



How to Build Resilience and Tap the Funding Pipeline through Master Planning

Session 30 – Asset Management 2: Tools and Resiliency

NEWEA 2022 Annual Conference | January 26, 2022

Overview

- ▶ About Agawam
- ▶ Climate Vulnerabilities
- ▶ Priority Actions to Build Resilience
- ▶ Stormwater Assessments and Master Planning
- ▶ Tapping Funding Opportunities
- ▶ Progression of Projects
- ▶ Key Takeaways



About Agawam



- ▶ Population 28,692
- ▶ 24.2 square miles, 129 miles of roads
- ▶ \$111.6M Town Budget
- ▶ City dba Town of Agawam
- ▶ Home of Six Flags New England
- ▶ Lowest U.S. Zip Code





Climate Vulnerabilities

- ▶ Municipal Vulnerability Preparedness (MVP) Study in March 2020
- ▶ Top Hazards:
 - Severe Storms
 - Severe Winter Storms
 - Extreme Temperatures
 - Flooding (urban and riverine)
- ▶ Areas of Concern:
 - Transportation Infrastructure
 - Drinking and Storm and Wastewater Infrastructure
 - Flood Mitigation Infrastructure
 - Natural Resources
 - Social Vulnerabilities





Priorities to Build Resilience

- ▶ Improve education in the community around climate change impacts
- ▶ Evaluate and incorporate climate change impacts into municipal code
- ▶ Collaborate with and support resilience improvements at the regional WWTP
- ▶ **Enhance capital improvement plans for water, stormwater & drainage infrastructure**
- ▶ **Complete a Town-wide culvert assessment and improvement plan**
- ▶ **Protect open space and improve drainage systems**
- ▶ **Pilot a green roof and other green infrastructure projects**
- ▶ **Install a pervious pavement project**





Stormwater Assessments and Master Planning

► Stormwater Utility Feasibility Study

- Robust Study and Public Engagement from 2016-2018
- Identified Funding Gap of \$1.5M annually
- Stormwater Fee – community recognized needs, but hesitated due to impacts
- Revisited fee in late 2019, but COVID in early 2020 put things on hold . . .
- Town needed to act due to growing needs and aging infrastructure

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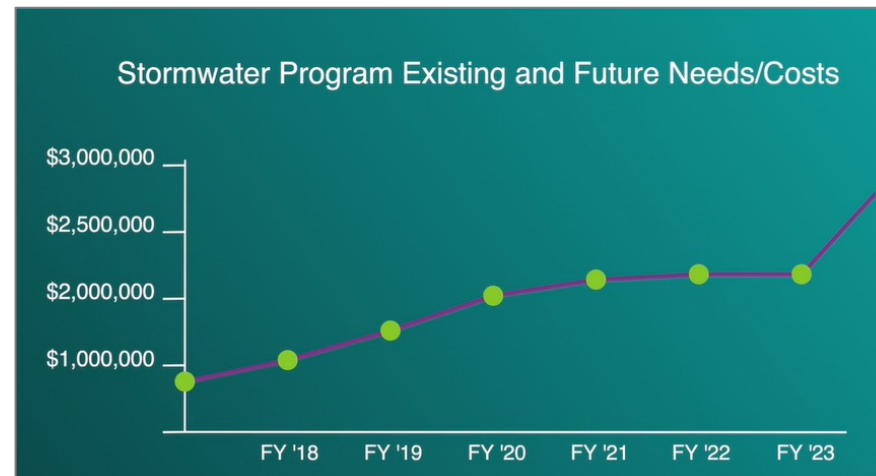
Task force looking at stormwater drain system

When rainfall hits the ground, it can move in mysterious ways. If it hits earth, it often soaks in. If it hits a rooftop, driveway, parking lot, or roadway, chances are it will run off into the nearest street drain, move through a series of pipes and then out to a nearby stream, and the Westfield and Connecticut rivers. But it can pool in many places, as well, especially where the drainage system itself is failing.

In Agawam, the Department of Public Works maintains some 4,757 street drains, also called catch basins, 122 miles of drain pipe, and 2,352 manholes to convey storm flows to the town's 512 outfalls that outlet to waterways, which themselves involve some 3.2 miles of culverts not owned by the DPW. To most of us, this storm sys-

town's general fund, which is funded by property taxes. With the age of the system and more stringent federal requirements, the level of effort and costs for this work will increase significantly. The amount of this increase is something that consultant Amec Foster Wheeler is evaluating for the task force through interviews with DPW officials about the system, and careful review of available data and effort needed to meet permit requirements over the next five years and beyond.

In the coming months, task force members will be learning all they can about stormwater and how it is managed in Agawam so that by year's end, they can make recommendations on the services that should be provided and how best to



Stormwater panel's focus turns to public outreach

By Michael J. Ballway
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Getting Agawam homeowners and businesses to accept an entirely new tax, or fee, will take a massive public relations effort, local leaders agreed last week.

The town's Citizens Stormwater Advisory Task Force turned its attention on Nov. 29 to how it would sell Agawam residents on the need for a new utility fee to finance

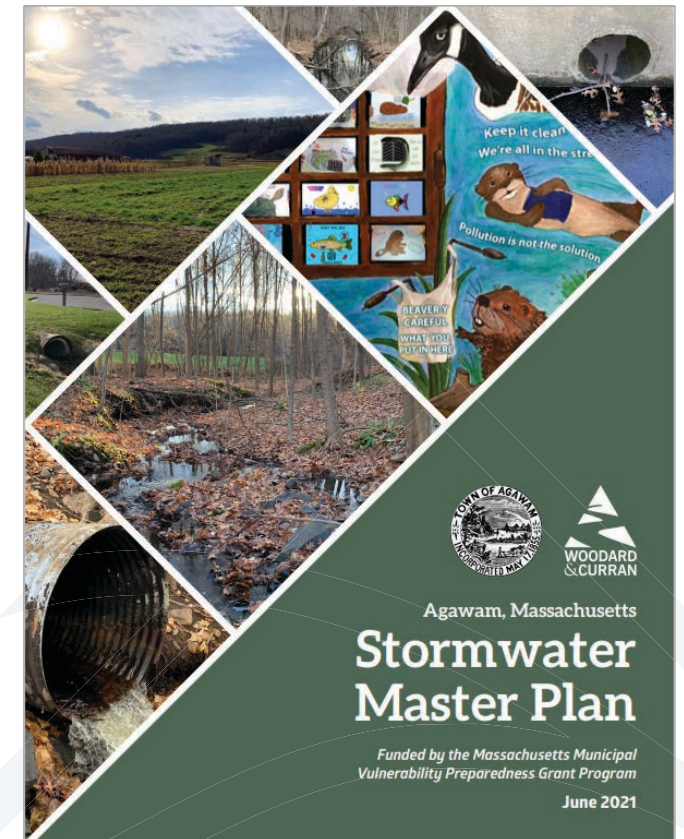
modify their property to reduce pollution in their stormwater runoff, or reduce the quantity of runoff from their property.

Task force members last week generally agreed with those priorities, with an emphasis on lower quantity rather than higher quality of water entering the system. Most members in attendance said they would agree to allowing a business to rebate as much as 50 percent of its fee by earning credits.

Stormwater Assessments and Master Planning



- ▶ Municipal Vulnerability Preparedness (MVP) Program Action Grant in August 2020
 - \$216,750 grant award
 - \$73,013 Town match (cash and in-kind services)
 - \$289,763 total project value
- ▶ Project Tasks:
 1. Public Engagement
 2. Culvert Condition Assessment
 3. Priority Storm Drain Infrastructure Assessment
 4. Detention Basin Retrofit Evaluation
 5. Impervious Area Mitigation Strategy
 6. Climate Impact Assessment
 7. Municipal Code Review
 8. Capital Improvement Plan
 9. Stormwater Master Plan



Stormwater Assessments and Master Planning



- ▶ Catch basins, pipes, and outfalls
 - 3.8 miles of pipe inspected in priority areas
 - Most structures are in good or fair condition
 - 21 outfalls have significant damage or deterioration
 - 116 outfalls require maintenance

Pipe with cracks



Pipe 1/3 full of sediment



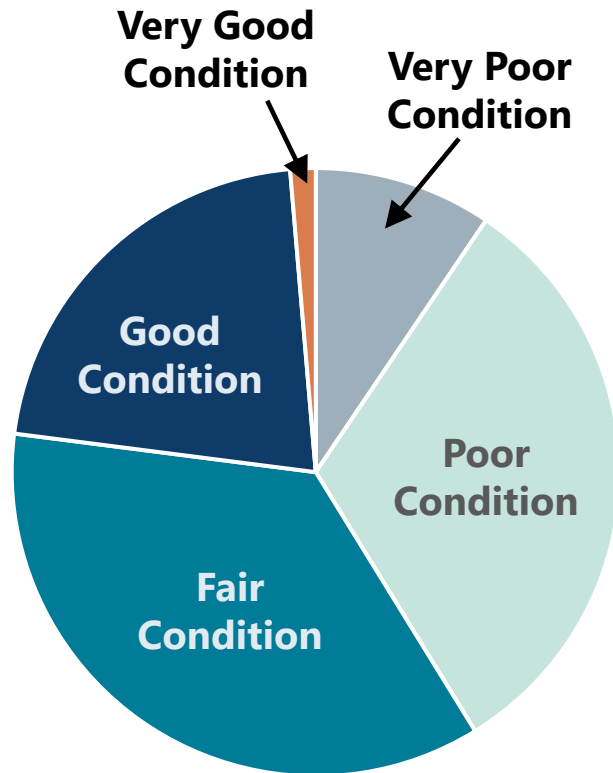
Outfall damage



Stormwater Assessments and Master Planning



► 148 Culverts

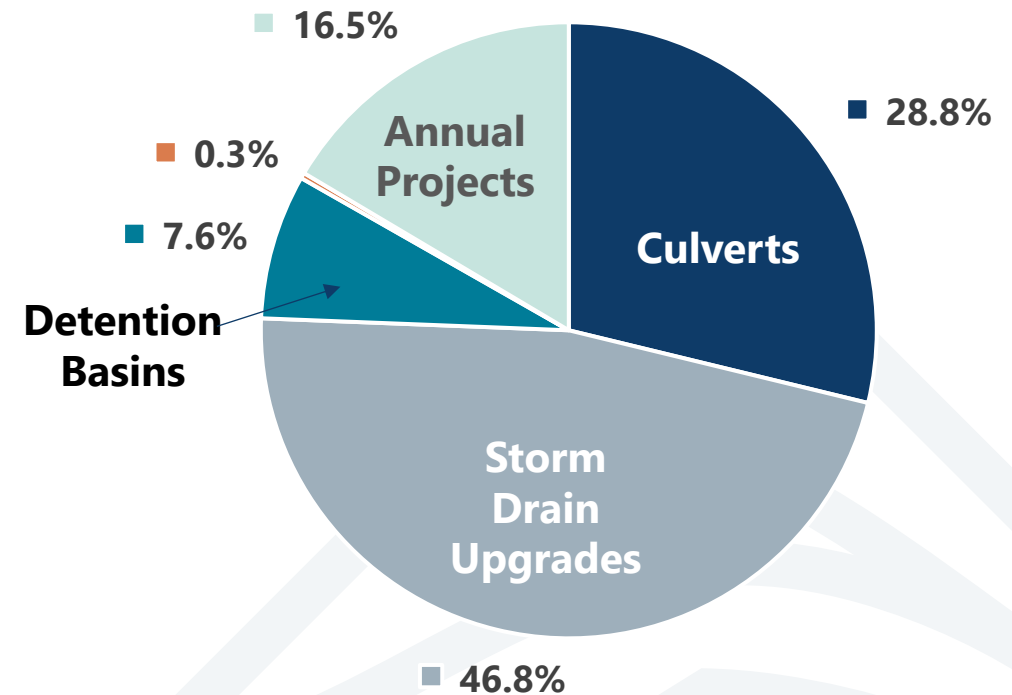




Stormwater Assessments and Master Planning

- ▶ 54 projects ranging from \$30,000 to \$3,160,000
- ▶ Annual allocation for numerous lower priority projects
- ▶ \$30,375,000 – opinion of probable cost
- ▶ 10-year CIP projection

Project Type	Estimated Cost (2021 \$)	Percentage (%)
Culvert Replacement & Rehabilitation Projects	\$8,740,000	28.8%
Detention Basin Projects	\$2,310,000	7.6%
Storm Drain Rehabilitation & Upgrade Projects	\$14,235,000	46.8%
Public Outreach Projects	\$90,000	0.3%
Reoccurring Annual Allocation Projects	\$5,000,000	16.5%
TOTAL COST	\$30,375,000	100%





Tapping Funding Sources

- ▶ Stormwater Master Plan completed in June 2021
- ▶ Presentation to City Council June 28th
 - ARP funds available – timing was perfect
 - \$8.4M for High Priority Capital Projects
 - Compelling case to jump start \$30M+ stormwater program
- ▶ MA Department of Ecological Restoration Grants Received for 2 High Priority Culvert Designs in 2020-2021
- ▶ FY2021 and FY2022 DPW Stormwater Funding Available for Design
- ▶ FY2023 DPW Stormwater Budget under Review
- ▶ Stormwater utility to be revisited . . .



Tapping Funding Sources

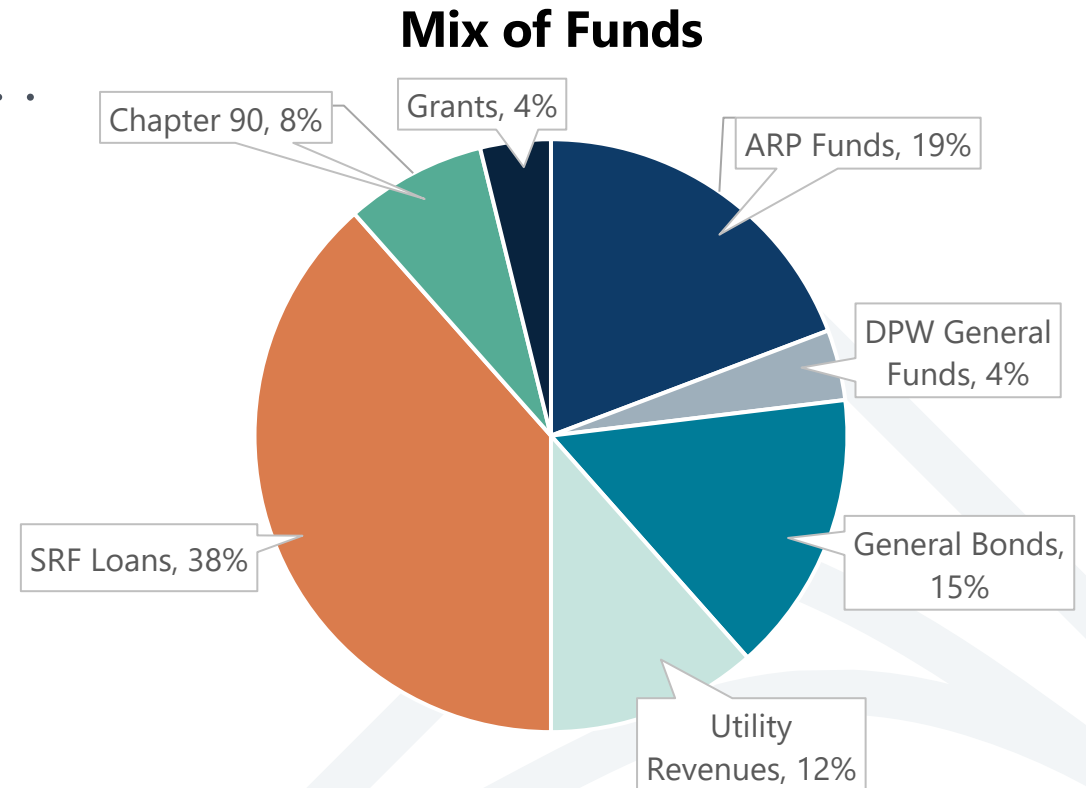
- ▶ MassDEP State Revolving Loan (SRF) Loan Applications in August 2021
 - Town reviewed needs across multiple utilities
 - Construction funding for stormwater projects combined with water, sewer, and roads
 - Stormwater designs to be funded through FY2022 and FY2023 general funds
 - SRF debt service to be paid through bonds and water/sewer enterprise funds

Project	Infrastructure	Cost
1A: Stormwater and Sewer Improvements in West	Culverts, Stormwater Improvements and Sewer Lining: Southwick St, North St, Memorial Park, Belvidere, and Brookline	\$4.6M
1B: Belvidere and Brookline Water Main Replacement	AC Main Replacement: Belvidere and Brookline	\$2.06M
2A: Stormwater and Sewer Improvements in East	Stormwater and Sewer Improvements: School St, Ramah Circle, James St, Maynard St, Fairview St, and Federal St Ext	\$4.22M
2B: Northeast Water Main Replacement	AC Main Replacement: James St, Maynard St, Duclos St, Federal St Ext, and Elise St.	\$6.18M
		\$17.06M



Tapping Funding Sources

- ▶ Asset Management Plan Grant for Stormwater, Water, and Sewer – expected in 2022 for 2023 completion: expand utility assessments and position for funding
- ▶ Water and Sewer Rate Study Underway . . .
- ▶ Stormwater Utility to be Revisited . . .





Progression of Projects

- ▶ Projects in Design for 2022 / 2023 Construction (\$8.4M):
 - Meadow St Drainage Improvements and Water Main Replacement - \$3M
 - May Hollow Brook Culvert Replacement - \$2.2M
 - North Street Culvert Replacement - \$1.8M
 - South Park Terrace and Lealand Ave Drainage Upgrades - \$1.4M





Key Takeaways

- ▶ Evaluate all funding sources and secure some “seed money”
- ▶ Develop a comprehensive planning strategy
- ▶ Make a compelling case with better data and prioritized projects
- ▶ Engage leadership to gain support
- ▶ Engage with funding agencies to ID key projects and eligibility
- ▶ Continually evaluate project priorities and opportunities for funding
- ▶ Be prepared to take advantage of funding opportunities
- ▶ Collaborate with municipal staff, agencies, and consultants

Questions and Discussion



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Stormwater Artwork by
Agawam Middle School Students