

CT DOT MS4 Program and MS4 Mapping

SERC January 19, 2023

"MS4"



- Municipal <u>Separate Storm Sewer System</u> (MS4)
- EPA Clean Water Act (1972)
- EPA Regulates MS4 Phase I (1990)
 - Population > 100,000
- EPA Regulates MS4 Phase II Rules (1999)
 - Population <100,00 (Small MS4s)
- CTDEEP Issues Phase II Permits (2004)



"MS4"



- 121 Municipalities in Connecticut qualify and are regulated under DEEP's Small MS4 general permit
 - 48 towns do not have the population density to qualify
 - Other government Institutions above a certain size
- CT DOT considered a "Non-Traditional" municipality under MS4
 - DEEP issued "General Permit for the Discharge of Stormwater from Department of Transportation Separate Storm Sewer Systems" in 2018, effective June 2019



CTDOT MS4 Team



Bureau of
Finance and
Administration

Bureau of
Highway
Operations

Bureau of
Policy and
Planning

Offices of:

- Construction
- Engineering
 - <u>Environmental</u> <u>Compliance</u>

Bureau of

Engineering and

Construction

- Rights of Way

Offices of:

- Contract Administration
- External Audit
- Finance
- Human Resources
- Operations and Support

Offices of:

- Maintenance Operations
- Districts 1–4 Maintenance

Offices of:

- Coordination, Modeling and Crash Data
- Environmental Planning
- Highway Safety
- -Roadway Information Systems
- Strategic Planning and Projects

Offices of:

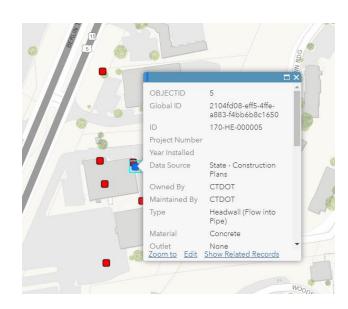
- Rail
- State Maritime

Bureau of Public

Transportation

- Transit Asset
 Management
- Transitand
 Ridesharing

- All regulated MS4's are required to map their storm sewer system
 - Pipes and Swales
 - Catch Basins and Manholes
 - Detention/Retention Ponds
 - Other Storage and Treatment
 - Discharge Outfalls
- Regardless of regulatory requirements, still a good idea
 - "Asset Management"
 - "State of Good Repair"
 - Upkeep and Maintenance
 - Lifecycle and Replacements
 - o And....



- Spill Response!
 - Control the hazard
 - Limit the environmental harm/clean-up
 - Where's the outfall to the waterbody? → boom deployment
 - Are there other structures along the way? → intercept at a manhole

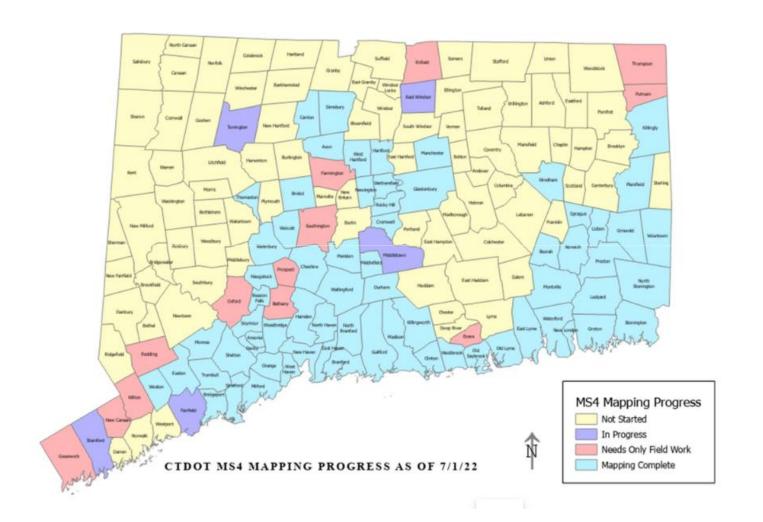


Mapping DOT's Stormwater System

- Started from scratch
- Mapping Standardization
 - COG's GIS StandardsCommittee
- Mapping format available for public use



- CTDOT storm sewer mapping
 - Town-by-Town approach
 - Conversion/digitization of best available construction plans
 - Field verified to the maximum extent practical
 - 63 out of 121 towns completed and published to date
 - ~half done
 - Remainder at least by 2029



- What do we map?
 - CTDOT pipes, outfalls, manholes, catch basins, etc.
- What haven't we mapped?
 - Municipally-owned pipes, outfalls, structures, etc.
 - Privately-owned pipes, outfalls, structures, etc.

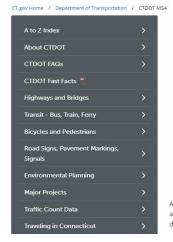
Stormwater GIS Map

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Mapping DOT's Stormwater System

- Progress to Date
 - Apprx. 50% of State is mapped
 - 50% required by June 2024
- Reference Guide available on <u>CTDOT MS4 Webpage</u>







As of July 1, 2019, the Connecticut Department of Transportation (Department) is subject to the goals and requirements of a stormwater discharge permit that aims to reduce the amount of pollution discharged to the state's surface waters and wetlands.

DOT Related Links

Water & Noise Compliance Webpage

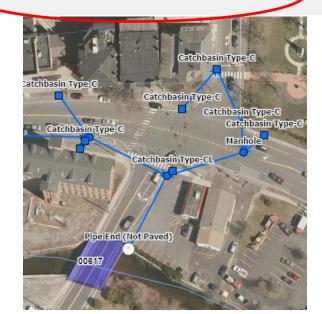
Hydraulics and Drainage Webpage

Environmental Compliance Webpage

CTDOT MS4 GIS Database Maintenance

Guide 75

CTDOT MS4 Drainage GIS Map



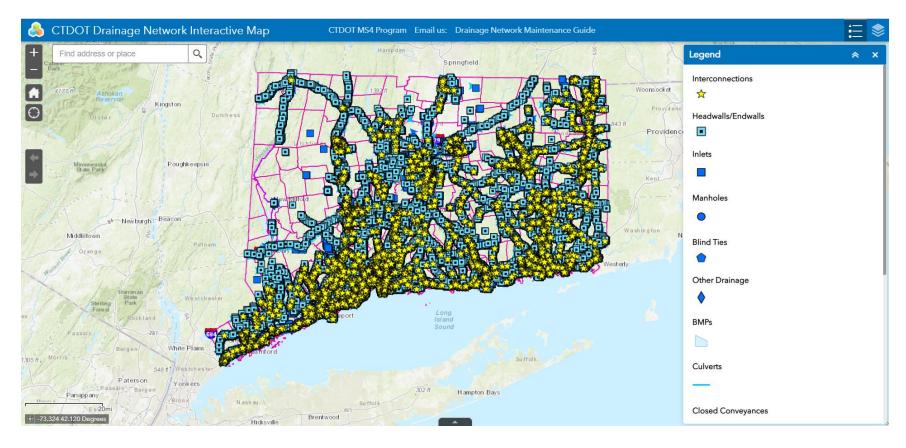
Catchment Area





Live walk through





Drawbacks and Caveats



Limitations

- Information from construction plans may not be 100% accurate
- New construction, mapping lags
- Private property → CT DOT system
- Municipal system → CT DOT system
- Data disclaimers

Wish list/Next Steps?



- Integrate with Town mapping data
- Challenges no set standard
 - Paper map? Perfectly acceptable...
 - Perfect integration means using the same schema
 - Imperfect integration means....
 - Links to municipal maps



Questions?

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