Water Energy Nexus

The life of a drop of water
MSD System Overview & Details

- Two utilities: wastewater and stormwater
- 525 square mile service area
- 1,300,000 customers
- 90 municipalities served
- 7 treatment plants
- 356 million gallons/day wastewater treated
- 4,700+ miles of separate sanitary sewers
- 1,800+ miles of combined sewers
- 3,000+ miles of stormwater sewers
- 4th largest sewer system in US (by miles of sewers that handle wastewater)
The Metropolitan St. Louis Sewer District
SANITARY/COMBINED SEWER SYSTEM

4th Largest Collection System in the Country*

9,531 Total Miles of Sewers
9,402 Miles Rely on Gravity
3,025 Miles of Storm Sewers

* When measuring sewers that handle wastewater
277 Pump Stations
207 Sanitary

$2,828,000 electrical use
22% of total electrical use

$115,000 gas use
6% of total gas use
Pump Station Flow Line to Missouri River Treatment Plant

Purple line indicates common force main

Diagram of the flow line from various points to the Missouri River Treatment Plant.
350 MGD Bissell Point
40 MGD Coldwater
6.75 MGD Fenton
21 MGD Grand Glaize
340 MGD Lemay
15 MGD Lower Meramec
38 MGD Missouri River

$9,834,000 electrical use
78% of total electrical use

$1,985,000 gas use
94% of total gas use
14-15 Total Operations Costs $102,505,700

- Labor, 52,509,747, 51%
- Supplies, 16,279,874, 16%
- Utilities (Electric 12.4%, Gas 2.0%), $15,600,556, 15%
- Contractual Services, 14,383,039, 14%
- Capital, 3,732,489, 4%
O & M Costs Penny Per Gallon
Total Cost 0.086

- Penny 0.917 (not spent)
- Labor 0.044
- Supplies 0.014
- Contractual Services 0.012
- Capital 0.003
- Electric 0.011
- Gas 0.002

0.917