

# UTILITIES

## INTRODUCTION/PURPOSE

Public utilities include the municipal wastewater/sanitary sewer system, municipal water and storm water utilities. Private utilities include electrical, gas and telecommunications. The ability to serve the City with utilities is essential to the City's future growth. Proactively planning and budgeting for infrastructure replacement and upgrades will assist the City in providing infrastructure more cost effectively. This portion of the Comprehensive Plan will review the:

- I. Municipal Wastewater Treatment/Sanitary Sewer System;
- II. Municipal Water System;
- III. Municipal Storm Water System;
- IV. Private Utilities; Electric, gas, telecommunications and garbage/recycling;
- V. Public Input; and
- VI. Public Utilities Policies and Objectives.

## I. WASTE WATER/SANITARY SEWER SYSTEM

- A. System components:** The existing sanitary sewer facilities can be divided into two distinct components: the sewage collection system and the wastewater treatment facility. The City of Montgomery owns and operates its own wastewater treatment facility. A new wastewater treatment plant was placed on line in December, 2003. The treatment facility is located on the northwest side of the community west of Lake Pepin Road and north of 340<sup>th</sup> Street at 16638 340th Street. The plant removes solids, organic compounds, nutrients and pathogens that have a degrading effect on natural water systems. The City follows the regulations of the Minnesota Pollution Control Agency (MPCA).

The sanitary sewer collection system within the city was placed into service at various times. As a part of financial reporting requirements, the City is required to create an itemized inventory of the value of each individual collection main and when each main was placed into service, for the purposes of itemizing asset depreciation in conjunction with Government Accounting Standards Board (GASB) 34 directive.

The City of Montgomery has four lift stations in place. The main lift station is located near the Waste Water Treatment Plant (WWTP). The smallest lift station is in the North Ridge Subdivision. The other two lift stations are located in Stone Ridge and Country Ridge Developments.

- B. WWTP Capacity.** The Montgomery wastewater sewer system features a mechanical plant with a capacity of 0.968 MGD. The average demand in 2013 was 0.271MDG. Based on a population of 2,933, this is an average contribution of 92 gallons per person per day (gppd). According to the City Engineer, the design capacity for the wastewater treatment facility is for a population of 4,380 (assuming 100 gppd). The design is based on the following – Average wet weather flow of 0.968 MGD, average dry weather flow of 0.438 MGD, peak hourly wet weather flow of 2.380 MGD and a peak instantaneous flow of 2.856 MGD.

According to population projections, the WWTP should have the capacity to serve the City through 2025 or 2030 or a population of 4,380. With future expansion to the WWTP, the facility could serve the City to a population of 5,475. If "Part 2" of the Plant is built, this could be expanded to serve a population of 8,760 to 10,950. This may change depending upon the type/volume of commercial/industrial users which locate within the community. An industry which discharges high levels of wastewater could consume a

large portion of the city's wastewater treatment plant capacity. Industrial growth, as well as actual population growth, should be monitored and sewer capacity plans be made accordingly.

The City has a "Premature Subdivision" section in its Subdivision Ordinance, which allows for the denial of plats if the City is unable to service the area with municipal sewer, among other services. If in the future growth increased significantly and the city did not have funding to expand the WWTP, the City could implement and exercise the premature subdivision clause.

- C. Connections.** As of 2014, the City of Montgomery provided service to approximately 1,400 residential, 110 commercial and two (2) industrial accounts. The City also collects wastewater from a few other small septic haulers; providing the city with additional revenue. There is potential to serve new developments around lakes, such as Greenleaf Lake, in the future.
- D. Population Projections.** As noted within Chapter 3 - Demographic Projections, the City is planning for the following household with future populations of 3,200 in 2015, 4,000 in 2025 and up to 5,000 by 2035.

**TABLE 10-1  
POPULATION PROJECTIONS**

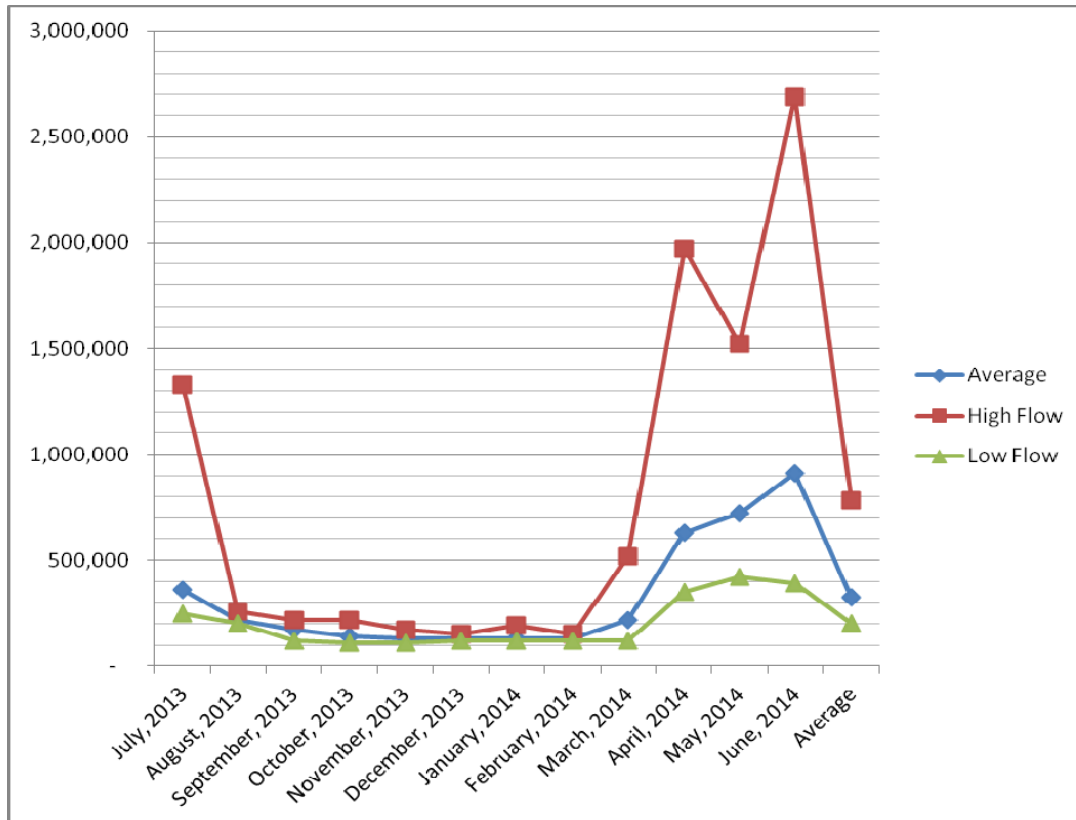
| Year          | State Demographer Estimate (2007) | Building Permit Average Trends | Top Down Method (historical average of county population) | Average Projection of three Methods | Projected Population Local Input |
|---------------|-----------------------------------|--------------------------------|---|-------------------------------------|----------------------------------|
| <b>Actual</b> |                                   |                                |   |                                     |                                  |
| <b>2010</b>   | 2,956                             | 2,956                          | 2,956   | 2,956                               | 2,956                            |
| <b>2015</b>   | 3,892                             | 3,179                          | 3,421   | 3,497                               | 3,200                            |
| <b>2020</b>   | 4,222                             | 3,402                          | 3,632   | 3,752                               | 3,500                            |
| <b>2025</b>   | 4,509                             | 3,625                          | 3,813   | 3,982                               | 4,000                            |
| <b>2030</b>   | 4,744                             | 3,848                          | 3,957   | 4,183                               | 4,500                            |
| <b>2035</b>   | 4,907                             | 4,071                          | 4,063   | 4,347                               | 5,000                            |

The growth boundaries for future land use extend into Lanesburg Township to the north and Montgomery Township to the west and south. Orderly annexation agreements have not yet been negotiated. Based on the capacity of the wastewater treatment plant and current average and peak loads, it appears the City would be able to serve the proposed growth boundary identified.

- E. Evaluation of Wastewater/Sanitary Sewer System.** Infiltration/Inflow into the sanitary sewer lines can decrease the efficiency of sanitary sewer treatment and result in additional volumes to be treated, reducing design capacity and increasing costs. Infiltration may occur if there are cracks in clay sewer lines or if pipes are defective. Inflow occurs if tile, sump pumps, roof or yard drains are connected to the City's sanitary sewer lines. The City Code restricts connection of sump pumps to the sanitary sewer system, stating, "No person shall discharge any surface water, groundwater sump pump, footing tile, swimming pool, cistern overflow, cooling water, or other natural precipitation into the sanitary sewer system except as may be recommended by the City Engineer and approved by the City Council after a determination is made that the additional flow of water is insubstantial and will not adversely impact the capacity of the sanitary sewer system, or as may be provided elsewhere in this Section." The City's sanitary sewer system has experienced some infiltration/inflow (I/I) issues. The City does not have a plan in place to address the infiltration/inflow; however, the Public Works Department has identified a potential cross connection in the park to be addressed.

Monthly influent rates at the WWTP also suggest significant infiltration rates as summer months, especially during the heavy rain falls in the spring of 2014, resulted in high levels of influent, as illustrated in the following chart:

Monthly WWTP influent at the Plant for July 2013-June 2014



There is sufficient space at the existing wastewater treatment plant for future expansion, if needed. Two aeration basins, three reed beds and two final clarifiers could be added. Public Works staff has recommended the removal of the existing two final clarifiers and replacement with larger final clarifiers rather than adding two small to the existing.

The receiving water is County Ditch 22, classified as a Class 7, 3C, 4A, 4B, 5 and 6 water.

- F. Private Sewer Treatment Plants/Cluster Systems.** The City of Montgomery would not consider the approval of private sewer treatment plants or cluster systems for industries or manufactured home parks, as this would not be consistent with the City's long range sewer plan. Le Sueur County inspects upgrades to existing ISTS or upgrades to systems within the city limits. According to LeSueur County, compliance inspections on existing systems are completed by state licensed inspectors.
- G. Sanitary Sewer Plans.** A capital improvement plan has not been formally adopted for future sanitary sewer projects. At this time, the City is replacing sanitary sewer lines as a part of the Fifth Street Area Improvement Project. Improvements at the Wastewater Treatment Plant are also being implemented. The City should budget for replacement of the Magna Rotors and electric equipment at the WWTP. As the City replaces streets within the community, the sanitary sewer lines below streets should be evaluated. A capital improvement plan should be developed which identifies the locations and costs of such future improvements.

- H. Sanitary Sewer Rates and Fees.** The City has adopted a fee schedule identifying the type of facility, parameters and number of connections. When existing lots are fully developed and the city receives requests for new subdivisions, it is recommended that sewer trunk area charges be collected up front from the developer. Sewer Area Charges (SAC) are not based on units for commercial or industrial users. The City should revisit SAC and WAC charges for high water users.

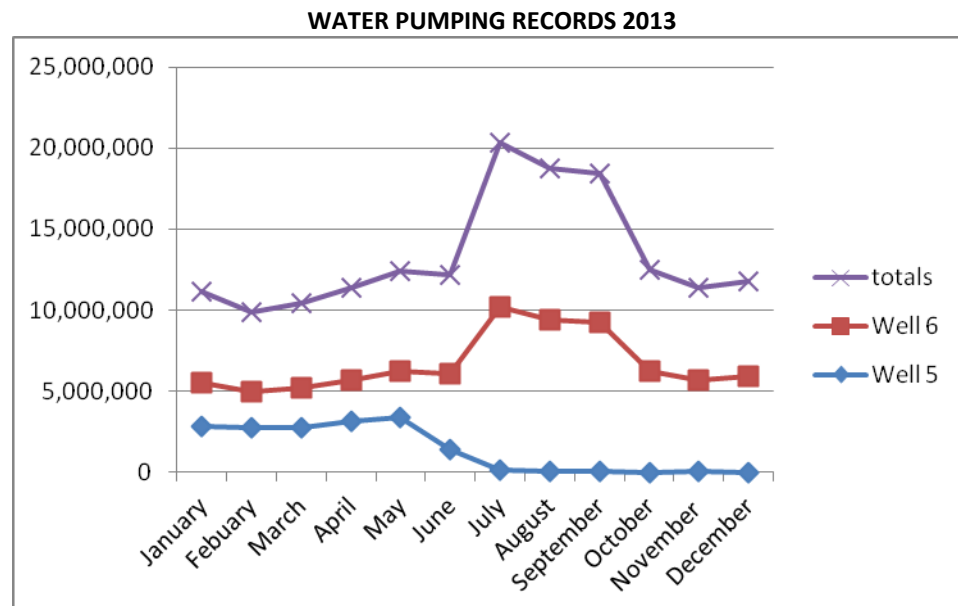
## II. WATER

**Existing Water System.** The City of Montgomery's municipal water system includes four wells, a water treatment facility, water storage facilities and the distribution system.

- A. Wells.** The City currently has two active wells, located at the treatment plant. In addition, there are two emergency wells, one in North Park and by the former Schwans' building. These wells are still monitored in the event they would be needed for a natural disaster that disables water plant operations.

According to the Wellhead Management Program, the wells have a combined pumping capacity of 115,400,000 annually or an average of 316,165 gallons per day. In 2013, the city pumped 80,350,000 gallons or an average of 220,137 gallons per day. Based on the average daily usage of 80 gpd, the existing wells could serve a population of up to 4,000, which is projected to be the population in 2025. If a high water user, such as an industry, locates in the city, this may impact capacity.

The highest one day flow was on August 30, 2013 at 701,000 gallons. During the month of July, 2013 the City averaged 328,613 gallons per day.



Discussion has occurred regarding a future Well #7. This addition and the addition to the water treatment plant could potentially serve the projected population through 2035. It should be noted both wells would not be able to continually pump at 500 gpm as they would run dry. DRN regulations relating to pumping would need to be met.

- B. Water Treatment Facility.** The water treatment plant was constructed in 2005. The plant removes magnesium and iron and softens the water. Radium removal is possible at the water treatment facility should this become a concern and/or testing requirement by the state. The water treatment plant has a capacity of 2,160,000 gallons per day. Generators are in place at the treatment plant and city wells.
- C. Water Storage Facilities.** The city has one elevated storage facility, which was constructed in 2004, with a storage capacity of 500,000 gallons. This facility is located on Rodgers Drive, by the Golf Course. The water tower was inspected in 2005 and 2007. Warranty repair work was completed in 2006. Tower cleaning was completed in 2011.
- D. Water Distribution.** A majority of Montgomery's water distribution system consists of cast iron, ductile iron and polyvinyl chloride (PVC) mixture pipes which range from four inches to 12 inches in diameter. The City is converting water lines to PVC with infrastructure improvement projects. Existing four and six inch mains are being replaced with eight inch mains.
- If homeowners or businesses are serviced with a private well, they are required to connect to the municipal system at the time service becomes available.
- E. Wellhead Protection.** The City of Montgomery has a Wellhead Protection Plan. The purpose of a Wellhead Protection Plan is to ensure the current and future safety of the City's drinking water supply. It includes the following elements as required by the Minnesota Department of Health:
1. The delineation of the wellhead protection area and the drinking water supply management area.
  2. An assessment of the vulnerability of the drinking water supply management area.
  3. A review of expected changes to the physical environment, land use and surface and ground water sources.
  4. A plan for the management of the wellhead protection area.
  5. A plan to monitor the adequacy of wellhead protection measures and a plan to implement the wellhead protection plan.
- F. Water Utility Plans.** The City has plans to continue to replace water mains. Many were completed in 2003, with payment for those improvements continuing until 2026.
- G. Water Rates and Fees.** As of 2014, water connection fees range from \$2,250 to \$3,500 per connection, depending on the area. Water Area Charges (WAC) are not based on units for commercial or industrial users. As of 2014 the City had 1,400 residential water customers, 110 commercial and two industrial water customers. The city should revisit the water connection fee policy for high water users.

### III. STORM WATER UTILITY

In order to preserve natural resources, review of storm water drainage issues and education of the public on issues relative to surface water quality is important.

Storm water management is used to guide the development and expansion of the City's drainage system in a cost-effective manner that preserves existing water resources. Goals of surface water management include, but are not limited to: reduction of public expenditures necessary to control excessive volumes and rates of runoff; flood

prevention especially those urban in nature; identification of current and future drainage patterns; protection and enhancement of the areas natural habitat; promotion of ground water recharge; protection of the water quantity and quality in wetlands, the Minnesota river; and reduction in erosion from surface flows.

- A. Existing Storm Water Facilities.** Montgomery's Storm Water facilities include storm water trunk lines, pipes, channels, manholes, overland drainage ways, catch basins and storm water ponds.
- B. Storm Water Management Plan.** The City currently does not have a Storm Water Management Plan. The City should develop a plan which addresses storm water pipe size, possible water gardens, re-use of storm water and other methods to reduce run off volume.
- C. Maintenance of the Storm Water System.** Storm water pipes are currently replaced in coordination with other street and utility projects. Storm water ponds, their inlets and outlets are maintained by Public Works staff as needed.
- D. Storm Water System Improvements.** A capital improvement plan with proposed storm water system improvements has not been developed. It is recommended this be prepared with identification of methods to reduce storm water flow and/or the increase in storm water pipe size to allow for additional flow.
- E. Storm Water Fees.** The City currently does not charge storm water fees. As the City continues to grow, development of a storm water management plan and fees will be beneficial.

#### IV. PRIVATE UTILITY PROVIDERS

- A. Electric.** The City of Montgomery is served by Minnesota Valley Electric Company (MVEC). MVEC acquired territory from Alliant Energy, who had previously served the southern portion of the City.
- B. Gas.** CenterPoint Energy and Greater MN Gas Co. (for North Ridge, Stone Ridge and Country Ridge Developments) provide gas service to the community.
- C. Telecommunications.** Several providers serve the City, including MediaCom (Cable TV / High Speed Internet), Frontier Communications (Telephone/High Speed Internet), Verizon Wireless (cell service) and many others.
- D. Garbage/Recycling.** Waste Management serves as the city's garbage and recycling provider.

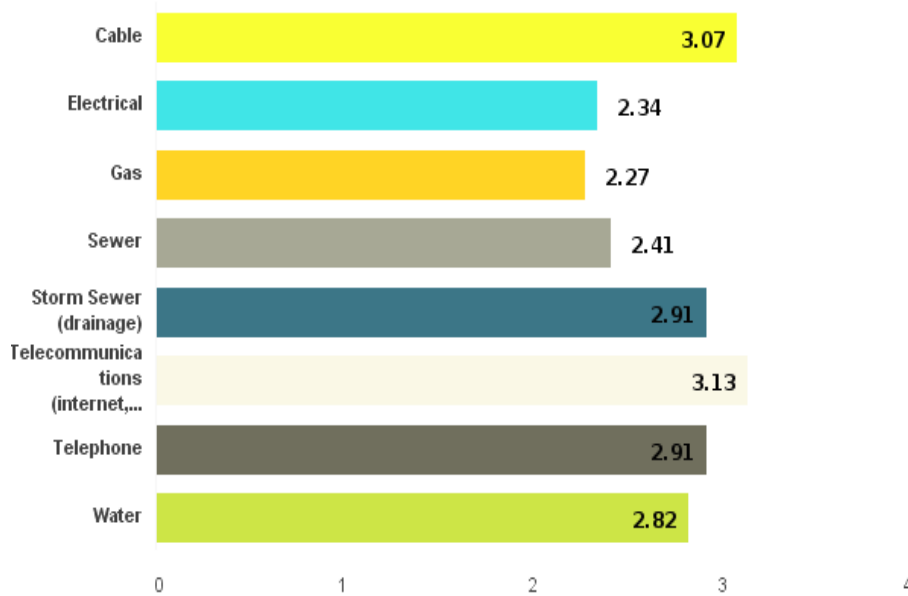
#### V. COMMUNITY INPUT

As a part of a Community Survey in 2013, residents were asked to rate the quality and dependability of utilities on a scale of 1 to 5 with 5= Excellent, 4= Very Good, 3= Good, 2=Fair and 1 = Poor. Following is a weighted average of the responses.

The highest ranking utilities were Telecommunications (3.13) followed by Cable (3.07) and Telephone (2.91). No utilities received an average ranking of very good to excellent.

## Q21 How would you rate the dependability and quality of the following utilities:

Answered: 106 Skipped: 8



## VI. MUNICIPAL UTILITIES OBJECTIVES AND GOALS

### MUNICIPAL UTILITY OBJECTIVES

1. Continue to provide quality utility services to Montgomery residents and businesses at cost effective rates.
2. Plan for future utility needs and structure rates and fees to ensure future development pays for infrastructure costs needed to support the growth.
3. Continue to upgrade existing utility infrastructure as well as plan for future extensions and improvements.

### MUNICIPAL UTILITY GOALS

1. The City should emphasize redevelopment/infill in existing urban areas to maximize existing municipal utilities.
2. The City should continually review the appropriateness of: utility rates, sewer and water availability and connection charges and trunk area charges to determine whether or not said fees are sufficient to provide for future reconstruction and expansion of the system.

3. To avoid duplicate costs, the City should continue to coordinate future street construction/reconstruction with needed municipal utility construction and reconstruction including coordination with other jurisdictions (county, MnDOT).
4. A Surface Water Management Plan should be developed along with a storm water utility.
5. Development proposals shall continue to be reviewed in accordance with the Wellhead Protection Plan. Any potentially contaminating land uses shall be sited outside the wellhead protection area.
6. The City should expand access to digital information and communication technology including coordination with schools, the county, state and local library.
7. Utility improvements should balance environmental factors with the need to rehabilitate and expand.
8. The City should review and calculate the impact of all proposed development and land subdivision on the capacity of the existing sanitary sewer system to determine whether the City can provide services requested within a timely manner (i.e. two years).
9. A capital improvement plan should be developed which includes expenditure for sanitary sewer/WWTP, water facilities, storm water facilities and any public telecommunication.
10. The city should revisit the water connection fee policy for high water users. In addition, Sewer Area Charges (SAC) are not based on units for commercial or industrial users. The City should revisit this for high water users.
11. The City should investigate infiltration and inflow in the city's sanitary sewer system and develop a plan to address this.
12. The City should investigate the cost/benefit of creating a streetlight utility.