What's included in your Tool Kit:

- PA One Call Response Management
- Work Order Management
- Public Contact Reporting & Tracking
- Collection / Distribution Systems Maintenance Tracking

ARROtrac

Tasks and Tools | Report | Automate | Capture

For additional information contact:

Michael A. Schober, P.E., BCEE
717.205.4550
michael.schober@arroconsulting.com

www.arroconsulting.com

Utility Manager Tool Kit

ARROtrac Management Solutions (AMS) offers a suite of applications to choose from to assist Utility Managers manage day-to-day activities both in the office, and in the field. We offer solutions for tracking and managing public information, work orders, property/equipment inspections and maintenance, PA One-call Responses, and more.

The requirements to operate water and wastewater facilities necessitates accurate record keeping for many different aspects of your operations. Assuring compliance with a variety of regulations and procedures is essential. **AMS** can be set-up to manage regulations specific to your facilities, track staff activity data, generate reports, and prepare submissions regulatory agencies.

AMS will save time for you, and your staff, offering comprehensive data tracking and storage, workflow automation, and detailed reporting methods; thereby, easing workloads to concentrate on other more important tasks.

Unlike many off the shelf software products that require your staff to adapt to their methods and procedures, every **AMS is customized to mirror your existing processes and workflows.**

Since **AMS** are developed using industry standard, open-source technology, much of your existing data may be directly compatible with our solution. Specifically, GIS maps or processes currently in use can be directly incorporated into your new system, saving set-up costs and assuring your software system is portable in the future.

AMS includes a user-friendly interface with easy-to-use screens, intuitive forms and checklists, and configurable notifications and reports that allow your staff to work efficiently and effectively.

Asset Inventories

Inventorying your assets is always a challenge!

Tracking everything from buildings to equipment, **AMS can be customized meet rotational inventory of trucks and equipment to asset inventories for insurance evaluation and coverage limits.**

- Identify Fixed Assets
- Track Asset Quantities
- Automated Notifications for Reorders and Maintenance
- Maintenance and Inspection Tracking
- Create Summary Reports

Sanitary Sewer

Asset Inventories

Sanitary Sewer

INDICATORS

Activities

Sewer 1 Inspection Total [Filter]	Sewer 1 Inspection Incomplete [Filter]	Sewer 0 Inspection Complete [Filter]	Sewer 2 Maintenance Total [Filter]	Sewer 0 Maintenance Incomplete [Filter]	Sewer 2 Maintenance Complete [Filter]
Sewer 1 Work Orders Total [Filter]	Sewer 0 Work Orders Incomplete [Filter]	Sewer 1 Work Orders Complete [Filter]	Sewer 1 Other Activity [Filter]	Sewer 0 Incomplete Other [Filter]	Sewer 1 Complete Other [Filter]
	Manhole Inspections 4 Total Count [Filter]	Public Complaints 0 Total [Filter]	Public Complaints 0 Open [Filter]	Public Complaints 0 Closed [Filter]	

Features

Manholes 613	Valves 13	Cleanouts 2,134	Grinder Pumps 0
Pump Stations 3	Gravity Main 133,778.466 (Linear Feet)	Force Main 6,201.868 (Linear Feet)	Lateral 0 (Linear Feet)

Sewer Map | Sewer Indicators | Sewer Info

Work Order Management System

Having an easy-to-use work order management system leads to increased stakeholder satisfaction, and by documenting the work completed by staff, preserves a permanent record of work that was completed, and where and when it was completed. Many work orders are typically generated for tasks that need to be completed on a routine basis.

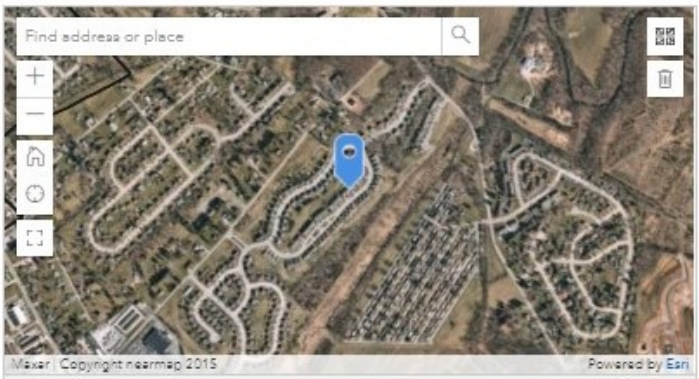
ARROtrac Management Solutions gives you the capability to set up a repeating reminder protocol that will automatically generate work orders as required.

- Work Order creation and tracking from inception to completion
- Generate reports for work order labor, start and completion dates, supplies and equipment used
- Real time notification of assigned/completed work order
- Automatic monthly report generation
- Staff assignments and task tracking

Work Order Management System

Work Orders

Location*



Lat: 39.998864 Lon: -76.832589

Department*

- ○ Roads
- ○ Facilities and Parks
- ○ Administration
- ○ Sanitary Sewer
- ○ Stormwater
- ◉ Water

Work Order*

- ○ Meter Change Outs
- ○ MXU Installation
- ○ High Usage
- ○ Pressure Issues
- ○ Complaints
- ○ Non Reads
- ○ Zero Readings
- ○ Turn On-Turn Offs
- ◉ Other

Other Work Order

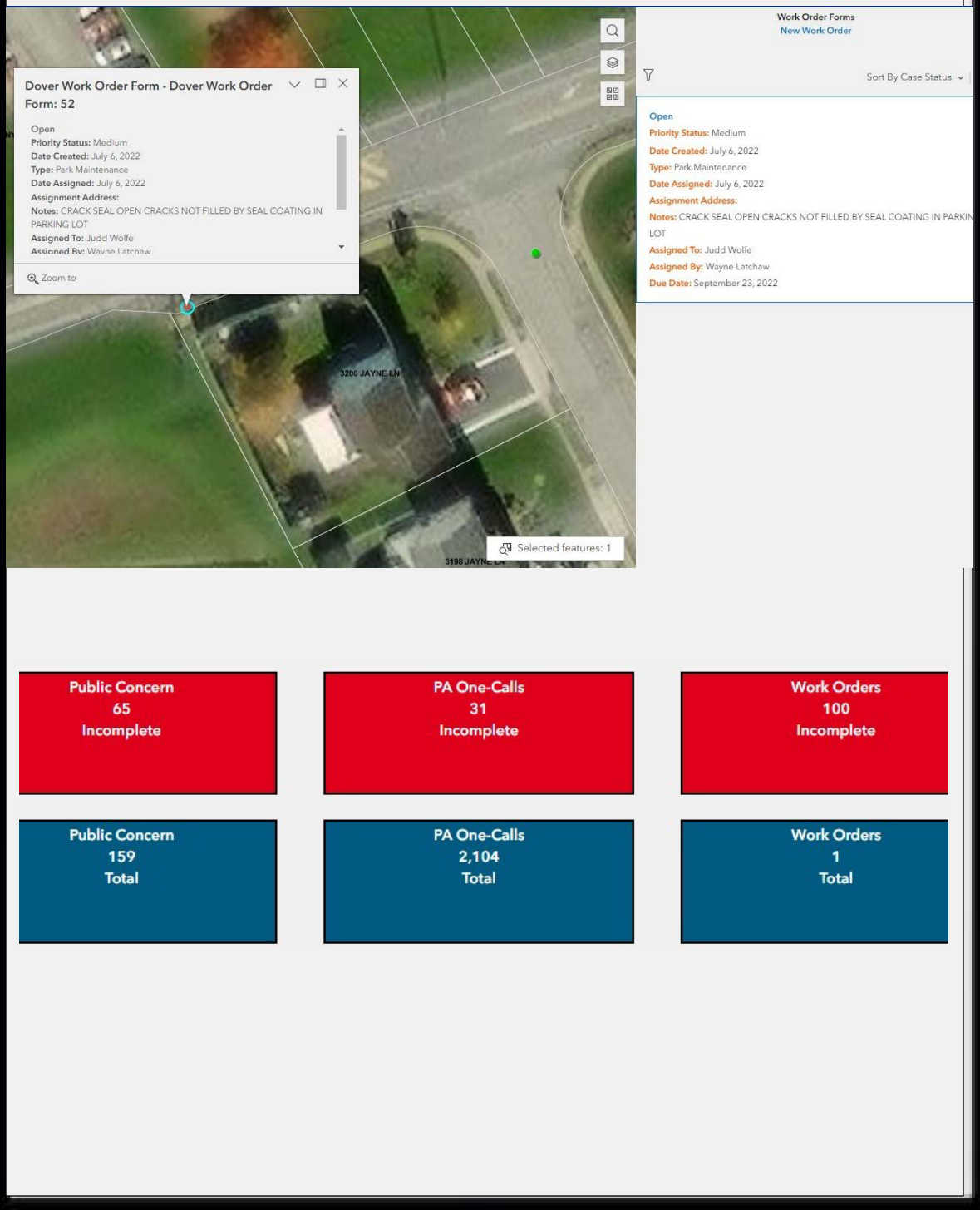
meter clicking

Address Of Assignment

1860 Deerfield Dr, Dover, PA, 17315, USA

Looking for **1860 Deerfield Dr, Dover, Pennsylvania, 17315**?

Work Order Management System



Public Concern 65 Incomplete	**PA One-Calls** 31 Incomplete	**Work Orders** 100 Incomplete
Public Concern 159 Total	**PA One-Calls** 2,104 Total	**Work Orders** 1 Total

PA One-Call

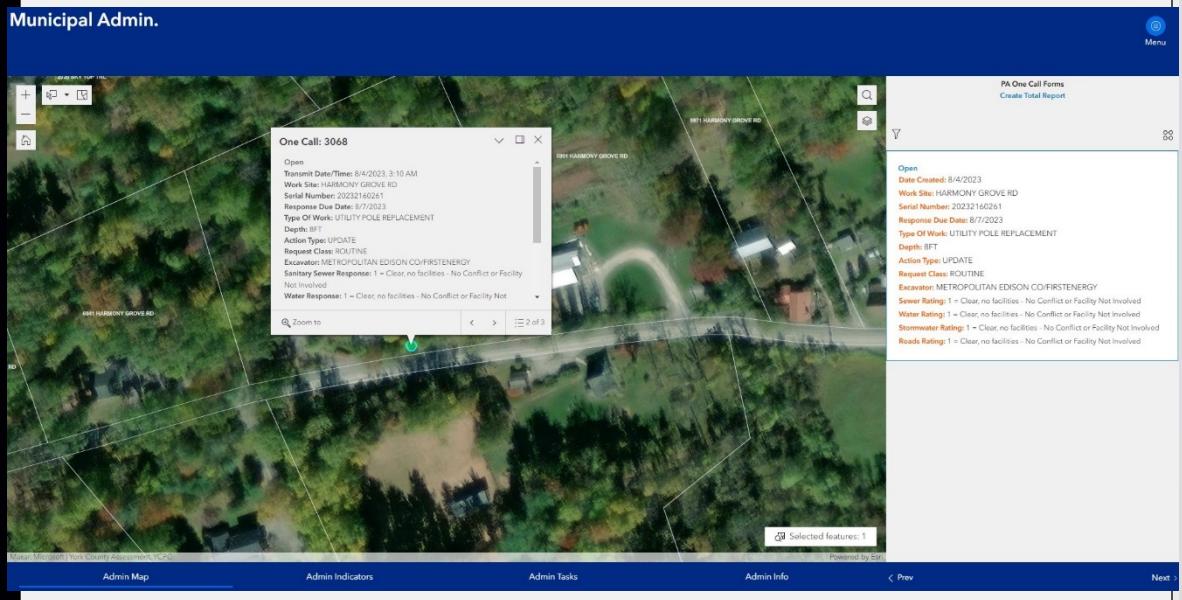
Response & Reporting

Pa One-Call response can be challenging given its potential for emergency status and reporting requirements. Typically, they are time sensitive with a short timeline.

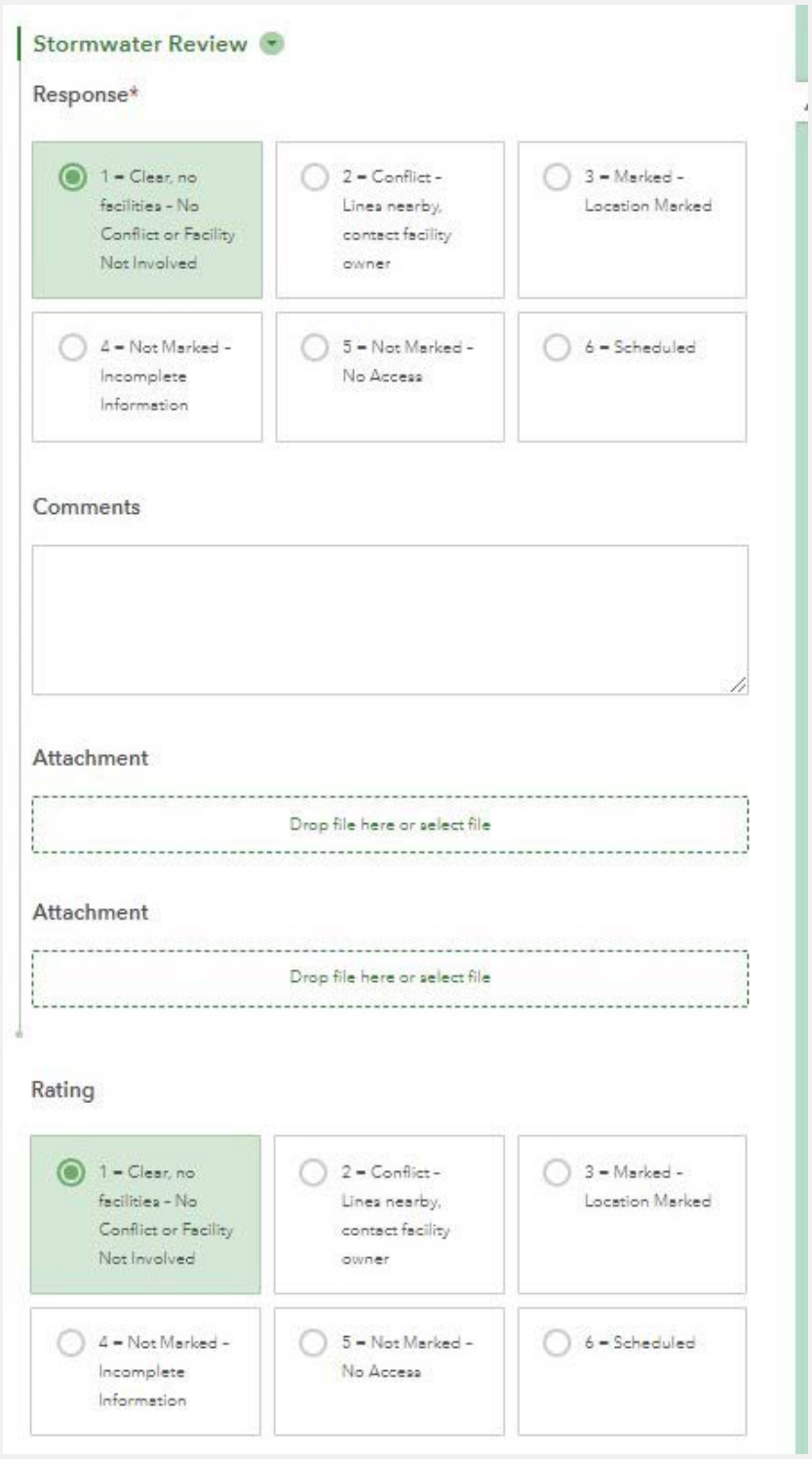
ARROtrac Management Solutions can reduce response time leading to satisfied stakeholders. You will receive comprehensive detailed reports documenting all activities in a GIS format for accurate details and reporting.

- Real time notification of Pa One-Call requests and staff ratings
- Tracking of outstanding and completed One-Call requests
- Integration of One-Call requests with GIS mapping

PA One-Call Response & Reporting



PA One-Call Response & Reporting



Inventory Control

Track your consumables to ensure you have replacement parts on the shelf such as signage, traffic control supplies, parts for snow removal equipment, vehicle maintenance supplies and other consumables typically used by the Public Works Department.

ARROtrac Management Solutions can be set-up to track consumables, re-order parts, and to send alerts that inventories are low, and reorder is required.

- Supplies and consumables management
- Automated alerts of re-order points for inventory replenishment

Equipment Inventory

Open

CAT air filter 206-5234: 4/4

CAT air filter 206-5235: 4/2

CAT coolant: 1/1

CAT fuel filter 299-8229: 4/6 ORDER REQUIRED

CAT Fuel Water Seperator 308-7298: 4/6 ORDER REQUIRED

CAT Oil Filter 7W-2326: 4/6 ORDER REQUIRED

Chainsaw chaps: 1/0

Chainsaw helmet with face shield: 1/0

Chicken wire: 1/0

CL -17 New CL-17: 0/0

Cl-17 bottle tubing: 5/2

Cl-17 communication wire block: 1/3 ORDER REQUIRED

Cl-17 stir bar: 6/6

Clear flex seal: 1/0

CLR cleaner: 1/0

Colorimeter For CL-17: 4/6 ORDER REQUIRED

Colorimeter pressure plate tubing 4271700: 5/6 ORDER REQUIRED

Colorimeter screws : 2/2

Colorimeter tubing : 2/2

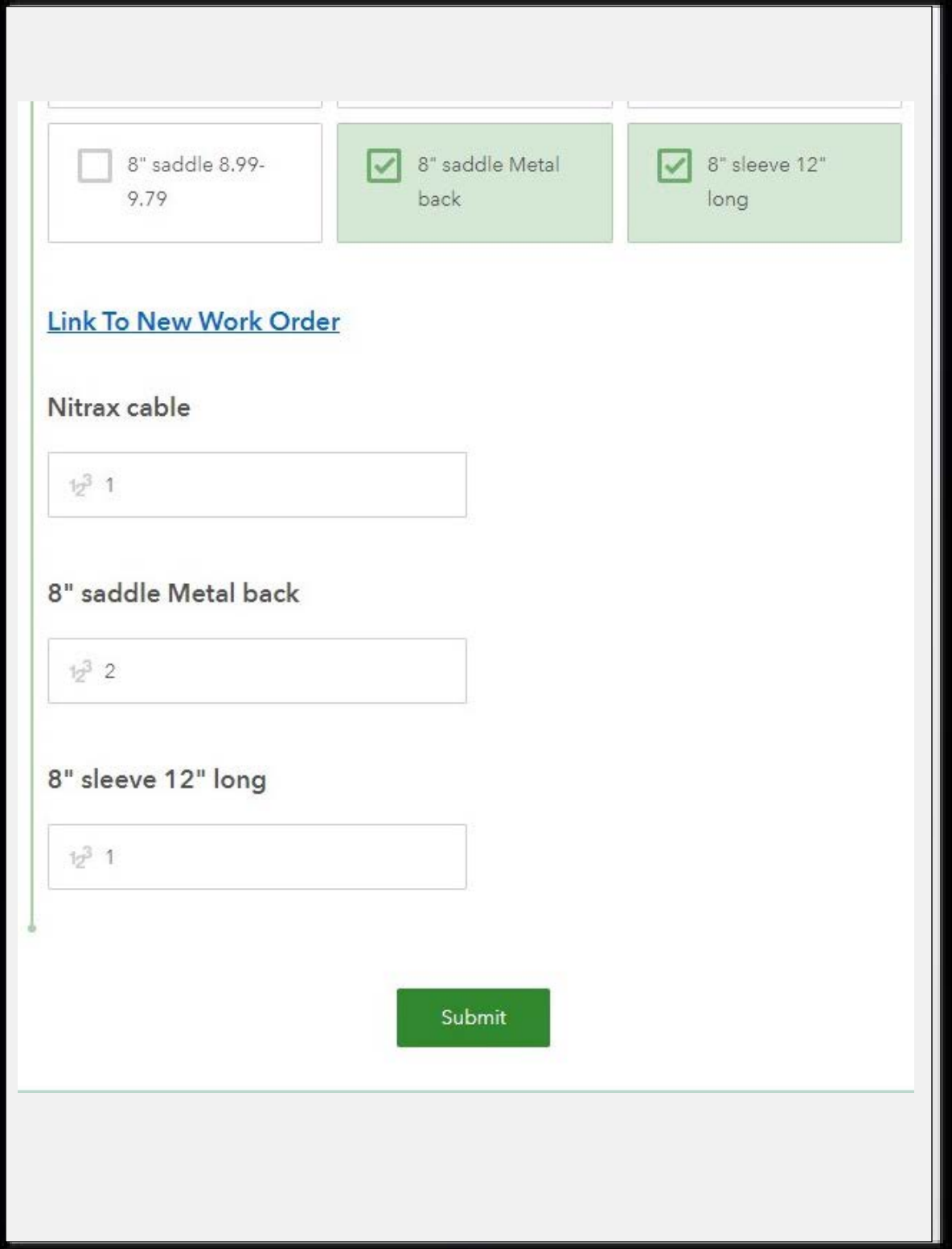
Compressor oil: 1/0

Copper shut off tool Copper crimper: 1/0

Coupling 3/4 CTS x 3/4 CTS quick joint: 35/5

Coupling 3/4 flare x 3/4 CT's quick joint: 6/5

Crack sealer Crack stuff: 2/0


8" saddle 8.99-9.79
8" saddle Metal back
8" sleeve 12" long
Link To New Work Order
Nitrax cable
1
8" saddle Metal back
2
8" sleeve 12" long
1
Submit

Facilities & Utility

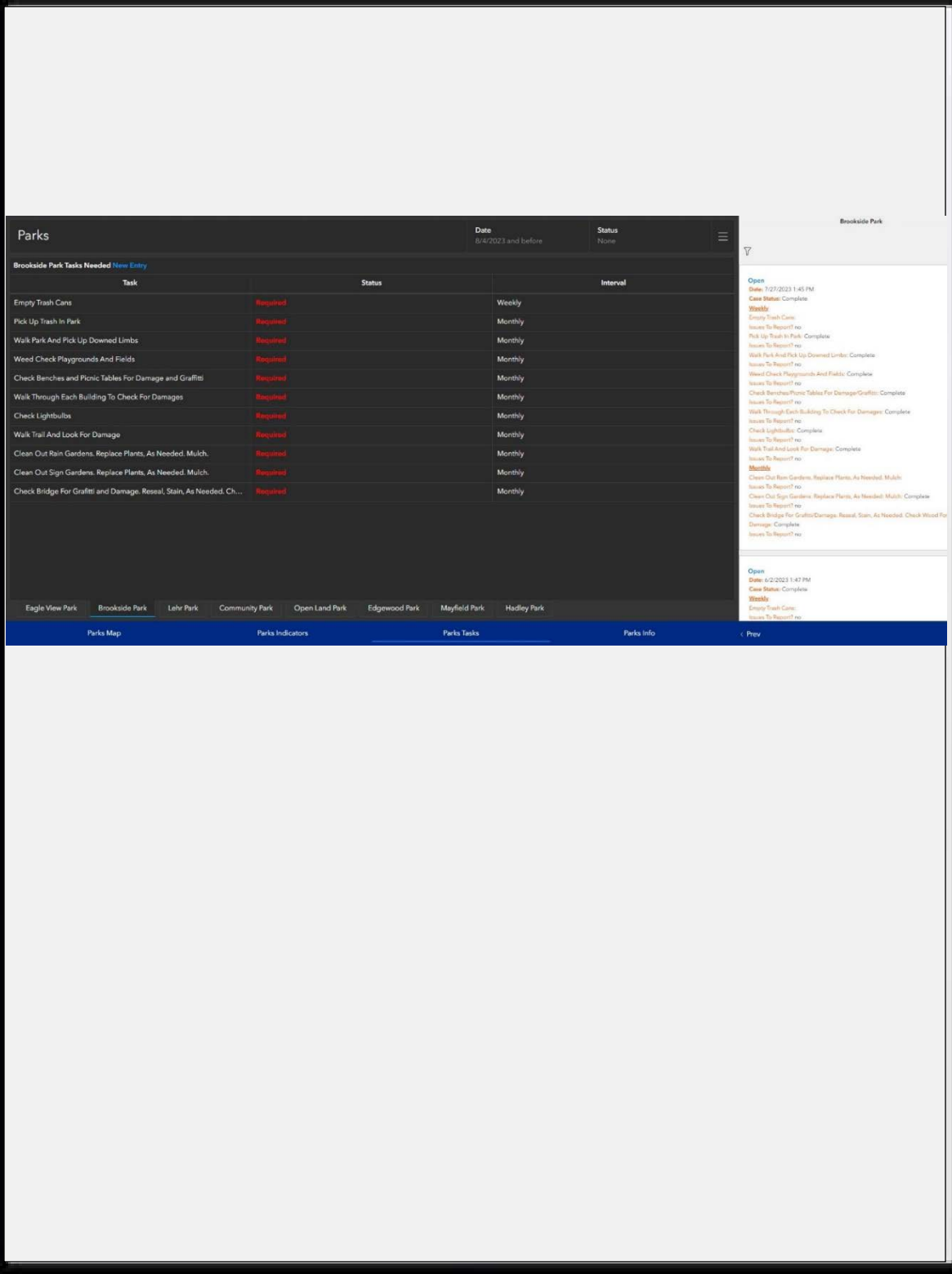
Property Management

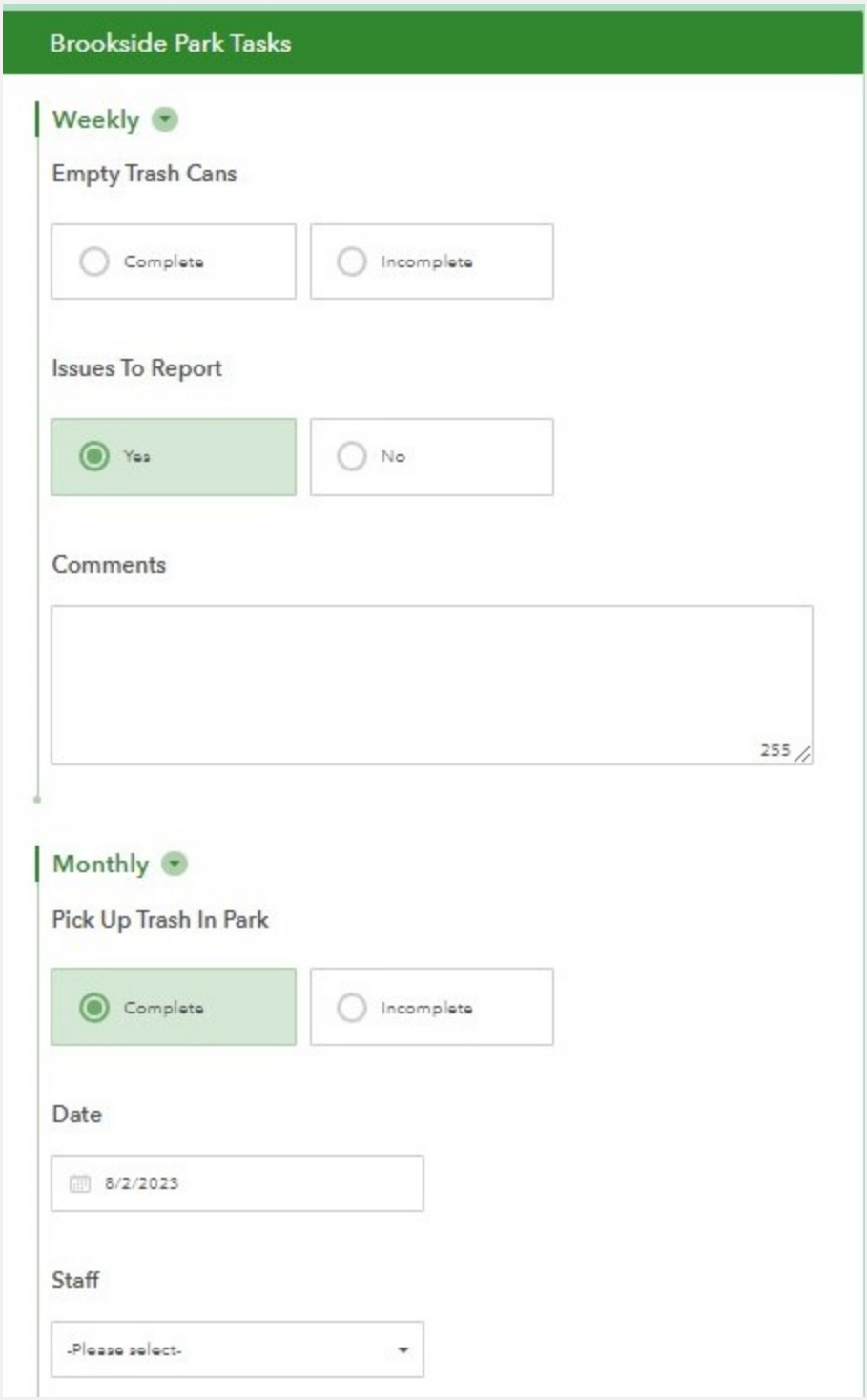
Property management is typically addressed on an as-needed basis. After work is completed, there is limited documentation available. How old are roofing shingles and when will they reach their life expectancy? When was the last time your steel holding tanks were inspected or painted?

ARROtrac Management Solutions software will generate work orders automatically for those tasks that are repeatable and track all other maintenance activities. The monthly or quarterly report can be generated to list all projects still open and those that were completed.

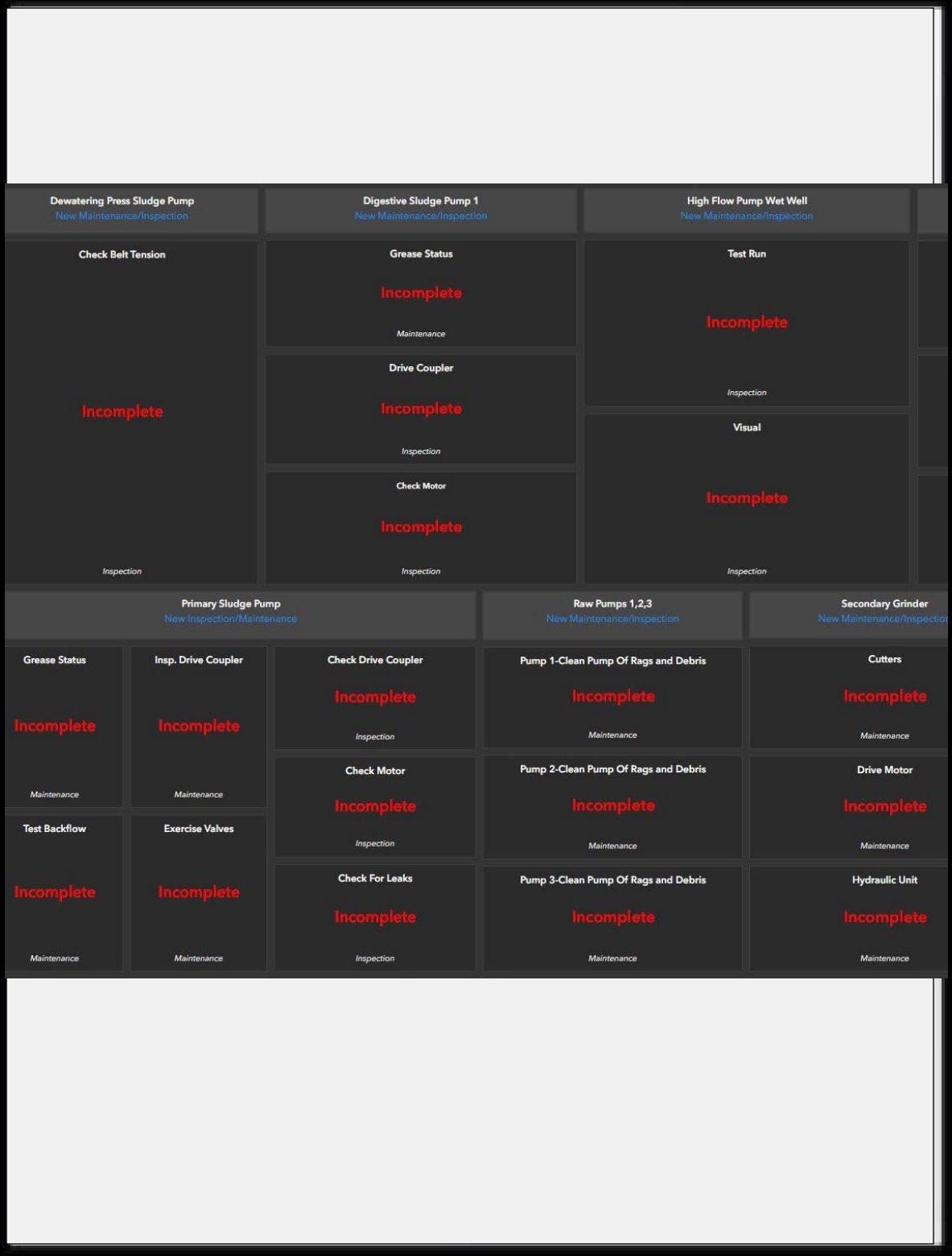
- Track building and property maintenance
- Automated work orders for building and grounds maintenance
- Staff assignments and task tracking

Facilities & Utility
Property Management




Brookside Park Tasks
Weekly
Empty Trash Cans
Complete
Incomplete
Issues To Report
Yes
No
Comments
255
Monthly
Pick Up Trash In Park
Complete
Incomplete
Date
8/2/2023
Staff
-Please select-

Facilities & Utility
Property Management



Equipment Maintenance Schedules

ARROtrac Management Solutions offers automated reminders and tracking for equipment maintenance.

You can track equipment useful life and replacement schedules. Including but not limited to exercising valves, pump maintenance, distribution and collection system maintenance, booster station, and pump stations, etc. You have the benefit of automated reminders and notifications, and the ability to assign staff and track progress. Forms can be customized to your specific equipment. Create custom monthly reports to track maintenance and more.

- Automated reminders and tracking for equipment maintenance
- Identify equipment useful life and track replacement schedules
- Create summary reports
- Automated reminders/notifications
- Staff assignments and tracking
- Customized maintenance forms and documentation

Equipment Maintenance Schedules

Sanitary Sewer	Date	Status
	9/15/2023 and before	None

Vehicle Inspections New Entry

Truck Number	Vehicle Make | Model | Year	Status	Next Due Date
18	Ford | P/U Utility | 2011	Required	
28	Sterling | Flush/Vac Truck | 2003	Required	
35	P.J. Trailer Mfg CO. | Trailer | 2019	Required	
48	Chevy | P/U | 2012	Complete Open Form	10/31/2023
49	Pequea | Trch20 | 2019	Required	
69	Ford | F550 | 2020	Complete Open Form	12/31/2024

Good morning,

This e-mail serves as a reminder for the Borough's utility staff to complete the tasks that are required on a monthly basis.

Please note, this email only contains tasks that are required on a monthly basis. You may have received a similar email of tasks that also need to be completed pertaining to a different maintenance schedule.

Operations Building

Dewatering Press Sludge Pump
Make Model SN#
Vogelsang Rotary Lobe A22599

Maintenance
Belt Tension

Link to maintenance/inspection form: Dewatering Press Sludge Pump

Digested Sludge Pump 1
Make Model SN#
Vaughn H3M6-080 26424A

Maintenance
Grease

Inspections
Check Drive Coupler, Motor

Link to maintenance/inspection form: Digested Sludge Pump 1 Maintenance

High Flow Pump Wet Well
Make Model SN#
A. Marley Co. S6L 1000M3-6 25003

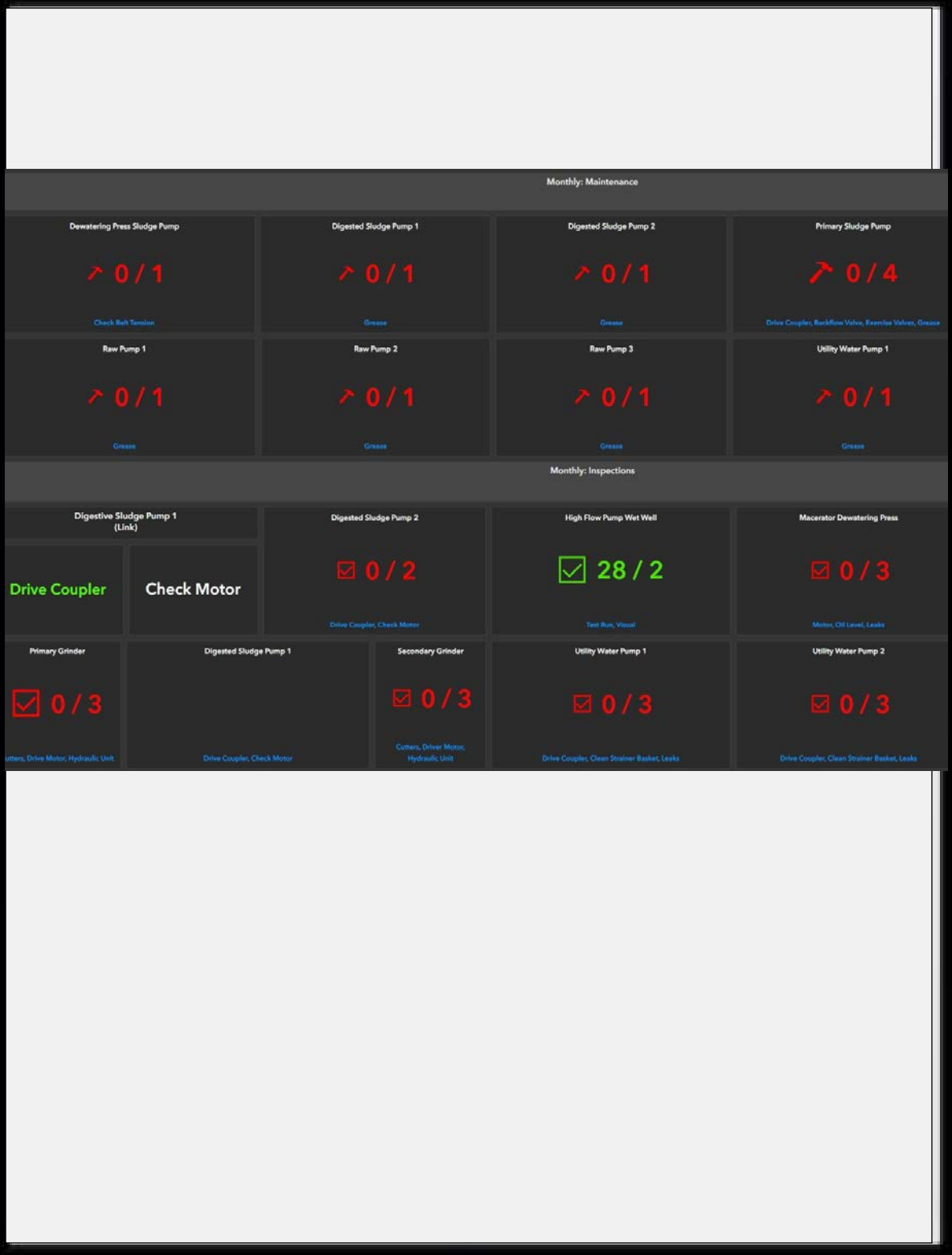
Inspections
Test Run, Visual

Link to maintenance/inspection form: High Flow Pump Wet Well

Macerator Sludge Press
Make Model SN#
Vogelsang A900974

Inspections
Check Motor, Leaks, Oil Level

Equipment Maintenance Schedules



Public Contact

Reporting & Tracking

What is more important than ensuring a positive experience when customers reach out to your staff either by phone, email, or your website portal?

ARROtrac Management Solutions can immediately log the contact and initiate a response. A work order can be instantly generated alerting staff if an emergency, or immediate response is required. Once a work order is generated and distributed to appropriate staff, **AMS** will track the work order with timed reminders to ensure your customer has a prompt reply and response. Monthly reports can be generated to track customer interaction and time to resolution.

- Digital, fillable reporting form on the municipal website
- Notification upon public report submissions
- Reporting form customization
- Mapping locations of public reports
- Internal public contact/report prioritization and tracking
- Resolution follow-up/communication

Public Contact Reporting & Tracking

Open
Date: 6/27/2023
Name:
Address:
Phone:
Concern Type: Programs & Events
Concern:

Open
Date: 7/31/2023
Name: Dawn
Address:
Phone:
Concern Type: Parks & Recreation
Concern: Hello! Just a quick question. I am interested in having a tree planted in memorial to my uncle who was a Marine and did a lot of service for Toys for Tots in the area and was just interested in how I would go about doing that?

Open
Date: 6/19/2023
Name:
Address:
Phone:
Concern Type: Parks & Recreation
Concern: for your dover days are you looking for any additional vendors? I travel and sell my handcrafted wine with a traveling pop up bar

‹ Prev Next ›

Public Contact Reporting & Tracking

Dover Township Public Concern Form (Admin)

Public Information

Your Name*

Your Address*

Parcel Address

Phone Number*

E-Mail

Confirm E-Mail Address

Date of Concern/Comment*

8/4/2023

Location of Concern/Comment*

Public Contact Reporting & Tracking

Which Best Describes Your Type of Concern/Comment*

○ Leaf Collection	○ Building & Permits	◉ Code Enforcement & Property Maintenance
○ GIS & Mapping	○ Parks & Recreation	○ Programs & Events
○ Public Works Director	○ Roads, Streets & Highways	○ Sanitary Sewer Collections
○ Stormwater Management & MS4	○ Trash & Recycling	○ Utility Billing (Water & Sewer)
○ Water System	○ Website	○ Zoning

Please Describe Your Concern/Comment In Detail*

255

Do You Want To Receive Future Electronic Correspondence Regarding Your Submission?*

○ Yes	◉ No

Attachment

Drop file here or select file

Attachment

Drop file here or select file

Attachment

Drop file here or select file

Lead & Copper Rule

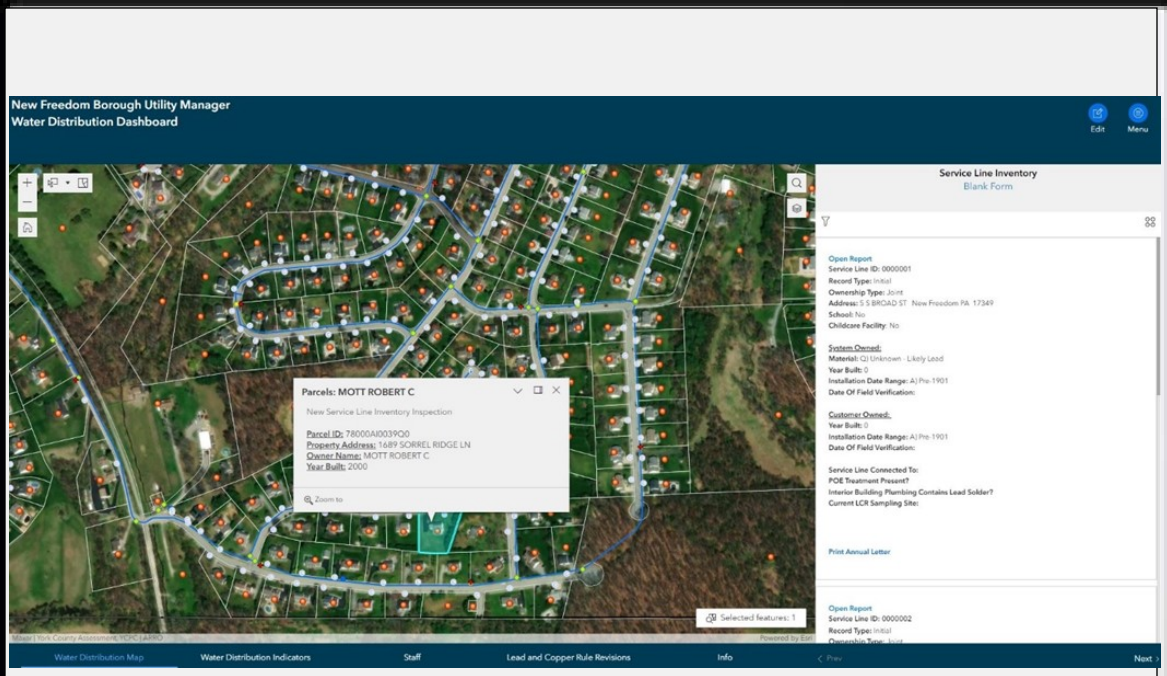
Inventory & Replacement

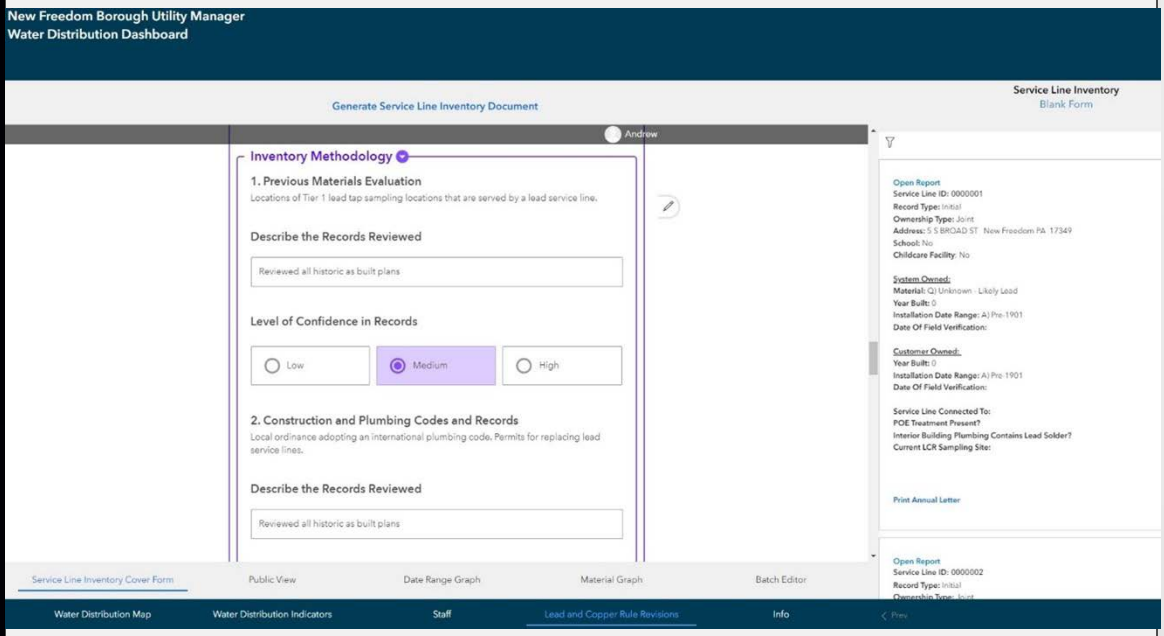
The current Lead and Copper Rules Revisions (LRCC) requires you to meet a compliance deadline of October 16, 2024 to submit a full lead line inventory to your State Environmental Agency. Not only must you categorize four required categories of service line type (Lead, Galvanized Requiring Replacement, Non-Lead, and Lead Status Unknown), but you must back up each categorization with a host of qualifying documents for submission to State and Federal officials.

ARROtrac Management Solutions can capture all your supporting data, be formatted to meet LCRR reporting requirements, and populate the forms as required by State law. The software input screens allow for straightforward input of data to assist your staff in completing the reports.

- Digitizing lead service line inventory
- Creating a fillable input form to populate lead service inventory
- Integrate county parcels and property records to identify likely lead service line properties
- Identify likely hot spots for lead service liens within municipality
- Tracking lead service line replacements
- Automate letter, report creation

Lead & Copper Rule
Inventory & Replacement





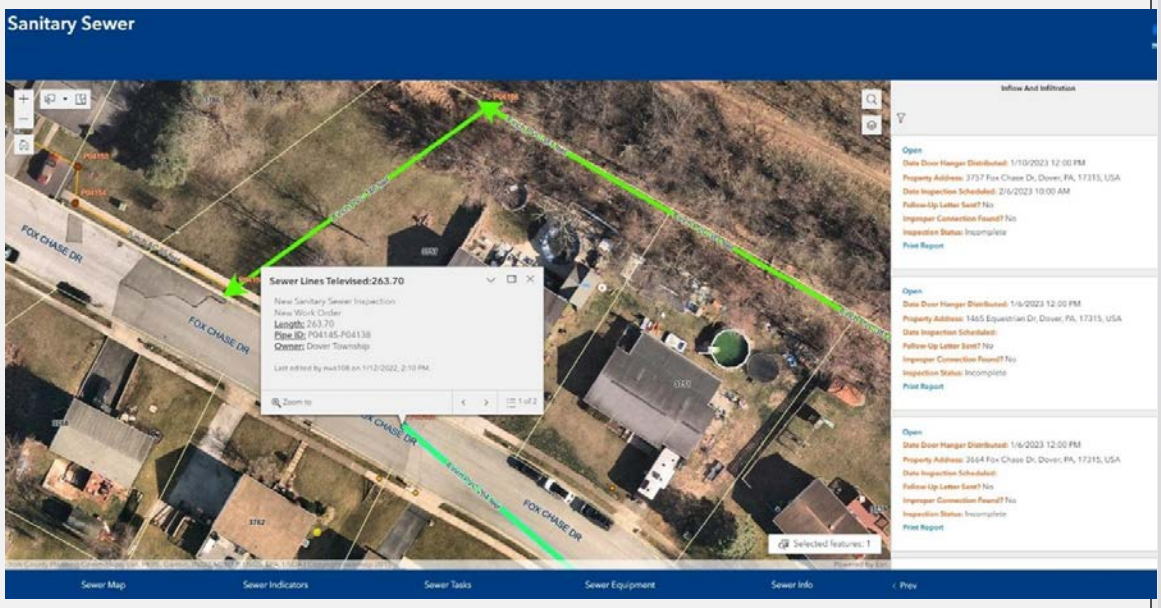
Collection System Maintenance

ARROtrac Management Solutions brings you a specific module for collection system maintenance. Even though you may have many miles making up your sewer system, it can help you track your entire system easily and in real time.

AMS will help you identify potential problem areas in your system. It can alert you to above average service for a particular pump station or identify a section in your collection system that experiences higher flows than typical, allowing you to target and investigate. You can set up custom reminders for problem areas in addition to routine regular inspections and set up custom reports of all activity relating to your collection system.

- View/update collection system map on desktop/mobile devices
- Document inspection/maintenance upon assets
- Create digital, customized inspection and maintenance forms
- Automate notifications for required activities
- Online-based data portal to view utility locations, staff activities, and other relevant data
- Create summary reports
- Integrate utility mapping with other data sources and layers

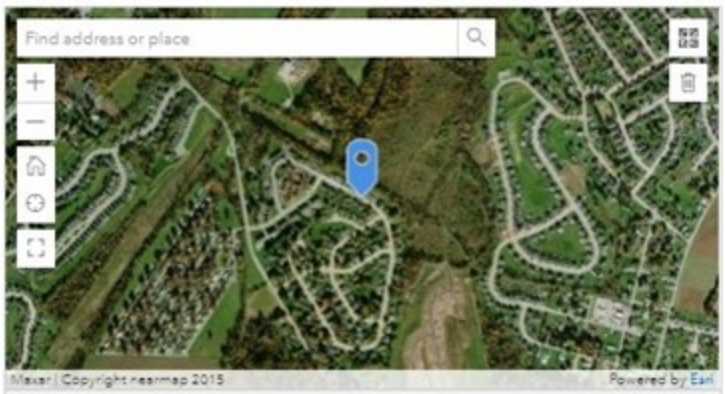
Collection System Maintenance



Collection System Maintenance

Manhole Inspection Form

Location*



Lat: 39.998833 Lon: -76.823220

Inspection Information

Manhole Inspection For (Manhole ID):*

P04145

Date And Time Inspected*

8/4/2023 10:54 AM

Inspected By*

-Please select-

Rainfall (Last 24 Hours)

0.0 to 0.5 | 0.5 to 1.0 | 1.0+

Rainfall (Last 48 Hours)

0.0 to 0.5 | 0.5 to 1.0 | 1.0+

Has The Property Owner Contacted The Township To Schedule An Inspection?

- ○ Yes
- ◉ No

Follow Up Letter Sent?

- ○ Yes
- ◉ No

Correspondence Comments

Inspection Date And Time

MM/DD/YYYY hh:mm

Property Owner Present?

- ○ Yes
- ○ No

Observations (check all that are appropriate)

Outside

Roof/Spouting Drains drain to daylight?

- ○ Yes
- ○ No

Sump Pump discharges to daylight?

- ○ Yes
- ○ No

Water Distribution

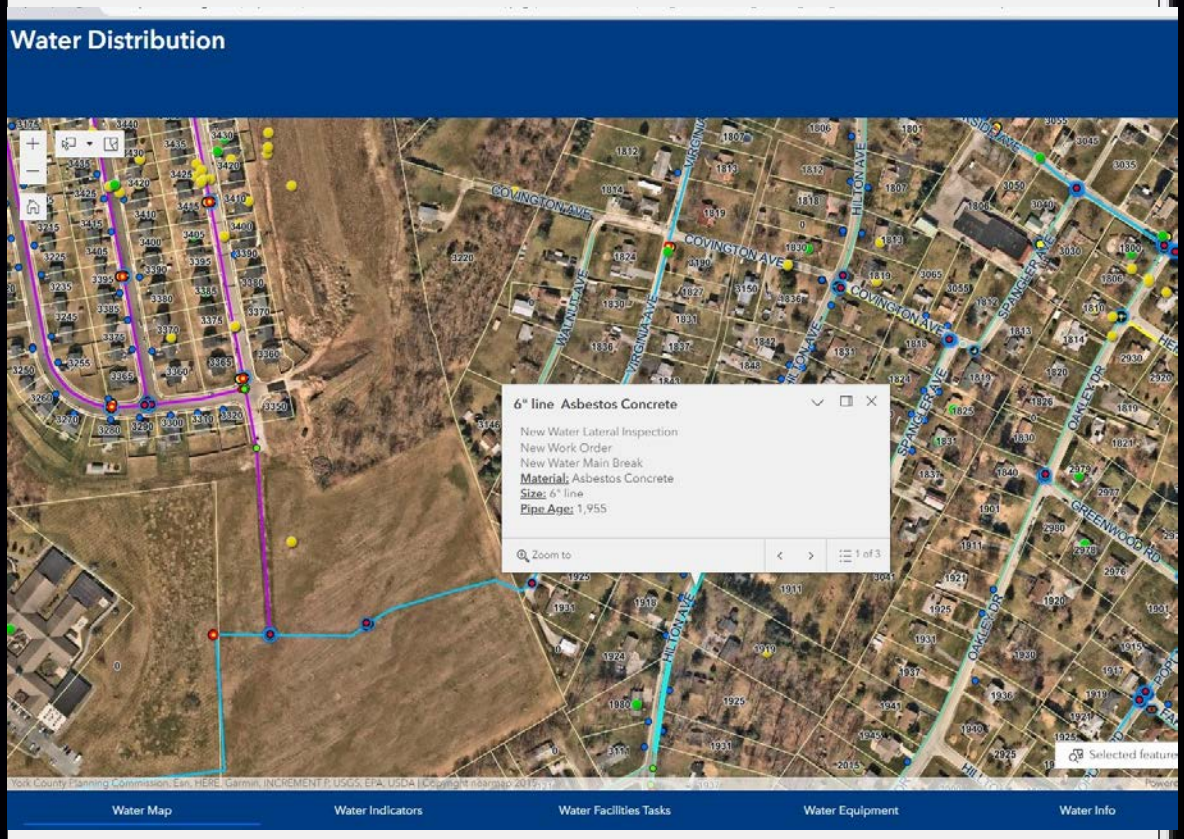
System Maintenance

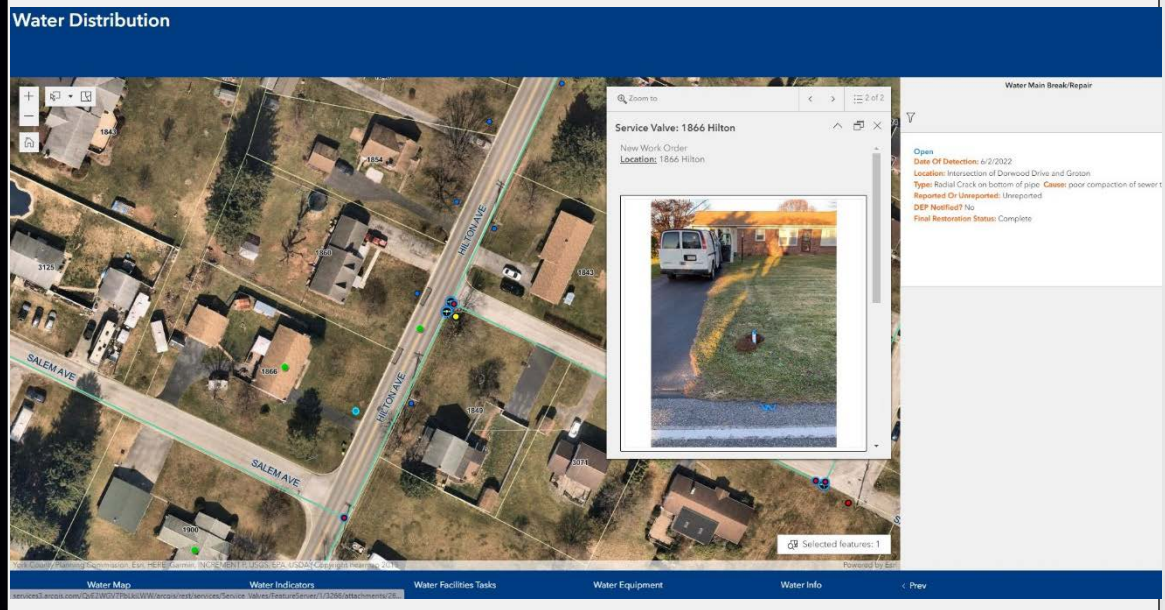
- **ARROtrac Management Solutions** brings you a specific module for water distribution system maintenance. Even though you may have many miles making up your distribution system, **AMR** can help you track your entire system easily and in real time.

AMS will help you to identify potential problem areas in your system by tracking spikes in usage, geographically identify areas in your system with a higher percentage of service calls, or leaks. It could identify booster stations that are trending higher maintenance costs. You can setup routine maintenance visits to wellheads, tankage, booster stations, and more.

- View/update distribution system map on desktop/mobile devices
  - Map new feature locations and collect attribute information
  - Document inspection/maintenance upon assets
  - Create digital, customized inspection and maintenance forms
  - Automate notifications for required activities
  - Online-based data portal to view utility locations, staff activities, and other relevant data
  - Create summary reports
  - Integrate utility mapping with other data sources and layers

Water Distribution System Maintenance





Cause of Break or Leak*

Hydrants Flushed*

- 0
- 1
- 2
- 3
- 4

Number Of Samples Taken*

DEP Notified?*

- Yes
- No

PA One Call Serial #

Link To New Work Order

Final Restoration Status*

- Complete
- Incomplete

Staff Name*

Nathan Stone

Date Report Submitted*

8/4/2023

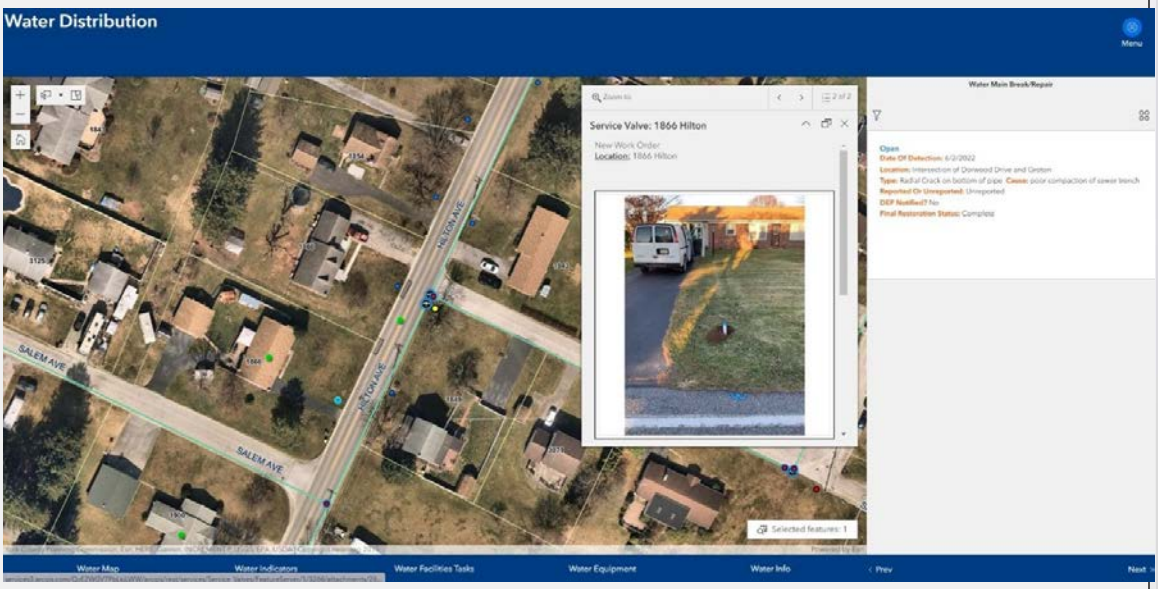
Water Meter Replacement

The most common reason for revenue loss is older water meters. As meters age, their accuracy begins to wane leading to under reported water flow and hence, lost revenue.

ARROtrac Management Solutions can track every water meter in your system including location, type, age, and any other attributes you need to know. You can then establish a replacement plan, and budget a yearly allowance for meter replacements. **AMR** can track your replacement rotation schedule based on a frequency that you select.

- View/update water system map on desktop/mobile devices
- Map new water meter locations and collect attribute information
- Track water meter locations, ID, and other attributes
- Create digital, customized inspection and maintenance forms
- Online-based data portal to view water meter locations, staff activities, and other relevant data
- Create summary reports

Water Meter Replacement



Fire Hydrants

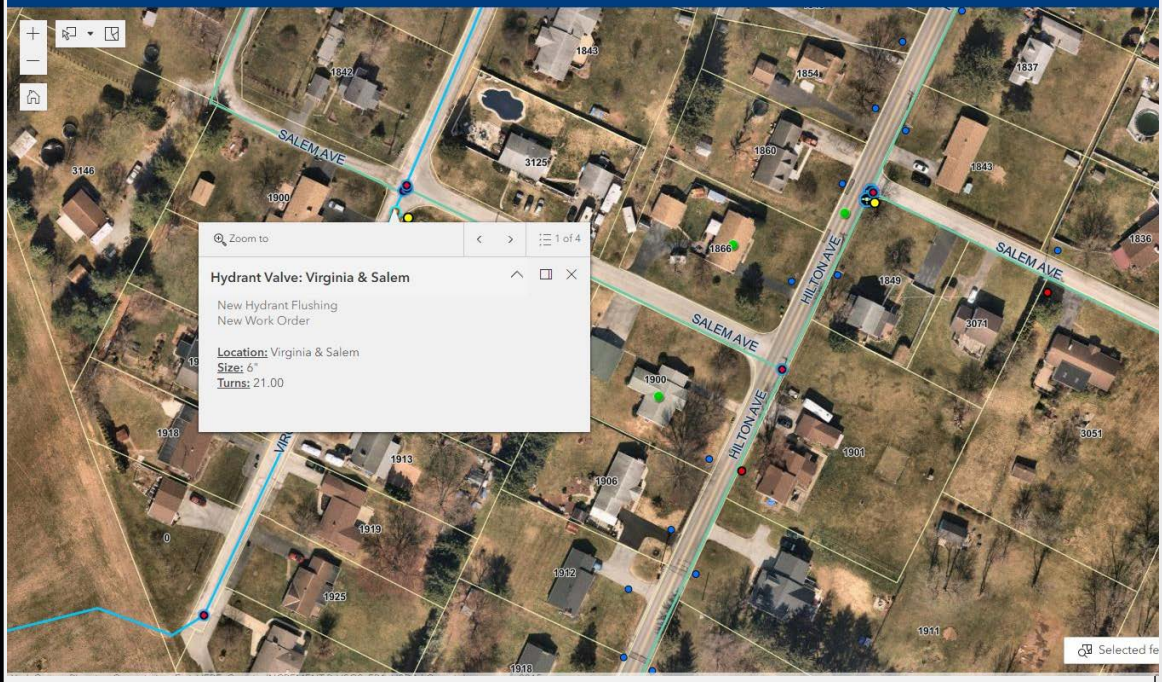
ARROtrac Management Solutions software can not only document the location of the hydrants in your community, but also the attributes such as pressures and capacities. This allows your local fire department, in an instant, to know the capacities of the hydrants closest to an emergency event and direct apparatus such as pumpers matching their capacity with a capacity of the hydrant.

AMR can establish maintenance schedules for hydrant flushing and generate maintenance reports as work is performed.

- View/update water system map on desktop/mobile devices
- Map fire hydrant locations and collect attribute information
- Track hydrant locations, ID, and other attributes
- Create digital, customized inspection and maintenance forms
- Online-based data portal to view water meter locations, staff activities, and other relevant data
- Create summary reports

Fire Hydrants

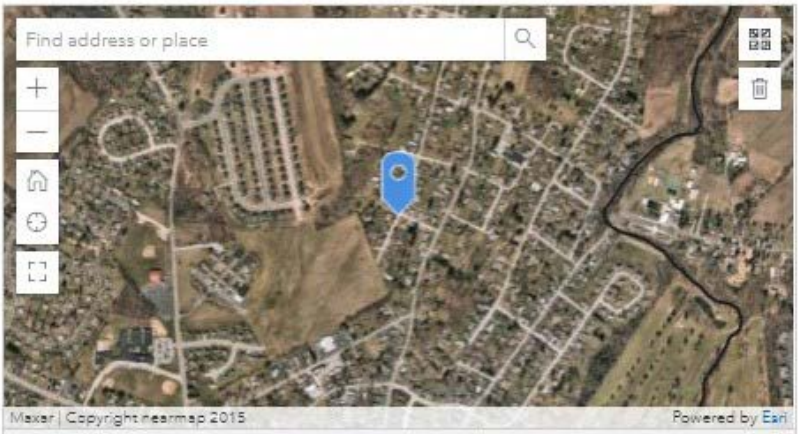
Water Distribution



Fire Hydrants

Fire Hydrant Flushing

Location*



Lat: 39.989265 Lon: -76.815927

Property Address*

Virginia & Salem

Date And Time*

8/4/2023 10:47 AM

Gallons Per Minute*

Total Gallon Loss*

CL Residual*

Wastewater Device Management, Fog Devices, and Septic Systems

If your community requires regular septic tank pumping, **ARROtrac Management Solutions can be set-up to manage the process based upon your specific ordinance, including frequency reminders sent directly to owners, and tracking their proof of pumping and disposal.** Fats, oils and grease are the problem children of any collection system and pump station, **AMS** can track all properties that require FOG removal devices and maintain schedules and inspections to ensure devices are working properly and owners are following maintenance protocols.

- Identify properties with private wastewater devices
  - Oil Water Separators
  - On Lot Septic Tanks
  - Grease Traps
  - Pretreatment Devices
- Create database of properties with wastewater devises and customized service, inspection schedules based upon utility/municipal ordinance
- Automated letter creation for required submissions demonstrating service
  - Reminders
  - Past-Due Notifications

Wastewater Device Management, Fog Devices, and Septic Systems

- Internal Report Summaries
- Digital, fillable forms for haulers, property owner to submit proof of service
- Digital, customized inspection forms for utility/municipal staff
- One portal showing each property's submission status, property owner information, and other relevant attribute information
- Integration with county parcels and other third-party data
- Customized helpdesk, support tool creation for customers
- Customer tracking

Wastewater Device Management, Fog Devices, and Septic Systems

publicservices <publicservices@bethlehemtwp.com>
To

Reply | Reply All | Forward

Thu 8/3/2023 9:06 AM

Follow_Up_Inspection_Mitzis Table_ID438_08-03-2023.pdf
128 KB

Hello,
Please find attached a summary of the recent Fats, Oils, and Grease (FOG) inspection conducted at your facility by Bethlehem Township Municipal Authority (BTMA) representatives. Refer to the following critical items noted on the report:

- Overall Inspection Rating: Satisfactory
- Comments and Observations: Kratzer Septic Services was onsite to open and clean the grease trap. Trap was at full capacity before cleaning. Recommend to clean the grease trap on a weekly basis with a full clean once a month with a shop vac while maintaining cleaning records. Kratzer was to leave the bolt off of the grease trap for easy removal of lid for cleaning.
- Action Items:

You are required to address any "Action Items" noted in this report and provide a written response within five (5) days of this email.

Do not reply to this email. Please send the necessary information to the following email address:
pplantone@bethlehemtwp.com

You may also submit a question or request to the Authority using the link below. Please provide your name, location address, permit number, and a valid e-mail address with your submission. The Authority will respond to you submission upon receipt and review.

https://survey123.arcgis.com/share/16a0c6a520b748b0bfe6bd49ca893616?field:emailclass=Inspection%20Response&field:device_type=FOG&field:useremail=Sisterscafe8889@gmail.com&field:permitnumber=438

Thank you for your cooperation. Should you have any questions, please let us know.

Sincerely,

System Operator
Bethlehem Township FOG Program
610-814-6424

FOG FOLLOW-UP INSPECTION REPORT

Bethlehem Township

3535 Orth Street

Bethlehem, PA 18020

Overall Inspection Rating: Satisfactory

Comments And Observations: Kratzer Septic Services was onsite to open and clean the grease trap. Trap was at full capacity before cleaning. Recommend to clean the grease trap on a weekly basis with a full clean once a month with a shop vac while maintaining cleaning records. Kratzer was to leave the bolt off of the grease trap for easy removal of lid for cleaning.

Action Items:

Customer ID: 438

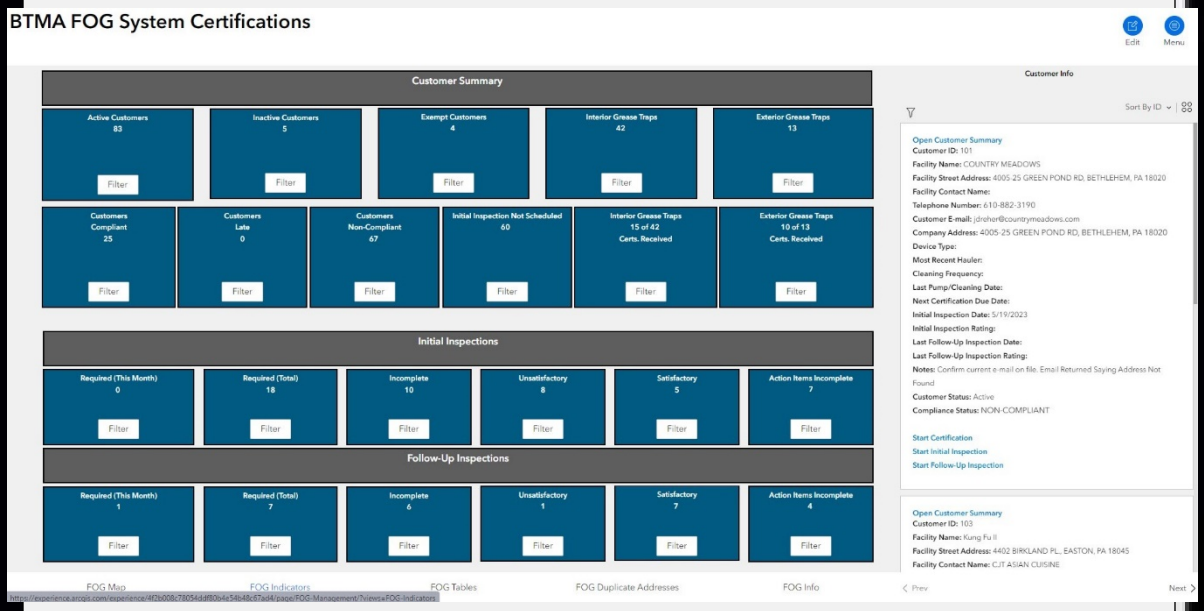
Business Name: Mitzi's Table

Date: 2023-08-02

Business Address: 3650 Linden St, Bethlehem, PA, 18020

Hours Of Operation:

Wastewater Device Management, Fog Devices, and Septic Systems



Wastewater Device Management, Fog Devices, and Septic Systems

Business Activity Information

Narrative Description Of The Primary Activity At The Facility

Example: "We are a diner serving breakfast, lunch, and dinner"

255

Water Sources

Raw Water Sources*

- Public Water Supply
- Private Well(s)

Wastewater Information

Discharge Method For Sanitary Sewage (i.e. waste from restrooms)*

- Public Sewer
- Waste Hauler
- Other

FOG Control Devices

Device Type

Do You Have A Grease Interceptor (Exterior Device) Or A Grease Trap (Interior Device)*

- Grease Interceptor (Exterior Device)
- Grease Trap (Interior Device)
- Both
- N/A - This facility does not have a FOG device

Wastewater Device Management, Fog Devices, and Septic Systems

Self-Certification Date:*

8/4/2023

Please Provide Your Customer ID In The Space Below*

Please Select One Of The Following Options

- (●) I Have Registered Before And Have My Customer ID
- ( ) I Have Registered Before But I Don't Know My Customer ID
- ( ) I Am A New Customer And Need A Customer ID

Customer ID*

Land Use:*

- (●) Residential
- ( ) Commercial
- ( ) Industrial
- ( ) Institutional

Please Select The Following That Applies To Your Property:*

- [x] On-Lot
- [ ] OWS
- [ ] Pretreatment
- [ ] Other