

Middlesex Township Municipal Authority System Supply

Existing MTMA system supply sources are Well No. 1 and the South Middleton connection. The capacities of Well No. 1 (1.44 mgd) and the South Middleton connection (1.5 mgd) can provide a combined 2.94 mgd to the MTMA system. Proposed Well No.1A, to be located near Well No. 1, has an estimated yield of 175 gpm (0.25 mgd).

MTMA also delivers water to North Middleton Township through a metered connection west of Wolf's Bridge Road. Maximum flow to North Middleton Township through the connection is 1.0 mgd. Locations of supply sources and the North Middleton Township connection are shown on Figure 1.

Records from January 1, 2025 through July 31, 2025 were reviewed to determine average and maximum day customer demands.

Average Well No. 1 Flow:	0.50 mgd
Average South Middleton Flow:	<u>0.72 mgd</u>
Total System Inflow:	1.22 mgd
Average North Middleton Outflow:	<u>-0.66 mgd</u>
Average Demand in MTMA:	0.56 mgd
Maximum Day (2/26/2025):	1.82 mgd
Maximum Day / Average Day Factor:	$1.82 / 1.22 = 1.5$

North Middleton Township flow delivery averaged 0.66 mgd. Currently, North Middleton can draw more than their average flow on high demand days, and not exceed their 1.0 mgd maximum flow rate. It is assumed that North Middleton flows will increase in the future, such that their delivery will consistently approximate 1.0 mgd, and on high demand days will be limited to 1.0 mgd.

Future customer growth in the MTMA system includes a data center, housing developments, and other commercial customers. Locations of these future customers are shown on Figure 1. Estimated average water requirements for future customers are summarized as follows:

Data Center:	0.40 mgd
Wawa, Flight Systems, Cumb. Range, Cumb. Preserve:	0.02 mgd
Grange Development:	0.32 mgd
South Middlesex Road Development:	<u>0.16 mgd</u>
Total:	0.90 mgd

Future average water requirements in the MTMA system (excluding North Middleton) are 1.46 mgd.

Current Average MTMA Demands:	0.56 mgd
Future Average Demands:	<u>0.90 mgd</u>
Total Average Demands	1.46 mgd

Future maximum day demands in MTMA, based on a 1.5 max day / average factor, are 2.19 mgd.

$$1.46 \times 1.5 = 2.19 \text{ mgd}$$

The total future supply needed is 3.19 mgd, which is the sum of maximum day demands in MTMA plus 1.0 mgd delivery to North Middleton Township.

$$2.19 + 1.0 = 3.19 \text{ mgd}$$

MTMA system supplies from Well No. 1 and the South Middleton connection are 2.94 mgd, indicating a projected future need for an additional 0.25 mgd. Therefore, proposed Well No. 1A (estimated yield 0.25 mgd) or other sources of supply will be necessary to meet future MTMA customer demands.

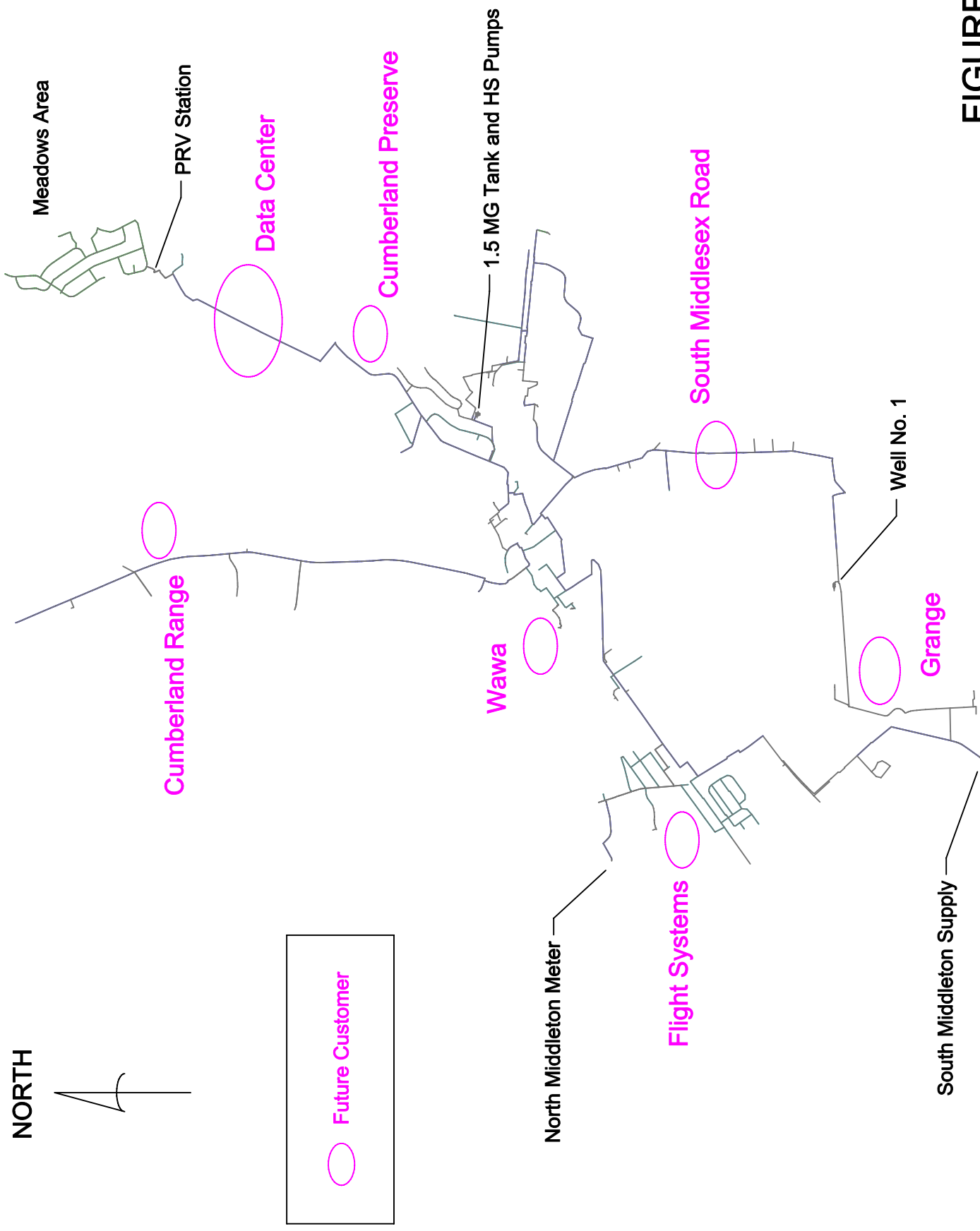


FIGURE 1