

MS4 Stormwater

# Mapping

Requirements and  
Tools Overview

# MS4 Permit Required Mapping

## Tier A Municipalities:

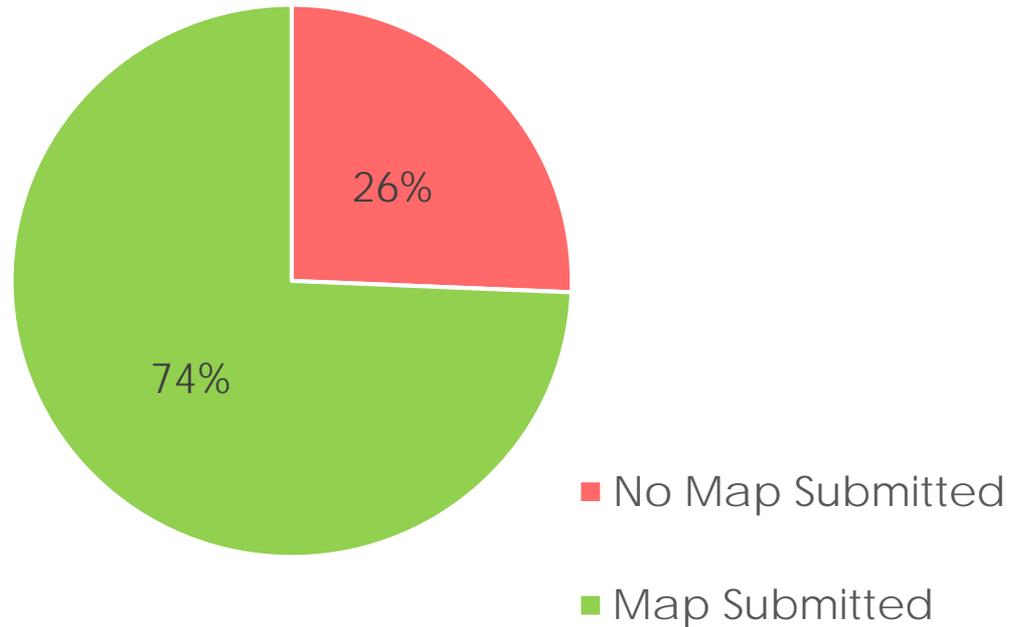
- Part IV.B.6.a of the Tier A MS4 permit requires municipalities to develop, update and maintain an outfall pipe map
  - Submitted to the Department by January 1, 2019
  - Submitted to the Department in an electronic format\* by December 21, 2020

\*This has not yet been defined by the Department

# MS4 Permit Required Mapping

## Tier A Municipalities:

Tier A Municipalities Map Submissions



# MS4 Permit Required Mapping

## Tier B Municipalities:

- No outfall pipe mapping is currently required, however, Tier B municipalities are encouraged to maintain an outfall pipe map

# MS4 Permit Required Mapping

## Public Complexes:

- Part IV.B.6.a of the Public Complex permit requires public complexes to develop, update and maintain an outfall pipe map
  - Submitted to the Department by January 1, 2020
  - Submitted to the Department in an electronic format\* by December 21, 2020

\*This has not yet been defined by the Department

# MS4 Permit Required Mapping

## Public Complexes:

- Part IV.C.1.a of the Public Complex permit requires public complexes to develop, update and maintain an inventory of all stormwater facilities;
  - Submitted to the Department by January 1, 2020
  - Be populated and maintained in \*electronic format provided by the Department

\*This has not yet been defined by the Department

# MS4 Permit Required Mapping

## Highway Agencies:

- Currently in pre-draft phase
- Proposed permit has same requirements as the public complex permit
- Dates for submittals are not yet finalized

# Requirements Aided By Mapping

## Stream Scouring:



# Requirements Aided By Mapping

Illicit Discharge Detection and Elimination:



# Requirements Aided By Mapping

## Stormwater Facilities Maintenance:



# Requirements Aided By Mapping

## Stormwater Facilities Maintenance:



# NJDEP Mapping & Inventory Assistance

- NJDEP created a database and data dictionary for the 7 stormwater infrastructure features required to be mapped/inventoried by MS4 permittees

# NJDEP Mapping & Inventory Assistance



Outfall Pipes



Stormwater  
Management Basins



Subsurface  
Infiltration/ Detention



Manufactured  
Treatment Devices



Green Infrastructure

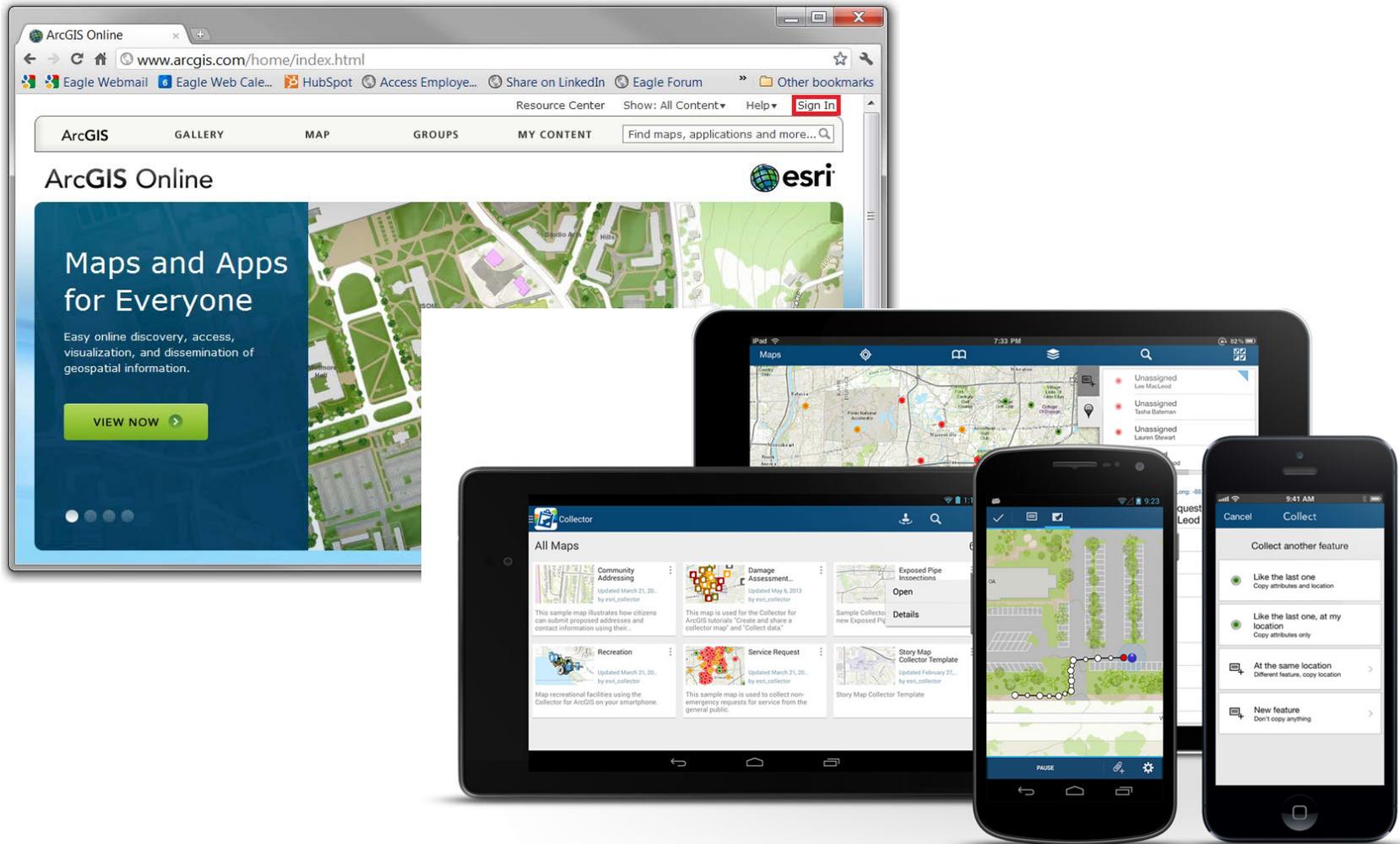


Storm Drain Inlets

# NJDEP Mapping & Inventory Assistance

- NJDEP created a database and data dictionary for the 7 stormwater infrastructure features required to be mapped/inventoried by MS4 permittees
- The data dictionary had to be made available over a number of different collection methodologies to suit the needs of all permittees

# NJDEP Mapping & Inventory Assistance: ArcGIS Online Tool



# NJDEP Mapping & Inventory Assistance: Handheld GPS Units



# NJDEP Mapping & Inventory Assistance: ESRI Geodatabase

The screenshot displays the ArcMap interface with a map of stormwater outfalls and a data table window. The map shows a green area with blue points representing outfalls. The data table window is titled 'Util\_stormwater\_outfall' and contains the following data:

OBJECTID*	SHAPE*	OutfallType	Outfall_ID	OwnerType	Owner	OutfallDescription	OutfallCondition	PipeMaterial	PipeShape	PipeHeight	PipeWidth	HeadwallC
1	Point	Outfall	<Null>	Municipal	Brick Township	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
2	Point	Combined Sewer Outfall	<Null>	Municipal	Trenton City	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
3	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
4	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
5	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
6	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
7	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
8	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
9	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
10	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
11	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
12	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
13	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
14	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>
15	Point	Outfall	<Null>	<Null>	<Null>	<Null>	Unknown	<Null>	<Null>	<Null>	<Null>	<Null>

The interface also shows a Table of Contents on the left with layers for Util\_stormwater\_outfall, Counties selection, Util\_stormwater\_outfall, Counties, Municipalities, Land Use 2012, AGRICULTURE, BARREN LAND, FOREST, URBAN, WATER, and WETLANDS. The status bar at the bottom indicates 'Drawing' mode, scale of 10, and coordinates 315618.115 789355.145 Feet.

# NJDEP Mapping & Inventory Assistance: Excel Spreadsheet

The screenshot displays an Excel spreadsheet titled "Test [Compatibility Mode] - Excel" with the following data table:

OBJECTID	Outfall_ID	County	Municipality	RoadName	OwnerType	OutfallType	PipeMaterial	PipeShape	PipeHeight	PipeWidth	HeadwallStructure	BMPs
7453	7452	Somerset	Bound Brook Borough		State	Concrete headwall	Concrete	Circular	24	24		
7454	7453	Somerset	Bound Brook Borough		State	Concrete headwall	Concrete	Circular	60	60		
7455	7454	Somerset	Bound Brook Borough		State		Concrete	Circular	30	30		
7456	7455	Somerset	Bound Brook Borough		State		Clay					
7457	7456	Somerset	Bound Brook Borough		State	Pipe in headwall	Concrete	Circular	24	24		
7458	7457	Somerset	Bound Brook Borough		State	Pipe in headwall	Clay	Circular	15	15		
7459	7458	Somerset	Bound Brook Borough		State	Pipe in headwall	Concrete	Circular	18	18		
7460	7459	Somerset	Bound Brook Borough		State	Pipe in headwall	Clay	Circular	15	15		
7461	7460	Somerset	Raritan Borough		State		Metal	Circular	15	15		
7462	7461	Somerset	Raritan Borough		State		Concrete	Circular	18	18		
7463	7462	Middlesex	Middlesex Borough		State	Pipe in headwall	Concrete					
7464	7463	Middlesex	Middlesex Borough		State		Concrete	Circular	18	18		
7465	7464	Middlesex	Middlesex Borough		State	Pipe in headwall	Concrete	Circular	18	18		
7466	7465	Middlesex	Middlesex Borough		State		Concrete	Circular	15	15		
7467	7466	Middlesex	Middlesex Borough		State	Pipe in headwall	Metal	Circular	15	15		
7468	7467	Middlesex	Middlesex Borough		State	Pipe in headwall	Concrete	Circular	42	42		
7469	7468	Middlesex	Middlesex Borough		State	Pipe in headwall	Concrete	Circular	42	42		
7470	7469	Middlesex	Middlesex Borough		State	Pipe in headwall	Concrete	Circular	36	36		
7471	7470	Middlesex	Dunellen Borough		State	Pipe in headwall	Concrete	Circular	15	15		
7472	7471	Gloucester	Franklin Township		State	Pipe in headwall	Concrete	Circular	18	18		
7473	7472	Somerset	Green Brook Township		State		Concrete	Circular	24	24		
7474	7473	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	24	24		
7475	7474	Hunterdon	Clinton Town		State	Pipe in headwall	Metal	Circular	24	24		
7476	7475	Hunterdon	Clinton Town		State	Pipe	Concrete	Circular	15	15		
7477	7476	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	15	15		
7478	7477	Hunterdon	Clinton Town		State	Pipe	Concrete	Circular	15	15		
7479	7478	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	15	15		
7480	7479	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	15	15		
7481	7480	Hunterdon	Clinton Town		State	Pipe	Concrete	Circular	18	18		
7482	7481	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	15	15		
7483	7482	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	18	18		
7484	7483	Hunterdon	Clinton Town		State		Metal	Circular	18	18		
7485	7484	Hunterdon	Clinton Town		State	Pipe	Concrete	Circular	30	30		
7486	7485	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	15	15		
7487	7486	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	30	30		
7488	7487	Hunterdon	Clinton Town		State		Metal	Circular	30	30		
7489	7488	Hunterdon	Clinton Town		State	Pipe	Concrete	Circular	24	24		
7490	7489	Hunterdon	Clinton Town		State	Pipe	Concrete	Circular	24	24		
7491	7490	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	24	24		
7492	7491	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	24	24		
7493	7492	Hunterdon	Clinton Town		State	Pipe in headwall	Concrete	Circular	18	18		
7494	7493	Hunterdon	Clinton Town		State	Pipe	Concrete	Circular	18	18		
7495	7494	Somerset	Bridgewater Township		State	Concrete headwall	Metal	Circular	15	15		
7496	7495	Somerset	Bridgewater Township		State	Pipe in headwall	Clay	Circular	24	24		
7497	7496	Somerset	Bridgewater Township		State	Pipe in headwall	Metal	Circular	12	12		
7498	7497	Somerset	Bridgewater Township		State		Clay	Circular	12	12		
7499	7498	Somerset	Bridgewater Township		State	Pipe in headwall	Concrete	Circular	18	18		

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- The data dictionary had to be made available over a number of different collection methodologies to suit the needs of all permittees
- Existing data can be made available upon request

# NJDEP Mapping & Inventory Assistance: H&H Database



The banner features the NJHMD logo on the left, followed by a series of five images: a hydrograph, a topographic map, a close-up of reeds, a pond, and an aerial view of a wetland. Below the images is the title "New Jersey Hydrologic Modeling Database" and a navigation menu with links: Home, Contributors, About, Downloads, Documents / Forms, Contacts, and Log In.

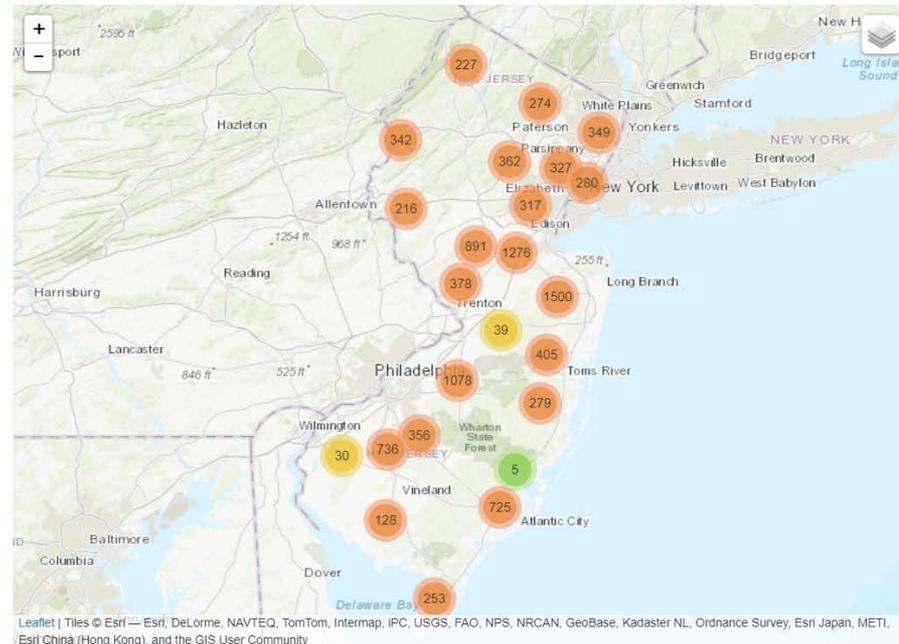
Use the filter below to quickly zoom to projects at the county level

County Filter

Reset Map Select All

Search for a desired location in the search box, or click on a numbered dot to zoom in. The number reflects the number of projects within the local area.

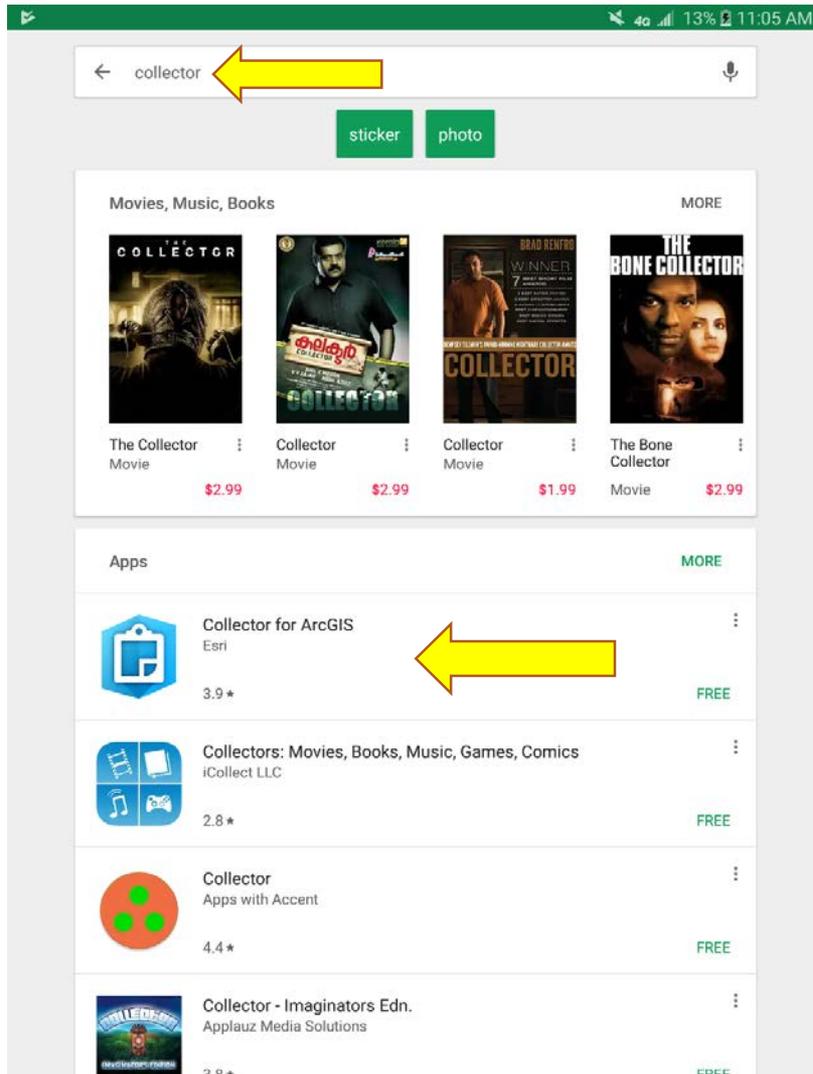
Type an address, city, or zipcode to zoom to a project location. Search Options



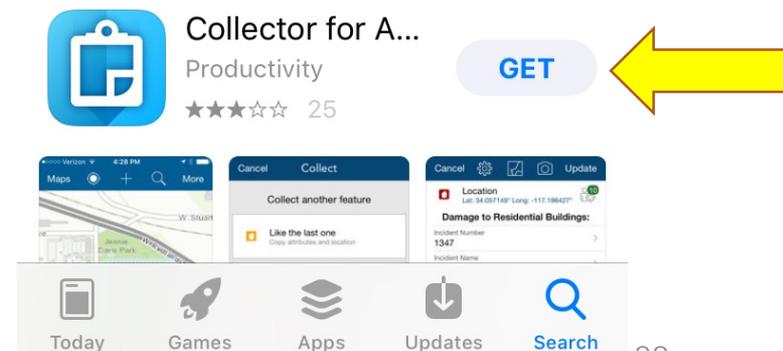
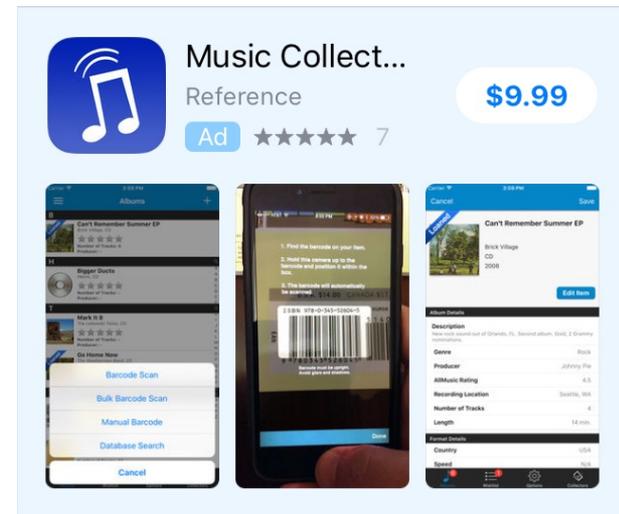
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- NJDEP created a database and data dictionary for the 7 stormwater infrastructure features required to be mapped/inventoried by MS4 permittees
- The data dictionary had to be made available over a number of different collection methodologies to suit the needs of all permittees
- Existing data can be made available upon request
- Training and assistance is available

# NJDEP Mapping & Inventory Assistance: Collector App



T-Mobile LTE 11:08 17%



# NJDEP Mapping & Inventory Assistance: Dropdown Menus



ORGANIZATION  
Atlantic County

FACILITY NAME  
Atlantic City

LOCAL ID  
\_\_\_\_\_

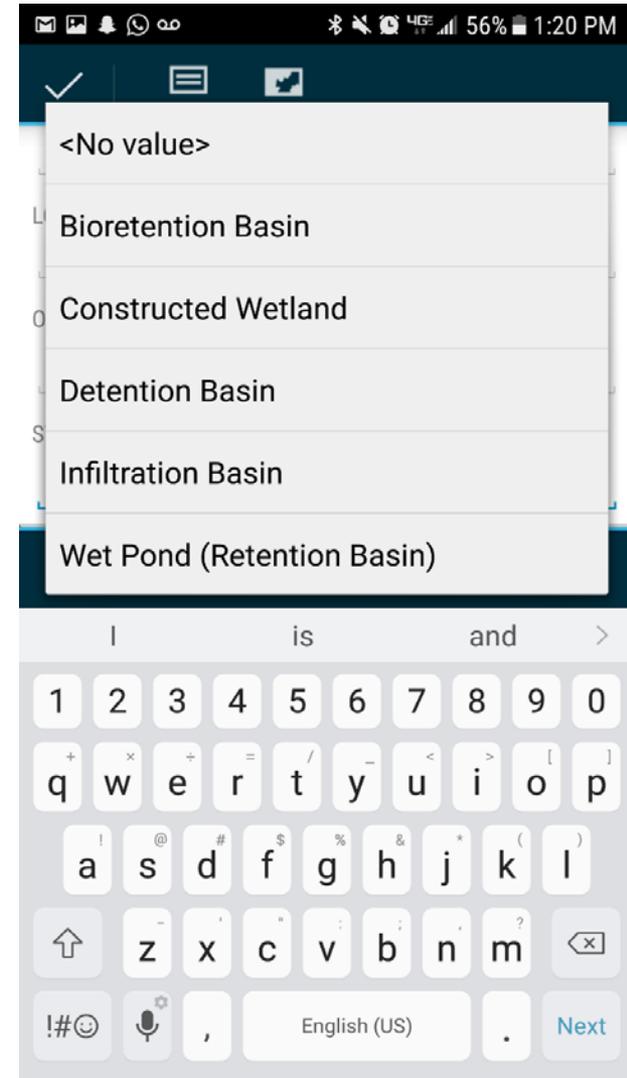
OWNER TYPE  
School District

STORMWATER MANAGEMENT BASIN TYPE  
<No value>

TRASH RACK INSTALLED  
<No value>

PRETREATMENT  
<No value>

FENCING PRESENT  
.. .



# More Information

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