

# 2030 Comprehensive Plan

---



**November 2009**

**Metropolitan Council Consistency Review**

**Completed October 28, 2009**

---

# Table of Contents

|            |   |           |
|------------|---|-----------|
| <b>I</b>   | <b>Introduction and Background Conditions .....</b>           | <b>1</b>  |
|            | A. Purpose and Authority .....                                | 1         |
|            | B. Community Planning Process .....                           | 1         |
|            | C. History.....   | 2         |
|            | D. Population, Households and Employment .....                | 3         |
|            | E. Existing Land Use.....                                     | 7         |
|            | F. Public Utilities and Community Facilities.....             | 10        |
|            | G. Natural Features .....                                     | 11        |
|            | H. Transportation.....  | 16        |
| <b>II</b>  | <b>2030 Land Use Plan .....</b>                               | <b>19</b> |
|            | A. Community Goals and Policies.....                          | 19        |
|            | B. Regional Development Framework .....                       | 20        |
|            | C. 2030 Land Use Plan.....                                    | 22        |
|            | D. Community Facilities and Services Plan .....               | 27        |
|            | E. Parks, Trails and Open Space .....                         | 28        |
|            | F. Public Utility Plan.....                                   | 30        |
|            | G. Natural Areas and Water Resources Protection Plan.....     | 34        |
|            | H. Transportation Plan.....                                   | 37        |
| <b>III</b> | <b>Implementation Plan .....</b>                              | <b>41</b> |
|            | <b>Appendix A – Zoning Map</b>                                |           |
|            | <b>Appendix B – Land Use Staging and Density Calculations</b> |           |
|            | <b>Appendix C – Water Supply Plan</b>                         |           |

## List of Tables

|   |    |
|---|----|
| 1. City/County Population 1970-2006 .....                                   | 3  |
| 2. City/County Households 1970-2006.....                                    | 3  |
| 3. City/County Persons per Household 1970-2006 .....                        | 4  |
| 4. Columbus 2000 Age Distribution .....                                     | 4  |
| 5. Columbus 2000 Race/Ethnicity .....                                       | 5  |
| 6. Columbus 2000 Households by Type and Ownership.....                      | 5  |
| 7. Columbus 2000 Age Distribution of Home Owners and Renters.....           | 6  |
| 8. Columbus 2000 Households by Householder Type.....                        | 6  |
| 9. City/County Employment 1970-2006.....                                    | 7  |
| 10. Existing Land Use Acreages.....   | 10 |
| 11. City-wide Population, Household, Employment Data and Forecasts.....     | 21 |
| 12. Sewered/Unsewered Population, Household, and Employment Forecasts ..... | 21 |
| 13. 2030 Future Land Use Acreages.....                                      | 22 |
| 14. 2010-2030 Average Annual Sewer Flows .....                              | 31 |
| 15. Traffic Assignment Zone Forecasts .....                                 | 39 |
| 16. Capital Improvements Plan.....  | 42 |

## List of Figures

|  |    |
|--|----|
| 1. Location .....                        | iv |
| 2. Existing Land Use.....                | 8  |
| 3. Soil Associations.....                | 12 |
| 4. Water Resources .....                 | 14 |
| 5. Upland Natural Resources .....        | 15 |
| 6. Transportation.....                   | 17 |
| 7. 2030 Future Land Use Plan.....        | 23 |
| 8. Sewer Staging Plan .....              | 32 |
| 9. Sanitary Sewer Collection System..... | 33 |
| 10. Watermain Distribution System.....   | 35 |

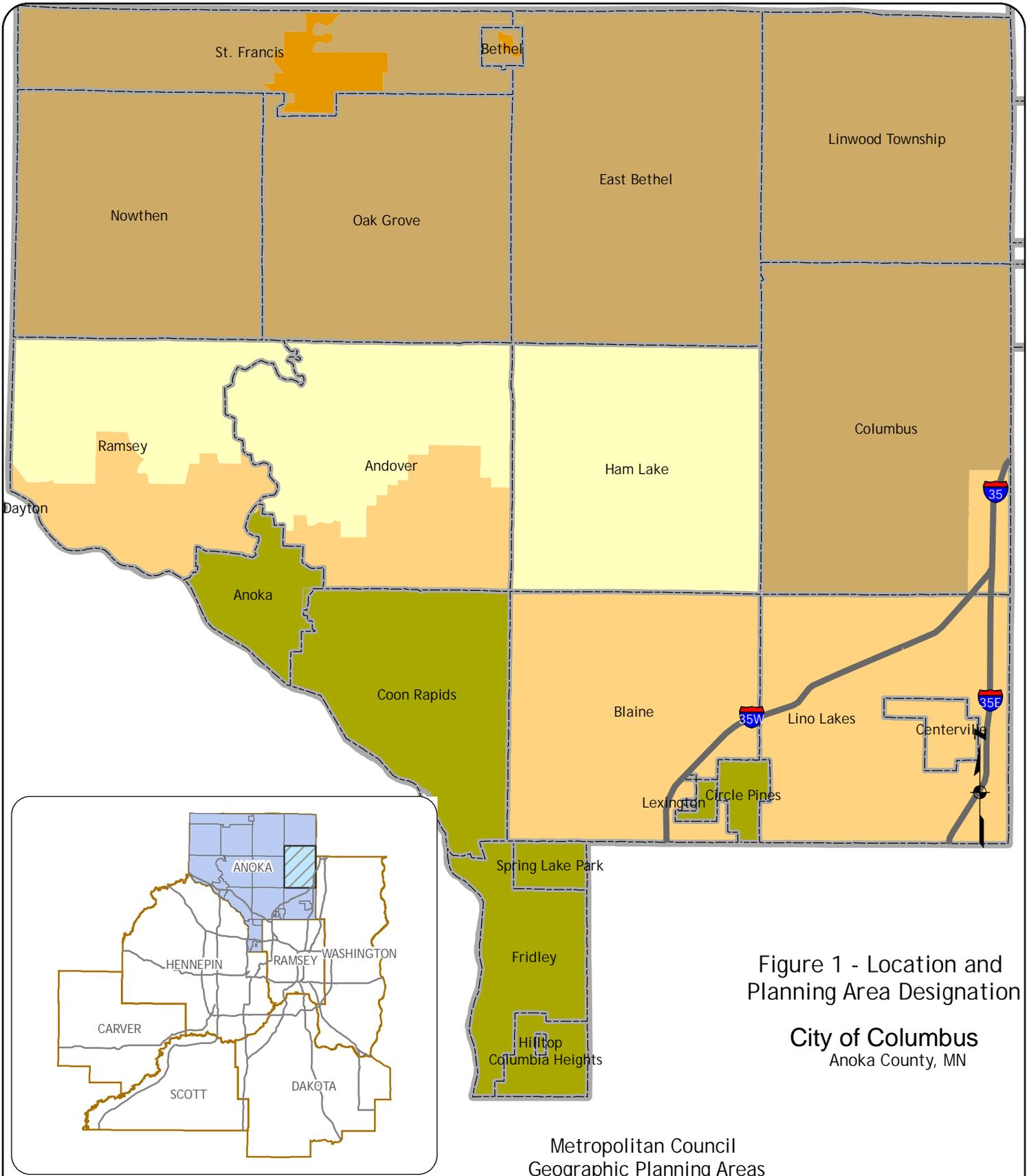


Figure 1 - Location and Planning Area Designation

City of Columbus  
Anoka County, MN

Metropolitan Council  
Geographic Planning Areas

- Diversified Rural
- Rural Center
- Rural Residential
- Developing Area
- Developed Area



# **I Introduction and Background Conditions**

## **A. Purpose and Authority**

The City of Columbus has developed this Comprehensive Plan to fulfill comprehensive planning requirements under the Metropolitan Land Planning Act. Under Minnesota Statutes 462.351-365 and 473.851-871, the City of Columbus has the authority to prepare a comprehensive plan to direct development and manage growth. Minnesota Statutes require the update of comprehensive plans in the seven-county metropolitan area at least every ten years. This Plan replaces the Comprehensive Plan that was developed in the late 1990s and adopted in 1999.

## **B. Community Planning Process**

This Comprehensive Plan does not change the basic land use strategies or land use categories included in the 1999 Plan, except as modified through amendments in the I-35W/I-35E freeway corridor. One of the major changes in the community since 1999 has been the implementation of public utilities in the freeway corridor. A series of plan amendments redefined land uses within the corridor and segments of the municipal sewer and water system have been constructed.

While not affecting the concepts for future growth, another major change in the community since 1999 has been the incorporation of Columbus as a city. An Incorporation Committee, appointed in 2005 by the former Town Board, evaluated the pros and cons of incorporation, concluding that incorporation was in the best interests of the community. As a part of that process, the 1999 Comprehensive Plan was revisited and reconfirmed as a valid guide for future community growth. An Administrative Law Judge ordered the incorporation of Columbus in the summer of 2006.

Following incorporation the City began a process of reorganization from the township form of government to the city form of government. Special and general elections were held to formally elect members of the City Council. In early spring 2007, the City prepared and adopted the Columbus Shoreland Management Ordinance and Columbus Floodplain Management Ordinance, after approval by the Minnesota Department of Natural Resources (DNR).

In the spring and summer of 2007, the Columbus City Council, Planning Commission, Economic Development Committee, and Park Board participated in land use training and visioning sessions to review and discuss existing growth patterns, goals and policies, and potential changes to the 1999 Plan. General consensus and guiding principles for the update of the 1999 Plan included:

- Maintain the rural character of the City and the 5-acre rural development density.
- Emphasize business development within the existing Lake Drive / I-35 corridors.
- Pursue Lake Drive corridor public utility options with the City of Lino Lakes.
- Retain housing options in the northwest and southeast corners of the I-35 corridor.
- Coordinate the development of pedestrian/bicycle trails on major roadways.
- Develop sidewalk and trail connections within all I-35 corridor developments.
- Establish a long-term plan for the surfacing of gravel roads in the City.
- Reserve long-term options for business expansion on Lake Drive and Broadway Ave.

## C. History

The history of Columbus is influenced by both Native Americans and the European settlers that followed. Human settlement of areas within Columbus City can be traced back to the presence of the Hopewell tribe of Native Americans. Archeologists believe that the Hopewell tribe established extensive trading with tribes over the entire continent. Burial mounds are located around Howard Lake in the Lamprey Pass Wildlife Management Area. Three large mounds were discovered in 1889; and it was not until 1977 that an additional three smaller mounds were discovered. Each of these areas are designated and protected as historic sites by the Minnesota Historical Society. In addition, the Minnesota Historical Society believes that remnants of Native American settlements may exist along Kettle River Boulevard northeast of Howard Lake and along Rice Creek. The City supports archeological research prior to or in conjunction with any excavation or building in these areas.

Following European settlement, the City became a predominantly agricultural area, although less than half of the land area was suitable for crop cultivation due to extensive wetland areas. Activities included small farming operations, such as grass harvesting for the assembly of mats, poultry farming, and wild rice harvesting. Several historic farmsteads of European settlers are also located in the City, which include the Yost, Hans Hanson, J. T. Elwell, and Thurnbeck farms. The Anoka County Historical-Genealogical Society maintains files called *Century Farms* that include photographs, plat maps, crop information and other information related to historical farms.

The Township of Columbus was platted in 1856 and a Town organization was formed in 1857. Early settlers sought to develop a village center on the St. Paul-Kettle River Road, one of the earliest stage lines to be developed in the State. This site, known as “Boehm’s Corner,” contained a sawmill and hotel. Efforts to encourage the development of a village center met with no success. The Township lost a bid in the mid-1860’s for the Anoka county seat and it was passed over as a potential route for the St. Paul-Duluth Railroad. The village center never materialized and, by 1879, the Township abandoned efforts to establish a village at that site.

A number of structures and building sites have had historic value for Columbus. The first public structure built in Columbus was a post office in 1858. The post office closed after plans for the Village of Columbus did not materialize. The first school house was built in 1866 in the northern part of Columbus. It was a log structure and provided facilities for instruction for three to four months per year. No remnants of these structures exist today.

Other structures in the City still remain. The Republic School, built in 1890, had a Grange Hall upstairs and a school downstairs. The Grange refers to a lodge or local branch of the “Patrons of Husbandry,” an association for promoting the interests of agriculture. It is now a private residence located on Lake Drive. The old Town Hall was built in 1902 and the City inquired into the historical significance of the structure. However, due to extensive renovation over many years, the Minnesota Historical Society did not feel it had the historic value to warrant preservation.

The only City site that is on the National Register of Historic Places is the Carlos Avery Game Farm, located at County Highways 17 and 18. It has been on the Register since 1991. It is the

site of buildings built by the WPA in the 1930's and includes an entrance gate to the site that is built of stone and iron. During that era, it was a national showplace for the rearing of quail. The facilities are now the home of the north metro wildlife office of the Department of Natural Resources (DNR), the headquarters for the DNR's Carlos Avery Wildlife Management Area, and the Wildlife Science Center, a nonprofit group that conducts research on wolves.

## D. Population, Households, and Employment

### *Population and Households*

Recent population and household growth in Columbus was strongest in the 1970s and 1980s. This growth reflects an region-wide, outer-ring suburban trend, which largely resulted from the development of the interstate highway system. Communities surrounding Columbus, as well as Anoka County, experienced similar if not more rapid growth. The large lot, rural residential character of housing and the limited amount of developable land in Columbus has resulted in a decrease in the rate of growth since 1990. Communities with greater land supplies, particularly those with municipal sewer and water, have maintained an accelerated pace of growth since 1990. Columbus' rate of growth has been more similar to that of the overall growth rate of Anoka County. **Table 1** and **Table 2** illustrate population and household trends in Columbus, adjacent communities, and Anoka County from 1970 to 2006.

**Table 1**  
**City/County Population 1970-2006**

| <u>Community</u> | <u>1970</u> | <u>1980</u> | <u>1990</u> | <u>2000</u> | <u>2006</u> | <u>'70-'06 %</u> |
|------------------|-------------|-------------|-------------|-------------|-------------|------------------|
| Columbus         | 1999        | 3232        | 3690        | 3957        | 4135        | 106.9%           |
| Linwood          | 1004        | 2839        | 3588        | 4668        | 5190        | 407.0%           |
| East Bethel      | 2586        | 6626        | 8050        | 10,941      | 12,142      | 370.0%           |
| Lino Lakes       | 3692        | 4966        | 8807        | 16,791      | 19,736      | 434.6%           |
| Forest Lake      | 6197        | 9927        | 12,253      | 14,440      | 17,424      | 181.2%           |
| Anoka County     | 154,712     | 195,998     | 243,688     | 298,084     | 328,614     | 112.4%           |

Source: U.S. Census; Metropolitan Council

**Table 2**  
**City/County Households 1970-2006**

| <u>Community</u> | <u>1970</u> | <u>1980</u> | <u>1990</u> | <u>2000</u> | <u>2006</u> | <u>'70-'06 %</u> | <u>Annual %</u> |
|------------------|-------------|-------------|-------------|-------------|-------------|------------------|-----------------|
| Columbus         | 487         | 870         | 1129        | 1328        | 1423        | 192.2%           | 5.53%           |
| Linwood          | 299         | 833         | 1146        | 1578        | 1797        | 501.0%           | 19.3%           |
| East Bethel      | 706         | 1955        | 2542        | 3607        | 4032        | 471.1%           | 18.1%           |
| Lino Lakes       | 812         | 1388        | 2603        | 4857        | 5868        | 622.7%           | 24.0%           |
| Forest Lake      | 1770        | 3331        | 4424        | 5433        | 6743        | 281.1%           | 10.8%           |
| Anoka County     | 39,688      | 60,716      | 82,437      | 106,428     | 119,138     | 200.2%           | 7.7%            |

Source: U.S. Census; Metropolitan Council

Household size has declined in all communities and the County since 1970, which parallels the

national trend. Columbus has maintained one of the higher number of persons per household throughout the period. Columbus is the only community which may have reversed the trend between 2000 and 2006; although, the population and households in 2006 are only estimates and may not be reliable. **Table 3** identifies the declining household size in Columbus, adjacent communities and Anoka County from 1970 to 2006.

**Table 3**  
**City/County Persons per Household 1970-2006**

| <u>Community</u> | <u>1970</u> | <u>1980</u> | <u>1990</u> | <u>2000</u> | <u>2006</u> |
|------------------|-------------|-------------|-------------|-------------|-------------|
| Columbus         | 4.11        | 3.72        | 3.27        | 2.98        | 2.91        |
| Linwood          | 3.36        | 3.41        | 3.13        | 2.96        | 2.89        |
| East Bethel      | 3.66        | 3.39        | 3.17        | 3.03        | 3.01        |
| Lino Lakes       | 4.55        | 3.58        | 3.38        | 3.46        | 3.36        |
| Forest Lake      | 3.50        | 2.98        | 2.77        | 2.66        | 2.58        |
| Anoka County     | 3.90        | 3.23        | 2.96        | 2.80        | 2.76        |

Source: U.S. Census; Metropolitan Council

**Table 4** is an illustration of the age distribution in Columbus in 2000. Columbus' age characteristics compare to Anoka County age statistics, except the young adult population (25-34) in Columbus is significantly lower than the County. This may be a reflection of limited housing options for adults in the City. The median age in Columbus is 38.2 compared to 33.1 years of age county-wide.

**Table 4**  
**Columbus 2000 Age Distribution**

| <u>Age</u>    | <u>Columbus</u><br><u>2000#</u> | <u>Columbus</u><br><u>2000%</u> | <u>Anoka County</u><br><u>2000%</u> |
|---------------|---------------------------------|---------------------------------|-------------------------------------|
| Under 5       | 217                             | 5.5%                            | 7.6%                                |
| 5-9           | 305                             | 7.7%                            | 8.3%                                |
| 10-14         | 363                             | 9.2%                            | 8.3%                                |
| 15-17         | 216                             | 5.5%                            | 4.7%                                |
| 18-21         | 204                             | 5.2%                            | 4.9%                                |
| 22-24         | 94                              | 2.4%                            | 3.4%                                |
| 25-34         | 330                             | 8.3%                            | 15.0%                               |
| 35-44         | 839                             | 21.2%                           | 19.1%                               |
| 45-54         | 751                             | 19.0%                           | 13.7%                               |
| 55-64         | 391                             | 9.9%                            | 7.9%                                |
| 65-74         | 160                             | 4.0%                            | 4.2%                                |
| 75-84         | 66                              | 1.7%                            | 2.2%                                |
| Over 84       | 21                              | 0.5%                            | 0.6%                                |
| <b>Totals</b> |                                 | <b>100.0%</b>                   | <b>100.0%</b>                       |

Source: U.S. Census; Metropolitan Council

The racial background in Columbus is predominantly white, non-Hispanic (97%). This compares to approximately 92% in Anoka County as a whole. Persons with multi-racial or mixed ethnicity make up the largest minority population in Columbus, followed by Hispanic, American Indian, Asian, and African American. **Table 5** illustrates the 2000 census breakdown of race in Columbus.

**Table 5**  
**Columbus 2000 Race/Ethnicity**

|                        |             |             |
|------------------------|-------------|-------------|
| White/non-Hispanic     | 3839        | 97.0%       |
| White/Hispanic         | 23          | 0.6%        |
| American Indian        | 22          | 0.6%        |
| African American       | 7           | 0.2%        |
| Asian/Pacific Islander | 22          | 0.6%        |
| Multi-racial/Other     | 44          | 1.1%        |
| <b>Total</b>           | <b>3957</b> | <b>100%</b> |

Housing in Columbus is predominantly single family detached, which is characteristic of rural communities. Approximately 96% of the occupied housing stock (1280 units) in 2000 was detached single family, compared to 4% attached single family residences (48 units). This compares to 72% single family detached homes county-wide and 18% attached single family or multiple family residences county-wide. There are no multiple family residences in Columbus.

Home ownership is also a predominant characteristic in Columbus. Over 97% of the households (1290 units) in Columbus are owner-occupied, compared to only 3% renter-occupied units. The county-wide level of home ownership is 83%. **Table 6** illustrates the 2000 census breakdown of housing type and ownership in Columbus.

**Table 6**  
**Columbus 2000 Households by Type and Ownership**

| <u>Household Type</u>   | <u>Owned Units</u> | <u>Rented Units</u> |
|-------------------------|--------------------|---------------------|
| Single family detached  | 1261               | 19                  |
| Single family attached  | 12                 | 12                  |
| Duplexes                | 17                 | 7                   |
| <b>Total Households</b> | <b>1290</b>        | <b>38</b>           |

Source: U.S. Census; Metropolitan Council

**Table 7** illustrates the distribution of owner-occupied and renter-occupied households in Columbus by age according to the 2000 census. Nearly two-thirds of all households are occupied by the median and middle-aged group from 35-54 years of age. Over 25% of the households are occupied by “empty nesters” and retirees. Under 10% of the households are occupied by persons under the age of 35.

**Table 7**  
**Columbus 2000 Age Distribution of Home Owners and Renters**

| <u>Householder Age</u> | <u>Owners</u> | <u>Renters</u> |
|------------------------|---------------|----------------|
| 15-24                  | 3             | 3              |
| 25-34                  | 100           | 9              |
| 35-44                  | 413           | 14             |
| 45-54                  | 408           | 4              |
| 55-64                  | 220           | 4              |
| 65-74                  | 96            | 2              |
| 75+                    | 50            | 2              |
| <b>Totals</b>          | <b>1290</b>   | <b>38</b>      |

Source: U.S. Census; Metropolitan Council

Married couples dominate housing occupancy in Columbus (75%). Families, including male and female heads of households, make up nearly 85% of household occupancy. Approximately 15% of all households are occupied by non-family occupants, including single person households (11%) and multiple person non-family households (4%). **Table 8** identifies the breakdown of 2000 households by family/non-family occupancy.

**Table 8**  
**Columbus 2000 Households by Householder Type**

| <u>Householder Type</u> | <u># Households</u> |
|-------------------------|---------------------|
| Married Couples         | 995                 |
| Male Householder        | 55                  |
| Female Householder      | 71                  |
| Non-family (single)     | 148                 |
| Non-family (2 or more)  | 59                  |
| <b>Total Households</b> | <b>1328</b>         |

Source: U.S. Census; Metropolitan Council

***Employment***

The economic base of Columbus is transitioning from a more traditional rural service center to a regional sales, service, and entertainment center. Columbus is home to a number of businesses that have historically served recreational and service needs, such as watercraft, snowmobile, recreational vehicle conversions, and vehicle sales and service centers. The Lake Drive (CSAH 23) commercial/industrial area is home to expanding construction services, trucking, floral production, landscaping, trade services, warehousing, light manufacturing, and vehicle sales and service.

Employment throughout Columbus increased ten-fold between 1990 and 2006. Employment opportunities within the Interstate 35 corridor have increased dramatically since 2000 with the development of Gander Mountain, Ziegler Caterpillar, Coates RV, Brinkman Trailer, and the Running Aces harness racing and card room facility. There are substantial employment growth

opportunities remaining in both the Lake Drive and I-35 commercial and industrial development corridors.

Columbus conducted an informal survey of 72 businesses in the City in the spring of 2008. A response by 55 businesses (75%) revealed a current total of 1094 full time jobs and 283 seasonal/part time positions. The survey also revealed the anticipation of 366 new-hires within a year. Approximately 350-400 full and part time jobs will be added at the Running Aces card room upon opening in 2008. It is apparent that current employment in Columbus is exceeding agency estimates.

**Table 9** illustrates historic employment levels in Columbus, area communities, and Anoka County from 1970 to 2006. The ratio of jobs to population is an indicator of the strength of local employment. Based upon 2006 estimates of employment and population, the ratio of jobs to population in Columbus is 23.7%, which is the average ratio of area communities and Anoka County. Considering the results of the 2008 local employment survey, the job to population ratio in Columbus could be closer to 45% in 2009.

**Table 9  
City/County Employment 1970-2006**

| <u>Community</u> | <u>1970</u> | <u>1980</u> | <u>1990</u> | <u>2000</u> | <u>2006</u> | <u>'06 Job:Pop.%</u> |
|------------------|-------------|-------------|-------------|-------------|-------------|----------------------|
| Columbus         | 80          | 100         | 100         | 507         | 981         | 23.7%                |
| Linwood          | *           | 50          | 50          | 154         | 330         | 6.4%                 |
| East Bethel      | *           | 404         | 457         | 1374        | 1598        | 13.2%                |
| Lino Lakes       | 430         | 771         | 1229        | 2671        | 3920        | 19.9%                |
| Forest Lake      | 1520        | 3514        | 5135        | 6636        | 7312        | 41.9%                |
| Anoka County     | 29,170      | 63,317      | 81,132      | 110,091     | 116,551     | 35.5%                |

Source: U.S. Census; Metropolitan Council; DEED; \*unsubstantiated

## **E. Existing Land Use**

Wetlands and surface waters dominate the landscape in Columbus, covering nearly two-thirds of the City. While Columbus is a large community (48 sections ~ 30,573 acres), the amount of developable land in the City is much less than surrounding communities. In addition to the high percentage of wetlands, there is also a considerable amount of publicly held land in the City – mostly state-owned wildlife management areas (WMAs). Existing land use is illustrated on **Figure 2** and **Table 10**.

### ***Vacant/ Agricultural***

Approximately 7330 gross acres of land are currently vacant or agricultural land. The net buildable vacant/agricultural area (gross acres less wetlands, surface water or floodplain) is approximately 2400 acres. There is very little commercial agriculture in Columbus, due to smaller isolated parcels of uplands and sandy or overly wet soils. There is no separate agricultural land use classification in Columbus; hence, vacant or agricultural land is designated either residential, commercial, industrial, or commercial/industrial in the future land use plan.

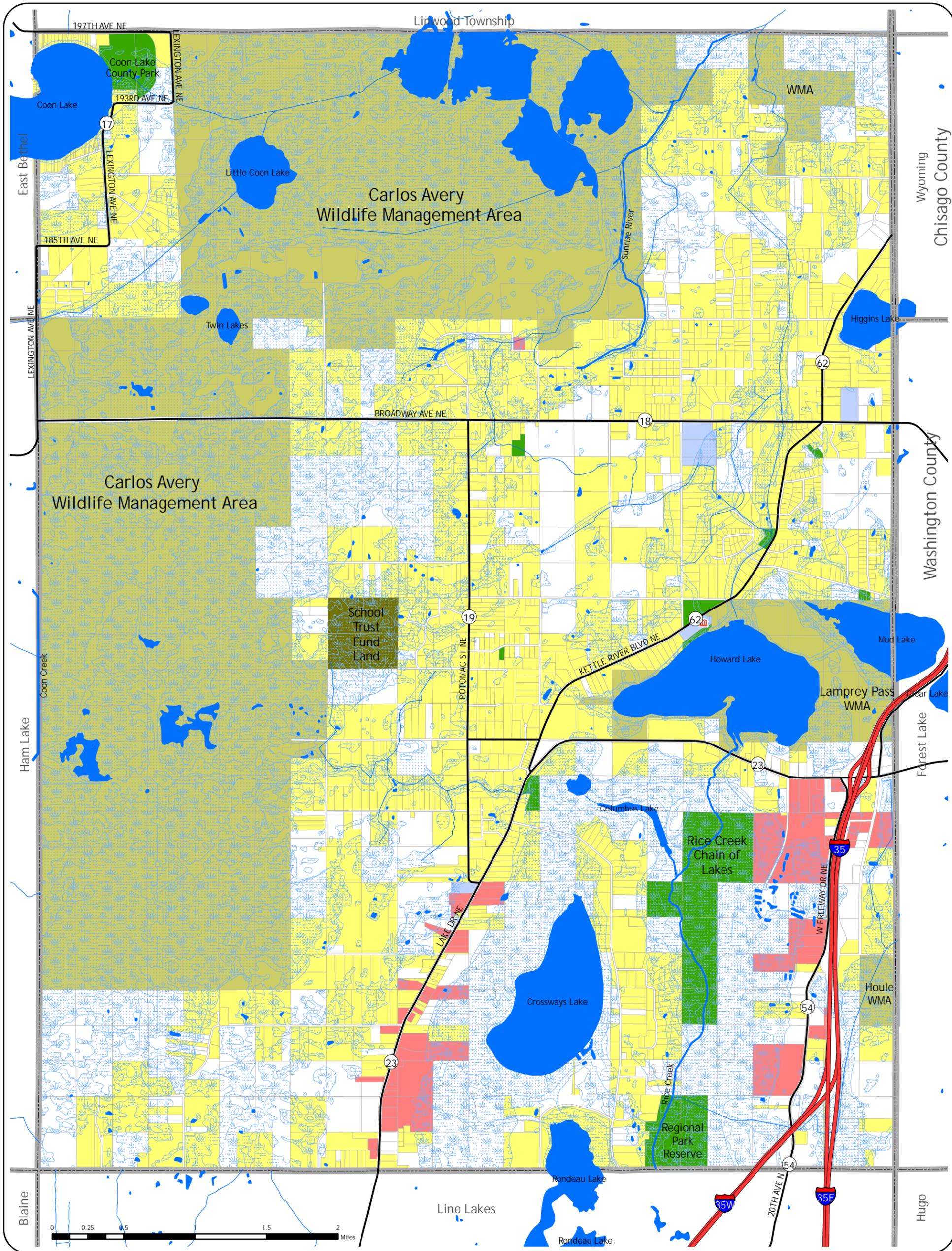


Figure 2 - Existing Land Use



Existing Land Use Category

- |                       |                          |              |           |
|-----------------------|--------------------------|--------------|-----------|
| Vacant/Agriculture    | Park                     | Lakes        | City Hall |
| Rural Residential     | Utility                  | Creek/Ditch  |           |
| Commercial/Industrial | Wildlife Management Area | NWI Wetlands |           |
| Public/Institutional  | School Trust             | Floodplain   |           |



Source: Anoka County

May 2009



### ***Rural Residential***

Approximately 9300 gross acres and 5660 net acres of land are currently used as rural residential. The corresponding zoning district is RR Rural Residential, which requires a 5-acre minimum lot size. The majority of the privately owned upland areas and associated wetlands in Columbus are used for rural residential purposes. The current density in the developed rural residential area is one home per 6.5 acres.

### ***Commercial/Industrial***

There are two separate and distinct commercial/industrial areas in Columbus. Lake Drive (CSAH 23), north of Lino Lakes, is a 2-mile long corridor which is guided commercial/industrial and zoned commercial/industrial. The corresponding zoning district is C/I Commercial/Industrial, which for most of the corridor currently extends 1000 feet east of Lake Drive and 400 feet west of Lake Drive. The C/I District allows pre-existing homes as permitted uses in the district; however, the area continues to transition from residential to business uses.

Interstate 35W, Interstate 35E, and Interstate 35 form a 3-mile long business corridor in Columbus, north of Lino Lakes. The mile-wide corridor is bound on the east by Forest Lake and on the west by Rice Creek and its large wetland basin. The “freeway corridor” is the only area in Columbus developing with municipal sewer and water. Corresponding zoning Districts within the freeway corridor include CR Community Retail, CS Commercial Showroom, LI Light Industry, and HR Horse Racing. The Freeway Corridor is home to several older and several newer businesses.

There are approximately 670 gross acres and 375 net acres of developed commercial and industrial uses within the Lake Drive and Freeway corridors.

### ***Public/Institutional***

The public/institutional land use category includes the Columbus City Hall, Fire Hall, and Public Works complex on Kettle River Boulevard and Notre Dame Street; public utility facilities; four churches; the Columbus Elementary School; State “school trust” land; and three WMAs. The gross public/institutional acreage is approximately 11,175 acres, or over 36% of the total City acreage. The WMAs account for the vast majority of this land use category.

Carlos Avery WMA is the largest urban WMA and ninth overall largest WMA in the State. It occupies portions of Columbus, Linwood Township to the north and extends into Chisago County to the northeast. There are over 9800 acres of Carlos Avery WMA in west central and north central Columbus. Recreational opportunities within the Carlos Avery WMA include hunting, fishing, hiking, bird watching, cross-country skiing, and snow shoeing. A game farm is located on CSAH 18, where prairie chickens, pheasants, grouse, deer and water fowl are reared.

Lamprey Pass WMA covers over 1040 acres in east central Columbus, surrounding Howard Lake and Mud Lake. Lamprey Pass WMA protects one of the largest and most diverse heron colonies in the State. Discovered in 1979, this colony supports four different species of herons including great blue herons, great egrets, black-crowned herons, and double-crested cormorants. Houle WMA is located east of I-35 on the border with Forest Lake. It is an 80-acre wetland complex.

**Table 10  
Existing Land Use Acreages**

| <u>Category</u>       | <u>Gross Acres</u> | <u>Gross %</u> | <u>Net Acres</u> | <u>Net %</u>  |
|-----------------------|--------------------|----------------|------------------|---------------|
| Vacant/Agriculture    | 7332.14            | 23.9           | 2394.72          | 7.84          |
| Rural Residential     | 9305.82            | 30.44          | 5661.61          | 18.52         |
| Commercial/Industrial | 672.24             | 2.20           | 375.88           | 1.23          |
| Wildlife Mgt. Areas   | 10,930.22          | 35.75          | 1008.76          | 3.29          |
| Public/Institutional  | 88.0               | 0.29           | 66.53            | 0.22          |
| Park Land             | 653.76             | 2.14           | 119.45           | 0.39          |
| State “School Trust”  | 157.10             | 0.51           | 9.55             | 0.03          |
| Utility               | 0.17               | 0.0            | 0.17             | 0.0           |
| Right-of-way          | 1045.60            | 3.42           | 1045.60          | 3.42          |
| Wetland/Floodplain    | -                  | -              | 19502.78         | 63.79         |
| Lakes*                | 388.15             | 1.27           | 388.15           | 1.27          |
| <b>TOTAL</b>          | <b>30,573.20</b>   | <b>100.0%</b>  | <b>30,573.20</b> | <b>100.0%</b> |

Source: Anoka County GIS; Resource Strategies Corporation  
 (Gross acres exclude dedicated ROW; Net acres exclude dedicated ROW, wetlands/floodplain & lakes\*)  
 \* All but four smaller lakes are included in the wetland/floodplain calculations

***Parks and Recreation***

There are approximately 654 acres of City and County park land in Columbus which provide active and passive recreation opportunities to residents and businesses. The City currently has one community park, three neighborhood parks and three undeveloped, natural areas. The community park is adjacent to the City Hall and includes land on either side of Kettle River Boulevard. This facility includes four ball fields, tennis courts, a volleyball court, a picnic area and shelter, and a sandbox/playground area. A new ball field or soccer/lacrosse field will be constructed on the site of the former public works facility.

Coon Lake County Park is located in the northwest corner of Columbus on the east side of Coon Lake and includes a swimming beach, boat access, and picnic facilities. Anoka County has acquired over 400 acres of land along Rice Creek, which is part of Rice Creek Chain of Lakes Regional Park Reserve. This area is undeveloped and largely inaccessible wetlands. Active use areas within the park reserve are located in Lino Lakes.

**F. Public Utilities and Community Facilities**

The Columbus City Hall, Fire Hall, and Public Works facility are located on Kettle River Boulevard at Notre Dame Street. Columbus provides a full level of municipal services in the community, including street and park maintenance, planning and zoning, elections, licensing, auditing, building inspections, prosecution, and general administration. The City owns and operates a volunteer fire department through a joint powers agreement with the City of Forest Lake and Wyoming Township. Police protection is provided through a contract with the Anoka County Sheriff’s Department. A privately operated non-profit senior citizen center is attached to City Hall.

Columbus is located within the Forest Lake Area School District (Independent School District 831). Columbus Elementary School, which serves kindergarten through sixth grade, is located in the City on Notre Dame Street, south of Broadway Avenue. Junior and senior high schools serving the Columbus area are located in the City of Forest Lake.

There are four churches in Columbus. Crossroads Covenant Church and Immanuel Baptist Church are located along Broadway Avenue, Hope Free Lutheran Church is located along CSAH 17 south of Coon Lake, and Centennial Evangelical Free Church is located at Lake Drive and Potomac Street.

Columbus began implementation of a public utility district within the 3-square-mile Interstate 35 corridor in 2000. The district was established with basic infrastructure assessments that would provide sanitary sewer trunk benefits to the entire district. In 2004 a central lift station and force main and limited lateral service was constructed. Wastewater is conveyed to a trunk sewer line in Forest Lake and ultimately to Metropolitan Interceptor 70-29, located in Forest Lake. The sewer system was expanded from 2005-2008, providing lateral service on the west side of I-35 and the northerly two-thirds of the east side of I-35.

In 2005 Columbus began implementation of the municipal water system with the installation of test wells and initial segments of the permanent water system. Three operating wells and two pump houses currently provide water service to portions of both sides of the Freeway Corridor. A 150,000 gallon ground storage tank and pumping facility are planned to be added to the system in 2012, and a 500,000 gallon elevated storage tank is planned be added by 2030.

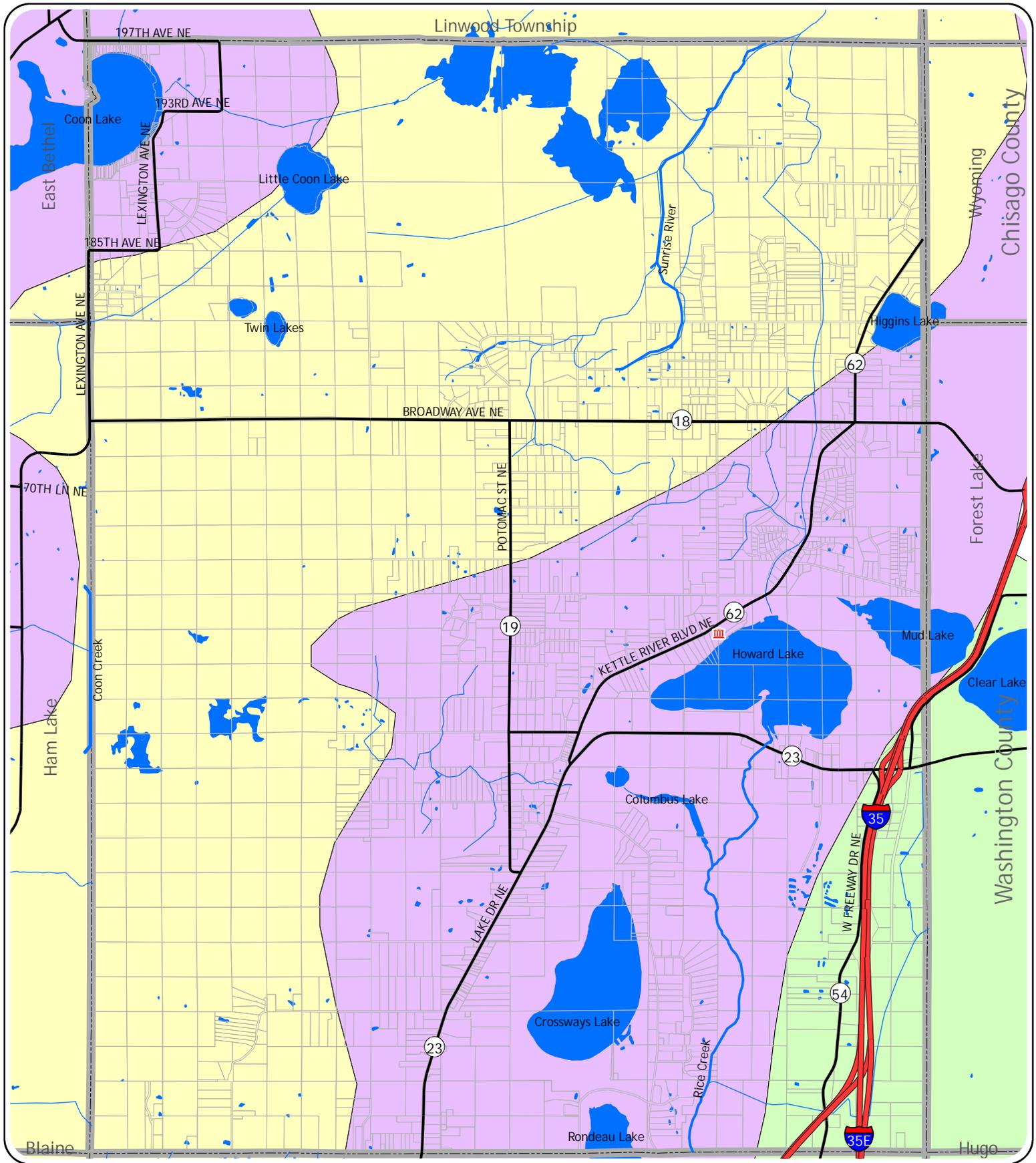
## **G. Natural Features**

Columbus has a variety of environmental amenities, such as recreational lakes, wetlands and forested areas, which make the City an attractive location for rural residential development. A limited amount of land is available for development, however, because of the extensive wetlands and the physical characteristics of soils. Columbus lies primarily within an area known as the Anoka Sand Plain in which depressions are common, formed when blocks of ice with fine sands melted from retreating glaciers 13,000 years ago. There are no aggregate resources in Columbus.

### ***Soils***

There are three general soil associations (related soils) within the City of Columbus, as identified in **Figure 4**. The *Nessel-Dundas-Webster Association* is roughly located along the Interstate 35 corridor. This soil association was formed in loamy glacial till and the soils range from being nearly-level to gently-sloping and from being well-drained to poorly-drained. Much of the association is moderately to poorly suited for certain urban uses, due to the high water table levels and the fertility of the soil.

The *Zimmerman-Isanti-Lino Association* covers approximately 40% of the City, along areas west and east of Crossways Lake, Howard Lake and Higgins Lake. The association is relatively well-suited for urban development and moderately well-suited for farming; however, a high water table limits many uses. The main concerns related to the management of this soil association are controlling soil blowing, improving fertility, and controlling the level of the water table in low-lying areas.



Generalized Soil Associations

- HAYDEN-NESEL-DUNDAS (MN188)
- RIFLE-ISANTI-MARKEY (MN191)
- ZIMMERMAN-ISANTI-LINO (MN190)

- Lakes
- Creek/Ditch

Figure 3 - Soil Associations



Source: Anoka Co.

May 2009



The *Rifle-Isanti Soil Association* covers approximately 53% of the City and includes the Carlos Avery Wildlife Management Area. This association is comprised of a series of large, level bogs dominated by organic soils and small sandy island-like features that rise several feet above the level of the surrounding bogs. The association has a naturally high water table and it ranges from moderate to low fertility and the available water capacity ranges from low to very high. These soils are poorly suited for urban or agricultural uses. The main concerns related to the management of this soil association are control of the water table and maintaining soil fertility.

### ***Water Resources***

Wetlands and surface waters are the predominant features in Columbus. Approximately 20,939 acres in Columbus are encumbered by wetlands and floodplain areas. There are another 1757 acres of surface waters, which combined represent nearly 75% of the total acreage in the City. Wetlands are protected by state law and several lakes and rivers are designated public waters with shoreland management regulation required by the state and implemented by the City.

Columbus is located within three separate watersheds: Rice Creek, Coon Creek and Sunrise River. A watershed is an overland drainage area where precipitation flows into wetlands, lakes, rivers and streams. They are named for and associated with particular rivers and streams that carry these waters. Water resource management and planning within watersheds is conducted through the watershed management organizations and by the City. **Figure 4** illustrates the water resources and watershed boundaries in Columbus.

The *Rice Creek Watershed* includes Rondeau Lake, Crossways Lake, Columbus Lake, Howard Lake, and Mud Lake, all of which are Natural Environment Lakes. Rice Creek is classified by the DNR as a Tributary River, and it is surrounded by a large wetland basins. The Rice Creek Watershed is organized as a watershed district and it acts as the Local Government Unit (LGU) for permitting in Columbus.

The *Sunrise River Watershed* includes a portion of the Sunrise River, a tributary river, Coon Lake, Little Coon Lake, Twin Lakes, Higgins Lake, and several unnamed lakes. All of the lakes are classified as Natural Environment Lakes, except Coon Lake, which is a General Development Lake. The northerly portion of Carlos Avery WMA in Columbus comprises much of this watershed. The Sunrise River Watershed is organized as a watershed management organization and Columbus is the LGU for permitting.

The *Coon Creek Watershed* includes a portion of Coon Creek, a tributary stream along the westerly border of Columbus, and an unnamed Natural Environment Lake located within Carlos Avery WMA. Coon Creek Watershed covers much of west-central Columbus including the southerly half of Carlos Avery WMA. Coon Creek Watershed is organized as a watershed district and acts as the LGU for permitting in Columbus.

### ***Upland Natural Resources***

There are substantial areas within Columbus that are identified in the Minnesota Land Cover Classification System (MLCCS) as “high biodiversity significance” and “outstanding biodiversity significance.” The latter is generally located within and around Carlos Avery WMA. The former is located near Rondeau Lake. **Figure 5** identifies these resources.

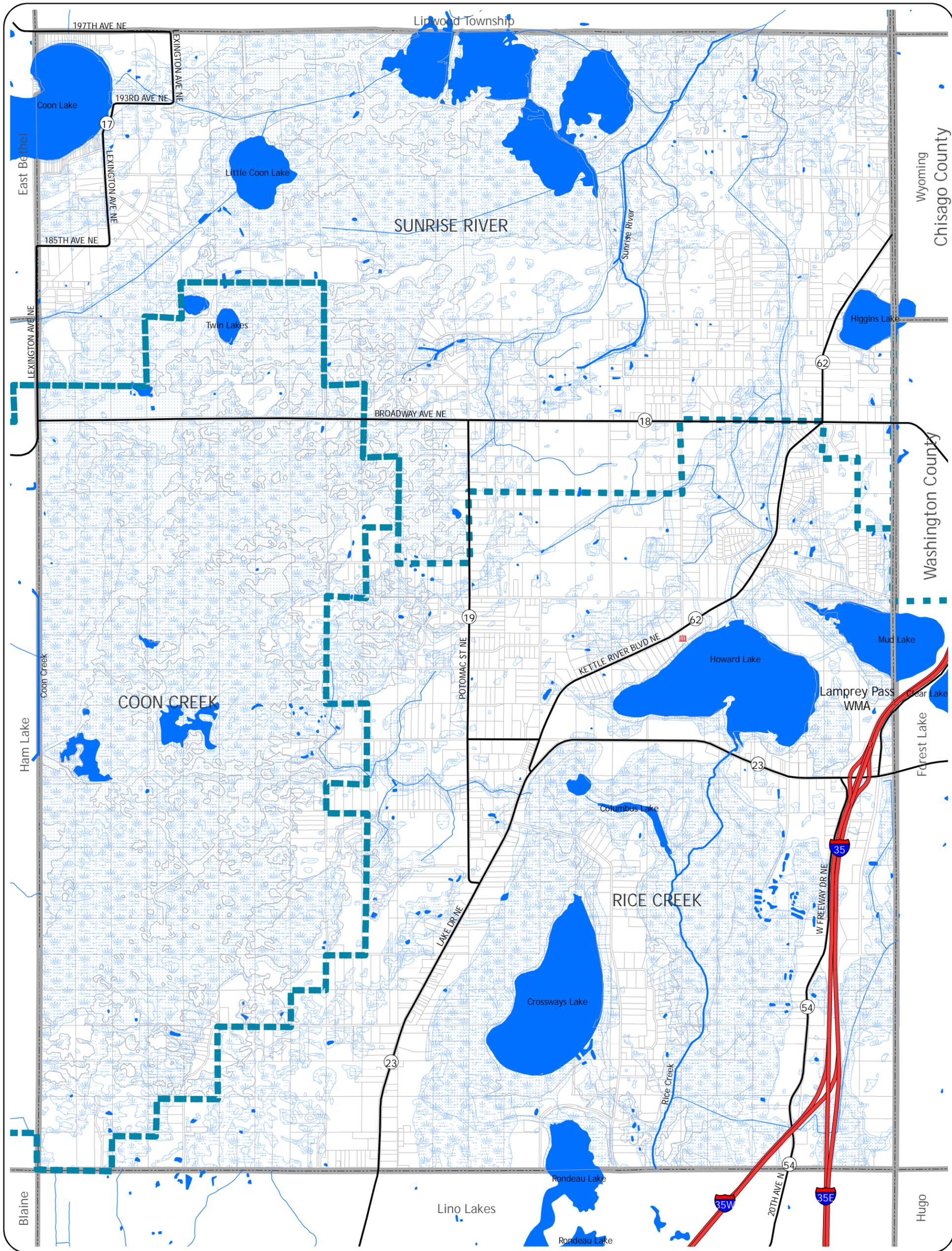


Figure 4 - Water Resources

- Lakes
- Creek/Ditch
- NWI Wetlands
- Watershed Management Organization/District
- Floodplain

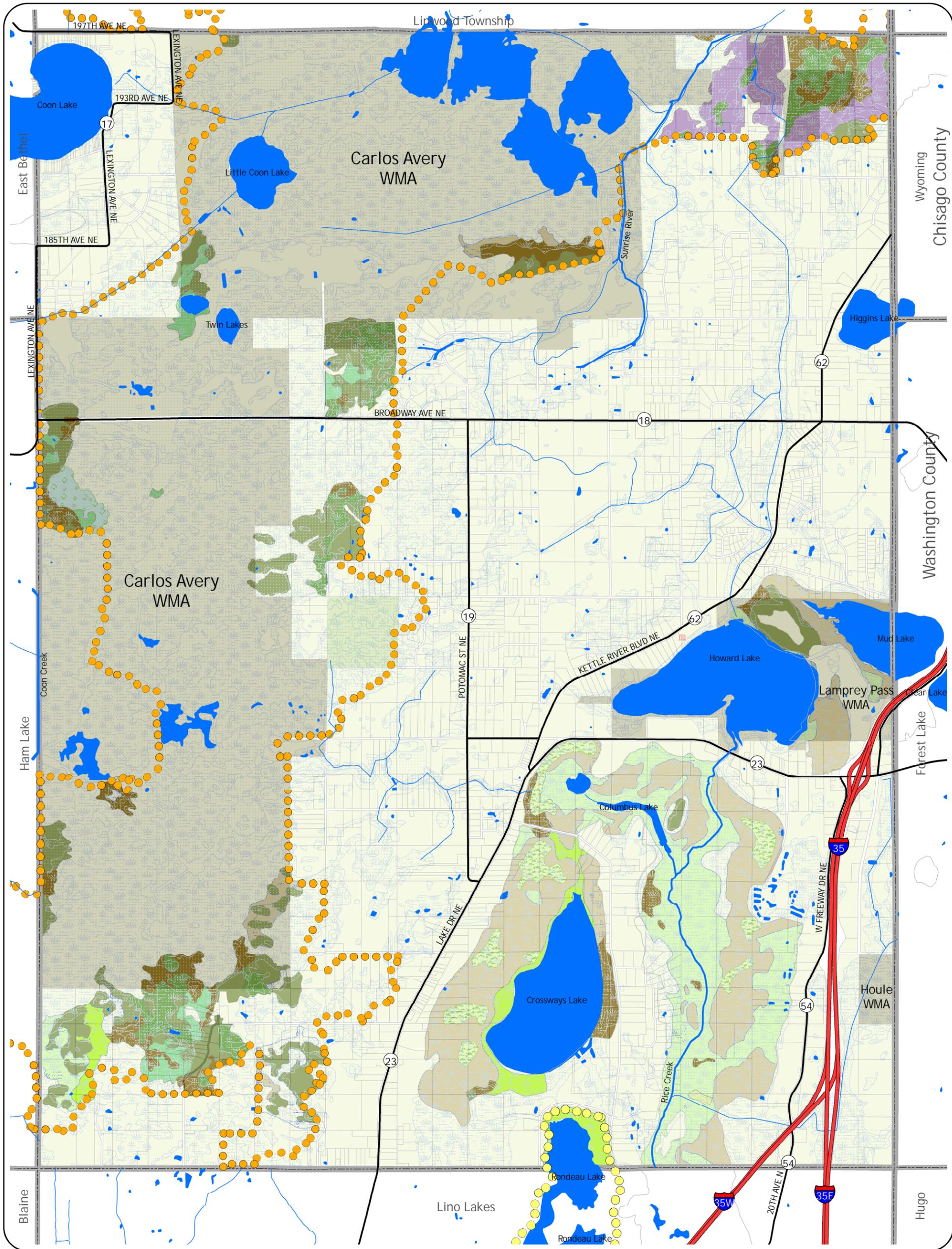


Figure 5 - Upland Natural Resources

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| <p><b>Biodiversity Significance</b></p> <ul style="list-style-type: none"> <li> MCBS site with high biodiversity significance</li> <li> MCBS site with outstanding biodiversity significance</li> </ul> |  | <p><b>Plant Community</b></p> <ul style="list-style-type: none"> <li> LOWLAND HARDWOOD FOREST</li> <li> MAPLE-BASSWOOD FOREST (EAST CENTRAL)</li> <li> MIXED EMERGENT MARSH (FOREST)</li> <li> MIXED HARDWOOD SWAMP</li> <li> OAK FORESTS DRY &amp; MESIC SUBTYPES</li> <li> FEN (RICH/RICH)</li> <li> SHRUB SWAMP</li> <li> TAMARACK SWAMP; SOME MINEROTROPHIC SUBTYPE</li> <li> WET MEADOW</li> <li> ALDER SWAMP</li> <li> CATTAIL MARSH</li> <li> EMERGENT MARSH</li> <li> HARDWOOD SWAMP FOREST</li> </ul> |  | <ul style="list-style-type: none"> <li> State Forest</li> <li> Wildlife Management Area</li> <li> Lakes</li> <li> Creek/Ditch</li> <li> NWI Wetlands</li> <li> Floodplain</li> </ul> |  |
|---|--|--|--|--|--|



## H. Transportation

Columbus is served by a network of federal, state, county, and local roadways. Interstate highways 35E and 35W converge into I-35 in a 3-mile corridor in the southeast corner of the City. The interstate highways are functionally classified as Principal Arterials. One interchange is located in Columbus at County State Aid Highway (CSAH) 23 and state Trunk Highway (TH) 97.

TH 97 is classified as an A Minor Expander and extends eastward into Washington County. Less than a quarter mile of TH 97 is located in Columbus. CSAH 23 (Lake Drive) is classified as an A Minor Reliever, extending westerly from I-35 then southerly into Lino Lakes where it intersects with I-35W. CSAH 62 (Kettle River Boulevard) is an A Minor Reliever, connecting CSAH 23 in the center of the City and CSAH 18 (Broadway Avenue) to the north. CSAH 62 extends north of CSAH 18 into Chisago County, but this segment of the roadway is classified as a Major Collector.

CSAH 18 is an A Minor Expander, connecting CSAH 17 (Lexington Avenue) at the western Columbus border with Ham Lake to Interstate 35 in Forest Lake via Washington County Highway 2. CSAH 17 is an A Minor Expander in the northwest corner of the City, extending southward through Ham Lake and Blaine to the Ramsey County Border. County Road (CR) 19 (Potomac Street) is B Minor Arterial connecting CSAH 23 to CSAH 18 in the center of the City. CSAH 54 (West Freeway Drive) is an A Minor Reliever extending southward from CSAH 23 near the I-35 interchange through Lino Lakes and Centerville to Ramsey County. Pine Street is identified as a Major Collector.

There are approximately 4.3 miles of interstate and state highways and approximately 35.3 miles of county highways in the City. Columbus maintains a network of local streets throughout the balance of the City. Columbus currently maintains approximately 53.7 miles of City streets, 31.5 miles of which are gravel and 22.2 miles are paved. **Figure 6** illustrates the transportation network in Columbus, including functional classifications, existing traffic counts and 2030 traffic forecasts.

### *Transit*

Columbus is located in Market Area IV outside of the metropolitan transit taxing district. A park-and-pool rideshare parking lot has operated near the I-35 interchange for many years and was relocated in 2008 to the Running Aces harness race track west of I-35 on Lake Drive. This facility has 300 parking spaces and is operating in 2008 as a park-and-ride facility with temporary express bus (route 288) service to Minneapolis. The Metropolitan Council began operating the demonstration service with a one-year grant from the USDOT in response to the I-35 bridge collapse in Minneapolis. Service is scheduled to end in the fall 2009, unless extended. Columbus and adjacent cities in Market Area IV have evaluated opting into the metropolitan transit taxing district in 2008 and 2009. Columbus has formally opted in the taxing district.

Columbus is a member of the Rush Line Corridor Task Force, a joint powers organization including cities, townships and counties between St. Paul and Duluth. The Task Force is coordinating with multiple agencies on feasibility studies for the planning and development of commuter rail or light rail transit within the twin cities and Duluth and local bus alternatives.

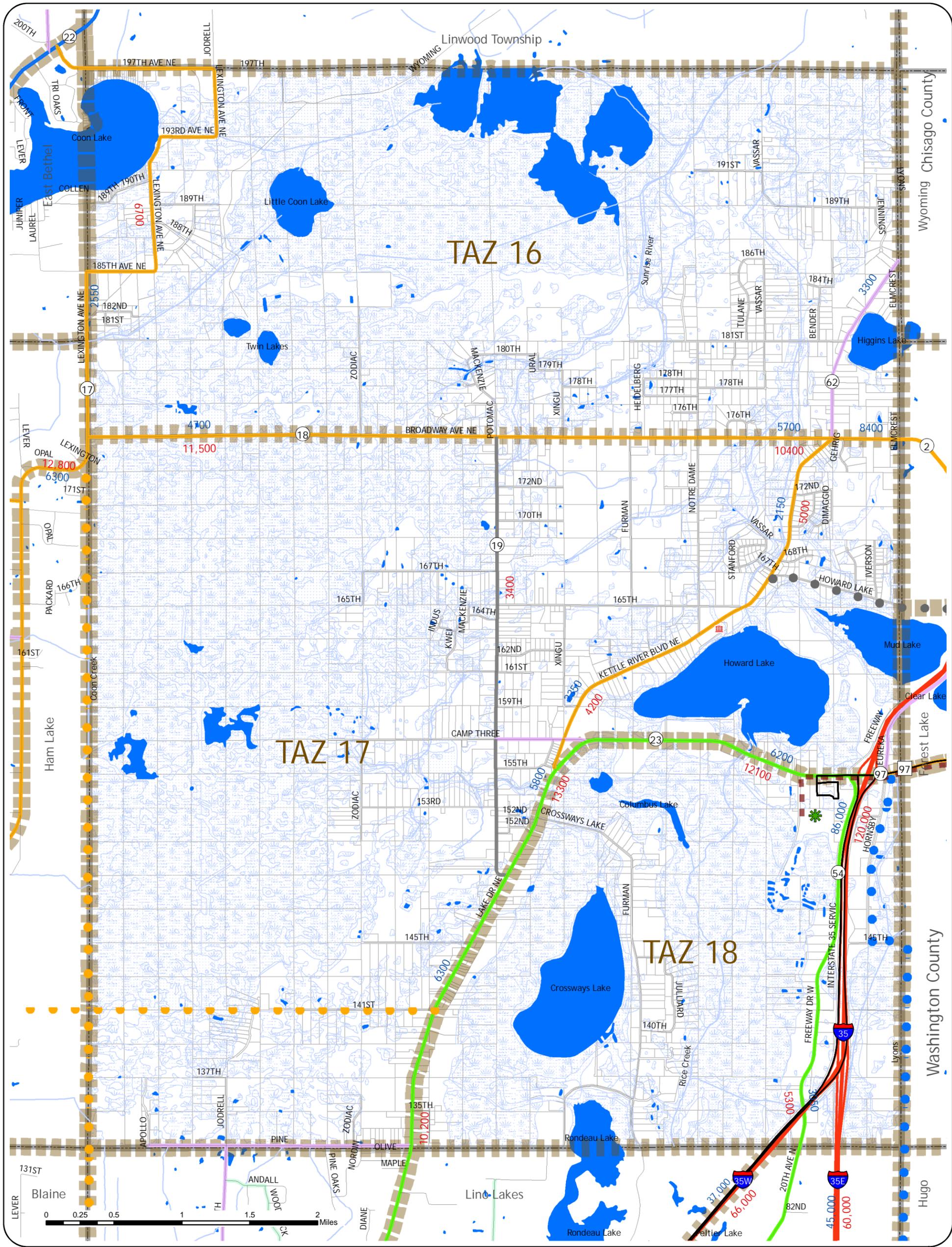


Figure 6 - Transportation

|  |                                  |                 |  |                  |                        |                               |  |
|--|----------------------------------|-----------------|--|------------------|------------------------|-------------------------------|--|
|  | <b>Functional Classification</b> |                 | <b>Potential Future Roads</b>          |                  | <b>Traffic Volumes</b> |                               | City Hall<br>Streams<br>DNR lakes<br>Floodplain<br>NWI Wetlands<br>Resource Strategies Corporation |
|  | Principal Arterial               | Major Collector | A Minor Expander                       | A Minor Reliever | 2006/7 MnDOT           | Traffic Assignment Zone (TAZ) |  |
|  | A Minor Reliever                 | Minor Collector | A Minor Reliever                       | B Minor          | 2030 Anoka County      |                               |  |
|  | A Minor Expander                 | Local Road      | Potential Rush Line Corridor Bus Route |                  |                        |                               |  |
|  | A Minor Connector                | MTC Route 288   |  |                  |                        |                               |  |
|  | Park & Pool Lot                  |                 |  |                  |                        |                               |  |

Source: Anoka County May 2009

The Rush Line Corridor Task Force is also evaluating express bus route alternatives from Columbus through the Forest Lake Transit Center to downtown St. Paul. The Anoka County Traveler Dial-a-Ride is the only other bus service available in Columbus. The Anoka County Transportation Management Organization (TMO) coordinates volunteer driver services, vanpooling, and other alternative transportation services within the County.

### ***Aviation***

The nearest airport is the Forest Lake Airport, located 1.5 miles east of Columbus on TH 97. The Forest Lake Airport has a turf runway and is considered a special purpose airport (business and pleasure). Plans have been prepared for a paved runway expansion of the airport. Columbus is a member of a Joint Airport Zoning Board with the City of Forest Lake. Anoka County-Blaine Airport is a minor reliever airport in the metropolitan system, located six miles southwest of Columbus. Howard Lake, Mud Lake, Coon Lake and nearby Clear Lake are all identified for seaplane use. There are currently no obstructions in the City to navigable airspace.

## II 2030 Land Use Plan

The City of Columbus is a rural residential community with emerging urban characteristics in the Interstate 35 corridor. The rural development pattern is consistent with the extraordinary amount of wetlands and lakes and extensive woodland areas in the community. This Plan maintains the rural character of the majority of the City while also focusing on the more dense development of commercial and industrial uses with access to public utilities within the I-35 corridor. Columbus does not have much developable land left in the community.

### A. Community Goals and Policies

Goals and policies are official statements that provide the basis for strategies to manage growth and change in Columbus. Goals are general statements that reflect community values regarding the built and natural environments, and are listed below. Policies are more specific, official positions of the City that guide planning decisions and implementation strategies, such as capital improvements, zoning and other official controls. Policies are included with each future plan element of this document.

#### General Growth Management Goal

*It is the goal of the City of Columbus to manage future growth in a manner consistent with the protection of public health, safety and welfare; the preservation of natural features and environmental systems; the protection of the rural character and identity of the City; and the development of new employment opportunities and tax base in the community.*

#### ***Rural Area Goals***

It is the goal of the City of Columbus to:

- Protect the rural character in the City.
- Maintain land use patterns which ensure compatibility and function of uses.
- Establish land use patterns that reflect natural amenities and environmental constraints.

#### ***Residential Goals***

It is the goal of the City of Columbus to:

- Provide for the orderly development of safe and efficient housing opportunities.
- Maintain housing opportunities that will be consistent with the rural nature of the City and the protection of environmental systems.
- Protect the health and safety of residents, as well as insuring stable residential areas.
- Protect residential areas from incompatible uses.
- Provide higher density housing alternatives in the I-35 public utility corridor.

#### ***Commercial/Industrial Goals***

It is the goal of the City of Columbus to:

- Provide a variety of development opportunities in the City, including rural and urban business centers.
- Promote opportunities to expand employment opportunities and the tax base in the City.
- Evaluate areas for potential future commercial and industrial expansion.

### ***Environmental Goals***

It is the goal of the City of Columbus to:

- Protect high quality functioning environmental systems from unnecessary impacts of future growth and development activities.
- Maintain and enhance the natural amenities of the City for future generations to enjoy.
- Protect the surface waters and wetland areas of the City to promote aesthetic qualities, natural habitat areas, and ground water recharge.

### ***Transportation Goals***

It is the goal of the City of Columbus to:

- Maintain a safe and efficient road transportation system.
- Improve the current transportation system to relieve congestion and allow growth.
- Enhance transit opportunities in the City.

### ***Park and Recreation Goals***

It is the goal of the City of Columbus to:

- Provide convenient active and passive recreation opportunities to all residents of the City.
- Enhance the existing park and recreation areas in the City.
- Develop trail corridors through the City to link Columbus with adjacent communities and regional parks and regional centers.

### ***Community Facilities Goals***

It is the goal of the City of Columbus to:

- Promote safe neighborhoods and crime prevention in the City.
- Retain the quality of life in the City.
- Provide efficient and responsive services to residents and businesses.
- Maintain the quality of education available to residents.
- Provide cost-effective public utilities within the I-35 corridor.
- Develop a long-term plan for the paving of all public thoroughfares in Columbus.

## **B. Regional Development Framework**

The Metropolitan Council's *Development Framework* is a growth strategy for the region that identifies future areas for development and investments in regional infrastructure, such as highways, sewers, parks, and airports. The *Development Framework* divides the region into geographic planning areas. Columbus is primarily located within the Diversified Rural Area, which is a rural service area with large lot residential uses and little regional investment, except in regional parks. The I-35 corridor is designated as a Developing Area, which allows more traditional suburban development and planned regional investments in transportation and sewers. The I-35 corridor is located within the 2030 Metropolitan Urban Service Area (MUSA).

### ***Population, Household and Employment Forecasts***

The *Development Framework* includes forecasts for population, households, and employment for jurisdictions in all geographic planning areas. Regional investments are based upon these forecasts and are expected to be used to the extent practicable in all communities. **Table 11** identifies the Metropolitan Council's revised city-wide population, household and employment forecasts for Columbus through the year 2030.

**Table 11**  
**Metropolitan Council Population, Household, Employment Data and Forecasts**

|            | <u>2000</u> | <u>2006</u> | <u>2010</u> | <u>2020</u> | <u>2030</u> |
|------------|-------------|-------------|-------------|-------------|-------------|
| Population | 3957        | 4135        | 4000        | 4240        | 4680        |
| Households | 1328        | 1423        | 1450        | 1600        | 1750        |
| Employment | 507         | 981         | 1100        | 1400        | 1500        |

Source: US Census; Metropolitan Council; DEED

As evidenced in **Table 11**, the Metropolitan Council’s 2006 estimate of population exceeds the 2010 population forecast and is nearly at the 2020 forecast. Columbus averaged 18 housing starts per year from 1990-2006. A simple straight projection suggests the 2010, 2020, and 2030 household forecasts will be low. Perhaps the more significant determination for potential new households is not the average or recent trend of rural residential dwellings that will continue to develop, but is the potential for suburban residential development in the I-35 public utility corridor.

The City conducted its own employment survey (75% return from businesses polled) in the spring 2008, identifying 1094 full time jobs and 283 seasonal positions. The survey also revealed approximately 350-400 jobs were anticipated to be created at the Running Aces harness racing facility by the end of 2008. Other employers surveyed indicated over 350 new hires are expected in 2009. The current weakened economy has already affected some of those expectations.

**Table 12** illustrates the combined forecasts for sewerred and unsewerred population, households, and employment growth proposed by the City of Columbus.

**Table 12**  
**City of Columbus Population, Household, Employment Data and Forecasts**

|            | <u>2000</u> | <u>2006</u> | <u>2010</u> <sup>1</sup> | <u>2020</u> <sup>2</sup> | <u>2030</u> <sup>3</sup> |
|------------|-------------|-------------|--------------------------|--------------------------|--------------------------|
| Population | 3957        | 4135        | 4200                     | 5150                     | 5850                     |
| Households | 1328        | 1423        | 1450                     | 1885                     | 2185                     |
| Employment | 507         | 981         | 1200                     | 1600                     | 2000                     |

Source: US Census; Metropolitan Council; DEED; City of Columbus

<sup>1</sup> Maintains Metropolitan Council forecast of 1450 households (includes 5 existing homes temporarily converted to sewer); 2.90 persons per household (pph); assumes 600 rural employment and 600 sewerred employment

<sup>2</sup> Adds 10 rural homes per year and removes one household annually by demolition in sewer district; adds 350 sewerred households; 2.73 pph; assumes 700 rural employment and 900 sewerred employment

<sup>3</sup> Adds 10 rural homes per year removes one household annually by demolition in sewer district; adds 210 sewerred households; 2.68 pph; assumes 800 rural employment and 1200 sewerred employment

### C. 2030 Land Use Plan

This Plan builds upon existing land use patterns and the rural nature of the City. The 2030 Land Use Plan is nearly identical to the 2020 land use strategy in 1999 Comprehensive Plan. **Figure 6** identifies the 2030 land uses that will serve as a framework for the development of the City over the next two decades. Primary land uses in Columbus will continue to include rural residences, substantial permanent open space, rural business development, urban business development, and suburban housing opportunities. **Table 13** illustrates the breakdown of acreages in the 2030 land use categories.

**Table 13**  
**2030 Future Land Use Acreages**

| <u>Category</u>       | <u>Gross Acres</u> | <u>Gross %</u> | <u>Net Acres</u> | <u>Net %</u>  |
|-----------------------|--------------------|----------------|------------------|---------------|
| Rural Residential     | 14902.58           | 48.74          | 7153.82          | 23.40         |
| Suburban Residential  | 318.52             | 1.04           | 183.63           | 0.60          |
| Commercial            | 830.02             | 2.71           | 447.91           | 1.47          |
| Industrial            | 387.05             | 1.27           | 151.79           | 0.50          |
| Commercial/Industrial | 627.05             | 2.05           | 436.08           | 1.43          |
| Public/Institutional  | 88.0               | 0.29           | 66.53            | 0.22          |
| WMAs                  | 10,930.22          | 35.75          | 1008.76          | 3.29          |
| State “School Trust”  | 157.10             | 0.51           | 9.55             | 0.03          |
| Park Land             | 898.89             | 2.94           | 178.61           | 0.58          |
| Right-of-way          | 1045.59            | 3.42           | 1045.59          | 3.42          |
| Wetland/Floodplain    | -                  | -              | 19,502.78        | 63.79         |
| Lakes*                | 388.18             | 1.27           | 388.15           | 1.27          |
| <b>TOTAL</b>          | <b>30,573.20</b>   | <b>99.9%</b>   | <b>30,573.20</b> | <b>100.0%</b> |

Source: Anoka County GIS; Resource Strategies Corporation

(Gross acres exclude dedicated ROW; Net acres exclude dedicated ROW, wetlands/floodplain & lakes;

\* All but four smaller lakes are included in the wetland/floodplain calculations)

#### ***Rural Residential Area***

Columbus is unique with its many open spaces, wetlands, and large amounts of land held in permanent public ownership. The City will continue to maintain a permanent rural character of Columbus by continuing to permit only low density rural residences in the majority of the community. Agricultural uses are permitted in the Rural Residential area, but the reality is that agriculture is not a dominant activity or major economic force in the community.

Columbus is also unique in that there are 48 sections of land versus the traditional 36 sections in a standard township. There are approximately 30,573 acres of land in Columbus. The RR Rural Residential zoning district covers the entire City, except for the five commercial and industrial zoning districts, which is approximately 2140 acres. Subtracting zoned commercial and industrial areas, the gross acreage is 28,435 acres, which could theoretically support 2844 rural households at a gross 10-acre density. Due to the extensive amount of public-owned land and wetlands in Columbus, the City has required a maximum density of one home per five acres and minimum lot size of five acres for several decades and will develop the remaining rural residential area at this density.

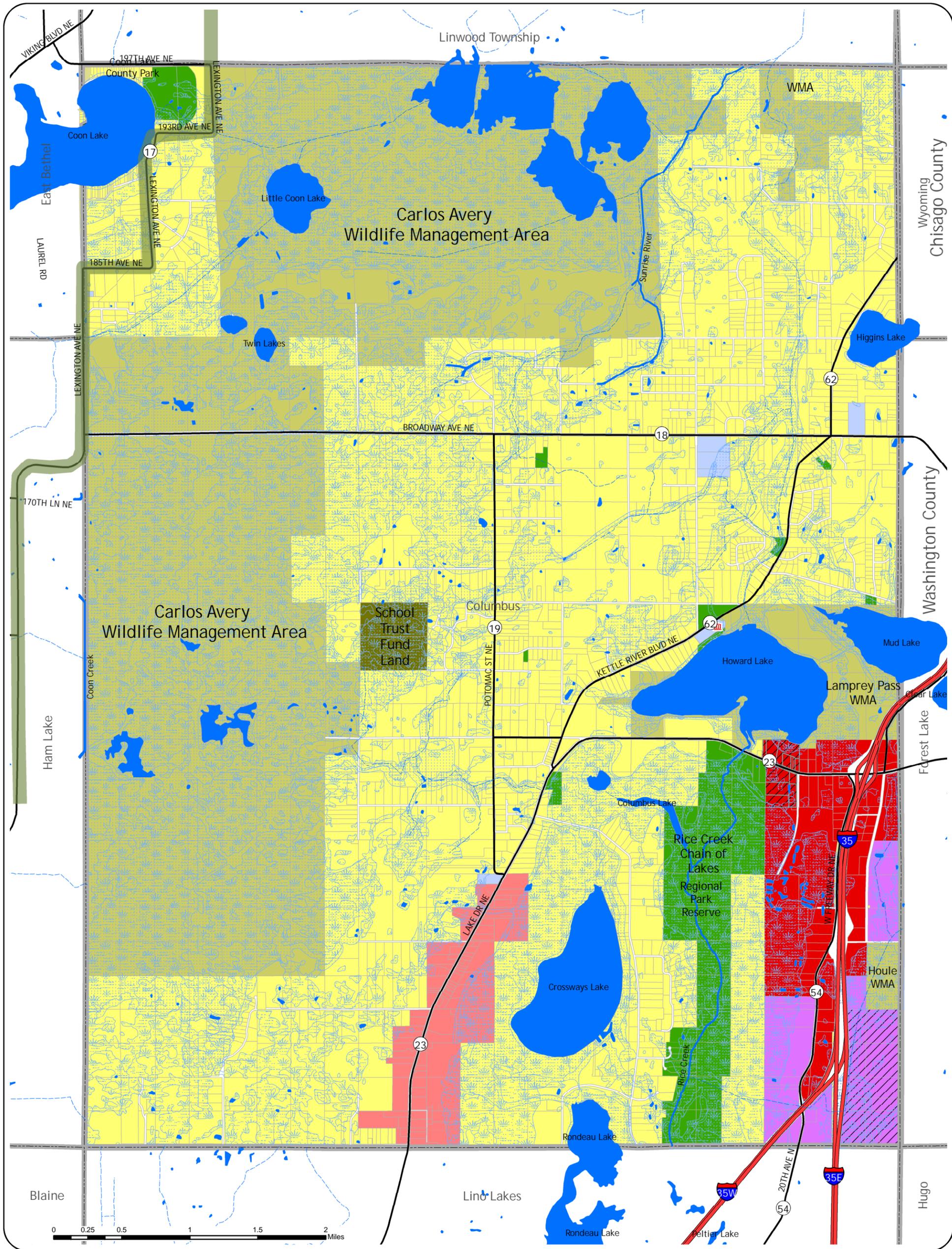


Figure 7 - 2030 Land Use



2030 Land Use Category

- |                       |                              |              |   |
|-----------------------|------------------------------|--------------|---|
| Rural Residential     | Suburban Residential Overlay | Lakes        | Proposed East Anoka County Regional Trail |
| Commercial            | Park                         | Creek/Ditch  | City Hall                                 |
| Commercial/Industrial | Wildlife Management Area     | NWI Wetlands |   |
| Light Industrial      | School Trust                 | Floodplain   |   |
| Public/Institutional  |                              |              |   |



May 2009



### ***Rural Residential Policies***

It is the policy of the City of Columbus to:

- Maintain the existing density of rural residential areas.
- Require adequate lot sizes, minimum buildable areas, and MPCA Rules Chapter 7080, as amended, to sustain individual sewage treatment systems.
- Prohibit unplanned commercial or industrial uses from developing near residential areas.
- Encourage the rehabilitation of the existing housing stock in the City as a source of affordable housing.
- Coordinate with the Anoka County Housing and Redevelopment Authority to provide housing improvement assistance to residents.
- Participate in appropriate programs that will enhance housing opportunities for senior citizens.

### ***I-35 Corridor Suburban Residential***

There are several existing single family residences within the various land use areas of the Freeway Corridor. Residences in existence on May 1, 2003 in the Freeway Corridor are permitted uses in the corridor zoning districts, but no new single family detached dwellings are allowed in business zones. Columbus has established a residential zoning district for single family attached dwellings and assisted living senior citizen housing. The SR Suburban Residential District allows single family attached residential dwellings at a density of three units per acre. A density of six units per acre may be allowed through the Planned Unit Development (PUD) provisions of the Columbus Zoning Ordinance. Senior citizen housing is currently a conditional use in the CR District.

The 2020 Comprehensive Plan (1999) indicated that perimeter locations in the Freeway Corridor were best suited for future potential residential development, particularly in the northwest corner and southeast corner. The 2030 Land Use Plan established the “Suburban Residential Overlay” in these locations. The Freeway Corridor public utility district and associated financing mechanism were established on the basis of planned commercial and industrial land uses. The Suburban Residential Overlay areas are identified on **Figure 7** with underlying commercial and industrial land use designations. The Planning Commission and City Council have agreed to formally identify these acceptable Suburban Residential locations, while allowing land owners assessed for business development the flexibility of developing residential, business, or mixed-use developments.

The Suburban Residential Overlay in the northwest corner provides the best amenity location within the Freeway Corridor. It is removed from I-35 and is adjacent to Howard Lake and the Rice Creek Chain of Lakes Regional Park Reserve. This area includes approximately 61 acres of net developable land and will support 183 housing units at the minimum density of three units per acre.

The Suburban Residential Overlay in the southeast corner is adjacent to the Houle WMA and planned residential development in the City of Forest Lake. This area contains approximately 122 acres of net developable land and will support 366 housing units at a minimum density of three units per acre. The acreages in **Table 13** accurately reflect the gross and net acreages for the Suburban Residential areas, rather than the underlying commercial or industrial acreages.

Consideration for development of residential uses within the Suburban Residential Overlay areas will not require a comprehensive plan amendment, but will require rezonings of commercial or industrial land to the SR Suburban Residential zoning district. The revised 2010-2020 Metropolitan Council goal for 53 units of affordable housing in Columbus is most likely to be met within Suburban Residential development concepts in the Freeway Corridor. The Anoka County Housing and Redevelopment Authority (ACHRA) administers housing and redevelopment services and economic development services in Columbus. The City will work with the ACHRA to provide housing assistance for affordable and life cycle housing opportunities within the Suburban Residential area and general housing rehabilitation assistance throughout the rural residential area.

### ***Suburban Residential Policies***

It is the policy of the City of Columbus to:

- Limit single family attached residential development to locations within the Suburban Residential Overlay areas in the Freeway Corridor.
- Encourage the development of single family attached residential development in the Suburban Residential Overlay areas to expand life cycle housing alternatives and housing price options that do not exist in the rural residential area.
- Encourage the development of single family attached residential development in the Suburban Residential Overlay areas to provide additional housing choices for increasing employment opportunities.
- Promote the development of senior citizen housing, including assisted living and similar adult care facilities in the Freeway Corridor.
- Minimize the impacts on future residential uses due to area commercial and industrial land uses and freeway proximity.
- Maintain high design and development standards within all residential development areas.
- Coordinate affordable housing needs with the Anoka County Housing and Redevelopment Authority.

### ***Commercial/Industrial Mixed Use Area***

Business development along Lake Drive has historically allowed a mix of commercial and industrial land uses. The corresponding zoning district for this area is the C/I Commercial/Industrial District. Residences in existence on May 1, 2003 in the C/I District are permitted uses, but no new residences are permitted. This area is transitioning from residential and business mixed uses to all commercial and industrial uses.

The zoning boundary for the commercial/industrial area has historically been 1000 feet east of Lake Drive and 400 feet on the west side. Several parcels have been split by this zoning boundary and individually rezoned to the length of the parcel. The 2030 Land Use Plan identifies the outer limits of the parcels within the current zoning boundary, creating an irregular shaped land use area. The City plans to amend the Zoning Map to correspond with the illustrated land use designation. Existing residences in the C/I District are identified as permitted uses, but no new residential development is permitted.

The Lake Drive commercial/industrial area is currently served with private sewer and water systems. The types of uses permitted in this area are dependent upon the demonstrated capability of providing private utilities. Columbus staff have initiated discussions with the City of Lino Lakes to examine the feasibility of extending public utilities from Lino Lakes to the Lake Drive commercial/industrial area. Coordination of such municipal service options are also dependent upon metropolitan sewer interceptor improvements and local trunk sewer alternatives. The City of Columbus will continue to examine alternatives for public utilities in this area.

### ***I-35 Corridor Commercial Uses***

The I-35 corridor is planned with several commercial land use distinctions. The corridor is benefited with municipal trunk sewer and water facilities. The highest intensity uses – retail, office, restaurant, hospitality, and entertainment – are planned nearest to the I-35 interchange. The corresponding zoning district in this area is CR Community Retail. The Community Retail District requires the highest architectural and design standards within the Freeway Corridor.

Columbus has become the home of the Running Aces harness race track, opened in 2008. As a regional entertainment facility, the race track is located close to the I-35 interchange and is situated among other planned higher intensity commercial retail uses. Because of its unique characteristics, a separate zoning district was established for this use. The HR Horse Racing District allows standard bred horse racing, pari-mutuel betting, simulcasting, card clubs, and food and beverage services. The HR District also requires the highest architectural and design standards within the Freeway Corridor.

The center section of the Freeway Corridor is planned for more extensive retail uses and service facilities, such as “big box” retail, building supply centers, office/showrooms, automobile sales, fitness centers, and hospitals. The corresponding zoning district is the C/S Commercial/Showroom District. The C/S District is a transition area from higher intensity retail uses to more land intensive light industrial uses. Municipal trunk sewer and water facilities are now in place to serve the commercial showroom area.

### ***I-35 Corridor Industrial Uses***

The southern portion of the Freeway Corridor and locations without direct visibility from I-35 are planned for light industrial uses. The corresponding zoning district in this area is the LI Light Industrial District. The LI District allows warehousing, equipment sales and service, wholesale distribution and sales, light manufacturing, greenhouses and landscape businesses. An example of uses in this area is the Ziegler Caterpillar heavy equipment sales and service center. Municipal sewer and water is available to light industrial users on the west side of I-35 and the northerly portion of the light industrial area on the east side of I-35. Complete utility service in this area is dependent upon utility staging plans and petitions for sewer and water service.

### ***Commercial and Industrial Policies***

It is the policy of the City of Columbus to:

- Allow for intensification of commercial/industrial opportunities in the Lake Drive corridor, consistent with the rural character of the City, and compatible with adjacent residential uses.
- Maintain adequate lot sizes and minimum buildable areas for commercial/industrial uses

in the Lake Drive corridor to provide for convenient and safe access, to ensure adequate installation and operation of private utilities, and to allow site buffering and landscaping.

- Promote shared driveways and frontage roads in the Lake Drive corridor in order to minimize highway access points.
- Minimize potential incompatibilities between commercial/industrial and residential uses.
- Coordinate and promote marketing of Lake Drive and Freeway Corridor business development opportunities.
- Maximize existing investment and development opportunities within the Lake Drive business area and Freeway Corridor before expanding or establishing new business development areas.
- Maintain high design and development standards within all business development areas.
- Pursue and coordinate potential extensions of public utilities in the Lake Drive corridor with the City of Lino Lakes and the Metropolitan Council.
- Maintain a hierarchy of land uses within the Freeway Corridor, reserving land adjacent to the I-35 interchange for the highest intensity uses and land furthest from the interchange for more extensive land uses.
- Promote a pedestrian friendly development standard within the Freeway Corridor to provide internal non-vehicle access options and ensure future residential development has pedestrian access and circulation within the Freeway Corridor.

#### **D. Community Facilities and Services Plan**

The City Hall is located on the east side of Kettle River Boulevard adjacent to Howard Lake. This site also includes the City's fire hall, public works facility and a senior citizen center. Fire fighting services are provided through a joint powers agreement between Columbus, the City of Forest Lake, and Wyoming Township. Police services are provided by the Anoka County Sheriff.

It is the intent of the City to provide a range of cost-effective services to the community, including police and fire protection, street maintenance, public utility maintenance, and parks and recreation, based on priorities set by community residents. The City also seeks to continually evaluate the efficiency of the services offered. Privatization, cost sharing, joint services with other units of government, and capital improvements planning are options that the City will consider as part of an evaluation process. Currently, the City has no plans for new or expanded facilities; however, the City acknowledges that it is imperative to identify long range needs in order to serve anticipated new residential and commercial/industrial development.

#### ***Solar Access Protection***

Columbus recognizes the importance of protecting solar access from potential interference by adjacent structures. Due to the rural, low-density character of Columbus, it is unlikely that solar energy systems would be precluded by structure inference in most areas. Provisions within the Zoning Ordinance related to density, height, and structure setback in residential, commercial and industrial areas provide adequate protection for solar energy access.

#### ***Historic Preservation***

The history of Columbus is influenced by both Native Americans and the European settlers that followed. Human settlement of areas within Columbus City can be traced back to the presence

of the Hopewell tribe of Native Americans. Archeologists believe that the Hopewell tribe established extensive trading with tribes over the entire continent. Burial mounds are located around Howard Lake in the Lamprey Pass Wildlife Management Area. Three large mounds were discovered in 1889; and it was not until 1977 that an additional three smaller mounds were discovered. Each of these areas are designated and protected as historic sites by the Minnesota Historical Society. In addition, the Minnesota Historical Society believes that remnants of Native American settlements may exist along Kettle River Boulevard northeast of Howard Lake and along Rice Creek.

The only buildings in Columbus that are on the National Register of Historic Places is the Carlos Avery Game Farm, located Broadway Avenue. It has been on the Register since 1991. It is the site of buildings built by the WPA in the 1930's and includes an entrance gate to the site that is built of stone and iron. During that era, it was a national showplace for the rearing of quail. The facilities are now the home of the north metro wildlife office of the Department of Natural Resources (DNR), the headquarters for the DNR's Carlos Avery Wildlife Management Area, and the Wildlife Science Center, a nonprofit group that conducts research on wolves.

The City supports efforts to preserve the heritage of the community. Columbus also supports archeological research prior to or in conjunction with any excavation or building in areas known or suspected to contain burial mounds and other archeological features or artifacts. The city will work with the Anoka County Historical Society and the Minnesota Historic Preservation Office to preserve the cultural resources in the community.

### ***Community Facilities and Services Policies***

It is the policy of the City of Columbus to:

- Explore expanded joint service initiatives and potential utility feasibility through continued communication and cooperation with city, county, and school officials.
- Promote effective communication with residents, business owners, educators and volunteer organizations to maintain an understanding of community goals and objectives.
- Establish priorities for basic services to ensure that the highest levels of safety and accessibility are provided in the City.
- Maintain adequate and efficient administrative, public works, and emergency services to respond to growth in the City.
- Maintain appropriate development standards to ensure adequate protection for the use of solar energy systems.
- Work with the Anoka County Historical Society and the Minnesota Historic Preservation Office to preserve the cultural resources in the community.

## **E. Parks, Trails and Open Space Plan**

Because of the low density rural development in Columbus, the City has not pursued the development of traditional neighborhood parks. Rural residential lots are typically larger than neighborhood parks and residents are afforded personal recreation and open space opportunities with rural residential lifestyles. Current emphasis will be placed on maintaining and improving the Community Park near the City Hall. A survey and master plan for future Community Park redevelopment options were recently completed.

Columbus will develop a Parks and Trails Master Plan that evaluates current City, County, and regional resources, identifies potential needs, identifies partners for parks and trails coordination, establishes plans for park and trail improvements, and creates a timeframe and budget for implementation. Columbus is interested in maximizing the potential development of local and regional trail corridors through the City that connect existing and planned trails, existing parks and recreation facilities, existing neighborhoods and commercial destinations. The City will also examine the potential parks and pedestrian circulation needs in the Freeway Corridor.

The Rice Creek Chain of Lakes Regional Park Reserve is located in Columbus. The park reserve has limited access and limited facilities in the City. Acquisitions to make the park facilities more accessible have not been completed. Anoka County has plans for the future East Anoka County Regional Trail along CSAH 17. This will connect residential areas in the extreme northwest portion of the City with Coon Lake County Park. Washington County also has plans to eventually extend a trail to the City's border along Trunk Highway 97. The City should evaluate and coordinate extending this trail with Anoka County to serve areas along Lake Drive and other destinations.

Recreation and open space opportunities are also provided at the expansive Carlos Avery WMA, the Lamprey Pass WMA, and the Houle WMA. The City has worked closely with the DNR to identify issues regarding the use implications and recreational opportunities of the WMAs, as well as the potential expansion of Carlos Avery WMA and Lamprey Pass WMA. The City will continue to coordinate use and expansion opportunities of the WMAs with the DNR through long range planning and mutual understanding of the City's concerns over potential impacts to adjacent residential land uses and the loss of taxable property. Parks, trails and WMAs are identified on **Figure 7**.

### ***Parks, Trails and Open Space Policies***

It is the policy of the City of Columbus to:

- Design and maintain parks to ensure public safety and efficient services.
- Accept land gifts and forfeitures in areas with potential recreational development opportunities that benefit the community.
- Require dedication of cash in lieu of land in conjunction with the subdivision of all rural residential properties.
- Review and consider park land dedications within the Freeway Corridor to provide active and passive recreation opportunities for business employees and future residents.
- Develop a Parks and Trails Master Plan that evaluates current City, County, and regional resources, identifies potential needs, identifies partners for parks and recreation coordination, establishes plans for park and trail improvements, and a timeframe and budget for implementation.
- Coordinate the potential for area-wide, on-road trail corridors in the City with Anoka County, Washington County, Chisago County, the DNR, and adjacent communities.
- Coordinate use, development, and limited expansion of WMAs with the DNR to ensure safe hunting practices, minimize use impacts on adjacent residential properties, minimize the loss of taxable land, and maximize recreational opportunities for all potential users of the WMAs.
- Coordinate use of regional parks with Anoka County to maximize recreation opportunities and develop trail corridors to enhance pedestrian access to all facilities.

## F. Public Utility Plan

### *Sanitary Sewer*

The I-35 corridor is currently located within the 2030 MUSA. Columbus has been designing and constructing components of municipal sewer and water facilities within the public utility corridor since 1998. The 1999 Comprehensive Plan included a “Tier I” sewer plan component, which identified estimated sanitary sewer flows from 2000-2020 and identified sewer staging areas for the same timeframe. At the Metropolitan Council’s request, the City prepared a “Tier II” Sanitary Sewer Plan in 2004. The Tier II Plan is a more detailed plan for sewer services, including sewer trunk, lift station and facility design information, metropolitan system connection details, and average and peak flow data.

The Tier II Plan and amended Tier I plan were submitted to the Metropolitan Council for approval in the spring of 2005. While the sewer plans were acceptable in form and content by the Metropolitan Council staff, downstream interceptor capacity restrictions caused the Metropolitan Council to put the plans on hold. The 1999 Tier I plan was deemed sufficient by the Metropolitan Council to allow construction of the proposed sewer improvements in the Freeway Corridor.

In 2007, Columbus received petitions for expanded utility service within the northeast and northwest sectors of the Freeway Corridor. The City prepared and forwarded a sewer staging plan amendment to the Metropolitan Council to allow the expansion of public utilities in these areas. The amendment was approved by the Metropolitan Council and current sewer staging within the Freeway Corridor identifies service potential for the entire utility district by 2010. **Figure 8** identifies the current and proposed Sewer Staging Plan. **Figure 9** illustrates the current sanitary sewer collection system. **Table 12** in Section II B. identifies sewer residential household and employment forecasts from 2010 to 2030.

The Tier II Plan identifies five sewer sub-districts within the public utility corridor, totaling approximately 1610.53 gross acres and 791.91 net developable acres (gross less wetland). Sanitary sewer trunk systems and some lateral services have been extended to benefit four of the five sewer sub-districts. The Tier II Plan identifies the maximum annual sewer flows within the sewer system with complete district development occurring by 2030. **Table 14** illustrates the proposed average annual sewer flows from 2008-2030, based on the sewer household forecasts in **Table 12** and the average annual addition of six acres of commercial and industrial development between 2010 and 2030.

### *Inflow and Infiltration*

Because of the newness of the Columbus sewer system, including construction materials and construction techniques, and ordinance prohibitions for storm drain, roof drain or floor drain connections to the sanitary sewer system, there are no inflow or infiltration problems in Columbus. The City will establish an ongoing maintenance and inspection program in the future to monitor potential sources of inflow and infiltration in the sanitary sewer system.

**Table 14**  
**2010-2030 Average Annual Sewer Flows**

| Year | <u>Residential<br/>Flows (mgd)</u> | <u>Commercial<br/>Flows (mgd)</u> | <u>Cumulative<br/>Flows (mgd)</u> |
|------|------------------------------------|-----------------------------------|-----------------------------------|
| 2008 | -                                  | 0.028                             | 0.028                             |
| 2010 | 0.001                              | 0.043                             | 0.044                             |
| 2015 | 0.049                              | 0.081                             | 0.130                             |
| 2020 | 0.096                              | 0.113                             | 0.214                             |
| 2025 | 0.125                              | 0.156                             | 0.281                             |
| 2030 | 0.153                              | 0.193                             | 0.346                             |

Residential flows are based on an average 274 gallons per day per unit; commercial/industrial flows average 1250 gallons per day per acre

***Future Service Considerations***

Columbus has held discussions with the City of Lino Lakes to examine the feasibility of extending public utilities from Lino Lakes to the Lake Drive commercial/industrial area. Coordination of such municipal service options is also dependent upon metropolitan sewer interceptor improvements and local trunk sewer alternatives. The City of Columbus will continue to work with the City of Lino Lakes and the Metropolitan Council to examine alternatives for public utilities in this area.

Columbus has attended meetings with the Metropolitan Council and City of East Bethel discussing potential metropolitan sewer treatment alternatives in East Bethel and potential municipal sewer service in the Coon Lake area. There are approximately 50 residences in Columbus that are located on Coon Lake. The City is interested in continuing discussions with East Bethel and the Metropolitan Council to participate in potential municipal sewer service to the Coon Lake area.

***Municipal Water***

In 2003, several property owners within the I-35 Freeway Corridor petitioned for installation of municipal water to complement metropolitan sewer service. In 2005, the first trunk watermain was constructed in West Freeway Drive and Well No. 1 became operational in February 2007. The initial capacity of Well No. 1 at 400 gpm was disappointing. In 2006, Ziegler, Inc. began planning for a new Caterpillar dealership on West Freeway Drive. The fire protection needs of Ziegler exceeded the production of Well No. 1 and its 7,500 gallon hydropneumatic tank, therefore Ziegler planned a private 150,000 gallon ground storage tank with booster pump. The City entered into an agreement with Ziegler to purchase the ground storage tank and pumping facilities no later than December 31, 2012. The storage tank and pumping facilities were carefully designed to meet public water supply standards.

Planning began in 2003 for a harness racing track and card room in the I-35 corridor. Although the path to approval would ultimately take longer than for Ziegler, the City realized additional water supply and fire fighting capacity would be needed. The City implemented a search for the site of its next two wells. Wells No. 2 and No. 3 came on line on April 30, 2008, with a total combined capacity of 2,100 gpm, in time for the full occupancy of the harness track facility.

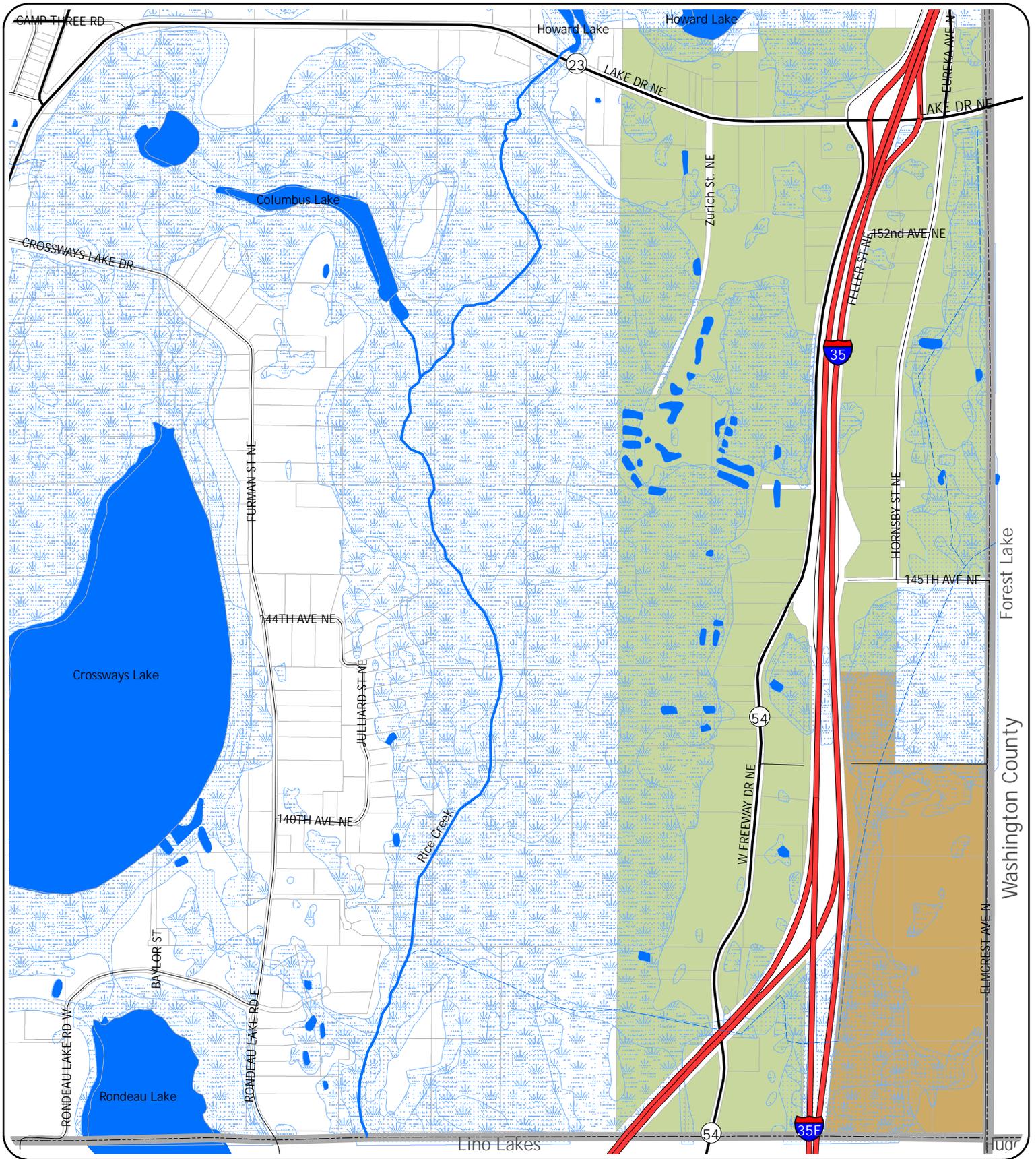


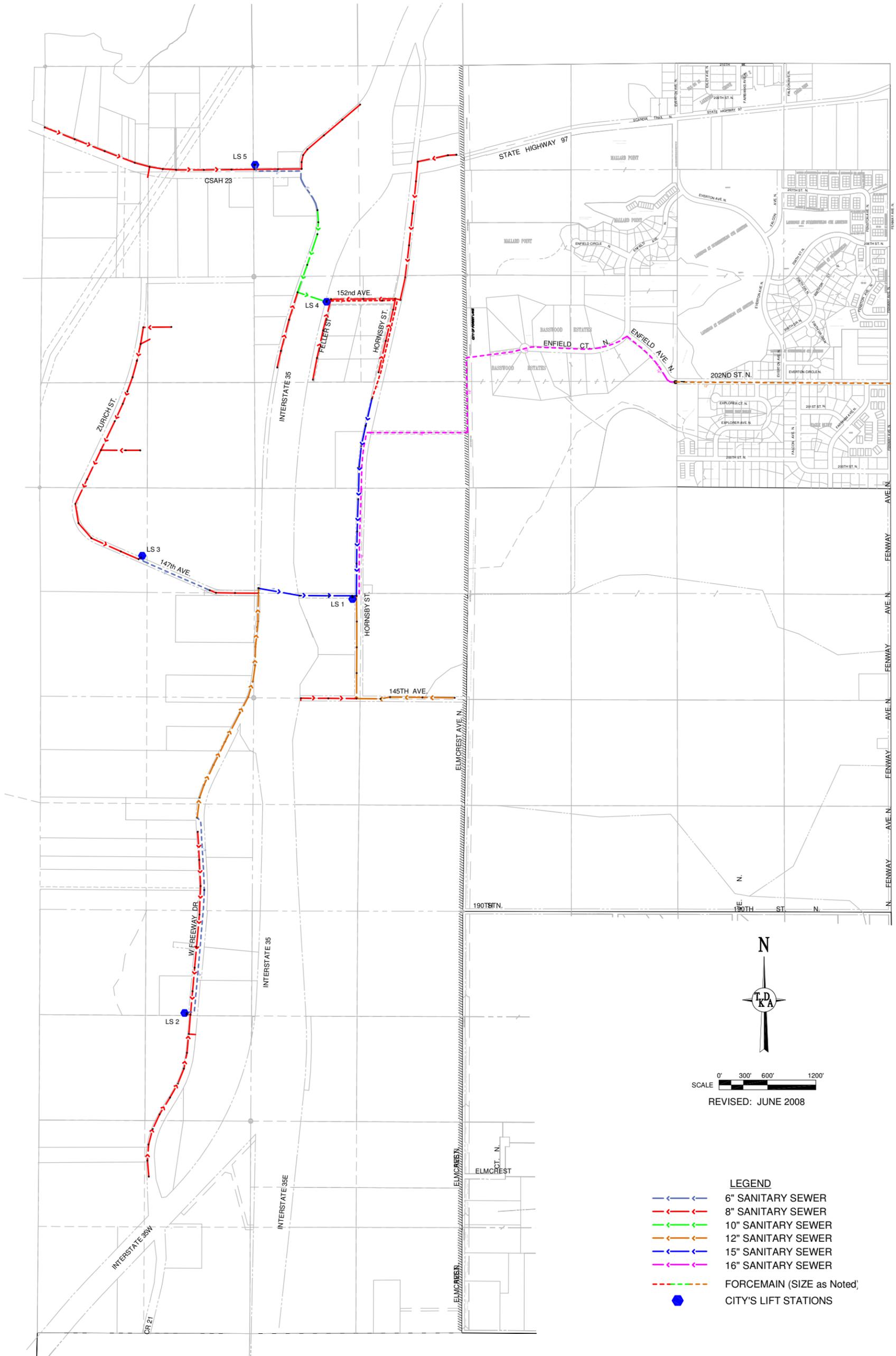
Figure 8 - Sewer Staging

Service Areas

- Outside of public sewer service area
- Existing Sewer Service Area
- 2010 Sewer Service Area Addition

- Lakes/Surface Water
- Creek/Ditch
- NWI Wetlands
- Floodplain

# CITY OF COLUMBUS



The current watermain network is illustrated on **Figure 10**. By the end of 2008, about two-thirds of the I-35 corridor will have water service available to it. Water service is extended upon property owner petition. It is anticipated that the entire I-35 corridor will be served within the planning period.

The following is a summary of the City’s water supply. No additional supply is anticipated to be needed within the planning period.

| <b>WELL NO.</b>      | <b>LOCATION</b>                           | <b>DEPTH</b> | <b>FORMATION</b>   | <b>CAPACITY</b> |
|----------------------|---|--------------|--------------------|-----------------|
| <b>1<br/>#731131</b> | Pumphouse No. 1<br>14405 West Freeway Dr. | 180 ft.      | Drift              | 400 gpm         |
| <b>2<br/>#749393</b> | Pumphouse No. 2<br>9052 147th Avenue      | 168 ft.      | Drift              | 1,000 gpm       |
| <b>3<br/>#749394</b> | Pumphouse No. 2<br>9052 147th Avenue      | 396 ft.      | Ironton/Galesville | 1,100 gpm       |

All well water is treated with chlorine for disinfection, fluoride for prevention of dental decay, and polyphosphate to sequester iron and manganese. Current storage consists of a 7,500 gallon hydropneumatic tank at Pumphouse No. 1. Prior to the end of 2012, the City will purchase the 150,000 gallon ground storage tank and booster pump from Ziegler and incorporate it into the municipal system. Near the end of the planning period, it is anticipated that 500,000 gallons of elevated storage will be added. The City has already acquired a site on Zurich Street, about one-quarter mile south of Lake Drive for the elevated tank. (**Appendix C** includes the Water Supply Plan).

## **G. Natural Areas and Water Resources Protection Plan**

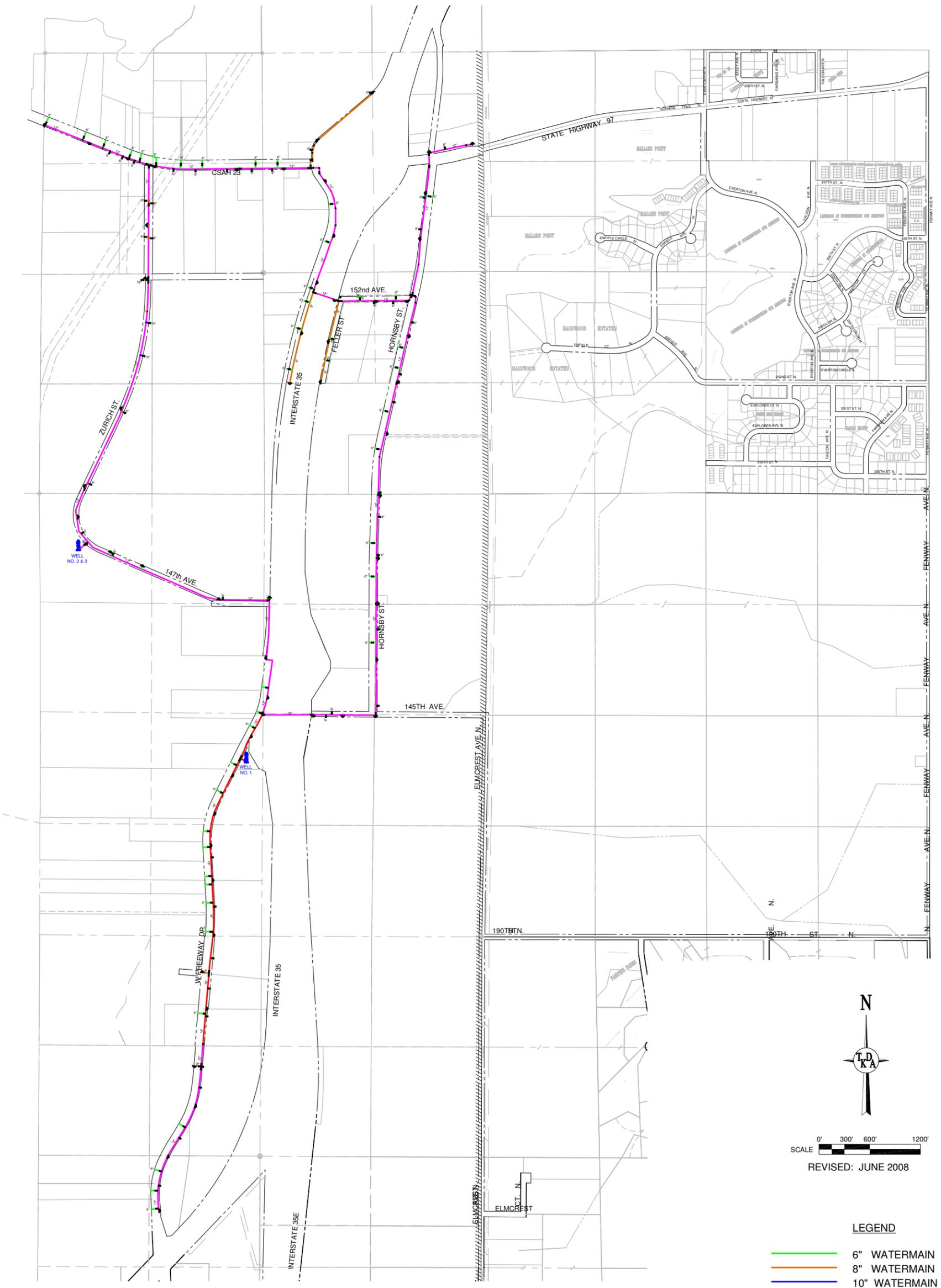
Columbus is committed to the protection and preservation of natural resources. The City will comply with all federal, state, and watershed regulations regarding activities that may impact these resources. The following are specific environmental areas, which the City will address in order to protect natural resources in the City and surrounding areas.

- Groundwater Supply and Quality
- Shoreland and Floodplain Management
- Woodlands Protection
- Water Resource Management

### ***Groundwater Supply and Quality***

Groundwater from wells is a principal source of water for many households and communities. It resides in large, underground bedrock storage areas known as aquifers. Geologic and soil characteristics impact the sensitivity of these aquifers to contaminants from the surface, such as those contained in stormwater (e.g., natural and chemical pollutants). To varying degrees, pollutants are filtered from stormwater before they penetrate the aquifer. The aquifer units that underlie Columbus are the glacial drift, the Franconia-Ironton-Galesville, and the Mount Simon-Hinckley.

# CITY OF COLUMBUS



SCALE 0' 300' 600' 1200'

REVISED: JUNE 2008

**LEGEND**

- 6" WATERMAIN
- 8" WATERMAIN
- 10" WATERMAIN
- 12" WATERMAIN
- 16" WATERMAIN
- - - RAW WATERMAIN
- GATE VALVE
- HYDRANT & VALVE
- WELL

Sandy soils aggravate aquifer contamination much faster than loam or clay soils. The permeable nature of the glacial drift aquifer allows for downward movement of any contaminants spilled into the drift to seep into the bedrock aquifer. Additionally, the bedrock aquifer is carved with many valleys and subsequently filled with glacial outwash and till. These valleys allow for easy mixing of any water between the valley drift and the bedrock aquifer. This allows for downward moving waters, and any pollutants it carries, to quickly infiltrate the aquifer system.

The City of Columbus has adopted, by reference and as amended, Individual Sewage Treatment System standards of the Minnesota Pollution Control Agency, cited as Minnesota Rule Chapter 7080. Chapter 14, Article VI of the Columbus City Code outlines restrictions and requirements for the evaluation of treatment sites and the installation, construction, maintenance, repair, and inspections of individual sewage treatment systems. All individuals performing site evaluation, installation, inspection, and pumping of individual sewage treatment systems must be licensed and maintain MPCA certification to perform such work. There are approximately 1475 residential, commercial, and public ISTSs in Columbus.

The owner of each individual sewage treatment system must submit an inspection report of the system once every three years, indicating that the system meets minimum maintenance standards for individual sewage treatment standards. If a property owner fails to submit a triennial report, the Zoning Administrator will direct the Building Inspector or other qualified individual to inspect the owner's system on their behalf. The costs of such inspections are billed to the owner. Columbus' ISTS inspection and maintenance program was heralded by the Metropolitan Council in 1999 as a model ordinance for ISTS management.

The City recognizes the importance of groundwater sensitivity and has established environmental protection policies that will enhance protection of groundwater in the City and region. The City will ensure protection of local groundwater through implementation of its ordinances regulating individual sewage treatment systems, wetland protection, and stormwater management.

### ***Shoreland and Floodplain Management***

Shoreland and floodplain area development activities in the City are subject to standards and permitting requirements contained in Columbus' Shoreland Management Ordinance and Floodplain Management Ordinance. The City's ordinances were approved by the Minnesota Department of Natural Resources in 2007.

Lakes and rivers are classified for regulatory purposes by the Department of Natural Resources. Columbus, Crossways, Higgins, Howard, Mud, and Rondeau Lakes are classified as "Natural Environment Lakes" and Coon Lake is classified as a "General Development Lake." Rice Creek is classified as a Tributary River. Water bodies and water courses located within Carlos Avery WMA, including Twin Lakes, Little Coon Lake, and several unnamed Natural Environment Lakes, are also regulated under the Shoreland Management Ordinance. Rice Creek, Sunrise River, and Coon Creek are all classified as Tributary Rivers.

### ***Woodlands Protection***

Columbus values the extensive woodlands areas throughout the community. The City has

adopted a Forestry Regulations chapter in the City Code. The Forestry Regulations provide restrictions for the unnecessary removal or destruction of trees, requirements for tree protection plans when warranted, and Oak Wilt Disease and Shade Tree Pest inspection and treatment programs. Columbus has created a Tree Board to oversee tree protection in the City and hires the services of an arborist to assist in the enforcement of the Forestry Regulations.

### ***Natural Areas and Water Resources Protection Space Policies***

It is the policy of the City of Columbus to:

- Enforce all local and state regulations for activities occurring in naturally or environmentally sensitive areas.
- Protect the woodland resources in the City through the prohibition of clear cutting practices, through disease and pest prevention and treatment programs and standards, through landscaping replacement requirements, and through minimum landscaping requirements in new developments.
- Restrict or prohibit development in floodplain areas, wetlands, shoreland areas, and other natural areas which serve important environmental functions and values.
- Enforce development standards consistent with soil suitability, steep slopes, groundwater, and aquifer sensitivity.
- Enforce wetland protection and mitigation standards consistent with area watershed management organizations and the Wetlands Conservation Act.
- Enforce MPCA Rules Chapter 7080, as amended, for individual sewage treatment system design, installation, maintenance, expansion, inspection, and repair.
- Require that stormwater ponds meet the applicable design standards of the National Urban Runoff Program (NURP).
- Establish erosion and sedimentation control standards consistent with the MPCA’s “best management practices.”

### ***Local Water Management Plans***

Columbus has completed draft local water management plans for the Rice Creek Watershed, the Sunrise River Watershed, and the Coon Creek Watershed. These plans address stormwater management, wetland protection, and water quality. The individual water management plans have been reviewed by the Metropolitan Council and each watershed organization and are in final stages of completion.

The Rice Creek Watershed District recently approved the “JD 4 Resource Management Plan,” which includes the Freeway Corridor area in Columbus. The Columbus City Council has entered into an agreement with the Rice Creek Watershed District to complete a Resource Management Plan for the balance of the watershed within Columbus.

## **H. Transportation Plan**

The metropolitan highway investment system is made up of principal arterials. They include all interstate freeways and other major roadways that provide long distance connections within the metropolitan area. Interstates 35, 35W, and 35E are principal arterials that are located in Columbus and serve the region. The secondary system of major roadways are classified as Minor

Arterials and Collectors. The functional classification of the roadways, existing traffic trips, prepared by MnDOT, and 2030 traffic forecasts, prepared by Anoka County (2008 transportation model), are illustrated on **Figure 6** in Section I.

Columbus has been coordinating design alternatives with Anoka County for the future relocation of CSAH 54 and new intersection with CSAH 23, west of the I-35 interchange. This is in conjunction with coordination efforts with MnDOT, Anoka County and Washington County for the CSAH 23/TH 97 bridge replacement over I-35 and the redesign of the interchanges and frontage road relocations. Most design considerations have been completed with exception of the relocation of CSAH 54. There is no specific timetable for the improvements to the I-35 interchange.

Columbus has participated in several area roadway corridor studies including the TH 97 Study and the CSAH 14 Study. Columbus will remain a participant in continuing studies regarding a new interchange on I-35E between Columbus and Centerville. Columbus continues to participate in discussions with Forest Lake, Washington County, Anoka County, and MnDOT on a potential I-35 bridge crossing at Washington County Road 83 (11<sup>th</sup> Avenue) that would potentially connect with Howard Lake Drive in Columbus. Howard Lake Drive is illustrated on **Figure 6** as a potential B Minor Arterial.

Anoka County has identified the need for a new A Minor Arterial Reliever Corridor Study on the east side of I-35. This corridor study would look at the potential of establishing a county road through the Columbus Freeway Corridor connecting TH 97 in Columbus and County Road 140, where the potential new I-35E interchange could be located. Columbus is very interested in the implications this study and its outcomes may have for the development potential in the Freeway Corridor. For the sake of illustration and future consideration, Hornsby Street, 145<sup>th</sup> Avenue, and Lyons Street in the Freeway Corridor are identified on **Figure 6** as a potential A Minor Reliever Arterial.

Anoka County has also identified the need to continue studying corridor improvements in the larger southeast sector (East Central Sub-area) of the County. Roadways with potential impacts to Columbus include an identified east-west extension of CSAH 116 from CSAH 17 in Ham Lake to CSAH 23 (141<sup>st</sup> Street alignment in Columbus). The County has also identified the potential extension of CR 53 from Lino Lakes/Blaine along the westerly border of Columbus to CSAH 18. Both are identified as potential A Minor Expanders.

The future highway corridor studies suggest the City must evaluate the implications for future right-of-way needs for potential expanded corridors and potential new corridors. Columbus will also continue to work with Anoka County to implement appropriate access spacing for development adjacent to all highways. The City will consider incorporating the Anoka County Access Spacing Guidelines in the Subdivision Ordinance as the guidelines for access spacing. The City will encourage shared access locations and discuss frontage and backage road concepts with the County in future and existing developed areas, particularly within the Freeway Corridor.

All roads and highways in Columbus are 2-lane roads, except the interstate highways. 2030 Transportation Plan capacity needs identified by Anoka County in Columbus include the upgrade

the upgrade of the CSAH 23/I-35/TH 97 interchange and the upgrade of a 3-mile segment of CSAH 18 to a 4-lane highway between the CSAH 17 and CR 19. Anoka County has identified several intersections in Columbus that may warrant signals in the future: CSAH 18/CSAH 17; CSAH 18/CR 19; CSAH 18/ CSAH 62; and CSAH 23/CR/19.

**Traffic Analysis Zones**

The metropolitan area is divided into “traffic analysis zones” (TAZs) for the purpose of analyzing existing growth and forecasting future growth to determine potential impacts and needs on major roadways. Columbus is divided into three TAZs: TAZ 16 is located north of CSAH 18 (Broadway Avenue), TAZ 17 is located between CSAH 18 and CSAH 23 (Lake Drive), and TAZ 18 is located south and east of CSAH 23 (see **Figure 6**).

**Table 15** is the breakdown of forecast data for population, households, and employment within each TAZ for 2010, 2020, and 2030. The forecasts are based on the City’s proposed 2010-2030 forecasts illustrated in **Table 12**, in Section II C.

**Table 15**  
**2010 – 2020 – 2030 TAZ Forecasts**

|                   | 2010          |               |               | 2020          |               |               | 2030          |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                   | <u>TAZ 16</u> | <u>TAZ 17</u> | <u>TAZ 18</u> | <u>TAZ 16</u> | <u>TAZ 17</u> | <u>TAZ 18</u> | <u>TAZ 16</u> | <u>TAZ 17</u> | <u>TAZ 18</u> |
| <b>Population</b> | <b>1055</b>   | <b>2520</b>   | <b>625</b>    | <b>1095</b>   | <b>2540</b>   | <b>1515</b>   | <b>1180</b>   | <b>2650</b>   | <b>2020</b>   |
| <b>Households</b> | <b>365</b>    | <b>870</b>    | <b>215</b>    | <b>400</b>    | <b>870</b>    | <b>555</b>    | <b>440</b>    | <b>990</b>    | <b>755</b>    |
| <b>Employment</b> | <b>100</b>    | <b>200</b>    | <b>900</b>    | <b>100</b>    | <b>300</b>    | <b>1200</b>   | <b>100</b>    | <b>400</b>    | <b>1500</b>   |

**Transit**

Columbus is located in Market Area IV outside of the metropolitan transit taxing district. A park-and-pool rideshare parking lot has operated near the I-35 interchange for many years and was relocated in 2008 to the Running Aces harness race track west of I-35 on Lake Drive. This facility has 300 parking spaces and is operating in 2008/2009 as a park-and-ride facility with temporary express bus (route 288) service to Minneapolis. The Metropolitan Council began operating the demonstration service with a one-year grant from the USDOT in response to the I-35 bridge collapse in Minneapolis. Route 288 has now been continued

Columbus and adjacent cities in Market Area IV have evaluated opting into the metropolitan transit taxing district in 2008 and 2009. Columbus has formally opted in the taxing district. Columbus also is a member of the Rush Line Corridor Task Force, a joint powers organization including cities, townships and counties between St. Paul and Duluth. The Task Force is coordinating with multiple agencies on feasibility studies for the planning and development of commuter rail or light rail transit within the twin cities and Duluth.

The Rush Line Corridor Task Force is also evaluating express bus route alternatives from Columbus through the Forest Lake Transit Center to downtown St. Paul. The Anoka County Traveler Dial-a-Ride is the only other bus service available in Columbus. The Anoka County

Transit Office coordinates volunteer driver services, vanpooling, and other alternative transportation services within the County.

### ***Aviation***

The nearest airport is the Forest Lake Airport, located 1.5 miles east of Columbus on TH 97. Forest Lake Airport has a turf runway and is considered a special purpose airport (business and pleasure). Plans have been prepared for a paved runway expansion of the airport. Columbus is a member of a Joint Airport Zoning Board with the City of Forest Lake. Anoka County-Blaine Airport is a minor reliever airport in the metropolitan system, located six miles southwest of Columbus. Howard Lake, Mud Lake, Coon Lake and nearby Clear Lake are all identified for seaplane use. There are currently no obstructions in the City to navigable airspace. The city will notify the federal aviation administration of any structures proposed in excess of 200 feet height.

### ***Transportation Policies***

It is the policy of the City of Columbus to:

- Restrict access to major highways in the City by encouraging shared access and frontage roads and implementing appropriate County and State access spacing guidelines.
- Coordinate transportation planning and system improvements with Anoka County, Washington County, MnDOT, the Metropolitan Council, and area communities.
- Evaluate potential community impacts resulting from potential new arterial highways in the City.
- Coordinate transit development and service expansion opportunities with Anoka County, the Metropolitan Council, the Rush Line Task Force and area communities.
- Maintain City involvement and interaction in area-wide transportation and transit studies and potential system improvements.
- Develop priorities to maintain and upgrade local streets.
- Coordinate safety improvements to the transportation system with Anoka County and MnDOT.
- Evaluate long range transportation system improvements and effective techniques to preserve long range right-of-way needs.
- Evaluate land use development standards to maintain compatibility with transportation system needs and improvements.
- Coordinate highway corridor trails development opportunities with Anoka County, MnDOT, adjacent counties, and adjacent communities.
- Develop a community trail system master plan.

### **III. Implementation Plan**

The implementation of the Comprehensive Plan does not end with adoption. The City's official controls, such as the zoning ordinance and subdivision regulations, will ensure day to day monitoring and enforcement of the plan. The regulatory provisions of these ordinances, as revised, will provide a means of managing development in the City in a manner consistent with the Comprehensive Plan. Over time, the Comprehensive Plan may require amendments to address community priorities and changing conditions. A Capital Improvements Plan will guide capital expenditures needed for growth to be programmed and implemented in a timely and cost effective manner.

#### ***Official Controls***

As part of the planning process, the City will evaluate its land use controls and consider amendments to existing ordinances which eliminate inconsistencies with the Comprehensive Plan, enhance performance standards, protect public and private investments, conform to mandatory State and Federal regulations and make it an understandable document. The Plan identifies a number of specific changes to the ordinances which need to be considered by the City. Some of these changes include:

- Update of the stormwater management ordinance upon completion of local water management plans for the three watersheds in the City.
- Update of the City's ISTS ordinance in response to recent amendments to the MPCA's Chapter 7080 Rules.
- Monitoring ordinance provisions which require connection to public sewer and water when available.
- Establish a routine maintenance and inspection program for monitoring potential sources of inflow and infiltration in the sanitary sewer system.
- Consider formally incorporating Anoka County or MnDOT Access Spacing Guidelines in the Columbus Subdivision Ordinance as the guidelines for highway access spacing.
- Evaluate the feasibility of establishing housing and economic development initiatives at the City level or contracting with the Anoka County HRA for similar services.
- Development of a city-wide Parks and Trails Master Plan.

#### ***Plan Amendment Process***

The Comprehensive Plan is intended to be general and flexible; however, formal amendments to the Plan will be required when land use elements or growth policies are revised. Periodically, the City should undertake a formal review of the plan to determine if amendments are needed to address changing factors or events in the community. While a plan amendment can be initiated at any time, the City should carefully consider the implications of the proposed changes before their adoption.

When considering amendments to this plan, the City will use the following procedure:

1. Landowners, land developers, the Planning Commission or the City Council may initiate amendments.
2. The Planning Commission will direct staff or the planning consultant to prepare a

- thorough analysis of the proposed amendment.
3. Staff or the planning consultant will present to the Planning Commission a report analyzing the proposed changes, including their findings and recommendations regarding the proposed plan amendment.
  4. The Planning Commission will decide whether or not to proceed with the proposed amendment. If a decision to proceed is made, a formal public hearing will be held on the proposed amendment.
  5. Following the public hearing the Planning Commission will make a recommendation to the City Council.
  6. The City Council will receive the recommendation from the Planning Commission and make a final decision on whether to adopt the amendment.
  7. All amendments must be submitted to area review jurisdictions and the Metropolitan Council for review prior to implementation.

**Capital Improvements Plan**

The City budgets for any capital improvements on an ongoing basis and will annually review capital expenditures that may arise as a result of implementing the Comprehensive Plan. The capital improvements plan should include public investments in infrastructure, park expenditures, infrastructure repair and replacement, building maintenance and repair, and other planned capital expenditures. Like the Comprehensive Plan, the capital improvements planning process is ongoing and subject to modification, as appropriate. **Table 15** identifies the current capital improvements plan expenditures, excluding public sewer and water expenditures.

**Table 16  
Capital Improvements Plan**

| <u>Year</u> | <u>Expenditure</u>         | <u>Total Cost</u> | <u>Annual Cost</u> | <u>Funding</u> | <u>Total Levy</u> |
|-------------|----------------------------|-------------------|--------------------|----------------|-------------------|
| 2009        | Public Works Equipment     | -                 | \$85,030           | Levy           | \$85,030          |
| 2009        | Pickup Truck               | -                 | \$36,550           | Levy*          | -                 |
| 2009        | Seal-coating               | -                 | \$36,045           | Levy           | \$36,045          |
| 2009        | Patching/filling           | -                 | \$20,000           | Levy           | \$20,000          |
| 2009        | Overlay                    | -                 | \$74,800           | Levy           | \$74,800          |
| 2009        | Ladder Truck               | -                 | \$24,930           | Levy           | \$24,930          |
| 2009        | First Engine & Fire Rescue | -                 | \$19,215           | Levy           | \$19,215          |
| <b>2009</b> | <b>TOTAL</b>               |                   |                    |                | <b>\$260,020</b>  |
| 2010        | Public Works Equipment     | -                 | \$85,030           | Levy           | \$85,030          |
| 2010        | Small Dump Truck           | -                 | \$56,135           | Levy*          | -                 |
| 2010        | Seal-coating               | -                 | \$36,045           | Levy           | \$36,045          |
| 2010        | Patching/filling           | -                 | \$20,000           | Levy           | \$20,000          |
| 2010        | Overlay                    | -                 | \$74,800           | Levy           | \$74,800          |
| 2010        | Ladder Truck               | -                 | \$24,930           | Levy           | \$24,930          |
| 2010        | First Engine & Fire Rescue | -                 | \$19,215           | Levy           | \$19,215          |
| 2010        | Community Park/Trail       | -                 | \$10,000           | Levy           | \$10,000          |
| <b>2010</b> | <b>TOTAL</b>               |                   |                    |                | <b>\$270,020</b>  |

| <u>Year</u> | <u>Expenditure</u>            | <u>Total Cost</u> | <u>Annual Cost</u> | <u>Funding</u> | <u>Total Levy</u>  |
|-------------|-------------------------------|-------------------|--------------------|----------------|--------------------|
| 2011        | Public Works Equipment        | -                 | \$85,030           | Levy           | \$85,030           |
| 2011        | Seal-coating                  | -                 | \$36,045           | Levy           | \$36,045           |
| 2011        | Patching/filling              | -                 | \$20,000           | Levy           | \$20,000           |
| 2011        | Overlay                       | -                 | \$74,800           | Levy           | \$74,800           |
| 2011        | Ladder Truck                  | -                 | \$24,930           | Levy           | \$24,930           |
| 2011        | First Engine & Fire Rescue    | -                 | \$19,215           | Levy           | \$19,215           |
| 2011        | Community Park/Trail          | -                 | \$10,000           | Levy           | \$10,000           |
| <b>2011</b> | <b>TOTAL</b>                  |                   |                    |                | <b>\$270,020</b>   |
| 2012        | Public Works Equipment        | -                 | \$85,030           | Levy           | \$85,030           |
| 2012        | Grader                        | -                 | \$151,261          | Levy*          | -                  |
| 2012        | Plow Truck                    | -                 | \$135,000          | Levy*          | -                  |
| 2012        | Seal-coating                  | -                 | \$36,045           | Levy           | \$36,045           |
| 2012        | Patching/filling              | -                 | \$20,000           | Levy           | \$20,000           |
| 2012        | Overlay                       | -                 | \$74,800           | Levy           | \$74,800           |
| 2012        | Ladder Truck                  | -                 | \$24,930           | Levy           | \$24,930           |
| 2012        | First Engine & Fire Rescue    | -                 | \$19,215           | Levy           | \$19,215           |
| 2012        | Community Park/Trail          | -                 | \$10,000           | Levy           | \$10,000           |
| 2012        | Ground Storage Tank/Pumphouse | -                 | \$779,000          | Bond           | 779,000            |
| <b>2012</b> | <b>TOTAL</b>                  |                   |                    |                | <b>\$1,049,020</b> |
| 2013        | Public Works Equipment        | -                 | \$85,030           | Levy           | \$85,030           |
| 2013        | Ladder Truck                  | -                 | \$24,930           | Levy           | \$24,930           |
| 2013        | First Engine & Fire Rescue    | -                 | \$19,215           | Levy           | \$19,215           |
| 2013        | Seal-coating                  | -                 | \$36,045           | Levy           | \$36,045           |
| 2013        | Patching/filling              | -                 | \$20,000           | Levy           | \$20,000           |
| 2013        | Overlay                       | -                 | \$74,800           | Levy           | \$74,800           |
| 2013        | Community Park/Trail          | -                 | \$10,000           | Levy           | \$10,000           |
| <b>2013</b> | <b>TOTAL</b>                  |                   |                    |                | <b>\$270,020</b>   |
| 2014        | Public Works Equipment        | -                 | \$85,030           | Levy           | \$85,030           |
| 2014        | Ladder Truck                  | -                 | \$24,930           | Levy           | \$24,930           |
| 2014        | First Engine & Fire Rescue    | -                 | \$19,215           | Levy           | \$19,215           |
| 2014        | Seal-coating                  | -                 | \$36,045           | Levy           | \$36,045           |
| 2014        | Patching/filling              | -                 | \$20,000           | Levy           | \$20,000           |
| 2014        | Overlay                       | -                 | \$74,800           | Levy           | \$74,800           |
| 2014        | Community Park/Trail          | -                 | \$10,000           | Levy           | \$10,000           |
| <b>2014</b> | <b>TOTAL</b>                  |                   |                    |                | <b>\$270,020</b>   |

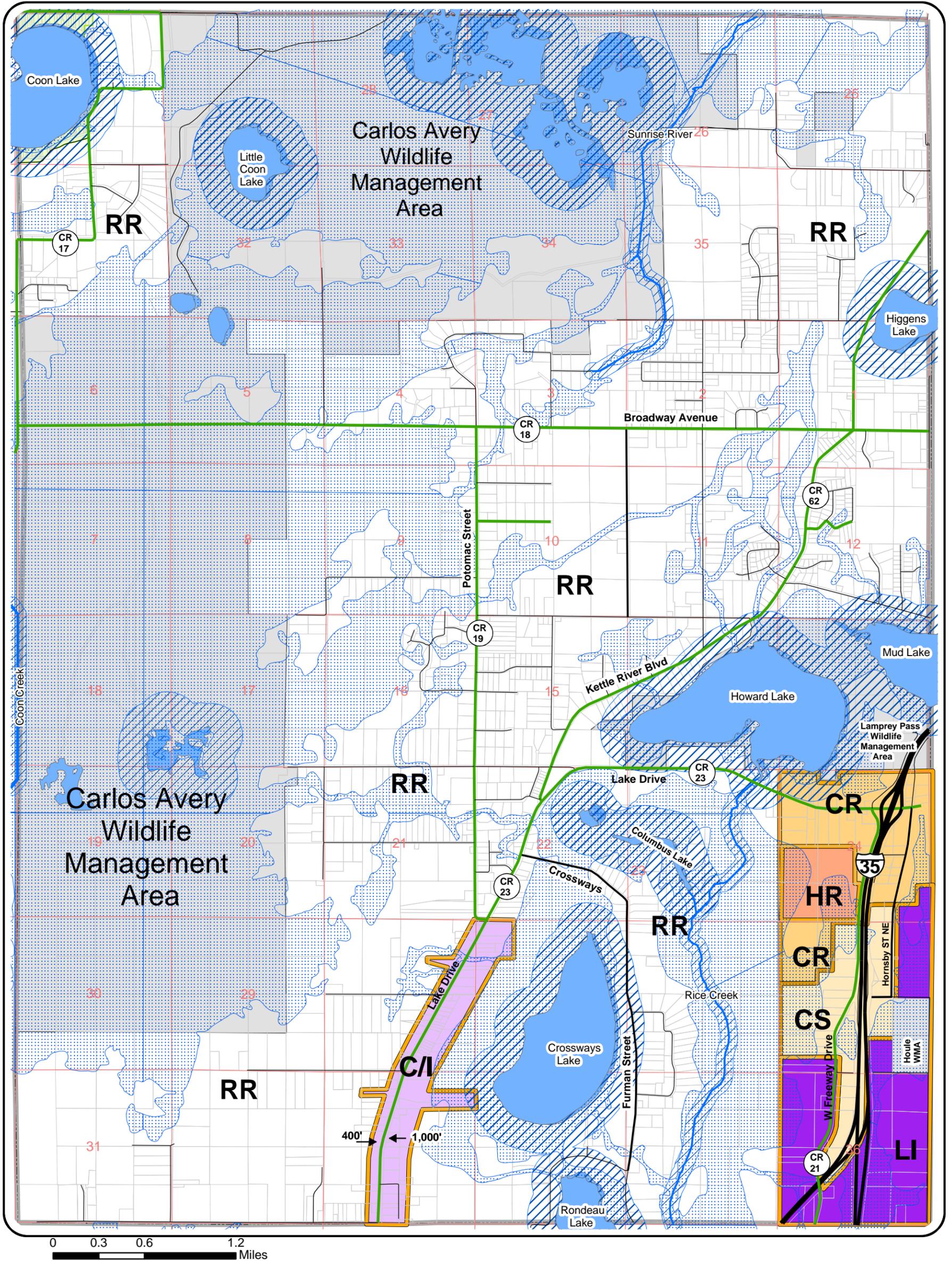
\* Part of average annual levy for all public works equipment

Note: Fire equipment costs vary with JPA-member allocation formula

# **Appendix A**

Zoning Map

# City of Columbus - Zoning Map



## Zoning Districts

- |                             |                         |                   |                               |
|-----------------------------|-------------------------|-------------------|-------------------------------|
| RR Residential              | C/S Commercial Showroom | DNR Lands         | Primary Arterial              |
| C/I Commercial / Industrial | HR Horse Racing         | Coon Lake Overlay | Minor Arterial/Collector Road |
| CR Community Retail         | LI Light Industrial     | Lakes             | Local Road                    |
| FP Floodplain               | Shoreland Areas         | City Hall         |                               |



Source: City of Columbus, Anoka Co., FEMA, and MnDNR

August 2008



## **Appendix B**

Land Use Staging and Density

## City of Columbus

### Sewered Residential Land Use Staging and Density

The Suburban Residential Overlay area contains 318.52 gross acres and 183.63 net developable acres. Net acres exclude wetlands, floodplain, and existing right-of-way. Approximately 62 net acres are located in the northwest portion of the existing sewer Freeway Corridor. Approximately 122 net acres are located in the southeast sewer sub-district, identified as a 2010 sewer service area addition. All residential development in the sewer Freeway Corridor will be attached residences. The following illustration assumes the net density will be at the low end of the range for density (3 units/acre); although, the Columbus PUD provisions allow the density to double to 6 units/acre. No public parks are proposed within the Suburban Residential Overlay area which may reduce net developable areas. Private parks do not decrease the acreage for density calculations and certain amenities may, in fact, qualify for density bonuses.

| <u>Units/Net Acreages</u>      | <u>2010</u> | <u>2015</u> | <u>2020</u> | <u>2025</u> | <u>2030</u> |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|
| New residential units          | 0           | 175         | 175         | 100         | 110         |
| Cumulative units               | 0           | 175         | 350         | 450         | 560         |
| Net residential acres          | 0           | 58          | 58          | 32          | 36          |
| Cumulative acreages            |             | 58          | 116         | 148         | 184         |
| <b>Net residential density</b> | <b>0</b>    | <b>3.02</b> | <b>3.02</b> | <b>3.04</b> | <b>3.04</b> |

Source: City of Columbus; RSC

**Commercial and Light Industrial Development** in the Freeway Corridor is anticipated to consume land at an average annual rate of six net acres per year throughout the planning period.

# **Appendix C**

## Water Supply Plan

**DEPARTMENT OF NATURAL RESOURCES - DIVISION OF WATERS and  
METROPOLITAN COUNCIL  
WATER SUPPLY PLANS**

These guidelines are divided into four parts. The first three parts, Water Supply System Description and Evaluation, Emergency Response Procedures and Water Conservation Planning apply statewide. Part IV, relates to comprehensive plan requirements that apply only to communities in the Seven-County Twin Cities Metropolitan Area. If you have questions regarding water supply plans, please call (651) 259-5703 or (651) 259-5647 or e-mail your question to [wateruse@dnr.state.mn.us](mailto:wateruse@dnr.state.mn.us). Metro Communities can also direct questions to the Metropolitan Council at [watersupply@metc.state.mn.us](mailto:watersupply@metc.state.mn.us) or (651) 602-1066.

|  |  |
|--|--|
| DNR Water Appropriation Permit Number(s) | Permits applied for.                         |
| Name of Water Supplier                   | City of Columbus                             |
| Address                                  | 16319 Kettle River Blvd., Columbus, MN 55025 |
| Contact Person                           | Elizabeth Mursko                             |
| Title                                    | City Administrator                           |
| Phone Number                             | 651-464-3120                                 |
| E-Mail Address                           | cityadministrator@ci.columbus.mn.us          |

**PART I. WATER SUPPLY SYSTEM DESCRIPTION AND EVALUATION**

The first step in any water supply analysis is to assess the current status of demand and supplies. Information in Part I, can be used in the development of Emergency Response Procedures and Conservation Plans.

**A. ANALYSIS OF WATER DEMAND.**

|   |
|---|
| Fill in Table 1 for the past 10 years water demand. If your customer categories are different than the ones listed in Table 1, please note the changes below. |
|---|

|  |
|--|
|  |
|--|

**TABLE 1 Historic Water Demand**

| Year | Total Population | Population Served | Total Connections | Residential Water Sold (MG) | C/I/I Water Sold (MG) | Wholesale Deliveries (MG) | Total Water Sold (MG) | Total Water Pumped (MG) | Percent Unmetered/Unaccounted | Average Demand (MGD) | Maximum Demand (MGD) | Residential gallons/capita/day | Total gallons/capita/day |
|------|------------------|-------------------|-------------------|-----------------------------|-----------------------|---------------------------|-----------------------|-------------------------|-------------------------------|----------------------|----------------------|--------------------------------|--------------------------|
| 2007 | 4108             | 2                 | 2                 | 0.0226                      | 1.3241                | 0                         | 1.3467                | 2.7723                  | 51.5                          | 0.007                | 0.037                | 31                             | 3798                     |
| 2008 | 4108             | 5                 | 4                 | 0.1092                      | 7.3167                | 0                         | 7.4259                | 16.0041                 | 53.6                          | 0.044                | 0.094                | 60                             | 8769                     |
|      |                  |                   |                   |                             |                       |                           |                       |                         |                               |                      |                      |                                |                          |
|      |                  |                   |                   |                             |                       |                           |                       |                         |                               |                      |                      |                                |                          |
|      |                  |                   |                   |                             |                       |                           |                       |                         |                               |                      |                      |                                |                          |
|      |                  |                   |                   |                             |                       |                           |                       |                         |                               |                      |                      |                                |                          |
|      |                  |                   |                   |                             |                       |                           |                       |                         |                               |                      |                      |                                |                          |
|      |                  |                   |                   |                             |                       |                           |                       |                         |                               |                      |                      |                                |                          |
|      |                  |                   |                   |                             |                       |                           |                       |                         |                               |                      |                      |                                |                          |

MG – Million Gallons      MGD – Million Gallons per Day      C/I/I- Commercial, Industrial, Institutional

**Residential.** Water used for normal household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens.

**Institutional.** Hospitals, nursing homes, day care centers, and other facilities that use water for essential domestic requirements. This includes public facilities and public metered uses. You may want to maintain separate institutional water use records for emergency planning and allocation purposes.

**Commercial.** Water used by motels, hotels, restaurants, office buildings, commercial facilities, both civilian and military.

**Industrial.** Water used for thermoelectric power (electric utility generation) and other industrial uses such as steel, chemical and allied products, food processing, paper and allied products, mining, and petroleum refining.

**Wholesale Deliveries.** Bulk water sales to other public water suppliers.

**Unaccounted.** Unaccounted for water is the volume of water withdrawn from all sources minus the volume sold.

**Residential Gallons per Capita per Day** = total residential sales in gallons/population served/365 days      **Total Gallons per Capita per Day** = total water withdrawals/population served/365 days

*NOTE:* Non-essential water uses defined by Minnesota Statutes 103G.291, include lawn sprinkling, vehicle washing, golf course and park irrigation and other non-essential uses. Some of the above categories also include non-essential uses of water.

**Water Use Trends.** Discuss factors that influence trends in water demand (i.e. growth, weather, industry, conservation). If appropriate, include a discussion of other factors that affect daily water use, such as use by non-resident commuter employees or large water consuming industry.

See Attachment 1

**TABLE 2 Large Volume Users - List the top 10 largest users.**

| Customer                   | Gallons per year      | % of total annual use |
|----------------------------|-----------------------|-----------------------|
| Running Aces Harness Track | 6.2023 MG (part year) | 38.75                 |
| Ziegler, Inc               | 1.1144 MG             | 6.96                  |
|                            |                       |                       |
|                            |                       |                       |
|                            |                       |                       |
|                            |                       |                       |
|                            |                       |                       |
|                            |                       |                       |
|                            |                       |                       |
|                            |                       |                       |

**B. TREATMENT AND STORAGE CAPACITY.**

**TABLE 3(A) Water Treatment**

| Water Treatment Plant Capacity   | NA | Gallons per day |
|--|----|-----------------|
| Describe the treatment process used (i.e., softening, chlorination, fluoridation, Fe/Mn removal, reverse osmosis, coagulation, sedimentation, filtration, others). Also, describe the annual amount and method of disposal of treatment residuals, if any. |    |                 |
| Chemical addition of polyphosphates at wellhead to sequester iron and manganese, chlorination, flouridation. No treatment residuals.   |    |                 |

**TABLE 3(B) Storage Capacity - List all storage structures and capacities.**

| Total Storage Capacity |                      | Average Day Demand (average of last 5 years) |                 |
|------------------------|----------------------|--|-----------------|
| 7,500                  | Gallons              | 25500  | Gallons per day |
| Type of Structure      | Number of Structures | Gallons                                      |                 |
| Elevated Storage       |                      |  |                 |
| Ground Storage         |                      |  |                 |
| Other:Hydromatic tank  | 1                    | 7,500  |                 |

**C. WATER SOURCES.** List all groundwater, surface water and interconnections that supply water to the system. Add or delete lines to the tables as needed.

**TABLE 4(A) Total Water Source Capacity for System** (excluding emergency connections)

|  |       |                    |
|--|-------|--------------------|
| <b>Total Capacity of Sources</b>                   | 2,500 | Gallons per minute |
| <b>Firm Capacity (largest pump out of service)</b> | 1,400 | Gallons per minute |

**TABLE 4(B) Groundwater Sources** - Copies of water well records and well maintenance information should be included with the public water supplier's copy of the plan in Attachment . If there are more wells than space provided or multiple well fields, please use the List of Wells template (see Resources) and include as Attachment .

| Well # or name | Unique Well Number | Year Installed | Well & Casing Depth (ft) | Well Diameter (in) | Capacity (GPM) | Geologic Unit      | Status |
|----------------|--------------------|----------------|--------------------------|--------------------|----------------|--------------------|--------|
| 1              | 731131             | 2006           | 180, 150                 | 18                 | 400            | Drift              | Active |
| 2              | 749393             | 2007           | 168, 145                 | 18                 | 1,000          | Drift              | Active |
| 3              | 749394             | 2007           | 396, 226                 | 18                 | 1,100          | Ironton-Galesville | Active |
|                |                    |                |                          |                    |                |                    |        |
|                |                    |                |                          |                    |                |                    |        |
|                |                    |                |                          |                    |                |                    |        |
|                |                    |                |                          |                    |                |                    |        |

Status: Active use, Emergency, Standby, Seasonal, Peak use, etc. GPM – Gallons per Minute  
 Geologic Unit: Name of formation(s), which supplies water to the well

**TABLE 4(C) Surface Water Sources**

| Intake ID | Resource name | Capacity (GPM/MGD) |
|-----------|---------------|--------------------|
| NA        |               |                    |
|           |               |                    |
|           |               |                    |

GPM – Gallons per Minute MGD – Million Gallons per Day

**TABLE 4(D) Wholesale or Retail Interconnections** - List interconnections with neighboring suppliers that are used to supply water on a **regular basis** either wholesale or retail.

| Water Supply System | Capacity (GPM/MGD) | Wholesale or retail |
|---------------------|--------------------|---------------------|
| NA                  |                    |                     |
|                     |                    |                     |
|                     |                    |                     |

GPM – Gallons per Minute MGD – Million Gallons per Day

**TABLE 4(E) Emergency Interconnections** - List interconnections with neighboring suppliers or private sources that can be used to supply water on an emergency or occasional basis. Suppliers that serve less than 3,300 people can leave this section blank, but must provide this information in Section II C.

| Water Supply System | Capacity (GPM/MGD) | Note any limitations on use |
|---------------------|--------------------|-----------------------------|
|                     |                    |                             |
|                     |                    |                             |

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

GPM – Gallons per Minute      MGD – Million Gallons per Day

### D. DEMAND PROJECTIONS.

**TABLE 5 Ten Year Demand Projections**

| Year | Population Served | Average Day Demand (MGD) | Maximum Day Demand (MGD) | Projected Demand (MGY) |
|------|-------------------|--------------------------|--------------------------|------------------------|
| 2010 | 5                 | 0.038                    | 0.099                    | 13.870                 |
| 2011 | 109               | 0.055                    | 0.143                    | 20.075                 |
| 2012 | 213               | 0.072                    | 0.187                    | 26.280                 |
| 2013 | 317               | 0.089                    | 0.231                    | 32.485                 |
| 2014 | 421               | 0.106                    | 0.276                    | 38.690                 |
| 2015 | 525               | 0.123                    | 0.320                    | 44.895                 |
| 2016 | 645               | 0.140                    | 0.364                    | 51.100                 |
| 2017 | 765               | 0.157                    | 0.408                    | 57.305                 |
| 2018 | 885               | 0.174                    | 0.452                    | 63.510                 |
| 2019 | 1000              | 0.191                    | 0.497                    | 69.715                 |

MGD – Million Gallons per Day      MGY – Million Gallons per Year

**Projection Method.** Describe how projections were made, (assumptions for per capita, per household, per acre or other methods used).

Water only available in the Freeway Development District. Entire area zoned commercial or industrial. Medium density residential allowed as an overlay district in two areas totaling 183 net acres. Population projections and water demand equals projected sewer flows in Comprehensive Plan.

### E. RESOURCE SUSTAINABILITY

**Sustainable water use: use of water to provide for the needs of society, now and in the future, without unacceptable social, economic, or environmental consequences.**

**Monitoring.** Records of water levels should be maintained for all production wells and source water reservoirs/basins. Water level readings should be taken monthly for a production well or observation well that is representative of the wells completed in each water source formation. **If water levels are not currently measured each year, a monitoring plan that includes a schedule for water level readings must be submitted as Attachment 2.**

**TABLE 6 Monitoring Wells - List all wells being measured.**

| Unique well number | Type of well (production, observation) | Frequency of Measurement (daily, monthly etc.) | Method of Measurement (steel tape, SCADA etc.) |
|--------------------|--|--|--|
| 731131             | Production                             | annually                                       | SCADA  |
| 749393             | Production                             | annually                                       | SCADA  |
| 749394             | Production                             | annually                                       | SCADA  |

**Water Level Data.** Summarize water level data including seasonal and long-term trends for each ground and/or surface water source. If water levels are not measured and recorded on a routine basis then provide the static water level (SWL) when the well was constructed and a current water level measurement for each production well. Also include all water level data taken during well and pump maintenance.

**Attachment 2: Provide monitoring data (graph or table) for as many years as possible.**

**Ground Water Level Monitoring** – DNR Waters in conjunction with federal and local units of government maintain and measure approximately 750 observation wells around the state. Ground water level data are available online [www.dnr.state.mn.us/waters](http://www.dnr.state.mn.us/waters). Information is also available by contacting the Ground Water Level Monitoring Manager, DNR Waters, 500 Lafayette Road, St. Paul, MN 55155-4032 or call (651) 259-5700.

**Natural Resource Impacts.** Indicate any natural resource features such as calcareous fens, wetlands, trout streams, rivers or surface water basins that are or could be influenced by water withdrawals from municipal production wells. Also indicate if resource protection thresholds have been established and if mitigation measures or management plans have been developed.

No threatened natural resources have been noted. No resource protection thresholds or mitigation measures have been developed.

**Sustainability.** Evaluate the adequacy of the resource to sustain current and projected demands. Describe any modeling conducted to determine impacts of projected demands on the resource.

Resource expected to be adequate based on test pumping of wells. No modeling has been conducted to our knowledge.

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

|                                  |   |
|----------------------------------|---|
| <b>Date WHP Plan Adopted:</b>    | NA  |
| <b>Date for Next WHP Update:</b> | NA  |
| <b>SWP Plan:</b>                 | <input type="checkbox"/> In Process <input type="checkbox"/> Completed <input checked="" type="checkbox"/> Not Applicable |

## F. CAPITAL IMPROVEMENT PLAN (CIP)

**Adequacy of Water Supply System.** Are water supply installations, treatment facilities and distribution systems adequate to sustain current and projected demands?  Yes  No If no, describe any potential capital improvements over the next ten years and state the reasons for the proposed changes (CIP Attachment \_\_\_\_\_).

150,000 ground storage expected to be added in 2012. 500,000 elevated storage expected to be added by 2030.

**Proposed Water Sources.** Does your current CIP include the addition of new wells or intakes?  Yes  No If yes, list the number of new installations and projected water demands from each for the next ten years. Plans for new production wells must include the geologic source formation, well location, and proposed pumping capacity.

**Water Source Alternatives.** If new water sources are being proposed, describe alternative sources that were considered and any possibilities of joint efforts with neighboring communities for development of supplies.

NA

**Preventative Maintenance.** Long-term preventative programs and measures will help reduce the risk of emergency situations. Identify sections of the system that are prone to failure due to age, materials or other problems. This information should be used to prioritize capital improvements, preventative maintenance, and to determine the types of materials (pipes, valves, couplings, etc.) to have in stock to reduce repair time.

System is new.

## PART II. EMERGENCY RESPONSE PROCEDURES

Water emergencies can occur as a result of vandalism, sabotage, accidental contamination, mechanical problems, power failures, drought, flooding, and other natural disasters. The purpose of emergency planning is to develop emergency response procedures and to identify actions needed to improve emergency preparedness. In the case of a municipality, these procedures should be in support of, and part of, an all-hazard emergency operations plan. If your community already has written procedures dealing with water emergencies we recommend that you use these guidelines to review and update existing procedures and water supply protection measures.

### Federal Emergency Response Plan

Section 1433(b) of the Safe Drinking Water Act as amended by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188, Title IV – Drinking Water Security and Safety) requires community water suppliers serving over 3,300 people to prepare an Emergency Response Plan. **Community water suppliers that have completed the Federal Emergency Response Plan and submitted the required certification to the U.S. Environmental Protection Agency have satisfied Part II, Sections A, B, and C of these guidelines and need only provide the information below regarding the emergency response plan and source water protection plan and complete Sections D (Allocation and Demand Reduction Procedures), and E (Enforcement).**

Provide the following information regarding your completed Federal Emergency Response Plan:

| Emergency Response Plan                    | Contact Person               | Contact Number |
|--|------------------------------|----------------|
| Emergency Response Lead                    | Jim Fraley, PW Supervisor    | 651-755-7085   |
| Alternate Emergency Response Lead          | Jim Windigstad, Utility Lead | 651-775-8511   |
| Emergency Response Plan Certification Date | NA                           |                |

**Operational Contingency Plan.** An operational contingency plan that describes measures to be taken for water supply mainline breaks and other common system failures as well as routine maintenance is recommended for all utilities. Check here  if the utility has an operational contingency plan. At a minimum a contact list for contractors and supplies should be included in a water emergency telephone list.

*Communities that have completed Federal Emergency Response Plans should skip to Section D.*

## EMERGENCY RESPONSE PROCEDURES

- A. Emergency Telephone List.** A telephone list of emergency contacts must be included as Attachment 3 to the plan (complete template or use your own list). The list should include key utility and community personnel, contacts in adjacent communities, and appropriate local, state and federal emergency contacts. Please be sure to verify and update the contacts on the emergency telephone list on a regular basis (once each year recommended). In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the warning point for that community. Responsibilities and services for each contact should be defined.
- B. Current Water Sources and Service Area.** Quick access to concise and detailed information on water sources, water treatment, and the distribution system may be needed in an emergency. System operation, water well and maintenance records should be maintained in a central secured location so that the records are accessible for emergency purposes and preventative maintenance. A detailed map of the system showing the treatment plants, water sources, storage facilities, supply lines, interconnections, and other information that would be useful in an emergency should also be readily available. Check here  if these records and maps exist and staff can access the documents in the event of an emergency.
- C. Procedure for Augmenting Water Supplies.** List all available sources of water that can be used to augment or replace existing sources in an emergency. In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the warning point for that community. Copies of cooperative agreements should be maintained with your copy of the plan and include in Attachment NA. Be sure to include information on any physical or chemical problems that may limit interconnections to other sources of water. Approvals from the MN Department of Health are required for interconnections and reuse of water.

**TABLE 7 (A) Public Water Supply Systems** – List interconnections with other public water supply systems that can supply water in an emergency.

| Water Supply System | Capacity (GPM/MGD) | Note any limitations on use |
|---------------------|--------------------|-----------------------------|
| none                |                    |                             |
|                     |                    |                             |
|                     |                    |                             |

GPM – Gallons per Minute      MGD – Million Gallons per Day

**TABLE 7 (B) - Private Water Sources** – List other sources of water available in an emergency.

| Name | Capacity (GPM/MGD) | Note any limitations on use |
|------|--------------------|-----------------------------|
| none |                    |                             |
|      |                    |                             |
|      |                    |                             |

GPM – Gallons per Minute      MGD – Million Gallons per Day

- D. Allocation and Demand Reduction Procedures.** The plan must include procedures to

address gradual decreases in water supply as well as emergencies and the sudden loss of water due to line breaks, power failures, sabotage, etc. During periods of limited water supplies public water suppliers are required to allocate water based on the priorities established in Minnesota Statutes 103G.261.

| <b>Water Use Priorities</b> (Minnesota Statutes 103G.261) |   |
|---|---|
| <b>First Priority.</b>                                    | Domestic water supply, excluding industrial and commercial uses of municipal water supply, and use for power production that meets contingency requirements.  |
|   | <i>NOTE:</i> Domestic use is defined (MN Rules 6115.0630, Subp. 9), as use for general household purposes for human needs such as cooking, cleaning, drinking, washing, and waste disposal, and uses for on-farm livestock watering excluding commercial livestock operations which use more than 10,000 gallons per day or one million gallons per year. |
| <b>Second Priority.</b>                                   | Water uses involving consumption of less than 10,000 gallons per day.   |
| <b>Third Priority.</b>                                    | Agricultural irrigation and processing of agricultural products.  |
| <b>Fourth Priority.</b>                                   | Power production in excess of the use provided for in the contingency plan under first priority.  |
| <b>Fifth Priority.</b>                                    | Uses, other than agricultural irrigation, processing of agricultural products, and power production.  |
| <b>Sixth Priority.</b>                                    | Non-essential uses. These uses are defined by Minnesota Statutes 103G.291 as lawn sprinkling, vehicle washing, golf course and park irrigation, and other non-essential uses.   |

List the statutory water use priorities along with any local priorities (hospitals, nursing homes, etc.) in Table 8. Water used for human needs at hospitals, nursing homes and similar types of facilities should be designated as a high priority to be maintained in an emergency. Local allocation priorities will need to address water used for human needs at other types of facilities such as hotels, office buildings, and manufacturing plants. The volume of water and other types of water uses at these facilities must be carefully considered. After reviewing the data, common sense should dictate local allocation priorities to protect domestic requirements over certain types of economic needs. In Table 8, list the priority ranking, average day demand and demand reduction potential for each customer category (modify customer categories if necessary).

**Table 8 Water Use Priorities**

| <b>Customer Category</b> | <b>Allocation Priority</b> | <b>Average Day Demand (GPD)</b> | <b>Demand Reduction Potential (GPD)</b> |
|--------------------------|----------------------------|---------------------------------|---|
| Residential              | 1                          | 299                             | none                                    |
| Institutional            |                            |                                 |   |
| Commercial               | 2                          | 16,992                          | 9,100                                   |
| Industrial               | 2                          | 3,053                           | 2,200                                   |
| Irrigation               |                            |                                 |   |
| Wholesale                |                            |                                 |   |
| Non-essential            | 6                          | 23,502 (for flushing)           | 20,000                                  |
|                          | <b>TOTALS</b>              | 43,846                          | 31,300                                  |

GPD – Gallons per Day

|  |
|--|
| <b>Demand Reduction Potential.</b> The demand reduction potential for residential use will typically be the base |
|--|

demand during the winter months when water use for non-essential uses such as lawn watering do not occur. The difference between summer and winter demands typically defines the demand reduction that can be achieved by eliminating non-essential uses. In extreme emergency situations lower priority water uses must be restricted or eliminated to protect first priority domestic water requirements. Short-term demand reduction potential should be based on average day demands for customer categories within each priority class.

**Triggers for Allocation and Demand Reduction Actions.** Triggering levels must be defined for implementing emergency responses, including supply augmentation, demand reduction, and water allocation. Examples of triggers include: water demand >100% of storage, water level in well(s) below a certain elevation, treatment capacity reduced 10% etc. Each trigger should have a quantifiable indicator and actions can have multiple stages such as mild, moderate and severe responses. Check each trigger below that is used for implementing emergency responses and for each trigger indicate the actions to be taken at various levels or stages of severity in Table 9.

- |                                     |  |                                     |                         |
|-------------------------------------|--|-------------------------------------|-------------------------|
| <input checked="" type="checkbox"/> | Water Demand   | <input type="checkbox"/>            | Water Main Break        |
| <input type="checkbox"/>            | Treatment Capacity   | <input checked="" type="checkbox"/> | Loss of Production      |
| <input type="checkbox"/>            | Storage Capacity   | <input type="checkbox"/>            | Security Breach         |
| <input type="checkbox"/>            | Groundwater Levels   | <input type="checkbox"/>            | Contamination           |
| <input type="checkbox"/>            | Surface Water Flows or Levels  | <input type="checkbox"/>            | Other (list in Table 9) |
| <input checked="" type="checkbox"/> | Pump, Booster Station or Well Out of Service                                 |                                     |                         |
| <input checked="" type="checkbox"/> | Governor’s Executive Order – Critical Water Deficiency (required by statute) |                                     |                         |

**Table 9 Demand Reduction Procedures**

| Condition  | Trigger(s)  | Actions   |
|--|---|---|
| <b>Stage 1 (Mild)</b>                            | Daily production over 1 MGD                                 | voluntary reductions  |
| <b>Stage 2 (Moderate)</b>                        | Daily production over 2 MGD                                 | Odd-even sprinkling restriction.  |
| <b>Stage 3 (Severe)</b>                          | Well drawdown not recovering between cycles                 | Ban on all outdoor use.   |
| <b>Critical Water Deficiency (M.S. 103G.291)</b> | Executive Order by Governor & as provided in above triggers | Stage 1: Restrict lawn watering, vehicle washing, golf course and park irrigation and other nonessential uses<br>Stage 2: Suspend lawn watering, vehicle washing, golf course and park irrigation and other nonessential uses |

*Note:* The potential for water availability problems during the onset of a drought are almost impossible to predict. Significant increases in demand should be balanced with preventative measures to conserve supplies in the event of prolonged drought conditions.

**Notification Procedures.** List methods that will be used to inform customers regarding conservation requests, water use restrictions, and suspensions. Customers should be aware of emergency procedures and responses that they may need to implement.

telephone notification because of limited number of connections

**E. Enforcement.** Minnesota Statutes require public water supply authorities to adopt and enforce water conservation restrictions during periods of critical water shortages.

**Public Water Supply Appropriation During Deficiency.  
Minnesota Statutes 103G.291, Subdivision 1.**

Declaration and conservation.

(a) If the governor determines and declares by executive order that there is a critical water deficiency, public water supply authorities appropriating water must adopt and enforce water conservation restrictions within their jurisdiction that are consistent with rules adopted by the commissioner.

(b) The restrictions must limit lawn sprinkling, vehicle washing, golf course and park irrigation, and other nonessential uses, and have appropriate penalties for failure to comply with the restrictions.

An ordinance that has been adopted or a draft ordinance that can be quickly adopted to comply with the critical water deficiency declaration must be included in the plan (include with other ordinances in Attachment 7 for Part III, Item 4). Enforcement responsibilities and penalties for non-compliance should be addressed in the critical water deficiency ordinance.

Sample regulations are available at [www.dnr.state.mn.us/waters](http://www.dnr.state.mn.us/waters)

**Authority to Implement Water Emergency Responses.** Emergency responses could be delayed if city council or utility board actions are required. Standing authority for utility or city managers to implement water restrictions can improve response times for dealing with emergencies. Who has authority to implement water use restrictions in an emergency?

- Utility Manager       City Manager       City Council or Utility Board  
 Other (describe): Mayor

**Emergency Preparedness.** If city or utility managers do not have standing authority to implement water emergency responses, please indicate any intentions to delegate that authority. Also indicate any other measures that are being considered to reduce delays for implementing emergency responses.

none

### PART III. WATER CONSERVATION PLAN

Water conservation programs are intended to reduce demand for water, improve the efficiency in use and reduce losses and waste of water. Long-term conservation measures that improve overall water use efficiencies can help reduce the need for short-term conservation measures. Water conservation is an important part of water resource management and can also help utility managers satisfy the ever-increasing demands being placed on water resources.

Minnesota Statutes 103G.291, requires public water suppliers to implement demand reduction measures before seeking approvals to construct new wells or increases in authorized volumes of water. Minnesota Rules 6115.0770, require water users to employ the best available means and practices to promote the efficient use of water. Conservation programs can be cost effective when compared to the generally higher costs of developing new sources of supply or expanding water and/or wastewater treatment plant capacities.

**A. Conservation Goals.** The following section establishes goals for various measures of water demand. The programs necessary to achieve the goals will be described in the following section.

|   |                             |
|---|-----------------------------|
| <b>Unaccounted Water</b> (calculate five year averages with data from Table 1)  |                             |
| Average annual volume unaccounted water for the last 5 years  | 8,578,200 (2008)<br>gallons |
| Average percent unaccounted water for the last 5 years  | 53.6 (2008)<br>percent      |
| AWWA recommends that unaccounted water not exceed 10%. Describe goals to reduce unaccounted water if the average of the last 5 years exceeds 10%. |                             |
| See Attachment 1  |                             |

|  |         |
|--|---------|
| <b>Residential Gallons Per Capita Demand (GPCD)</b>  |         |
| Average residential GPCD use for the last 5 years (use data from Table 1)  | 45 GPCD |
| In 2002, average residential GPCD use in the Twin Cities Metropolitan Area was 75 GPCD. Describe goals to reduce residential demand if the average for the last 5 years exceeds 75 GPCD. |         |
|  |         |

|  |
|--|
| <b>Total Per Capita Demand:</b> From Table 1, is the trend in overall per capita demand over the past 10 years <input type="checkbox"/> increasing or <input type="checkbox"/> decreasing? If total GPCD is increasing, describe the goals to lower overall per capita demand or explain the reasons for the increase. |
| too little data to determine   |

|   |              |
|---|--------------|
| <b>Peak Demands</b> (calculate average ratio for last five years using data from Table 1) |              |
| Average maximum day to average day ratio  | 2.13 in 2008 |
| If peak demands exceed a ratio of 2.6, describe the goals for lowering peak demands.      |              |

**B. Water Conservation Programs.** Describe all short-term conservation measures that are available for use in an emergency and long-term measures to improve water use efficiencies for each of the six conservation program elements listed below. Short-term demand reduction measures must be included in the emergency response procedures and must be in support of, and part of, a community all-hazard emergency operation plan.

1. **Metering.** The American Water Works Association (AWWA) recommends that every water utility meter all water taken into its system and all water distributed from its system at its customer's point of service. An effective metering program relies upon periodic performance testing, repair, repair and maintenance of all meters. AWWA also recommends that utilities conduct regular water audits to ensure accountability. Complete Table 10 (A) regarding the number and maintenance of customer meters.

**TABLE 10 (A) Customer Meters**

|                   | Number of Connections | Number of Metered Connections | Meter testing schedule (years) | Average age/meter replacement schedule (years) |
|-------------------|-----------------------|-------------------------------|--------------------------------|--|
| Residential       | 2                     | 2                             |                                | 1 / 25   |
| Institutional     |                       |                               |                                | /  |
| Commercial        | 1                     | 1                             |                                | 1 / 25   |
| Industrial        | 1                     | 1                             |                                | 1 / 25   |
| Public Facilities |                       |                               |                                | /  |
| Other             |                       |                               |                                | /  |
| <b>TOTALS</b>     | <b>4</b>              | <b>4</b>                      |                                |  |

**Unmetered Systems.** Provide an estimate of the cost to install meters and the projected water savings from metering water use. Also indicate any plans to install meters.

No unmetered connections.

**TABLE 10 (B) Water Source Meters**

|                              | Number of Meters | Meter testing schedule (years) | Average age/meter replacement schedule (years) |
|------------------------------|------------------|--------------------------------|--|
| Water Source (wells/intakes) | 3                |                                | 1 / 25   |
| Treatment Plant              | NA               |                                | /  |

2. **Unaccounted Water.** Water audits are intended to identify, quantify, and verify water and revenue losses. The volume of unaccounted-for water should be evaluated each billing cycle. The AWWA recommends a goal of ten percent or less for unaccounted-for water. Water audit procedures are available from the AWWA and MN Rural Water Association.

Frequency of water audits:  each billing cycle  yearly  other:

Leak detection and survey:  every year  every    years  periodic as needed  
 Year last leak detection survey completed:

**Reducing Unaccounted Water.** List potential sources and efforts being taken to reduce unaccounted water. If unaccounted water exceeds 10% of total withdrawals, include the timeframe for completing work to reduce unaccounted water to 10% or less.  
 See Attachment 1

3. **Conservation Water Rates.** Plans must include the current rate structure for all customers and provide information on any proposed rate changes. Discuss the basis for current price levels and rates, including cost of service data, and the impact current rates have on conservation.

**Billing Frequency:**  Monthly                       Bimonthly                       Quarterly  
 Other (describe):

**Volume included in base rate or service charge:** 0gallons or                      cubic feet

**Conservation Rate Structures**

- Increasing block rate: rate per unit increases as water use increases
- Seasonal rate: higher rates in summer to reduce peak demands
- Service charge or base fee that does not include a water volume

**Conservation Neutral Rate Structure**

- Uniform rate: rate per unit is the same regardless of volume

**Non-conserving Rate Structures**

- Service charge or base fee that includes a large volume of water
- Declining block rate: rate per unit decreases as water use increases
- Flat rate: one fee regardless of how much water is used (unmetered)

**Other (describe):**

**Water Rates Evaluated:**  every year     every                      years     no schedule  
 Date of last rate change: January 2009

Declining block (the more water used, the cheaper the rate) and flat (one fee for an unlimited volume of water) rates should be phased out and replaced with conservation rates. Incorporating a seasonal rate structure and the benefits of a monthly billing cycle should also be considered along with the development of an emergency rate structure that could be quickly implemented to encourage conservation in an emergency.

|   |
|---|
| <b>Current Water Rates.</b> Include a copy of the actual rate structure in Attachment _____ or list current water rates including base/service fees and volume charges below. |
| \$2.18 per 1,000 gallons  |

|   |
|---|
| <b>Non-conserving Rate Structures.</b> Provide justification for the rate structure and its impact on reducing demands or indicate intentions including the timeframe for adopting a conservation rate structure. |
|   |

4. **Regulation.** Plans should include regulations for short-term reductions in demand and long-term improvements in water efficiencies. Sample regulations are available from DNR Waters. Copies of adopted regulations or proposed restrictions should be included in Attachment 4 of the plan. Indicate any of the items below that are required by local regulations and also indicate if the requirement is applied each year or just in emergencies.

- Time of Day: no watering between \_\_\_\_\_ am/pm and \_\_\_\_\_ am/pm (reduces evaporation)  year around  seasonal  emergency only
- Odd/Even: (helps reduce peak demand)  year around  seasonal  emergency only
- Water waste prohibited (no runoff from irrigation systems)  
Describe ordinance:
- Limitations on turf areas for landscaping (reduces high water use turf areas)  
Describe ordinance:
- Soil preparation (such as 4"-6" of organic soil on new turf areas with sandy soil)  
Describe ordinance:
- Tree ratios (plant one tree for every 3,000 square feet to reduce turf evapotranspiration)  
Describe ordinance: Section 7A-820 Performance Standards for Landscaping in Zoning

Code.

- Prohibit irrigation of medians or areas less than 8 feet wide  
Describe ordinance:
- Permit required to fill swimming pool  every year  emergency only
- Other (describe):

**State and Federal Regulations (mandated)**

Rainfall sensors on landscape irrigation systems. Minnesota Statute 103G.298 requires “All automatically operated landscape irrigation systems shall have furnished and installed technology that inhibits or interrupts operation of the landscape irrigation system during periods of sufficient moisture. The technology must be adjustable either by the end user or the professional practitioner of landscape irrigation services.”

Water Efficient Plumbing Fixtures. The 1992 Federal Energy Policy Act established manufacturing standards for water efficient plumbing fixtures, including toilets, urinals, faucets, and aerators.

|  |
|--|
| <b>Enforcement.</b> Are ordinances enforced? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, indicate how ordinances are enforced along with any penalties for non-compliance. |
|--|

|   |
|---|
| City employs full time Code Enforcement Officer/ Building Official. |
|---|

**5. Education and Information Programs.** Customers should be provided information on how to improve water use efficiencies a minimum of two times per year. Information should be provided at appropriate times to address peak demands. Emergency notices and educational materials on how to reduce water use should be available for quick distribution during an emergency. If any of the methods listed in the table below are used to provide water conservation tips, indicate the number of times that information is provided each year and attach a list of education efforts used for the last three years.

| <b>Current Education Programs</b>                                   | <b>Times/Year</b> |
|---|-------------------|
| Billing inserts or tips printed on the actual bill                  |                   |
| Consumer Confidence Reports   |                   |
| Local news papers   |                   |
| Community news letters  |                   |
| Direct mailings (water audit/retrofit kits, showerheads, brochures) |                   |
| Information at utility and public buildings                         |                   |
| Public Service Announcements  |                   |
| Cable TV Programs   |                   |
| Demonstration projects (landscaping or plumbing)                    |                   |
| K-12 Education programs (Project Wet, Drinking Water Institute)     |                   |
| School presentations  |                   |
| Events (children’s water festivals, environmental fairs)            |                   |
| Community education   |                   |
| Water Week promotions   |                   |
| Information provided to groups that tour the water treatment plant  |                   |
| Website (include address: _____ )                                   |                   |
| Targeted efforts (large volume users, users with large increases)   |                   |
| Notices of ordinances (include tips with notices)                   |                   |
| Emergency conservation notices (recommended)                        |                   |
| Other:  |                   |

List education efforts for the last three years in Attachment NA of the plan. Be sure to indicate whether educational efforts are on-going and which efforts were initiated as an emergency or drought management effort.

**Proposed Education Programs.** Describe any additional efforts planned to provide conservation information to customers a minimum of twice per year (required if there are no current efforts).  
 City will consider posting links to water conserving tips on it's web site and utility bill inserts.

A packet of conservation tips and information can be obtained by contacting DNR Waters or the Minnesota Rural Water Association (MRWA). The American Water Works Association (AWWA) [www.awwa.org](http://www.awwa.org) or [www.waterwiser.org](http://www.waterwiser.org) also has excellent materials on water conservation that are available in a number of formats. You can contact the MRWA 800/367-6792, the AWWA bookstore 800/926-7337 or DNR Waters 651/259-5703 for information regarding educational materials and formats that are available.

6. **Retrofitting Programs.** Education and incentive programs aimed at replacing inefficient plumbing fixtures and appliances can help reduce per capita water use as well as energy costs. It is recommended that communities develop a long-term plan to retrofit public buildings with water efficient plumbing fixtures and that the benefits of retrofitting be included in public education programs. You may also want to contact local electric or gas suppliers to see if they are interested in developing a showerhead distribution program for customers in your service area.

A study by the AWWA Research Foundation (Residential End Uses of Water, 1999) found that the average indoor water use for a non-conserving home is 69.3 gallons per capita per day (gpcd). The average indoor water use in a conserving home is 45.2 gpcd and most of the decrease in water use is related to water efficient plumbing fixtures and appliances that can reduce water, sewer and energy costs. In Minnesota, certain electric and gas providers are required (Minnesota Statute 216B.241) to fund programs that will conserve energy resources and some utilities have distributed water efficient showerheads to customers to help reduce energy demands required to supply hot water.

**Retrofitting Programs.** Describe any education or incentive programs to encourage the retrofitting of inefficient plumbing fixtures (toilets, showerheads, faucets, and aerators) or appliances (washing machines).

generally not applicable in commercial industrial zones.

**Plan Approval.** Water Supply Plans must be approved by the Department of Natural Resources (DNR) every ten years. Please submit plans for approval to the following address:

DNR Waters

Water Permit Programs Supervisor

500 Lafayette Road

St. Paul, MN 55155-4032

or Submit electronically to

[wateruse@dnr.state.mn.us](mailto:wateruse@dnr.state.mn.us).

**Adoption of Plan.** All DNR plan approvals are contingent on the formal adoption of the plan by the city council or utility board. Please submit a certificate of adoption (example available) or other action adopting the plan.

Metropolitan Area communities are also required to submit these plans to the Metropolitan Council. Please see PART IV. ITEMS FOR METROPOLITAN AREA PUBLIC SUPPLIERS.

## METROPOLITAN COUNCIL

### PART IV. ITEMS FOR METROPOLITAN AREA PUBLIC SUPPLIERS

Minnesota Statute 473.859 requires water supply plans to be completed for all local units of government in the seven-county Metropolitan Area as part of the local comprehensive planning process. Much of the required information is contained in Parts I-III of these guidelines. However, the following additional information is necessary to make the water supply plans consistent with the Metropolitan Land Use Planning Act upon which local comprehensive plans are based. Communities should use the information collected in the development of their plans to evaluate whether or not their water supplies are being developed consistent with the Council's Water Resources Management Policy Plan.

**Policies.** Provide a statement(s) on the principles that will dictate operation of the water supply utility: for example, "It is the policy of the city to provide good quality water at an affordable rate, while assuring this use does not have a long-term negative resource impact."

It is the policy of the City of Columbus to provide good quality water at a price necessary to operate and maintain the Utility, while assuring no long term negative impact on the resource.

**Impact on the Local Comprehensive Plan.** Identify the impact that the adoption of this water supply plan has on the rest of the local comprehensive plan, including implications for future growth of the community, economic impact on the community and changes to the comprehensive plan that might result.

The local comprehensive plan anticipates commercial and industrial growth in this Freeway District. This water supply plan is consistent with the growth projections in the plan.

#### Demand Projections

| Year     | Total Community Population | Population Served | Average Day Demand (MGD) | Maximum Day Demand (MGD) | Projected Demand (MGY) |
|----------|----------------------------|-------------------|--------------------------|--------------------------|------------------------|
| 2010     | 4000                       | 5                 | 0.038                    | 0.099                    | 13.87                  |
| 2020     | 4240                       | 1040              | 0.209                    | 0.543                    | 76.29                  |
| 2030     | 4680                       | 1620              | 0.341                    | 0.887                    | 124.47                 |
| Ultimate |                            | 1830              | 0.990                    | 2.574                    | 361.35                 |

Population projections should be consistent with those in the Metropolitan Council's 2030 *Regional Development Framework* or the Communities 2008 Comprehensive Plan update. If population served differs from total population, explain in detail why the difference (i.e., service to other communities, not complete service within community etc.).

The water service area is limited to the Freeway Development District, an area of less than 800 developable acres.

### PLAN SUBMITTAL AND REVIEW OF THE PLAN

The plan will be reviewed by the Council according to the sequence outlined in Minnesota Statutes 473.175. **Prior to submittal to the Council, the plan must be submitted to adjacent governmental units for a 60-day review period.** Following submittal, the Council determines if the plan is complete for review within 15 days. If incomplete, the Council will notify the community and request the necessary information. When complete the Council will complete its review within 60 days or a mutually agreed upon extension. The community officially adopts the plan after the Council provides its comments.

Plans can be submitted electronically to the Council; however, the review process will not begin until the Council receives a paper copy of the materials. Electronic submissions can be via a CD, 3 ½” floppy disk or to the email address below. Metropolitan communities should submit their plans to:

Reviews Coordinator  
Metropolitan Council  
390 Robert St,  
St. Paul, MN 55101

electronically to:  
[watersupply@metc.state.mn.us](mailto:watersupply@metc.state.mn.us)

# ATTACHMENTS TO WATER SUPPLY PLAN

City Of Columbus, Minnesota  
TKDA Project No. 14295.000

## 1. WATER USE TRENDS

The wells and distribution system are designed for fire protection and ultimate build out of the Freeway District. At this time, there are just four customers on the system. Because of the low domestic use and the large volume in the watermain system, the water can remain in the system up to 10 days from the time it was produced to the time it reaches the customer. By this time, the required chlorine residual has dropped below required levels. Because of this, it is necessary for operators to flush the system regularly to provide fresh water to the ends of the distribution system. For this reason, the unaccounted water for 2007 and 2008 respectively was at 52% and 54% of all water produced.

## 2. WATER LEVEL MONITORING

Static water levels are monitored daily at each Pumphouse; however, they have not been recorded. The only recorded levels are from initial construction and on May 18, 2009, as follows:

|                   | 6/16/06 | 10/25/07 | 12/27/07 | 5/18/09 |
|-------------------|---------|----------|----------|---------|
| <b>Well No. 1</b> | 9.0 ft  |          |          | 8.9 ft  |
| <b>Well No. 2</b> |         |          | 6.9 ft   | 10.6 ft |
| <b>Well No. 3</b> |         | 13.0 ft  |          | 15.9 ft |

It is the City's plan to record water level readings monthly.

## 3. EMERGENCY TELEPHONE LIST

### Personnel

|                 |                         |                |
|-----------------|-------------------------|----------------|
| Jim Fraley      | Public Works Supervisor | (651) 755-7085 |
| Jim Windingstad | Utility Lead Person     | (651) 775-8511 |

### Watermain Repairs

|                         |                |
|-------------------------|----------------|
| Olson's Sewer Service   | (651) 464-2082 |
| Forest Lake Contracting | (651) 464-4500 |

### Pump and Motor Repair

|                      |                |
|----------------------|----------------|
| E.H. Renner and Sons | (763) 427-6100 |
|----------------------|----------------|

### Electrical Repair

|                 |                |
|-----------------|----------------|
| Hymark Electric | (651) 307-0322 |
|-----------------|----------------|

### Controls Repair

|            |                |
|------------|----------------|
| In-Control | (763) 783-9500 |
|------------|----------------|

### Chemical Feed

|        |                |
|--------|----------------|
| Larsco | (763) 421-3319 |
|--------|----------------|



AN ORDINANCE RELATING TO AND REGULATING THE USE OF  
SEWER AND WATER IN THE TOWN OF COLUMBUS, ANOKA COUNTY, MINNESOTA

ESTABLISHING RULES AND REGULATIONS FOR THE ADMINISTRATION OF THE  
SEWER AND WATER SYSTEM IN THE TOWN AND MATTERS RELATING THERETO,  
INCLUDING ALL PROPERTIES, MAINS, RATES AND CHARGES  
IN CONNECTION THEREWITH AND CONSTRUCTION REQUIREMENTS

THE TOWN BOARD OF THE TOWN OF COLUMBUS (THE "TOWN BOARD" OR  
"BOARD") DOES ORDAIN AS FOLLOWS:

Recitals:

- I. Chapter 14 of the Town of Columbus Town Code regulates Public Health, Wells, Sewers, and Utilities ("Chapter 14").
- II. Article III of Town Code Chapter 14 regulates Public Water System and Connections.

Actions:

- I. Article IV of Town Code Chapter 14 is hereby amended as follows:

**ARTICLE IV:** Reserved for Future Use.

- II. Article V of Town Code Chapter 14 is hereby amended as follows:

**ARTICLE V:** Reserved for Future Use.

- III. Article III of Town Code Chapter 14 is hereby amended as follows:

**SECTION 14-300. ESTABLISHMENT OF DEPARTMENT.** There is hereby established a Sewer and Water Department for the Town of Columbus (the "Town"). The sewer and water system as now constituted, or as shall hereafter be enlarged or extended, shall be operated and maintained under the provisions of this Ordinance subject to the authority of the Town Board at any time to amend, alter, change or repeal the same. If there are any conflicts between Article III of Town Code Chapter 14 and other Articles within Chapter 14, the provisions within Article III shall prevail.

1986400.004

**SECTION 14-301. TOWN BOARD.** The Town Board shall have charge and management of the sewer and water system subject to such delegation of authority to the Town Engineer, Public Works Supervisor and to other Town employees as the Town Board shall provide.

**SECTION 14-302. DEFINITIONS.** The terms used herein shall be defined as follows:

**BUILDING DRAIN.** The building drain is that part of the lowest horizontal piping of the building drainage system which receives the discharge from other drainage pipes and which lies within the perimeter of the building.

**BUILDING SEWER.** The building sewer is that part of the building drainage system that extends from the building drain to the sewer service line at the property line.

**DETERMINATION.** The computation of Service Availability Charge unit(s) assigned to a given property. A Determination should be performed when modification is made to the use of the property.

**FACILITIES.** Facilities means and includes waterworks and sanitary sewer systems, or any portion or portions thereof.

**RESIDENTIAL PROPERTY.** A property that is used exclusively for permanent human living space, including single family homes, attached homes, town homes, condominiums, and manufactured homes. Residential Property does not include motels, hotels, camps, apartment complexes, nursing homes, senior housing, or prisons.

**SANITARY SEWER.** Sanitary sewer means sanitary sewer systems, including sewage treatment works, disposal systems, and other facilities for disposing of sewage, industrial waste, or other wastes.

**SEWER SERVICE.** The sewer service line is that piping which receives the building sewer discharge at the property line and extends to the Town sewer main line.

**WATERWORKS.** Waterworks means waterworks systems, including mains, valves, hydrants, service connections, wells, pumps, reservoirs, tanks, treatment plants, and other appurtenances of a waterworks system.

**SECTION 14-303. SUPERVISION AND PLUMBING STANDARDS.** The Town Inspector shall inspect all sewer connections made to the Sanitary Sewer system, all water connections made to the Waterworks system, and excavations for the purpose of installing or repairing the same.

The expense of cleaning any debris causing blockage or any of the repairs in the Building Sewer drainage system, Building Drain, Sewer Service lines, or Waterworks service lines up to the Town main lines in the street, including the wye, or otherwise, shall be borne by and paid for by the owner of the property served by the Sewer Service line or Waterworks service line. The owner of the property shall also pay for any damages done to the Town main lines, including the cleaning and any repairs of the said sewer main line caused by said debris and cleaning or repairs of said Building Sewer drainage system, Building Drain, and Sewer Service lines. The Town

Final 2-22-2006  
Published 3-02-2006

shall have no obligation to clean any blockage in or repair any such Building Sewer drainage system, Building Drain, Sewer Service line, or Waterworks service line, whether on private property or public property.

**SECTION 14-304. APPLICATION, PERMIT, USAGE AND CONNECTION CHARGE.** No person, firm or corporation shall make any type of connection, repair, enlargement or alteration to the Town Facilities system except upon making an application therefore on a form provided by the Town and receiving a permit issued by the Town for such purposes. The application shall include the legal description of the property to be served, the uses for which the connection is requested, and a sketch of the service showing approximate location and the size of the service line to be used. At the time of taking such application, there shall be paid to the Town the following fees for the following purposes:

- A. **ASSESSMENTS PAID.** No connection shall be made with respect to any Sanitary Sewer or water main serving the property of any person or occupants of the land, parcel or premises affected unless all assessments for such sewer or water, or such installments thereof as are due and payable have been paid or provided for the payment of the full and proportionate share of the utility, which share shall be payable as described under Section 14-304.
- B. **PAYMENTS FOR INSTALLING SERVICE LINE.** For service to the property for which a Sewer Service or water service line has not been previously installed from the main line to the property line, the owner, occupant or user shall contract with a licensed utility installer or plumber for the installation of said line and all payments required shall be assumed by the owner, occupant, or user. Only a utility installer or plumber licensed to operate in the Town shall be allowed to install service lines within public right-of-ways.
- C. **SERVICE TO PROPERTY OUTSIDE OF THE TOWN.** For Facilities service to property outside of the Town, the owner, occupant or user shall pay to the Town at the time of application for permit an amount not less than the payments made by or charges placed against comparable properties for like service within the Town in an amount as may be established by the Town Board.
- D. **TOWN'S AUTHORITY TO IMPOSE CHARGES FOR SEWER AND WATER CONNECTION.** Under Minnesota Statutes § 444.075, subdivision 3, in order to pay for the construction, reconstruction, repair, enlargement, improvement, or other obtainment, the maintenance, operation and use of the Facilities, and of obtaining and complying with permits required by law, the Town Board may impose just and equitable charges for the use and for the availability of the Facilities and for connections with them and make contracts for the charges as provided in Minnesota Statute § 444.075.
- E. **SEWER CONNECTION CHARGES.** Every lot, parcel of land or building will be charged a specific sum of money, in order to connect to Town's Facilities. Such a charge is made for the privilege of making such a connection, either directly or indirectly, to the disposal system through which connection the Facilities of the Town are made available for disposal of sewage, industrial waste,

water or other liquid from such premises. This charge hereinafter is referred to as the Town's Service Availability Charge (the "SAC"). The Town's SAC fee is \$300.00 per SAC unit and is subject to amendment by ordinance. The Town's SAC fee is in addition to the SAC unit charge made by the Metropolitan Council Environmental Services ("MCES"). The total SAC charge for each building or structure shall be equal to its number of SAC units multiplied by the current year SAC rate mandated by the MCES plus the number of SAC units multiplied by the Town's current SAC rate.

The owner of any property desiring to connect such property to an existing Sanitary Sewer main where such property has not previously been connected to said main may do so on the approval of the Town and upon paying a Town and MCES SAC.

- F. **WATER CONNECTION CHARGES.** Every lot, parcel of land or building will be charged a specific sum of money, in order to connect to Town's Facilities. Such a charge is made for the privilege of making such a connection, either directly or indirectly, to the Waterworks system through which connection the Facilities of the Town are made available for the supply of water for domestic, commercial, and industrial use, lawn irrigation and other outdoor use and fire suppression. This charge hereinafter is referred to as the Town's Water Availability Charge (the "WAC"). The Town's WAC fee is \$1,100.00 per Equivalent Residential Unit (ERU) and is subject to amendment by ordinance. The total WAC charge for each property shall be equal to its maximum number of ERUs multiplied by the Town's current WAC rate.

The owner of any property desiring to connect such property to Town's Facilities where such property has not previously been connected may do so on the approval of the Town and upon paying a Town WAC.

- G. **PAYMENT OF CONNECTION CHARGES.** Connection charges are payable at the time of building permit issuance. The Building Official shall not issue a building permit until such connection charge is paid.
- H. **APPLICATION AND PERMIT.** No connection from any premises to Town's Facilities is authorized without there being first obtained for such connection a permit issued by the Town. No permit may be obtained from the Town, and no representatives of the Town is authorized to issue a permit for connection unless and until an authorized representative of the Town receives an application for such connection, determines and establishes the type of connection to be made and receives the connection charge required or unless by approval of the Town Board such payment is deferred or is to be made in installments. The Town shall prepare and provide for and furnish any form and instrument found necessary to the connection applications and permits of the Town and perform all acts reasonably required with respect thereto. Applications and permits shall be uniform, in accordance with this Ordinance.

I. **ADMINISTRATION.** The Building Official shall prepare or revise a building permit or sewage and water connection permit application forms to provide information necessary for the computation of the number of Town SAC and WAC units assignable to the building or property in question, and shall collect the applicable charge before issuance of a permit. The Building Official shall make such information available to the Town Board upon request. If upon filing a report covering such permit with the MCES, the Board determines that a greater number of units is assignable to the building or structure in question, any additional amount of cost allocated to the Town as a result shall be paid by the person or company to whom the permit was granted.

J. **INCREASED CONNECTION CHARGES BASED ON MEASUREMENTS.** The Determination and establishment in the first instance of the Town SAC represented by the connection, especially when made by estimate based upon representation of the owner or occupant of the premises, is at all times subject to further review and Determination after the connection has been made and used by an actual measurement by the Town or MCES of the sewage or water discharge from such connection entering into the system of the Town. The receipt and acceptance by the Town of any money paid and received by the Town, as previously imposed, does not bar the Town's right to payment of the correct amount of money due therefore, and may be determined and established by actual measurement; and the Town's right to recover therefore is not impaired. After a connection has been made and the connection charge established, imposed and paid, no diminution in discharge from the premises shall entitle the owner (or occupant) to a reduction, reimbursement or refund with respect to the connection charge imposed and paid.

K. **CALCULATION OF SEWER CONNECTION CHARGES.**

1. There shall be a charge for each Town SAC unit, as established from time to time by ordinance of the Town Board.
2. The following are hereby established as connection units:
  - a. All Residential Properties shall be assigned one SAC unit per dwelling unit.
  - b. Commercial, institutional, industrial and other building types shall be assigned a minimum of one unit. In accordance with MCES policy and procedures, commercial Town SAC units are determined by the approximate maximum wastewater flow potential and industrial Town SAC units are determined based on maximum normal daily wastewater flow volume separately for process areas and maximum potential daily wastewater flow volume for commercial areas. The Town will use the criteria in Appendix A to this ordinance for determining the SAC units identified for commercial facilities. The Town SAC unit estimate for properties either not described in Appendix A, or industrial

properties will be determined by the Town Board in conjunction with the MCES. The Town Board may review actual sewage flow one year after the initial discharge, and the Town may impose such additional connection charges in accordance with the provisions of this Ordinance.

The Town shall provide information necessary for the computation of the number of units assignable to the building or structure in question on the building permit and sewer connection application forms and shall collect the applicable charge before issuance of the permit.

- c. In accordance with MCES policy and procedures, the Town Board may consider credit for a SAC unit previously paid on any property when a new use is established on a site. A new use is redevelopment of a property for a different use.
- d. Any charges levied by and pursuant to Section 14-304, and which have been properly billed to the occupant of any premises served, and not paid, may be covered in a civil action by the Town in any court of competent jurisdiction.
- e. The funds received from the collection of charges authorized by this Ordinance shall be deposited, as collected, in a fund known as the Water and Sewer Fund, and shall be disbursed:
  - 1) To meet costs of operation;
  - 2) To the debt redemption to provide funds for the payment of principal and interest on bonds issued to finance the costs of constructing improvements to the Town Facilities as prescribed by resolutions or covenants authorizing or securing such bonds; and
  - 3) To provide funds for the reasonable requirements of extending, improving and replacing Town Facilities.

#### L. CALCULATION OF WATER CONNECTION CHARGES

- 1. There shall be a charge for each Town WAC unit, as established from time to time by ordinance of the Town Board.
- 2. The following are hereby established as connection units:
  - a. Each property proposed to be connected to the Town's Waterworks system shall have a determination made as to the number of ERUs of water demand the property can place on the Waterworks system. This determination shall be made by the Town Engineer. The determination shall include the number of

buildable acres contained within the subject property. Each buildable acre is determined to place a minimum of five (5) ERUs of water demand on the system.

- b. The water connection charge shall be the number of ERUs assigned to the property multiplied by the current WAC rate.
- M. **MULTIPLE CONNECTIONS.** Multiple connections of more than one building to a single Building Sewer or Sewer Service line or single water service line shall be permitted only by special application to the Town. The applicant shall submit a detailed sketch showing location, grades and special structures to the Town Engineer for review prior to applying for a permit. All costs involved for the engineering review shall be paid by the applicant along with the other required fees at the time of issuance of the permit. The charge for the cost of the trunk lines, lift station, force mains and disposal facilities shall be levied against each property sought to be connected either through single services or multiple connections.

#### **SECTION 14-305. REQUIRED CONNECTION TO TOWN FACILITIES.**

- A. **FACILITIES CONNECTION FOR NEW CONSTRUCTION.** To protect the general health and welfare of the Town it is required that all new construction of any residence, dwelling or building following the publication date of this ordinance, be connected to the Town Facilities when such Town Facilities become available. If the Town Facilities are not immediately available, the owner of each new residence, dwelling or building shall be subject to an additional charge of \$1,000.00 plus other penalties as provided herein if such Facilities connection is not made within one (1) year after the Town Facilities become available.
- B. **SEWER CONNECTIONS FOR EXISTING RESIDENCE, DWELLING OR BUILDING.** To protect the general health and welfare of the Town it is required that the liquid wastes from any plumbing system of any residence, dwelling or building be discharged to the public sewer system. The owner of each existing residence, dwelling or building as of the date of this published ordinance, to which Sewer Service becomes available shall be subject to an additional charge of \$1,000.00 plus other penalties as provided herein if such connection is not made within five (5) years after the property has been assessed and the Sewer Service becomes available.
- C. **WATER CONNECTIONS FOR EXISTING RESIDENCE, DWELLING OR BUILDING.** To protect the general health and welfare of the Town it is required that the owner of each existing residence, dwelling or building as of the date of this published ordinance, to which Waterworks become available shall be subject to an additional charge of \$1,000.00 plus other penalties as provided herein if such connection is not made within eight (8) years after the Waterworks become available.

**SECTION 14-306. FAILED SEPTIC SYSTEM.** To protect the general health and welfare of the Town, the owner of each residence, dwelling or building to which Sewer Service is or becomes available, is required to make a connection to the Town Facilities as soon as practicable should that owner's septic system fail. Pursuant to Minnesota Rules 7080.0020, a failing system is defined as a seepage pit, cesspool, drywell, leaching pit, other pit, a tank that obviously leaks below the designated operating depth, or any system with less than the required vertical separation as described in Minnesota Rule 7080.0060, subpart 3.

**SECTION 14-307. TOWN INSPECTOR.** The Town Inspector shall examine all applications before construction is begun and after the construction, enlargement, alteration or repair is complete, the Town Inspector shall be notified. It shall be unlawful to cover any affected lines until an inspection has been made and such connection and the work incidental thereto has been approved by the Town as a proper and suitable connection.

It shall be the duty of the sewer installer and/or plumber to notify the Town Inspector by telephone or in writing, not less than eight working hours between the hours of 8:00 A.M. and 4:00 P.M. before work is to be inspected or tested.

**SECTION 14-308. EXISTING DRAINAGE AND PLUMBING SYSTEMS.** Prior to connection to the Town's Facilities, the Town Inspector shall examine the existing drainage system and the interior plumbing system. All such systems shall conform to the requirements of this Ordinance and the requirement of the Minnesota Plumbing Code. In the event that such drainage system or plumbing system is determined to be non-conforming to the above requirements, the contractor, owner or occupant shall do whatever corrective work which may be necessary before final hook-up to the Town's Facilities is made. The decision of the Town Inspector as to the extent of corrective work to be done in each individual case to conform to the above requirements shall be final.

**SECTION 14-309. INSTALLATION OF CONNECTIONS.** All Sewer Services and Waterworks services shall be installed by an utility installer or Master Plumber licensed in the State of Minnesota and the Town of Columbus. An owner, occupant or licensed plumber may install, repair or make alteration to the Building Drain or Building Sewer lines provided that said construction is conducted under the regulations of this Ordinance. Prior to receiving a permit for plumbing work as outlined herein a satisfactory showing must be made that such plumber, excavator, or utility installer is carrying liability insurance in an accredited company with the Town against loss as customarily provided in such policies.

**SECTION 14-310. EXCAVATING WORK.**

- A. **TOWN INSPECTION.** All installation work or repair of connection to the Sanitary Sewer, Sewer Service, or Waterworks system including grades, bends and backfilling shall be inspected by the Town Inspector. No work shall be covered or backfilled until directed by said Inspector. All work and excavations shall be protected by barricades and warning markers and lights reasonable and suitable for the purpose. The Town shall be held harmless of any claim or loss as might otherwise arise for damage, loss or injury caused by or arising by reason of such work being performed.

- B. **EXCAVATION PROCEDURES.** No digging in any permanent type street shall be permitted except by special written permission from the Town. Backfilling shall be thoroughly compacted by mechanical means to 95 percent Standard Proctor density. The top 12 inches of the excavation shall be backfilled with Class 5 gravel base material. The bituminous surface shall match existing thickness and shall be installed in accordance with Minnesota Highway Department Specification.

Where excavations are unsatisfactorily filled and surfacing is improperly patched, the Town Board shall cause them to be placed in a satisfactory condition and the cost thereof shall be charged to such plumber making the same, and the privilege of such plumber doing further work within the Town shall be suspended until such charge is paid. Such plumber shall be given notice thereof and ten days within which to pay such charge.

**SECTION 14-311. CONSTRUCTION REQUIREMENTS.** All Building Sewers and Sewer Service lines shall be of PVC schedule 40, ductile iron pipe, or extra strength cast iron soil pipe. Joints shall be made by using a Town approved pre-formed compression gasket. Individual service lines shall not be less than 4 inches in diameter and shall be placed at a uniform grade of not less than 1/8 of an inch per foot. Sewer Service lines shall contain no more than two (2) 45 degree bends, clean out shall be at intervals not to exceed 80 feet. Multiple connections of more than one building shall be as approved by the Town Engineer as described under Section 14-304.M. No interconnection of the existing private sewer system shall remain upon connection to the public system. If a Sewer Service connection is such that gravity flow can be had to the public sewer main and a sump pump is presently used, said sump pump shall be disconnected, discontinued and removed from service.

All water service lines shall be PVC AWWA C-900, ductile iron pipe, or Type K copper tubing. Service lines shall have a minimum of 7.5 feet of cover to adequately protect from freezing. Where a service has not previously been provided, all new connections to the watermain shall be performed "under pressure" and a gate valve or curb stop provided at the point of connection or property line.

The service installer should verify the location and elevation of the connection before proceeding with the installation. Any deviation from the plan location which will affect the installing of the service connections, should be brought to the attention of the Town immediately. The Town will assume no responsibility for extra charges as a result of such misplaced connection unless it is notified before any work is done and has had an inspection made by its representative to confirm the condition and to authorize extra work.

**SECTION 14-312. STORM WATER.** It shall be unlawful for any owner, occupant or user of any premises to direct into or allow any storm water, surface water, groundwater or water from air conditioning systems to drain into the Sanitary Sewer of the Town of Columbus.

**SECTION 14-313. USE CHARGES.**

- A. **USE CHARGE.** For the purpose of providing monies necessary to the construction, maintenance, and operation of the Waterworks system of the Town

and of the disposal system of the Town and the MCES as well as additions thereto, or extensions thereof, including payment of principal and interest due or accruing on bonds and other obligations issued or incurred to finance such construction, maintenance, and operation, there is hereby charged a "use charge" to be collected by the Town with respect to each lot, parcel of land, building or premises, having any connection, direct or indirect, with the Waterworks system of the Town or with the disposal system of the Town or otherwise discharging sewage, industrial waste, water or other waste directly or indirectly to the Town disposal system. The "use charge" is to be paid periodically commencing with connection and continuing (unless for good cause, waived or excused) for as long as the premises remain connected, whether or not such connection is actively used during any particular period of time.

- B. **COMPUTATION OF USE CHARGES.** The rates due and payable to the Town by each owner or other account holder within the Town for water taken from the water supply system shall be as follows: A charge of \$2.00 per 1,000 gallons of water used. The rates due and payable to the Town by each owner or other account holder within the Town for sewage discharged to the disposal system shall be as follows: A charge of \$2.75 per 1,000 gallons of sewage used. Owners and other account holders shall have the option of paying a rate for payments made on or before the due date listed on the bill or the option of paying an extended payment rate for payments made after the due date listed on the bill. The extended payment rate shall also include a charge of five percent (5%) of the current bill amount that is not paid by the due date listed on the bill. The five percent (5%) charge shall not exceed two hundred dollars (\$200.00) in total for all utilities per billing account per billing period.

#### **SECTION 14-314. BILLING REGULATIONS.**

- A. **QUARTERLY BILLING.** The Town Treasurer or other designated person shall compute the amount due to the Town for sewerage and water use and render a statement thereof quarterly. All amounts due as described herein shall be payable to the Town of Columbus attention Town Treasurer or other designated person by the 16th of the month next following the date of the bill.
- B. **PENALTIES.** A penalty of ten percent (10%) shall be added to all bills not paid by the date fixed for final payment.

**SECTION 14-315. SEWER FUND.** All funds received from the collection of assessments, connection charges, and sewerage use rates, shall be deposited by the Town Treasurer or other designated person within seven days after the receipt thereof and kept by the designated person as a separate and distinct fund which shall be known as the Sewer Fund. These funds shall be used for the payment of all costs incurred by the Town in connection with the construction, maintenance and operation of the Sanitary Sewer system within the Town, and any excess received shall be used for retiring indebtedness incurred for the construction of such sewage disposal system.

**SECTION 14-316. WATER FUND.** All funds received from the collection of assessments, connection charges, and water use rates, shall be deposited by the Town Treasurer or other designated person within seven days after the receipt thereof and kept by the designated person as a separate and distinct fund which shall be known as the Water Fund. These funds shall be used for the payment of all costs incurred by the Town in connection with the construction, maintenance and operation of the Waterworks system within the Town, and any excess received shall be used for retiring indebtedness incurred for the construction of such Waterworks system.

**SECTION 14-317. COLLECTION OF DELINQUENT CHARGES.** Under Minnesota Statute § 444.075, the Town may make charges for the availability of the Facilities and may provide and covenant for certifying unpaid charges to the county auditor with taxes against the property served for collection as other taxes are collected.

- A. **DELINQUENT UTILITY ACCOUNTS.** Accounts shall be considered delinquent when no payments have been received after ninety (90) days following the due date and no arrangement for payment has been agreed to by the owner or other account holder.
- B. **DISCONNECTION OF SERVICE CHARGE.** It shall be the duty of the Town Treasurer to endeavor to promptly collect delinquent accounts, and in all cases where satisfactory arrangements for payment have not been made, instructions shall be given to discontinue service by shutting off the water at the stop box.
- C. **ASSESSMENT OF DELINQUENT ACCOUNTS.** All delinquent accounts shall be certified to the Town Treasurer who shall prepare an assessment roll each year providing for assessment of the delinquent amounts against the respective properties served. The assessment shall include the amount of the delinquent account and an administrative charge of \$40.00, together with interest thereon at the maximum lawful rate. This assessment roll shall be delivered to the Town Board for adoption on or before October first of each year. Such action may be optional or subsequent to taking legal action to collect delinquent accounts.

**SECTION 14-318. WATER METERING REQUIREMENTS.**

- A. **WATER METER REQUIRED.** Except for extinguishment of fires, no person except authorized Town employees shall use water from the water supply system of the Town or permit water to be drawn therefrom, unless the water is metered by passing through a meter supplied or approved by the Town. No person shall connect, disconnect, take apart, or in any manner change, or cause to be changed, or interfere with any such meter or the action thereof unless authorized by the Town Board or designated Town employees.
- B. **WATER METER CHARGE.** A charge shall be made to owners or account holders for water meters, and payment for meters shall be made in advance before delivery for installation. Water meters shall be equipped with remote reading devices. The charge will be the actual cost to the Town of supplying the meter.

- C. **UNSERVICEABLE METERS.** The Town shall maintain and repair or replace all meters when rendered unserviceable through ordinary wear and tear. However, when replacement, repair or adjustment of any meter is rendered necessary by the act, neglect or carelessness of the owner or occupant of any premises, any expense caused the Town thereby shall be charged against and collected from the owner or occupant of the premises. Water service may be discontinued until the cause is corrected and the charge collected.

**SECTION 14-319. WATER METER SETTING.** All water meters hereafter installed shall be in accordance with the connection regulations of the Town and the following rules:

- A. **SERVICE PIPE.** The service pipe from the water main to the meter, when entering the building, shall be brought through the floor in a vertical position. The building valve shall be installed about twelve (12) inches above the floor.
- B. **METER LOCATION.** The meter shall be located so that the bottom is from six (6) inches to twelve (12) inches above the finished floor line. The meter shall be set in the laundry area adjacent to a floor drain, unless an alternate method is approved by the Utility Division. A suitable bracket to support the meter in a proper vertical position and to prevent noise from vibration shall be provided.
- C. **FULL WAY VALVE.** All meter installations shall have a full way valve on the street side of the meter. In no case shall there be more than twelve (12) inches of pipe exposed between the point of entrance through the basement floor and the building valve. A full way valve shall also be installed on the house side of and adjacent to the meter.
- D. **COPPER PIPING.** Meter setting devices for 5/8 inch, 3/4 inch and one inch meters shall be of copper pipe or tubing from the terminus of the service pipe up to and including the house side full way valve.

**SECTION 14-320. RESTRICTED HOURS FOR SPRINKLING.**

- A. **RESTRICTIONS ON WATER USAGE.** Whenever it is determined by either the Town Board Chair or the Town Board that a shortage of water supply may be imminent, either may act in accordance with the procedures hereinafter described to limit the uses of Town water and the times and hours during which water from the Town water supply may be used.
- B. **TOWN BOARD ACTION.** The Town Board may act by resolution to limit water usage. The resolution shall state in detail the restrictions imposed on water usage and the charge for instances of noncompliance. The restrictions shall become effective 24 hours after passage of the resolution. The Town Board shall take such action as is reasonably practicable to inform the general public of the imposition of the restrictions on water usage and of the charges and other penalties which could be imposed for violation of such restrictions and post notice of the water restrictions in public places where other Town notices are posted.

C. **ACTION BY THE TOWN BOARD CHAIR.** The Town Board Chair may act by filing with the Town Clerk a written certification that there is an imminent shortage of water supply. The certification shall specify in detail the restrictions on water usage and the charge for instances of noncompliance and shall become effective 24 hours after being filed. The Town Clerk shall endorse on each filing the time and date of filing. The Town Board Chair shall take such action as is reasonably practicable to inform the general public of the imposition of restrictions on water usage and of the charges and other penalties for violation of such restrictions and post notice of the water restrictions in public places where other Town notices are posted. Restrictions imposed by the Town Board Chair may be revoked by written directive from the Town Board Chair to the Town Clerk, who shall endorse on such directive the date and time of receipt, or by action of the Town Board.

D. **PENALTIES.**

1. For each instance of noncompliance with water usage restrictions imposed by this section, a charge of up to \$25.00 shall be assessed against the property on which the violation occurred and added to the water bill for such premises. The amount of the charge shall be specified by the Town Board in its resolution and the Town Board Chair in his certification to the Town Clerk.
2. Failure to comply with water usage restrictions after two warnings shall be cause for the discontinuance of water service.
3. Failure to comply with water usage restrictions shall be a petty misdemeanor punishable by the maximum fine allowed by law for such offenses.

**SECTION 14-321. SEPARABILITY OF SECTIONS.** If any portion of this Ordinance shall be held invalid, the invalidity of such portion shall not affect the validity of the other provisions of this Ordinance which shall continue in full force and effect.

**SECTION 14-322. PENALTY PROVISION.** Any person, firm or corporation who shall do or commit any act that is forbidden by the provisions of this Ordinance shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not to exceed \$1,000.00 or to be imprisoned in the County Jail for a period not to exceed ninety days.

**SECTION 14-323. DEFERRAL OF SEWER AND WATER CONNECTION.** Where there are practical difficulties or hardships in requiring Sewer Service and Waterworks connections for an existing residence, dwelling or building, the property owner may apply to the Town Manager for a deferral from the connection deadlines.

- A. **SEWER AND WATER CONNECTION DEFERRAL APPLICATION.** In applying for a deferral from the Town's five (5) year required Sewer Service connection and eight (8) year required Waterworks connection once each become available, as required by Section 14-305, the applicant shall show to the Town

Manager that the applicant is unable to connect within the required timeframe because the applicant is: (1) over 65 years of age; (2) permanently and totally disabled; or (3) that it would be a financial hardship for the applicant to connect the Sewer Service or Waterworks. The applicant shall provide their adjusted gross income when illustrating that it would be a hardship to connect the Sewer Service or Waterworks. The Town Manager shall make a determination as whether or not to grant the Sewer Service or Waterworks connection deferral.

- B. **APPEAL TO THE TOWN BOARD.** Should the Town Manager deny the request to defer the Sewer Service and Waterworks connection, the applicant may appeal the Town Manager's decision to the Town Board.

**SECTION 14-324. ENTRY UPON PRIVATE PROPERTY.** The Town Engineer and other duly authorized employees of the Town bearing proper credentials and identification, shall at reasonable times be permitted to enter upon all properties for the purpose of inspection, observation, measurement, sampling and testing in connection with the operation of the Town Sanitary Sewer and Waterworks system.

**SECTION 14-325. EFFECTIVE DATE.** This Ordinance shall be in full force and effect from and after its passage and publication according to law.

Passed by the Town Board of the Town of Columbus, Minnesota, this 22nd day of February, 2006

APPROVED:

By:

Mel Mettler  
Mel Mettler  
Its: Chairman

ATTEST

Barbara Masteller  
Barbara Masteller, Town Clerk

**Appendix A: SAC Criteria for Commercial Properties  
From Metropolitan Council Environmental Services  
Service Availability Charge Procedure Manual January 2005**

| FACILITY  | PARAMETER          | SAC |
|---|--------------------|-----|
| <b>Animal Clinic</b> (humane societies, animal research, boarding, etc.)            |                    |     |
| Animal holding areas  | 17 fixture units   | 1   |
| Animal runs (kennels)   | 34 fixture units   | 1   |
| <b>Archery</b> (6 feet/lane)  | 6 lanes            | 1   |
| <b>Arenas</b> (bleachers 18 inches/person)  | 110 seats          | 1   |
| <b>Auditoriums</b> (7 square feet/person)   | 110 seats          | 1   |
| Fast service (less than 4 hours/car)  | 2 service bays     | 1   |
| Major service (more than 4 hours/car)   | 14 employees       | 1   |
| Car dealership (charges for office, retail, etc. are separate at established rates) |                    |     |
| Fast service (number of service bays x 30%)   | 2 service bays     | 1   |
| Major service (number of service bays x 70% x 1) employee/bay)                      | 14 employees       | 1   |
| <b>Ballroom</b> (exclude dance floor)   |                    |     |
| Facility without liquor service   | 825 square feet    | 1   |
| Facility with liquor service  | 590 square feet    | 1   |
| <b>Bank</b> (exclude bank vault)  | 2,400 square feet  | 1   |
| <b>Banquet Room</b> (15 square feet/person)   |                    |     |
| Food catered  | 2,060 square feet  | 1   |
| Food catered with dishwashing   | 1,180 square feet  | 1   |
| Food catered with liquor  | 1,028 square feet  | 1   |
| Food catered with dishwashing and liquor  | 750 square feet    | 1   |
| Food preparation and dishwashing  | 825 square feet    | 1   |
| Food preparation with dishwashing and liquor  | 590 square feet    | 1   |
| <b>Barber</b>   | 4 chairs           | 1   |
| <b>Batting Cages</b> (6 feet/lane)  | 6 lanes            | 1   |
| <b>Beauty Salon</b>   | 4 cutting stations | 1   |
| <b>Bingo Hall</b> (used only for bingo)   | 110 seats          | 1   |
| <b>Boarding House</b> (dorm rooms)  | 5 beds             | 1   |
| <b>Body Shop</b> (major service – more than 4 hours/car, no vehicle washing)        | 14 employees       | 1   |

| FACILITY  | PARAMETER                      | SAC |
|---|--------------------------------|-----|
| <b>Bowling Alleys</b> (does not include bar or dining area)   | 3 alleys                       | 1   |
| <b>Camps</b> (number of gallons x occupant or site)   |                                |     |
| Children's camps (central toilet and bath; overnight, primitive cabins; number of occupants x 50 gallons/occupant)                                    | 274 gallons                    | 1   |
| Day camps (no meals served; number of occupants x 10 gallons/occupant)  | 274 gallons                    | 1   |
| Labor/construction camps (number of occupants x 50 gallons/occupant)  |                                |     |
| Resorts (housekeeping cabins; number of occupants x 60 gallons/occupant)  | 274 gallons                    | 1   |
| Travel trailer parks  |                                |     |
| With water and sewer hookup (number of sites x 100 gallons/site)  | 274 gallons                    | 1   |
| With central toilet and showers (number of sites x 75 gallons/site)   | 274 gallons                    | 1   |
| Sanitary dump (sites without hookup; number of sites x 10 gallons/site)   |                                |     |
| <b>Car Wash</b>   | Contact MCES for Determination |     |
| <b>Catering</b>   | Contact MCES for Determination |     |
| <b>Churches</b> (for sanctuary, nave, chancel; 7 square feet/person seating area; remainder use other criteria; sacristy and ambulatory at no charge) | 275 seats                      | 1   |
| <b>Cocktail Lounge</b> (no food service)  | 23 seats                       | 1   |
| <b>Coffee Shop</b> (no food service)  | 23 seats                       | 1   |
| <b>Correction Facility</b> (prison)   | 2.5 inmates                    | 1   |
| <b>Court Rooms</b>  | 1,650 square feet              | 1   |
| <b>Dorm Rooms</b> (on and off campus; charge for classrooms is additional)  | 5 students                     | 1   |
| <b>Daycare</b>  |                                |     |
| Number of children for which facility is licensed   | 14 children                    | 1   |
| Child/adult play area (not licensed)  | 490 square feet                | 1   |
| <b>Dry Cleaners</b> (retail)  | 3,000 square feet              | 1   |

| FACILITY   | PARAMETER          | SAC |
|--|--------------------|-----|
| <b>Elder Housing</b> (at 100% of current SAC rate; see formula below to determine the number of residents) |                    |     |
| No washer/dryer in each unit   | 3 residents        | 1   |
| Washer/dryer in each unit  | 2.5 residents      | 1   |
| Three bedroom unit with washer/dryer (separate from formula below)   |                    |     |
| Calculate the number of residents as follows:  |                    |     |
| Number of efficiency units x 1.0 residents/unit  |                    |     |
| +Number of one-bedroom units x 1.5 residents/unit  |                    |     |
| +Number of two-bedroom units x 2.0 residents/unit  |                    |     |
| +Number of three-bedroom units x 3.0 residents/unit  |                    |     |
| Total number of residents for SAC calculation  |                    |     |
| <b>Exercise Area/Gym</b> (juice bars at no charge; sauna and whirlpool included)                           |                    |     |
| No showers   | 700 square feet    | 1   |
|  | 2,060 square feet  | 1   |
| <b>Fire Station</b> (charges for office, meeting rooms, etc., are separate established rates)              |                    |     |
| Washing (hose tower, truck)  | 274 gallons        | 1   |
| Full time, overnight people (75 gallons/person)  | 274 gallons        | 1   |
| Volunteer (occasional overnight stays)   | 14 volunteers      | 1   |
| <b>Funeral Home</b> (charge for viewing areas only: i.e. chapel)   |                    |     |
| Apartment  | 770 square feet    | 1   |
|  | 1 apartment        | 1   |
| <b>Game Room</b> (billiards, video and pinball games)  |                    |     |
| With bar   | 590 square feet    | 1   |
| Without bar  | 2,060 square feet  | 1   |
| <b>Golf Course</b> (if facility has showers, use Locker Room criteria for those areas)                     |                    |     |
| 18 hole  |                    | 3   |
| 9 hole (par 3)   |                    | 2   |
| Miniature  |                    | 3   |
| Country Club (private)   |                    |     |
| Dining room (used only on evenings and weekends)   | 15 seats           | 1   |
| Bar and grill (with bar and grill separate)  |                    |     |
| Bar only   | 23 seats           | 1   |
| Grill  | 15 seats           | 1   |
| <b>Golf Dome or Driving Range</b>  |                    |     |
|  | 6 driving stations | 1   |
| <b>Greenhouse</b>  |                    |     |
| Area not open to the public  | 15,000 square feet | 1   |
| Area open to the public  | 5,000 square feet  | 1   |
| General retail area  | 3,000 square feet  | 1   |

| FACILITY   | PARAMETER                   | SAC |
|--|-----------------------------|-----|
| <b>Group Home</b>  |                             |     |
| Secondary treatment (residents leave during the day)   | 5 beds                      | 1   |
| Primary treatment (residents stay all day)   | 3 beds                      | 1   |
| <b>Guest Rooms (in an apartment or condominium complex; charge SAC as apartment)</b>   |                             |     |
| Washer/dryer   | 100% of current SAC rate    |     |
| No washer/dryer  |                             |     |
| No kitchen   | 50% of the current SAC rate |     |
| <b>Handball and Racquetball Courts</b>   | 1 court                     | 2   |
| <b>Hospitals (licensed beds or baby cribs)</b>   |                             |     |
| Outpatient clinic  | 1 bed                       |     |
|  | 17 fixture units            | 1   |
| Sterilizers (4 hours x gallons per minute x 60 minutes)  | 274 gallons                 | 1   |
| X-ray film processors (9 hours continuous operation; 4 hours intermittent operation; operation time (hours) x gallons per minute x 60 minutes) | 274 gallons                 | 1   |
| Dental clinic vacuum device (9 hours x gallons per minute x 670 minutes)   | 274 gallons                 |     |
| <b>Ice Arena</b>   |                             |     |
| Showers (see Locker Rooms)   |                             |     |
| Team Rooms (plumbing fixture units)  | 17 fixture units            | 1   |
| Bleachers  | 110 seats                   | 1   |
| Ice resurfacers (if discharge goes to the sanitary sewer)  |                             |     |
| <b>Laundromat (required water volume for cycle time x 8 cycles/day)</b>  | 274 gallons                 | 1   |
| <b>Library (subtract book storage areas, file areas; charge for common plumbing fixture units in public areas)</b>                             |                             |     |
| Meeting rooms, board rooms, reception, book checkout offices   | 17 fixture units            | 1   |
|  | 2,400 square feet           | 1   |
| <b>Loading Dock</b>  | 7,000 square feet           | 1   |
| <b>Locker Rooms (if showers – 20 gallons/locker)</b>   | 14 lockers                  | 1   |
| <b>Medical Clinic (see Hospitals, Outpatient Clinic)</b>   |                             |     |
| <b>Meeting Rooms (conference rooms)</b>  | 1,650 square feet           | 1   |
| <b>Mini-storage (storage area – no charge)</b>   |                             |     |
| Living area  |                             | 1   |
| Public restroom  | 17 fixture units            | 1   |
| <b>Mobile Home</b>   |                             | 1   |

| FACILITY  | PARAMETER         | SAC |
|---|-------------------|-----|
| <b>Motels and Hotels</b> (assume 2 persons/room; no charge for pools, saunas, whirlpools, game rooms, or exercise rooms used exclusively by guests) |                   |     |
| Breakfast only (complimentary)  | 45 seats          | 1   |
| Cocktail hour (complimentary)   | 55 seats          | 1   |
| Kitchenettes (number of kitchenettes x 10 gallons/day)  | 274 gallons       | 1   |
| <b>Museum</b>   | 2,400 square feet | 1   |
| <b>Nursing Home</b>   | 3 beds            | 1   |
| <b>Office</b>   |                   |     |
| General office (deduct mechanical rooms, elevator shafts, stairwells, restroom and storage areas)   | 2,400 square feet | 1   |
| Dental and Doctor's offices, see Hospital, Outpatient Clinic  |                   |     |
| <b>Police Station</b> (charge as Office)  |                   |     |
| Cells (overnight – jail)  | 3 people          | 1   |
| Cells (holding area with no overnight stays)  | 14 people         | 1   |
| <b>Recording/Film Studios</b>   | 7,000 square feet | 1   |
| <b>Restaurant</b>   |                   |     |
| Drive-in  | 9 parking spaces  | 1   |
| Fast food (with disposable plates, drink cups, and table utensils)  | 22 seats          | 1   |
| Take-out (no seating)   | 3,000 square feet | 1   |
| Full service (with washable plates, drink cups, and table utensils)   | 8 seats           | 1   |
| <b>Retail Stores</b> (deduct mechanical rooms, elevator shafts, stairwells, escalators, restrooms and unfinished storage areas)                     | 3,000 square feet | 1   |
| <b>Roller Rink</b> (skating area only)  | 825 square feet   | 1   |
| <b>Rooming Houses</b> (no food service)   | 7 beds            | 1   |
| <b>RV Dumping Station</b> (not in association with camp grounds)  |                   | 1   |
| <b>Schools</b>  |                   |     |
| Elementary schools (15 gallons/student; 30 square feet/student)   | 18 students       | 1   |
| Colleges/technical/vocational (30 square feet/student)  | 18 students       | 1   |
| Lecture halls (15 square feet/student)  | 18 students       | 1   |
| Labs (50 square feet/student)   | 18 students       | 1   |
| Dorm rooms (on and off campus students)   | 5 students        | 1   |
| Nursery schools (number of children for which facility is licensed)   | 14 students       | 1   |
| House of worship nurseries (used during worship service only; 30 square feet/child)   | 55 children       | 1   |
| Nursery (health clubs, bowling alleys, etc.)  | 2,400 square feet | 1   |
| Secondary schools (30 square feet/student, at 20 gallons/student)   | 14 students       | 1   |

| FACILITY  | PARAMETER          | SAC |
|---|--------------------|-----|
| Labs (50 square feet/student)   | 14 students        | 1   |
| Weekly worship schools (i.e. not daily parochial schools;<br>30 square feet/student)  | 55 students        | 1   |
| <b>Service Station</b>  |                    |     |
| Gas pumping   |                    | 1   |
| Convenience center  | 3,000 square feet  | 1   |
| Service bays  | 2 bays             | 1   |
| Car wash (see Car Wash)   |                    | 1   |
| <b>Shooting Ranges</b> (rifle and handgun ranges, @ 6 feet per lane)  | 6 lanes            | 1   |
| <b>Swimming Pools</b> (public, swimming pool area only; no charge for private residential, townhouse, apartments, condominiums, hotels or motels) | 900 square feet    | 1   |
| <b>Tanning Rooms</b>  | 3,000 square feet  | 1   |
| <b>Tennis Courts</b> (public; shower facilities available)  | 1 court            | 2   |
| <b>Theatre</b>  |                    |     |
| Drive-in (parking spaces)   | 64 seats           | 1   |
|   | 55 spaces          | 1   |
| <b>Vehicle Garage</b>   |                    |     |
| Employees stationed in garage   | 14 employees       | 1   |
| Vehicle drivers (per day)   | 28 drivers         | 1   |
| Vehicle washing (number of vehicles per day x gallons per minute x minutes/vehicles)  | 274 gallons        | 1   |
| <b>Warehouses</b>   |                    |     |
| Assembly areas  | 7,000 square feet  | 1   |
| Office/warehouse  |                    |     |
| Minimum 30% office  | 2,400 square feet  | 1   |
| Maximum 70% warehouse   | 7,000 square feet  | 1   |
| <b>Whirlpools, therapy</b> (at doctor's office or clinic; number of gallons to fill tank x 8 fills/day)   | 274 gallons        | 1   |
| <b>Yard Storage Buildings</b> (i.e. lumber storage; customer pickup; no permanent employees)  | 15,000 square feet | 1   |

## Plumbing Waste Fixture Units

| Type of Fixture | Fixture Unit Value (f.u.) |
|-----------------|---------------------------|
|-----------------|---------------------------|

Note: 17 Fixture Units (f.u.) = 1 SAC

|   |   |
|---|---|
| Drinking Fountain                       | 1 |
| <b>Floor Drain</b>                      |   |
| 2" waste (only if hose bib included)    | 2 |
| 3" waste (only if hose bib included)    | 3 |
| 4" waste (only if hose bib included)    | 4 |
| <b>Trench drain:</b> per 6-foot section | 2 |
| <b>Sinks</b>                            |   |
| Lab in exam room, bathroom              | 1 |
| Kitchen and others                      | 2 |
| Surgeon                                 | 3 |
| Janitor                                 | 4 |
| <b>Water closet</b>                     | 6 |

1046803.13