinerators.
2. Explore an organics recycling program. Educate residents about the Environmental Center at 4039 Cottage Grove Drive in Woodbury for disposal of household hazardous waste, electronics and recyclables.
3. Promote “Reduce, Re-use, Recycle” programs.

The City of Afton establishes the following solid waste policy:

1. Provide for trash hauling and recycling service.

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CITY GOVERNANCE PLAN

The City provides services consistent with those provided in small rural communities, including general street maintenance, parks and recreation facilities, police service, fire protection, building inspection services and general assistance at City Hall. These services have typically been managed from City Hall by a city administrator and small staff.

The City of Afton owns five public buildings located on three parcels of property. The Afton Village Hall, leased to the Afton Historical Society and City Garage are located on Lots 1, 2, and 3 of Block 8 in the Old Village. The Town Hall (leased) and Garage are located in the NW quarter of the SW quarter of Section 10, on Stagecoach Trail South. The City Hall is located on Lots 2, 3, 4, 5, and 6 of Block 11 of the Old Village. The City also owns docks that are leased to a private operator.

Police protection is provided through a contract with the Washington County Sheriff's Department. As the city grows the cost of police protection may increase, and the provision of these services should be a consideration as new developments are proposed. Fire, ambulance, and rescue services are provided by way of a joint powers agreement among the five Lower St. Croix Fire Protection District cities with a fire station located in Lake St. Croix Beach. There are no current plans to add additional public facilities.

City Governance Goals, Policies and Strategies

The City of Afton establishes the following public facilities goals:

1. Maintain a small and efficient government.
2. Properly maintain public facilities.
3. Encourage a “pay-as-you-go” approach to maintaining public facilities and infrastructure.
4. Public subsidy for development, in the form of tax breaks such as Tax Increment Financing, shall be discouraged by the City of Afton.

The City of Afton established the following public facilities policies:

1. The City of Afton will comply with all FAA and Met Council Aeronautic Safety Standards regarding the height of structures and any regulations that pertain to airspace safety and electronic interference over the City of Afton.
2. Comply with all state and federal mandates.
3. City property is to be leased at market value.
4. The City Code shall be properly maintained so that current version is annually provided to all elected and appointed officials.

The City of Afton will seek to implement the following strategies:

1. Institute a budgeting process that annually takes a long-term examination of the City's finances.
2. Prepare a Capital Improvements Plan that outlines the costs and phasing for all maintenance activities required for municipal infrastructure.
3. Consider the creation of a special taxing district to facilitate infrastructure improvements within the Old Village.

SYSTEM STATEMENT COMPATIBILITY

The Metropolitan Council has issued a system statement for the City of Afton, which indicates specific issues that must be addressed by the Comprehensive Plan before the Plan is considered complete by the Metropolitan Council. The City of Afton seeks to comply with all aspects of the system statement and has done so as per the following:

1. **Population, Housing, and Employment Forecasts:** The Metropolitan Council (Met Council) provides population, housing and employment forecasts for the City of Afton until the year 2030. These are required to be part of the plan update and are cited in Appendix B - Demographics Information of the Comprehensive Plan.
2. **Density and Land Use Classification:** The Met Council classifies the geographic area that the city of Afton is located in as “diversified rural” and partially “agricultural.” Diversified rural areas include a mix of large-lot residential and clustered housing with agricultural and other uses. Density in diversified rural areas must be less than 1 housing unit per 10 acres. Agricultural areas are planned and zoned by local communities to maintain agriculture as the primary long-term land use. The density of agricultural areas may not exceed 1 housing unit per 40 acres.

This plan identifies policies, in the Housing and Land Use Action Plan that will maintain an overall development density within the parameters required in the system statement.

3. **Aviation Plan and Facilities:** The system statement requires that the City of Afton must include airspace protection in its comprehensive plan. The protection is for potential hazards to air navigation including electronic interference. Airspace protection should be included in local codes/ordinances to control height of structures, especially when conditional use permits would apply. The comprehensive plan should include policy/text on notification to the FAA as defined under code of federal regulations CFR-Part 77, using the FAA Form 7460-1 “notice of proposed construction or alteration.”

There are no public or private airfield facilities within the City of Afton. Furthermore, public and private airfields and heliports are not allowed within the City of Afton. Language has been added to the Public Facilities Action Plan to reflect Afton’s desire to follow all FAA and Met Council Aeronautics Safety Standards in regards to airspace safety in the City of Afton.

4. **Sewage Treatment:** The system statement requires that the City of Afton incorporate current MPCA regulations as part of a program for managing individual and cluster sewer systems in the local comprehensive plan and implement the standards in issuing permits. An overview of Afton’s management program must be included in the community’s local comprehensive plan update.

Afton should include in the sewer element of its comprehensive plan the conditions under which private treatment plants would be allowed. The use of private wastewater treatment plants must be consistent and compatible with the long-term regional wastewater system plan.

Subsurface and cluster septic treatment systems are regulated by Afton City Code which adopted Washington County's septic ordinance by reference and by contract with Washington County to perform permitting and inspections (Appendix J).

5. **Watershed Management:** The system statement requires that a local surface water management plan should be prepared once a watershed plan for the area has been approved. The local surface water management plan must be submitted to both the water management organization(s) within whose watershed the community is located and to the Metropolitan Council for its review.

Afton is required to complete a local surface water management plan. The plan will be submitted to the Met Council for its review concurrent with the review by the watershed management organizations.

6. **Trail Connections:** The system statement indicates that a proposed regional trail following the St. Croix River (St. Croix River Regional Trail) and a planned trail (Afton Bluffs Trail) will be located within or traverse across the City of Afton. These trail alignments are acknowledged in the Parks and Recreation Action Plan.

IMPLEMENTATION PLAN

The City has adopted and does enforce the following ordinances, among others. The ordinances and official controls listed in this section will continue to be enforced in order to implement this Plan.

1. The Zoning Ordinance, as amended from time to time and incorporated by reference herein, implements the primary elements of this Plan by establishing the type, location, and intensity of uses throughout the city as prescribed by this Plan.
2. The Shoreland Management Ordinance, as amended from time to time and incorporated by reference herein, protects wetlands, water bodies and water courses throughout the City as prescribed by this Plan.
3. The Floodplain Ordinance, as amended from time to time and incorporated by reference herein, protects man-made development from floodwaters and the floodplain areas that carry and discharge regional floods by limiting development in those floodplains and floodways in the City as prescribed by this Plan.
4. The Sanitary Sewer Disposal Ordinance, as amended from time to time and incorporated by reference herein, governs the installation, inspection, and maintenance of septic systems as prescribed by this Plan. Further, the City issues septic system permits, inspects installation of all septic systems, reviews soil tests for subdivisions, issues building permits after the City has issued any required zoning use permit, and provides consultant planning services.
5. The Subdivision Ordinance, as amended from time to time and incorporated by reference herein, regulates the division of all property as prescribed by this Plan.
6. The Mining Ordinance, as amended from time to time and incorporated by reference herein, establishes uniform performance standards for sand and gravel extraction and for land reclamation as prescribed by this Plan.
7. The Lower St. Croix River Bluffland and Shoreland Management Ordinance, as amended from time to time and incorporated by reference herein, protects the natural environment and aesthetics of this wild and scenic river as prescribed by this Plan.
8. The International Building Code, as amended from time to time and incorporated by reference herein, protects the safety, health and welfare of residents through regulating standards of construction.

In addition to these ordinances, the city utilizes and depends on the following agencies for reviews of proposed developments and advice on ordinance revisions:

1. Watershed and Water Management Organizations review all proposals within the watershed and recommend permit conditions for building within four different watershed districts within City limits.
2. Minnesota Department of Natural Resources reviews and approves all developments along the St. Croix River, other public water bodies and floodplains.
3. U.S. Army Corps of Engineers reviews and approves alterations of public water bodies.
4. Minnesota Pollution Control Agency reviews pollution problems.
5. Metropolitan Council reviews and approves the comprehensive development plan.

6. Lower St. Croix Valley Volunteer Fire Department recommends ordinances necessary to protect the health and safety of Afton residents, and comments on development proposals.
7. Washington County Soil and Water Conservation District reviews proposed projects and offers recommendations on slope, wetland, and fragile lands protection.
8. Minnesota Department of Transportation and Washington County Highway Department maintain and develop state and county roads.

In 1997, the City amended and recodified its ordinances to eliminate inconsistencies and to assure conformance with the Comprehensive Plan. In addition to enforcing the existing ordinances that will implement this Plan, the city will update and revise pertinent ordinances in order to implement all of the policies contained in this Plan. As a general overview, it is the City's intent to amend the ordinances and policies in conformance with this plan within required timeframes.

While this plan contains much of the language, intent and purpose of the previous version of the City's Comprehensive Plan, it has been formatted quite differently. The plan is now organized into sections of background followed by topic specific goals. It is the intention of the City of Afton to work, over time, on developing policies and strategies for implementing these goals. When adopted, these would require an amendment to the plan, which would need to follow required procedures for making plan amendments.

Additionally, there are statements of policy or regulation contained in the 1998 version of the plan that were lost in the conversion to the new format, yet are significant and require additional ongoing discussion. It is not the intent of this plan update to modify the spirit and intent of the 1998 plan, but to provide a more clear vision and create a document that can be strongly implemented.

CAPITAL IMPROVEMENTS PROGRAM

The City has limited funding for capital improvements and seeks to minimize debt. As such, the City needs to correlate the tax base with the long-term capital needs of the community, including:

1. Re-gravel, reconstruct and sealcoat streets.
2. Repair bridges, streets and culverts as required.
3. Use Park Dedication Funds to upgrade existing facilities and to purchase land and/or easements to add to future park and trail infrastructure.
4. Resolve surface water erosion issues.
5. Manage storm water run-off on Old Village streets and boulevards.
6. Replace the 201 system in the Old Village when needed.
7. Repair sidewalks in the Old Village.
8. Expand the use of gas lights in the Old Village.

A detailed Capital Improvement Program (CIP) outlining cost estimates, income sources, and payment schedules will be attached to this plan at a future date. The CIP will be reviewed and revised annually. Sound financial planning will be utilized so as not to significantly increase the tax burden on individual property owners in fulfilling the capital improvement plan.

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List of Appendices

- Appendix A: Terms and Definitions
- Appendix B: Demographic Information
- Appendix C: Watershed District Information
- Appendix D: Resource References
- Appendix E: Soils Information
- Appendix F: Parks and Open Spaces
- Appendix G: Storm Water Management Plan
- Appendix H: Community Survey
- Appendix I: Maps
- Appendix J: Sewage Treatment System Inspection Services Agreement & Ordinance
- Appendix K: Afton Flora and Fauna
- Appendix L: Public Involvement in Comprehensive Plan Process

**CITY OF AFTON
2008 COMPREHENSIVE PLAN
APPENDICES**

Appendix A- Terms and Definitions

The following terms are used in the Afton Comprehensive Plan and are defined by the City of Afton as follows:

Baby Boomer- A person born in the United States between 1946 and 1965.

Collector Street – A street that functions to collect traffic from local streets and move it to minor arterials and other collectors. Collector systems provide access to commercial, industrial and high-density residential development. Equal emphasis is given to mobility and land access.

Empty Nester- A parent whose child or children have reached adulthood and moved away from home.

Local Street – A street that functions to provide access to land within neighborhoods (95 percent or more) rather than carry through traffic (5 percent or less).

Minor Arterials – A street or highway that connects adjacent sub-regions and activity centers within sub-regions. Minor arterials are primarily oriented toward the provision of sub-metropolitan mobility (70 percent or more) and any land access (30 percent or less) should be oriented to public streets and major traffic generators rather than closely spaced driveways onto the street.

Principle Arterial – A street highway or interstate freeway which provides for ninety- to ninety-five percent high speed travel and five- to ten-percent direct land accesses. Such highways should be designed as fully controlled access facilities. The emphasis on these roads is on mobility as opposed to land access. They are used to connect the sub-regions of the metropolitan center. They also connect the Metropolitan Area to outside centers.

Appendix B- Demographic Information

Forecasts

The following table depicts forecasted figures of employment, housing, and population for Afton. These figures are based off of forecasts produced by the Metropolitan Council.

| Table 9. Forecasted Figures Afton | | | | |
|---|------|------|------|------|
| Year | 2000 | 2010 | 2020 | 2030 |
| Population* | 2839 | 3250 | 3650 | 4050 |
| Housing* | 996 | 1150 | 1350 | 1550 |
| Employment* | 290 | 450 | 560 | 630 |

* Figures derived from the Metropolitan Council *System Statement for Afton*.

<http://www.metrocouncil.org/planning/assistance/SysStmts/afton.pdf>

The Metropolitan Council has forecasted that by 2030 the population of Afton will be 4,050 people. The Metropolitan Council forecasts that the number of housing units in Afton will increase to 1,550 units by the year 2030. The Metropolitan Council also forecasts that employment in Afton will more than double by 2030 from the 2000 employment figures.

The forecasted figures listed in table 9 have important implications for the City of Afton. Forecasted housing figures are relevant to multiple land use decisions, such as density requirements, sustainable development, and protection of natural resources.

Increases in the population of Afton and housing, increases the demand for infrastructure such as roads and electrical services. Also important to note is that increases in housing will cause an increase in the need for new septic systems and other infrastructure related services that impact the landscape.

The forecasted increase in employment has many ramifications for the City of Afton. For instance, the increase in employment will be related to new businesses locating in Afton, and the expansion of current businesses located in Afton. The influx of new businesses will bolster tax revenues, but also bring up concerns about siting new businesses in appropriate locations. Hence, the increase in employment has land use ramifications, such as: historic buildings/areas being encroached upon by new structures, and increased traffic.

Demographics

Age

Figure 1 displays the range and percentage of the population living in Afton in 2000 and the population of the State of Minnesota. Figure 1 shows that 39.91% of those living in Afton in 2000 were between the ages of 35-54. The percentage of people between the ages of 35 and 54 for the State of Minnesota is 30.29%, comparison between the City of Afton and the State of Minnesota shows that proportionally the age of those living in Afton is older than those living in Minnesota. The median age of those living in Afton in 2000 was 42.2 years old, the median age for those living in Washington County was 35.1 and the median age for the entire State of Minnesota in 35.4 years old. The approximate 7-year difference in median age for Afton, Washington County, and the State of Minnesota indicate that Afton's population is comprised of older individuals.

Conversely, the percentage of individuals under the age of 14 in Afton (21.10%) is consistent with the Minnesota average (21.56%). The proportion of the Afton's population under the age of 14 compared to the Minnesota average indicates that Afton is retaining families, which is beneficial to Afton because there will continue to be a steady base population. One interesting statistic to note is that proportionally the age cohort between 20-34 for Afton is not proportional to either Washington County or Minnesota. In 2000, 9.23% of Afton's population is between the ages of 20-34, whereas in Washington County the percentage is 18.10% and 20.24% for Minnesota.

| Age | Afton | | Washington County | | Minnesota | |
|------------|-------|---------|-------------------|---------|-----------|---------|
| | 2000 | percent | 2000 | percent | 2000 | percent |
| Under 14 | 599 | 21.10% | 49,329 | 24.53% | 1,060,483 | 21.56% |
| 15-19 | 238 | 8.38% | 14,564 | 7.24% | 374,362 | 7.61% |
| 20-34 | 262 | 9.23% | 36,399 | 18.10% | 995,621 | 20.24% |
| 35-54 | 1,133 | 39.91% | 69,087 | 34.35% | 1,489,878 | 30.29% |
| 55-64 | 372 | 13.10% | 16,484 | 8.20% | 404,869 | 8.23% |
| 65-84 | 216 | 7.61% | 13,612 | 6.77% | 508,665 | 10.34% |
| 85+ | 19 | 0.67% | 1,655 | 0.82% | 85,601 | 1.74% |
| Total | 2,839 | | 201,130 | | 4,919,479 | |
| Median Age | 42.2 | | 35.1 | | 35.4 | |

(Data derived from the U.S. Census Bureau's 2000 decennial census. www.census.gov)

Socio-economic

| Table 4. Socio-economic conditions | | | |
|--|--------|-------------------|-----------|
| | Afton | Washington County | Minnesota |
| Year | 2000 | 2000 | 2000 |
| Employment* | 290 | | |
| Mean Travel time (minutes) | 27.5 | 24.6 | 21.9 |
| Median Household income (1999 dollars) | 89,095 | 66,305 | 47,111 |
| Median Family income (1999 dollars) | 96,087 | 74,576 | 56,874 |
| Per Capita Income (1999 dollars) | 36,338 | 28,148 | 23,198 |
| Families below poverty level | 0 | 1,122 | 64,181 |
| Individuals below poverty level | 18 | 5,765 | 380,476 |
| Average Family size | 3.11 | 3.19 | 3.09 |

(Data derived from the U.S. Census Bureau's 2000 decennial census. www.census.gov) * Employment figure derived from the Metropolitan Council *System Statement for Afton*.

Employment

The employment figure listed in table 4 (290) indicates the number of people that were employed by a business that was located within the administrative boundary of the City of Afton in the year 2000. It is important to note that this number does not represent the total number of employed people living in the City of Afton, rather the 290 refers to the number of people that define the location of their workplace within the limits of Afton.

Mean Travel Time

The mean travel time reflects the average amount of time that a given employed person age 16 or older commutes to their work. On average those living in Afton traveled 27.5 minutes in 2000, the average commuting time for those living in Washington County in 2000 was 24.6 minutes and the average commuting time for those living in the State of Minnesota was 21.9 minutes. While the difference in the amount of time spent commuting between workers in Afton and the State of Minnesota is approximately 5.5 minutes, this becomes a substantial difference when considering the 5.5 minute difference relates to a one-way trip. Hence, workers living in Afton travel an average of 11 minutes per work round trip more than workers living throughout the State of Minnesota. 11 minutes a day per work round trip equates to 55 minutes per week, 220 minutes per month, or 44 hours a year.

Hence, on average workers living in Afton spend 44 hours more a year commuting than the rest of the workers living in the State of Minnesota. It is important to note that these travel time comparisons are based on data from 2000 and that the current commuting situation in the State of Minnesota and specifically the Twin Cities Metropolitan Area has changed dramatically since 2000.

Congestion for all commuters in the Twin Cities Metropolitan Area will only continue to increase in the coming years. Hence, mean travel time for workers living in Afton will continue to increase in proportion to the mean travel time in 2000.

Median Household Income

The median household income figures listed in table 4 are displayed in relation to the value of the dollar in 1999. The median household income in Afton in 2000 was \$89,095 dollars, the median household income for Washington County was \$66,305 and the median household income for the State of Minnesota was \$47,111. The median household income of those living in Afton is substantially higher than Washington County (\$22,790 difference) and significantly greater than the median household income for the State of Minnesota (\$41,984 difference). The difference between the median household incomes for 2000 indicates that Afton can be considered relatively affluent in comparison to Washington County, and significantly more affluent than households throughout Minnesota.

Median Family Income

The median family income in 1999 dollars for Afton was \$96,087, the median family income for Washington County was \$74,576 and the median family income for Minnesota was \$56,874. The median family income indicates the same situation that is depicted by the median household income statistics. Families living in Afton in 2000 made \$22,231 more than families living in Washington County. Families living in Afton made an average of \$39,213 more than the average family living in the State of Minnesota in 2000. High median family incomes correlate to the findings of the median household income, further supporting the statement that Afton is an affluent community.

Per Capita Income

The per capita income of those living in Afton for 2000 was \$36,338, the per capita income for those living in Washington County was \$28,148 and the per capita income for the State of Minnesota was \$23,198. Per capita income represents the average amount of money that an individual living in Afton generated in 1999 dollars. The per capita income for Afton implies the same situation depicted by median household and median family income statistics.

Families/Individuals below poverty level

Based on the 2000 decennial census there were no families living below the poverty level in Afton. The number of individuals living below the poverty level in 2000 was 18. The extremely low level of poverty in Afton is a very positive aspect of the Afton.

Average Family Size

The average family size of a family living in Afton in 2000 was 3.11, the average family size of a family living in Washington County in 2000 was 3.19 and the average family size of families living in Minnesota was 3.09. Hence, the average family size in Afton in 2000 was lower than the average for Washington County and higher than the rest of the State of Minnesota.

Appendix C- Watershed District Information

Valley Creek, which empties into the St. Croix River approximately one-half mile north of the Old Village, now, drains only that portion of the Valley Branch Watershed District up to the minor watershed surrounding Mays Lake (Lake Edith). Previously, Valley Creek was the ultimate drainage way for practically all of the water in the Valley Branch Watershed District. With the District's completion of Project 1007 in 1987 and 1988, the water from the upper portion of the Valley Branch Watershed District was rerouted in an easterly direction from a storage site in West Lakeland Township to the St. Croix River using the drainage way constructed for Interstate 94. The Valley Branch Watershed District includes a majority of the City of Afton, portions of West Lakeland, Grant and Baytown Townships, nearly the entire City of Lake Elmo and portions of Woodbury, Oakdale, Pine Springs, and Mahtomedi. The head of the watershed is the western boundary of Washington County in Mahtomedi. Valley Creek stream flows in a southeasterly direction toward the Old Village of Afton.

Afton is part of the Valley Branch Watershed District, the Middle St. Croix Watershed Management Organization, the Lower St. Croix Watershed Management Organization and the South Washington Watershed District.

Appendix D- Resource References

Best Management Practices Resources

- USDA natural Resources Conservation Service, Technical Guide Minnesota;
- Construction Site Erosion and Sediment Control Planning Handbook;
- Protecting Water Quality in Urban Areas, Best Management practice for Minnesota;
- Agriculture and Water Quality, Best Management for Minnesota.

Appendix E- Soils Information

Washington County Soil Conservation District issued a soil survey in April 1980 and the different soil types have been categorized as to their suitability to accommodate on-site sewage treatment systems and to support a rural atmosphere, farming, groundwater protection, wildlife habitat, and biological diversity. It is an inventory of the soils found in the City and indicates the type of soil, slope gradient, suitability of the soils to support certain uses and the degree and kind of limitation of each soil type for certain uses.

Soils suitable for the installation of on-site sewage treatment systems:

- Ostrander
- Hubbard
- Sparta
- Emmert
- Antigo
- Hayden
- Burkhardt
- Santiago
- Chetek
- Zimmerman
- Anoka
- Braham
- Gotham
- Grays
- Richwood
- Lindstrom
- Rosholt
- Dickman
- Campia
- Waukegan
- Mahtomedi
- Baytown

Some of the city consists of prime agricultural soils (Class I and II soils) and soils of statewide importance. Agricultural land is determined by many factors, not only by soil type. Therefore, the following criteria were used to categorize agricultural lands:

Prime agricultural soils (Class I and II soils) and soils of statewide importance:

Class I:

- Ostrander
- Nessel
- Richwood
- Crystal Lake

Class II:

- Ostrander
- Antigo
- Webster
- Brill
- Hayden
- Santiago
- Ronneby
- Grays
- Freeon
- Baytown
- Otter
- Duluth
- Paskin
- Ripon
- Freer
- Richwood
- Whalan
- Kingsley
- Campia
- Waukegan
- Comstock
- Barronette
- Waukegan Variant
- Barronette

Soils of Statewide Importance:

- Ostrander
- Antigo
- Bluffton
- Copaston
- Dundas
- Hayden
- Burkhardt
- Chetek
- Anoka
- Braham
- Blomford
- Gale
- Rosholt
- Dickman
- Whalan
- Kingsley
- DeMontreville
- Baytown

- Channahon
- Duluth
- Ripon
- Algansee

When the soils map is overlaid with the existing land use map it appears that many of the homes in Afton are located in areas where there is a predominance of soils which are not most suitable for installation of septic systems. The general soils circumstances depicted by the map cannot be relied upon alone in determining whether a building site has suitable locations for the installation of a septic system. An area shown on the map as containing generally suitable soils must be tested for a septic location, and vice versa, any area shown as unacceptable may by testing be proven to have an appropriate site for a septic system.

Appendix F - Table of Afton Parks and Open Spaces

| PARKS AND OPEN SPACES | | | | |
|-----------------------|----------------------|--|-----------------|---|
| NAME | SIZE | OWNERSHIP | TYPE | FACILITY |
| Aftonwood | 7.74 acres | City | Open Space | Conservancy with Trail |
| Collin Green | 2.8 acres | City | Open Space | Conservancy with Trail |
| Meadow Ridge | 10.4 acres | City | Neighborhood | Currently Open Space |
| Remus | 5 acres | City | Neighborhood | Passive Uses until 2026 with Trail |
| Rinta | 3.25 acres | City | Neighborhood | Currently Open Space |
| Steamboat Park | 27 acres | City | Community | Minimum development: Trails, picnic, fishing, swimming, non-motorized small craft |
| Town Square Park | 2 acres | City | Neighborhood | Picnic, Basketball, Tennis, Baseball, Volleyball, Playground |
| CITY SUBTOTAL | 53.39 acres | (2 acres developed for active recreation and the remainder undeveloped) | | |
| Afton State Park | 787 acres | State | Regional | Trails, Picnics, Swimming |
| Bowles Mill Monument | .5 acres | State | Historical Site | Monument with small parking lot |
| STATE SUBTOTAL | 787.5 acres | (plus 715 acres of Afton State Park located in Denmark Township to the south, surrounding Afton Alps and Golf Course, a very active recreation area) | | |
| Belwin Conservancy* | 1400 acres | Non-Profit | Quasi-Public | Outdoor Educational Center and Land Trust, Private |
| TOTAL | 2240.89 acres | Located within Afton City Limits and about 13% of the total acreage of the City of Afton (2240/16896), with an increase of 28% in acreage since 1990 (predominately quasi-public Land Trust Acquisitions) | | |

*600 acres are protected by MN Land Trust.

Appendix G – Surface Water Management Plan

City of Afton

Surface Water Management Plan

January 2011

Contents

| | | |
|-------|---|----|
| I. | PURPOSE AND EXECUTIVE SUMMARY | 1 |
| II. | WATER RESOURCE MANAGEMENT RELATED AGREEMENTS | 4 |
| III. | LAND AND WATER RESOURCES INVENTORY..... | 4 |
| IV. | POLICIES AND GOALS | 10 |
| V. | ASSESSMENT OF PROBLEMS AND CORRECTIVE ACTIONS | 13 |
| VI. | IMPLEMENTATION PRIORITIES AND PROGRAM | 18 |
| VII. | FINANCIAL CONSIDERATIONS | 20 |
| VIII. | AMENDMENT PROCEDURES | 20 |

I. PURPOSE AND EXECUTIVE SUMMARY

Minnesota Statutes 103B.235 requires that the City of Afton prepare a local water management plan consistent with the requirements of Minnesota Statutes 103B, the Metropolitan Land Planning Act and Minnesota Rules Chapter 8410.

The City of Afton’s local water management plan is to meet statutory and state rule requirements, to guide the City in conserving, protecting and managing its surface water resources, and to detail how these goals will be accomplished.

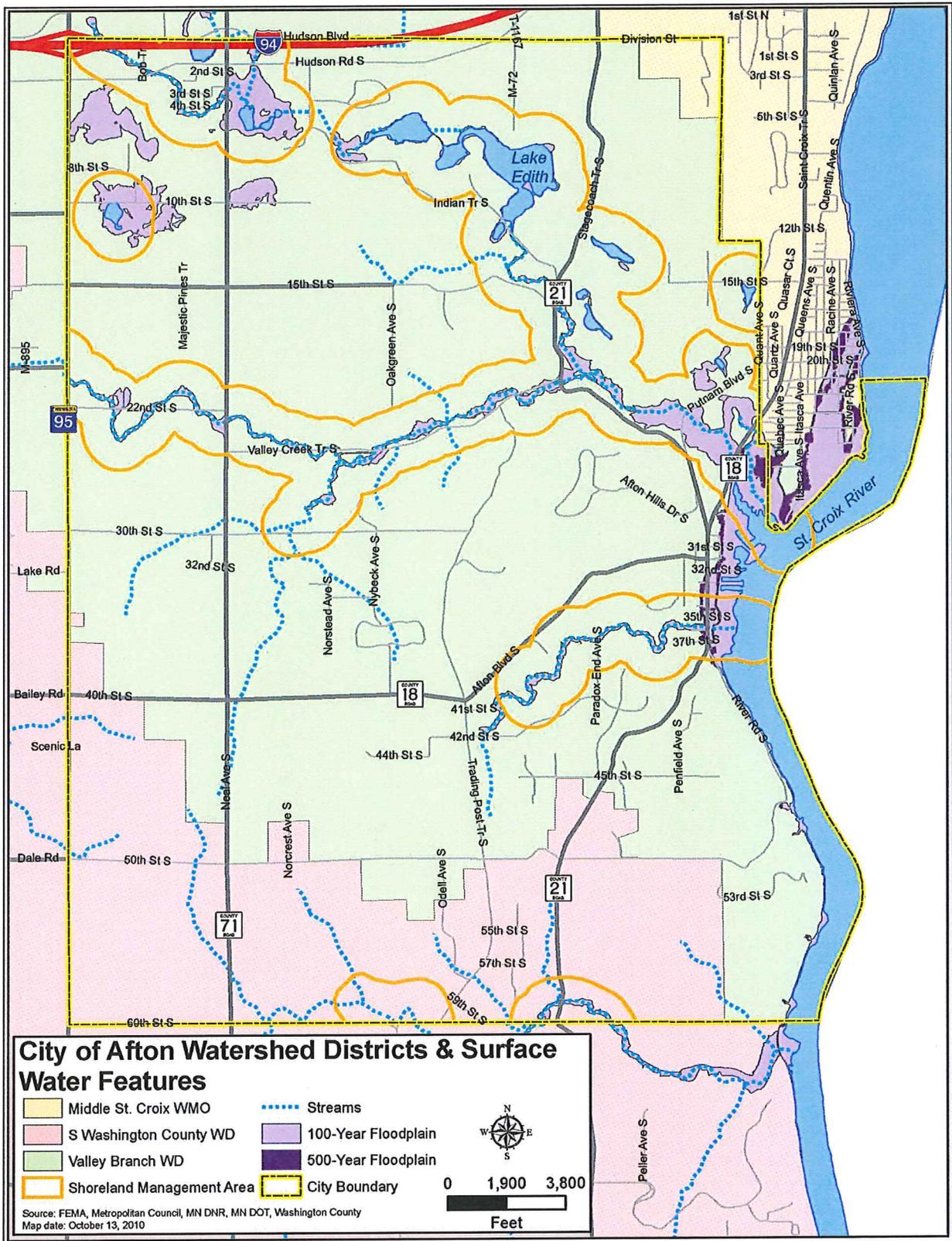
This plan is to be consistent with the adopted plans of the three watershed management organizations having jurisdiction within the City. These include:

- The Valley Branch Watershed District (VBWD)
- The Middle St. Croix Watershed Management Organization (MSCWMO)
- The South Washington Watershed District (SWWD)

A majority of the City, 21 square miles (13,696 acres), is within the VBWD. With the redistribution of the LSCWMO, Kelle's Coulee watershed is now part of VBWD.

The next largest section of City is within the SWWD. A 5 square mile portion (3,096 acres) of the western boundary of the City, adjacent to the City of Woodbury, lies within the SWWD. This represents a small percentage of the land area of the SWWD which was recently expanded within Afton to include the Trout Brook watershed.

A 0.2 square mile portion (115 acres) of the northeastern corner of the City, adjacent to the City of Lakeland, lies within the MSCWMO. This represents about one (1) percent of the land area of the MSCWMO and is located in the area of Croixview Drive.



II. WATER RESOURCE MANAGEMENT RELATED AGREEMENTS

The Valley Branch Watershed District (VBWD) adopted their Watershed Management Plan in 2005 and the Middle St. Croix Watershed Management Organization (MSCWMO) adopted Policies and Performance Standards in 2006. These documents include rules/policies and regulations to ensure that development and other activities protect surface water resources. The MSCWMO does not have a permitting program. As a joint powers board and WMO, they receive and review development proposals and issue comments to the City of Afton. These comments would then be included in the City's permitting process and enforced by the City of Afton.

The South Washington Watershed District (SWWD) adopted a Watershed Management Plan in 2007. They use a Standards Manual (located on their web site) to guide and regulate activity within the District. The District plans on updating their Rules now that the LSCWMO has dissolved. Until the update is complete, their 1999 Rules remain in place. The SWWD has an established permitting program in place for the City Afton to use. They can issue permits and enforce District standards through this process.

The City supports the regulatory efforts of all three watershed districts and will continue to work with the VBWD, SWWD and MSCWMO in achieving the goals stated in their respective plans. With the adoption of this plan the City adopts the plans, rules and standards of the three watershed districts within the City by reference as the Surface Water Management rules and standards for the City. The City of Afton will continue to rely on the Watershed Districts to enforce surface water management regulations within the community under this Comprehensive Plan. The City's Engineer will review development proposals and provide comments on the proposals for consideration of the Districts in their reviews. The City will require the applicants for development obtain permits from the appropriate Watershed District, and include recommendations from the Districts as provided for development reviews.

The City enforces and administers zoning and subdivision regulations which, when implemented in cooperation with the watershed districts, are part of the overall effort to protect and manage surface waters within the City. The City will work with the Districts to identify the process that will govern development reviews.

III. LAND AND WATER RESOURCES INVENTORY

Surface Water System

The City of Afton does not have a structured surface water management system of pipes, ponds, or other infrastructure. The City is primarily low density residential and a majority of the surface water infiltrates and drains to wetlands, ponds, and creeks. In the Old Village area of Afton there are smaller lots, businesses, and marinas. There is storm sewer in this area on County Roads (21 and 18). The water from these systems outlets into an infiltration swale and eventually into the St. Croix River.

The City streets generally have a rural profile with ditches or swales that carry surface water. The City has started to map their culverts and has worked with the County to include their storm sewer systems within the City. This map is included in Appendix B. The City is continuing to maintain culverts and outfalls and has a maintenance program for its surface water facilities.

Washington County and the City are in the process of completing a surface water management plan (SWMP) for the watershed tributary to CR 21 and the Old Village area of Afton. The study includes improvement options using NPDES, VBWD rules and phosphorus reduction requirements as laid out in the Lake St. Croix TMDL. The City will also include their BMP standards as outlined in Appendix B.

In the CR 21 study drainage areas in Downtown Afton, near County Road 21 were delineated to establish sub-watershed boundaries. Sub-watershed delineation was accomplished by utilizing contour mapping, aerial photography, existing drainage as-builts, and field visits. A HydroCAD model of the study area was developed to estimate peak runoff flows and volumes along with 2, 10, and 100 year high water levels from the sub-watersheds discharging to County Road 21. The HydroCAD model was also used to size surface water features to meet the drainage needs of the study area.

Many BMPs and LID techniques were investigated to reduce surface water volumes, flows, and pollutant potential. Five improvement options were analyzed to improve drainage, reduce surface water volume, and provide water quality treatment in the County Road 21 study area.

- Underground Infiltration Facilities
- Porous Pavement
- Surface Water Reuse
- Surface Water Basin and Pump Station
- Surface Water Collection and Conveyance System

Surface Water Resources

1. Valley Branch Watershed District

The Valley Branch Watershed District (VBWD) drains to the St. Croix River, and therefore is within the St. Croix watershed. Water south of Interstate 94 in the VBWD generally flows to Valley Creek, and then into the St. Croix River.

A majority of the City of Afton's land area lies within the Valley Branch Watershed District which is broken down into numerous Major Sub-watersheds. The major sub-watersheds drain primarily into Valley Creek as well as landlocked basins which include lakes or wetlands. The major sub-watershed districts within the VBWD that are located within the City of Afton include the Lake Edith, Fahlstrom Pond, Main Stem Valley (Branch) Creek, North Fork Valley (Branch) Creek, and South Fork Valley (Branch) Creek Sub-watersheds.

a. Fahlstrom Pond

The portion of land in Afton that lies in Fahlstrom Pond watershed primarily consists of rural residential and agricultural land uses. Some of Afton's planned industrial development along Interstate 94 is within the Fahlstrom Pond tributary area.

The VBWD classified and will manage Fahlstrom Pond as a Low Priority water body (This is consistent with the VBWD 1995 Water Management Plan, which classified Fahlstrom Pond as a Level V (wetland) water body). The pond has no public access and is primarily used for passive aesthetic viewing by a small number of adjacent property owners. The water quality of Fahlstrom Pond is classified as "poor".

b. Lake Edith

Also known as May's Lake, Lake Edith is between Indian Trail South and Stagecoach Trail South in the City of Afton. Almost half of the Lake Edith Tributary area drains to a large wetland (Metcalf Marsh) approximately $\frac{3}{4}$ mile upstream (west) of Lake Edith. Lake Edith overflows to the south to the north fork of Valley Creek, through a 24-inch diameter culvert under Indian Trail. The City of Afton's shoreland ordinance allows only non-motorized craft on the lake, with the exception of small electric motors.

The VBWD will manage Lake Edith as a High Priority water body. Lake Edith has excellent water quality and drains directly to an outstanding resource value water (Valley Creek).

c. Valley Creek

The majority of the Valley Creek watershed is located in the City of Afton. The creek is comprised of two major branches. The north branch of the creek flows 3.4 miles from Lake Edith to the main stem. The south branch flows 2.5 miles from the point where the creek becomes perennial-flowing (water flowing year around) to the main stem. The north and south branch converge to form the main stem 1.8 miles above the mouth of the creek near the intersection of Valley Creek and Stagecoach Trail.

The Minnesota Department of Natural Resources (DNR) has designated the perennial reaches of Valley Creek as a designated trout stream. The cold, relatively clean waters of Valley Creek are suitable for trout, and trout have naturally reproduced in the creek throughout recorded history.

Currently, surface water quality in the Valley Creek watershed is good. This is largely due to the underdeveloped nature of the watershed. Land use is mainly agricultural and low-density residential, resulting in low levels of impervious coverage and animal waste. In 1973 VBWD first began collecting water quality chemistry data from the creek.

The DNR has recommended that the VBWD manage the tributary watershed in order to maintain its current dissolved oxygen concentration, avoid increases in water temperature, and avoid increased discharge.

d. Kelle's Coulee

The coulee is regarded as a high quality spring creek with rare plants, animals, and natural communities in its lower reach. This perennial creek is within a deep ravine that runs through the City of Afton before outletting to the St. Croix. Stream bank erosion is prevalent. Kelle's Coulee is another very significant perennial stream in the VBWD.

2. Middle St. Croix Watershed

The total land area within Afton City limits that lie in the Middle St. Croix Watershed is approximately 115 acres, or 1% of the total land in the watershed. The relatively small portion of land contains two sub-watersheds: I-94/West Lakeland and South Unit/Afton. The watershed is unique in that each of many small, parallel sub-watersheds flows directly into the St. Croix River, whereas other watersheds in the county generally have one major drainage basin with a headwaters and outlet.

In 2007, the City of Afton participated in a stabilization project to minimize erosion within the Afton-Lakeland Gully. Otherwise Afton does not have significant surface waters that lie in the MSCWMO.

3. South Washington Watershed District

Afton also lies within the South Washington Watershed District (SWWD). All of Afton's land that is in the SWWD lies within the Northern Sub-watershed.

a. Trout Brook

Passing through Afton Alps and Afton State Park before discharging into the St. Croix River, Trout Brook has been classified by the DNR as a protected water body. The brook has seeps and spring discharges typical along the stream channel and its tributaries. It is one of the most significant perennial streams in the watershed.

4. St. Croix River

The St. Croix River and Lake St. Croix border the City of Afton. This portion of the River is more closely related to a lake environment than a river due to its width and slow current. The St. Croix River is currently classified as an Outstanding Resource Value Water – Restricted. The restricted classification stems from its very high quality. The Lower St. Croix River was designated as a National Wild & Scenic Riverway by Congress in 1972. The MPCA is completing a TMDL for Lake St. Croix.

Protected Waters

There are numerous valuable protected bodies of water within the City of Afton. The DNR has classified St. Croix Lake, Edith Lake, and US Lock & Dam #3 Pool as protected waters. Other protected waters in the City include portions of Valley Branch Stream and Trout Brook. The DNR has also identified nine wetlands (see Table A) as protected waters.

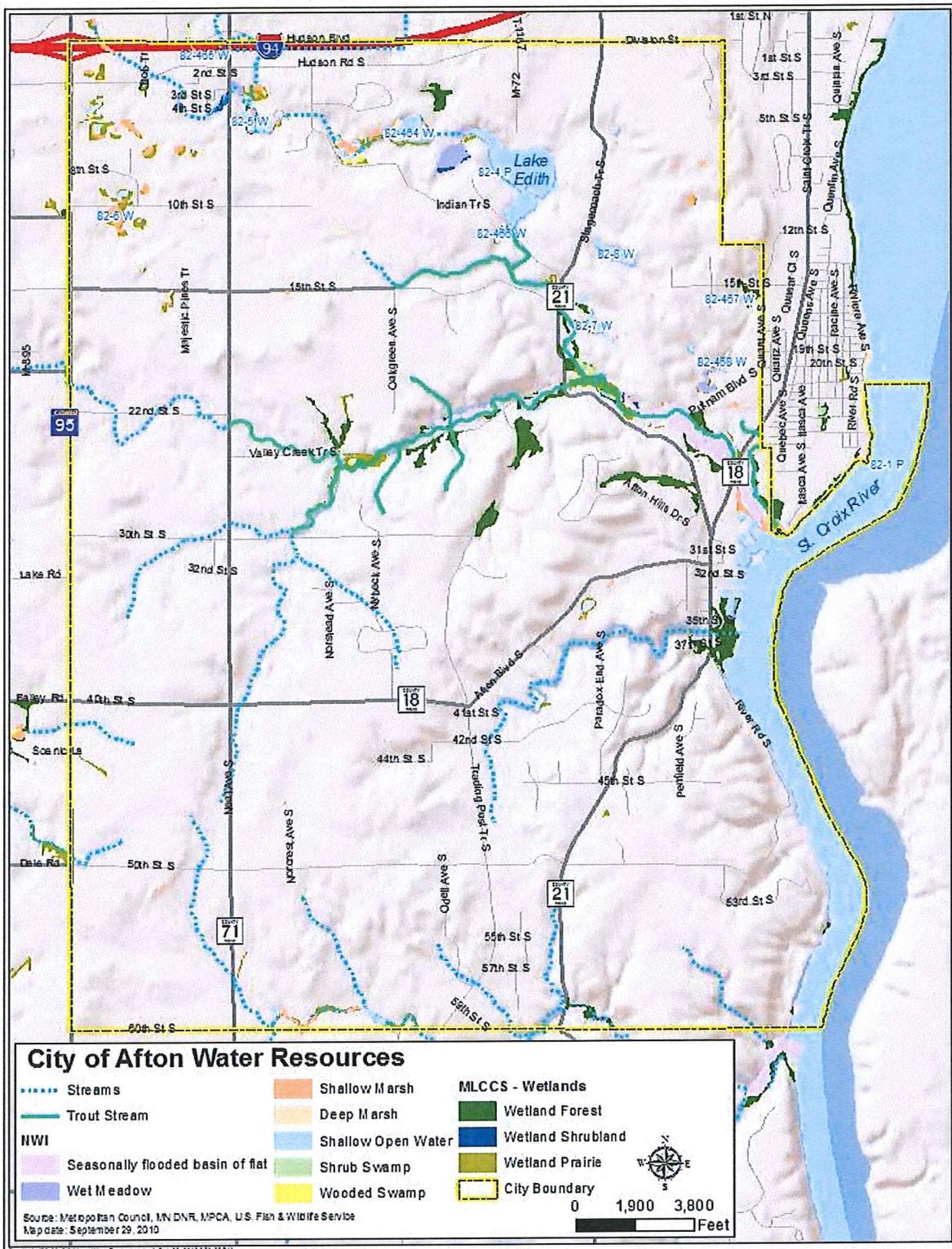
Table A
Department of Natural Resources, Division of Waters List of Protected Waters and Wetlands within the City of Afton

| Number | Name |
|--------|--------------------------------|
| 82-1 | Lake St. Croix |
| 82-4 | Lake Edith |
| 82-5 | Fahlstrom Pond |
| 82-6 | Unnamed Wetland |
| 82-7 | Unnamed Wetland |
| 82-8 | Unnamed Wetland |
| 82-464 | Unnamed Wetland |
| 82-465 | Unnamed Wetland |
| 82-466 | Unnamed Wetland |
| 82-467 | Unnamed Wetland |
| 82-468 | Unnamed Wetland |
| | Valley Branch (Section 9-23) |
| | Kelle’s Coulee (Section 28-23) |
| | Trout Brook (Section 31) |

Priority or Outstanding Water Resources

The VBWD has determined that it will manage Lake Edith as a High Priority water body while the St. Croix River is currently classified as an Outstanding Resource Value Water – Restricted.

There are many other important, protected water bodies listed in Table A and detailed in the City of Afton Water Resource figure.



Upland Resources

In 2007, Washington County completed a multi-year Natural Resource Inventory which included the City of Afton. The vegetative cover of the City consists mainly of deciduous forests, woodlands, grasslands, and several areas of planted conifers. Much of the pre-settlement vegetation has been converted to agricultural land; some of which has now been developed for industrial, commercial, and residential uses.

The average quality natural areas in the City of Afton are dominated by mesic oak forests. The central portion of Afton consists of high quality oak woodlands, lowland hardwood forests, and maple-basswood forests.

The eastern portion of Afton consists mainly of floodplain forests containing silver maple, cottonwood, green ash, and American elm.

The City also contains many unique and rare natural features such as bedrock bluff prairies, sand-gravel prairies, a trout stream, rich fens, and the St. Croix River.

The *Environmental Resources* section of the Comprehensive Plan for the City of Afton contains additional information on upland resources.

Groundwater Resources and Issues

Residents of the City of Afton obtain their drinking water from groundwater through private wells. This makes it especially important to ensure that these aquifers are uncontaminated, protected from future contamination and provide adequate supplies. In 2001, the City of Afton conducted a Water Resource Evaluation. In 2003, Afton worked along with the county, other communities on the 2003 Legislative Commission on Minnesota Resources (LCMR) grant for determining the long-term sustainability of groundwater in the Woodbury/Afton area.

There is more information in the groundwater section in the City of Afton Comprehensive Plan.

IV. POLICIES AND GOALS

Policy Statement

The City of Afton is committed to a goal of no adverse impact (nondegradation) of the water resources within and adjacent to its jurisdiction. Surface water resources within the City represent a significant asset to the City's residents and to their quality of life and protecting these resources is a high priority of the City.

The City of Afton understands and supports the need for coordination between the City, landowners, the watershed management organizations of which it is a part, and other local, state and federal agencies in managing its surface water resources.

Watershed Management Organizations

Surface water resource policies in Afton are managed by the City through ordinances and the three watershed management organizations within the City.

Surface Water Management Goals

Goal 1: The City of Afton is committed to a goal of no adverse impact (nondegradation) of the water resources within and adjacent to its jurisdiction.

Policy: The City will work cooperatively with the VBWD, SWWD and MSCWMO, state and federal agencies, local governments, landowners and other interested parties to protect local surface waters and ground water for the benefit of current and future generations.

Policy: The City supports the continued enforcement of rules and regulations by the VBWD, SWWD and MSCWMO within the boundaries of the City of Afton.

Policy: The City will refer development and land alteration projects within the City to the appropriate watershed management organization in accordance with the required procedures and notification requirements for comments and applicable rules, regulations, and permit requirements.

Policy: The City will jointly work with applicable watershed management organizations to identify existing or future flooding, water quality and natural resource problems.

Policy: The City will continue to enforce and administer DNR shoreland and floodplain ordinances.

Policy: The City will continue to administer regulations relating to ensuring compliance and maintenance of subsurface sewage treatment systems, in cooperation with Washington County.

Policy: The City will work cooperatively with SWWD to ensure compliance with all applicable standards and rules as identified in Section 7.3.1 of the SWWDs Watershed Management Plan.

Policy: The City acknowledges the SWWD's Measures of Success as an annual evaluation tool.

Goal 2: The City of Afton will maintain its Zoning, Subdivision and other land use regulations in a manner consistent with the rules and requirements of the VBWD, SWWD and MSCWMO and state agencies.

Policy: The City will review and update, as necessary, its Zoning and Subdivision ordinances and review procedures related to development and alteration of the landscape to reflect the performance standards and requirements set forth in Section 5 of the MSCWMOs 2006 Watershed Management Plan, SWWD Watershed Management Plan (as amended) and Sections 4 and 5 of the VBWDs 2006 Watershed Management Plan. These ordinance revisions will take place after the adoption and approval of the City's Comprehensive Plan by the Metropolitan Council.

Goal 3: The City will manage its wetland resources to preserve their natural functions

Policy: The City will conform to the wetland standards, rules and management plans set forth by the SWWD, VBWD and MSCWMO.

Policy: The City will implement its Zoning and Subdivision ordinances to ensure adequate protection of wetlands and their functions during and after development.

Policy: The City will continue to recognize the VBWD as the permitting authority for the purposes of the Wetland Conservation Act within the boundaries of the VBWDs jurisdiction.

Policy: The City will continue to recognize the Washington Conservation District (WCD) as the permitting authority for the purposes of the Wetland Conservation Act outside of the boundaries of the VBWD. SWWD can also serve as the LGU within that district.

Goal 4: The City will manage and protect its groundwater resources

Policy: While the City does not provide public waters supply, it will cooperate with local watershed management organizations and applicable state agencies in protecting and managing the quantity and quality of groundwater as well as groundwater recharge areas.

Goal 5: The City will manage and protect its lakes.

Policy: The City supports the VBWDs goals and classification system for managing lakes and will work with watershed management organizations in achieving their lake management goals.

Policy: The City will implement its Comprehensive Plan and zoning and subdivision regulations to protect shoreland areas and lake water quality.

Policy: The City will adhere to the surface water runoff treatment and detention standards and requirements of the VBWD, SWWD and MSCWMO. Where necessary, the City will amend its zoning and subdivision ordinances to reference or explicitly state these requirements.

V. ASSESSMENT OF PROBLEMS AND CORRECTIVE ACTIONS

The City of Afton has identified the following items for implementation:

1. Routine maintenance of culverts, erosion control, and street sweeping.
2. CR 21 drainage and water quality improvements within the Old Village. The City has identified options to improve water quality and reduce phosphorus. The proposed improvements will be coordinated with VBWD.
3. The Old Village floods from three sources: the St. Croix River, Kelle's Coulee and runoff from the Bluff which damages property as it flows freely through town. The Bluff in Afton is a unique physical feature that is associated with the St. Croix River topography.

The City held a public task force to identify issues and needs within the Old Village. Through that process it was identified that water from the bluff gets into people's basements, causes damage to outdoor structures and City infrastructure. Those living along Kelle's Coulee have also had damages due to flooding. These damages are amplified in years when the River floods.

The sources of flooding are integral to each other because the levee blocks the landward flow. Thus they all need to be addressed to effectively minimize property damages and reduce those costs resulting from reoccurring flood events. The following is proposed to address each source of flooding:

- St. Croix River Flooding– Levee reconstruction and accreditation (pump station, seepage system and storage basins) and associated work
 - Kelle's Coulee Flooding – Levee Bypass system
 - Bluff Runoff Flooding– Local system to collect runoff from the bluff and convey it safely to the Levee pump station
4. Fecal Coliform found in well tests in the Old Village. The City is working with MPCA to identify solutions to treat sanitary sewage and they are also working on water quality improvements.
 5. Lake St. Croix TMDL the City is identifying options and working on funding sources for meeting the phosphorus reduction goals.
 6. Development pressure and its impact on natural resources. The City would like to develop a Natural Resource Conservation Plan.
 7. The City incorporates the VBWD, MSCWMO, and SWWD plans by reference and concurs with water quality and quantity related problems, corrective actions to be implemented, and priorities related to these corrective actions.

A summary of the problems, corrective actions and priorities identified by the watershed management organizations within or adjacent to the City of Afton are as follows:

Impaired Waters

The City of Afton does not contain any water bodies on the current MPCA 303d Impaired Waters List within its boundaries. However, the City does have land which discharges to the St. Croix River/Lake St. Croix, which is listed an impaired water.

Lake St. Croix, the lower 25 miles of the St. Croix Basin between Stillwater, MN and Prescott, WI, was designated an impaired water in 2008 for excess phosphorus. The TMDL will be jointly developed by the Wisconsin Department of Natural Resources (WDNR) and the Minnesota Pollution Control Agency (MPCA) with support from the St. Croix River Water Resources Planning Team; an interagency planning team consisting of federal, state and local members formed to work together to protect and enhance the water resources in the St. Croix River Basin. The goal developed by the planning team is a 20-percent reduction in total phosphorus loading to the River. The CR 21 SWMP includes options to meet these goals for that drainage area.

The City of Afton will cooperate with the relevant agencies and the St. Croix River Water Resources Planning Team once the TMDL is completed and in efforts to implement the TMDL study results.

Saint Croix River

The St. Croix River is the common resource for the watershed management organizations that have jurisdiction in the City of Afton. The river is classified as a National Wild and Scenic River, and is a resource at the national, state and local levels. Efforts to manage the water quality of the river may impact future land use and development activities within the City of Afton as well as other communities within the St. Croix River Basin.

The St. Croix River Basin Planning Team identified water quality degradation of the St. Croix River as a significant issue. Increased urbanization and agricultural activities in the St. Croix River Watershed are predicted to lead to continued decline in the river's water quality. To prevent this degradation, the St. Croix River Basin Planning Team established a goal to reduce nutrient loading to the St. Croix River Basin by twenty (20%) percent.

The City of Afton will work with the VBWD, SWWD and MSCWMO to enforce their policies/rules in an effort to protect the quality of the St. Croix River. The City will also work closely with all three watershed in their efforts to protect and improve the quality of the watersheds. The City will also manage land use through its Zoning and Subdivision ordinances to help protect the St. Croix River and its associated bluffs and natural resources.

Valley Branch Watershed District

The VBWDs 2005 Plan identifies the following significant issues that affect surface waters within the City of Afton:

- Water quality degradation due to agricultural and residential land uses and management.
- Potential erosion and sedimentation, and resulting pollution due to development.
- Current and potential flooding issues, particularly among the landlocked basins in the District.

The VBWD has also created Individual Watershed Management Plans for each of its sub-watersheds. A listing of the sub-watersheds within the City of Afton and a summary of the issues identified for each are as follows:

- Rest Area Pond Watershed – Rest Area Pond is located in West Lakeland Township however there is a section of Afton which drains to this water body. The VBWD will manage Rest Area Pond as a Surface Water Pond water body. Water quality is viewed as poor, but has improved somewhat in recent years. Management efforts will include monitoring water quality, preserving its function as a surface water pond and studying the possible impacts of curlyleaf pondweed infestation to the St. Croix River.
- Fahlstrom Pond Watershed – The VBWD will manage Fahlstrom Pond as a Low Priority water body. Water quality is viewed as poor. Management efforts will include monitoring water quality and conducting an assessment of wetland functions.
- Lake Edith Watershed – The VBWD will manage Lake Edith as a High Priority water body. Water quality is viewed as excellent and drains to an outstanding resource value water (Valley Creek). Management efforts will include monitoring water quality, conducting an assessment of wetland functions, and management of macrophytes (lake plants) including curlyleaf pondweed infestations.
- Valley Creek Watershed – The goal for the Valley Creek watershed is to preserve its water quality and trout stream habitat. The creek is entirely within private ownership and there is no public access. The Minnesota Department of Natural Resources (DNR) has recommended management in order to maintain its current dissolved oxygen concentration, avoid increases in water temperature and avoid increased discharge. The 2002 *Valley Creek Sub-watershed Plan* identifies specific recommendations for the City of Afton, the VBWD, landowners and others. Management efforts will include monitoring water quality, continued funding of a volunteer stream monitoring program, continued implementation of stabilization projects, incentives and technical assistance for removal of problematic flood control structures, coordination with other agencies to reduce thermal impacts of in-stream ponds and facilitation of meetings with individuals interested in protecting the creek.

- St. Croix Watershed – VBWD has no specific water quality management plan for the St. Croix River because so many agencies have jurisdiction over the St. Croix.

South Washington Watershed District

The SWWD adopted its latest Watershed Plan in 2007. Within that plan, the District identified issues within each of its sub-watersheds. The portion of Afton that is currently within the District’s jurisdiction is located in its “Northern” sub-watershed. Of the issues identified that were specific to the northern sub-watershed, none are directed exclusively at land within the City of Afton.

Generally, the SWWD identifies the following as its primary goals:

- Floodplain Management – Opportunistically manage floodplains for multiple, non-development uses.
- Stormwater Runoff Rate and Volume – Minimize existing and future potential damages to property, public safety, and water resources due to flood events.
- Water Quality – Maintain, or where practical improve, the water quality of wetlands and water bodies within the District.
- Wetlands – Manage the quantity and quality of wetlands within the watershed for their best function in a rapidly urbanizing environment.
- Natural Resources and Recreation – Participate in conservation or creation of key natural areas with respect to habitat, wildlife, or recreation.
- Groundwater – Pursue a sustainable balance between surface water management, land use activities, and groundwater integrity.
- Erosion and Sediment Control – Facilitate erosion control and reduce impacts to wetlands and water bodies from sedimentation.
- Education – Heighten the awareness of key constituencies within the District, sufficient to modify behavior to improve the recognition and implementation of District policies, programs and activities.
- Long Range Work Planning and Financing – Utilize District funds to initiate or support long range work plan projects which reduce flooding or otherwise benefit key District resources.
- Data Management – Collect and manage data in a manner which maximizes the availability to and use by constituents of the District.

The LSCWMO dissolved thus the Kelle's coulee sub-watershed is now within VBWD and the Trout Brook sub-watershed is now within SWWD. This information is from the LSCWMO WMP and will most likely be used as a basis by VBWD and SWWD as they incorporate these new areas. Until VBWD and SWWD are able to update their plans they will use the LSCWMO 2009 WMP for those respective areas.

- Kelle's Coulee – Kelle's Coulee is a groundwater supported stream that has been identified by the LSCWMO as one of the highest priority surface water resources in the watershed. It was also identified as a key natural resource in the City of Afton's Natural Resource Inventory (EOR, 2001). Increased development within the Kelle's Coulee watershed has the potential to increase the rate and volume of flow within the stream, thus leading to increased erosion of the streambed, potential flooding in the downstream reaches and an overall loss of habitat. Water quality within Kelle's Coulee may also be impacted by development within the watershed. Additional evaluation of Kelle's Coulee is available in the LSCWMO Kelle's Coulee Management Plan.
- Trout Brook – Trout Brook has been identified by the LSCWMO as one of the highest priority surface water resources in the watershed. This stream is groundwater supported and provides habitat and water temperatures suitable for trout. Due to urbanization, trout streams are rare in the Metro Area and their protection has been identified as a priority by the MN Department of Natural Resources (DNR). Increased development within the Trout Brook watershed has the potential to increase the rate and temperature of flow as well as nutrient concentrations within the stream, thus threatening its ability to support trout. Identification and protection of the groundwater recharge area for Trout Brook will also be important to its long-term management.
- St. Croix River – The St. Croix River forms the eastern boundary of the watershed with approximately 12 miles of shoreline. The River is not only a key resource of the LSCWMO but also a key resource regionally. The primary issues concerning the St. Croix River are bluff line/stream bank erosion and watershed nutrient loading. Several erosion areas have been identified along the St. Croix and it is likely that many other eroded or erosion prone areas exist.

In addition to Kelle's Coulee and Trout Brook, there are several small coulees, ravines and intermittent streams which outlet into the St. Croix from the Lower St. Croix (LSC) watershed. The St. Croix River Basin Planning Team has identified a goal of improving the water quality in the St. Croix River. (St. Croix Basin Water Resources Planning Team, 2004). Cooperation with local watershed authorities is needed to achieve this goal and protect the St. Croix River as an outstanding regional water resource.

- Erosion and Sedimentation Along Trout Brook, O'Connors Creek and Kelle's Coulee – Trout Brook, O'Connors Creek and Kelle's Coulee contain areas of significant erosion and sedimentation as described in the Afton and Denmark Township Water Resource Inventories (WCD, 2002; WCD, 2001) resulting in impacts to fish habitat, degraded water quality, changes in channel morphology, and loss of property.

- Forest Fragmentation – The Kelle’s Coulee watershed contains large areas of Maple Basswood forest and the Trout Brook watershed has a very large area of Oak forest. These large tracts of forest have a critical function in defining the quantity and quality of water reaching watershed streams. Clearing or fragmentation of these areas is a likely consequence of development and may diminish this function.

Middle St. Croix Watershed Management Organization

The MSCWO has jurisdiction over only a small portion of the City of Afton – a 0.18 square mile area in the area of Croixview Drive adjacent to the City of Lakeland. The MSCWOs 2006 Watershed Management Plan identifies a number of general issues affecting water quality within the watershed, although none are directed exclusively at land within the City of Afton.

Generally, the MSCWO identifies the following as its priority issues:

- Preventing projects that may negatively impact the groundwater pollution plume
- Protecting areas near the St. Croix River for flood control
- Decreasing nutrient loading into the St. Croix River
- Decreasing the potential for future flooding issues in or adjacent to land-locked basins
- Decreasing the impacts of developed areas on the water resources of the watershed through Best Management Practices.
- Protecting valuable resources in undeveloped sub-watersheds as they are defined by future land cover classifications, wetland inventories and other assessment projects.
- Identifying and protecting high quality wetlands
- Preserving and protecting those areas with high or moderate ecological value as they are identified

VI. IMPLEMENTATION PRIORITIES AND PROGRAM

The City of Afton’s Implementation Program:

1. The City of Afton’s Land Use Code will be routinely updated to maintain consistency with the Watershed Management Organization’s plans. Chapter 12 of the Land Use Code (located on the City’s web site) includes the following surface water management sections:
 - a. Design and Performance Standards section 12-217
 - b. Shoreland Management section 12-409, the setback requirements are equal to or greater than the setback and buffer requirements included in the watersheds plans. The City’s set back requirement within the shoreland management ordinance is 200 feet from the wetland edge. The wetlands edge is determined by an approved delineation.
 - c. Subdivision section 12-1383 and 12-1429.

These sections address erosion control consistent with NPDES surface water permit requirements. On all projects, whether or not they require a permit, the City requires NPDES erosion control and sediment control measures are met. The City of Afton will review its permitting and subdivision approval procedures to ensure that it incorporates the MPCA's General Surface Water Permit for Construction Activity requirements for development near special waters, as specified in Appendix A part C.1-5 of the General Permit.

The City in collaboration with the watersheds ensures that best management practices meet the current standards. In addition the City has specific BMPs for the Old Village area, found in Appendix B.

2. The City is working with Washington County on a drainage plan for the watershed tributary to the Old Village. This plan will include proposed drainage improvement to meet water quality requirements and TMDL requirements. The City will work with VBWD to obtain grant funding for their BMP program.
3. The City is working on obtaining state funding to help mitigate flooding within the Old Village. The City will also work with VBWD to obtain funding for flood related projects and the Kelle's Coulee bypass within the Village.
4. To reduce fecal coliform in the ground water, the City is considering sanitary sewer options for the Old Village and is on the MPCA's 2011 project priority list.
5. The City of Afton supports and will cooperate with the VBWD in efforts to address the thermal pollution effects from development near the City's trout streams.
6. The City of Afton will adopt the VBWD, MSCWMO and SWWD Plan's by reference. The City supports the regulation of developments and land-altering activities by:
 - a. Updating and enforcing its Zoning and Subdivision ordinances as determined necessary or desirable
 - b. Support the use surface water practices that promote infiltration/filtration and decrease impervious areas where practical
 - c. Support the development and use of best management practices to improve surface water quality and quantity and the maintenance schedule for the best management practices.
7. The City will continue to inspect and maintain culverts, outfalls, and drainage systems along City roads and on City properties. The City includes maintenance of these facilities and street sweeping in its annual budget, and implements maintenance and improvements as needed to ensure that these facilities function adequately.

8. The City will assess the need to establish a local spill containment clean-up plan or any other necessary management programs.
9. The City will meet the SWWDs requirements to:
 - a. Adopt and include copies of DNR approved Floodplain and Shoreland ordinances.
 - b. Adopt a regional water quality protection strategy that is consistent with the SWWD water quality and water body standards. The SWWD standards can be found within their WMP Table 6.1.
 - c. Include a groundwater protection component consistent with Washington County's Groundwater Management Plan or method to adopt measures.
 - d. Develop methods to address flooding, water quality, and natural resource problems.
 - e. Establish 100-yr high water levels and peak flow rates for all water bodies in the drainage system.
 - f. Plan for a ponding and drainage system that meets the SWWD allowable peak flow rates and regional assessment location criteria.
 - g. Establish a minimum 3 foot freeboard standard for ponding areas in the drainage system.

VII. FINANCIAL CONSIDERATIONS

The City of Afton continues to have surface water facility maintenance and planning in their annual operating budget. In addition, they have completed a 5 year Capital Improvement Plan (CIP) found in Appendix C. The City is working on a funding plan for flood mitigation and surface water quality improvements within the Old Village; some of this work is reflected in the CIP. The City's support of the watershed management plans and corrective actions should not directly impact the City's budget as their plans are funded through the taxing authority of the districts.

VIII. AMENDMENT PROCEDURES

The City will provide draft copies of their SWMP to the watershed districts for review and comment. The surface water plan will be adopted by the City as part of the Comprehensive Plan.

The City will update this plan within two years after the latest watershed management organization plan update. The MSCWMOs Plan is scheduled to expire in 2014. The VBWDs Plan is scheduled to expire in 2015 and the SWWDs Plan scheduled to expire in 2017, although these plans are likely to be updated sooner depending on how and when the LSCWMOs former jurisdictional boundaries are distributed to the VBWD and SWWD.

City of Afton 2007 Community Survey

As part of its Comprehensive Plan updating process, the City of Afton sent this survey to residents as part of the June issue of the Afton Newsletter. Approximately 1200 copies were sent out and 434 were returned. Since several questions provided space for two respondents, we heard from a total of 743 individuals or approximately 37% of the adult population. Note, however, that not all respondents responded to every question. This report summarizes the basic statistics of the responses to the survey.

The last general survey, conducted in 1997, was the basis for this year's survey. Where the questions are the same, the 1997 survey results are shown in parentheses ().

Current Land Use

1. How would you describe the primary use of your land in Afton?

Agriculture

| | | |
|--------------|----|-------|
| Crop Land | 9% | (10%) |
| Pasture | 7% | (4%) |
| Livestock | 4% | (0%) |
| Other Ag use | 4% | (3%) |

Residential

| | | |
|--------------------------|-----|--------|
| Owner Occupied | 94% | (84%) |
| Rental | 2% | (2%) |
| Vacant | 0% | (3%) |
| Commercial or Industrial | 1% | (0.8%) |
| Other | 0% | (1%) |

2. What are your long term (10-15 years from now) plans for your land?

| | | |
|--------------------------------|-----|-------|
| Continue existing use | 83% | (84%) |
| Change the use | 3% | (2%) |
| Sell all the land | 2% | (3%) |
| Sell part of the land | 1% | (1%) |
| Pass on land to family members | 7% | (2%) |
| Long term plans are unknown | 10% | (5%) |

3. How many acres of land or lots in the Old Village do you own in Afton?

| | | |
|-------|-------------------------------|----------------------------------|
| Acres | Average 11.8 acres (11 acres) | Range 0-1200 acres (0-200 acres) |
| Lots | Average 1.1 lots (n/a) | |

General Priorities

4. What do you like best about living in Afton? Choose up to three reasons.
[Listed in descending order of preference.]

| | | |
|--|-----|-----------------|
| Rural location and separation of homes from each other | 66% | (301 responses) |
| Lots of open space | 65% | (250 responses) |
| Presence of active farms and agriculture | 49% | (184 responses) |
| Proximity to the St. Croix River | 38% | (98 responses) |
| Good location and access for my needs | 25% | (76 responses) |
| The Old Village area | 20% | (44 responses) |
| Reasonable taxes | 14% | (31 responses) |
| Good schools | 13% | (43 responses) |
| Community identity | 12% | (14 responses) |
| Other | 4% | (18 responses) |

[Notes: Many respondents selected more than three reasons in 2007. The 1997 report included actual counts instead of percentages.]

5. In general, which of the following topics should the city focus its efforts and funds on during the next 10 years?

| Yes | No | No Opinion | |
|-----------|-----------|---------------|--|
| 84% (82%) | 2% (5%) | 8% (13%) | Preservation and improvement of groundwater and surface water quality |
| 71% (65%) | 8% (24%) | 13% (10%) | Preservation of agriculture and hobby farming as a viable, economic land use |
| 80% (89%) | 8% (4%) | 4% (6%) | Preservation of a rural lifestyle (low density, large lots, private wells and septic tanks) |
| 28% (26%) | 44% (45%) | 24% (29%) | Improve active parks and recreation (ball fields, skating, and play areas) |
| 51% (47%) | 29% (32%) | 14% (21%) | Increase passive parks and recreation (picnic, nature study, hiking) and open space (wildlife areas, conservation preserves) |
| 21% (13%) | 64% (69%) | 7% (18%) | Enhance opportunities for housing diversity (i.e., greater variety of price ranges and housing types – apartments townhouses and condominiums) |
| 33% (21%) | 42% (48%) | 17% (30%) | Improve public access to the St. Croix River |
| 43% (45%) | 35% (26%) | 13% (27%) | Preserve and encourage commercial development in the Old Village |
| 50% (50%) | 28% (30%) | 13% (19%) | Establish non-motorized trails (walk/hike, bike, skate, ski) |

Parks, Recreation and Open Spaces

The City has one active, developed park, Town Square, and a passive park along the St. Croix River, Steamboat Park. Both are located in the Old Village in Ward 1.

6. Do you want additional parks developed? Yes 18% (n/a)

7. If you want additional parks, where and what kind?

[Listed in descending order of preference.]

| Yes | No | Opinion | |
|-----------|-----------|-----------|---|
| 39% | 14% | 8% | Passive nature areas and open space preserves throughout Afton (n/a 1997) |
| 19% (21%) | 30% (50%) | 10% (29%) | Neighborhood parks in Wards 2, 3 and 4 |
| 12% (21%) | 32% (47%) | 11% (31%) | One active recreation area in Afton |

8. Would you support increased property taxes to acquire and develop any of these facilities? [Listed in descending order of preference.]

| | |
|-----------|---|
| 47% (n/a) | Passive nature areas and open space preserves |
| 41% (43%) | Non-motorized trails (walk/hike, bicycle, horse, ski, etc.) |
| 39% (34%) | Passive parks (picnicking, nature trails, fishing, swimming) |
| 19% (21%) | Active parks (baseball or soccer fields, ice skating or hockey rink, tennis courts, sand volleyball or basketball courts, playground equipment) |
| 7% (4%) | Motorized trails (motorcycle, snowmobile, ATV) |

What annual property tax increase would you accept to acquire and develop these facilities?

| | | | |
|----------------|-----------------|------------------|------------------|
| \$0: 21% (35%) | \$50: 12% (21%) | \$100: 13% (18%) | \$200: 12% (n/a) |
|----------------|-----------------|------------------|------------------|

9. What, if any, facilities should the City develop in Steamboat Park? *See other comments, p. 7*

Groundwater, Farmland and Rural Character

The preservation of ground water resources, prime farmland and the rural character of the City are principal goals of the current Comprehensive Plan.

10. Which of the following policies would you support to meet these goals? Choose all that you feel the City should use. [Listed in descending order of preference.]

| Yes | No | No Opinion | |
|-----------|-----------|---------------|---|
| 65% | 22% | 7% | Maintain maximum permitted density of 4 homes per 40 acres in the Agricultural District in the western 1/3 of the City (n/a 1997) |
| 61% (54%) | 27% (25%) | 6% (21%) | Public investment (taxes) to preserve environmentally sensitive areas such as trout streams, bluffs, ravines, wildlife habitat, wetlands, groundwater resources, steep slopes and floodplains) |
| 48% (42%) | 24% (28%) | 17% (29%) | Develop a means to transfer or purchase development rights to preserve prime farmland |
| 38% (37%) | 46% (47%) | 7% (21%) | Increase your property taxes to help place land in agricultural, scenic or other long-term conservation easements |
| 37% (28%) | 52% (57%) | 5% (15%) | Permitting new developments on large acreage to use clustered, small residential lots with significant additional land area in the development which cannot be built on in the future (for example, protected by use of conservation easements) |
| 31% (41%) | 51% (42%) | 11% (17%) | Increasing the minimum lot size from 5 to 10 acres in the Rural Residential Zoning District in the easterly 2/3 of the City |

11. Are Afton's traditional zoning regulations of 5 acre minimum lot size in the Rural Residential Zoning District in the easterly 2/3 of the City too restrictive?

Yes: 8%

12. Are Afton's current zoning regulations of 4 homes per 40 acres in the Agricultural District in the western 2/3 of the City too restrictive?

Yes: 18%

13. Are Afton's traditional zoning regulations of one-half acres in the Old Village too restrictive?

Yes: 8%

14. Washington County is in the process of implementing a county-wide 800 MHz radio system for public safety and public service organizations. Washington County is proposing that a 190 foot tall antenna tower be built in Afton to service the 800 MHz system. The desired location for the tower is north of County Road 18, south of Afton Hills, and ¼ to ½ miles east of Trading Post Trail. Afton's present ordinances do not permit the proposed antenna tower to be built in Afton. (n/a 1997)

| Should the City: | | | |
|------------------|-----|---------|---|
| Yes | No | No | |
| | | Opinion | |
| 45% | 41% | 7% | Change its ordinances to permit the building of the 190 foot tall antenna towers in Afton thereby allowing the proposed Washington County tower and possibly other towers to be built in Afton? (Federal laws contain equal access provisions for commercial providers) |
| 15% | 72% | 8% | Permit condemnation of land through the use of Eminent Domain (the involuntary forced taking of private property) to obtain a site for the antenna tower if a willing seller cannot be found? |
| 38% | 46% | 10% | Reject the Washington County 190 foot tower proposal? |

Historic Old Village Development

15. The historic Village of Afton has a small business district near the ST. Croix River with the majority of the Village consisting of single family residences.

| Should the City: | | | (n/a 1997) [Listed in descending order of preference.] |
|------------------|-----|---------|--|
| Yes | No | No | |
| | | Opinion | |
| 67% | 21% | 10% | Encourage or support the construction of new single family homes on the open lots that remain in the Old Village and generally encourage and preserve the primarily residential nature of the Old Village? |
| 56% | 30% | 9% | Permit multi-use (commercial street level and living space above) in the Old Village residential zoning district? |
| 23% | 71% | 3% | Permit high density multi-family housing such as condominiums, townhouses and mixed residential/commercial developments in the Old Village commercial zoning district? |

Light Industrial Area Development

16. Afton's current tax base is over 90% residential and agriculture. The City has a small light industrial area along I-94, east of Manning Avenue. Should the City promote more intense use of this area by providing municipal sewer services for:

| Yes | No | Opinion | |
|-----------|-----------|----------|----------------------------------|
| 37% (25%) | 44% (57%) | 7% (17%) | Light industrial/office |
| 30% (19%) | 55% (64%) | 5% (17%) | Retail shopping/commercial uses |
| 12% (10%) | 69% (70%) | 6% (19%) | Higher density residential areas |
| 23% (17%) | 55% (62%) | 8% (20%) | A mix of the above |

17. Afton recently changed its ordinances to expand the Light Industrial area into land located south of and adjacent to Hudson Road. A moratorium is currently in place, halting industrial development in the Light Industrial area.

| Yes | No | Opinion | |
|-----|-----|---------|--|
| 34% | 55% | 7% | Should the Light Industrial area extend to the south of Hudson Road (the I-94 frontage road)? (n/a 1997) |

City Finances and Services

18. How satisfied are you with the following services? Mark your opinion on the scale, with 1 being very dissatisfied, 5 very satisfied and N, no opinion.

| | |
|---------------------------------|--------------------|
| Paving of gravel roads | Average 3.66 (3.3) |
| General street maintenance | Average 3.06 (3.7) |
| Parks and recreation facilities | Average 3.70 (3.8) |
| Police services | Average 4.13 (4.1) |
| Fire protection services | Average 4.18 (4.2) |
| Building inspection services | Average 3.69 (3.7) |
| Assistance at City Hall | Average 3.57 (3.7) |
| Other public services | Average 3.35 (3.7) |

19. The City has traditionally adopted conservative budgets. Should the City budget and tax more or less for:

| More | Same | Less | |
|-----------|-----------|-----------|----------------------------|
| 17% (20%) | 50% (57%) | 27% (17%) | Paving gravel roads |
| 33% (11%) | 57% (78%) | 5% (5%) | General street maintenance |
| 19% (19%) | 58% (54%) | 15% (19%) | Parks and recreation |
| 10% (9%) | 78% (80%) | 3% (4%) | Police services |
| 11% (10%) | 77% (80%) | 3% (3%) | Fire protection |
| 3% (2%) | 65% (65%) | 14% (13%) | Other services |

20. Would you prefer that the City, to the extent possible, finance any increased spending through immediate tax increases, or through increased debt such as the recent four million dollar bond issuance for paving?

| | |
|----------------|-----|
| Tax increases | 20% |
| Debt (bonding) | 33% |

21. In general, how satisfied are you with City services?

Average 3.24 (3.6) 1 = very dissatisfied; 5 = very satisfied

Household Information

22. How long have you lived in Afton? Average 21 years (16 years) max. 85 years

23. What is/are your age(s)?

| | | | | | |
|----------|-----------|---------|-----------|-------|-----------|
| Under 30 | 1% (15%) | 30-39 | 9% (18%) | 40-49 | 23% (33%) |
| 50-59 | 36% (30%) | 60 plus | 32% (18%) | | |

24. Indicate the number of people within each age group living in your household:

| | | | | | |
|---------|-----------|-------|-----------|---------|----------|
| under 6 | 5% (7%) | 6-11 | 7% (10%) | 12-17 | 15% (9%) |
| 18-44 | 29% (30%) | 45-64 | 61% (36%) | 65 plus | 23% (7%) |

25. Do you live in the Old Village? Yes 7% (n/a 1997)

26. What is your marital status? Single 16% (17% incl. divorced, widow)
Married 75% (77%)

27. What is your household income before taxes? (optional)

| | | | |
|--------------------|----------|-------------------|-------------------------|
| Less than \$15,000 | 1% (1%) | \$55,000-74,999 | 7% (16%) |
| \$15,000-24,999 | 2% (4%) | \$75,000-99,999 | 11% (21%) |
| \$25,000-34,999 | 1% (6%) | \$100,000-124,999 | 9% (32% ...) |
| \$35,000-44,999 | 1% (9%) | \$125,000-150,000 | 7% (greater than ...) |
| \$45,000-54,999 | 4% (11%) | \$150,000 plus | 19% (\$100,000 in 1997) |

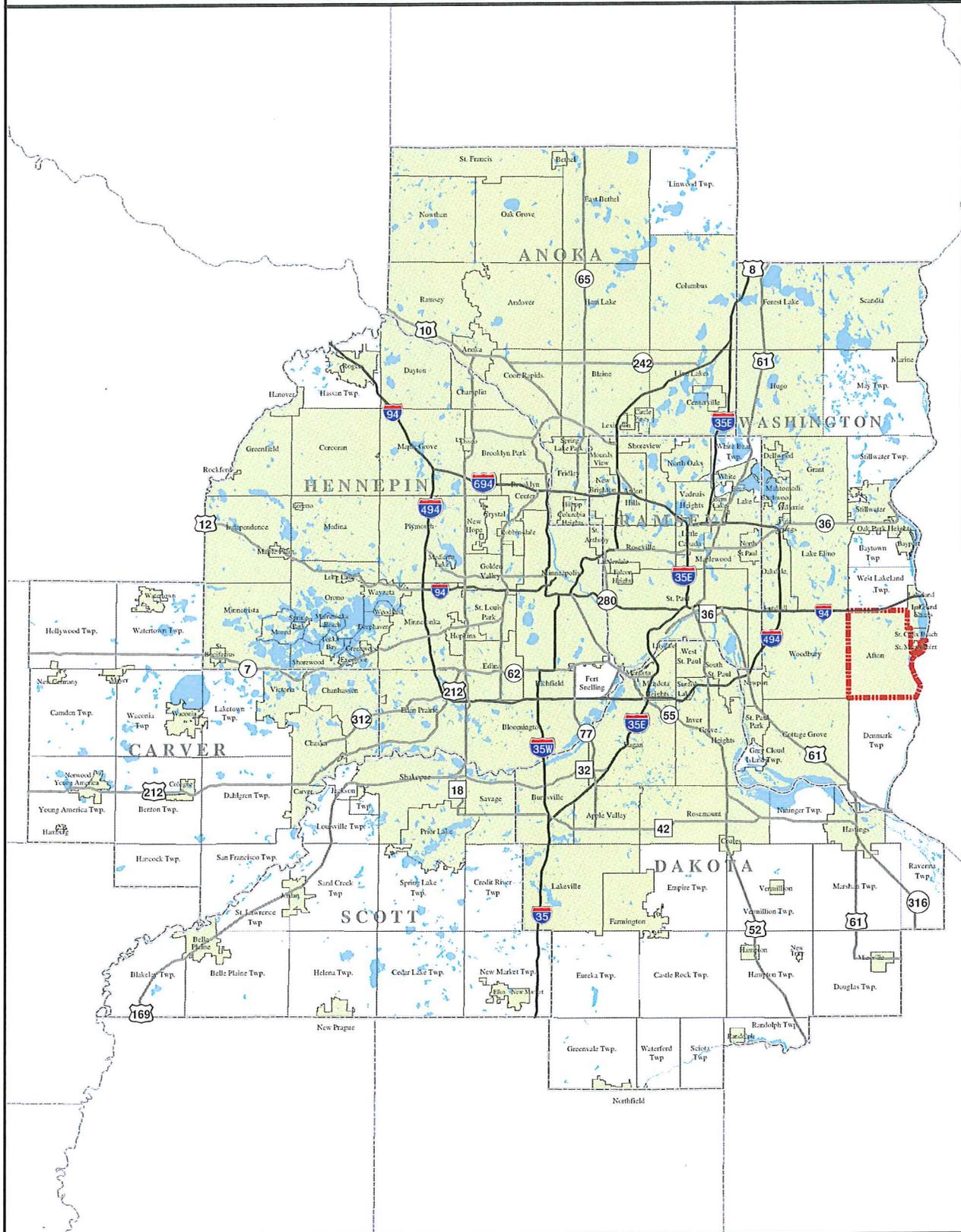
Other Comments

Many respondents included extensive write-in comments in addition to (or instead of) answering the specific questions on the survey form. The comments are very rich in their expansion of the survey questions and qualification of the answers to specific questions. All the comments are copied verbatim in a spreadsheet on the Afton city web site, www.ci.afton.mn.us/. The same spreadsheet contains all the raw answers to questions from the 434 surveys returned. Interested parties are urged to explore the diversity of responses available on the web page.

(JHF 9-2-07)

Appendix I – List of Maps

| | |
|--------|---|
| Map 1 | Regional Context |
| Map 2 | Soil Suitability |
| Map 3 | Prime Agricultural Land |
| Map 4 | Physical Features |
| Map 5 | Topography |
| Map 6 | Current Land Use – Use Types |
| Map 7 | Current Land Use – Natural & Developed Uses |
| Map 8 | Historic Sites |
| Map 9 | Future Land Use |
| Map 10 | Parks and Open Space |
| Map 11 | Zoning |
| Map 12 | Urbanization |

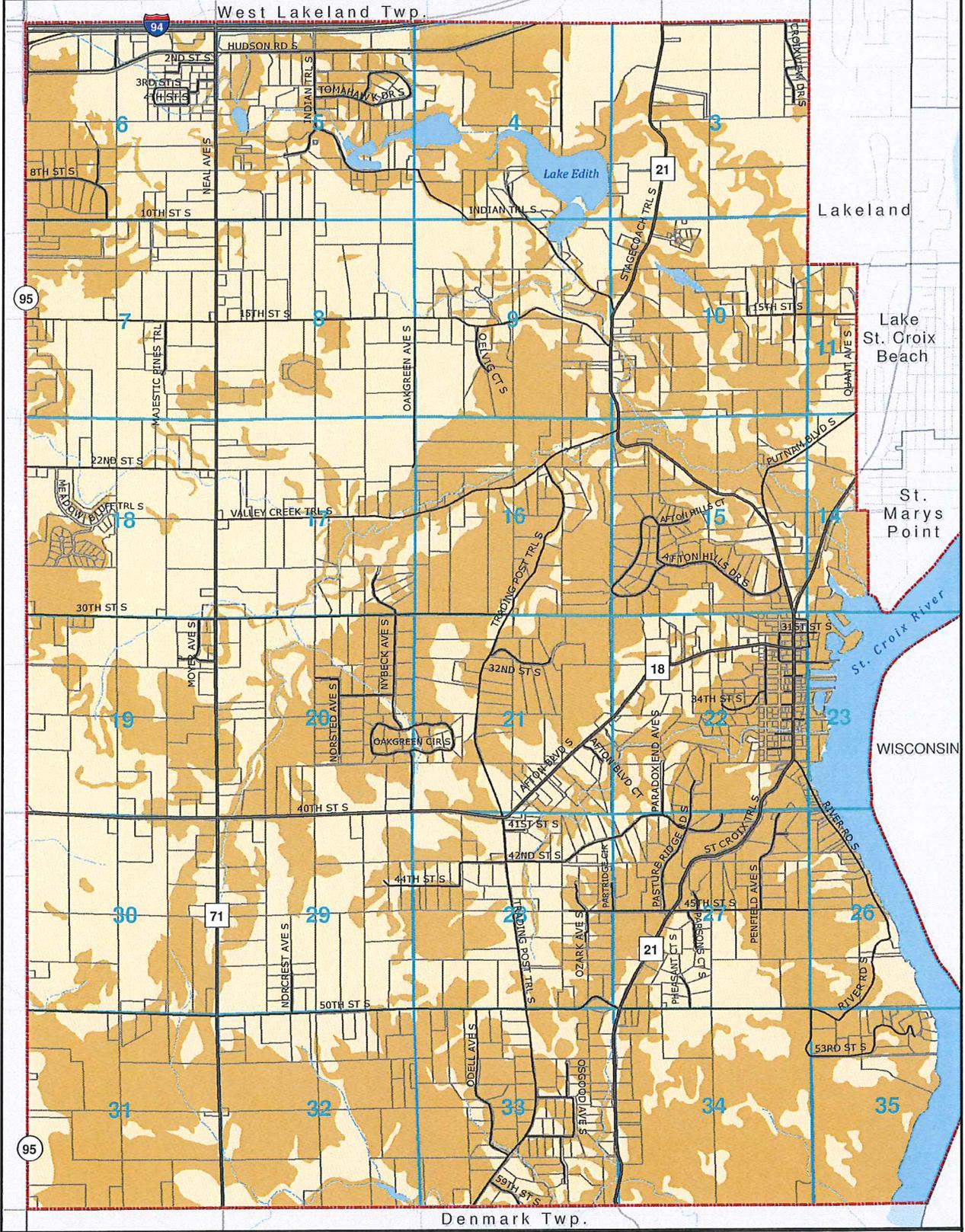


- City of Afton
- Major Highway
- Metro Area County Boundaries
- Interstate
- City
- Lakes & Rivers
- Township or Unorganized



General Soil Suitability for Septic Systems

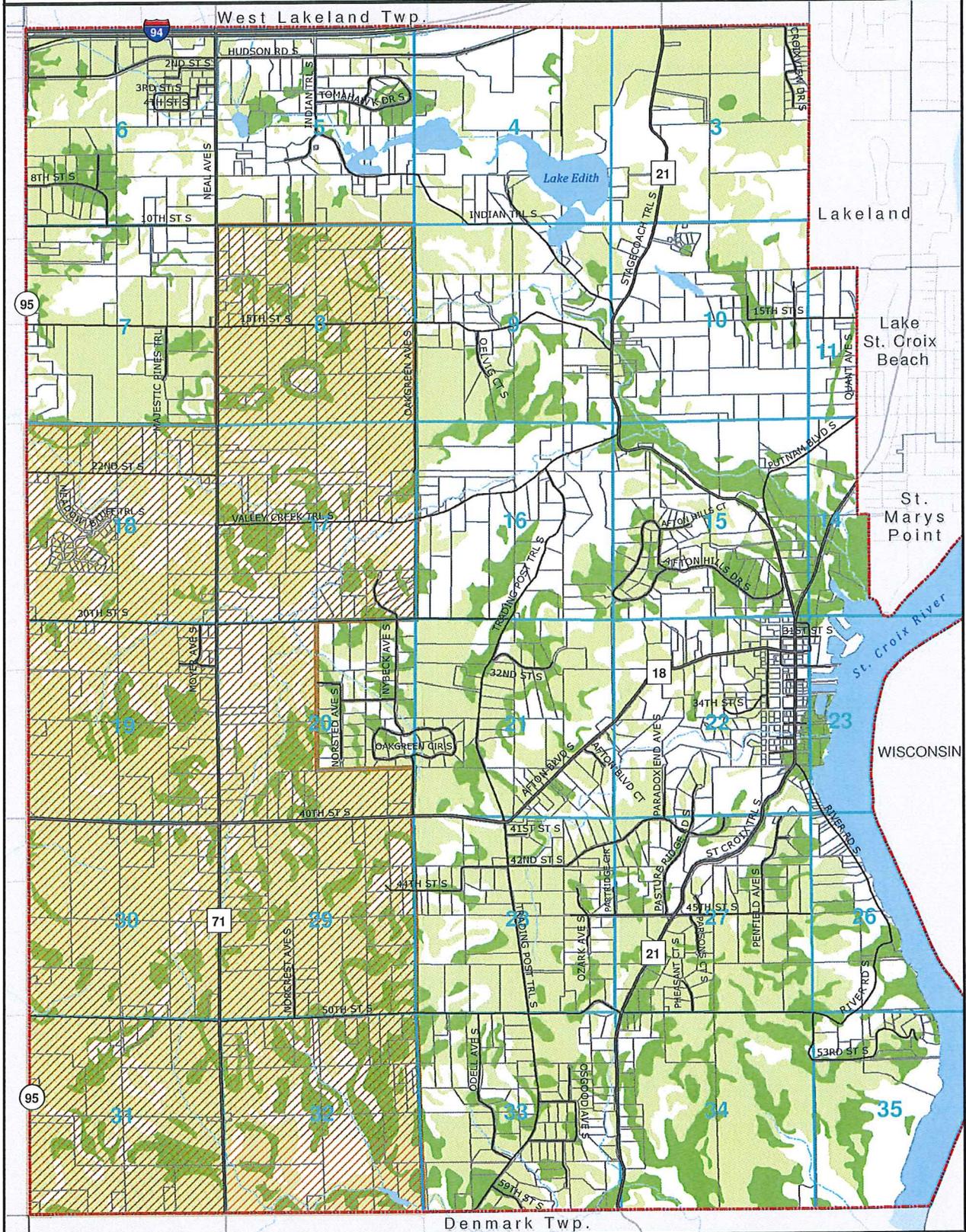
MAP 2



| | | | | | | | |
|---|-------------------|----------------|---|-----|---|-------|--|
| General Soil Suitability for Septics | Section Lines | Lakes & Rivers | 0 | 0.5 | 1 | Miles | |
| Unsuitable for Septic | Parcel Boundaries | Streams | | | | | |
| Suitable for Septic | Major Roads | Local Road | | | | | |
| City of Afton | | | | | | | |

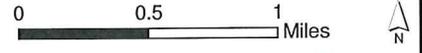
Prime Agricultural Land

MAP 3



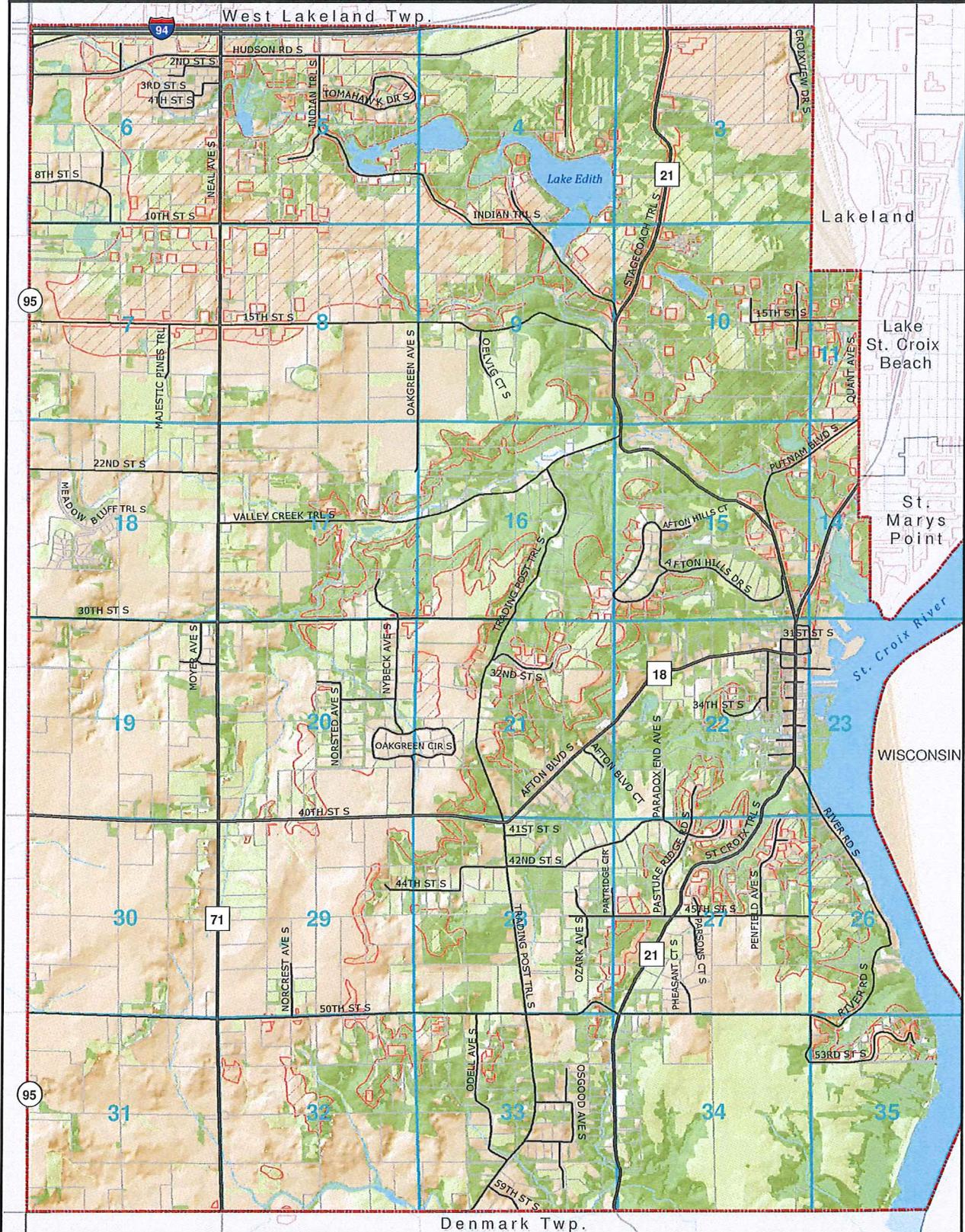
- Agricultural Class**
- Prime Soils (Class I & II)
 - Soils of Statewide Importance
 - Area Meeting Met Council Prime Ag Criteria
 - City of Afton

- Section Lines
- Parcel Boundaries
- Major Roads
- Local Road
- Lakes & Rivers
- Streams



Physical Features

MAP 4

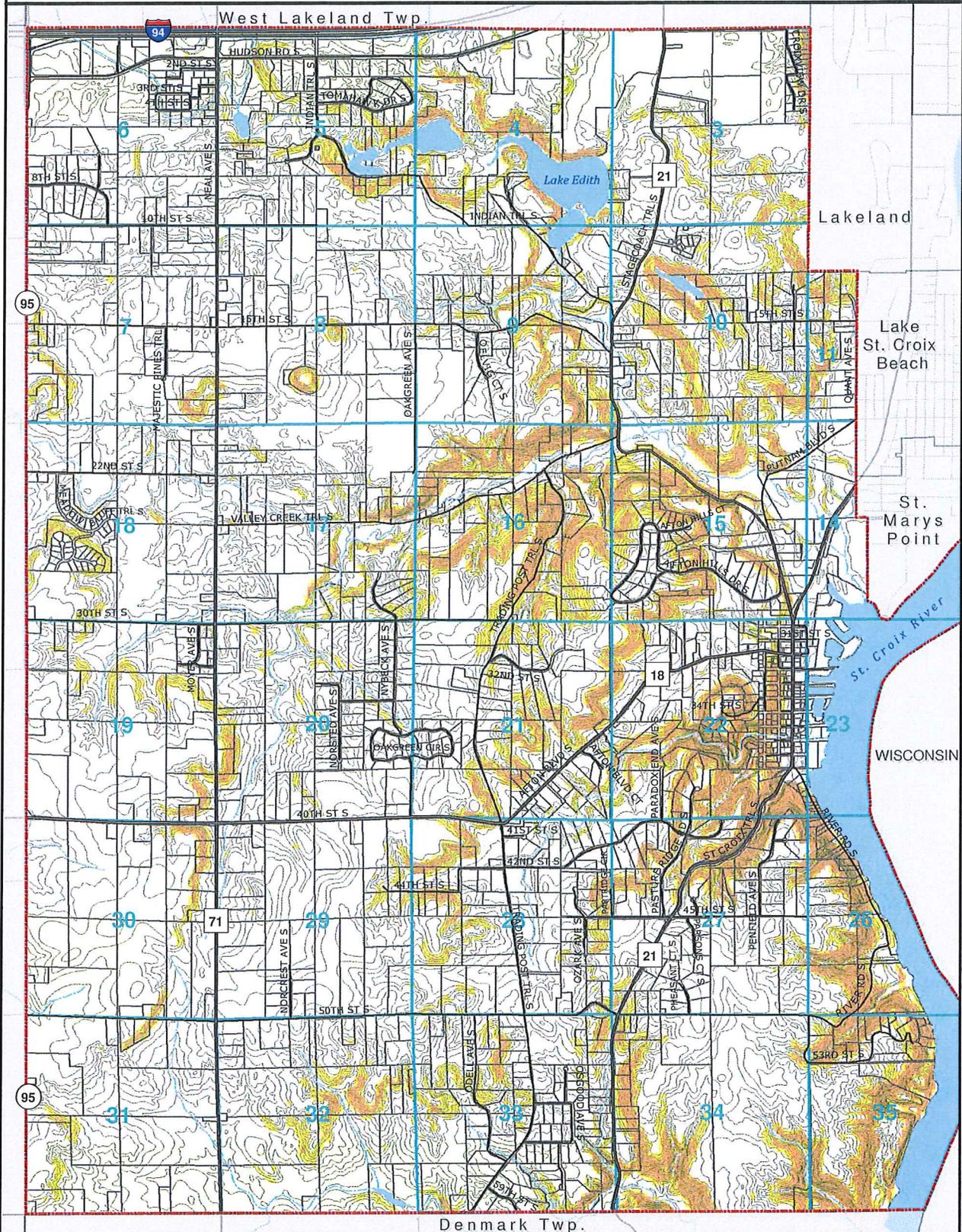


- | | |
|----------------------------|-------------------|
| Natural Features | Section Lines |
| Brushland and Grassland | Parcel Boundaries |
| Tree Cover | Major Roads |
| Wetlands | Local Road |
| Aggregate Resources (2020) | Lakes & Rivers |
| City of Afton | |



Topography & Steep Slopes

MAP 5

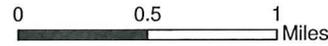


Steep Slopes

- Slope Greater than 12%
- Slope Greater than 18%
- 10-Foot Contours

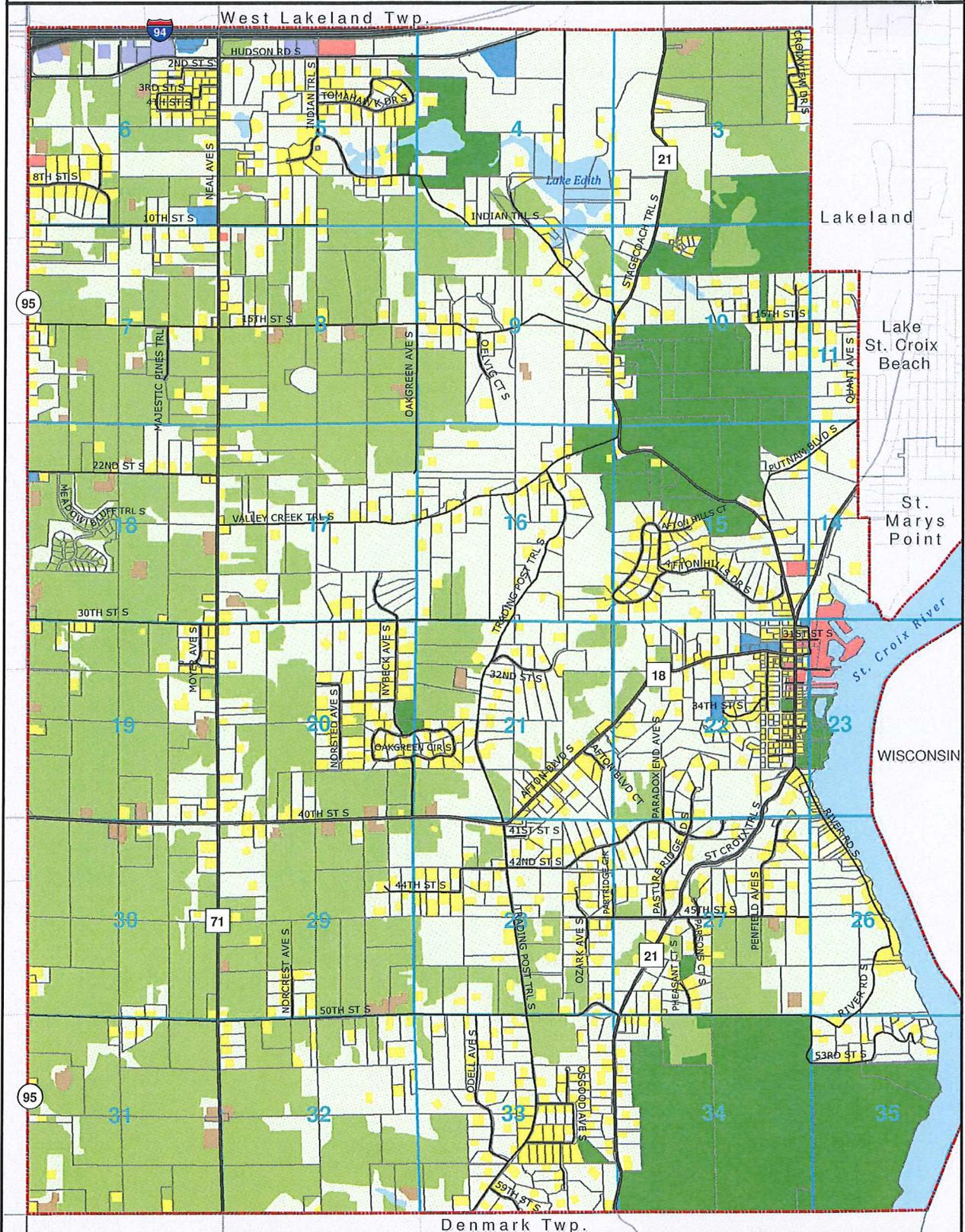
- City of Afton
- Section Lines
- Parcel Boundaries

- Major Roads
- Local Road
- Lakes
- Streams



Current Land Use - Use Types

MAP 6

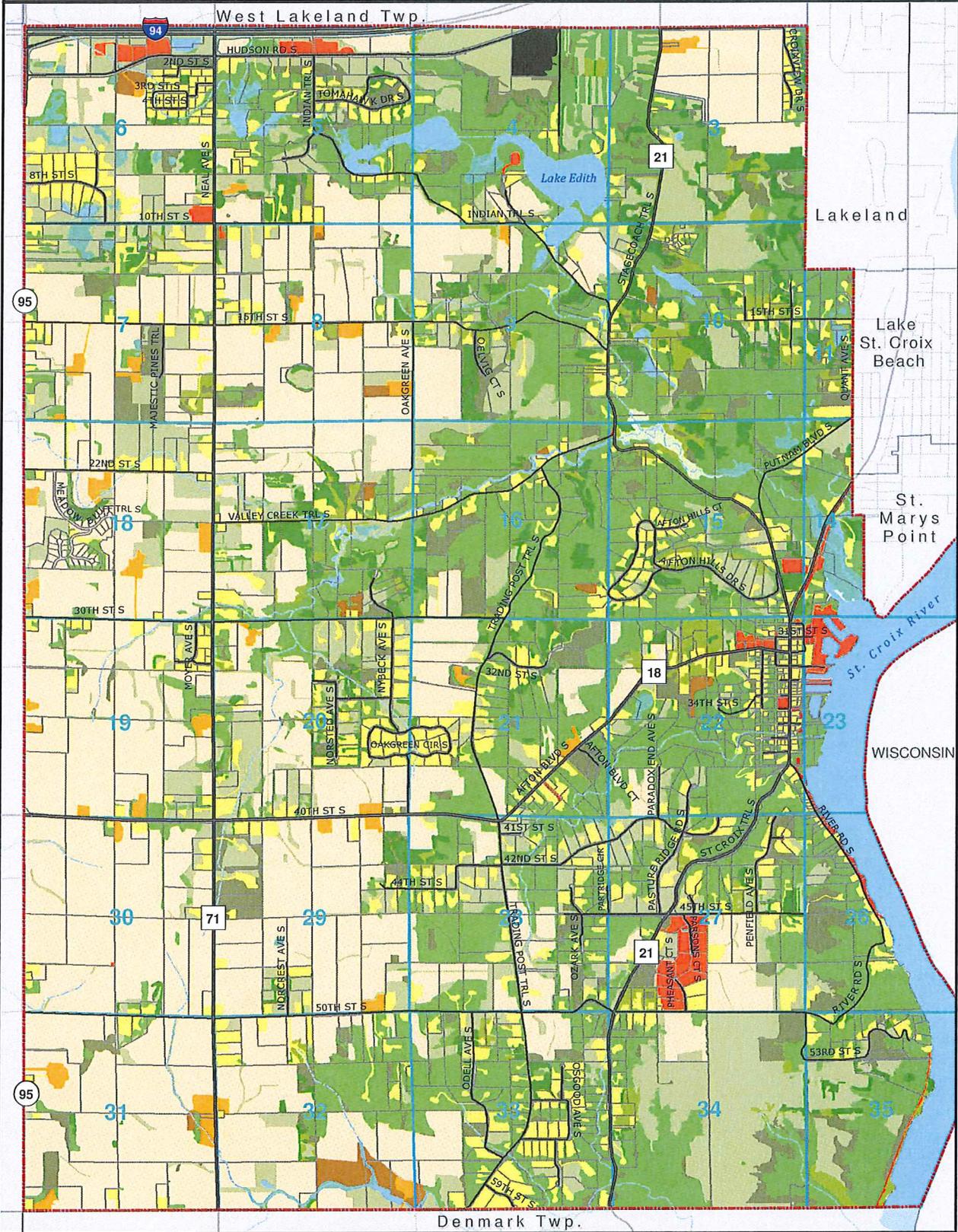


| | | | | |
|-----------------------------|--------------------------------|-------------------|---------------|--|
| Farmstead | Institutional | City of Afton | 0 0.5 1 Miles | |
| Seasonal/Vacation | Park, Recreational or Preserve | Parcel Boundaries | | |
| Single Family Detached | Major Highway | Section Lines | | |
| Multifamily | Agricultural | Major Road | | |
| Retail and Other Commercial | Undeveloped | Local Road | | |
| Industrial and Utility | Water | | | |



Current Land Use - Natural & Developed

MAP 7

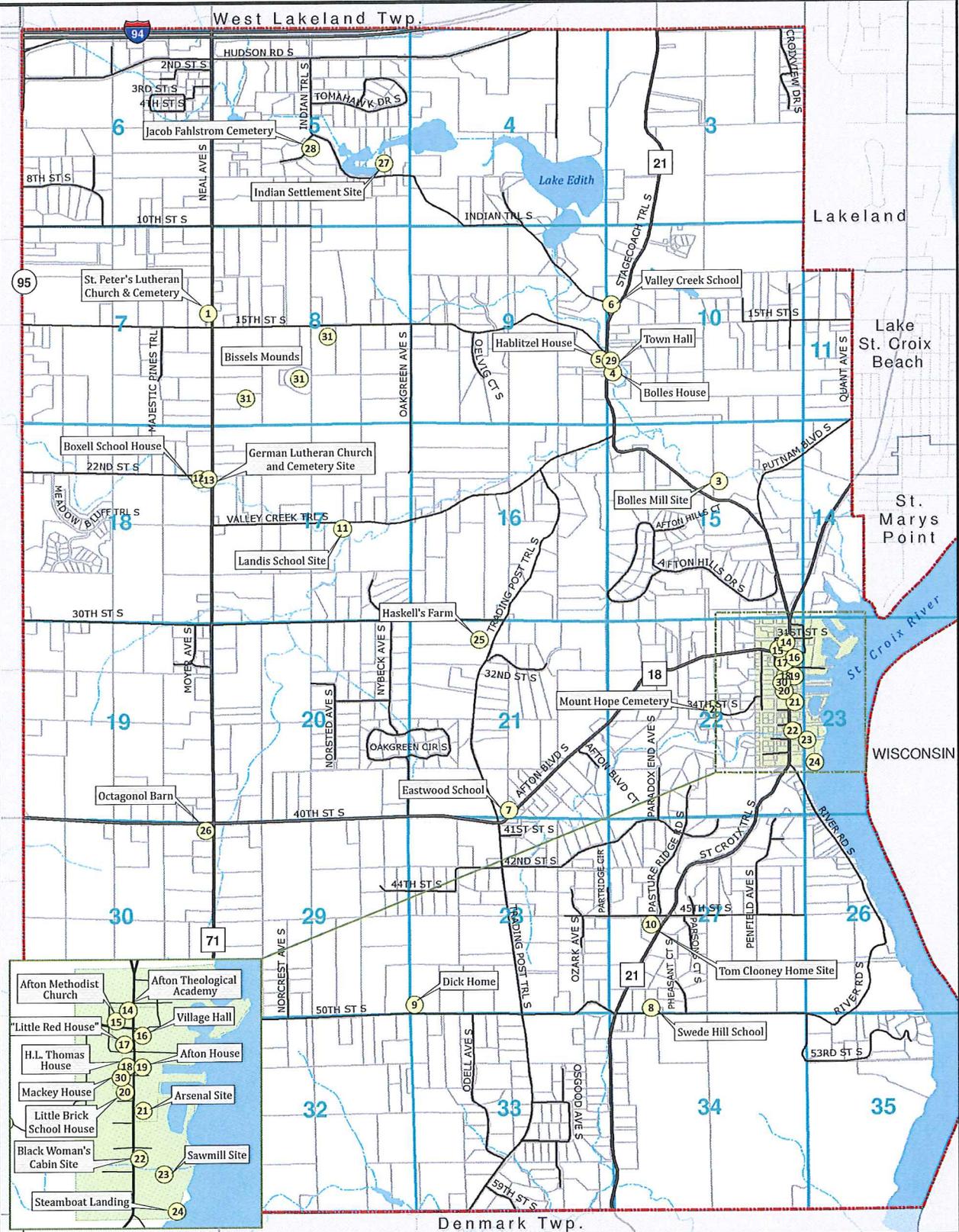


| | | | | |
|----------------------------|--|--|---|--|
| Land Use Categories | <ul style="list-style-type: none"> Tree Cover - Mixed Stream or Water Body Brushland Wetland Grassland Belwin Pasture Tree Cover - Coniferous Cultivated Tree Cover - Deciduous Farmstead | <ul style="list-style-type: none"> Residential Developed Roadway Mining City of Afton Parcel Boundaries | Roads <ul style="list-style-type: none"> Major Road Local Road Section Lines Lakes Streams | <p>0 0.5 1 Miles</p> <p style="text-align: right;">N</p> |
|----------------------------|--|--|---|--|

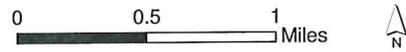
Map prepared June 2010

Data Sources: Metropolitan Council, MN DNR, MN DOT, Washington County



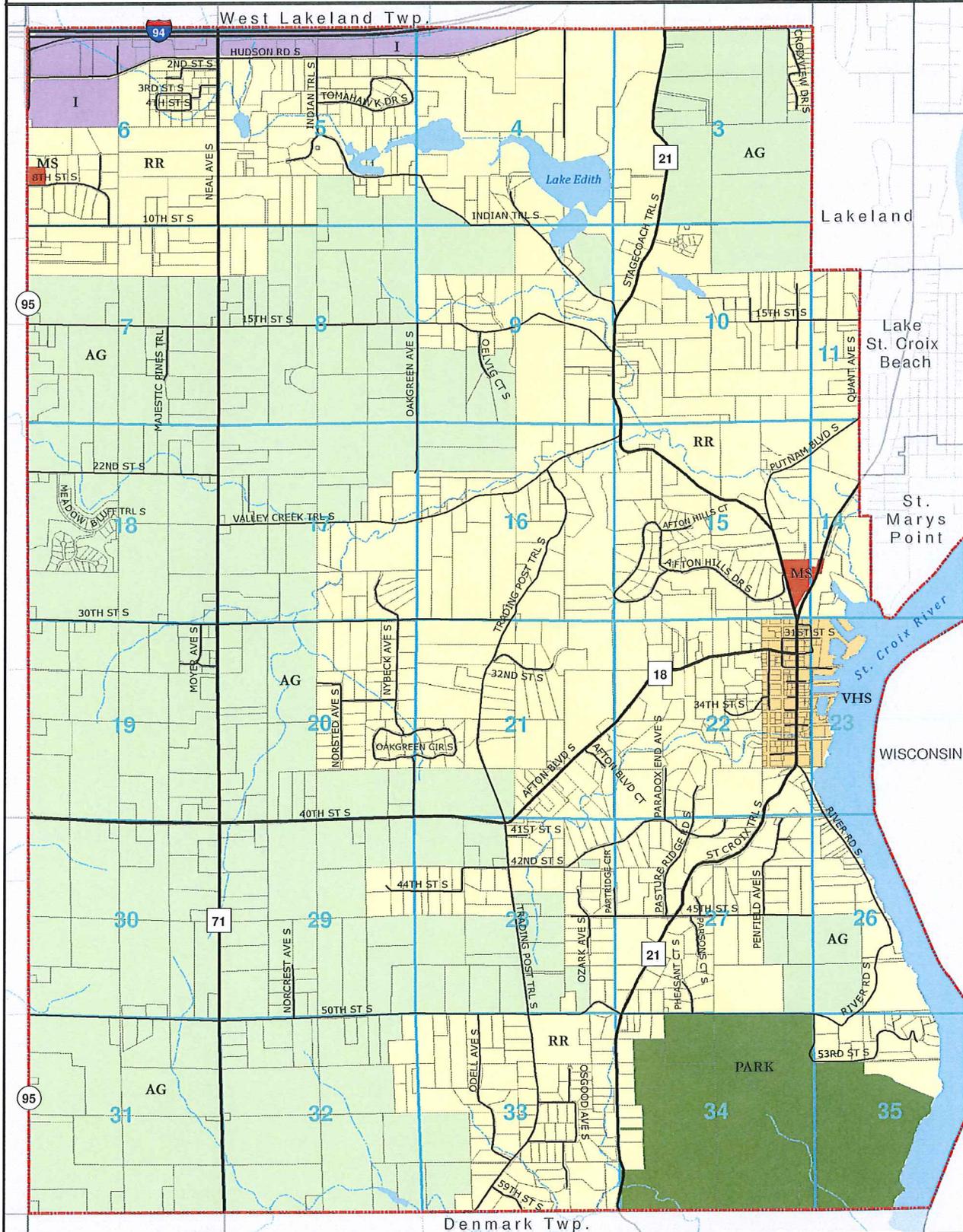


- | | | | |
|--|-----------------------|--|-------------|
| | Historic Site | | Roads |
| | Village Historic Site | | Major Roads |
| | City of Afton | | Local Road |
| | Parcel Boundaries | | Lakes |
| | Section Lines | | Streams |



Future Land Use

MAP 9



Future Land Use

- Agriculture
- Industrial
- Village Historic Site
- Rural Residential

- State Park
- Marina Services
- City of Afton
- Parcel Boundaries

- Section Lines
- Major Road
- Local Road
- Streams
- Lakes & Rivers



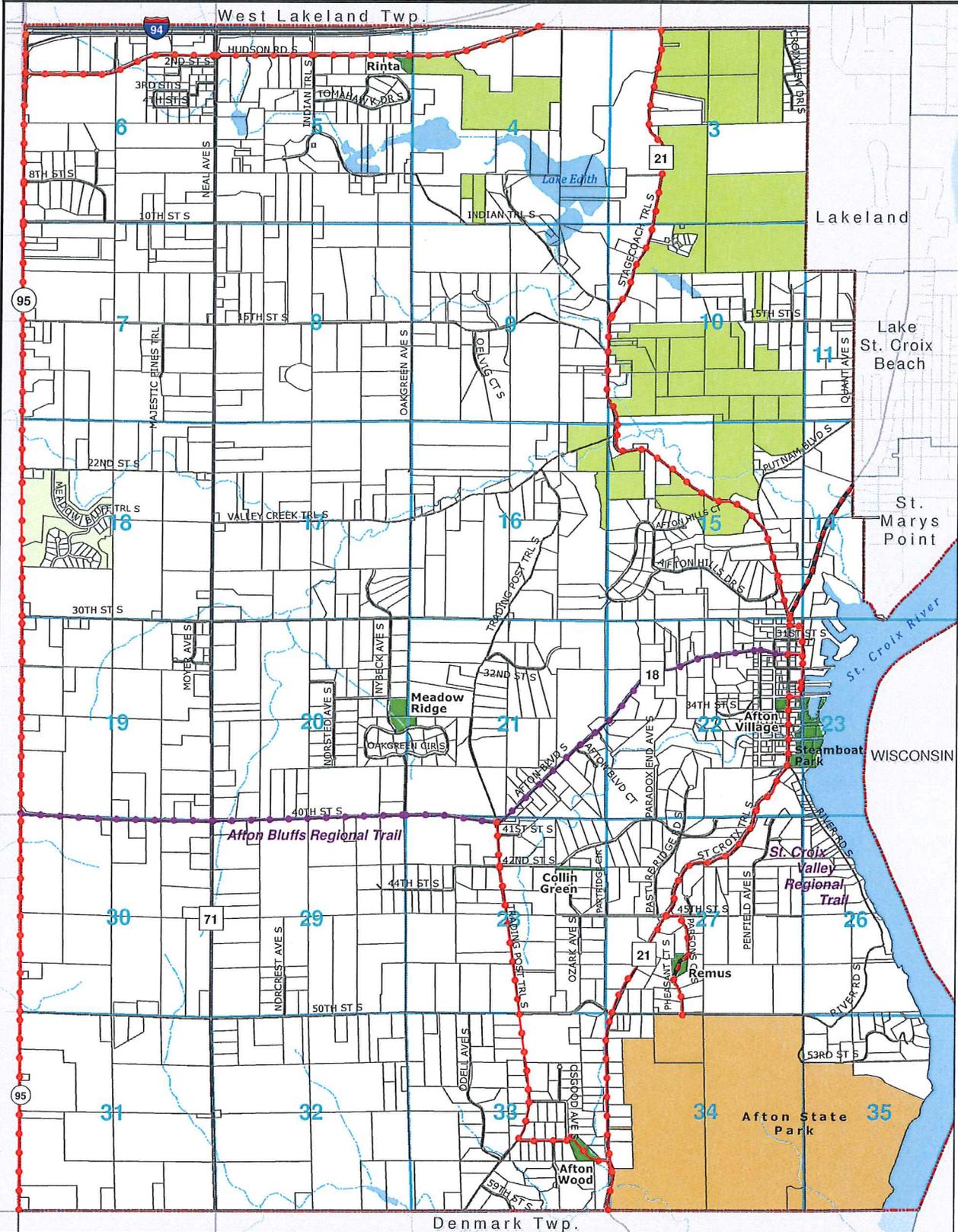
| Current Households | Forecasted Households | Distributed to Agriculture District | Distributed to Rural Residential |
|--------------------|-----------------------|-------------------------------------|----------------------------------|
| 1100 | 1250 | 50 | 100 |

Map prepared October 2010 1000 Friends of Minnesota TRC
 Data Sources: City of Afton, Metropolitan Council, MN DNR, MN DOT, & Washington County



Parks and Open Spaces

MAP 10



| | | | | | | | | | |
|---------------------|----------------------------------|------------------|----------------|---------------|---|-----|---|-------|--|
| Trail System | | Afton State Park | Roads | | 0 | 0.5 | 1 | Miles | |
| Existing Trail | Belwin Property | Major Road | Lakes & Rivers | Local Road | | | | | |
| Planned Trail | Other Protected Open Spaces | City of Afton | Streams | Section Lines | | | | | |
| Proposed Trail | Existing City Park & Open Spaces | | | | | | | | |

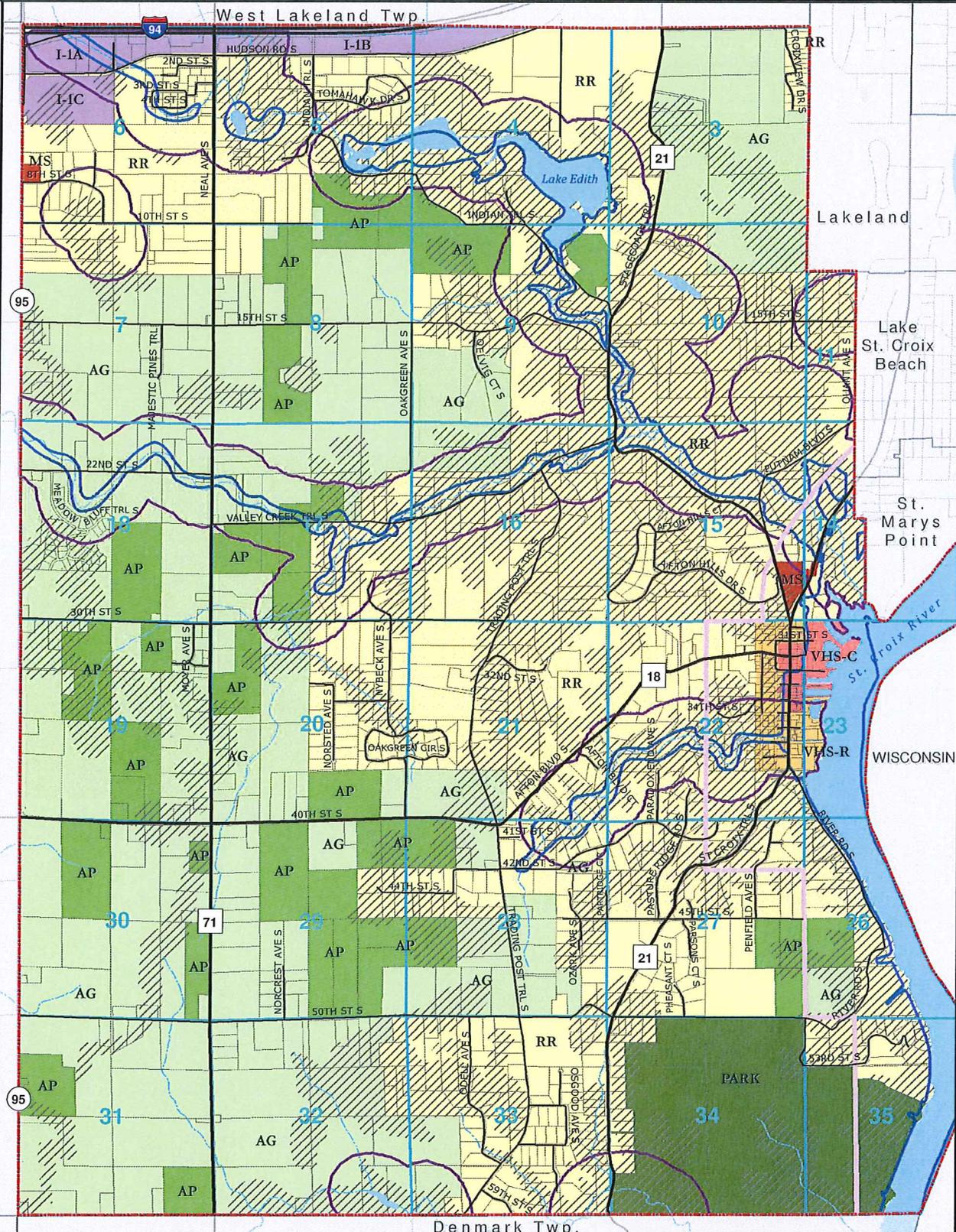
Map prepared June 2010 1000 Friends of Minnesota TRC

Data Sources: Metropolitan Council, MN DNR, MN DOT, Washington County



Zoning Map

MAP 11



| | | | |
|------------------------------------|-------------------------------|-------------------|---------------|
| Zoning Districts | State Park | City of Afton | Streams |
| Agriculture | Marina Services | Parcel Boundaries | 0 0.5 1 Miles |
| Ag Preserve | Conservancy Overlay | Section Lines | N |
| Village Historic Site- Commercial | St. Croix River Bluffland | Major Road | |
| Industrial | Floodplain Overlay (100 Year) | Local Road | |
| Village Historic Site- Residential | Shoreland Management Areas | Lakes & Rivers | |
| Rural Residential | | | |

PART III — URBANIZATION

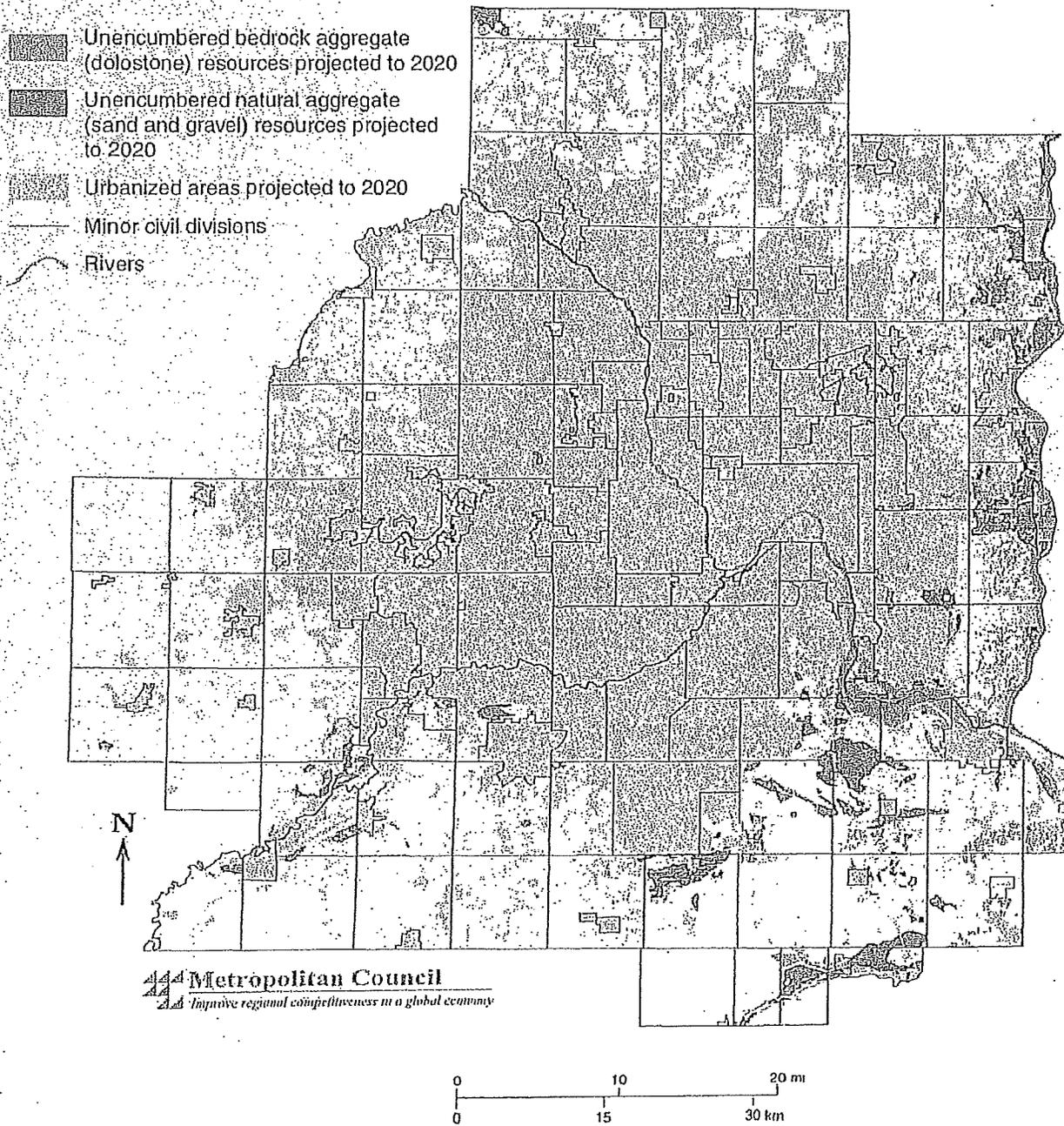


Figure 15. Map showing the projected extent of urbanized areas in 2020, and the aggregate-bearing lands that are projected to be unencumbered by alternative land uses in 2020.

VENDOR COPY

Contract # 5253

APR 29 2009

Dept. PHE
Div. SEPTIC
Term 11/09 - 12/31/10

CITY OF AFTON

Agreement for Individual Sewage Treatment System Inspection Services

20490

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

I. WITNESSETH

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

WHEREAS, the City adopted an Individual Sewage Treatment System Regulations Ordinance, hereinafter ISTSRO, regulating individual sewage treatment systems which is consistent with or more restrictive than the County's Individual Sewage Treatment System Regulations Ordinance #128 (Washington County Development Code Chapter 4), which applies to all areas of the City; and

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

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

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

II. SCOPE OF SERVICES

County's Responsibilities

1. The County agrees to provide, through its Department of Public Health and Environment, individual sewage treatment system inspection services for the City. The County shall provide a Qualified Employee(s), as described in Minn. Rule 7083.1010 and 7083.0020 subp 17.
2. The standards of performance, method of providing individual sewage treatment system inspection services, and other matters incident to the performance of services under this Agreement, including personnel to be employed, shall be determined by the County. The City shall be notified in advance of any proposed changes in standards of performance or methods of providing services.
3. The County shall provide the necessary ISTS application review and sewage system plan approval as required by laws, regulations and ordinances, provide all job site inspections of projects under permit, and conduct special inspections as deemed necessary to ensure compliance with the ISTSRO. Services shall include clerical support incidental to the performance of this agreement.

RECEIVED
MAR 26 2009
PUBLIC HEALTH

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NOT TO YTD

4. The County shall provide to the City all applications for new sewage permits to determine compliance with existing city zoning/land use ordinances and laws within 5 (five) working days of receipt of said application.
5. The County shall provide and issue all sewage permits as required by the ISTSRO, existing laws or regulations and shall maintain records of all such permits. A copy of each granted permit shall be submitted to the City within 5 (five) working days of the County granting the permit.
6. The County shall notify the City of the issuance of a certificate of compliance of the sewage system's completion within 10 (ten) working days.
7. In the event of a violation or threatened violation of the ISTSRO or sewage permit the County may pursue the administrative issuance of stop work orders, corrective orders, and notices of non-compliance.
8. The County shall advise the City if a misdemeanor citation is warranted for any violation of a sewage permit or ISTSRO.
9. The County may request appropriate actions or proceedings be brought by the City, to prevent, restrain, correct or abate violations or threatened violations of a sewage permit or ISTSRO.
10. The County will cooperate with the City's officials and/or employees in fulfilling its obligations under this Agreement.
11. The County is required to update the County ISTS Ordinance #128 to comply with changes to Minnesota Rules Chapters 7080 to 7083 by February 2010. The County will advise the City within 5 (five) working days of adoption of the revised County ISTS Ordinance.

City's Responsibilities:

1. Upon receipt of the all applications for new sewage permits from the County, the City shall review all applications determine compliance with existing city zoning/land use ordinances and laws. The City shall notify the County within 5 (five) working days of receipt of the application only if the sewage permit request does **not** comply with city zoning/land use ordinances and laws.
2. In areas not served by municipal sewer, the City shall not issue a building permit for new dwelling construction and/or for the addition of bedrooms until the County has issued a sewage permit.
3. The City shall act on all applications for special permits and variances to the ISTRO.

4. Upon request from the County the City shall issue a stop work order on projects commencing construction prior to the issuance of a sewage permit.
5. The City is responsible for appropriate actions or proceedings to prevent, restrain, correct or abate violations or threatened violations of a sewage permit or ISTSRO and shall represent the County during appeals of the administrative remedies issued by the County.
6. The City may issue misdemeanor citations for violation of the ISTSRO or sewage permit.
7. The City shall not issue a certificate of occupancy prior to receipt of the County's certificate of compliance.
8. The City, and its agents and employees, will cooperate and assist the County in the performance of this Agreement.
9. The City shall adopt a revised ISTS Ordinance which is consistent with or more restrictive than the County's revised ISTS Ordinance no more than 12 (twelve) months after the County revised ISTS Ordinance is adopted.

III. SCHEDULE OF FEES AND CHARGES

1. The County shall establish the schedule of fees for its individual sewage treatment system inspection services. The County shall collect, receipt for, disburse and maintain records for all fees and charges collected incident to the administration of individual sewage treatment system inspection services contained herein.
2. Fees and charges shall be due and payable by the permittee upon issuance of the permit and will be collected by the County from the applicant for said permit.
3. For permit fee purposes, the septic permit application and installation fees shall be in accordance with the fee schedule adopted annually by the Washington County Board of Commissioners.
4. The City agrees that in payment for the individual sewage treatment system inspection services provided by the County that the County shall retain, out of the fees and charges collected incident to this service, an amount equal to one hundred percent (100%) of all ISTS permit fees.
5. The City shall not assume any liability for the direct payment of any salary, wage, or other compensation to any County employee performing individual sewage treatment system inspection services pursuant to this agreement.

IV. GENERAL TERMS AND CONDITIONS

Data Privacy

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

Indemnity Clause

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

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

Insurance

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

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

Independent Contractor

4. Nothing contained in this Agreement is intended or should be construed as creating the relationship of co-partners or joint ventures between the County and City. No tenure or any

rights or benefits, including workers compensation, unemployment insurance, medical care, sick leave, vacation leave, severance pay, PERA, or other benefits available to County employees shall accrue to the City or employees of the City performing services under this Agreement.

Records – Availability and Retention

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

Nondiscrimination

6. During the performance of this Agreement, the City and County agrees to the following:

No person shall, on the grounds of race, color, religion, age, sex, disability, marital status, public assistance status, criminal record, creed or national origin be excluded from full employment rights, participation in, be denied the benefits of or be otherwise subjected to discrimination under any and all applicable Federal and State laws against discrimination.

Merger and Modification

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

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

Severability

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

V. TERM AND EFFECTIVE DATE

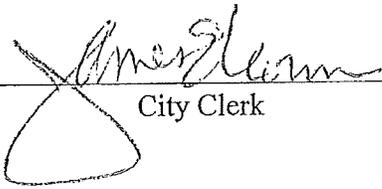
1. The effective date of this agreement shall be January 1, 2009, notwithstanding the date of the signatures below.
2. This agreement shall run until December 31, 2010, at which time it will automatically terminate unless it is renewed by official action of both the City and the County prior to the termination date. Notice of either the City's intent or the County's intent not to renew the agreement should be given to the other party ninety (90) days in advance of the December 31, 2010, termination date.

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

City of Afton, Minnesota

By: 
Mayor

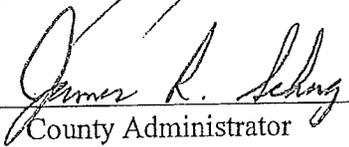
Date: 3-20-09

By: 
City Clerk

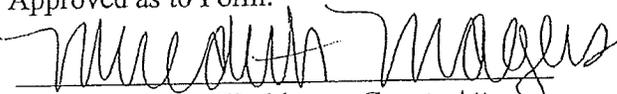
Washington County, Minnesota

By: 
Chair, Board of Commissioners

Date: 4/21/09

By: 
County Administrator

Approved as to Form:


Assistant Washington County Attorney

ORDINANCE 08-2010

CITY OF AFTON
WASHINGTON COUNTY, MINNESOTA

**AN ORDINANCE TO AMEND CHAPTER 12, ARTICLE IX, BY AMENDING SECTION 12-1952
AND REMOVING SECTIONS 12-2006, 12-2041, 12-2042, 12-2043, 12-2044 AND
REPEALING DIVISION 3 IN ITS ENTIRETY AND ADOPTING WASHINGTON COUNTY
ORDINANCE #179 BY REFERENCE.**

THE CITY COUNCIL OF THE CITY OF AFTON, MINNESOTA HEREBY ORDAINS:

Section 12-1952 of the Afton Code of Ordinances is hereby amended to delete definitions for the following: BOD; Building sewer; Individual sewage treatment system; NPDES permit; Replacement; and Sewage or wastewater.

Section 12-2006 of the Afton Code of Ordinance is hereby deleted and reserved.

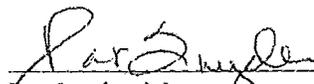
Section 12-2041 through 12-2044 of the Afton Code of Ordinances is hereby deleted and reserved.

Division 3 of Article IX of the Afton Code of Ordinances is hereby repealed and replaced by adopting Washington County Development Code, Chapter Four, Ordinance #179 by reference.

This change will take effect upon publication of this ordinance.

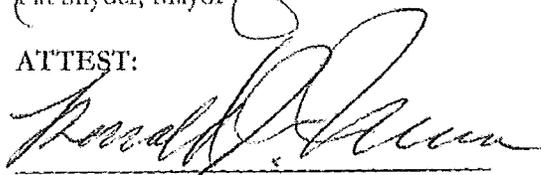
PASSED BY THE CITY OF AFTON CITY COUNCIL THIS 21st DAY OF SEPTEMBER, 2010 .

SIGNED:



Pat Snyder, Mayor

ATTEST:



Ronald J. Moorse, City Administrator

MOTION by: Nolz
SECOND by: Nelson
Palmquist: Yes
Richter: Absent
Nolz: Yes
Nelson: Yes
Snyder: Yes

Appendix K - Afton Flora and Fauna

The Valley Creek watershed is located on the eastern edge of the Twin Cities Metropolitan Area and covers approximately 65 square miles that gathers the water eventually giving it to the St. Croix River. Valley Creek is a small (approximately 4.5 miles) but significant stream because it is one of the few remaining high quality trout streams in the Twin Cities Metro Area. Brown, brook and rainbow trout all are found in Valley Creek. The outstanding quality led the DNR to list Valley Creek as a state-designated trout stream. The Valley Creek watershed also is home to more than 20 endangered, threatened, and special concern species, including the American brook lamprey, the Hooded Warbler, and Blandings turtle. The exceptional habitat value of Valley Creek has been identified in Minnesota's State Wildlife Action Plan, which identifies Valley Creek as a "Key River Reach".

Valley Creek also is home to a species of crane fly (genus *Phantolabis*) previously un-described by science and currently the subject of research by the University of Minnesota. The Valley Creek Protection Initiative, composed of the Belwin Conservancy, the Minnesota Land Trust, the Conservation Fund, the Valley Branch Watershed District and Washington County have collaborated to protect and restore scientifically targeted sites (approximately 900 acres) that will ensure the long-term ecological stability of this riparian system. Belwin currently owns approximately 1,400 acres which has enabled a continuous protected corridor along 70% of Valley Creek.

The Middle St. Croix Watershed Management Organization encompasses approximately 19.8 square miles and is located in the east-central part of Washington County. The watershed is unique in that it has many small, parallel watersheds that all flow to the St. Croix, whereas the other watersheds in the County generally have one major drainage way with a headwaters and outlet. Land use in the watershed is evenly distributed between agricultural, rural residential and high-density residential/commercial land uses.

The St. Croix watershed basin consists of approximately 4,918,800 acres, or about 7,700 square miles, of which 2,258,800 acres (or 46%) are located within the state. It is one of the premier mussel habitats in the world, approximately 38 mussel species live in the St. Croix watershed. Additionally, the watershed is home to many highly valued native species such as wolf, bald eagle, peregrine falcon, and Karner blue butterfly.

The population of the basin prior to 1950 was 150,000. In the year 2000 there were 400,000 people. By 2020 it is estimated that there will be over 500,000 people living within the basin,. This increase in watershed residents will likely bring increased urbanization and agricultural activities, additional nutrient and sediment loading from wastewater discharges and polluted runoff, and a continued decline in water quality from these additional loadings The watershed basin has already been impacted by nutrient and sediment pollution.

The Afton Natural Resources Inventory and Stewardship Plan Natural Community Evaluation (2001) identified Kelle's Coulee as the most important and highest quality natural area within the City of Afton. It included mapped areas of native white pine/hardwood forest, mesic oak forest, bedrock bluff prairie and lowland hardwood forest and identified several rare plants, animals and natural communities in the area.

The far upper ephemeral reaches of the Kelle's Coulee stream begin in a rural residential area and pass through relatively low quality field grasses and lawn areas.

The ephemeral reaches of the stream then pass into an average quality area of lowland hardwood forest dominated by red oak. Other trees present include box elder, American elm, black willow, silver maple, hackberry and bur oak. A fairly diverse shrub layer includes common elder, sweet viburnum, red-berried elder, buckthorn, and wild grape. A highly diverse herbaceous layer exists including false Solomon's seal, common burdock, wood nettle, white snakeroot, Virginia waterleaf, sweet cicely, stinging nettle, swamp buttercup, common motherwort, yellow avens, violets, lady fern, jack in the pulpit, and hog peanut. Associate graminoids in the ground layer include Pennsylvania sedge, rice cut grass, and Virginia wild rye.

From this point, the streams perennial flow enters into a moderate quality lowland hardwood forest with small inclusions of black ash seepage swamp. Common tree species include black ash, black cherry, butternut, basswood, black willow, and white oak. The shrub layer is dominated by buckthorn but also contains a good diversity of native species including: speckled alder, blue beech, wild raspberry, common elder and sweet viburnum. A rich diversity of herbaceous species exist in the ground layer, including marsh marigold, marsh fern, yellow avens, wood nettle, Virginia stickseed, jack in the pulpit, saw toothed sunflower, hog peanut, maidenhair fern, wild ginger, horsetail, rice cut grass, giant manna grass, and Canada wild rye.

The perennial flow continues on through a very high quality lowland hardwood forest characterized by an upper canopy of cottonwood, black ash and black willow. Canopy trees in this area are quite large and some are 140+ years in age. Sub-canopy trees include basswood, American elm, sugar maple and hackberry while the shrub layer is composed of buckthorn, pagoda dogwood, and prickly ash. The herbaceous layer is very diverse including wild ginger, common burdock, zig-zag goldenrod, enchanter's nightshade, white avens, pale touch-me-not, Blue cohosh, fringed loosestrife, daisy fleabane, Virginia waterleaf, maidenhair fern, lady fern, Ostrich fern, and scouring rush. Common graminoids include bottle-brush grass, Virginia wild rye, reed canary grass, giant manna grass, and sedge species. This area contains the best quality forest complex within the City of Afton and is designated as Minnesota County Biological Survey site 59 by the MNDNR Natural Heritage Program.

The stream finally leaves the ravine, passes under St. Croix Trail and makes its way through a good quality floodplain forest and out across a small sandy beach to its confluence with the St. Croix River. Common tree species in this area include silver maple, cottonwood, green ash, and American elm. Buckthorn is common in the shrub layer. The herbaceous layer is composed largely of wood nettle, asters, stinging nettle, Virginia wild rye, and rice cut grass.

Appendix L - Public Involvement Planning Process

The City of Afton took a number of steps to measure public input and involve the general public in the assembling of this plan update.

- **Community Survey.** To begin the process, the City of Afton conducted a survey of all residents in 2007. Roughly 37% of the adult population of Afton responded to the survey. The survey probed the preferences of respondents on a number of land use-related issues and potential courses of action the City could pursue.
- **Open House Meetings.** Early in the update process, the City held two open house meetings. These were all-day sessions that gave residents opportunity to stop in any time during a twelve-hour period to register their thoughts on a number of exhibits. The first open house was topically broad and designed to identify the areas of greatest concern for residents as well as what they felt was the most significant opportunities for the community. The second open house meeting probed deeper into identified issues, comparing stated concerns to objectives in the existing Comprehensive Plan and clarifying lines of thinking that were ambiguous or conflicting.
- **Comprehensive Plan Advisory Committee (CPAC).** The City established a CPAC committee that included all members of the Planning Commission (themselves a broad representation of the community) and a number of other interested individuals. These meetings were also open to the public and anyone who attended a meeting was included in the discussion. The CPAC group met monthly throughout the planning process to discuss ideas, review feedback and edit plan drafts.
- **Wiki Group Editing.** During the text editing process, there were a number of individuals from the CPAC and the public that had specific changes they wanted to make to the plan. To accommodate this in a public and transparent manner, the entire draft plan was uploaded to a website that utilized a group collaboration approach known as a wiki. This allowed anyone to register at the site and then make direct changes to the plan that would then be reflected in the current version display on the site. Prior versions were saved along with a record of what had been changed, when and by whom. Participants were allowed also to register comments on each section and the entire process was open to the public. Many substantive changes to the plan were made during this process.
- **Public Hearing.** The Planning Commission received the plan from the CPAC and, after some review and editing, held a public hearing. After hearing comments from the public and making some additional changes in response, the plan was recommended to the City Council for approval.

