SYSTEM ID: KY 6

NARRATIVE DESCRIPTION

KY 6 is primarily a loop system in Kentucky with the following assets: 3 Tanks, 2 Pumps, 1 Water Treatment Plant, and approximately 308719 feet of pipe. KY 6 provides 1.56 million gallons of water per day to its 2,850 customers at a rate which ranges between $7.38 and $8.12 per 1,000 gallons of water. Water loss for KY 6 is estimated at 19% of the water produced.

NETWORK SCHEMATIC:

HISTORY OF THE NETWORK FILE

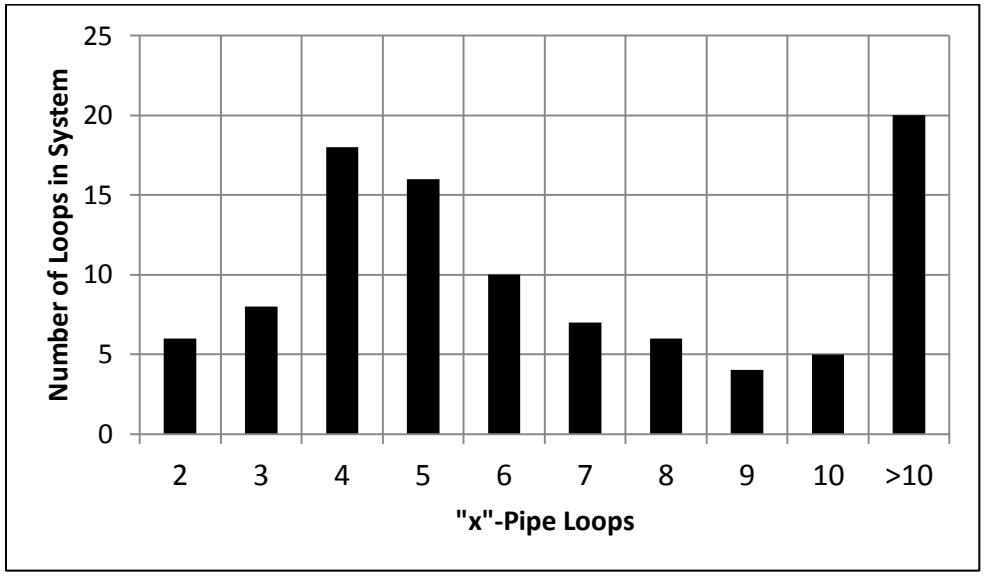
KY 6 was originally created by Matthew Jolly and Amanda Lothes in 2012 as part of the journal article “Research Database of Water Distribution System Models” which was published in 2014

in the *Journal of Water Resources Planning & Management*. This model was updated by Stacey Schal in 2013, and then updated again by Steven Hoagland in 2014.

AVAILABLE INFORMATION

Physical attributes	YES
Schematic diagram	YES
Network geometry data	YES
GIS data file	YES
Background map	YES
Elevation data	YES
Pipe data	YES
Pipe material	YES
Pipe age	YES
Pipe pressure class	NO
Nominal or actual diameters	YES
Pump data	YES
Useful horsepower	YES
Pump operating curves	NO
Tank data	YES
Elevation data	YES
Stage storage curves	NO
Water quality information	NO
Valve data	NO
PRV/FCV data	NO
Isolation valve data	NO
Hydrant data	NO
Demand data	YES
Total system demand	YES
Nodal demand data	YES
Temporal data demands	YES
System leakage	NO
Hydraulic data	YES
Hydraulically calibrated model	NO
Field hydraulic calibration data	NO
Water quality data	NO
Disinfection method	NO
Chlorine residual data	NO
Booster station data	NO
Fluoride/Chloride field data	NO
Water quality calibrated model	NO
Operational data	NO
SCADA datasets	NO
Operational rules	NO

PIPE/LOOP HISTROGRAM:



REFERENCES:

Jolly, M. D., Lothes, A. D., Bryson, L. S., & Ormsbee, L. (2014). Research Database of Water Distribution System Models. *Journal of Water Resources Planning and Management,* 410-416.

DETAILED DATA SUMMARIES

PHYSICAL ASSETS:

Asset Type:	# of Assets
Master Meters	-
Tanks	3
Pumps	2
Pump Stations	NA
Water Treatment Plants	1

NETWORK CHARACTERISTICS:

# Total Pipes:	644
# Branch Pipes:	204
Ratio (Branch Pipes / Total Pipes):	0.317
# Junction Nodes	545
# Reservoirs	2
# Tanks	3
# Regulating Valves	0
# Isolation Values	Unknown
# Hydrants	Unknown
Elevation Data	YES

PIPE DATA:

Diameter (in)	Length (ft)
1	9952
1.3	-
1.5	-
2	33,108
3	7,085
4	15,207
6	149,680
8	17,993
12	33,381
16	40,523
18	1,790
20	-

PUMP DATA:

Pump Horsepower	YES
Pump Curves:	NO

DEMAND STATISTICS:

Demographic Type	Population	Households
Directly Serviceable:	6,534	2,902
Indirectly Serviceable:	14,122	6,997
Total Serviceable:	20,656	9,899

Production Statistics	
Total Annual Volume Produced (MG):	730.311
Total Annual Volume Purchased (MG):	
Total Annual Volume Provided (MG):	730.311
Estimated Annual Water Loss:	19%

Water Costs	
Customer Type	Cost per 1000 gallons
Customers within the municipality	$7.38
Customers outside the municipality	$8.12

CUSTOMERS AND USAGE:

Customer Type	Customer Count	Average Demand (MG)
Wholesale:	1	171.077
Residential:	2,423	141.014
Commercial:	405	191.111
Institutional:		
Industrial:	21	85.300
Other:		
Total Customers:	2,850	
Flushing, Maintenance & Fire Protection:		
Total Water Usage:		588.502

DATA FILE ATTRIBUTES:

ATTRIBUTE		UNITS
Pipe Length & Diameter	X	Feet
Pipe Age	X	Yr. Installed
Node Elevation	X	Feet
Node Demand	X	GPM
Valves		
Hydrants		
Tank Levels	X	Feet
Tank Volume	X	Cubic Feet
PRVs		
WTP	X	
WTP Capacity	X	GPD
Pump Data	X	HP