

**WEDNESDAY** 

October 23<sup>rd</sup>

3:00 PM





#### **Contact Information**



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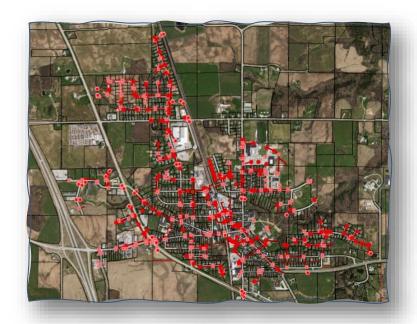
Scott Daniel
GIS Developer
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414-266-9115 - office





# GIS vs. Asset Management

- G Assets that have a location
- Information about those Assets
- The system by which you interact with Assets and related data

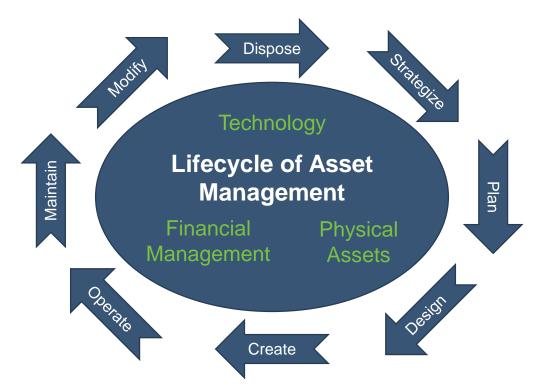


Mapping and attribution of assets. | Manage assets at a basic level.









A system that monitors and maintains items of value.

Systematic process of deploying, operating, maintaining, upgrading, and disposing of assets effectively.

Monitoring, managing, and maintaining assets to achieve the greatest return on investment.

Effective use of applications, software, and tools to manage data.





#### **Everyone Manages Their Assets!!**



**Operations** 

Testing/Sampling/Inspection

Flushing Hydrants

**Turning Valves** 

Sign Replacement

Manhole Inspections

**DNR Compliance** 

Jetting/Televising/Cleaning





# How do you manage your assets?



#### Paper

- Forms
- Card Files
- Map Books
- Plans

#### **Data only**

- Spreadsheets
- Databases
- Other

#### GIS integrated Software & licensing

- On Premises
- Cloud
- One-time Purchase
- Annual Maintenance
- Subscription (SaaS)

#### Data maintenance

- When & How?
- Real-Time?
- Monthly, Quarterly, Annually
- Internal staff
- External Consultant

#### Who has access?

- Utility Managers
- Foremen
- Field Staff
- Administration Staff
- Billing
- Counsel, Board, Trustees





#### Paper everywhere!

# **Document Management**







### **Data Management**

Access all your data

From any device, anywhere, anytime!

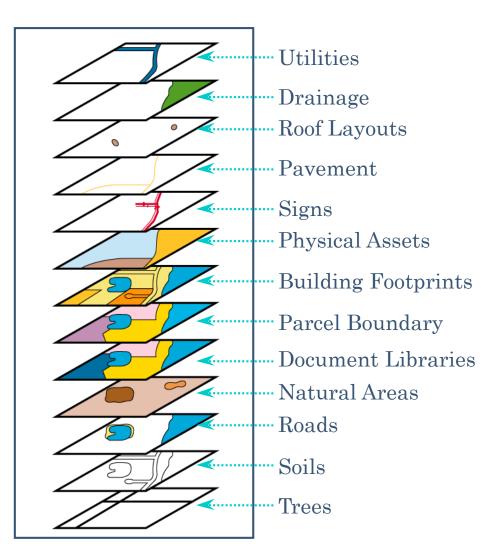
Effectively manage resources

Paper

Data Only

**GIS** Integrated

Databases/Spreadsheets







What can I manage and how does it affect my processes and staff?

# You can manage...







- 11 - A^ A = = = 8> - 80 Wrap Text

#### **System Types**

- Databases
- Spreadsheets
- Card Files

AlbumId

PlaylistId

TrackId

CustomerId

FirstName

LastName

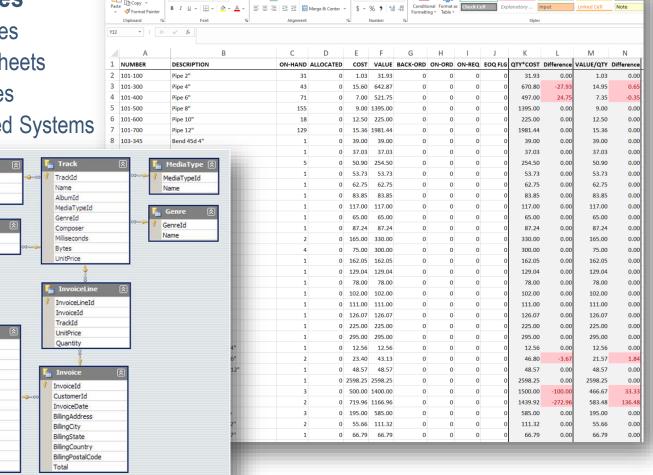
Country

PostalCode

SupportRepTo

Title

Integrated Systems





ArtistId

Name

PlaylistId

EmployeeId

LastName

FirstName

ReportsTo

BirthDate

HireDate

Address

City

State

Phone

Fax

Email

Title

Name



**System Simplicity** 

Home	General ▼	Sanitary ▼	Storm ▼	Water <b>▼</b>	Streets ▼	Cond. Assess. ▼	Account ▼	Help <b>▼</b>	
Velcon	ne back, <b>Scott I</b>	Daniel!							Sign Out
		// -		GENE	RAL INVENTO	ORY			?
Select Ite	em to create a new	Inventory Transaction	n			~	Cre	eate New Iten	n
Summar	Transactions								
ilter Pa	rameters Item ID	Description							
	Begins with	Description Contains				Clear		Page	Size: 25 ×
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	Item ID				ription	A.C.	QTY	Unit	Total
	Item ID			Desci	ripuon		QIT	Value	Value
Edit	101-100	Pipe 2"					67	\$3.51	\$234.9
Edit	101-300	Pipe 4"					90	\$34.09	\$3,068.5
Edit	101-400	Pipe 6"					51	\$7.00	\$357.0
Edit	101-500	Pipe 8"					211	\$11.78	\$2,485.1
Edit	101-600	Pipe 10"					18	\$12.50	\$225.0
Edit	101-700	Pipe 12"					407	\$18.61	\$7,574.8
Edit	103-345	Bend 45d 4"					11	\$39.00	\$429.0
Edit	103-390	Bend 90d 4"					-10	\$37.03	(\$370.30
Edit	103-411	Bend 11-1/4d 6	5"				0	\$0.00	\$0.0
Edit	103-422	Bend 22-1/2d 6	5"				1	\$53.73	\$53.7
Edit	103-445	Bend 45d 6"					6	\$62.75	\$376.5
Edit	103-490	Bend 90d 6"					2	\$83.85	\$167.7
Edit	103-522	Bend 22-1/2d 8	3"				0	\$0.00	\$0.0
Edit	103-545	Bend 45d 8"					-1	\$65.00	(\$65.00
Edit	103-590	Bend 90d 8"					6	\$93.71	\$562.2
Edit	103-645	Bend 45d 10"					2	\$165.00	\$330.00

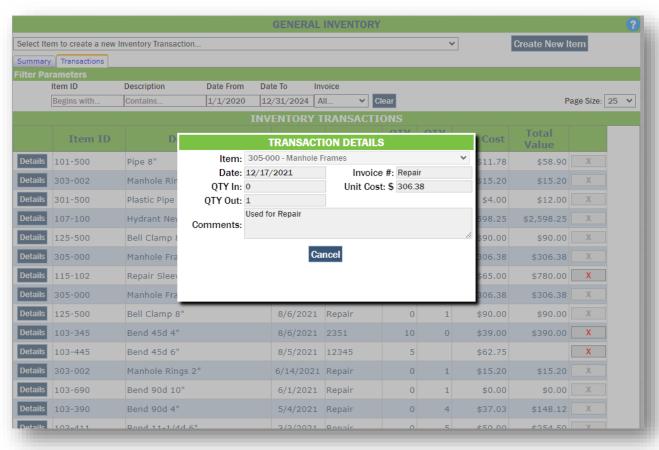






In/Out Checks and Balances

**In/Out Ledgers** 

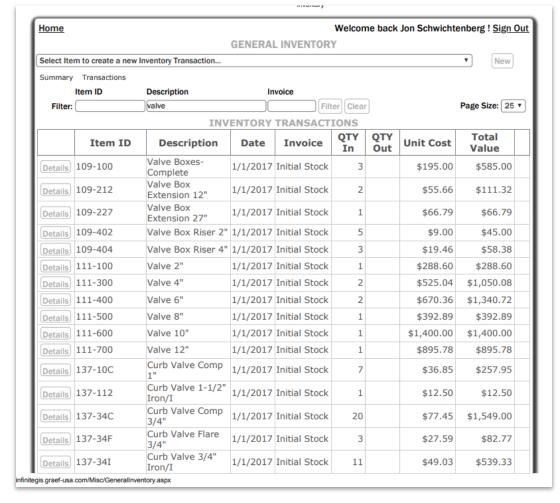








Reporting







### **Manage Staff**



#### What are your...

Capabilities

Needs

Time

**Activities** 

Assigned tasks



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			STAFF M	ANAGEM	IENT		
aff Labor	Admin						
				LISTIN			
_	ID	Last Name	First Name	Rate	Email	Cell #	Status
Details	1970	Fredrickson	John	\$30.89	johnfredrickson1878@gmail.com	2623536259	Inactive
Details	1970	Hoerter	Jake	\$29.03	jakehoerter@gmail.com	4144607401	Active
Details	1971	Johnson	Joseph	\$30.89	jjohnson@vil.river-hills.wi.us	2622248022	Active
Details	1975	Коерре	Alex	\$30.89	akoeppe12@gmail.com	2622258658	Active
Details	1983	Lara	Elizabeth	\$15.60	elizabethannenew3@yahoo.com	4146878118	Active
Details	1973	Nighbor	Donald	\$30.89	dnighbor68@gmail.com	2627197701	Active
Details	1974	Rigden	Patrick	\$32.76	prigden@vil.river-hills.wi.us	4145269022	Active
Details	1981	Roemke	Carl	\$15.60	croemke@icloud.com	2626658349	Active
Details	1977	Timm	Zachary	\$30.26	ztimm67@gmail.com	4143064129	Active
				dd Staff			
				F DETAIL			
	Last Name	Last Name	First Name:	First Name		D: ID	
	Rate	Hourly Rate	Cell Phone: #	Cell Phone	Statu	s: Active	~
Em	ail Address	Email Address					
		S	elect an item in the ta	ole above	or add a new one.		

Filter Parameters					
Name	Task	Date Rar			
Donald Nighbor	▼ All	✓ From: 7/1/2024	To: 7/31/2024	P	age Size: 10 💙
		LABOR			
Name	Task	Date	Hours	Rate	Total
Donald Nighbor	FI Holiday   100-53-2020-111	7/4/2024	2.00	\$30.89	\$61.78
Donald Nighbor	Holiday   100-53-2020-111	7/4/2024	8.00	\$30.89	\$247.12
Donald Nighbor	St.Protection   100-53-4000-110	7/3/2024	1.00	\$30.89	\$30.89
Donald Nighbor	Brush   100-54-2200-111	7/3/2024	3.00	\$30.89	\$92.67
Donald Nighbor	St.Repairs   100-53-4000-110	7/3/2024	6.00	\$30.89	\$185.34
Donald Nighbor	St.Repairs   100-53-4000-110	7/2/2024	10.00	\$30.89	\$308.90
Donald Nighbor	Sewer   201-53-3000-110	7/1/2024	3.00	\$30.89	\$92.67
Donald Nighbor	St.Protection   100-53-4000-110	7/1/2024	1.00	\$30.89	\$30.89
Donald Nighbor	St.Repairs   100-53-4000-110	7/1/2024	5.00	\$30.89	\$154.45
Donald Nighbor	Recycling   100-53-2100-110	7/1/2024	1.00	\$30.89	\$30.89
		TOTALS (this page	e): 40.00		\$1,236.00
		1 2			





# **Manage Equipment**









Usage

Maintenance

Costs

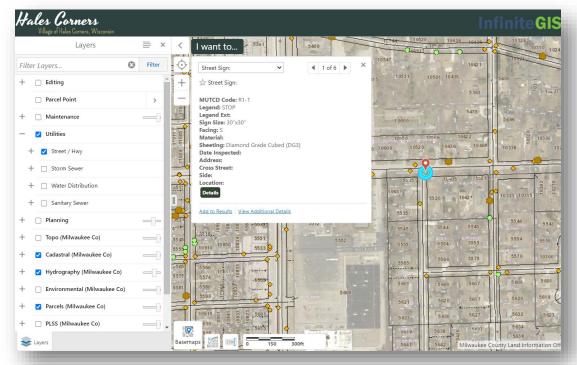
Life Cycle















Pavement

Signs

Streets

Lighting



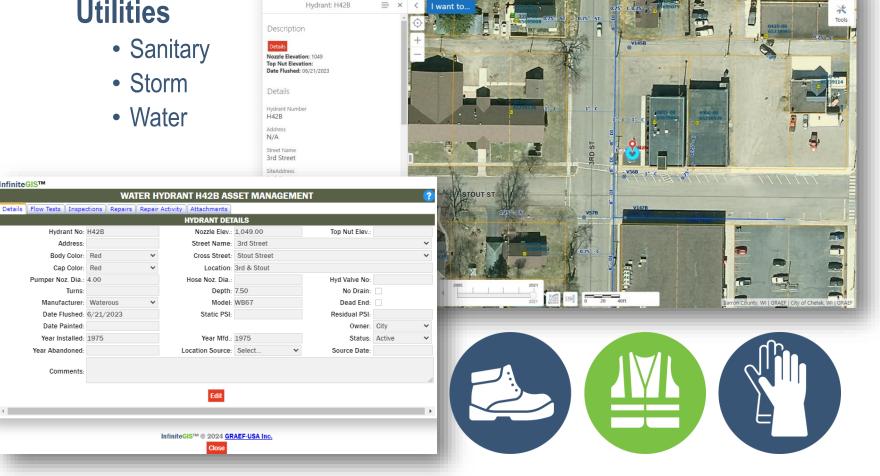






#### **Utilities**

- Sanitary
- Storm
- Water





InfiniteGIS™

Hydrant No: H42B

Cap Color: Red

Manufacturer: Waterous

Date Flushed: 6/21/2023

Address Body Color: Red

Pumper Noz. Dia.: 4.00

Date Painted

Comments

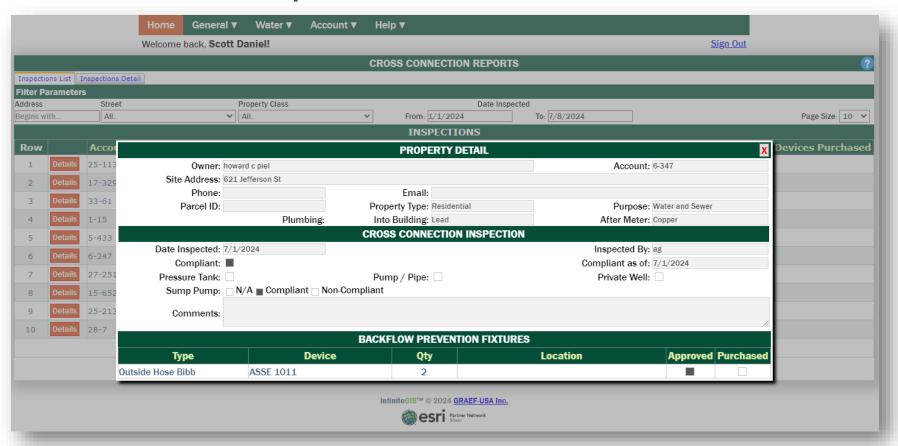
Year Abandoned

Year Installed: 1975



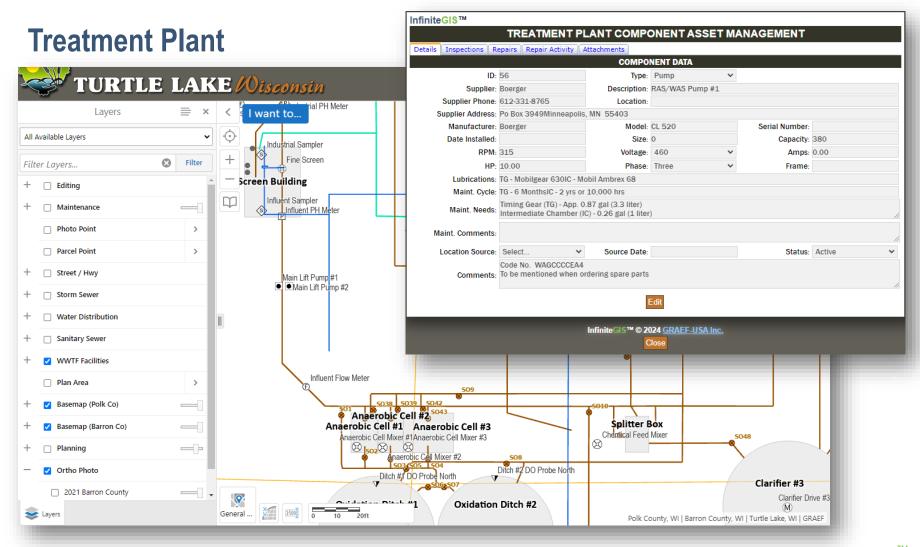
InfiniteGIS h42

#### **Cross Connection Inspections**















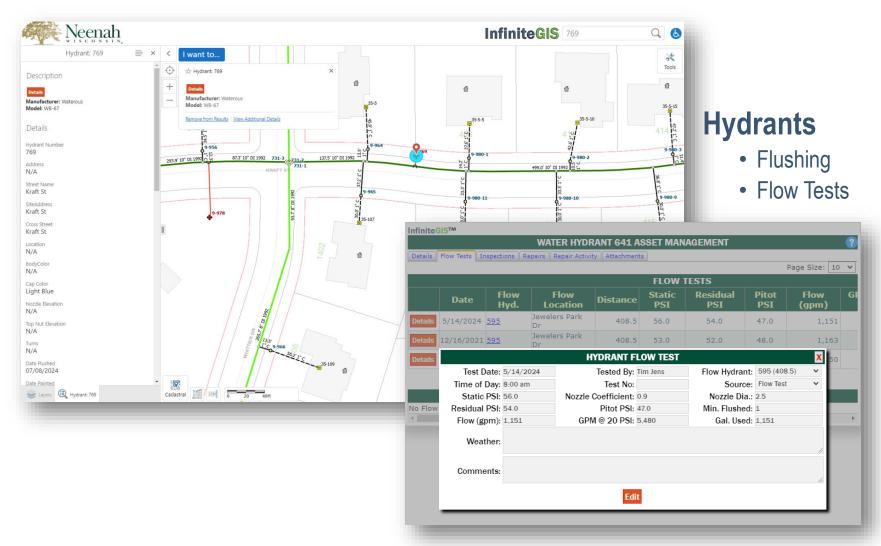
Water meter change-out process

- Documented for PSC/DNR
- Need to reuse meters and registers
- Need to track meter/register through life-cycle
  - •Exchange
- Rebuild
- Remove
- Recertify

Test

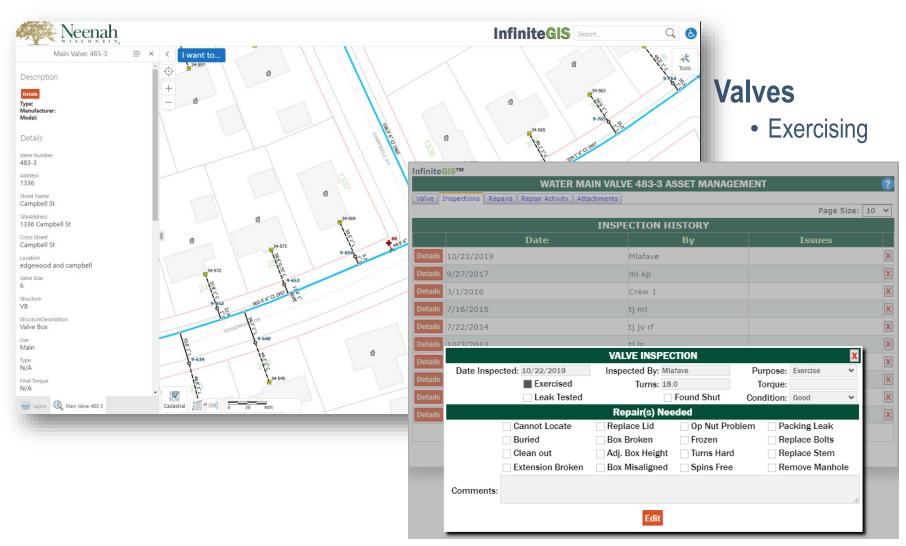
Reinstall





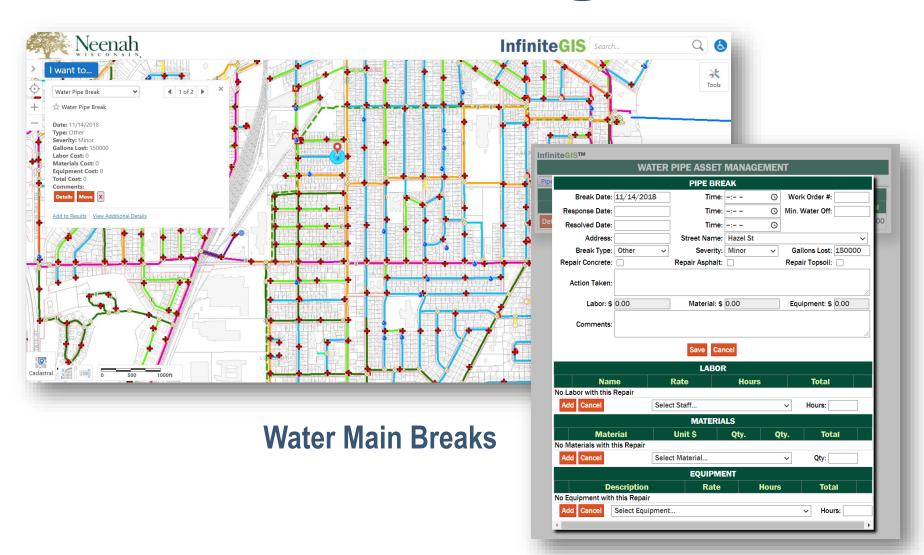


















#### **Manhole** Inspections/Jetting

- Regulatory Management
- Backups/CMOM
- Track needs/issues
- Store video/ documentation for quick and easy access

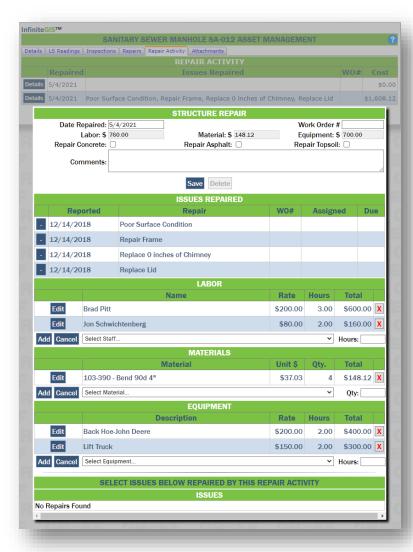
INVERTS							
ID	Diameter	Material	Invert	Direction	5		
SA MH07-413 SA MH07-412	42	RCP	0.00	W	Act		
SA MH07-414 SA MH07-413	42	RCP	0.00	Е	Act		
	Infinite CICTM @ 0	004 CDAFF USA I					
InfiniteGIS™ © 2024 GRAEF-USA Inc.							

Close





# **Work Order Management**



#### **Integrate Work Order Management**

- Track Costs
- Manage Staff Activities
- Manage Inventory
- Manage Systems

#### Log all costs for repairs in the field

- Equipment Usage
- Staff Time/Labor
- Materials Usage
- Consultants





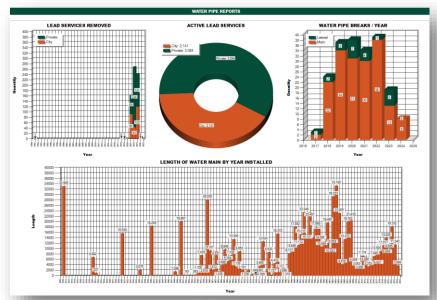
#### **Manage Processes**

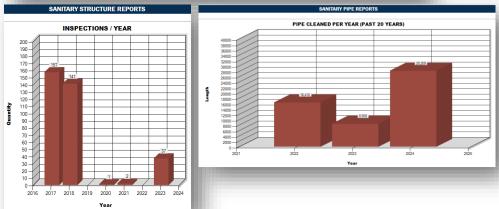
# Day to Day Activities/Workflow Emergencies

- Water main breaks
- Natural disasters
- Basement Backups

# Regulatory Reporting Requirements

- Public Service Commission (PSC)
- Department of Natural Resources (DNR)
  - Capacity, Management, Operation, and Maintenance (CMOM)
  - Compliance Maintenance Annual Report (CMAR)

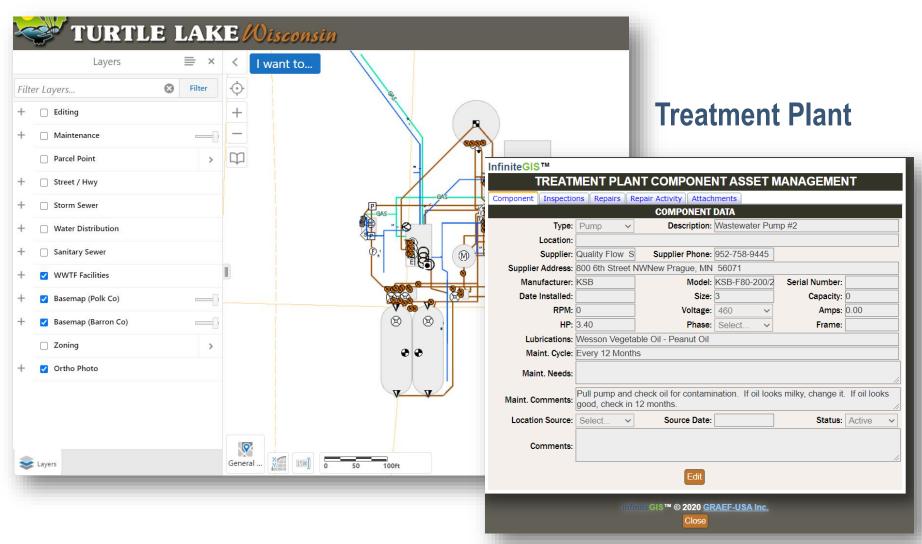








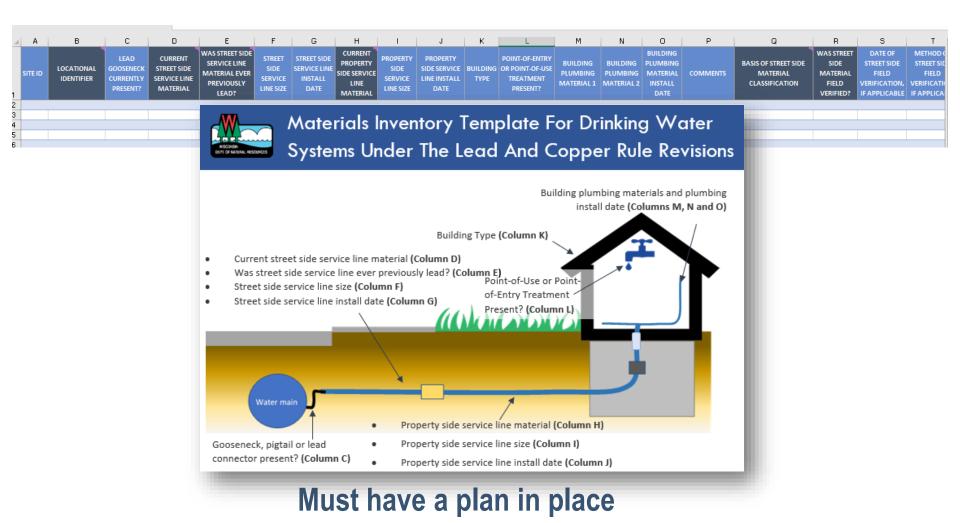
### **Unique Systems**







# **Managing Your LCRR Requirements**

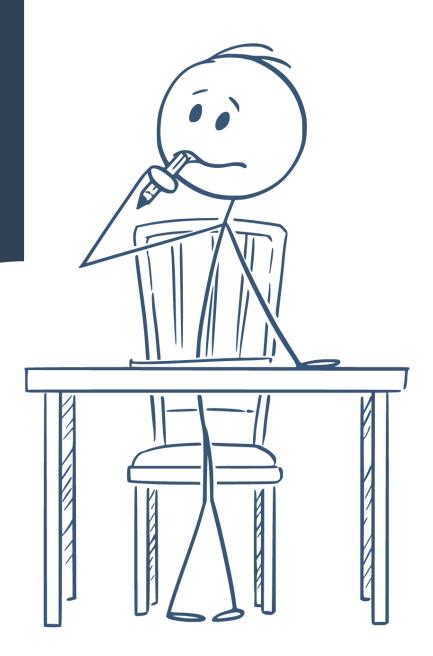


Inventory





What to look for in an Asset Management System?



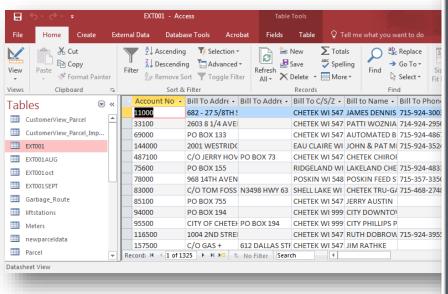




# **Interfaces/System Types**

#### **Databases/ Spreadsheets**

 Using simple to complex data structures to store, maintain, retrieve and disseminate data

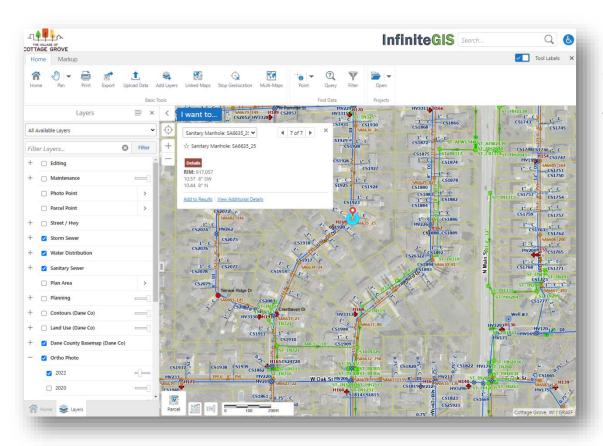








### **Interfaces/System Types**



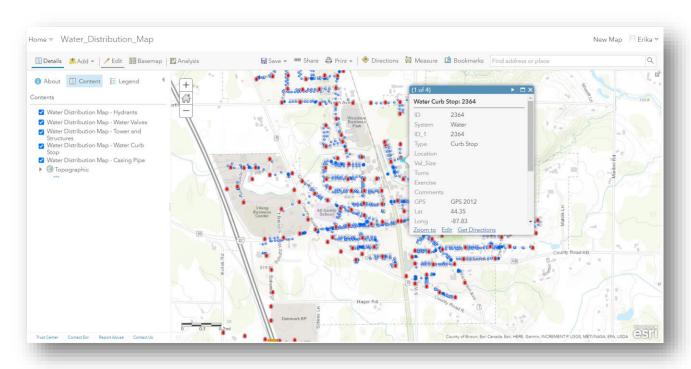
# **Geographic Information Systems (GIS)**

- Attaching data to maps
- Tracking data in maps
- Tracking costs and lifecycle





# **ArcGIS Online (AGOL)**



Esri product
Simple
Easy
Cost-effective

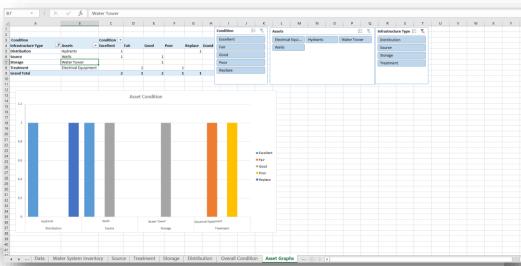
Limited functionality
Limited configuration
Mobile application





### **MRWA Asset Management Tool**

Free Excel Spreadsheet
No link to mapping
Simple/Easy to use



# MRWA's Asset Management Guidance for Water and Wastewater Systems Minnesota Rural Water Association has developed Asset Management Guidance for Water and Wastewater Systems templates for download. These templates are in an Excel format. To download, right click on the file below that you wish to download and choose 'save as'. Save to your computer to use the file. Please download and read the "Intro" file below for information on Asset Management and how to use the template. \*\*Asset Management Intro\*\* \*\*Asset Management Instructions - Download & Read Prior to Using Water or Wastewater Template \*\*Asset Management for Wastewater Systems - NEW / Updated Water Asset ManagementTemplate \*\*Asset Management for Wastewater Systems - NEW / Updated Water Asset ManagementTemplate



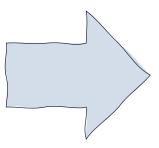


# **More Complex Systems**

**Cityworks** 

**VUEWorks** 

Cartegraph



#### **Pros**

- Comprehensive
- Forecasting maintenance
- ERP's

#### Cons

- Typically, more complex
- Costly
- Extensive Training
- Need more support
- System expert





#### InfiniteGIS - GRAEF's Alternative

#### **User Interface**

- Easy to Use / Intuitive
- Available To All
- Sustainable
- Multi-Platform / Mobile

#### **Data Rich**

- Allows For Multiple Maintenance Records
- Manage Data
- Locate Maintenance Needs
- Visualize Data

#### Comprehensive

- Inventory Management
  - In/Out Checks/Balances/Ledgers
  - Automated Calculations
  - Reporting
- Work Order Management
  - Integrate into Work Order Management to Track Costs
- Equipment Management
  - Usage Costs for Infrastructure Repairs
  - Maintenance History







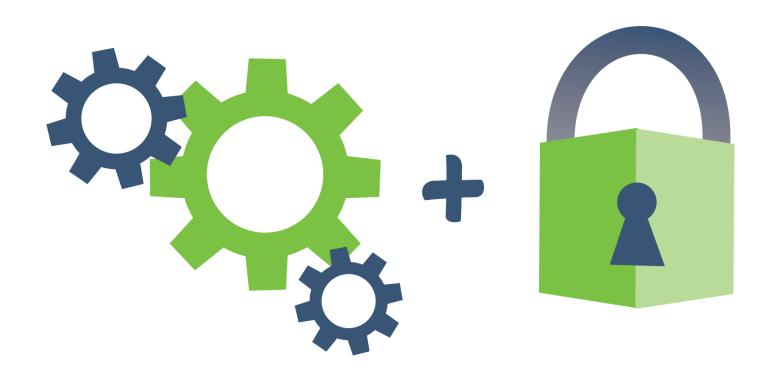
# What to look for?







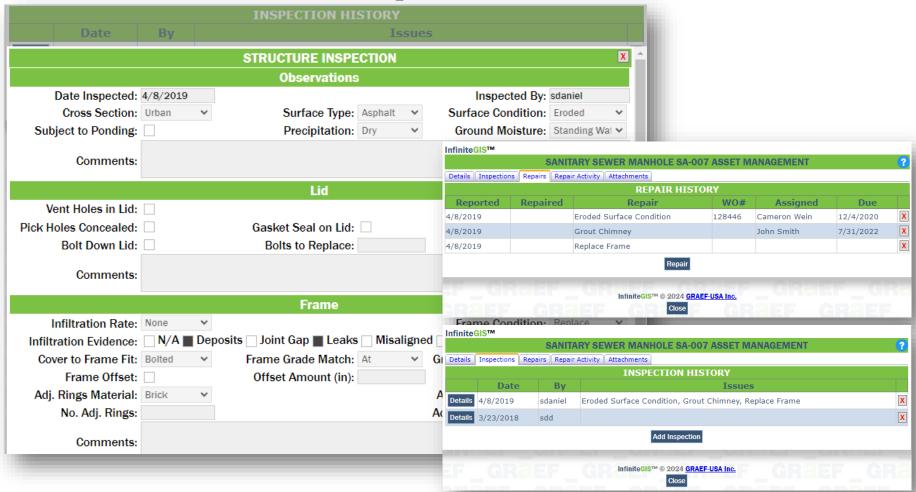
## **Reliable and SECURE!**







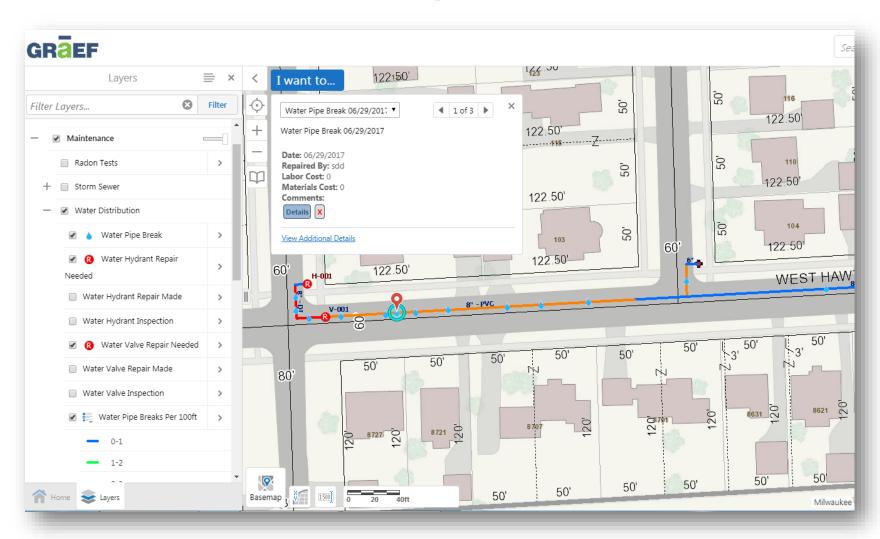
# Retention of ALL Inspection and Repair Records







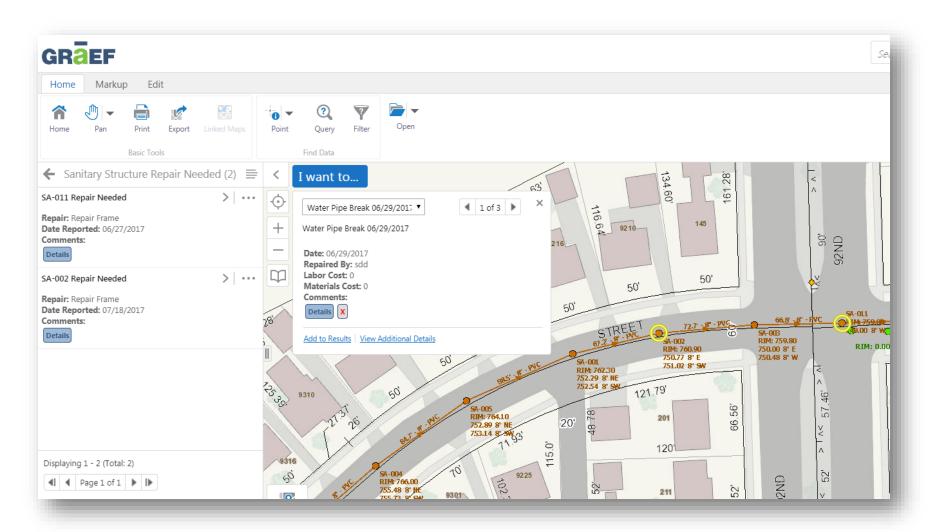
# **Manage Data**







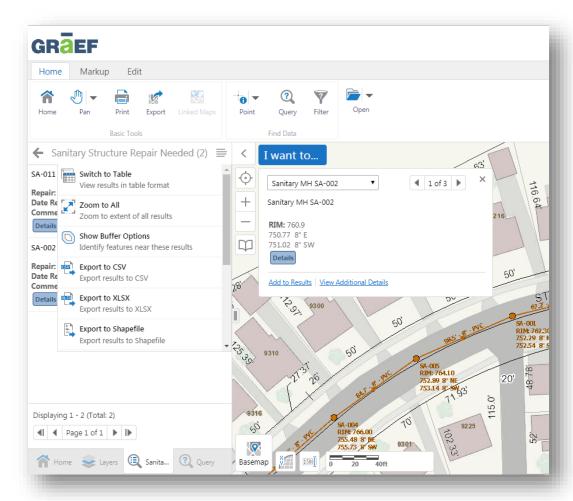
## **Query Data "On-The-Fly"**







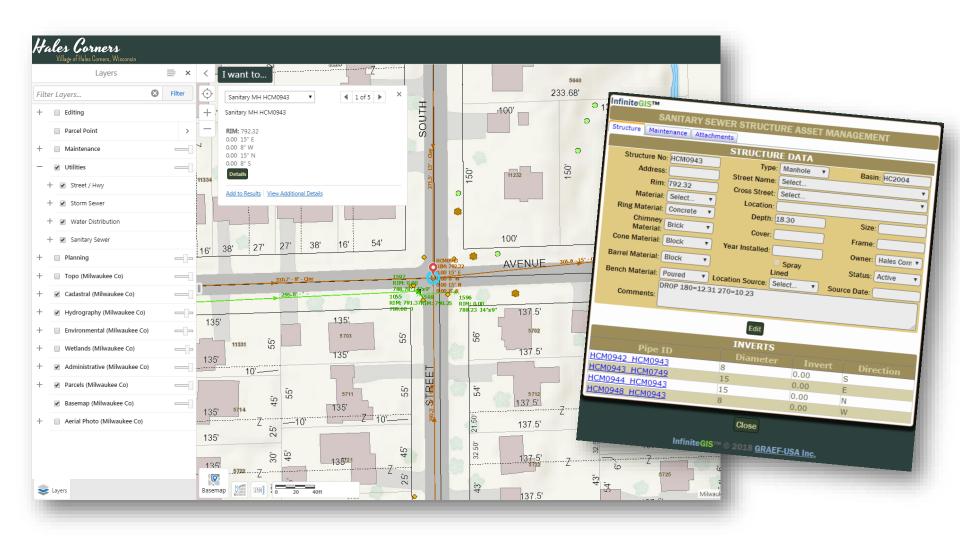
# Able To Import/Export/ Integrate Source Data







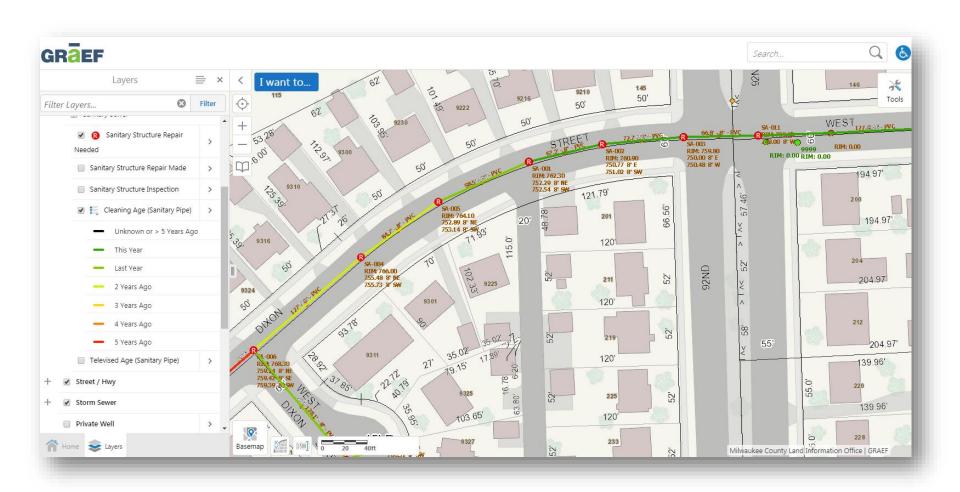
## **Easy To Use**







## **Intuitive**







# Fit a system to your needs.

## Not your needs to a system!



1. Needs Assessment

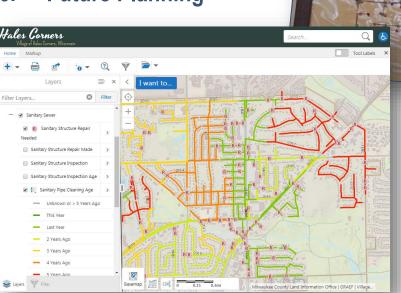
2. System Setup

3. Review/Analysis of Data

4. Implementation

5. Training & Support

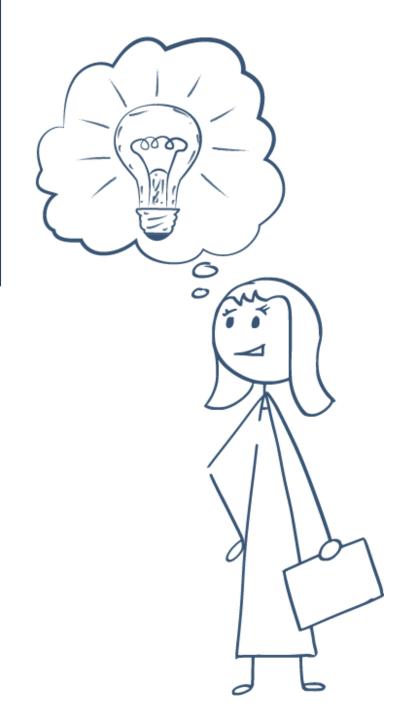
6. Future Planning



**InfiniteGIS** 

**Asset Management** 

# A typical project







#### TASK 1

#### **Needs Assessment**

Review of existing data

Meet with staff

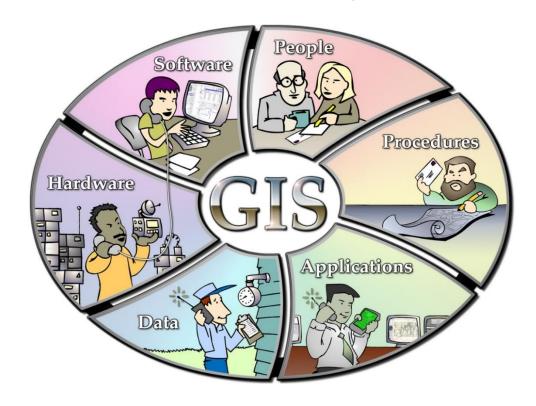
Determine/document needs

Data, usage, and access

Determine next steps

### **PEOPLE**

The KEY to successful GIS implementation!



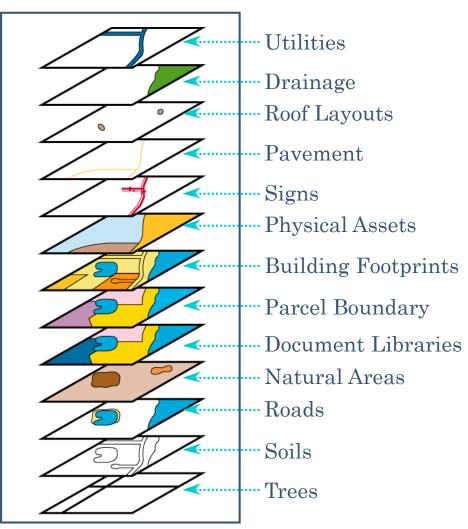




### TASK 2

**Base System Design/Setup** 

Gather and incorporate data







#### TASK 2

### **Base System Design/Setup**

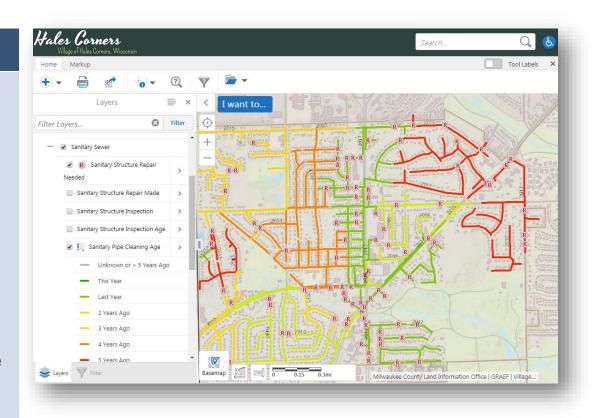
#### Meet with staff

- Determine color schemes/setups
- Review system look and feel

# Develop procedures and processes

 Mailing lists, select and query options, and database structure design/setup

Setup system accounts







#### TASK 2

## **Utility Data**

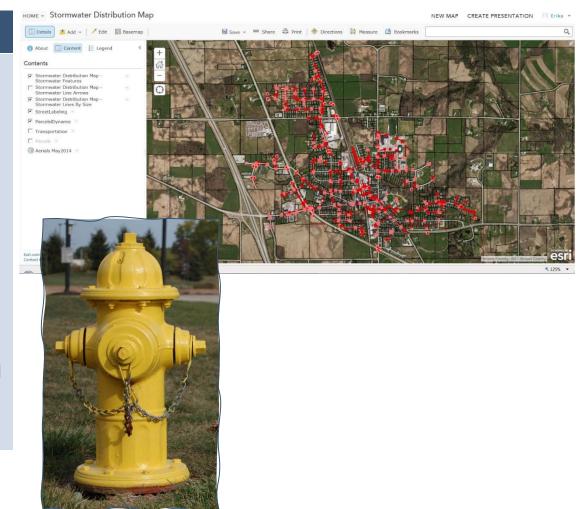
## Incorporate all GIS data

#### Meet with staff

 Discuss database structures, review of platting ordinances and procedures for updating/revisions

# Setup maps and apps in the system

Mobile use, sharing, editing, and attachment capabilities







#### TASK 3

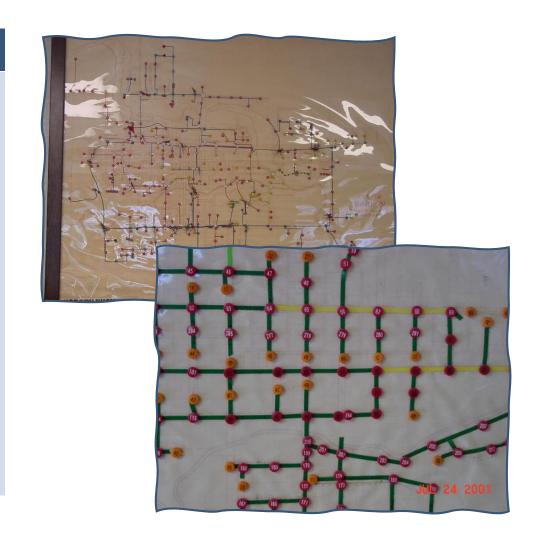
## Review/Analysis of Hard Copy Data and Other Municipal Data

#### Meet with staff

Discuss all hard copy and other data

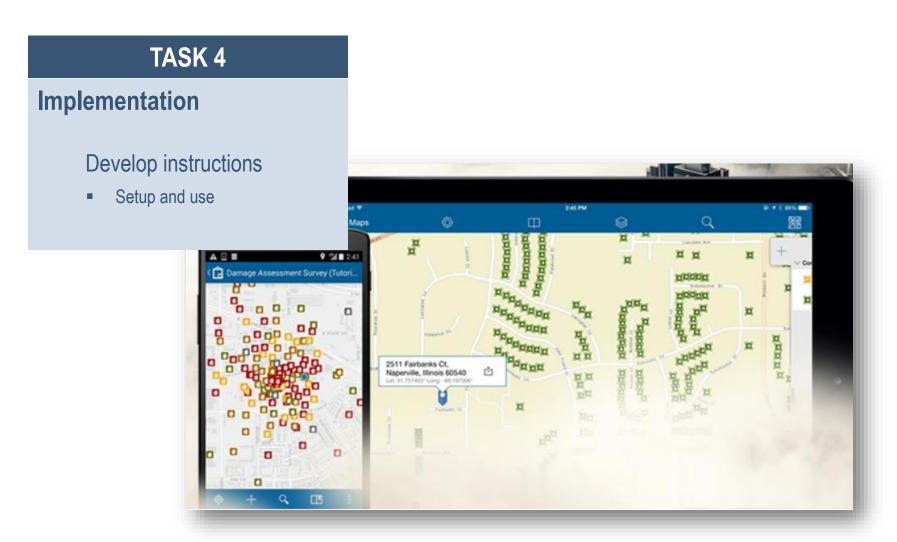
# Develop plan for incorporation

- Timeline
- Costs
- Further needs













### TASK 5

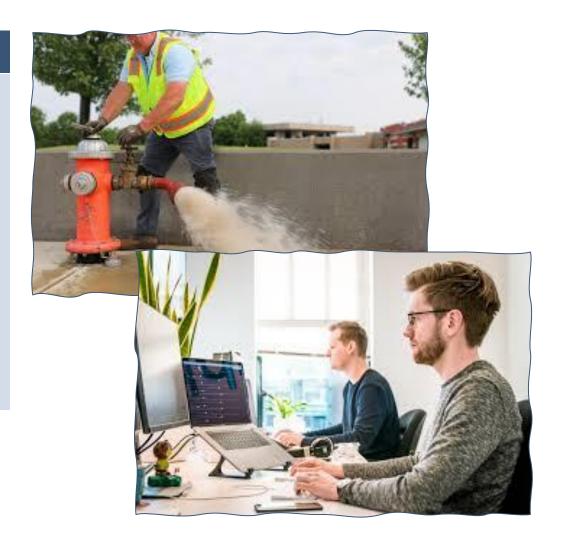
## **Training and Support**

Training session for all users, typical

- Admin training
- Overall training
- Train staff for their jobs!

Remote support

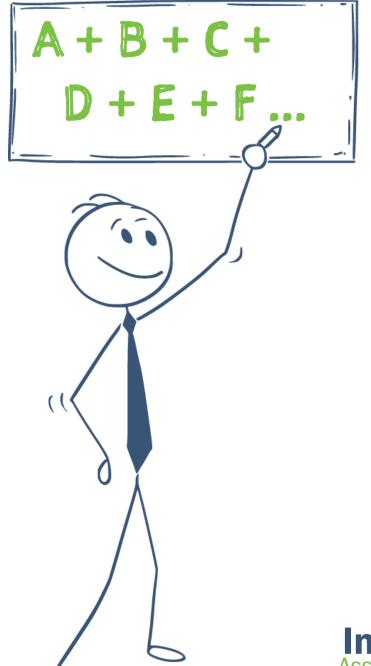
Onsite support







Return on investment



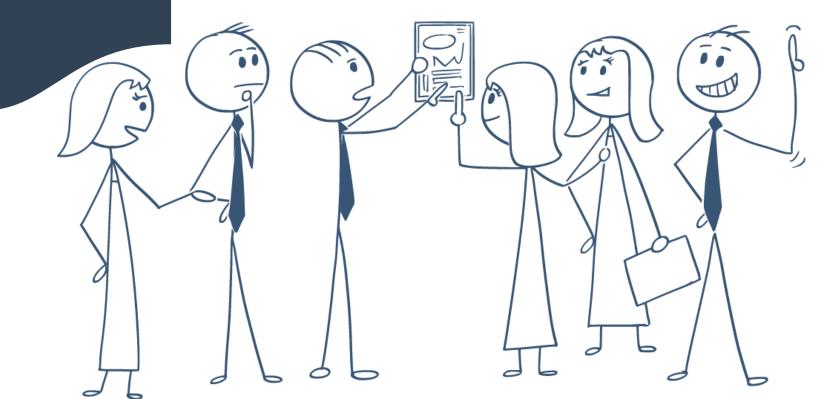




## **ROI of an Asset Management System**



# Making it work for you!



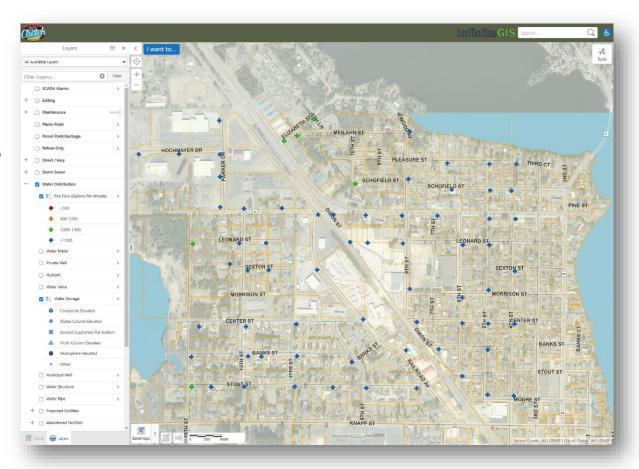




## **Systems Integration**

## Fire/Police

- Fire Flow Data
- Hazardous Materials Data
- Nuisance Data

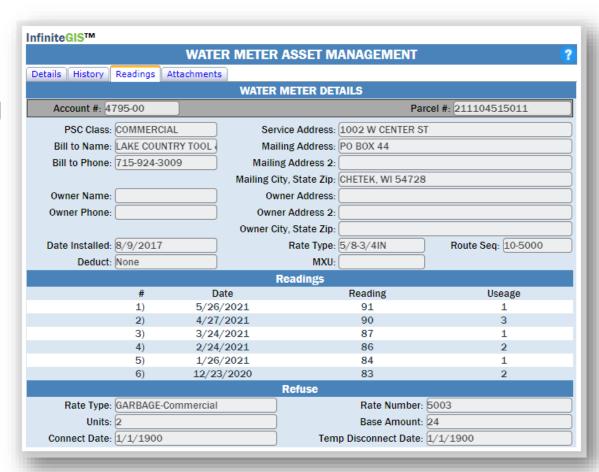






## **Systems Integration**

## Water/Sewer Billing

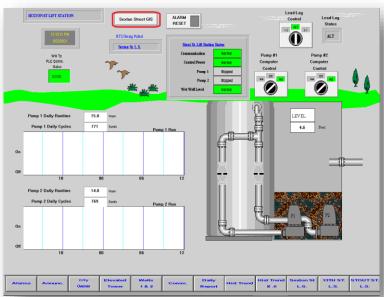






## **Systems Integration - SCADA**









## **Contact Information**



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Scott Daniel
GIS Developer
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414-266-9115 - office



