

SALEM MUNICIPAL SERVICES ASSET MANAGEMENT PROGRAM

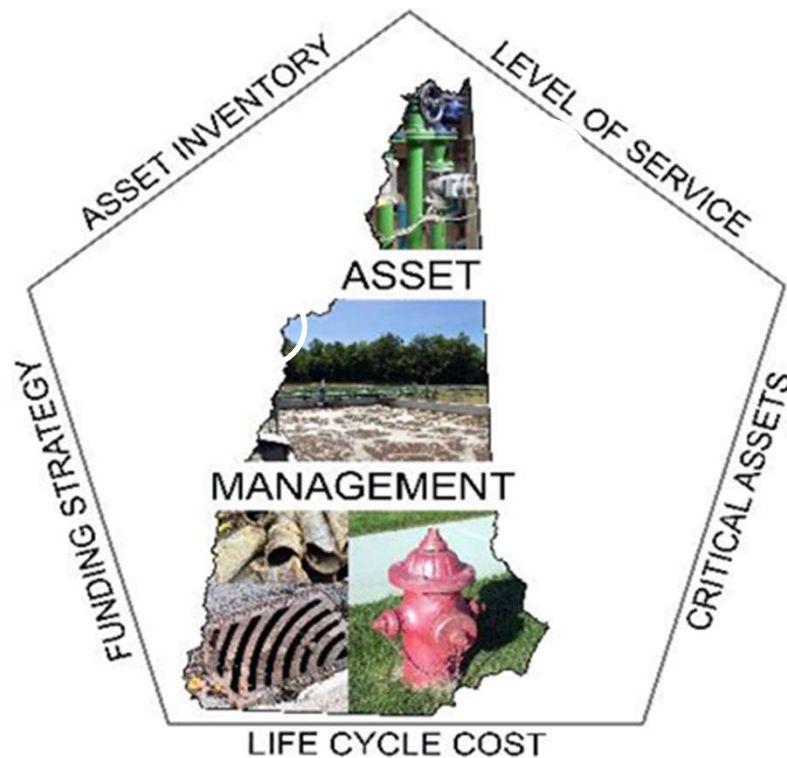
Presented by: Lyndsay Butler, PE

John Vogl

LMV Stormwater Coalition Meeting

April 8, 2021

ASSET MANAGEMENT



Improving the understanding and performance of drinking water, wastewater and stormwater assets.

- Inventory
- Level of Service
- Critical Assets
- Life Cycle Costs
- Funding Strategy

SALEM AM PROGRAM - PROJECTS

Asset Management Projects:

- Various System Mapping Projects
- 2016 Drinking Water AM Project (DWSRF, \$15,000 w/match)
- 2017 Wastewater and Stormwater AM Project (CWSRF, \$60,000)
- 2019 Drinking Water AM Project (DWSRF, \$20,000 w/match)
- 2020 Wastewater AM – Phase 2 Project (CWSRF, \$30,000)
- 2021 Drinking Water AM Project (DWSRF, \$40,000 w/match) ***Pending**

Stormwater Planning Projects:

- 2020 MS4 Outfall Inspections / IDDE Project (CWSRF, \$75,000)
- 2021 Captain Pond Watershed Management Project (CWSRF, \$75,000)
 - Focus on PSIR

SALEM AM PROGRAM - INVENTORY

Program Goal: Identify and inventory assets in order to understand condition and consequences of failure, current and future deficiencies, regulatory compliance needs, and the financial resources necessary to meet the level of service of the community.

- **System Mapping / GIS**
- **Aerial Imagery**
- **VUEWorks**
 - **Facilities & Fleet**
 - **MobileVUE**



Town of Salem NH

- Welcome, lyndsay butler
- GIS Assets
- Document Link
- Service Requests
- Work Orders
- Base Layers
- Engineering
- Facilities
- Fleet
- Planning
- Public Works
- Sewer
- Water

Home Page

Getting Started:

Read the Getting Started section in Help or just start exploring the map.

To Select or Locate Assets:

Use the select tools above to map or the search button above.

To Locate an Address:

Enter full or partial address information below to center the map at the address specified.

Owner

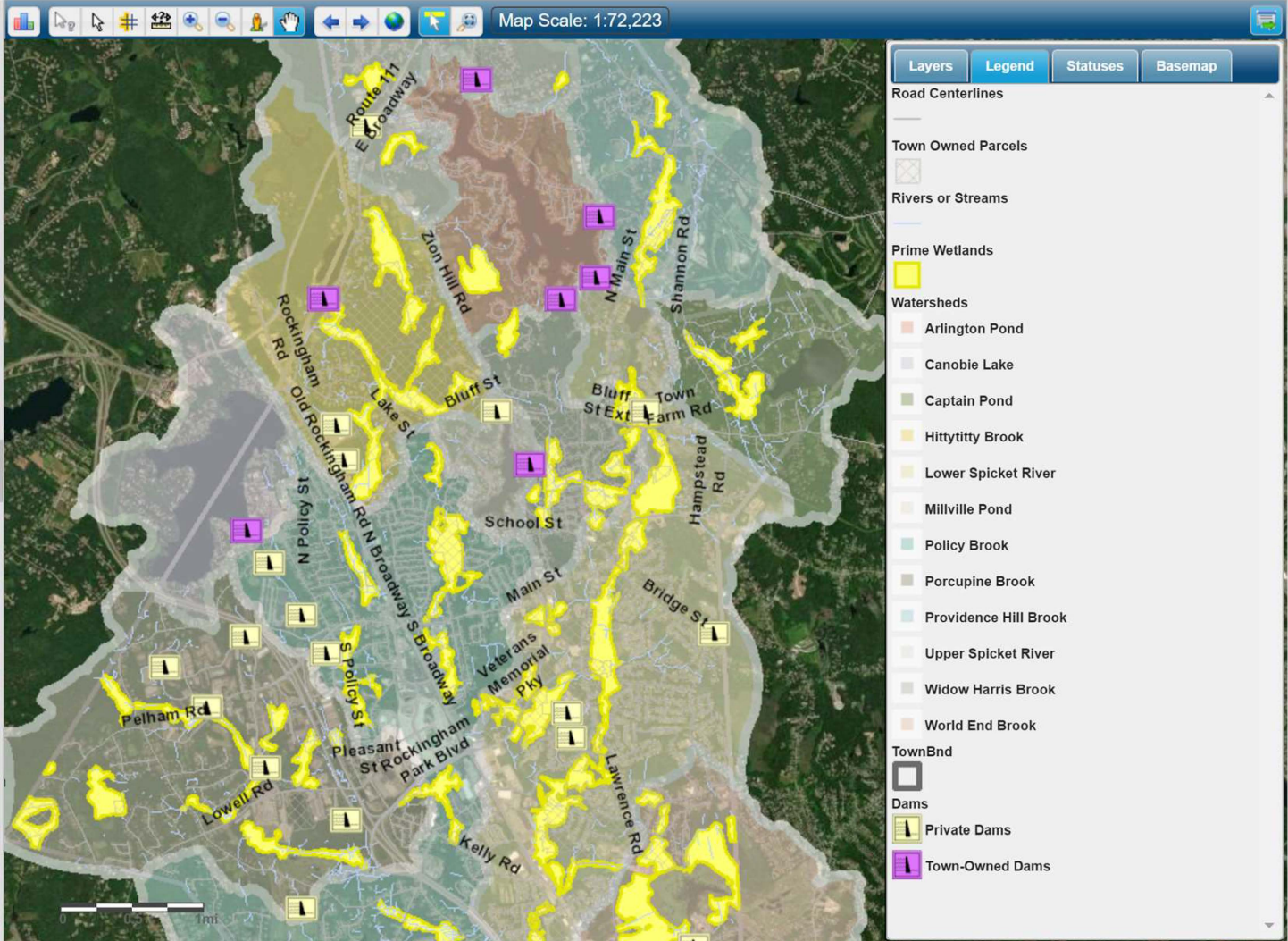
Number Street:

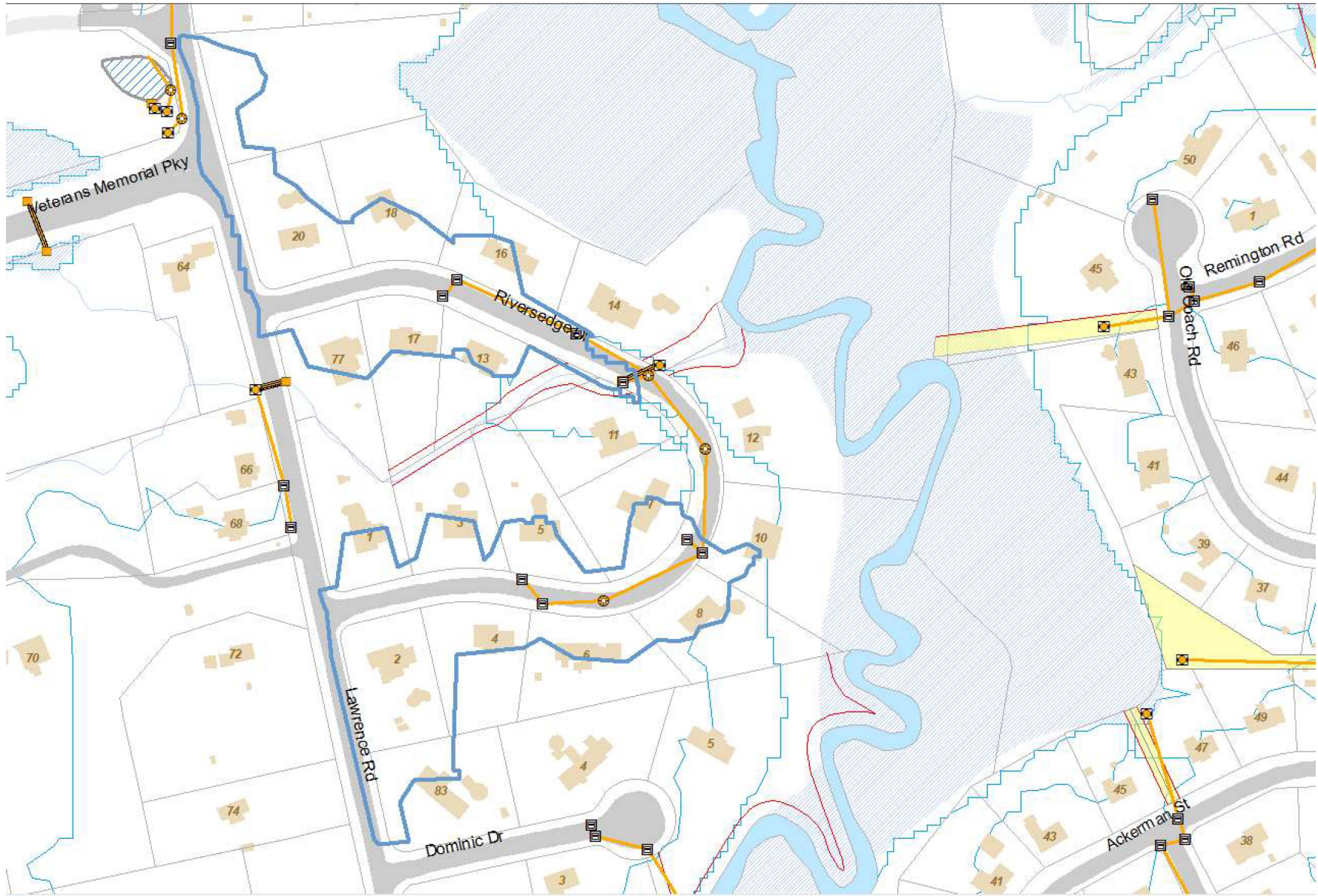
Lot ID

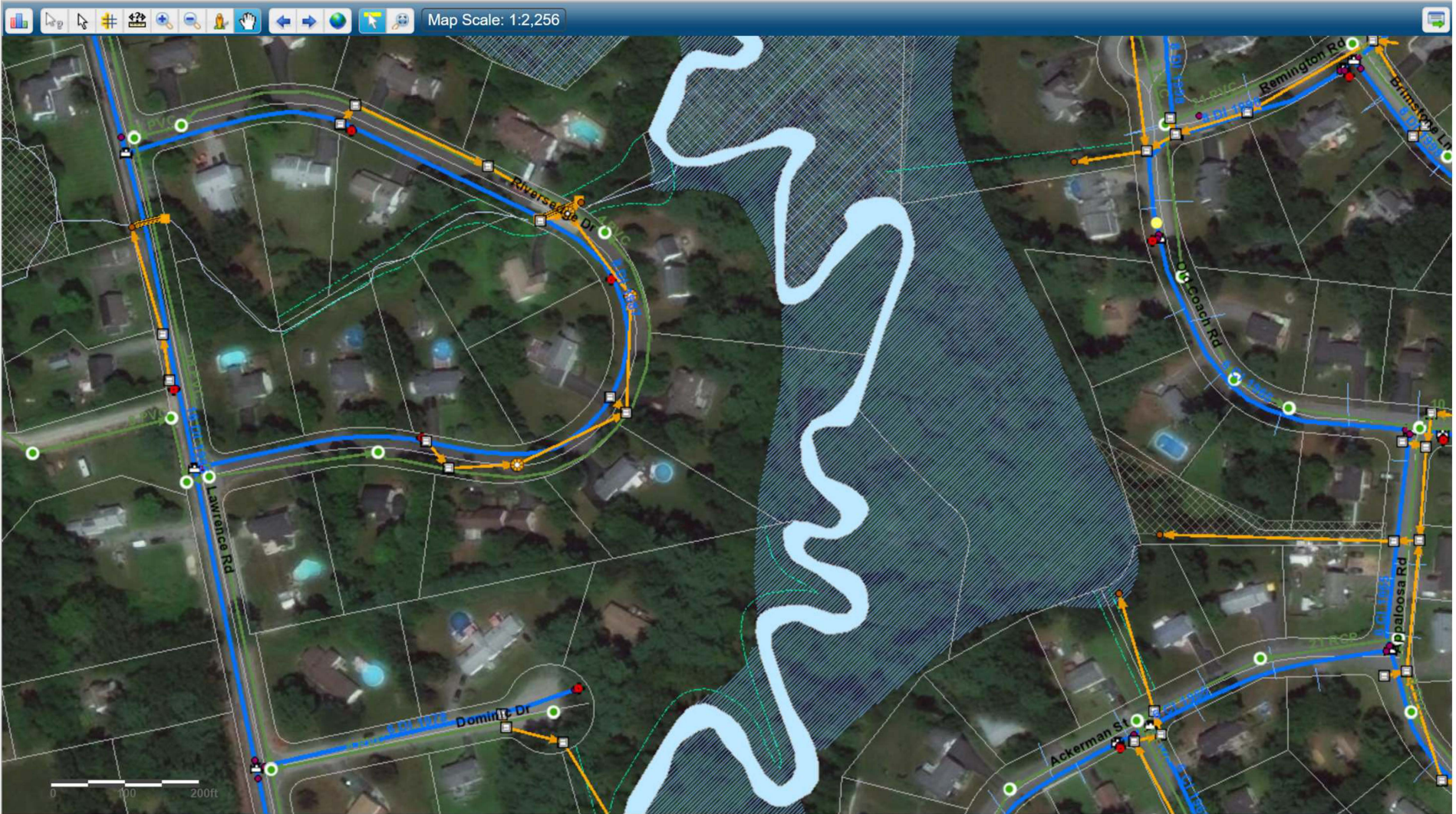
Select

Abutters

Clear







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Parcel: 152-9638-0

D Documents

Add Document

	ID	Type	FileNan
1	27120	Water Tie Cards	wtc budron ave 25_2

1 of 1

Show All

Map Scale: 1:1,128

25 Budron 25 BUDRON

29 Budron 29 BUDRON

31 Budron 31 BUDRON



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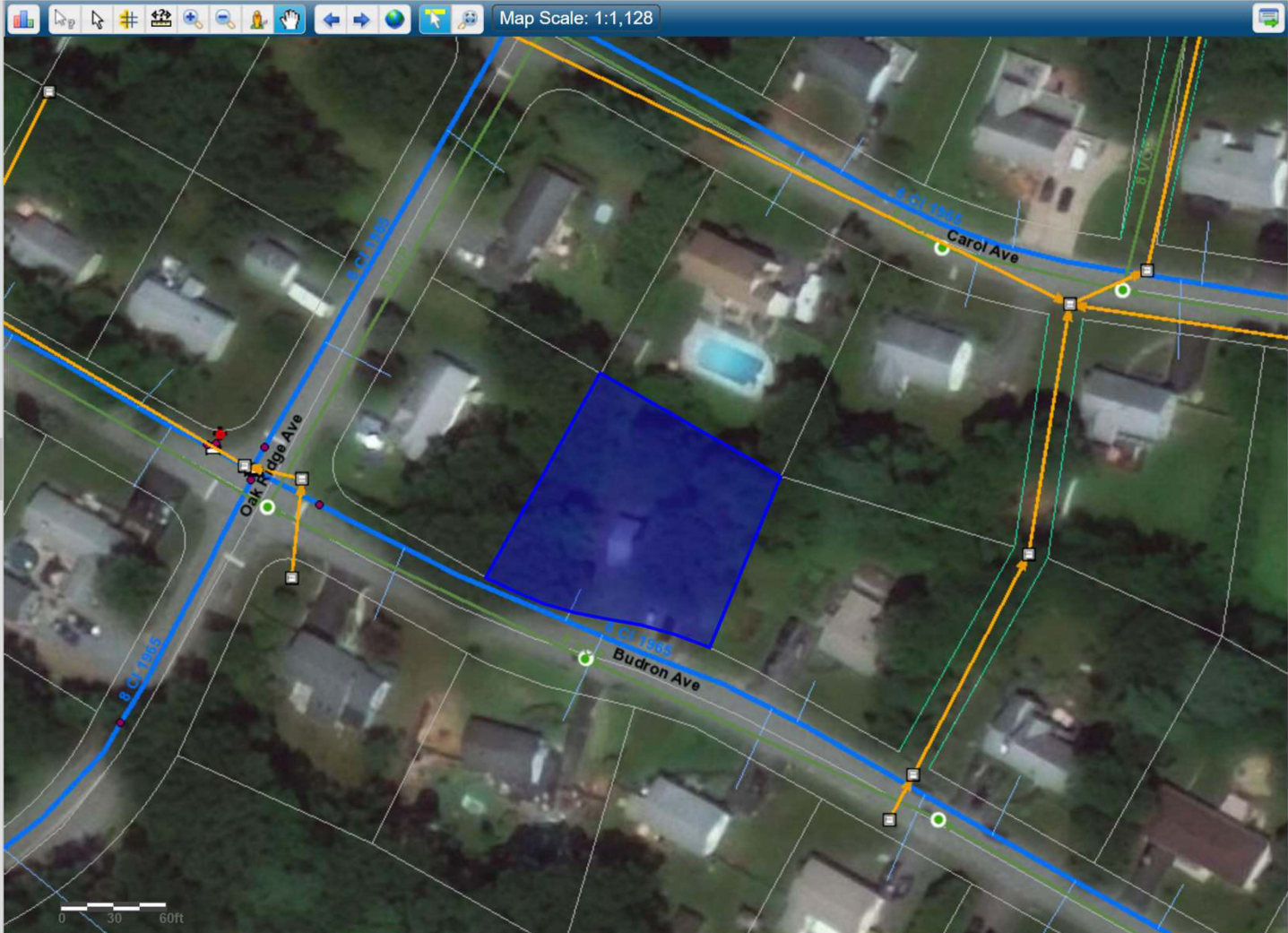
P Permits

Driveway Permits Sewer Permits Water Permits

Permit#: 1143

Type	SS
Date	04/22/1976
Map	152
Lot	9638
Suffix	0
Owner	LOUIS COLE
NewConstruction	N
Insp# Date	04/27/1976
PermitFee	10
Dig Safe #	

1 of 1 Show All



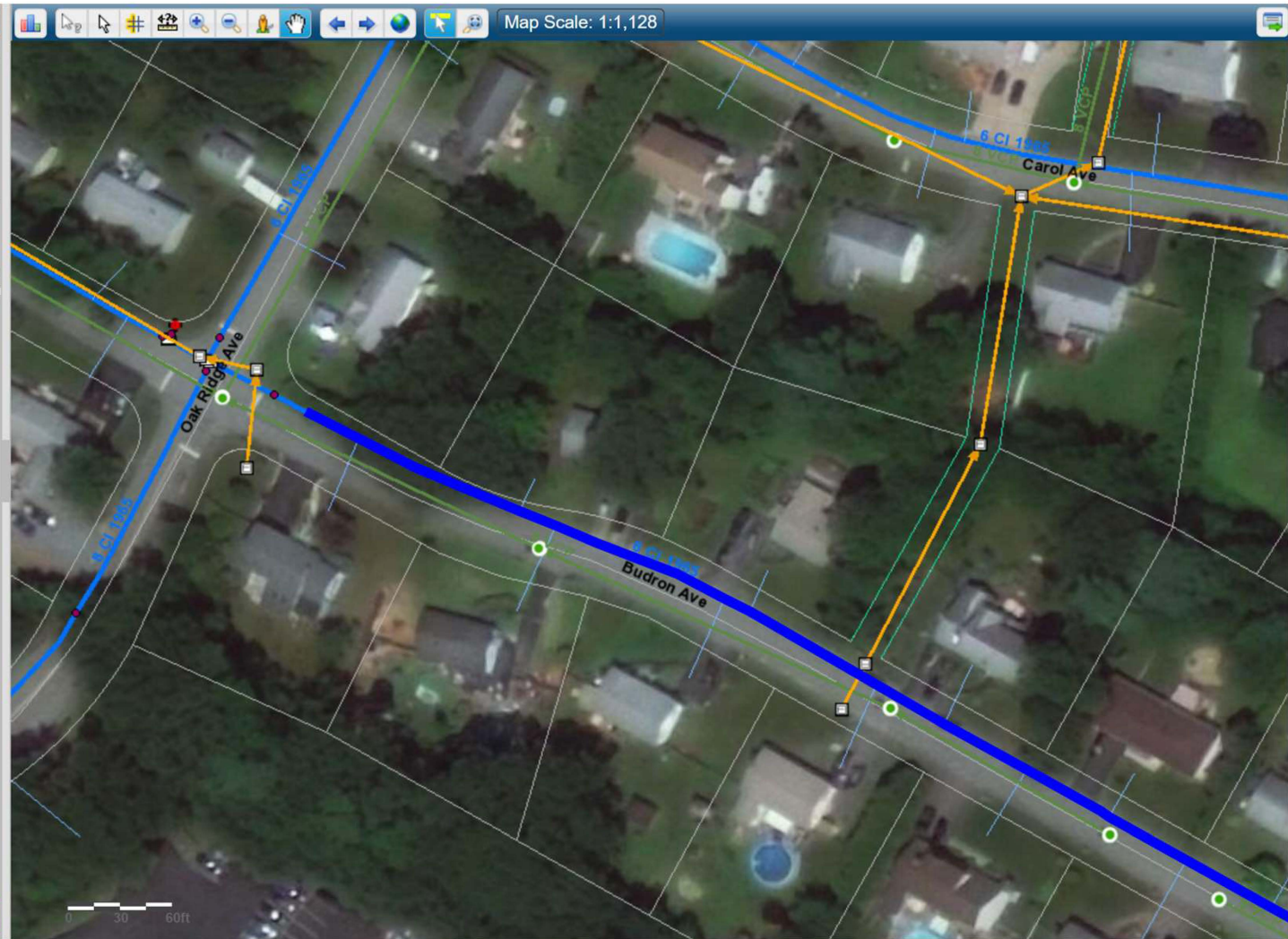
Town of Salem NH

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Water Mains: 2370

A Attributes Save Cancel

Asset ID*	2370
Asset Label	WM-2370
Asset Owner	Town of Salem
Type	Distribution Main
Pipe Diameter	6
Material	Cast Iron
Material Code	CI
Lining	Cement
Length	713.07908
# Service Connections	0
Bury Depth	0
Year Installed	1965
Pressure Zone	Gravity
Street	BUDRON AVE
Location	



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Water Mains: 2370

W Work Orders

ID	Date
0121-0109	01/12/2021 08:00 AM
0820-0149	01/13/2020 02:00 PM
0320-0020	01/13/2020 08:00 AM

Manage Work Orders

Filter Status

Form View | Assets

ID [0121-0109](#) Logged By [Scott Witkowski](#) 01/13/2021 10:03 AM

Type EMERGENCY

Status Closed | Priority 1

Begin Date: 01/12/2021 8:00 AM | End Date: 01/12/2021 1:00 PM

Due Date: | Time: |

Department Water

Group Distribution Water Mains

Activity Description Water Main Break

Location 29 Budron Ave | Lat/Long 42.742059, -71.186866

Description water main break

Assigned To [Role: Water - Distribution](#) 01/13/2021 10:03 AM

Closed By [Luis Armas](#) 01/14/2021 10:00 AM

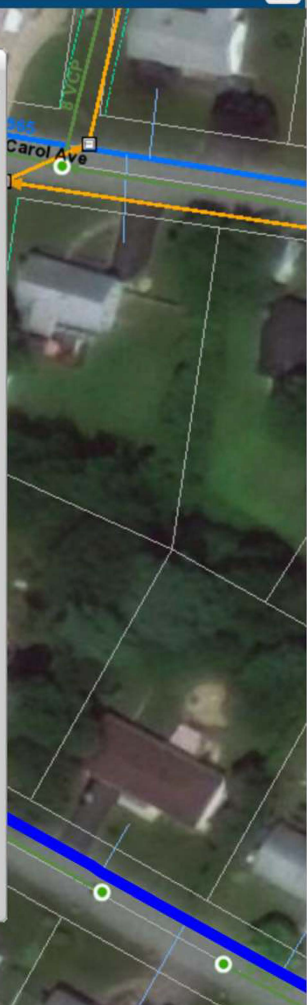
Send Email to Notification List on Save

Associate with... | Project Group: | Project: |

Details | Costs | Tasks | Assets | Documents | Work Orders | Comments

ID	Type	FileName
1 <input type="button" value="Delete"/>	31260 Photograph	IMG_0056.jpg
2 <input type="button" value="Delete"/>	31259 Photograph	IMG_6235.jpg
3 <input type="button" value="Delete"/>	31258 Water Break Report	29 Budron break Drawing 2021.pdf

* Required † To Close



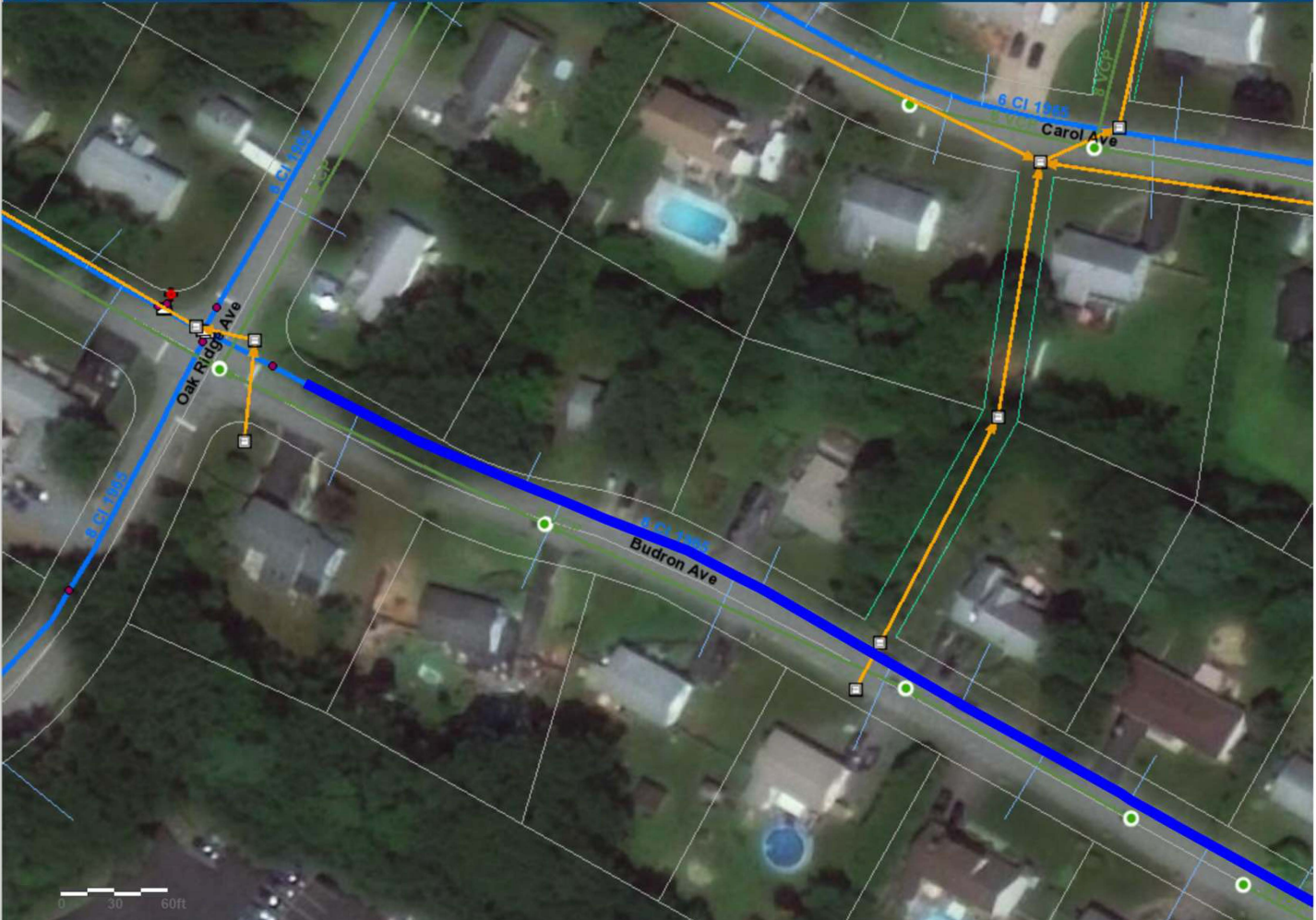
Town of Salem NH

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Water Mains: 2370

Exclude Values as of 4/6/2021 12:00:00 AM

Remaining Life (years)	14.2
Age (years):	55.8
<u>Year of Construction:</u>	1965
Original Life Expectancy (years):	70
Years Added By Maintenance:	
Expected Replacement Year:	2035
Present Value:	\$1,324
Accumulated Depreciation:	\$5,186
Value Added By Maintenance:	\$0
Historical Cost:	\$6,510
Replacement Cost:	\$78,439
Salvage Value:	\$0



Town of Salem NH

Welcome, lyndsay butler

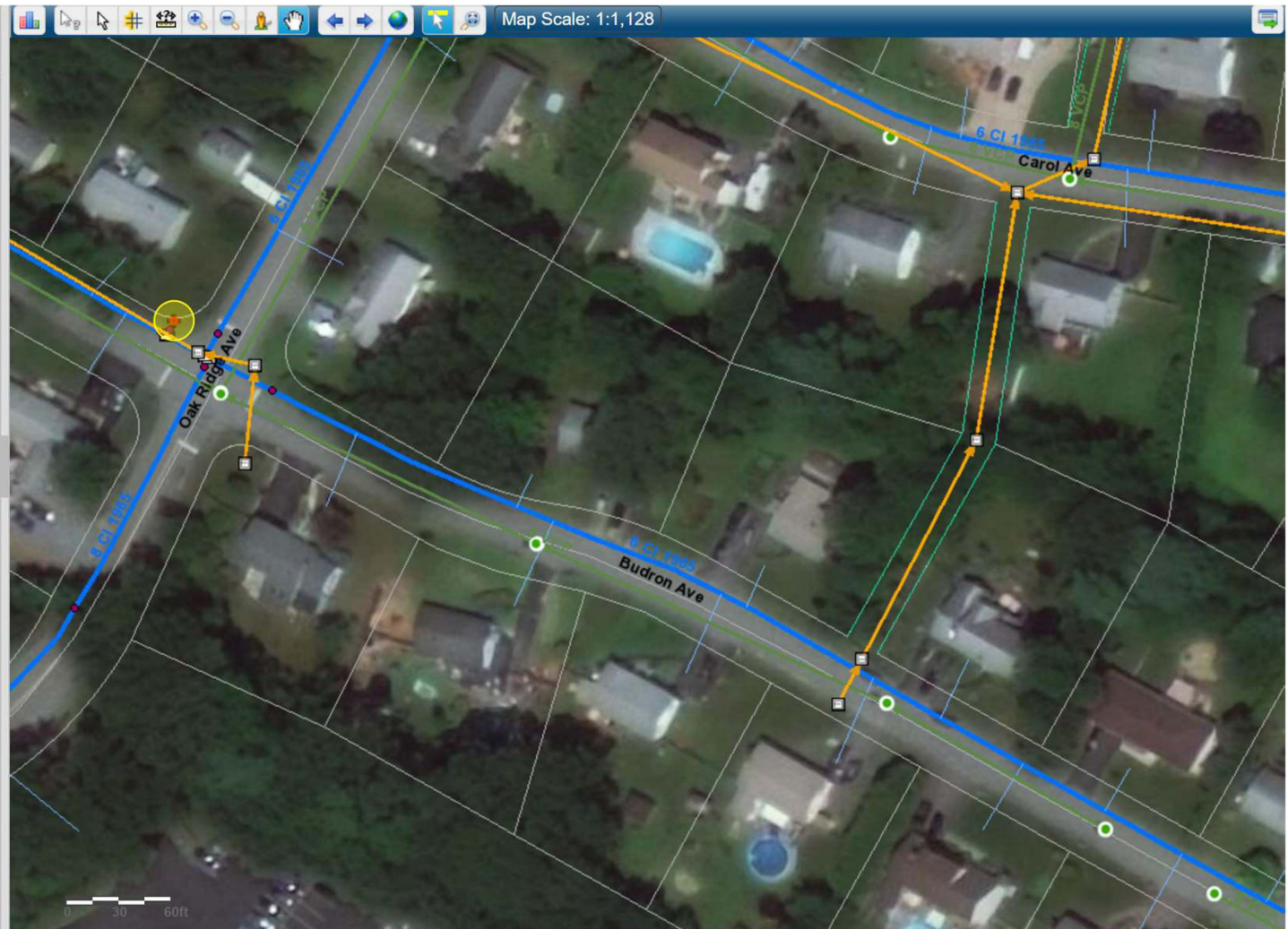
Water Hydrants (Public): 0202

A Attributes

Save Cancel

OBJECTID	295
Asset ID*	0202
Owner	Town of Salem
YrManufact	1997
OpeningDir	Right
# Turns	
Street #	25
Street	Budron Ave
Alt_Location	Corner of Oakridge Ave
Pressure Zone	Gravity
NozzElev	
Comment	
ID #	202
Diameter	5.25
Manufacturer	AFC
Model	B 62 B 1
Enabled	True
AncillaryRole	None
Target Hydrant	Yes
Capture Method	
Date Updated	09/20/2019 05:47 PM
Date Created	
ddpRoute	4

1 of 1 Show All



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Road Centerlines: 1018

W Work Orders

ID	Date
0619-0101	06/28/2019 08:00 A

Manage Work Orders

Filter Status

Form View | Assets

ID **0619-0101** Logged By [Maureen Sullivan](#) 06/28/2019 10:00 AM

Type: GENERAL

Status: Closed | Priority: 1

Begin Date: 06/28/2019 8:00 AM | End Date: 10/28/2019 3:00 PM

Due Date: | Time: |

Department: Public Works

Group: Highway

Activity Description: Signs

Location: Corner of S Policy and Lowell R | Lat/Long

Description: Large Political Sign in Town's ROW

Assigned To: [Dave Wholley](#) 06/28/2019 10:15 AM

Closed By: [Maureen Sullivan](#) 10/28/2019 03:00 PM

Associate with... | Project Group: | Project: |

Send Email to Notification List on Save

[Set Recurring](#) | [Print](#) | [Share](#) | [Refresh](#)

Details | Costs | Tasks | Assets | Documents | Work Orders | Comments

Request Called in By: | Caller Phone #: | Date Called in:

Caller Address: | Caller email: | Time Called in:

Request: | Action Needed:

* Required ‡ To Close

[Save](#) | [Delete](#) | [Print...](#) | [Close](#)

Manage Work Orders

Filter is OFF - Current list contains 727 out of 7377 Work Orders

- Select Field -

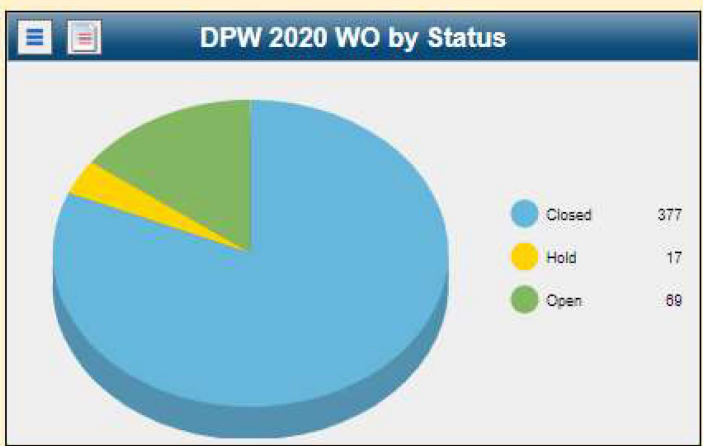
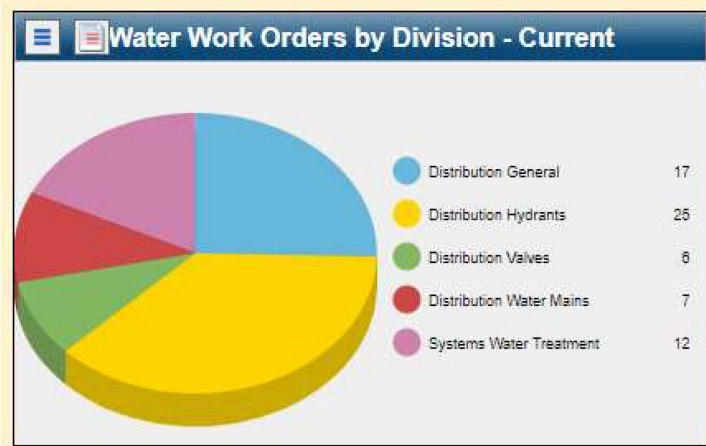
1 of 50

	ID	Log Date	Logged By	Location	Activity Description	Group
<input type="checkbox"/>	0421-0002	04/01/2021 07:36 AM	Scott Witkowski		INSPECT	Distribution Hydrants
<input type="checkbox"/>	0421-0001	04/01/2021 07:03 AM	Scott Witkowski	11 CENTRAL ST	FILL AND FLUSH	Distribution Water Mains
<input type="checkbox"/>	0321-0313	03/31/2021 10:56 PM	Luis Armas	WTP Lab	Other	Meters
<input type="checkbox"/>	0321-0311	03/31/2021 10:07 AM	Scott Witkowski	45 OLD ROCKINGHAM RD	Inspect/Troubleshoot Meter	Meters
<input type="checkbox"/>	0321-0310	03/31/2021 08:47 AM	Joe Feole	5 BANNISTER RD	Snow Damage	Highway
<input type="checkbox"/>	0321-0303	03/31/2021 07:39 AM	Andy Ramos		Turn On	Meters
<input type="checkbox"/>	0321-0302	03/30/2021 10:55 PM	Luis Armas	WTP Lab	Other	Meters
<input type="checkbox"/>	0321-0301	03/30/2021 03:13 PM	Scott Witkowski	19 HENDERSON CIR	Inspect/Troubleshoot Meter	Meters
<input type="checkbox"/>	0321-0300	03/30/2021 03:11 PM	Scott Witkowski	51 HAMPSTEAD RD	New Irrigation	Meters
<input type="checkbox"/>	0321-0299	03/30/2021 02:25 PM	Andy Ramos		Replace MIU	Meters
<input type="checkbox"/>	0321-0298	03/30/2021 02:25 PM	Andy Ramos		Replace MIU	Meters
<input type="checkbox"/>	0321-0297	03/30/2021 02:03 PM	Andy Ramos		Replace MIU	Meters
<input type="checkbox"/>	0321-0296	03/30/2021 01:24 PM	Andy Ramos		New Service	Meters
<input type="checkbox"/>	0321-0295	03/30/2021 12:39 PM	Andy Ramos		Replace MIU	Meters

1 of 15

Permitted OPS: A - Assign, S - Change Status, R - Re-open, D - Delete

* Required † To Close



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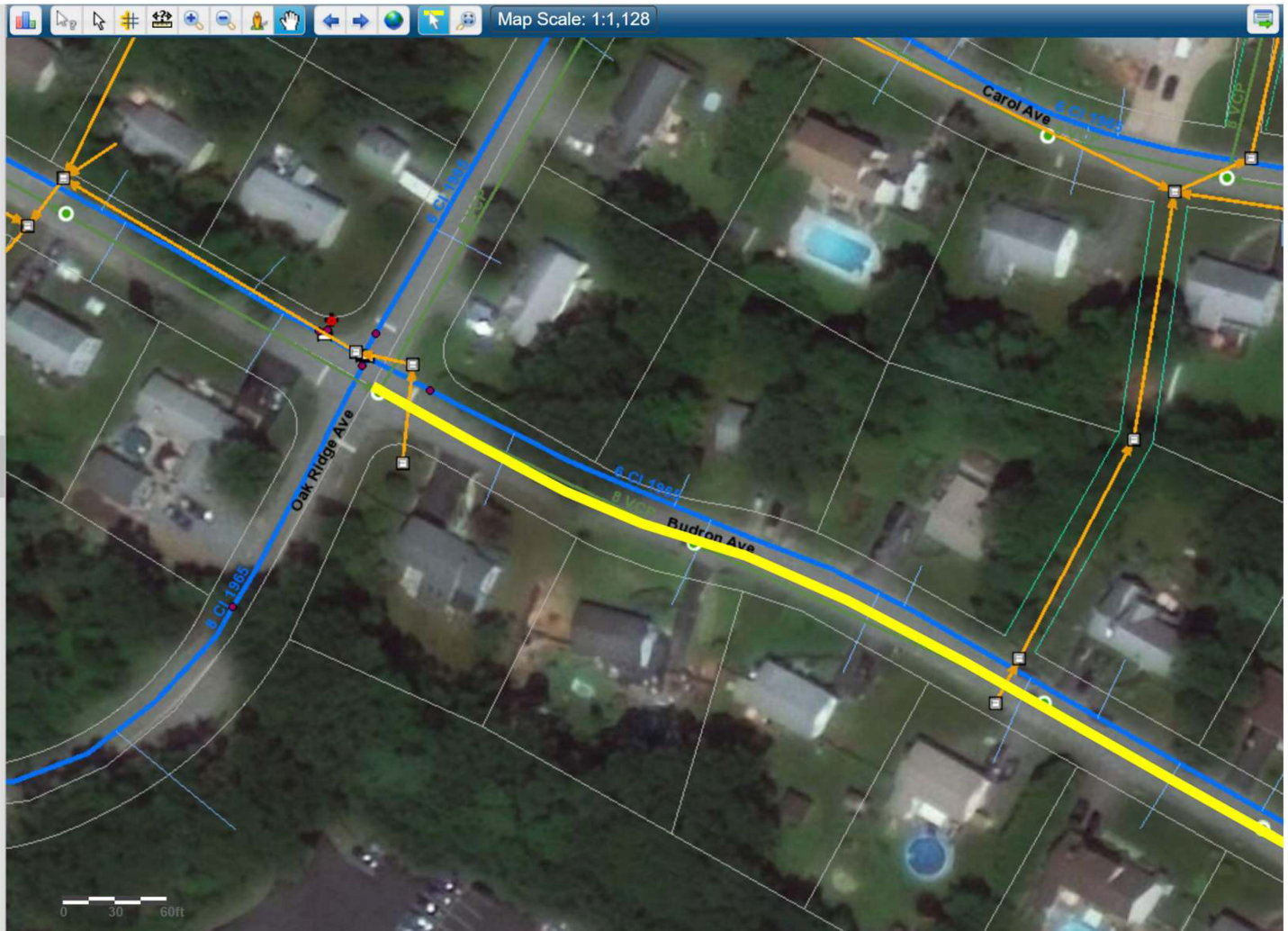
S Street History

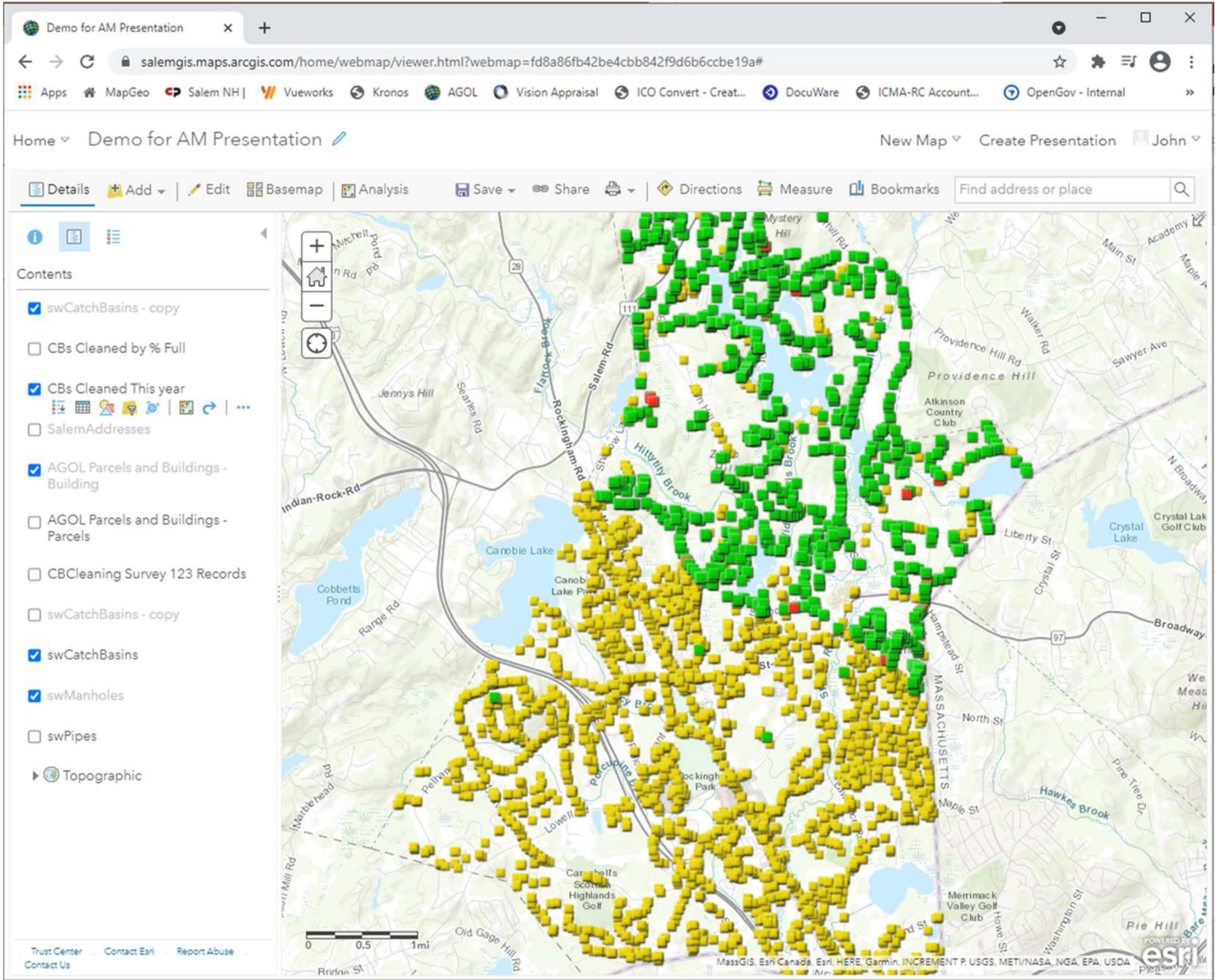
Acceptance Road Program **Sweeping**

Reporting Year: 2018

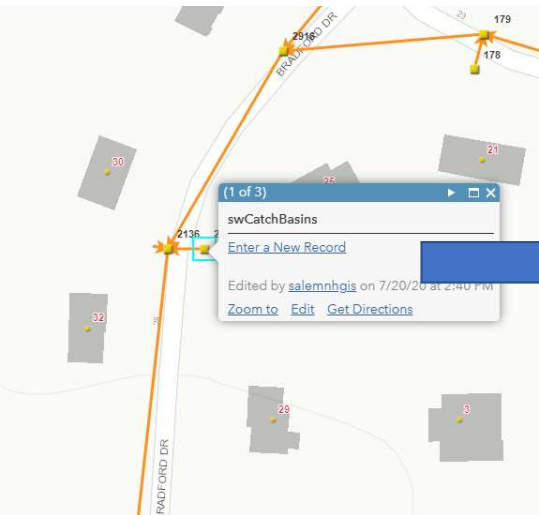
Route #	2
Date Swept	05/08/2019
Comments	

1 of 1 Show All





Demo Input Form



Catch Basin Cleaning Program, 2021

com/share/93a957e8baa74a2195121d4a1c77e83e?portalUrl=https://SalemGIS.maps.arcgis.com&field:AssetType=CATC

Vueworks Kronos AGOL Vision Appraisal ICO Convert - Creat... DocuWare ICMA-RC Acc

John

Catch Basin Cleaning Program, 2019

Date*

Asset Type*

Cleaned*
 Yes
 No

Asset ID*

Street Name

Depth to Invert (inches)

Depth to Water (Inches)

Depth to Dirt (Inches)

Depth to Bottom (Inches)

Large Object
 Clear
 Restricted

Jet Pipes
 Clear
 Restricted

Flowing Pipes
 Yes
 No

Contamination Visible
 Yes

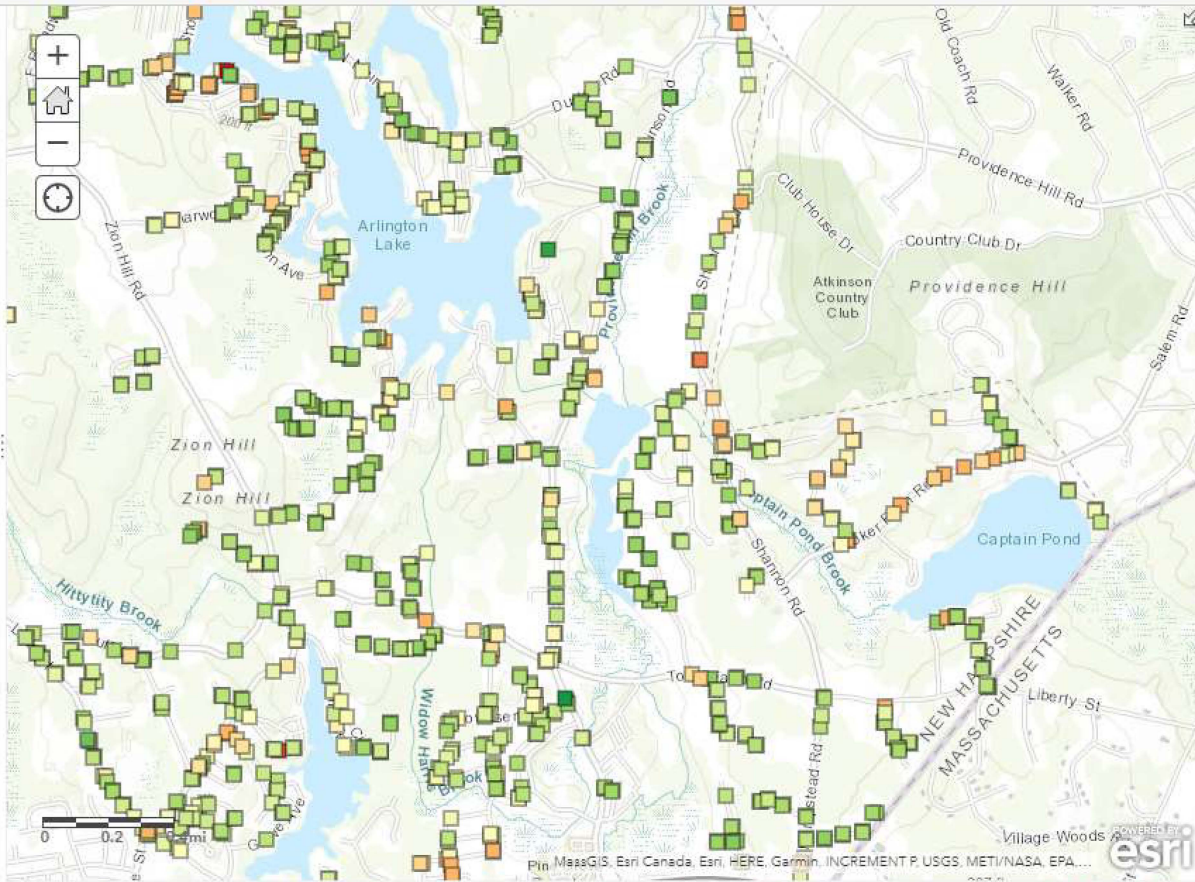
Legend

CBs_Cleaned_by % Full

% Full

- > 160
- 50
- < -24

Trust Center | Contact Esri
Report Abuse | Contact Us



Demo for AM Presentation

sailemgis.maps.arcgis.com/home/webmap/viewer.html?webmap=fd8a86fb42be4cbb842f9d6b6ccbe19a#

Apps MapGeo Salem NH Vuworks Kronos AGOL Vision Appraisal ICO Convert - Creat... DocuWare ICMA-RC Account... OpenGov - Internal

Home Demo for AM Presentation New Map Create Presentation John

Details Add Basemap Analysis Save Share Print Directions Measure Bookmarks Find address or place

Contents

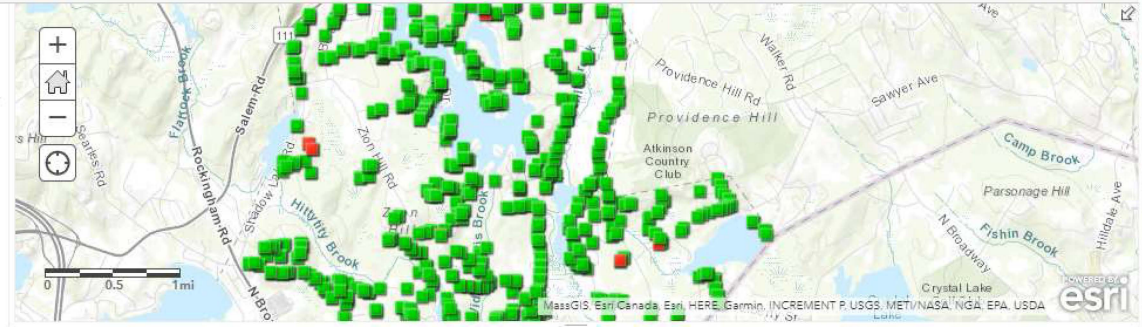
- CBs Cleaned by Status
- swCatchBasins - copy
- CBs Cleaned by % Full
- CBs Cleaned This year
- SalemAddresses
- AGOL Parcels and Buildings - Building
- AGOL Road Program
- AGOL Parcels and Buildings - Parcels
- CBCleaning Survey 123 Records
- swCatchBasins - copy
- swCatchBasins
- swManholes
- swPipes
- Topographic

0 300 600ft

MassGIS, Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, ...

POWERED BY esri

- Contents
- CBs Cleaned by Status
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 - Topographic
- Trust Center Contact Esri Report Abuse Contact Us



CBs Cleaned This year (Features: 1488, Selected: 0)

Base	Seal around Pipe	Frame Pinched?	High Risk	Status	Notes	to Wat
OK	OK	No	No	Structural Defect (+)		4.17
OK	OK	No	No	Good (-)		5.42
OK	OK	Yes	No	Structural Defect (+)		4.58
OK	OK	No	No	Needs Pulling\Clamshell (::)		3.67
OK	OK	No	No	Good (-)		4.33
OK	OK	No	No	Good (-)		5.83
OK	OK	No	No	Good (-)		3.67
OK	OK	No	No	Good (-)	Grate buried under roots and vegetation, need digging out	
OK	OK	No	No	Good (-)		4.33
OK	OK	No	No	Structural Defect (+)		4.33
OK	OK	No	No	Structural Defect (+)		0.00
OK	OK	No	No	Good (-)		4.00

SALEM AM PROGRAM - USES

General Systems

- Smoother Operations
- Quicker/Easier Field Location
- Better Record Keeping
- Easier Access to Records
 - In the Field
 - Remote Work
 - Across Departments
- Condition Ratings
- Optimized Project Planning

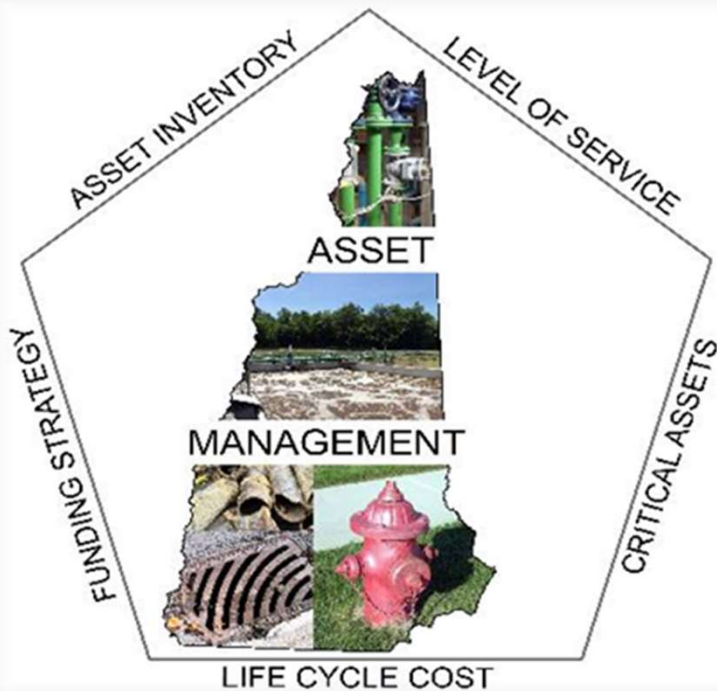
MS4

- System Mapping
- Watershed Delineation
- IDDE Program
 - Outfall Inspection
 - Catchment Delineation
 - Catchment Investigation
- Good Housekeeping
 - Street Sweeping
 - Catch Basin Cleaning
 - Inspections (SWPPP/BMPs)

SALEM AM PROGRAM – LEVEL OF SERVICE

Goal	Asset Category	Objective	Measure	Units
Routine Inspection & Maintenance	Dams	Inspect; perform corrective maintenance	# of dam inspections completed # of maintenance/repairs performed	#/ year
	Culverts	Inspect; remove sediment and debris from culverts; perform corrective maintenance	# of culverts inspected # of maintenance/repair activities performed	#/ year % of assets inspected annually
	Outfalls	Inspect; perform corrective maintenance	# of outfalls inspected # of maintenance/repair activities performed	#/ year % of assets inspected annually
	Manholes/ Catch Basins	Inspect; remove debris from catch basin grates prior to storm events; focus efforts on known problem areas	# of problem CB grates cleared	# problem CB grates cleared/ storm
		Inspect; Clean CBs and MHs as needed to perform corrective maintenance	# of CBs cleaned; CY of material removed # of CBs and MHs repaired/replaced	# CBs cleaned/ year CY material removed/ year # structures with sump at 50% full # of repairs/replacements/ year
	SW BMPs	Inspect; perform corrective maintenance	# of BMPs inspected # of BMPs repaired/replaced	#/ year % of assets inspected annually
		Sweep streets and municipal parking lots	lane miles of streets and parking lots swept	lane miles/ year % of streets and parking lots swept annually
		Maintain all roadside ditches	linear feet of ditch maintained	ft/ year % of ditches inspected annually

SALEM AM PROGRAM – FUTURE WORK



- **Expand Inventory**
 - Easements
 - Stormwater BMPs
 - Approved Permits
 - Active Construction Sites
- **LOS Goal-Setting**
- **Continue Condition Ratings**
 - Water System Leak Detection
 - Sewer CCTV
 - IDDE Program
- **Criticality / Risk Assessments**
- **Funding Strategy**