



Where are my valves? Does it really cost that much? Swashbuckling Adventures in the Realm of Maps, Data, and Technology

ONE UTILITY'S JOURNEY ACROSS THE WORLD OF MAPPING

Your Host:

Tim Hayes - Manager of Geographic Information Systems (GIS)
Utility Services – Water, Recycled Water, and Wastewater Treatment
City of San Jose Environmental Services Department

CITY OF SAN JOSE ENVIRONMENTAL SERVICES DEPARTMENT

Utility Services

City of San Jose Municipal Water System

- Born in 1961
- 350 miles of pipe
- 26,000 customers
- 12 Pump Stations
- 13 Reservoirs

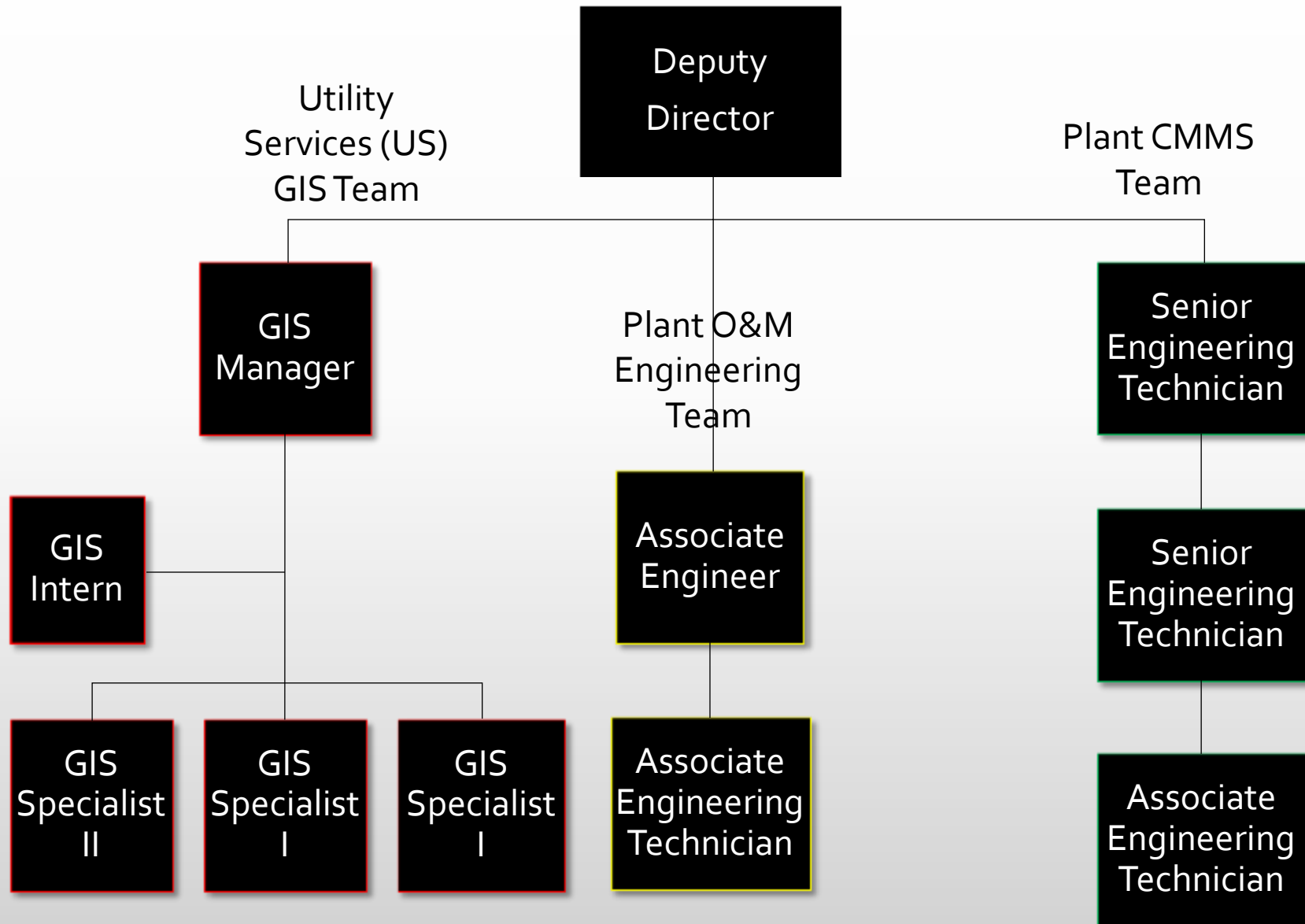
South Bay Water Recycling Program

- Born in 1996
- 150 miles of pipe
- 800 customers
- 3 Pump Stations
- 3 Reservoirs

San Jose-Santa Clara Regional Wastewater Facility

- Largest Tertiary Treatment Plant in the Western US
- Born in 1956
- Serves 1.4 million customers
- Capacity to treat up to 167mgd of wastewater
- 300 miles of pipe
- 769 man-made structures
- Located on 4.75 square miles of property

O&M Engineering-Asset Management Section



US GIS Team Philosophy



Know who your customers are!

Know what your customers do!

Work with your customers where they work!

Talk to your customers like they are human!

All Things Maps One-Stop Portal

"Safety is our Game, Knowledge Capture is our Business"

Geographic Information Services (GIS)

Have a Question? Need Assistance? Please feel free to contact us.

You may contact us via radio, phone, e-mail, or simply drop by our offices in the Asset Management Group of the Admin Bldg.

Tim, timothy.hayes@sanjoseca.gov Kent, kent.brown@sanjoseca.gov

The RWF GIS Team Phone Number is (408) 771-1368

WebMap Quick Links

- RWF Operations and Maintenance WebMap
- RWF CIP WebMap
- RWF Dig Safe WebMap
- RWF Electric Shop WebMap
- RWF Irrigation System WebMap
- RWF Safety WebMap
- RWF Land Use Planning (LUP) WebMap
- RWF Backflows WebMap
- SBNR System WebMap
- City of San Jose Underground Utilities WebMap
- TWM MICE WebMap
- City of San Jose Illegal Dumping WebMap



WebMap
Links

Diagrams/Schematics Quick Links (Want a new diagram? contact the RWF GIS Team)

- PSDs and Process Flow Diagrams - Full Set
- No.2 Water Tank (south of P&E Building)
- Primary and Secondary Scum Process Flow Diagram
- Nitrification Scum Process Flow Diagram
- Scum Hopper and Scum Thickener Pump Stations Process Flow Diagram
- Raw Sewage Influent to Headworks and Primaries Process Flow Diagram
- Raw Sewage Influent to Headworks and Primaries 11 x 17 size Process Flow Diagram
- Blended Gas Block Flow Diagram
- Chilled Water Block Flow Diagram
- Digester Gas Process Flow Diagram
- Export Digested Sludge and Digester Cleaning after DSEPS Process Flow Diagram
- Filtration Drainage Pump Station Process Flow Diagram
- Filter Influent Pump Station (FIPS) Process Flow Diagram
- Natural Gas Block Flow Diagram
- Instrument Plant Air Block Flow Diagram
- No.1 Water Process Flow Diagram
- No.1 Water Process Flow Diagram - Secondary Blower Building Only
- No.1 Water Process Flow Diagram - Building 40 Only
- No.3 Water Process Flow Diagram
- No.4 Water Process Flow Diagram

(More Links...)

About Us

- Services Provided by the RWF GIS Team

Training Documents

- RWF WebMap User Guide v1.2
- RWF GIS Team FAQs



Training
Documents

Documents of Interest

- RWF Vertical Datums used by Project
- Plant Vertical Datum Conversion
- RWF Table of Water System Uses (WTR1, WTR2, WTR3, WTR4, and RW)
- RWF Dig Safe Guidebook v1.5
- RWF Piping Systems/Process Streams Codes and Descriptions
- RWF Pipe Bending Color Schedule
- USGS Report The Quaternary Silver Creek Fault Beneath the Santa Clara Valley (RWF included)
- 2015 NRCS Soil Survey West Santa Clara County (RWF included)
- RWF Cathodic Protection Reports 2001 to 2010
- RWF Underground Cable Mapping Project (PROPOSAL)



Documents
of Interest

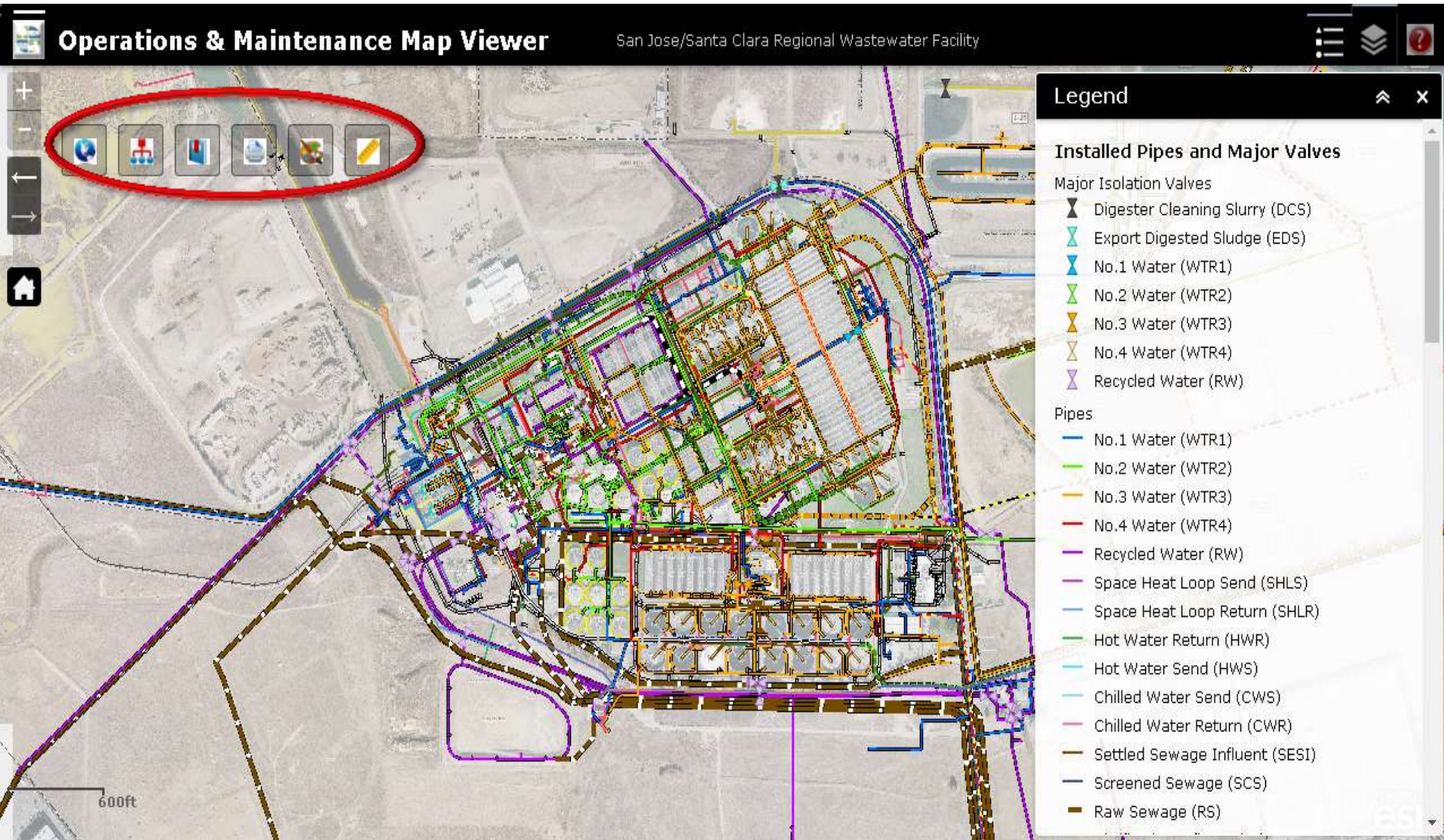
RWF GIS Team Logo



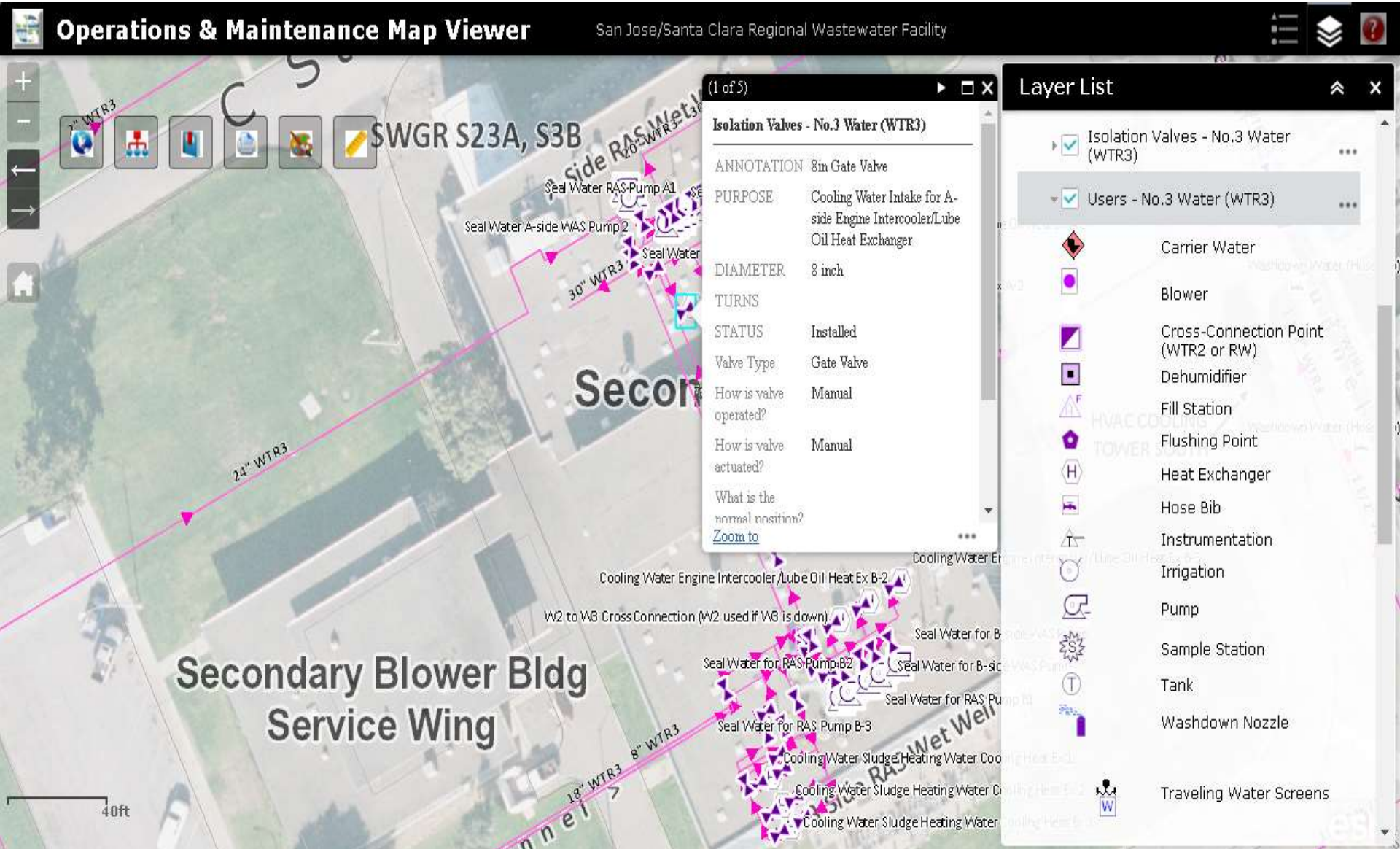
RWF GIS Team CSV (Customer Service Vehicle)



WebMap Structure



Wastewater Treatment Plant ----- O&M WebMap



Operations & Maintenance Map Viewer San Jose/Santa Clara Regional Wastewater Facility

Secondary Blower Bldg Service Wing

SWGR S23A, S3B

Isolation Valves - No.3 Water (WTR3)

Layer List

- Isolation Valves - No.3 Water (WTR3)
- Users - No.3 Water (WTR3)
- Carrier Water
- Blower
- Cross-Connection Point (WTR2 or RW)
- Dehumidifier
- Fill Station
- Flushing Point
- Heat Exchanger
- Hose Bib
- Instrumentation
- Irrigation
- Pump
- Sample Station
- Tank
- Washdown Nozzle
- Traveling Water Screens

Isolation Valves - No.3 Water (WTR3)

ANNOTATION 8in Gate Valve

PURPOSE Cooling Water Intake for A-side Engine Intercooler/Lube Oil Heat Exchanger

DIAMETER 8 inch

TURNS

STATUS Installed

Valve Type Gate Valve

How is valve operated? Manual

How is valve actuated? Manual

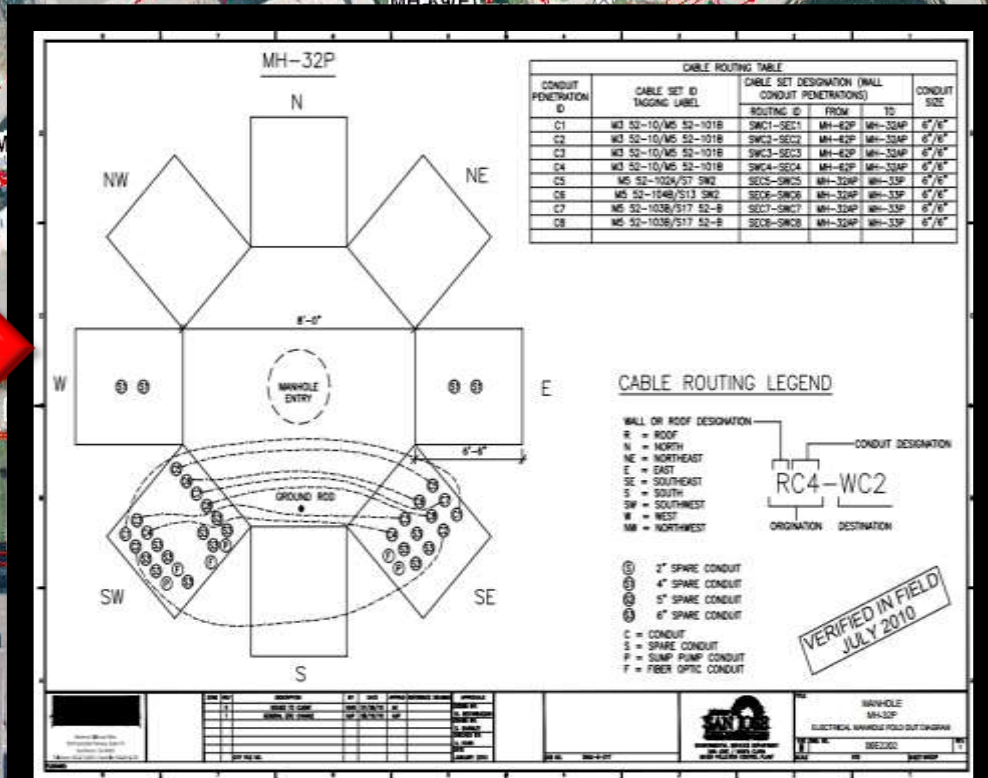
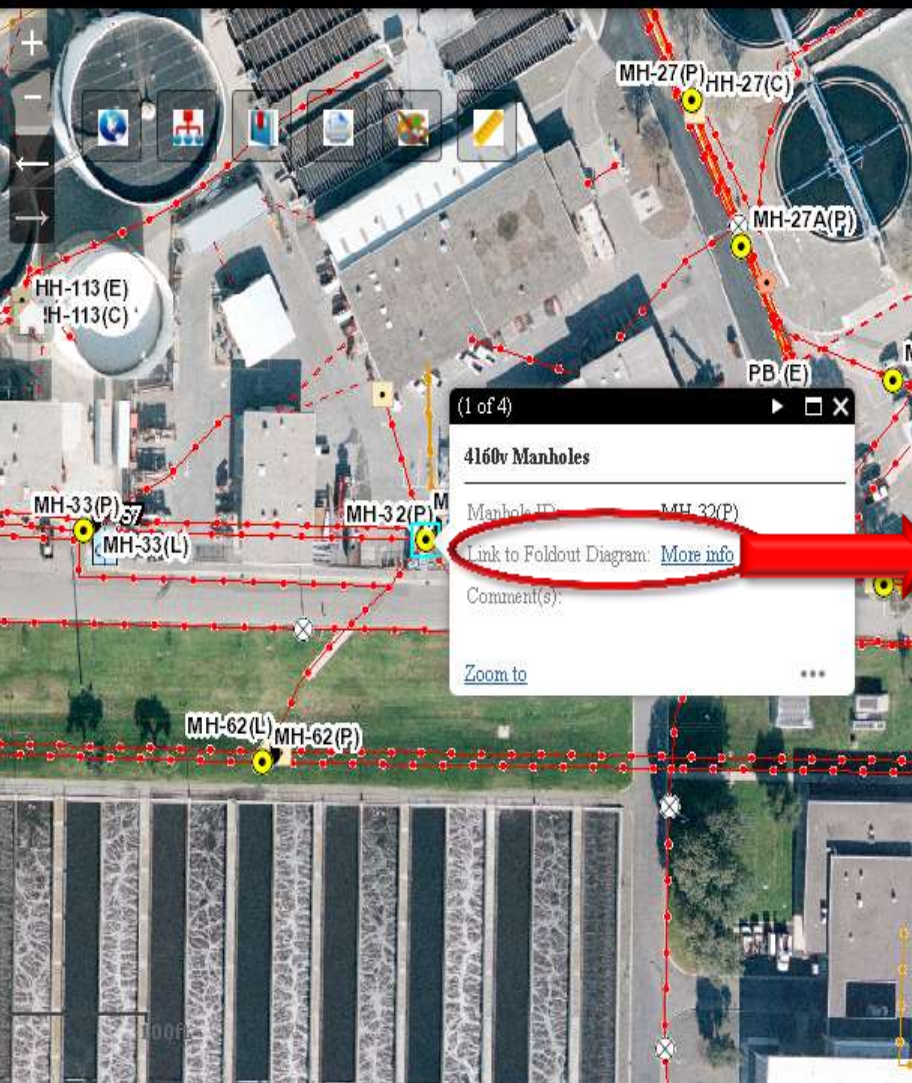
What is the normal position?

[Zoom to](#)

Wastewater Treatment Plant ----- Electrical System WebMap

RWF Electric Shop Map Viewer

San Jose/Santa Clara Regional Wastewater Facility



Wastewater Treatment Plant ----- Capital Improvement Program WebMap

RWF CIP Map Viewer San Jose/Santa Clara Regional Wastewater Facility

The map shows an aerial view of the facility with several overlays. A green line indicates a drive path with a 5mph speed limit. Red areas are marked with a warning about owls. A data popup for 'Bore Log Information (Geotechnical Studies)' is open, showing details for CPT-1. A red arrow points from the 'More info' link in the popup to the right panel.

Drive along green pathway (Speed Limit is 5mph)

Owls present in red areas
DO NOT DRIVE IN THESE AREAS

Drive along green pathway (Speed Limit is 5mph)

Bore Log Information (Geotechnical Studies)

(2 of 3)

Link to Geotechnical Report: [More info](#)

Bore Log ID (from Report): CPT-1

Project Name: Alternative Disinfection Project

Project Number: 3045.043

Project Year: 2005

Company Name: Fugro

Total Depth (from Report): 121

[Zoom to](#) ...

1 / 82

FUGRO WEST, INC.

**GEOTECHNICAL STUDY
SAN JOSE/SANTA CLARA WPCP ALTERNATIVE
DISINFECTION PROJECT
SAN JOSE, CALIFORNIA**

Prepared for:
CAROLLO ENGINEERS

JULY 2006

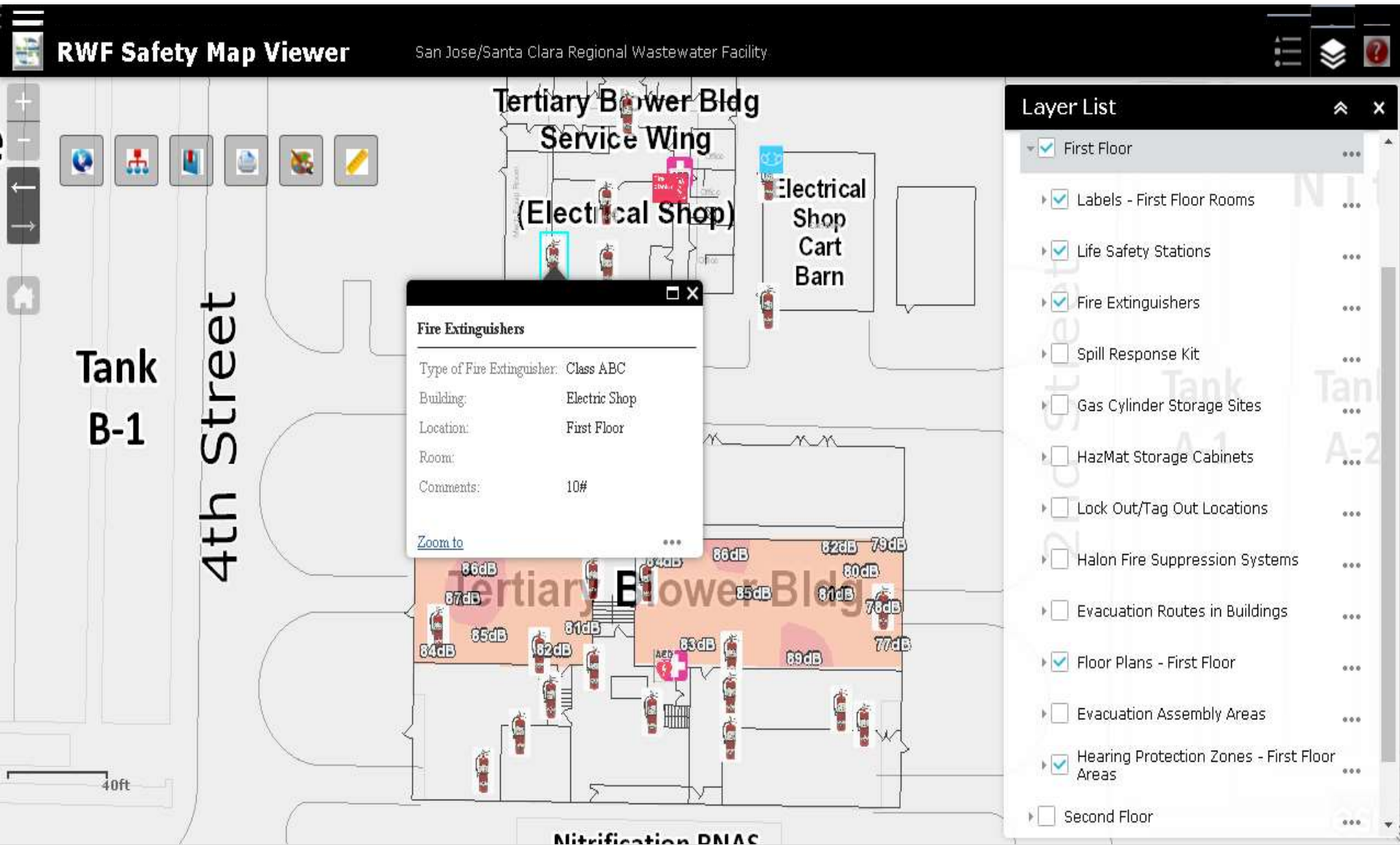
Fugro Project No. 3045.043

FUGRO WEST, INC.

1000 Broadway, Suite 100
Oakland, California 94607

POWERED BY
esri

Wastewater Treatment Plant ----- Safety WebMap

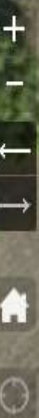


South Bay Water Recycling Distribution System WebMap

**SBWR Map Viewer**
South Bay Water Recycling Program

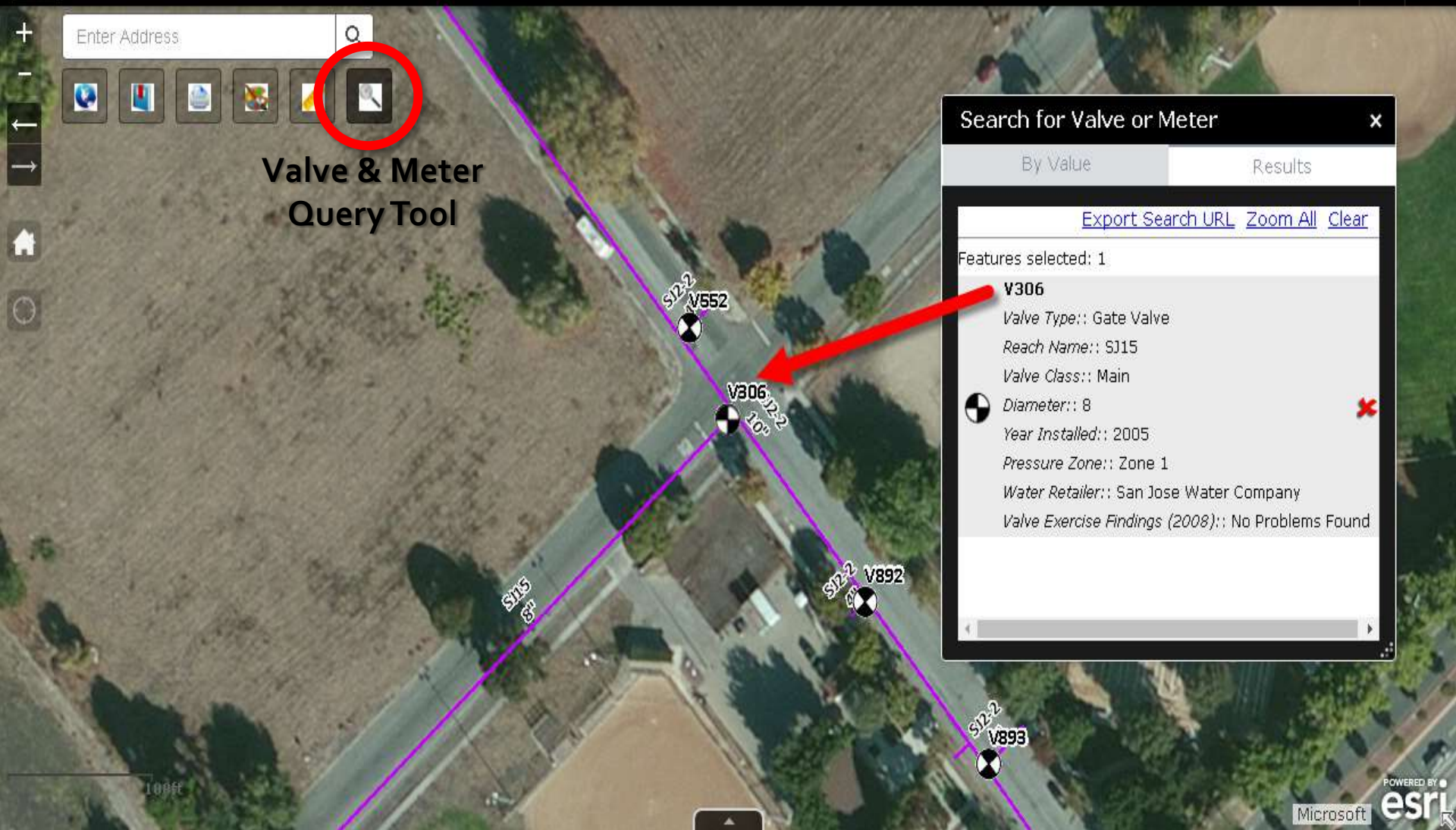
**SBWR Map Viewer**
South Bay Water Recycling Program

Enter Address





**Valve & Meter
Query Tool**



Search for Valve or Meter

By ValueResults

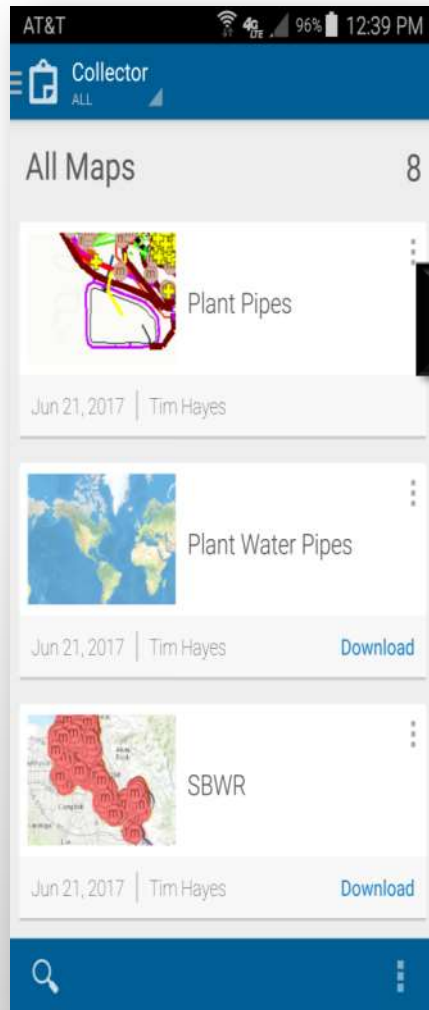
[Export Search URL](#) [Zoom All](#) [Clear](#)

Features selected: 1

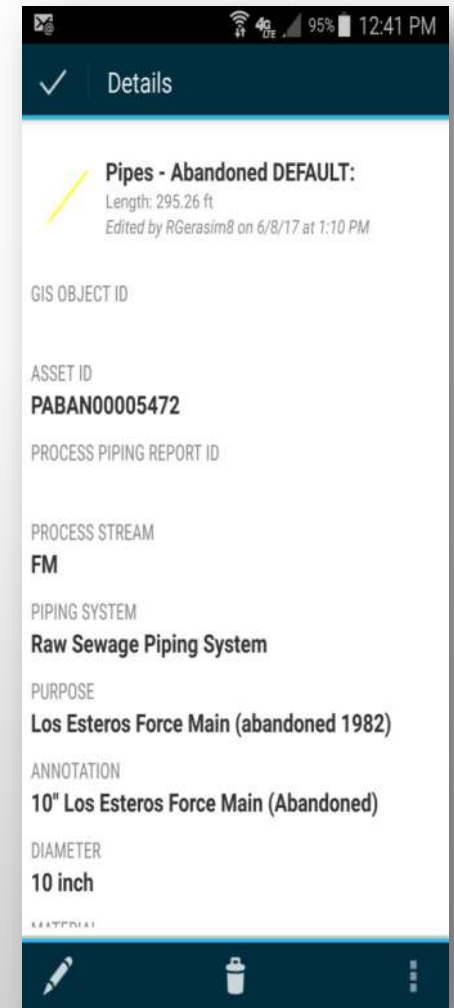
V306
Valve Type:: Gate Valve
Reach Name:: S115
Valve Class:: Main
Diameter:: 8
Year Installed:: 2005
Pressure Zone:: Zone 1
Water Retailer:: San Jose Water Company
Valve Exercise Findings (2008):: No Problems Found

Microsoft 

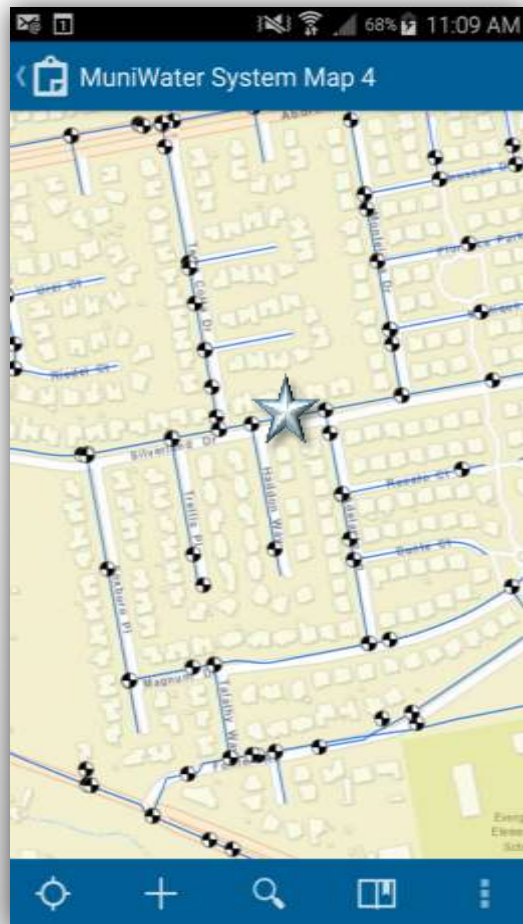
Mobile GIS - Wastewater Treatment Plant Operations



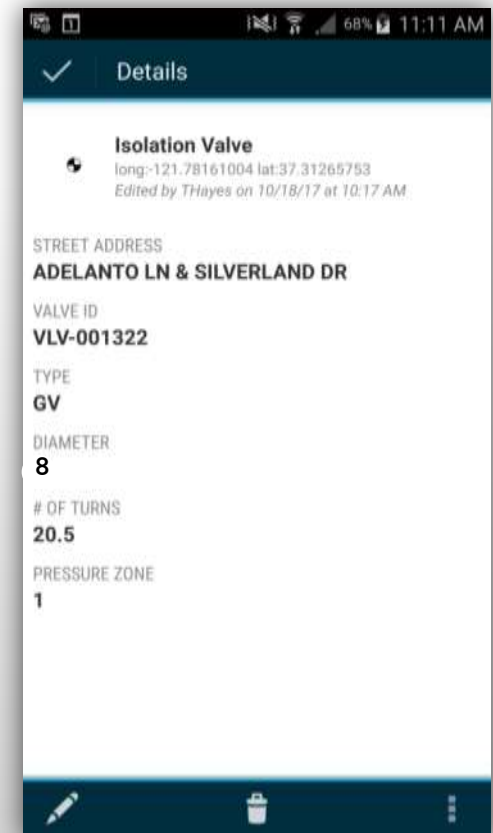
POP UP INFO WINDOW



Mobile GIS - Water Operations



POP UP INFO WINDOW



What else does GIS do?

Utility Locating & Marking (USA/811)

Create Process Flow Diagrams (Visio! Not CAD)

Perform Pre-Exercise Valve Criticality Analysis

In Pipe Video Inspections

Manhole/Wet Well Pole Camera Inspections

Electrical Manhole/Cable Surveying and Mapping

Build Hydraulic Models (we got 8!)

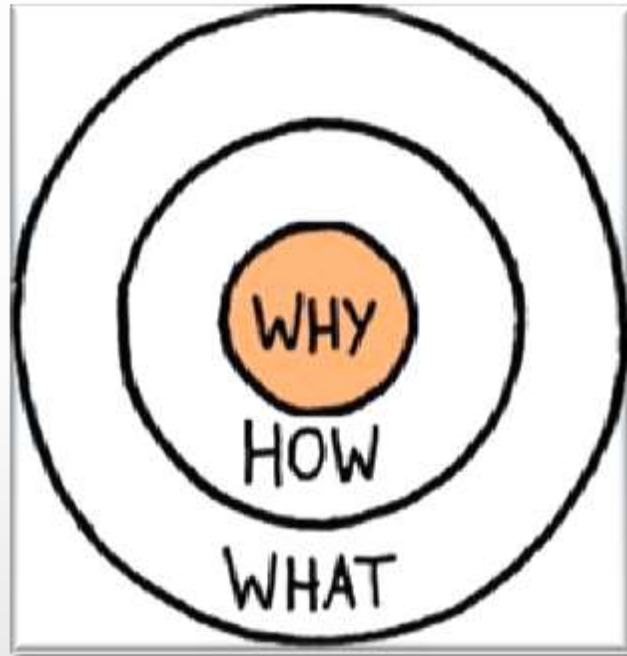
Document Exposed Buried Utilities

Subsurface Utility Engineering Technologists (SUE)

Ground Penetrating Radar (GPR)



Thank You!!!!!!



Reminder:
Always Start with Why