Water Supply Service Area Plan

September 2025

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Introduction

Background

The City of Stoughton is located in Southern Wisconsin in Dane County, approximately 18 miles southeast of Madison. As the municipal utility, Stoughton Utilities pumps and distributes drinking water to the City of Stoughton. The Stoughton Water Utility was founded in 1886 and currently serves 5,321 customer meters in the City of Stoughton. The City of Stoughton is located on the Yahara River Watershed, which covers 359 square miles. Much of the watershed is farmed, but it also includes most the urban land in the Madison metropolitan area.

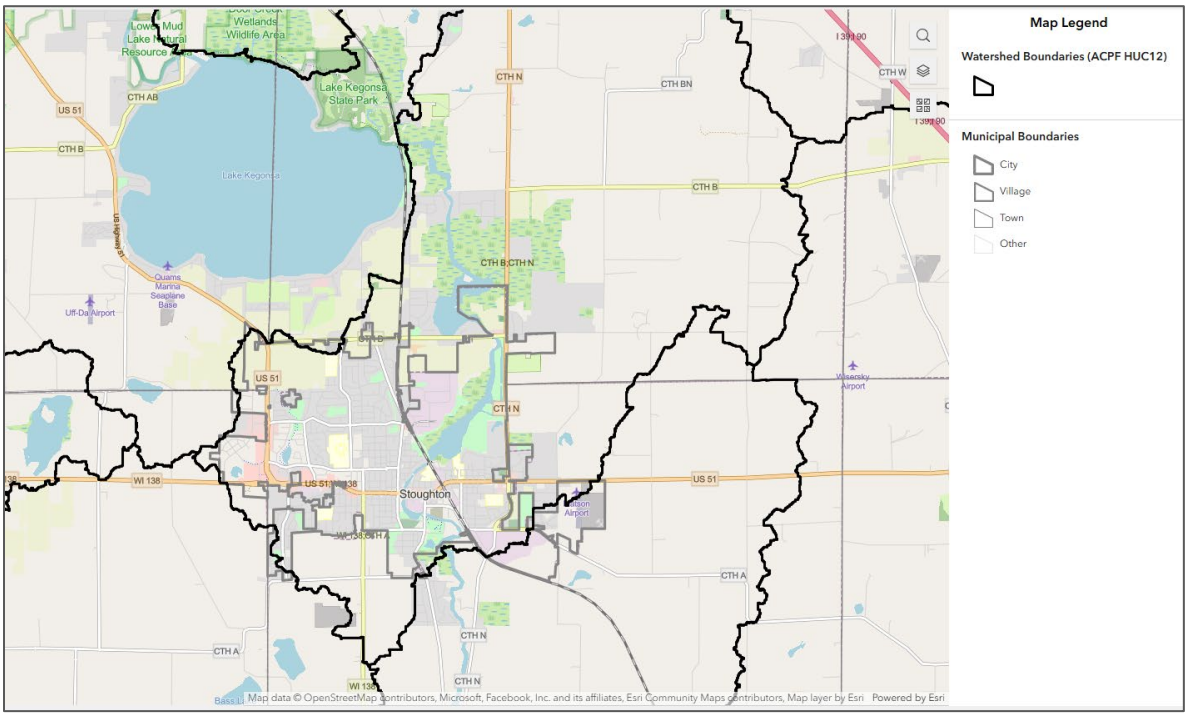

Figure 1: Map of Sub-Watershed Boundaries Within City of Stoughton
Source: Dane County Watershed Map

Purpose

The Wisconsin Department of Natural Resources (WDNR) requires a Water Supply Service Area plan for public water supply systems that serve populations of 10,000 or more. The purpose of the plan is to illustrate compliance with Wis. Stat. s. 281.348 as follows:

- Identify the City of Stoughton Service Area.
- Inventory existing sources of water supply.
- Estimate water demand forecasts over the study period.
- Identify options for alternate water supply.
- Demonstrate the plan effectively utilizes existing infrastructure.
- Identify both existing and future population and population density within the service area.
- Illustrate that the plan supports and is consistent with comprehensive plans for the service area.

Current Conditions

The City of Stoughton currently covers 6.35 square miles and shares borders with the Towns of Dunkirk, Pleasant Springs, and Rutland. The Town of Dunn is located to the northwest. The properties in these surrounding townships are served by private wells.

Population

The City of Stoughton was founded in 1847. The population in the City is approximately 13,173 based on 2020 census data with approximately 5,321 metered customers as of 2025.

The future City population was projected in the 2017 City of Stoughton Comprehensive plan to reach between 14,080 and 34,536 by 2040. To account for the broad variation in population projections, the 2017 City of Stoughton Comprehensive plan ultimately used a blended growth rate resulting in a projected population of 18,199 in 2040.

The 2015 Water System Study provided differing population projections. In the study, projections from the Wisconsin Department of Administration (WDOA) Demographics services Center estimate a population of 13,970 as of 2035. Another projection in the study used the Stoughton Area Future Urban Development Area (FUDA) Planning Study, which estimates a population of 19,500 in 2035.

Land Use

The City of Stoughton Comprehensive Plan was last updated in 2016 and is currently in the process of being updated again for 2026-2046. The Comprehensive Plan and amendments are available electronically at https://www.stoughtonplanning.com/comprehensive-plan. The City of Stoughton current land use zoning is primarily single family residential, with multi-family residential, business, industrial, and other public and right-of-way uses as illustrated in Figure 2. The current City land use zoning differs from the future land use zoning illustrated in Figure 3. For the purposes of this Plan, the Future land use, as presented in the 2017 Comprehensive Plan, was used to estimate population, population density, and water demand forecasts.

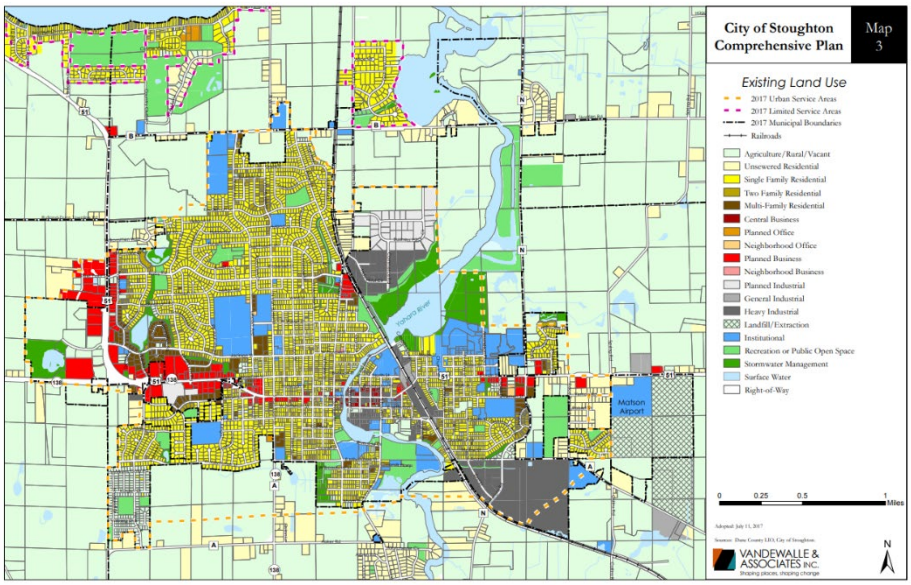

Figure 2: City of Stoughton Current Land Use Map
Source: City of Stoughton Comprehensive Plan

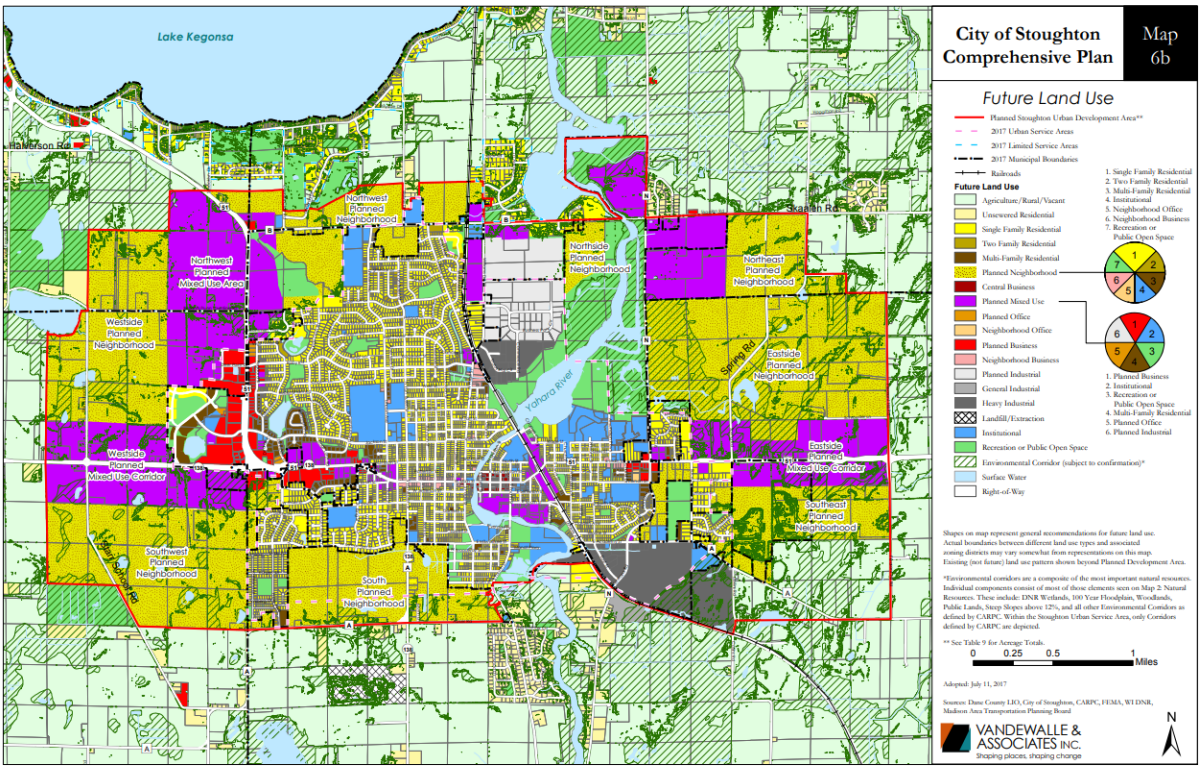

Figure 3: City of Stoughton Future Land Use as of 2040
Source: City of Stoughton Comprehensive Plan

Water Supply Service Area

The City of Stoughton is currently served water and wastewater service by the municipally owned Stoughton Utilities, and all future expansion is expected to be served by Stoughton Utilities as well. City of Stoughton Ordinance requires that all properties used for human habitation with access to Stoughton Utilities water mains be connected to Stoughton Utilities water and sewer service. For the purpose of this plan, the entire City limits and the future planned development areas are considered the overall Water Supply Service Area.

Existing Water Supply System and Sources

Stoughton Utilities currently pumps groundwater from four wells located throughout the city. In addition to the currently operating wells, current water infrastructure includes two elevated storage tanks and one reservoir for a combined 1.3 million gallons of water storage. Stoughton Utilities also maintains 395,954 feet of water mains, 5,447 water meters, and 716 fire hydrants throughout the city. A map of the current system is shown in Figure 4.

Wells			
Location	*Year Constructed*	*Depth*	*Pumping Capacity*
Well 4 – North Van Buren Street	1963	969 Feet	1,220 gpm
Well 5 – West South Street	1978	1,113 Feet	950 gpm
Well 6 – East Academy Street	1985	1,137 Feet	1,050 gpm
Well 7 – Roby Road	1997	1,040 Feet	1,080 gpm

Table 1: Active Well Facilities in the City of Stoughton

Storage		
Location	*Year Constructed*	*Storage Capacity*
Tower 2 – Furseth Road	1977	300,000 gallons
Reservoir 2 – West South Street	1989	400,000 gallons
Tower 3 – Racetrack Road	2010	600,000 gallons

Table 2: Active Water Storage Facilities in the City of Stoughton

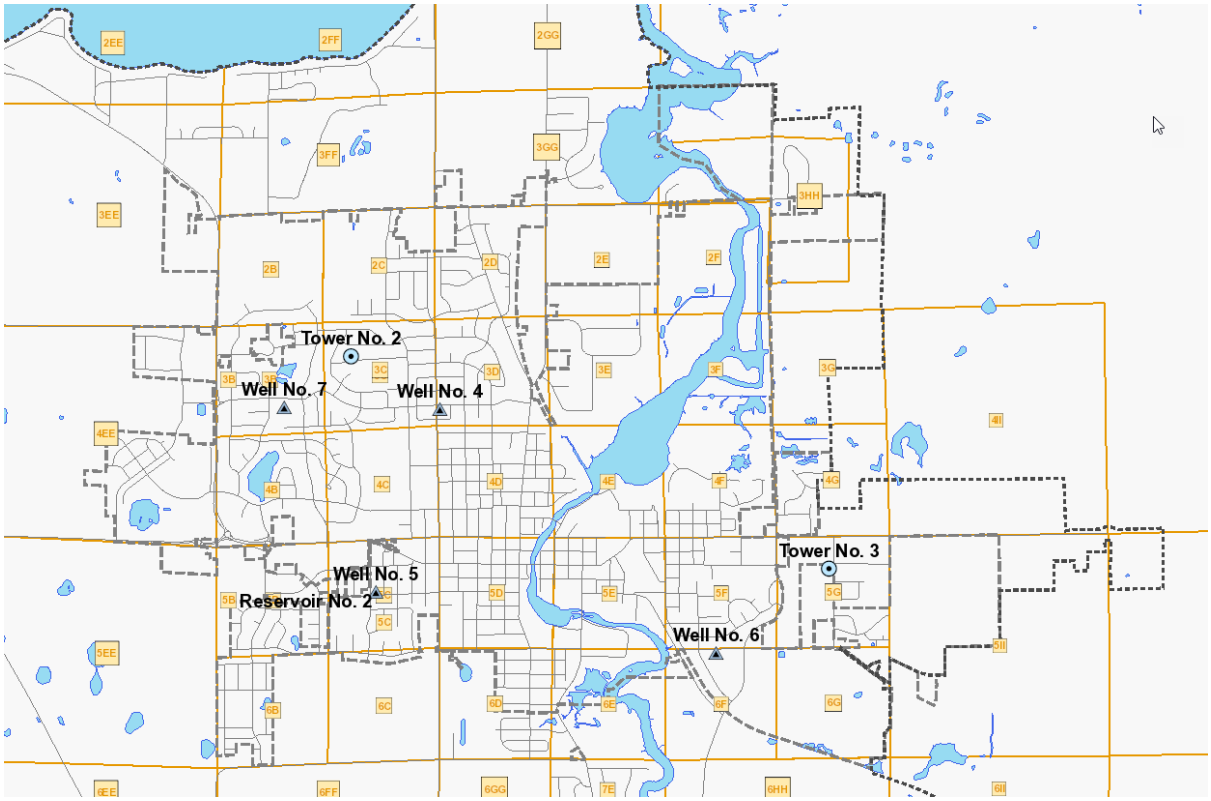

Figure 4: Stoughton Utilities Current Water Infrastructure

Water Use By Customer Sector

Stoughton Utilities submits water use data to the Public Service Commission (PSC), which was used to estimate existing water use by customer sector. Figure 5 illustrates the percentage of total pumpage by sector for 2024 and Figure 6 illustrates the total water sales by customer sector for the last 10 years. In general, water use has been consistent over the past 10 years except for in the industrial category which has decreased moderately, largely due to enhanced efficiency practices. In 2024, the total pumpage was approximately 462 million gallons, while only 403 million gallons was accounted for. This nets approximately 8 percent of pumped water unaccounted in the City for 2024.

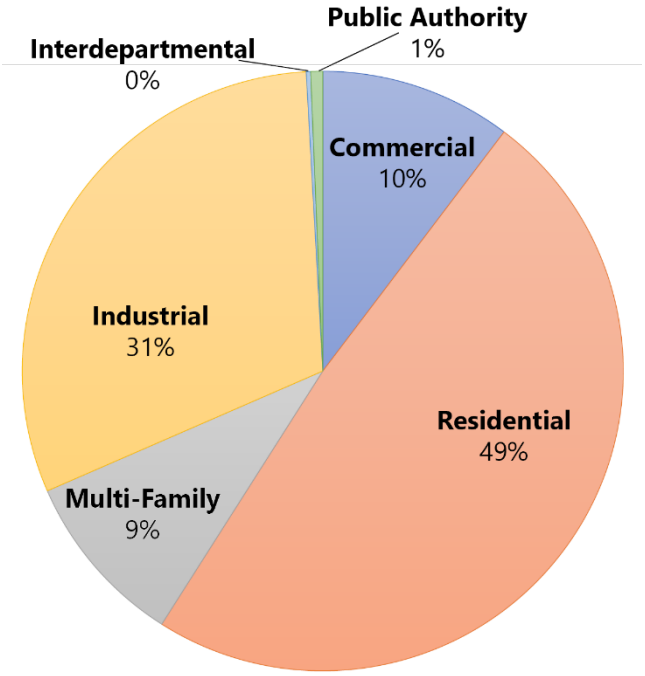

Figure 5: 2024 Water usage by category

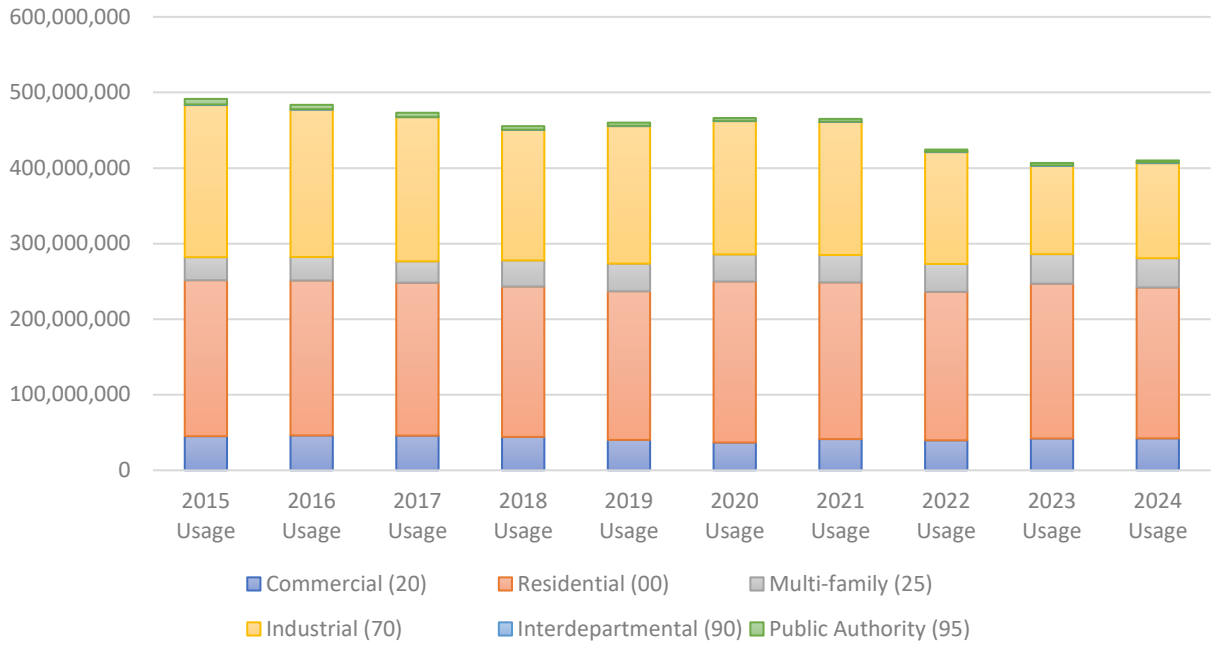

Figure 6: Historic Water Usage by Category

The 10 largest water users in the City of Stoughton are summarized in Table 3 with the largest water user being Uniroyal Global Engineered, served by two separate meters. These 10 users make up just over a quarter of the city's total water use.

Customer	Use Category	Amount Used (gal)	Percent of Total Annual Water Delivered
Uniroyal Global Engineered (Meter 1)	Industrial	68,632,000	17.00%
Uniroyal Global Engineered (Meter 2)	Industrial	19,832,000	4.91%
B&G Foods (Meter 1)	Industrial	9,100,000	2.25%
B&G Foods (Meter 2)	Industrial	5,083,000	1.26%
B&G Foods (Meter 3)	Industrial	4,662,000	1.15%
Emmi Roth USA	Industrial	4,359,000	1.08%
Kwik Trip	Commercial	2,810,000	0.07%
Color Con Inc.	Commercial	2,240,000	0.05%
Premier Stoughton, LLC	Multi-Family Residential	2,230,000	0.05%
Stoughton Hospital	Commercial	2,058,000	0.05%

Table 3: Top 10 Water Users, 2024

Water Use Forecast

Table 4 summarizes the projected water use for the City in 2035 based on figures from the Stoughton Utilities 2015 Water System Study. These figures are based on population projection numbers from both the Wisconsin Department of Administration (WDOA) Demographics Services Center and Stoughton Area Future Urban Development Area (FUDA) planning study. The average day use for the entire City is projected to be 1.658 MGD, or 1,151 GPM. The estimated maximum daily water use is 3.017 MGD. The maximum daily water demand with fire flow demand of 3,500 GPM for a duration of 3 hours is 3.647 MGD.

	Population	Average MGD	Maximum MGD	Maximum Plus Fire MGD
2015	12,740	1.512	2.752	3.382
2035 (Projected WDOA)	13,970	1.658	3.017	3.647
2035 (Projected FUDA Planning Study)	19,500	2.314	4.212	4.842

Table 4: City of Stoughton Water Use Forecast Based on 2035 Projections

Water Supply Options and Plan

Stoughton has adequate water supply to provide water service to the City throughout the planning period, including for all population projections and fire protection needs. If additional water supply is needed in the future, Stoughton Utilities' most cost-effective option would be to drill additional wells.

General areas for new well locations were determined in the 2015 Water System Study, including in the area west of Highway 51 and North of Highway 138, in the area east of Highway 51 and just south of County Rd B, and in the area just west of the Yahara River and just south of County Rd B. See Figure 7 for potential locations of these wells.

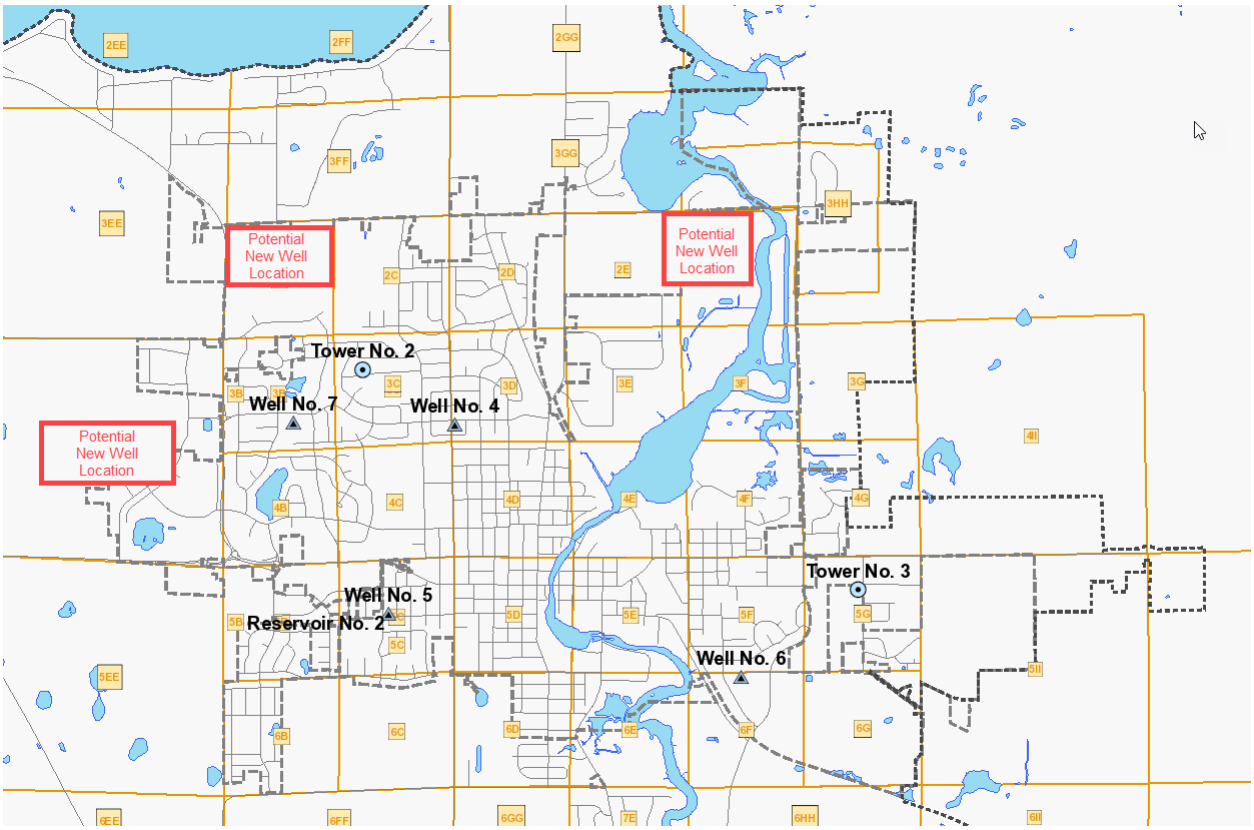

Figure 7: Potential Locations for New Wells

According to the 2015 Water Systems Study, the construction of a new well in the City of Stoughton would cost an estimated $2.46 million, however, prices have increased over the last 10 years since this study was completed and current prices for a new well are expected to be significantly higher. Recent similar projects in the region have cost $4 million - $9 million.

Plan Recommendations

Existing water sources and existing water storage facilities are expected to be sufficient to supply the city through the planning period. No significant water supply facilities or capital improvements are recommended outside of regular well and distribution system maintenance. There are no plans or anticipated need for additional well capacity in the next 20 years.

This plan is consistent with the City of Stoughton Comprehensive Plan and the 2015 Water System Study, as both were used in the creation of this plan. This plan will be updated periodically as the city grows, additional plans and studies are completed, and the Comprehensive Plan and Water System Study is updated.