Water Main Flushing at Lakewood Water District

From Paper to GIS and Lucity based process

Presentation Overview

- Lakewood Water District Water Main Flushing Process 1943-2016
- What our Customers see now
- How the program is administered in ArcGIS and Lucity
- Publishing the Daily Web Map
- How our Field Staff use Lucity to record data
- How data is Post-Processed
- Next Steps!

About Lakewood Water District

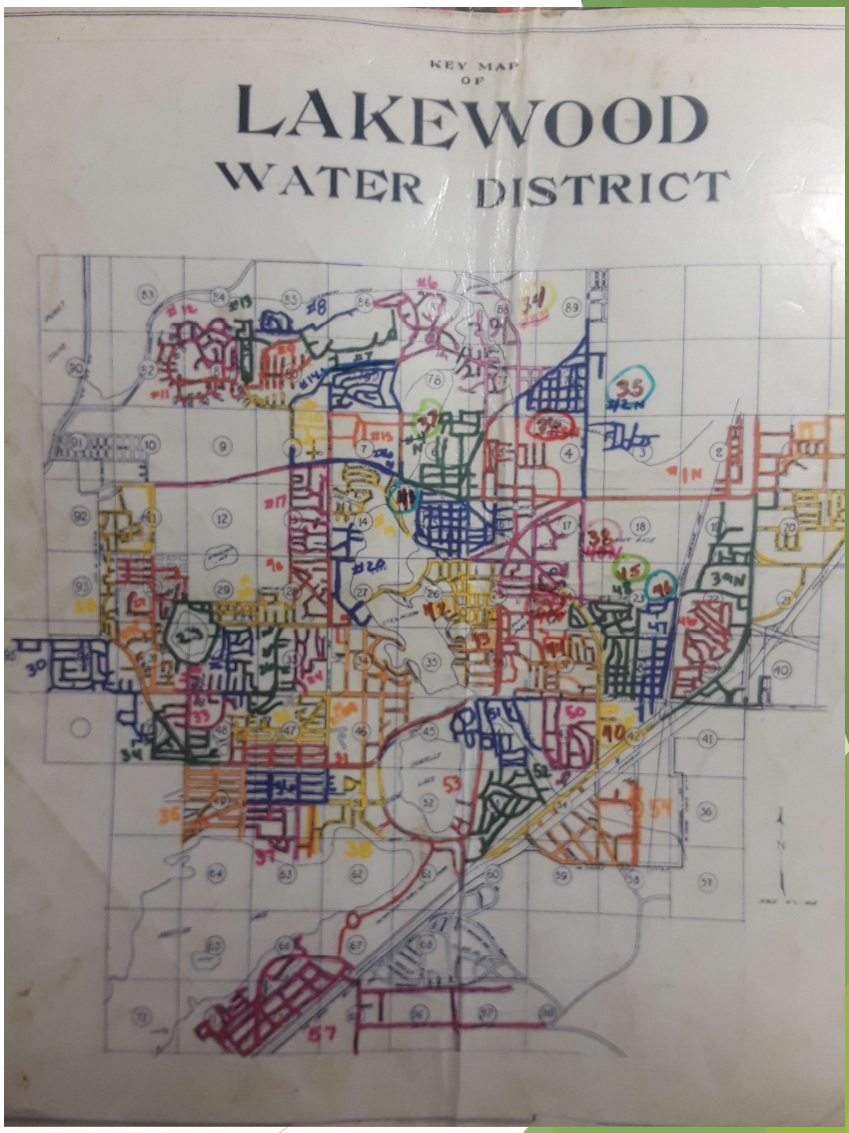
Formed in 1943:

- Total Population Served: 7,900.
- Water connections: 369
- Miles of Water Main: 41
- 3 Water Tanks, with a total storage capacity of 600,000 gallons of water.
- Wells: 4
- Service Area: Parts of Unincorporated Pierce County

Today:

- Total Population Served: Retail: 75,000 + Wholesale: 40,000 = **115,000**
- Water Connections: 16,800
- Miles of Water Main: 265
- 13 Water Tanks, with a total storage capacity of 27,300,000 gallons of water.
- Wells: 32 (26-30 active).
- Service Area: Retail Sales in City of Lakewood, Wholesale Contracts with Town of Steilacoom, Summit Water & Supply Co., Parkland Light & Water, Rainier View Water Company and Spanaway Water Company

-
-
-
-
- Clunky and hard t find Website Interface

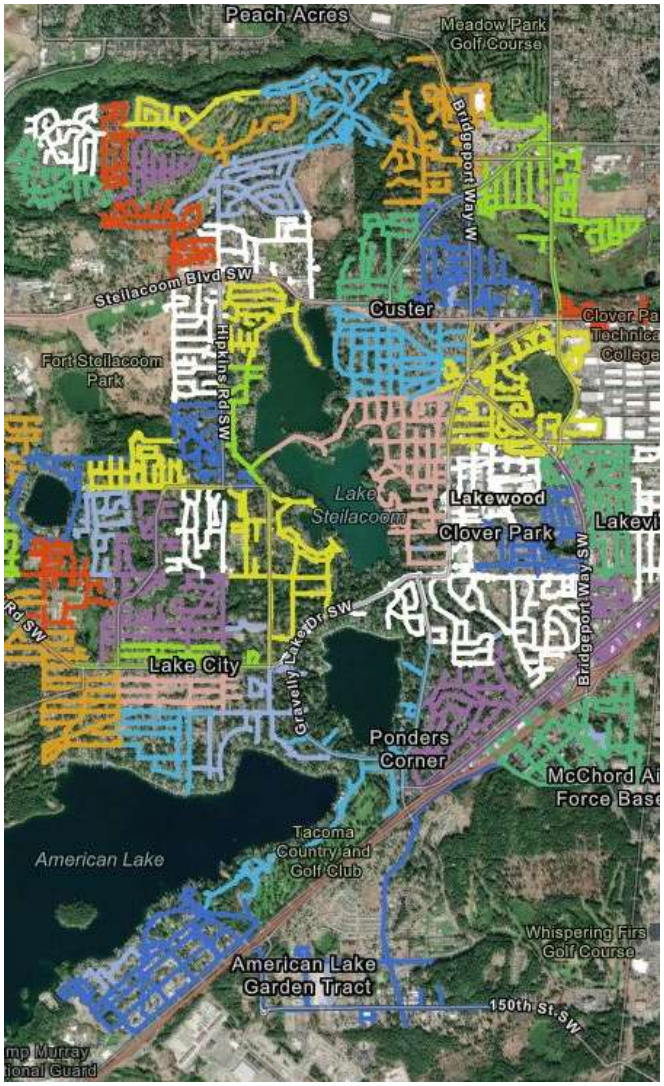


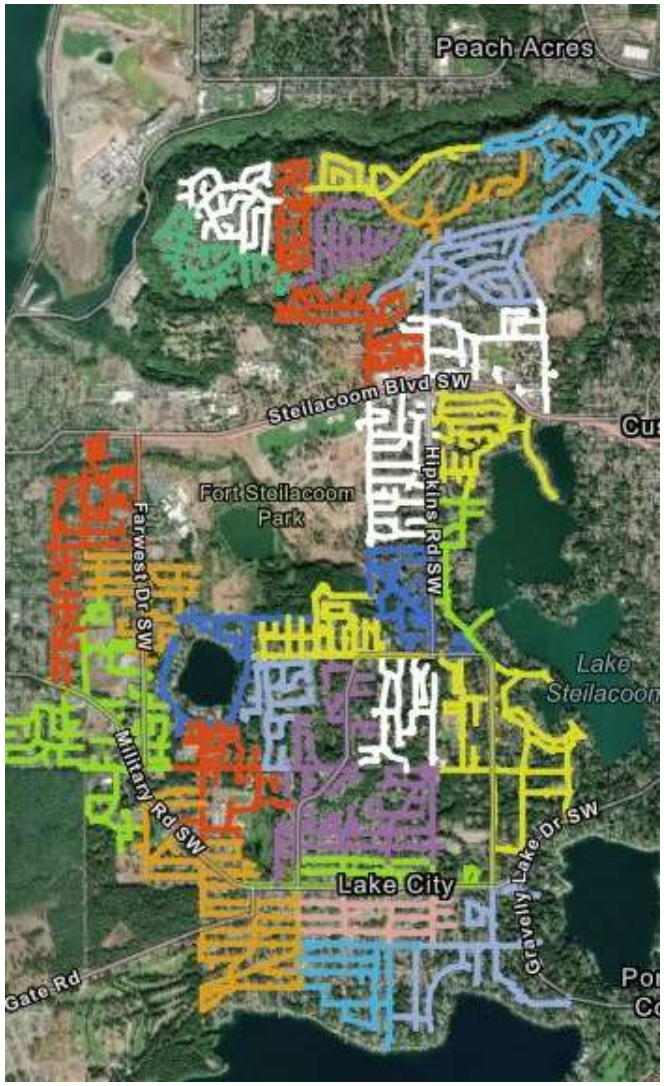
omer
page

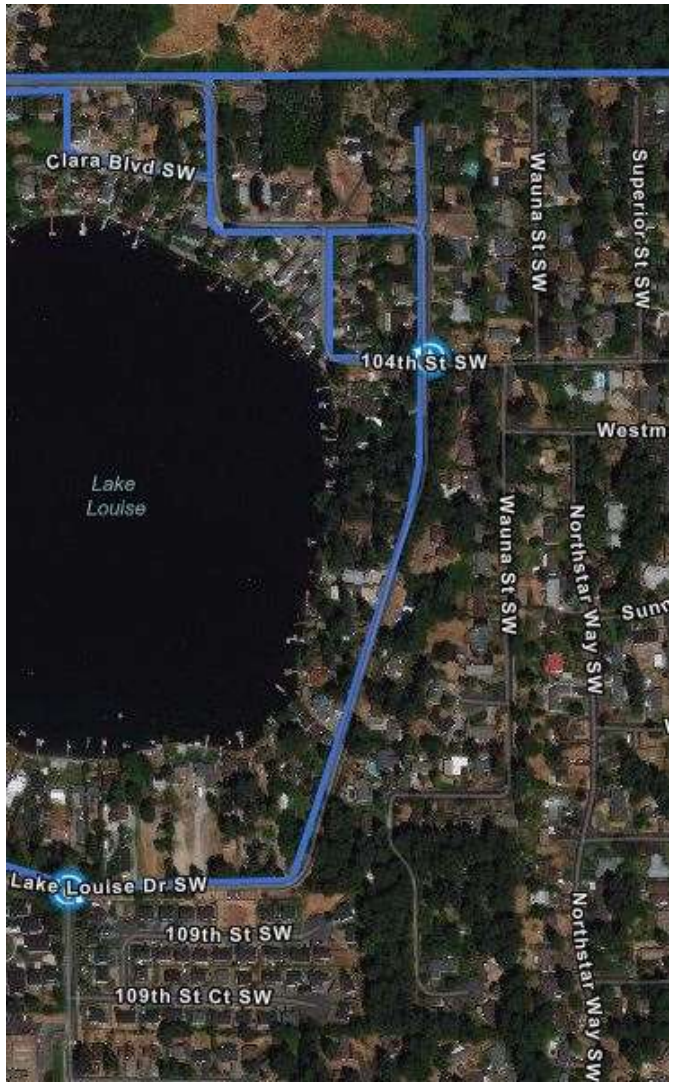
- October 2017
- ities
  anuary 2018
- rtal: February

Lakewood Water District

Deployed Flushing Page


Peach Acres
Meadow Park Golf Course
Bridgeport Way W
Steilacoom Blvd SW
Custer
Clover Pa
Technica
College
Fort Steilacoom Park
Hipkins Rd SW
Lake Steilacoom
Lakewood
Clover Park
Lakevi
Bridgeport Way SW
Gravelly Lake Dr SW
Lake City
Ponders Corner
McChord Air Force Base
Tacoma Country and Golf Club
American Lake
Whispering Firs Golf Course
American Lake Garden Tract
150th St SW
mp Murray
ional Guard


Peach Acres
Steilacoom Blvd SW
Fort Steilacoom Park
Hipkins Rd SW
Farwest Dr SW
Military Rd SW
Lake Steilacoom
Gravelly Lake Dr SW
Lake City
Gate Rd


Clara Blvd SW
Wauna St SW
Superior St SW
104th St SW
Westm
Lake Louise
Wauna St SW
Northstar Way SW
Lake Louise Dr SW
109th St SW
109th St Ct SW
Northstar Way SW

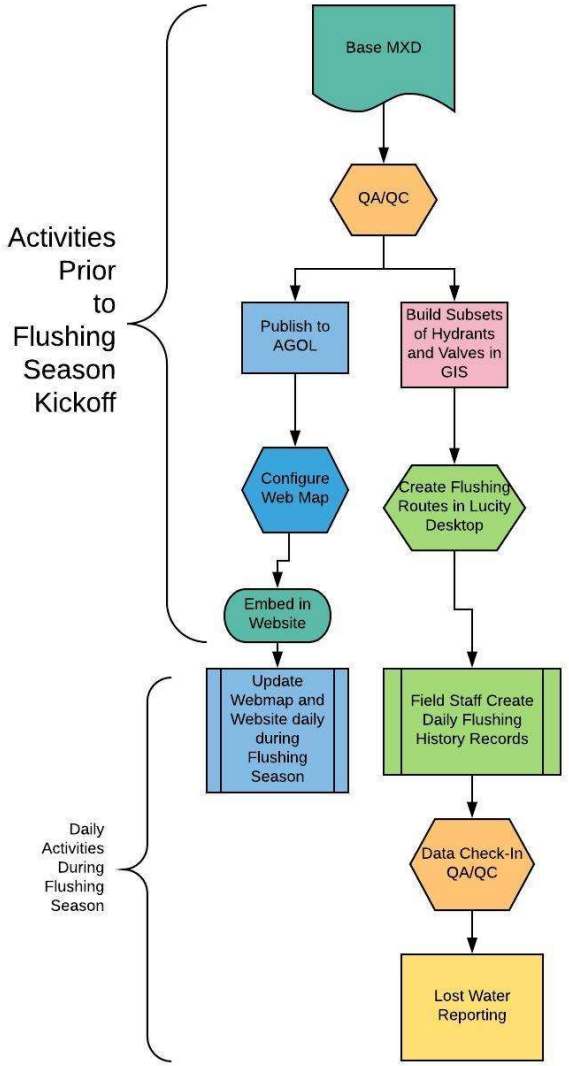
How it was built!

Initial Implementation/Annual Process Update:

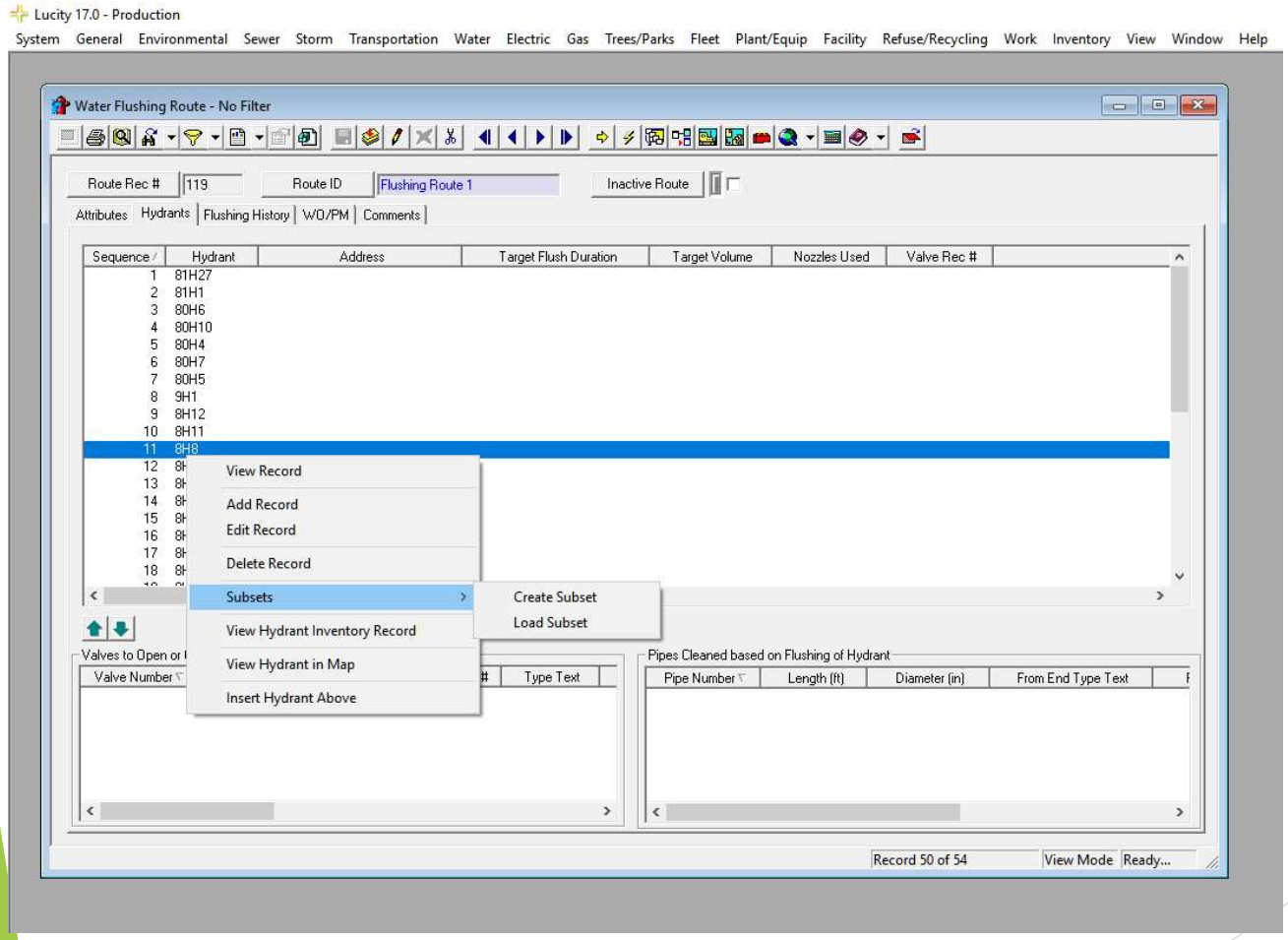
- An Information Product Description and Scoping (IPDS) Form was written
- An ArcGIS Project/MXD is created holding Production Water Mains, Hydrants, and Valves
- Mains are filtered by the Flushing Route ID Field, inconsistencies are fixed
- Publish as a Feature Service for Webmap
- Configure Subsets of Hydrants and Valves
- Build Flushing Routes using Hydrant and Valve Subsets in Lucity Desktop

Daily Flushing Season Workflow

- Update Web map, Website, Send jpeg to Facebook.
- Update Flushing History Records

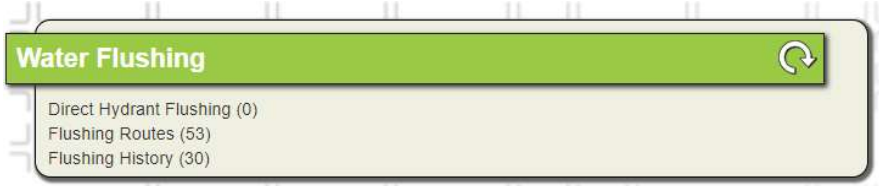


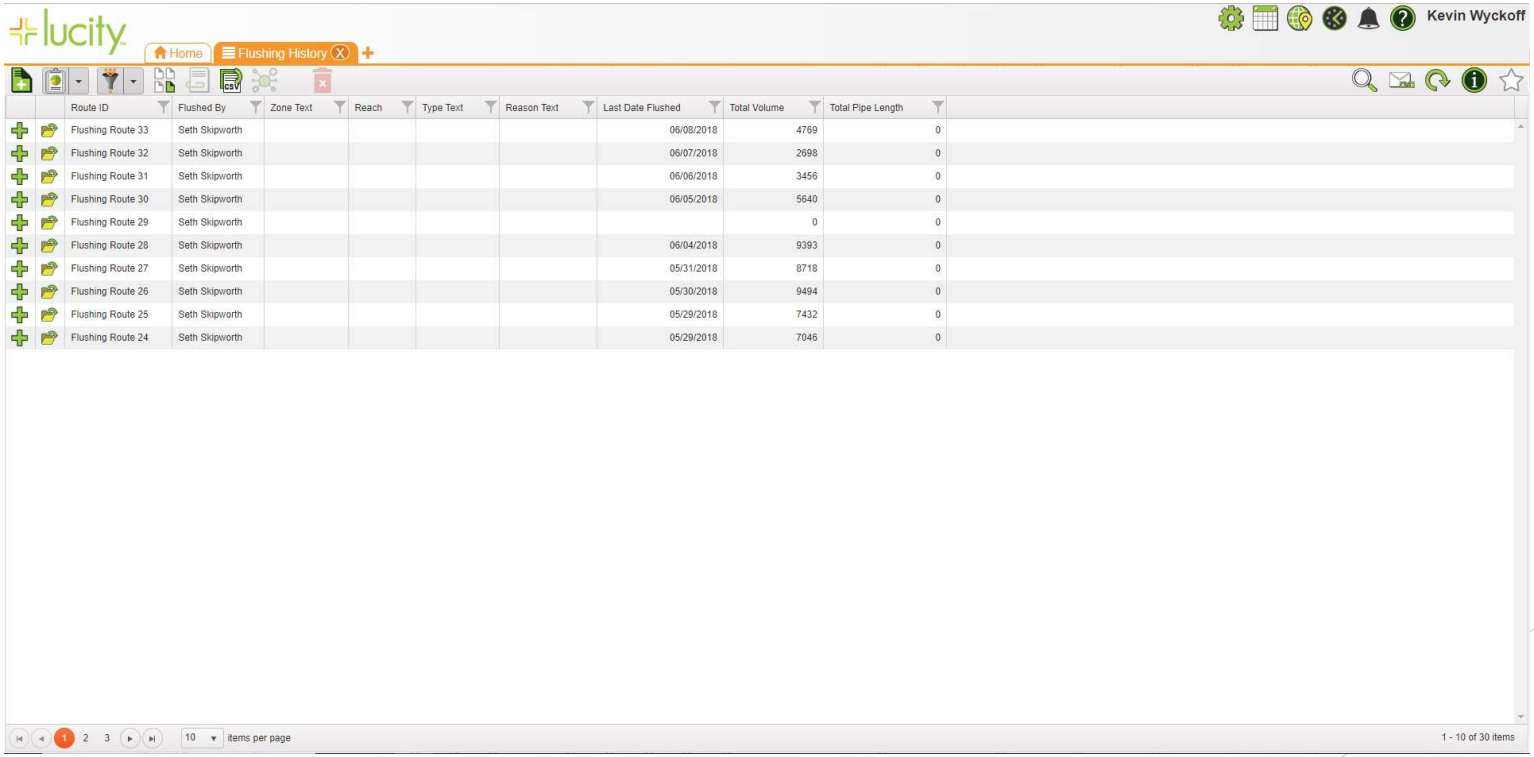
Inside the Lucity Workflow

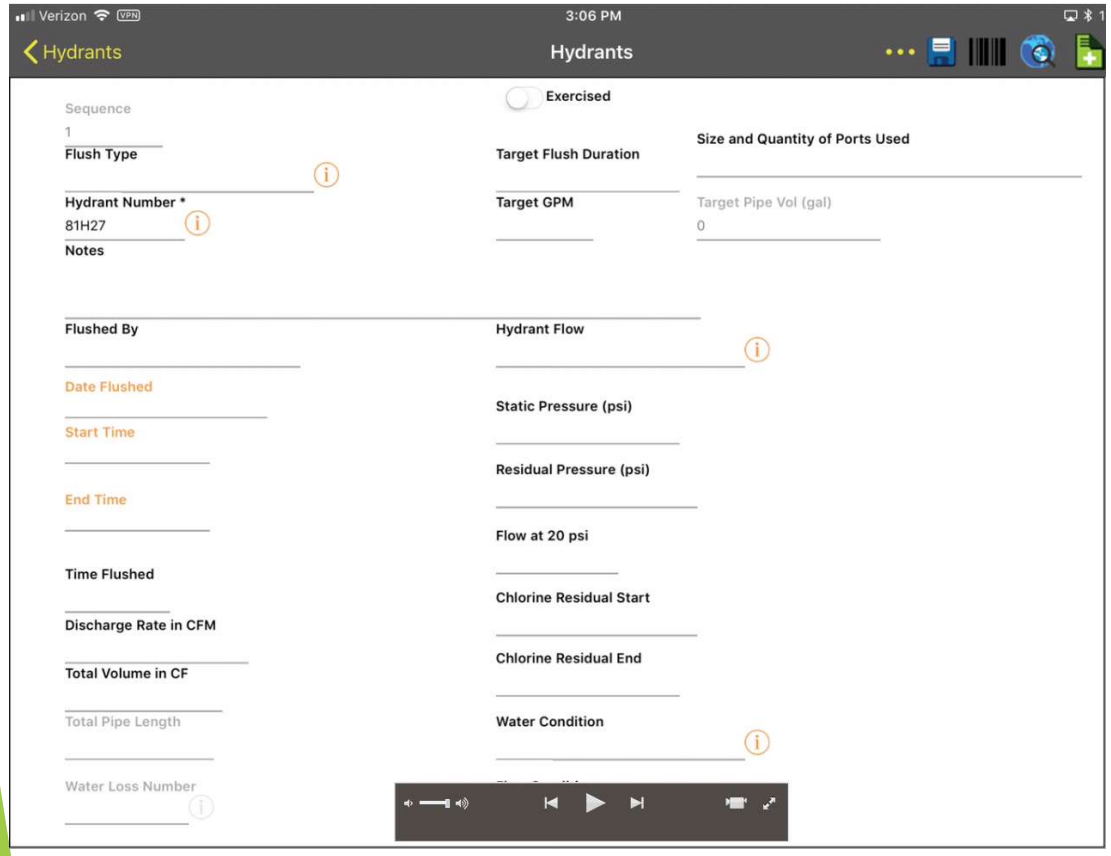


Subsets created in the MXD are loaded into Flushing Routes in Lucity Desktop

Lucity Web


Water Flushing
Direct Hydrant Flushing (0)
Flushing Routes (53)
Flushing History (30)


lucity
Home
Flushing History
Kevin Wyckoff
Route ID
Flushed By
Zone Text
Reach
Type Text
Reason Text
Last Date Flushed
Total Volume
Total Pipe Length
Flushing Route 33 Seth Skipworth 06/08/2018 4769 0
Flushing Route 32 Seth Skipworth 06/07/2018 2698 0
Flushing Route 31 Seth Skipworth 06/06/2018 3456 0
Flushing Route 30 Seth Skipworth 06/05/2018 5640 0
Flushing Route 29 Seth Skipworth 0 0
Flushing Route 28 Seth Skipworth 06/04/2018 9393 0
Flushing Route 27 Seth Skipworth 05/31/2018 8718 0
Flushing Route 26 Seth Skipworth 05/30/2018 9494 0
Flushing Route 25 Seth Skipworth 05/29/2018 7432 0
Flushing Route 24 Seth Skipworth 05/29/2018 7046 0
1 2 3
10 items per page
1 - 10 of 30 items

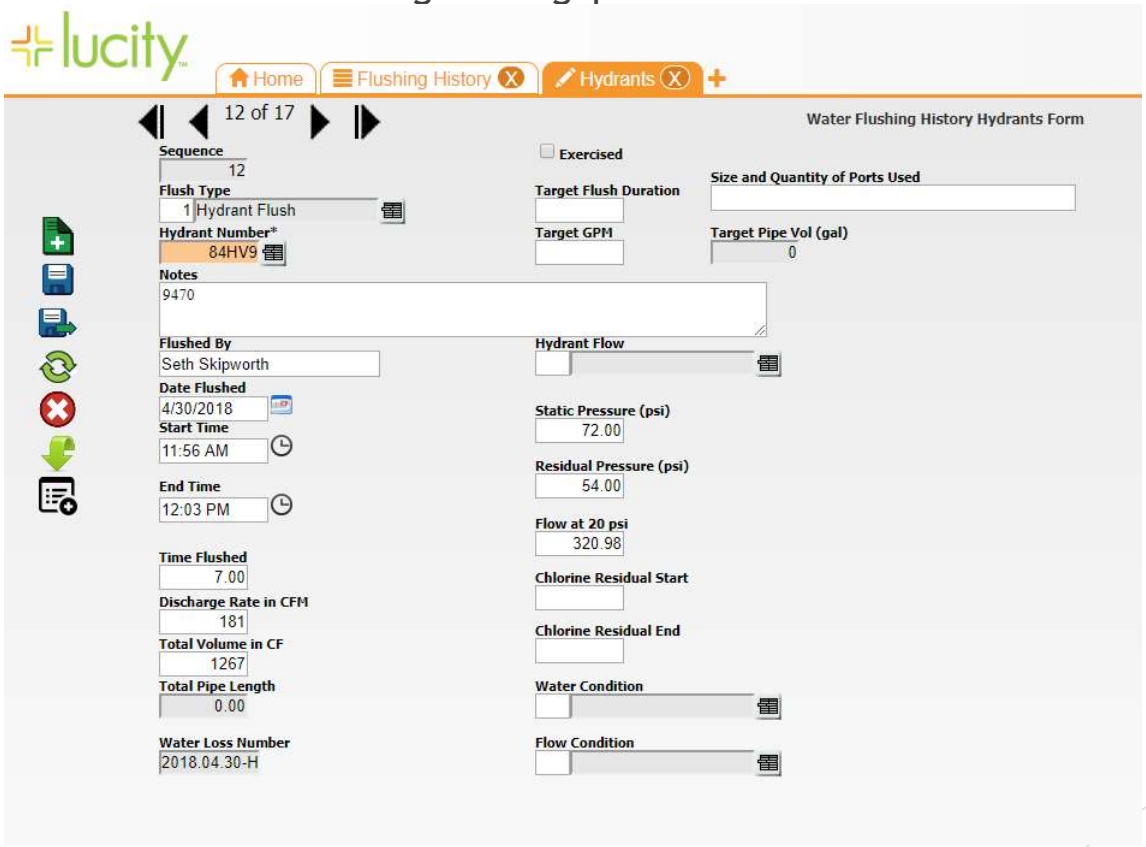


Field Inputs

Staff use iPad to input data per Flushing Route Hydrant

Data Check-In

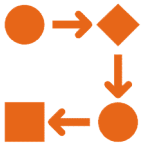
Lucity Flushing Module uses Cubic Feet and all of our equipment is in Gallons. Data Check-In is used to bridge that gap



Next Steps

Better document Hydrants and Valves used in Flushing, and Hydrants skipped.

Improve Data Collection Process



Utilize Hydraulic Model and SCADA Data to refine Flushing Process

Questions?