

March 11, 2020

Susquehanna Avenue Wet Pond Lackawanna Avenue Constructed Stormwater Filter



**DALLAS AREA
MUNICIPAL AUTHORITY**

Dallas Borough
Luzerne County, PA



PRESENTED BY:
T&M ASSOCIATES

Background – PADEP Requirements

- Every 5 years, municipalities acquire a permit to discharge stormwater runoff from the public storm sewers to Waters of the Commonwealth
- Permit conditions require reductions to surface water pollution caused by stormwater runoff
- To achieve these requirements, Dallas Borough, Dallas Township, and Kingston Township are working in cooperation



Background

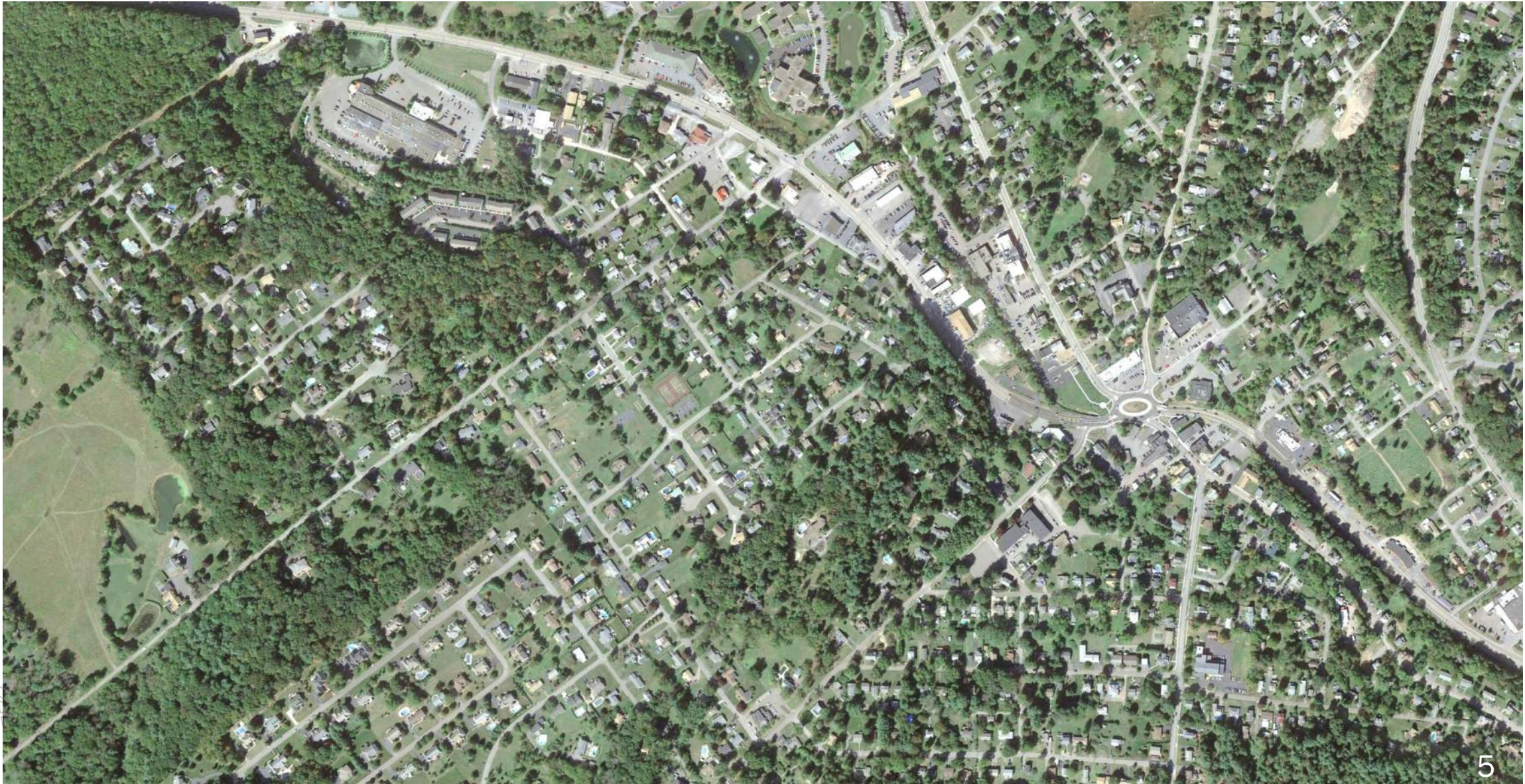
- DAMA has taken on the task of fulfilling federally mandated stormwater quality goals
- DAMA's mission for stormwater is to preserve and enhance the quality of the environment and infrastructure through prompt, cost effective, and courteous delivery of services which protect the health, safety, and welfare of citizens of our communities in the Chesapeake Bay watershed



1959 Aerial



2017 Aerial



2017 Aerial

Susquehanna Ave.



Lackawanna Ave.



Susquehanna Ave. – Wet Pond

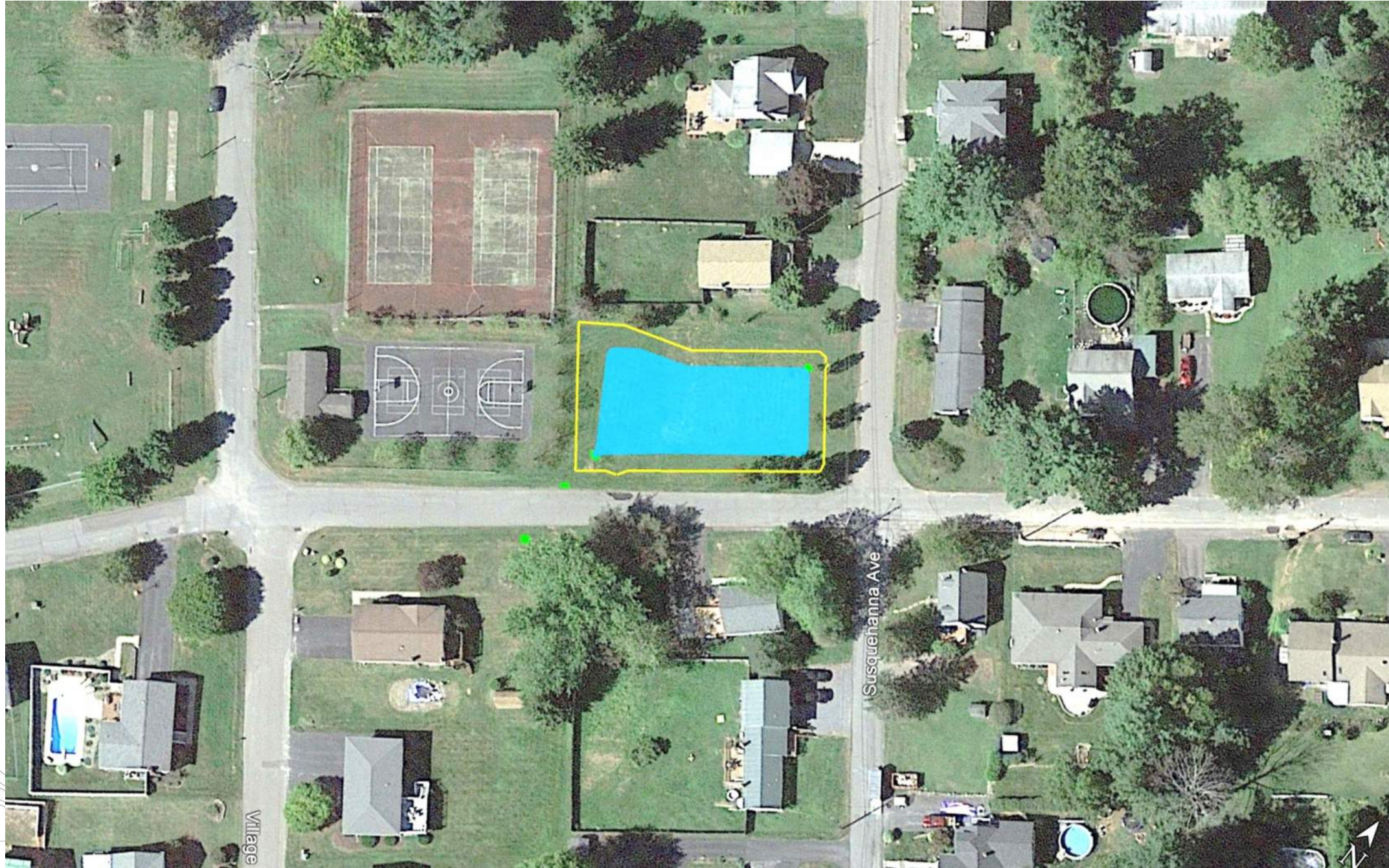
- Existing site is maintained as lawn
- Saturated soil conditions are observed at the site
- Test pits were completed to evaluate subsurface conditions
- High groundwater and no viable infiltration was observed
- Site conditions are favorable for a wet pond

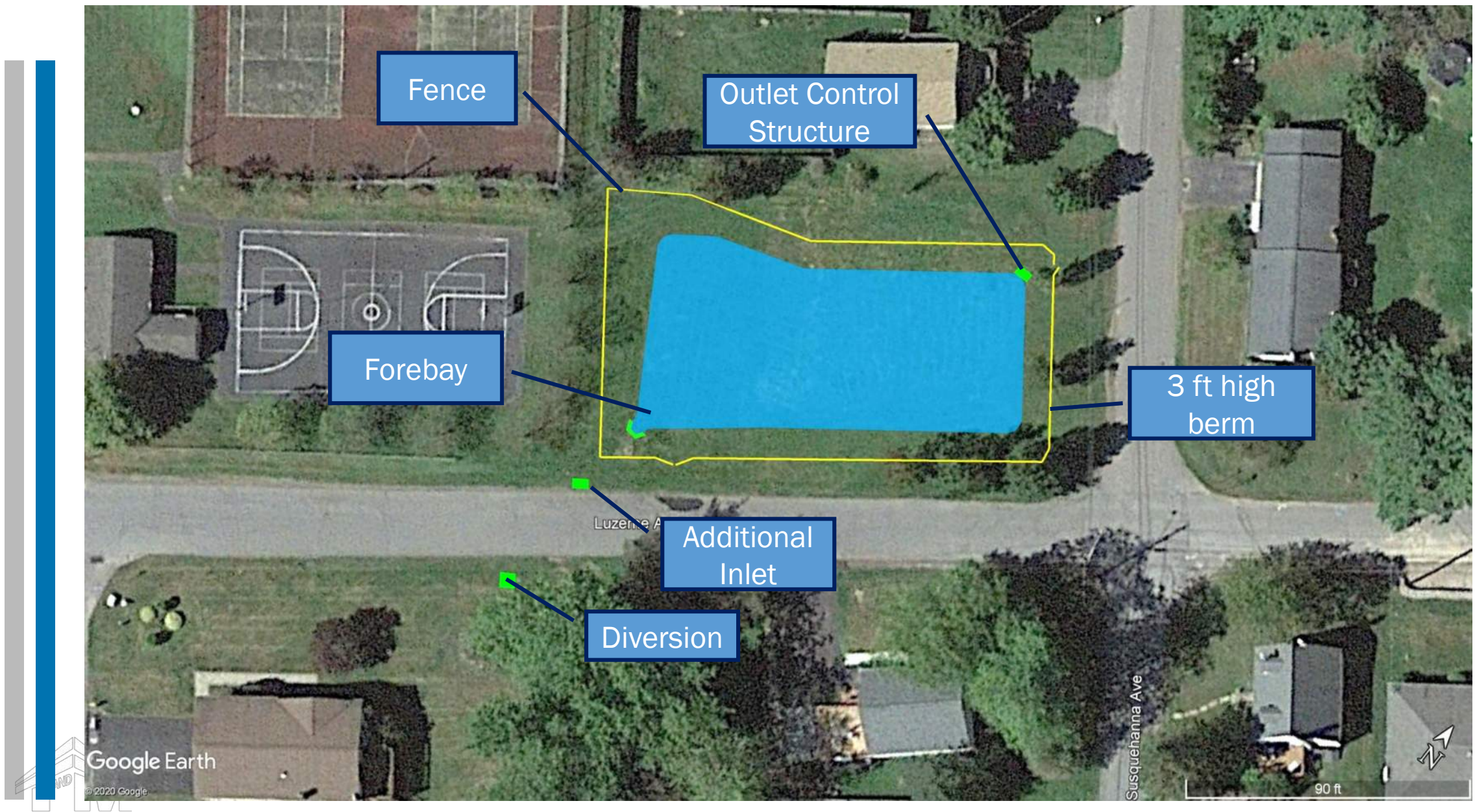


Susquehanna Ave. – Wet Pond

- Permanent pool of water addresses water quality requirements
- Additional temporary storage capacity addresses peak rate requirements
- Aesthetic and wildlife benefits
- Maintenance & Inspection:
 - Remove trash and debris as needed
 - During first growing season, inspect vegetation every couple weeks until established
 - Inspect pond 4 times per year and perform maintenance as needed







Susquehanna Ave. – Wet Pond – Examples



Lackawanna Ave. – Constructed Filter

- Existing site is maintained as lawn
- Site has been used to store excess fill and road materials
- A berm keeps runoff on site and directs it to an existing inlet
- Test pits showed evidence of fill materials and viable infiltration

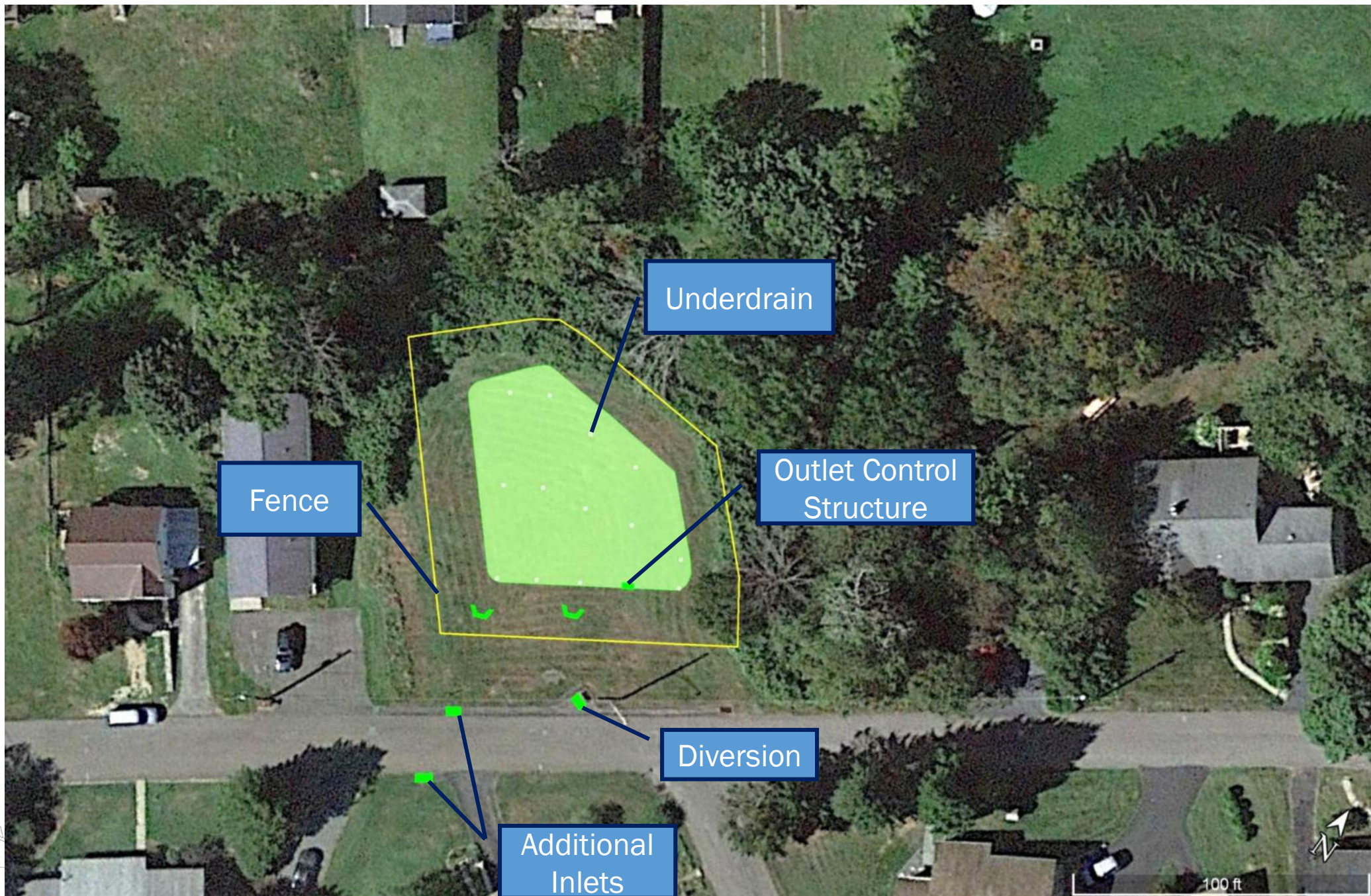


Lackawanna Ave. – Constructed Filter

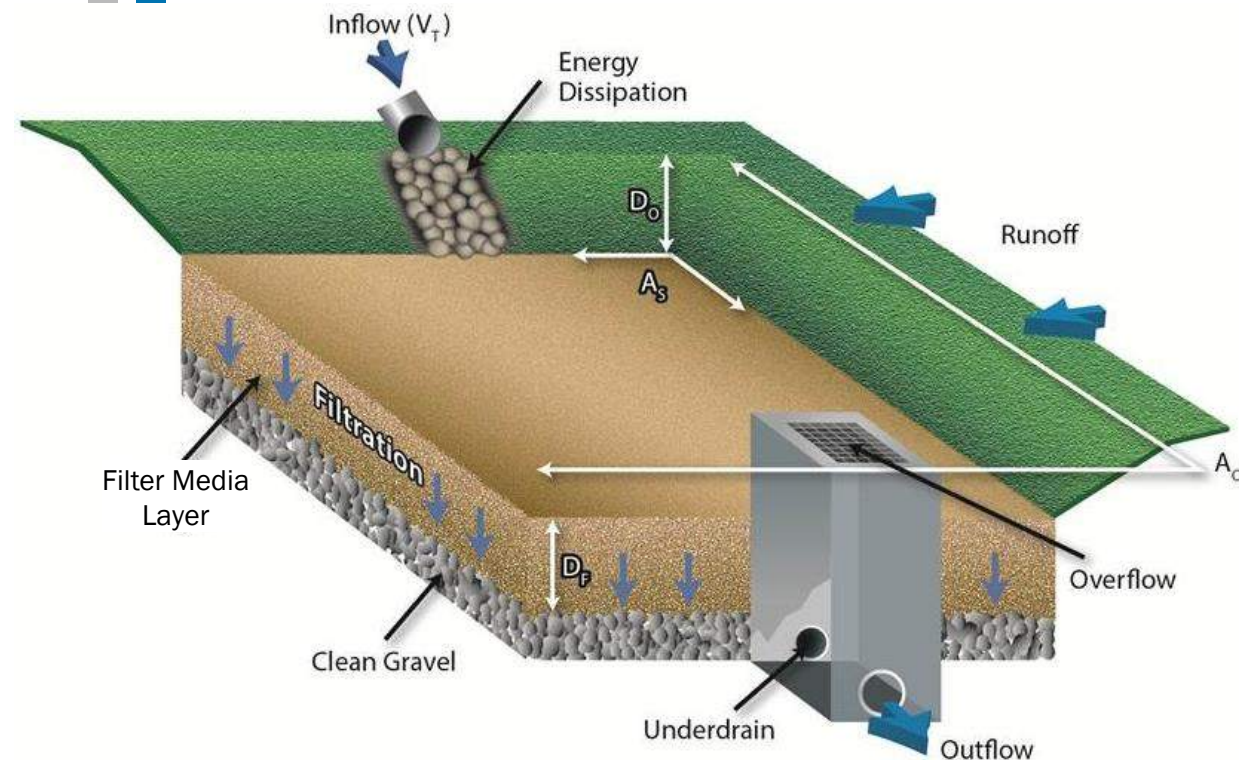
- Depression with filter media addresses water quality requirements
- Underdrain captures the filtered water and returns it to conveyance system
- Maintenance & Inspection:
 - Inspect filter 4 times per year
 - During first growing season, inspect vegetation every couple weeks until established
 - Remove trash and debris as necessary
 - Remove silt and till the filter area







Lackawanna Ave. – Constructed Filter - Examples



Common Concerns

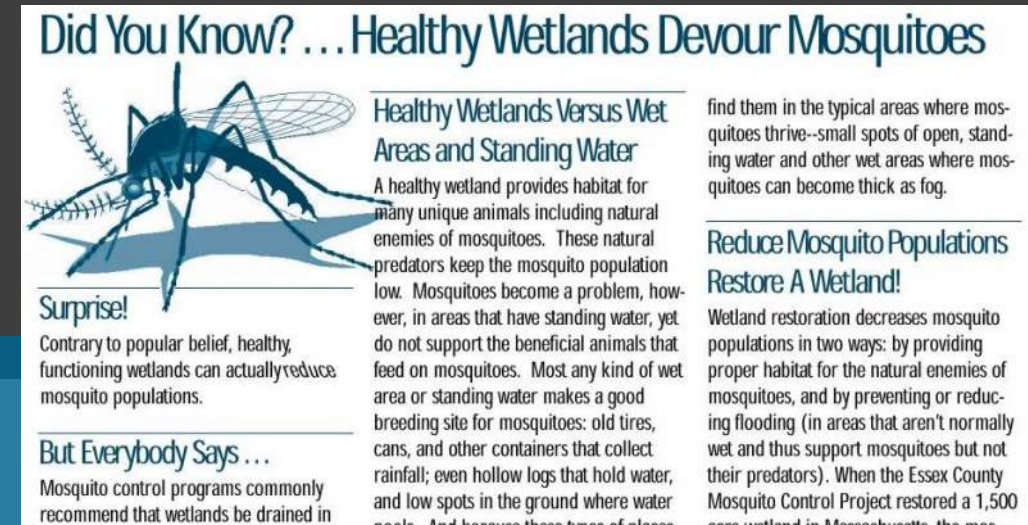
- Maintenance
 - DAMA is responsible for all maintenance of both facilities in perpetuity
 - DAMA has dedicated funds to ensure proper operation and maintenance
 - Wet ponds require little maintenance once established
 - Naturalized vegetation should only be mowed periodically for weed control



Common Concerns

- Pests

- Creation of healthy habitat to attract natural mosquito predators
- Constructed filters have drawdown time of less than 72 hours
- Constant inflow and connection to groundwater discourages mosquito breeding in wet ponds
- Maintenance and management practices can be changed or implemented to address pest and invasive species concerns



Conclusion

- DAMA has taken on the task of fulfilling federally mandated stormwater quality goals
- Construction of a wet pond and a constructed stormwater filter are two of many projects needed to meet the stormwater quality requirements
- DAMA is responsible for all operation and maintenance needs



• Questions?

THANK YOU!

