

BERKS COUNTY WATER AND SEWER ASSOCIATION  
VIRTUAL CONFERENCE | JULY 28, 2021

CASE STUDY: GIS WORKFLOW FOR MS4  
KATIE BALTZLEY, GIS ANALYST



SPOTTS | STEVENS | MCCOY  
Engineering, Surveying and Environmental Services  
[ssmgroup.com](http://ssmgroup.com)

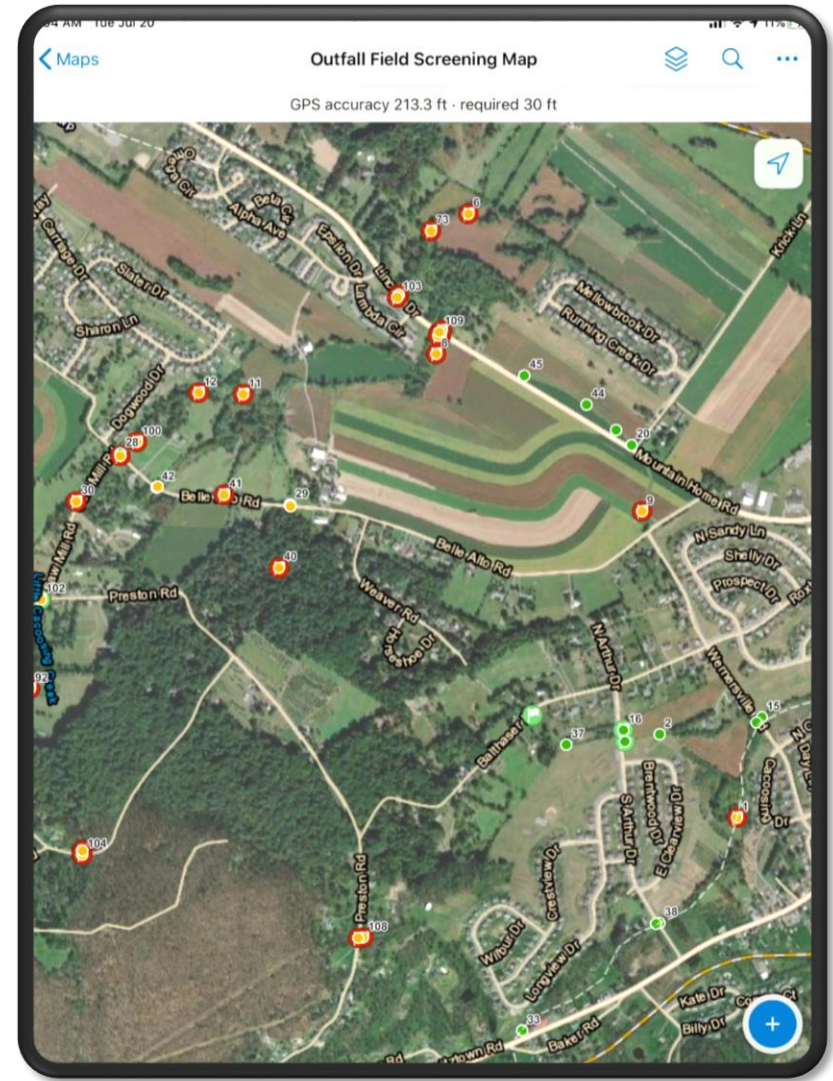
# What we're exploring today!

- GIS Workflow for MS4
  - Making data accessible to operations staff
- Collaborative data exchange
  - Connecting those who know with those who manage
- Mobile database population
  - Capturing institutional knowledge
  - Perform inspections and track maintenance
- QA/QC
- Report generation



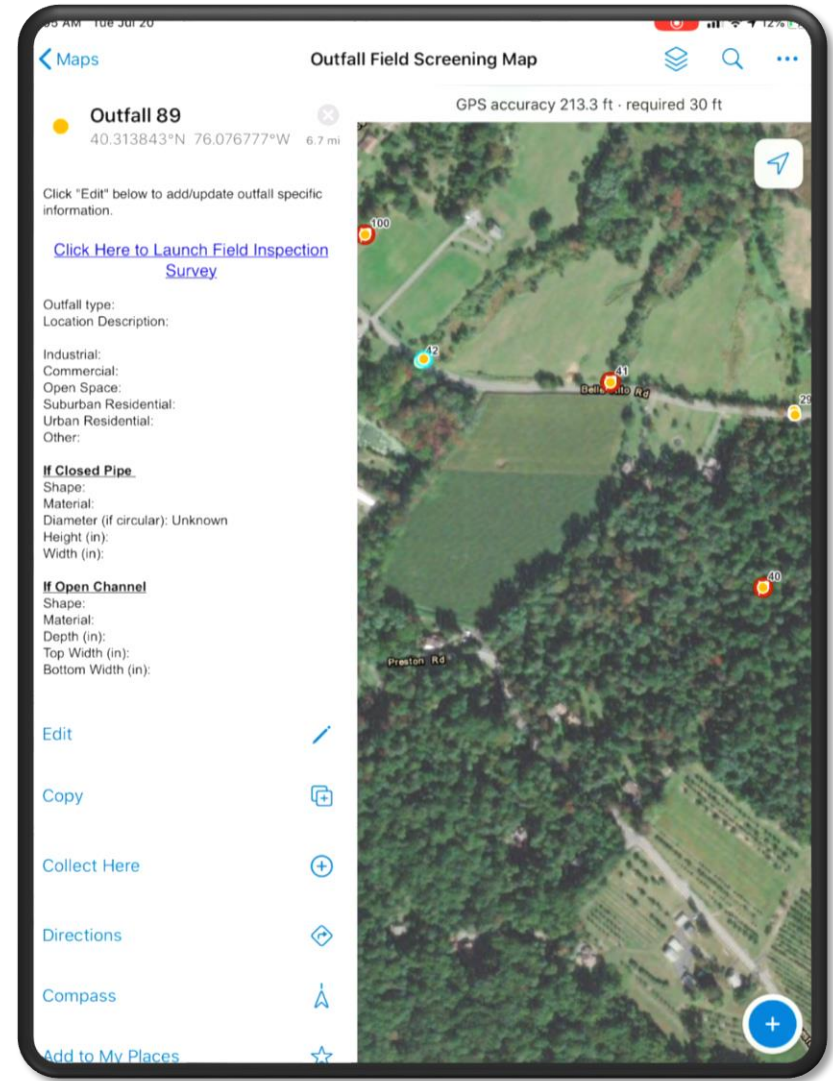
# ArcGIS Collector App

- Interactive map of MS4 assets
- Ability to flag assets
- Add or Update Outfall Attribute Information
- Visually see status of Outfall Inspection



# ArcGIS Survey123 App

- Configured for Client's need
- Ability to auto-populate questions in inspection form
- Attach photos or files to inspection
- Submit inspection right away for QA/QC



# Inspection QA/QC Dashboard

- Outfall 26 - 6/1/2021 Inspection **In Progress**
- Outfall 2 - 5/24/2021 Inspection **Complete**
- Outfall 3 - 5/24/2021 Inspection **Complete**
- Outfall 4 - 5/24/2021 Inspection **Complete**
- Outfall 5 - 5/28/2021 Inspection **Complete**
- Outfall 10 - 6/1/2021 Inspection **Complete**
- Outfall 15 - 7/19/2021 Inspection **Complete**
- Outfall 16 - 5/24/2021 Inspection **Complete**
- Outfall 18 - 6/1/2021 Inspection **Complete**
- Outfall 20 - 5/28/2021 Inspection **Complete**
- Outfall 21 - 6/1/2021 Inspection **Complete**
- Outfall 22 - 6/1/2021 Inspection **Complete**
- Outfall 23 - 6/1/2021 Inspection **Complete**
- Outfall 24 - 6/1/2021 Inspection **Complete**
- Outfall 25 - 6/1/2021 Inspection **Complete**
- Outfall 26 - 6/1/2021 Inspection **Complete**
- Outfall 27 - 6/1/2021 Inspection **Complete**
- Outfall 28 - 7/19/2021 Inspection **Complete**

Last update: a few seconds ago

MS4 - In Office Outfall Screening

Outfall No.

0 selected / 114 records

Discharge Identifier	DMSLat	DMSLon	Permittee Name
111	40 19 28.88470232 N	076 05 35.88119354 W	
59	40 17 47.45801804 N	076 04 15.70420670 W	
92	40 18 29.70297671 N	076 04 53.06023861 W	
58	40 18 38.22838908 N	076 04 57.76224228 W	
64	40 18 38.42607107 N	076 04 57.54423142 W	
110	40 18 38.58403258 N	076 04 51.62818800 W	
76	40 18 38.60826624 N	076 04 51.62758965 W	

Choose an outfall from the table above or the map to the right.



# Engineer Review Dashboard

MS4 Outfall - Engineer Review Dashboard

Outfall Filter  
All Outfalls

Date Range Filter  
No date selected

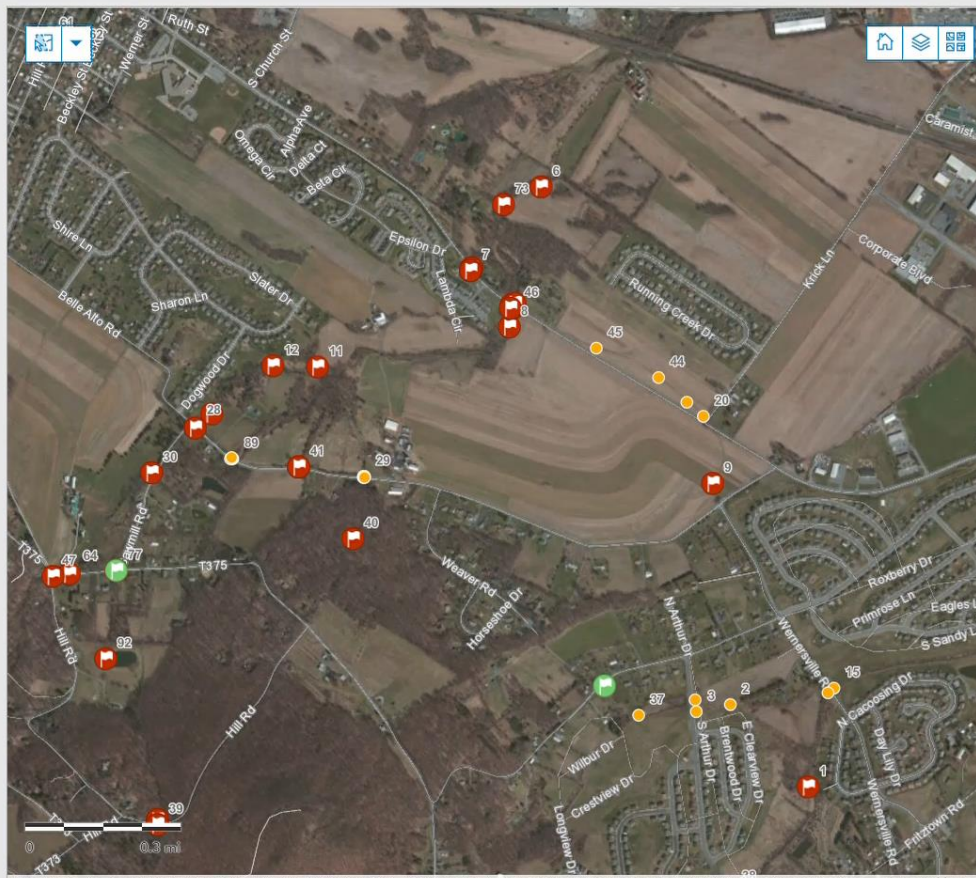


1 of 33

Outfall Inspection

## Outfall 99 - 7/19/2021 - Complete

Discharge ID	99
Inspector	R.Wilkes,K.Treese
Inspection Date	7/19/2021
Location Description	First pipe on lower end of Point Rd off 422
Dry Weather Inspection	Yes
Image	OFIMAGE-20210719-130557.jpg
Outfall Type	Closed Pipe
Submerged	
Dry Weather Flow	No
Flow Description	
Flow Color	
Color Description	
Flow Odor	
Odor Description	
Change in Receiving Water	
Observed Change Description	
Flow Deposits	
Deposit Description	
Flow Samples	
No. of Samples	
Illicit Discharge	
Illicit Discharge Comment	
Illicit Discharge Actions	
Flow Rate (GPM)	



Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA | Esri, Maxar, Earthstar Geographics, CNES/Airbus DS, and the GI... Powered by Esri

**73**  
Outfall(s) to be Checked

**2**  
Outfall Location Change(s)

- Outfall 1**  
Check Outfall
- Outfall 6**  
Check Outfall
- Outfall 7**  
Check Outfall
- Outfall 8**  
Check Outfall
- Outfall 9**  
Check Outfall
- Outfall 11**  
Check Outfall
- Outfall 12**  
Check Outfall
- Outfall 17**  
Check Outfall
- Outfall 18**  
Check Outfall
- Outfall 19**  
Check Outfall



# MS4 Report Generation for DEP

**MS4 OUTFALL FIELD SCREENING REPORT**

**BACKGROUND INFORMATION**

NPDES Permit No.: PA

Permittee Name: \_\_\_\_\_

Date of Inspection: 05/24/2021

Land Uses in Outfall Drainage Area

Industrial  Urban Res

Commercial  Suburban

Open Space  Other: A

Inspector Name(s): B. Lanza

TYPE	MATER
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> Steel
<input checked="" type="checkbox"/> Open Channel	<input type="checkbox"/> Concre <input type="checkbox"/> Earthe <input checked="" type="checkbox"/> Rip-R <input type="checkbox"/> Other

Dry Weather Flow Present at \_\_\_\_\_

Description of Flow Rate:

Does the dry weather flow \_\_\_\_\_

Does the dry weather flow \_\_\_\_\_

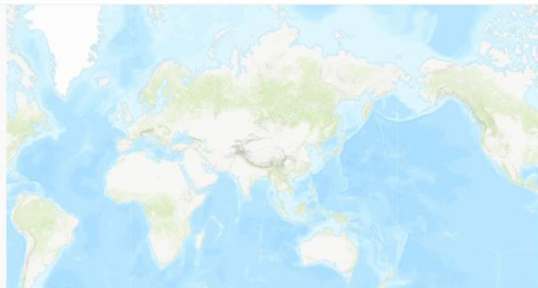
Is there an observed cha  
description below.

Does the dry weather f  
If Yes, provide a descri

ArcGIS Survey123 My Surveys Organization Help

MS4 Outfall Field Screening Overview Design Collaborate Analyze Data Settings

5/6/21 - 7/20/21 Filter Report Export Open in Map Viewer Form view 33/33



Discharge ID	GIS ID	Outfall ID 3-digit	Inspector	Inspection Date	Formatted Date	Location Description	Dry Weath Inspection
4	4	111	R.Wilkes	May 24, 2021	5/24/2021	Bassin at south sandy park	Yes
35	35	110	B.Lanza	May 24, 2021	5/24/2021	West side of Montello Rd	Yes
3	3	120	R.Wilkes	May 24, 2021	5/24/2021	S Arthur	Yes
16	16	121	K.Treese	May 24, 2021	5/24/2021	S Arthur 1	Yes
2	2	119	B.Lanza	May 24, 2021	5/24/2021	S Clearveiw	Yes

1 of 33 selected

**MS4 Outfall Field Screening**

Background Information

Outfall Identifier  
**35**

GIS ID  
**35**

Outfall ID 3-digit  
**110**

Inspector(s)  
• **B. Lanza**

Date of inspection:  
**May 24, 2021**

FRMTDATE  
**5/24/2021**

# What we've learned!

- Asset management for a digital world
  - Making data accessible to operations staff
    - Records management system
- Collaborative data exchange
  - Connecting those who know with those who manage
    - Documenting field photos
    - Correcting locational information
    - Field data collection
    - QA/QC
- Mobile database population
  - Capturing institutional knowledge
    - Adding attribute data in the office or in the field
    - Using form-based surveys to generate reports







**Thanks for joining us!**

Download the slides at [ssmgroup.com](https://ssmgroup.com)

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