Project Final Report

Feasibility of a Stormwater Utility for Agawam

16-06/319

September 30, 2018

Prepared by Pioneer Valley Planning Commission, Town of Agawam, and Amec Foster Wheeler

For Massachusetts Department of Environmental Protection, Bureau of Water Resources and U.S. Environmental Protection Agency, Region 1
Feasibility of a Stormwater Utility for Agawam
16-06/319

Dates of Project: April 20, 2016 through September 30, 2018

Grantee: Pioneer Valley Planning Commission

Project Manager: Patty Gambarini, Principal Environmental Planner
pgambarini@pvpc.org

MassDEP Project Manager: Malcolm Harper
malcolm.harper@state.ma.us

Prepared by Pioneer Valley Planning Commission, Town of Agawam, and Amec Foster Wheeler

For Massachusetts Department of Environmental Protection,
Bureau of Water Resources, and
U.S. Environmental Protection Agency, Region 1

Massachusetts Executive Office of Energy and Environmental Affairs
Matthew A. Beaton, Secretary

Department of Environmental Protection
Martin Suuberg, Commissioner

Bureau of Water Resources
Douglas Fine, Assistant Commissioner

Division of Municipal Services
Steven J. McCurdy, Director
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A. Project Snapshot

Project number and title:
Feasibility of a Stormwater Utility for Agawam
16-06/319

A1. Project start date:
April 20, 2016

A2. Date closed:
September 30, 2018

A3. Basin and HUC 12 subwatershed:
Geographic boundary of Agawam includes 2 major basins and 3 HUC 12 subwatersheds:

- Connecticut River Basin
- Westfield River Basin

- Westfield - Little River 010802060305
- Muddy Brook 010802050103
- Connecticut River - Mill River to Freshwater Brook 01802050102

A4. Segment and/or waterbody number(s):
Connecticut River MA34-05
Westfield River MA32-07

A5. Status of waterbody (Category 5, etc.):
Connecticut River, Category 5 (waters requiring a TMDL) for Escherichia coli, PCB in Fish Tissue, and Total Suspended Solids (TSS)

Westfield River, Category 2 (attaining some uses; other uses not assessed)

A6. Priority Pollutant(s) targeted:
Not applicable.

A7. Estimated Annual Pollutant removal (quantity, not percentage)
Not applicable.

A8. BMPs installed, number and type:
Not applicable. All project BMPs were non-structural. See Section D for description.
B. Descriptive Project Summary

Massachusetts Department of Environmental Protection

Section 319 NPS Project 16-06/319

Project Title: Feasibility of a Stormwater Utility for Agawam
NPS Category: Urban Runoff
Investigator: Pioneer Valley Planning Commission
Location: Connecticut and Westfield River Watersheds

Description:
This project will study the possibility of establishing a stormwater utility in Agawam. It will identify major needs and costs for a municipal stormwater program and evaluate billing units, rates, and other financial considerations.

Project Goals:
• Engage a citizen’s advisory group to learn about needs, costs, and options in establishing a sustainable funding source for Agawam’s stormwater program.
• Identify stormwater program needs and costs in terms of compliance with the forthcoming permit and priority infrastructure repairs and improvements.
• Evaluate fee models/rate methodologies and identify which would work best for Agawam.
• Describe costs for implementation and define a strategy for moving forward.

Project Tasks:

1: Hire consulting firm that is qualified to help with more technical aspects of project.

The Pioneer Valley Planning Commission (PVPC) prepared and finalized a request for proposals (RFP) in consultation with Agawam officials, searched Supplier Diversity Office database for firms to include in distribution of RFP, and issued RFP and awarded project in compliance with MGL, Chapter 30B.

All three firms submitting proposals were interviewed as part of the evaluation process. Following full price and non-price consideration, Amec Foster Wheeler was found to have submitted the most advantageous proposal.

The contract with AMEC Foster Wheeler and PVPC was executed on November 21, 2016, and then amended on January 8, 2018 to include additional public outreach assistance, including production of a 2 to 3-minute video to promote local understanding about stormwater needs, costs and the benefits of a stormwater utility to fund the program.

2: Identify major needs, priorities and costs for Agawam’s municipal stormwater program.

To put together data on existing and future stormwater program costs, Amec Foster Wheeler reviewed existing Town budgets, conducted several in-depth meetings with Agawam Public
Works officials, and evaluated various elements of the MS4 permit with the Town. A draft funding analysis went through several iterations with additional data being provided by Agawam Public Works officials over a series of several months.

The finalized funding analysis spreadsheet on existing and future stormwater program costs was formatted for presentation to the Stormwater Advisory Task Force. Amec Foster Wheeler provided one additional update in the course of the project to reflect FY18 and FY19 budgets. There was also additional review of financial impacts to business to support the January 16th workshop with commercial property owners.

3: Recruit and engage a broad-based citizen advisory task force that will learn about stormwater funding needs in Agawam, explore possible funding options, and make recommendations.

Recruitment of the Stormwater Advisory Task Force began in January 2017 with an invitation from the Mayor to the first meeting on April 26, 2017 and follow up phone calls to ensure engagement. The task force included representation from a variety of property owners in town. Following is a table of Task Force members.

<table>
<thead>
<tr>
<th>Table 1: Members of the Stormwater Advisory Task Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris Golba - DPW Superintendent</td>
</tr>
<tr>
<td>Christopher Johnson - City Council</td>
</tr>
<tr>
<td>Dave Jenk - Six Flags New England Facilities Manager</td>
</tr>
<tr>
<td>Henry Kosloski - Conservation Commission</td>
</tr>
<tr>
<td>Herbert Holl - Resident</td>
</tr>
<tr>
<td>James Cichetti - City Council</td>
</tr>
</tbody>
</table>

Stormwater Advisory Task Force members attended a total of six meetings and some participated in additional project meetings (e.g., with businesses and Town Council). The series of meetings were planned to promote learning about stormwater issues and costs, exploration of possible funding options and strategies, and development of recommendations from the Task Force for moving forward. Following is a summary table of the six meetings. All Task Force meeting agendas and presentations were posted to the Town website on an ongoing basis and promoted through media releases. See: [http://www.agawam.ma.us/SW-TaskForce](http://www.agawam.ma.us/SW-TaskForce)
<table>
<thead>
<tr>
<th>Meeting #</th>
<th>Date</th>
<th>Agenda items</th>
</tr>
</thead>
</table>
| 1        | April 26, 2017  | • Project overview, goals, scope and schedule  
• Roles and responsibilities  
• Municipal storm system (history in Agawam, how it works and mapping, Agawam DPW activities  
• Stormwater needs (infrastructure, water quality and flooding, regulatory requirements)  
• Public education and outreach (proposed activities, focus group and survey feedback) |
| 2        | June 7, 2017    | • Review of meeting #1 and ongoing work  
• Existing stormwater program (summary of activities, estimate of costs, funding approach and options)  
• Public education and outreach (input on proposed activities)  
• Future stormwater program (needs and cost estimates, program level of service, funding options - introduction)  
• Discussion and feedback  
• Next steps |
| 3        | June 28, 2017   | • Review of meeting #2  
• Stormwater utilities (introduction and funding approach)  
• Agawam data analysis (impervious cover and parcel analysis, stormwater billing units, next steps)  
• Preliminary funding analysis (revenue need and level of service, rate structure and initial rates and sample properties, next steps to update funding analysis)  
• Public engagement (update on ongoing and future activities)  
• Next steps  
**Handout:** Technical Memorandum: Finance & Funding Policy Considerations |
| 4        | October 11, 2017| • Review of meeting #3  
• Public engagement update (summary and feedback from Sept. 25 workshop, update on ongoing and future activities)  
• Stormwater utility funding approach and policies (review of rate methodologies and billing units, billing methods, feedback)  
• Stormwater utility credits (types and amounts of credits, examples, feedback)  
• Next steps  
**Handout:** Stormwater Utility Credits: Background Information for Agawam, Massachusetts |
| 5        | November 29, 2017| (meeting included newly elected officials, including the mayor elect)  
• Project overview and recent work (stormwater needs and costs, meeting #4)  
• Public engagement update  
• Review of draft stormwater utility ordinance  
• Stormwater utility credits (types and amounts of credits, examples)  
• Next steps  
**Handout:** Draft template for ordinance establishing a stormwater utility |
4: Conduct other public outreach and education to help promote understanding about stormwater funding needs.

Beyond the Stormwater Advisory Task Force, there were several other project elements to help elevate the visibility of public works projects and the need for a sustainably funded stormwater program. These included the following:

- Two press releases with a total of seven articles place in local newspaper during the project period (articles were prompted by the press releases, but also by meetings covered by local newspaper reporters, and follow up interviews with project staff)
- A series of meetings with three key stakeholder groups--seniors, religious organizations, and businesses on October 30, 2017, January 9, 2018, and January 16, 2018 respectively--to define and articulate a more meaningful case for stormwater funding (stakeholder groups were identified by the Stormwater Advisory Task Force as critically important groups in town)
- Two public meetings, including a stakeholders meeting on September 25, 2017 to which citizens running for public office received special invitations, and a roundtable for Town Councilors on April 30, 2018. An additional meeting with Town Council was held on September 17, 2018.
- The production of door hangers to be used in conjunction with public works projects to inform nearby property owners about the work
- Production of a video to be used locally in promoting widespread understanding about the need for stormwater funding and as part of ongoing outreach for the town.

5: Conduct parcel analysis and calculate equivalent residential unit

The project consultant, Amec Foster Wheeler, obtained needed data layers and reviewed existing GIS parcel data and attributes to assess impervious area by land use characteristics in Agawam. Amec Foster Wheeler also worked with the Town to obtain current databases for water, sewer and tax assessment accounts to support the parcel and billing system analyses.

Working with methodology provided by Amec Foster Wheeler, PVPC did some refinement of the impervious area GIS data to improve representation accuracy of this layer.

Through the Stormwater Advisory Task Force meetings, Amec Foster Wheeler explored various options with the billing rate and units. Task Force members expressed a clear desire to keep things as simple and straightforward as possible so an option of using a flat billing rate based on a unit of 1,000 square feet of impervious surface was considered. Amec Foster Wheeler then classified
parcels by residential versus non-residential; estimated ERU; and estimated total billing units for both an ERU and a flat rate scenario.

6: Define rate structure options, projected income growth, evaluate willingness/ability to pay, possible set up for credits program, and capacity of the Town to logistically support each option

Amec Foster Wheeler led the Stormwater Advisory Task Force through a compelling and productive conversation about "Level of Service" (LOS) desired in terms of stormwater and how LOS would impact rate structure. Based on this discussion, they prepared a preliminary rate structure and funding analysis for two scenarios. Using the program cost analysis performed under Task 2, the total revenue needed for the two levels of service (moderate and high) was determined, considering costs for billing and credits and the impacts of growth on the billing units. With total annual costs developed, estimated billing rates were developed for the ERU and flat rate scenarios for both the moderate and high LOS. This information is detailed in Amec Foster Wheeler's final report for the project (see the Appendixes). Note that the funding analysis was updated to reflect FY18 and FY19 budgets with additional review of impacts to business to support the January 16th workshop with those property owners.

Based on from the Stormwater Advisory Task Force, Amec Foster Wheeler prepared a draft rate ordinance that they shared with Task Force at the group's 5th meeting in November 2017.

7: Reporting and Project Oversight

The Pioneer Valley Planning Commission coordinated invoicing and project match with the Town of Agawam, and prepared 9 quarterly reports, amendment requests, and the project final report and ensured that the project moved along to meet the project deadline of September 30, 2018.

C. Financial Summary

<table>
<thead>
<tr>
<th>Final Project Cost:</th>
<th>Funding:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ 66,899.96    Section 319 Grant</td>
</tr>
<tr>
<td></td>
<td>$ 33,297.13    Town of Agwam - cash match</td>
</tr>
<tr>
<td></td>
<td>$ 19,038.20    Town of Agawam - in-kind match</td>
</tr>
</tbody>
</table>

Note that the Town exceeded its match accordingly:
Cash match by $ 197.13
In-kind match by $7,538.20

% of Town match = 44%

Project Duration: 2016 – 2018
## Original Project Budget

**Feasibility of a Stormwater Utility for Agawam**  
*16-06/319*

<table>
<thead>
<tr>
<th>Expense Items</th>
<th>319 Amount</th>
<th>Non-Federal Match and Source</th>
<th>Total Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Salary - By Title and salary range</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town of Agawam</td>
<td>$102,700-$127,926</td>
<td></td>
<td>$11,500</td>
</tr>
<tr>
<td>DPW Superintendent</td>
<td>$71,700-$90,125</td>
<td></td>
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</tr>
<tr>
<td>Town Engineer</td>
<td>$66,500-$77,250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistant Town Engineer</td>
<td>$55,000-$67,980</td>
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<td></td>
</tr>
<tr>
<td>Stormwater Coordinator</td>
<td>$24,350</td>
<td></td>
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<tr>
<td>PVPC</td>
<td>$86,000-$92,000</td>
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<tr>
<td>Senior Environmental Planners</td>
<td>$56,000-$70,000</td>
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<tr>
<td><strong>Subtotal</strong></td>
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<td>$35,850</td>
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<tr>
<td><strong>Subcontractual Services</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Identify Needs, Priorities, Costs</td>
<td>$22,900</td>
<td>$12,100</td>
<td>$35,000</td>
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<tr>
<td>Engage Citizens Task Force</td>
<td>$2,000</td>
<td>$3,000</td>
<td>$5,000</td>
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<tr>
<td>Other Public Outreach</td>
<td>$5,000</td>
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<tr>
<td>Conduct Parcel Analysis and Calculate ERU</td>
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<tr>
<td>Define Rate Structure Options</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$20,000</td>
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<tr>
<td><strong>Subtotal</strong></td>
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<tr>
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<tr>
<td><strong>Totals:</strong></td>
<td><strong>$66,900</strong></td>
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The Disadvantaged Business Enterprise (DBE) Program "Fair Share" goals for the project are: $3,791 for D/MBE (3.4%) and $4,237 for D/WBE (3.8%). Firms utilized in Federally Assisted Projects must be certified as either an MBE or WBE and a DBE.

The Department will retain 10% of the total maximum obligation of the 319 grant funds or the final invoice submitted by the Grantee, whichever is greater, until all contract provisions are satisfied and final reports and other products are delivered and accepted. This 10% retainage shall be reflected on each invoice submitted by the Grantee and will be cumulative in the amount of $6,690 (10% of the contract amount).
Amendment #1 - 11/4/16

Attachment B

Project Budget

Feasibility of a Stormwater Utility for Agawam – Amendment 1

16-06/319

<table>
<thead>
<tr>
<th>Expense Items</th>
<th>s.319 Amount</th>
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<td>$66,900</td>
<td>$66,900</td>
<td>$44,600</td>
<td>$111,500</td>
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<tr>
<td><strong>Percent</strong></td>
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D. BMPs

All BMPs for this project were nonstructural and as such are described in the table below.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Target audience</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment of a Stormwater Advisory Task Force for a series of six meetings</td>
<td>Broad range of property owners and political leadership from Agawam</td>
<td>Property owners attending Task Force meetings became very well informed about the need for stormwater funding and provided valuable feedback on questions of how to shape a sustainable funding program and concerns from their point of view as property owners. (See Appendixes for meeting agendas, presentations, and notes.)</td>
</tr>
<tr>
<td>Town web pages where all agendas, meeting notes, presentations posted on an ongoing basis and referred to as reference at meetings and press releases. See: <a href="https://www.agawam.ma.us/479/Citizen-Stormwater-Advisory-Task-Force">https://www.agawam.ma.us/479/Citizen-Stormwater-Advisory-Task-Force</a></td>
<td>Any property owner interested in learning more about stormwater and funding need in Town</td>
<td>Since notice of these web pages were posted and promoted within the local newspaper in June of 2017, there have been a total of 460 page views, including 339 unique page views.</td>
</tr>
<tr>
<td>Agawam Stormwater System Information Reporting Map (interactive map to report stormwater problems)</td>
<td>Property owners in Agawam</td>
<td>Property owners reported some 31 stormwater related problems in Town, indicating the location and describing the problem, including flooding, water quality, and erosion. Public Works is using this to inform priorities going forward.</td>
</tr>
<tr>
<td>Press releases, meetings to which media was invited, and follow up interviews</td>
<td>Property owners in Agawam</td>
<td>Six articles in the local weekly newspaper, the Agawam Advertiser, and one article in the Republican, a newspaper with regional distribution. (See Appendixes for press releases and articles.)</td>
</tr>
<tr>
<td>Stakeholder group meeting #1 with presentation and guided discussion</td>
<td>Senior citizens</td>
<td>Each of these three meetings helped to yield refinements to articulate a more meaningful case for stormwater funding. With senior citizens, the major insight was that issues of flooding seem to impact this population disproportionately. People mentioned specific locations in need of fixing and told of serious barriers for them as seniors created by these issues. Those attending indicated that they</td>
</tr>
<tr>
<td>Activity</td>
<td>Target audience</td>
<td>Result</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Stakeholder group meeting #2 with presentation and guided discussion | Religious organizations | The major insight from discussion with religious leaders was that overall they feel they already provide so many services to the Town that go unaccounted for. With their shrinking congregations and resources, a new stormwater fee would not be fair. They cannot absorb additional costs, it is not affordable. This view contrasts with the religious leader who sat on the Stormwater Advisory Task Force, who voiced several times that a fee for all property owners contributing to storm system impacts seems "the right thing to do."
The discussion with the group of religious leaders also revealed an appetite for lots of detail, from the nitty gritty of credits and what would / would not count as impervious to specifics on the percentage of pipes that would be replaced each year compared with what the Town can do currently. |
<p>| Stakeholder group meeting #3 with presentation and guided discussion | Businesses       | Eight businesses attended this stakeholder group meeting despite significant outreach efforts to the community of commercial property owners through the Town and local Chamber. Never the less, there was great engagement from this group in questions during the presentation and ensuing discussion. Questions of fairness dominated the conversation. The split property tax rate, where commercial property owners pay more than residential property owners and do not get trash service, is a major sticking point for many. In addition, several indicated that not all properties drain to the storm system and some accounting should be made for that. The largest commercial |</p>
<table>
<thead>
<tr>
<th>Activity</th>
<th>Target audience</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Property owner in Town indicated that it makes good sense to take care of the storm system, but at what point do all the expenses (property tax, water, sewer, stormwater) become unaffordable.</td>
</tr>
<tr>
<td>Public meeting #1</td>
<td>Citizens running for public office</td>
<td>With upcoming elections and likely change in political leadership, it became important to help all running for public office understand the challenges confronted by the Town's stormwater program. There were insightful questions during the presentation and good points of discussion in the second part of the program.</td>
</tr>
<tr>
<td>Public meeting #2</td>
<td>City councilors</td>
<td>As key decision makers on the stormwater fee, a meeting specifically for city councilors emerged as a high priority. The meeting was designed in consultation with the new mayor and all councilors attended. Councilors asked great questions and indicated strong support for a fee approach to sustainably funding the stormwater program.</td>
</tr>
<tr>
<td>Production of door hangers</td>
<td>Property owners near public works projects</td>
<td>Intended to elevate the visibility of public works stormwater projects, the door hangers are currently being printed and will be deployed by Public Works in conjunction with upcoming stormwater related work.</td>
</tr>
<tr>
<td>Video</td>
<td>All local property owners</td>
<td>Will be aired after October 30 in promoting widespread understanding about the need for stormwater funding and as part of ongoing outreach for the town as stormwater fee moves into public deliberation phase.</td>
</tr>
</tbody>
</table>
Agawam Stormwater System - Information Reporting Map

**Reporting Map**

Instructions:
1. Once you open the web page, click OK to begin.
2. Hover your pointer over the functions at the bottom of the screen.
3. The first icon is used to add information.
4. Click on the “Add Information” icon.
5. Choose one of the topics that best fits the stormwater issue or information that you wish to add.
6. Click the location on the map.
7. Use the drop-down menus to populate the information. Provide additional description if necessary.
8. Name and contact information is optional and attachments (photos) are helpful.
E. Lessons Learned

While the outcome of whether Agawam adopts a more sustainable approach to funding its stormwater program is yet to be determined, there have been several important lessons learned along the way.

The forum of a Stormwater Advisory Task Force proved immensely successful in engaging a variety of stakeholders

Early in the project, Agawam's Town Engineer noted a dynamic typical to public processes: "It is tough to get people to participate unless something is actually going to happen and that is usually when it is too late for input. Activating people now, indicating that their input is valued is important. It will help reduce the amount of reaction later."

Those words helped to guide this project in many ways, from the tone of press releases and meetings inviting input to the interactive web map for reporting problems. But the Stormwater Advisory Task Force was perhaps the most strategically important element in overcoming the dynamic noted by the Town Engineer. Borrowed in part from the process undertaken in Northampton, Agawam's Stormwater Advisory Task Force enabled project staff to engage decision makers as well as a wide variety of property owners in a critically important learning process and in a conversation about the future of the Town's stormwater program. Through the course of the series of meetings, Task Force advisory members learned along with Town staff as the project consultant pulled together essential data to describe the state of Agawam's stormwater program and laid out potential strategies and options for addressing the needs. Those engaged in the ongoing learning and conversation were able to provide valuable input on the direction to take with stormwater program funding and insights on concerns within respective communities in Town. Most importantly, the group process made clear that going forward, the work lies in finding balance between the needs/costs of the program, the desired level of service, and fairness and affordability among the Town's property owners.

While evidence is important to making the case for stormwater program funding, it also became clear that emotion arising out of personal experience plays a significant role in the way many respond to the idea of a new fee for stormwater services

Meetings with key stakeholder groups provided some important insights on how people can take in the evidence of why a stormwater fee is needed, but respond to the idea based on something more deep seated that comes from personal experience and emotion. From the work of this project, the following emerged as important sentiments to acknowledge:

Differing Perspectives on Fairness
This was perhaps the greatest sentiment expressed among stakeholders, particularly religious leaders and businesses. For religious leaders, the call for fairness comes from several who indicated they already provide many services in Town that are not acknowledged. For businesses, the call for fairness stems from the existing split tax rate in Town, where commercial property owners pay more per 1,000 sf ($31.47 vs. $16.61 for residential) and do
not get trash service. Overall, the issue of fairness came up in terms of specific questions about whether the fee program will recognize properties not draining to the storm system or who should get credits.

Affordability
The ability to pay the new fee was discussed on multiple occasions with a variety of audiences. For religious leaders, it seems many are faced with significant declines in their congregations. This means less funding and less ability to pay for a new fee. For businesses, it seems many are already feeling hit by increasing costs elsewhere and they question whether putting additional burden on businesses with a new fee will be affordable. While business owners seemed to understand the need for investing in the stormwater program, several suggested that perhaps the rate for the could be shifted so as to create a fee that puts less of a burden on businesses. Senior citizens expressed their concern about affordability and options to reduce the financial burden of a new fee. Options to reduce impacts were discussed, such as the existing water and sewer bill reductions for seniors that qualify for clause 18 or clause 41c property exemptions. The Mayor and the Council have indicated they would like to find a way to address impacts to businesses, tax exempt properties, and seniors in Town.

Greater accountability
Through discussion at several meetings, including Task Force meetings, there emerged an expressed desire for greater accountability and assurances that money will be used as specified and promised. Some specific points of conversation included transparency in budgets so that it is easy to understand how money is spent, and good investments so that the Town avoids purchasing an expensive piece of equipment that gets used only 20% of the time.

Continued assistance to Town through public deliberation of the new stormwater fee is critically important

The 319-funded work of the project leaves the Town with some invaluable groundwork laid, some useful tools, and a cadre of well informed property owners and decision makers. Following the Task Force process, project staff worked to find the right footing for presenting the idea of a new fee through greater public deliberation by the Town Council. At a successful meeting with Councilors in April 2018 (apart from their regularly scheduled meetings), all councilors indicated support for an enhanced stormwater program and were receptive to a fee-based approach to fund the program, though there is concern for mitigating fee impacts on businesses. Project staff then conferred with the Mayor and the Town Counsel about next steps. Initially, the idea was to formally introduce a proposal to the Council at a June meeting to fund the next steps for the project. Due to budget hearings, however, the Mayor and Counsel advised waiting until September or October.

At a September 17 meeting, the Council heard a presentation from the project consultant on the recommendations from the Task Force. There were approximately 30-40 attendees for the presentation, including members of the public and Town staff. Prior to the presentation, two members of the public spoke about stormwater issues and indicated their support for a
stormwater fee. There was no discussion or questions following the presentation, but two members of the Council commented about the need to better manage the Town’s stormwater infrastructure.

Though the timetable is yet to be finalized, the process with the Council from here is anticipated to be as follows:

• **Meeting #1**: (likely October-November 2018): Hold public hearing to present recommendations of the Task Force, proposed ordinance language, and estimated funding for implementation of the stormwater utility
• **Meeting #2** (likely November-December 2018): Council refers the stormwater utility to a subcommittee for further consideration (timetable to be determined)
• **Meeting #3**: Subcommittee makes recommendation to full Council meeting for a vote

These forthcoming meetings with the Council and the timing of additional public outreach to continue promoting understanding and support during this period are critically important. The Town will continue work with the project consultant beyond the grant period to ensure continued support during this formal public deliberation stage.

**A well experienced and trusted consultant is invaluable to the politics of considering stormwater program funding**

Because the project consulting firm is so experienced in working with municipalities on stormwater funding, they were able to lay out a framework for funding the stormwater program as a series of choices. These choices included:

• Funding options (tax override, property surcharge enabled by Municipal Water Infrastructure Investment Fund, or stormwater utility)
• Rate setting based on the needs and makeup of property owners in town
• Level of service desired from the stormwater program, from minimal level of service (status quo, minimally compliant) to moderate, high and exceptional levels of service.

As a result, property owners and decision makers involved with the project seemed to have tremendous confidence in the process and in their own say along the way. In addition, when it became clear that political leadership was going to change mid-project (based on November elections), the consultant moved to provide important continuity from one administration to the next. They recommended a roundtable with officials and candidates for political office (before the election), which seemed to contribute greatly to new councilors and a new mayor being well informed and supportive on the issues of the stormwater program needs and funding.
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F. Attachments

Deliverables

Task 1: Hire consulting firm
1-1 Request for proposals
1-2 Proposal evaluation form

Task 2: Identify major needs, priorities and costs for Agawam's stormwater program
2-1 Written report describing existing infrastructure needs, costs, and priorities, and permit compliance costs: Technical Memorandum: Finance & Funding Policy Considerations (handout from Task Force meeting #3)

Task 3: Recruit and engage a broad-based citizen advisory task force
3-1 Advisory task force members and their affiliations
3-2 Six meetings of the advisory committee with agendas, attendance lists, and written notes from each meeting
3-3 Written findings/recommendations from the advisory task force with a recommended strategy for moving forward

Task 4: Other public outreach and education
4-1 Stakeholder meetings - notes to inform project
4-2 Press releases and newspaper articles
4-3 Two public meetings with accompanying publicity and presentation materials
   (Note: In the end, project involved three public meetings)
4-4 Video supporting a meaningful local case for stormwater funding (a rough cut will be provided week of October 22 with final video to be delivered by October 31)
4-5 Door hanger for use with stormwater public works projects

Task 5: Conduct parcel analysis and calculate equivalent residential unit
(All of these listed here are included in Appendix 3-3 above)
5-1 Total impervious area and parcel count by classification
5-2 Estimated total billing unit and projected ERU charge
5-3 Evaluation of current billing system to interface with GIS information

Task 6: Conduct parcel analysis and calculate equivalent residential unit
6-1 Draft rate ordinance: Draft template for ordinance establishing a stormwater utility
   (handout from Task Force meeting #5)
6-2 Written report describing the financial considerations of a stormwater utility
   Stormwater Utility Credits: Background Information for Agawam, Massachusetts
   (handout from Task Force meeting #4)
Page left blank intentionally.
Task 1: Hire consulting firm

1-1 Request for proposals

1-2 Proposal evaluation form
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A. **Project Overview**

1. The Pioneer Valley Planning Commission ("PVPC" hereafter), through funding from the Massachusetts Department of Environmental Protection ("MassDEP" hereafter) and match funding from the Town of Agawam ("Town" hereafter) is seeking consultant services to help in exploring the possibility of establishing a stormwater utility or fee, including identifying major needs, priorities, and costs for Agawam's municipal stormwater program, and defining rate structure options. A description of the services required can be found in Attachment A.

2. Services are expected to be needed on or about October 1, 2016 through April 30, 2018.

3. PVPC reserves the right to award the contract up to the maximum amount of funds available, not to exceed $65,000.

4. A proposal must remain valid until the award date of the contract for services herein sought.

5. The PVPC may cancel this RFP, in whole or in part, at any time whenever such an act is deemed in its and the Town’s best interest.

6. The PVPC will not be responsible for any costs incurred by a proposer in preparing and submitting a proposal in response to this RFP.

7. This project is funded through the MassDEP 319 grant program and through matching funding from the Town of Agawam. Any and all state and federal rules, regulations, and requirements governing this funding from MassDEP shall be in effect for this contract. See Attachment D for PVPC-MassDEP contract provisions.

8. Questions on the RFP process should be directed in writing or by email to PVPC Deputy Director Jim Mazik, 60 Congress Street, Springfield, MA 01104 or by email at jmmazik@pvpc.org no later than 3:00 PM, Tuesday, September 6, 2016. Responses to all questions will be provided to all those who have requested an RFP by Thursday, September 8, 2016.
B. **Scope of Services**
A scope of services is provided in Attachment A.

C. **Project Background**
The Town’s storm drain discharges are subject to the National Pollutant Discharge Elimination System (NPDES) Stormwater Phase II Municipal Separate Storm Sewer System (MS4) General Permit. The Town’s drainage system includes about 2,048 catch basins and inlets and over 120 miles of active drainage pipe, channels, and culverts that lead to more than 520 outfalls. Many of these pipes and structures were installed in the early to mid-20th century when building codes and accepted construction practices were vastly different from what they are today.

The Town has worked with the engineering firm Tighe & Bond to incorporate storm water infrastructure information into a GIS mapping system. The full storm sewer infrastructure map includes the locations of outfalls, catch basins, manholes, pipes, culverts, headwalls, flared end structures, riprap areas and detention ponds. However, physical attributes such as material type, pipe diameter and invert elevation is incomplete. Also, the Town has only been able to partially assess the condition of the structures and pipes within the drainage infrastructure. Video inspections of some critical sections of the stormwater system exist and provide some condition information; however, this information has not yet been entered into the GIS system.

The stormwater system is operated and maintained on a minimal budget. Currently, stormwater projects are funded through the General Fund via a line item in the annual Town Budget. Each year, the existing stormwater infrastructure continues to deteriorate and the current budget does not allow for routine maintenance or upgrades. Construction on the drainage system consists mainly of emergency repair work or the installation of new dry wells or catch basins to alleviate flooding in known problem areas. The DPW currently maintains detention ponds and drainage easements on Town property. However, many ponds and easements on private property have fallen into disrepair and have become overgrown with weeds and trees due to a lack of required maintenance from property owners. The Town does not have the available funds to maintain these areas. The Town had previously sought to hire a contractor to clean out catch basins, but the long response time of the contractor would not allow the Town to respond to flooding emergencies during heavy storm events. The Town is seeking funds to purchase a vacuum truck so that the DPW will be able to clean the catch basins whenever necessary.

Since 2003, the Town has been required to comply with the EPA’s NPDES Stormwater Phase 2 permit for communities with a MS4. The NPDES Stormwater Permit regulates what can and cannot be discharged from Agawam’s Municipal Storm System and mandates steps the Town must take to control the quantity and quality of water discharged from the storm drain system. Over the first five years of the NPDES Stormwater Permit coverage, the City met the EPA’s requirements to implement a Stormwater Management Program that included the following six minimum controls: Public Education, Public Involvement, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post Construction Stormwater Management, Good Housekeeping and Pollution Prevention.
On May 15, 2006, the Agawam City Council approved revisions to the Water and Sewer Ordinance Section 175-35: Stormwater Management Plan which regulates changes in runoff characteristics caused by proposed construction projects as well as erosion control within project areas. New development project within the Town of Agawam that will disturb 1 acre or more of area must obtain a Stormwater Permit Application. The application fees range from $200 - $1,500 based on the total area of disturbance. Stormwater Permit Application monies are distributed back into the General Fund.

This year, the Town has completed the 13th year of implementation of the Stormwater Management Program as required by the EPA. The program has been implemented by the DPW with the smallest budget possible to keep the Town in compliance. Also important for compliance of the Stormwater Management Program is consistent funding of staffing and equipment costs to maintain an adequate level of operation and maintenance of the municipal storm drain system, including street sweeping and catch basin cleaning. Complying with far more robust requirements under the recently issued final 2016 Massachusetts NPDES Stormwater permit represents significant cost increases for Agawam's stormwater program. The most costly elements currently anticipated are in tracking and eliminating illicit discharges and managing infrastructure and properties to address water quality impairments in nearby rivers and streams.

The Town is currently working in conjunction with the Pioneer Valley Planning Commission (PVPC) and surrounding communities to purchase data collection and mapping software that would be compatible with the ESRI-based GIS software the Town already uses. This additional software will help the Town to meet specific requirements associated with the new 2016 NPDES permit, including tracking the condition of the stormwater infrastructure, identifying priority catchment areas, and locating potential illicit discharges. This information will enable the Town to develop a prioritized capital improvements plan (CIP) for upgrades to the infrastructure. The Town also plans to use this database management tool to store, manage, and generate documentation necessary under state and federal reporting standards for applicable stormwater programs. The Town is open to considering other types of asset management tools and methods for developing a CIP.

D. Proposal - Submission Procedures
1. The submission and review of such proposals must comply with the intent of Chapter 30B of the Massachusetts General Laws and any other applicable state and federal regulations. Acceptance of any proposal to provide such services is subject to the continued availability of funding to the PVPC from MassDEP and match funding from the Town of Agawam.

2. IMPORTANT: Proposals must be divided, with pricing information submitted separately from the balance of the proposal. A sealed envelope should clearly identify the party submitting the proposal and indicate that it contains either the pricing or non-pricing information for the proposal. An original and six (6) copies of both the non-pricing and the pricing information must be contained in your submission. Both envelopes should be submitted to:
3. **Proposals must be received no later than 3:00 P.M. on Thursday, September 22.** Proposals may be changed or withdrawn prior to but not subsequent to this date, by submission of such change in writing in a sealed envelope, identifying the submitting party and indicating that it contains a correction of the pricing or non-pricing section for the Agawam Stormwater System Assessment and Utility Planning Proposal.

4. The contents of proposals will be kept confidential until the evaluation process is completed. However, at the time the non-price proposals are opened, a register of proposals, including the name of each proposer and the number of proposal modifications submitted by each proposer, will be made available to the public.

**E. Modifications to Proposals**

1. Modifications to proposals may be submitted prior to the date and time specified for receipt of proposals.

2. An original and six (6) copies must be submitted together with a transmittal letter signed by an authorized official of the firm.

3. Modifications must be submitted in sealed envelopes, clearly marked "Agawam Stormwater System Assessment and Utility Planning - Modification No.__".

4. Mark the outside envelope showing whether the enclosed modification refers to the pricing or non-pricing information.

**F. Submission Requirements**

1. Each proposal submitted should contain the following:

   a) Table of Contents

   b) Project Understanding and Approach - Provide a detailed approach to the project tasks required to meet the Town's needs. Provide a brief overview of the Project Approach to undertaking a Stormwater Assessment which includes an evaluation of the Town's drainage system. The overview should include discussion of prospective consultant's approach to assessing the Town's storm drain infrastructure to meet current and likely future regulatory requirements, in terms of both hydraulic constraints and water quality issues, and to develop a prioritized Capital Improvement Plan. The overview should also include an outline of consultant’s approach to establishing a stormwater utility, including options for development of user fees.
c) Scope of Services - Elaborate on the proposed scope of work and all assumptions made to develop the proposed fee.

d) Schedule - Provide a schedule that corresponds to the project approach and scope of services. Completion of this project within 16 months is required.

e) Project Team - Provide an organizational chart identifying project team members, including any subconsultants. Provide a narrative description of project team members and the role and responsibility they will have on this project. Include a resume for each team member that identifies applicable project experience. Resumes shall identify whether a Team Member is a registered professional engineer in the Commonwealth of Massachusetts and shall also identify the location of the office the team member works in.

f) Project Descriptions and Experience - Provide the firm's relevant experience with stormwater management system planning. Specifically, relevant experience should include:

- Stormwater System Assessments and Management Plans
- Asset Management Planning
- Developing prioritized Capital Improvement Plans (CIP)
- Development and Implementation of a new stormwater utility, including financial management and regulatory aspects

Relevant project experience should be of similar nature, size and complexity to those anticipated for this Contract. Briefly outline the nature of each project and identify the involvement of key personnel to be assigned to this project.

g) References - Provide the names and contact information for references for which prospective consultant has performed similar work. These references should be for projects completed by the proposed project manager. These references should be municipalities who PVPC may contact as a reference check for the projects cited in consultants proposal.

h) Comparative Evaluation Criteria- Provide a self-analyses of how your firm meets the Comparative Evaluation Criteria in Section H below. Responses to each of these criteria will be judged using a numerical system identified in the RFP. Qualifications and experience information as described in the proposal and as used in the evaluation shall be applied to the proposed project team for this project, not firm-wide experience.

i) Completed Price Proposal Form (Attachment B) - In separate envelope, provide the estimated cost to complete the proposed scope of work. Include a spreadsheet identifying labor hours and billable rate by employee and task. Identify any subconsultant costs and other direct costs.
g) Completed Compliance Certification (Attachment C)

2. If any part of the scope of services under this RFP is to be completed by a subcontractor, the proposer will provide a complete description of the services to be subcontracted for along with a complete description of the qualifications and capabilities of the subcontractor. As part of the contract award for services, the PVPC reserves the right to approve or disapprove any and all such subcontractors and to revoke any approval previously given.

G. Minimum Requirements
The following shall be considered minimum standards necessary to perform the scope of work. Acceptable evidence or certification must be provided to demonstrate the minimum standards are being met. Failure to meet the minimum standards as described below shall result in a rejection of the proposal.

- The respondent shall provide all information required by this RFP
- The principal representative assigned to serve the PVPC and the Town shall have:
  - completed at least 3 Stormwater Management System Assessments within the past 7 years
  - completed at least 2 stormwater utility feasibility studies in the past 7 years
  - successfully developed and implemented NPDES Phase II MS4 programs for at least 2 Massachusetts municipalities under the 2003 permit

H. Comparative Evaluation Criteria
Each competing firm must provide a brief narrative indicating if and how they meet the following Comparative Evaluation Criteria. Responses to each of these criteria will be judged in four rating categories:

<table>
<thead>
<tr>
<th>Highly advantageous</th>
<th>Advantageous</th>
<th>Not advantageous</th>
<th>Unacceptable</th>
</tr>
</thead>
</table>

To what extent are the following met?

1. Project Understanding and Approach-----------------------------------------------

| Firms that demonstrate a clear understanding of the Town’s stormwater and flood control management system, propose a detailed approach to evaluate and assess these systems using asset management tools to develop a prioritized Capital Improvement Plan, and propose a detailed approach to develop an equitable and implementable stormwater utility | Highly Advantageous |
| Firms that demonstrate a somewhat, but not entirely, clear understanding of the Town’s stormwater and flood control management system | Advantageous |
understanding of the Town's stormwater and flood control management system, propose a somewhat, but not entirely, detailed approach to evaluate and assess these systems using asset management tools to develop a prioritized Capital Improvement Plan, and propose a somewhat, but not entirely, detailed approach to develop an equitable and implementable stormwater utility

Firms that demonstrate a vague and limited understanding of the Town's stormwater and flood control management system, propose a vague approach to evaluate and assess these systems using asset management tools to develop a prioritized Capital Improvement Plan, and propose a vague approach to develop an equitable and implementable stormwater utility

Firms that demonstrate a lack of understanding of the Town's stormwater and flood control management system, propose an incomprehensible approach to evaluate and assess these systems using asset management tools to develop a prioritized Capital Improvement Plan, and propose an incomprehensible approach to develop an equitable and implementable stormwater utility

2. Plan of Services

<table>
<thead>
<tr>
<th>The plan of services proposes detailed, logical and highly efficient schemes for the provision of the required services.</th>
<th>Highly Advantageous</th>
</tr>
</thead>
<tbody>
<tr>
<td>The plan of services proposes credible schemes for the provision of the required services.</td>
<td>Advantageous</td>
</tr>
<tr>
<td>The plan of services proposes credible schemes for the provision of some but not all of the required services.</td>
<td>Not Advantageous</td>
</tr>
<tr>
<td>The plan of services is not credible and/or is not sufficiently detailed to fully evaluate the schemes for the provision of required services.</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

3. Ability to Complete Study in Time Frame Requested

<table>
<thead>
<tr>
<th>Consultant has depth of staff, a strong project management plan, has set timelines that are reasonable and indicate that the study can be completed in the time frame requested, and has provided at least three (3) references that demonstrate their ability to complete projects on time.</th>
<th>Highly Advantageous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant has depth of staff, has provided a time frame that is reasonable and indicates that the study can be completed in the time frame requested, and has provided at least two (2) references that demonstrate their ability to complete projects on time.</td>
<td>Advantageous</td>
</tr>
</tbody>
</table>
### 4. Quality of Project Team

| Consultant has identified a Project Manager and a project team. All members of the project team have experience with stormwater utility feasibility studies for 3 to 5 municipalities within the past 7 years. | Highly Advantageous |
| Consultant has identified a Project Manager and a project team. Fifty percent (50%) to seventy-five percent (75%) of the project team members have experience with stormwater utility feasibility studies for 3 to 5 municipalities within the past 7 years. | Advantageous |
| Consultant has identified a Project Manager and a project team. Twenty-five percent (25%) to less than fifty percent (50%) of the project team members have experience with stormwater utility feasibility studies for 3 to 5 municipalities within the past 7 years. | Not Advantageous |
| Consultant has not identified a Project Manager and/or has identified a project team where less than twenty-five percent (25%) of the project team members have experience with stormwater utility feasibility studies for 3 to 5 municipalities within the past 7 years. | Unacceptable |

### 5. Experience with stormwater system assessment and capital improvement planning

| Firms that can clearly demonstrate a project team that has completed at least seven (7) stormwater management plans (SWMP) and associated capital improvement plans (CIP) within the past 7 years. | Highly Advantageous |
| Firms that can clearly demonstrate a project team that has completed at least five (5) SWMPs and associated CIPs within the past 7 years. | Advantageous |
| Firms that can clearly demonstrate a project team that has completed at least three (3) SWMPs and associated CIPs within the past 7 years. | Not Advantageous |
| Firms that cannot clearly demonstrate a project team that has completed a minimum of three (3) SWMPs and associated CIP within the past 7 years. | Unacceptable |
6. Experience with stormwater utility feasibility

| Firms that clearly demonstrate that individual key team members have experience with stormwater utility feasibility studies for at least five (5) municipalities within the past 7 years. | Highly Advantageous |
| Firms that clearly demonstrate that individual key team members have experience with stormwater utility feasibility studies for at least three (3) municipalities within the past 7 years. | Advantageous |
| Firms that clearly demonstrate that individual key team members have experience with stormwater utility feasibility studies for at least two (2) municipalities within the past 7 years. | Not Advantageous |
| Firms that do not clearly demonstrate that individual key team members have experience with stormwater utility feasibility studies for municipalities within the past 7 years. | Unacceptable |

7. Experience with NPEDES Phase II Small MS4 permit in Massachusetts

| Firms that clearly demonstrate that individual key team members have experience with successful development and implementation of MS4 programs for at least five (5) municipalities under the 2003 permit. | Highly Advantageous |
| Firms that clearly demonstrate that individual key team members have experience with successful development and implementation of MS4 programs for at least three (3) municipalities under the 2003 permit. | Advantageous |
| Firms that clearly demonstrate that individual key team members have experience with successful development and implementation of MS4 programs for at least two (2) municipalities under the 2003 permit. | Not Advantageous |
| Firms that do not clearly demonstrate that individual key team members have experience with successful development and implementation of MS4 programs for at least two (2) municipalities under the 2003 permit. | Unacceptable |

8. Completeness of Proposal

| The proposal addresses all of the project objectives stated in the RFP | Highly Advantageous |
| The proposal does not address one (1) of the project objectives stated in the RFP | Advantageous |
| The proposal does not address two (2) or three (3) of the project objectives stated in the RFP | Not Advantageous |
| More than three (3) of the project objectives stated in the RFP are not addressed | Unacceptable |
### 9. References

| Proposed project managers that receive positive references from three (3) Massachusetts municipal clients for similar stormwater projects | Highly Advantageous |
| Proposed project managers that receive positive references from two (2) Massachusetts municipal clients for similar stormwater projects | Advantageous |
| Proposed project managers that receive a positive references from one (1) Massachusetts municipal client for similar stormwater projects | Not Advantageous |
| Proposed project managers that do not receive a positive reference from Massachusetts municipal clients for similar stormwater projects | Unacceptable |

### 10. Quality of Interview (only finalists, based on evaluation of proposals using criteria 1-8, will be interviewed)

<table>
<thead>
<tr>
<th>Consultant shows extensive knowledge of stormwater financing and public process, has excellent communication skills, is able to relate project goals to previous studies completed, is confident and enthusiastic, shows a genuine interest in the study, responds to all questions satisfactorily, and key project team members present information on their roles.</th>
<th>Highly Advantageous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant shows a good knowledge of stormwater financing and public process, has good communication skills, is able to relate project goals to previous studies completed, is confident, shows a genuine interest in the study, responds to all questions satisfactorily, and key project team members are present.</td>
<td>Advantageous</td>
</tr>
<tr>
<td>Consultant shows an understanding of stormwater financing and public process, has good communication skills, is able to relate project goals to previous studied completed but does not respond satisfactorily to some questions, and some project team members are not present.</td>
<td>Not Advantageous</td>
</tr>
<tr>
<td>Consultant does not show a good understanding of stormwater financing and public process, is a poor communicator, does not respond satisfactorily to most questions, or key project team members are not present.</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>
**Tie Breaker**

In the event that the top technical proposals achieve an equal score, the following criteria will be used to break the tie.

**Local Connections**

<table>
<thead>
<tr>
<th>The Prime Consultant maintains their headquarters or a branch office in western Massachusetts (Berkshire, Franklin, Hampshire or Hampden Counties).</th>
<th>Highly Advantageous</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Prime Consultant maintains their headquarters or a branch office elsewhere in Massachusetts.</td>
<td>Advantageous</td>
</tr>
<tr>
<td>The Prime Consultant maintains their headquarters or a branch office in New England.</td>
<td>Not Advantageous</td>
</tr>
<tr>
<td>The Prime Consultant does not maintain a headquarters or branch office in New England.</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

**I. Rule for Award**

Proposals will be evaluated, scored and ranked by the PVPC and Town of Agawam. The award will be made according to the following guidelines:

1. Price and non-price proposals will be separated.

2. Non-price proposals will be evaluated according to the Comparative Evaluation Criteria specified in Section H of this RFP. Evaluations will be in writing and will indicate the rating given for each criterion, the reasons for the rating, a composite rating of each proposal, and the reasons for the composite rating.

3. After the non-price proposals have been evaluated and ranked, price proposals will be opened. Price proposal comparisons will be based on the total fee proposal submitted inclusive of all tasks in the Scope of Services (Attachment A). The best price shall be the lowest total price for all items.

4. Finally, the most advantageous proposal will be determined by the PVPC Chief Procurement Officer (CPO). The determination will be based on by weighing both qualifications and price as well as the following factors:
   a) Whether or not the submission procedures and requirements as set forth in this RFP have been met;
   b) Whether or not the minimum requirements as set forth in this RFP are met;
   c) Whether or not the firm’s or individual’s references are satisfactory;
   d) The merits of the proposed plan of services;
   e) Results from personal and/or telephone interviews, if conducted; and
   f) The comparative evaluation ratings.

PVPC reserves the right to award the contract up to the maximum amount of funding available.
As previously noted, the PVPC reserves the right to reject any proposal which, in its judgment, fails to meet the requirements of this RFP or which is incomplete, conditional, or obscure; or which contains additions or irregularities; or in which errors occur; or if it is determined to be in the best interests of the PVPC to do so.

The PVPC reserves the right to waive minor discrepancies or permit a competing firm to clarify such discrepancies and so conduct discussions with all qualified competing firms in any manner necessary to serve the best interests of the PVPC. The PVPC reserves the right to award the contract up to thirty (30) days after the proposal due date. Furthermore, the PVPC also reserves the right to award a contract based upon written proposals received without prior discussions or negotiations. The PVPC will be the awarding and contracting authority.
ATTACHMENT A: SCOPE OF SERVICES

Consultant Services for
Town of Agawam Stormwater System Assessment
and Utility/Fee Planning

Task 1 - Identify major needs, priorities and costs for stormwater program

Identify major needs, priorities and costs for Agawam’s municipal stormwater program to produce estimate of revenue requirements that will help to inform rate and rate structure. Characterize existing stormwater infrastructure and describe specific problems, evaluate financial needs, forthcoming capital costs, MS4 permit compliance costs, and define priorities in conversation with DPW director and engineering staff.

Deliverables:
- Written report describing existing infrastructure needs, costs, and priorities, and MS4 permit compliance costs
- Presentations for citizen advisory task force on report and its findings

Task 2 - Conduct parcel analysis and calculate equivalent residential unit

Work with Pioneer Valley Planning Commission to review existing GIS parcel data and attributes to assess impervious area by land use characteristics in Agawam. Then determine the financial impact of assessing rates based on impervious area for Task #3 below. Determine how current utility billing can be brought together with GIS information and improved for a stormwater utility. Conduct the parcel analysis and work closely with the consulting firm in calculating the ERU and evaluating the capacity of the current billing system to interface with GIS information.

Deliverables:
- Total impervious area and parcel count by classification (PVPC to provide)
- Estimated total billing unit and projected ERU charge
- Evaluation of current billing system to interface with GIS information

Task 3 - Define rate structure options, projected income growth, evaluate willingness/ability to pay, possible set up for credits program, and capacity of the Town to logistically support each option

Define and evaluate the financial elements of the stormwater utility to help inform the work of the advisory task force. This will include defining the various options for structuring the rate and describing the Town’s capacity to logistically support each option. A written report will be made available to the advisory task force once the group has agreed on which rate structure seems to make the best sense for Agawam. Provide a draft rate ordinance for inclusion in the task force’s findings and recommendations.
Deliverables:
- Draft rate ordinance (once advisory task force has agreed to which rate structure makes the best sense)
- Written report describing the financial considerations of a stormwater utility

Task 4 - Presentations/Public Meetings

PVPC will work with the Town to recruit and engage a broad based citizen advisory task force that will learn about stormwater funding needs and costs, consider the options in establishing a sustainable funding source for the program, and make recommendations. The consultant will be a critical information resource for this advisory task force throughout the project, which will meet on at least 8 occasions. The project will also involve 2 to 3 larger public meetings.

Deliverables:
- Participate in regular project conference calls to coordinate on project progress
- Attend a minimum of 6 meetings of the advisory task force and all of the larger public meetings (2 to 3)
- Presentation on Task 1 findings (to advisory task force and possibly larger public meeting)
- Presentation on Task 2 findings (to advisory task force and possibly larger public meeting)
- Presentation on Task 3 findings (to advisory task force and possibly larger public meeting)
ATTACHMENT B:

PRICE PROPOSAL SUBMISSION FORM

Consultant Services for
Town of Agawam Stormwater System Assessment
and Utility/Fee Planning

Name of Firm/Individual: ________________________________

Street: ______________________________________________

City/Town: ___________________________________________

State: _________________ Zip Code: ______________________

Refer to Attachment A of RFP for Task Descriptions

<table>
<thead>
<tr>
<th>Task</th>
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</table>

Subtotal
Travel Allowance
Total

SUBMITTED BY:

Name/Title: ________________________________

Signature: ________________________________

Date: ________________________________

ONE (1) ORIGINAL AND SIX (6) COPIES OF THIS FORM MUST BE SUBMITTED TO THE PVPC IN A SEPARATE SEALED ENVELOPE.

This price proposal is inclusive of all labor, overhead, indirect and direct costs.
Certificate of Non Collusion
The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Non Discrimination and Affirmative Action
The Contractor agrees to comply with all applicable Federal and State statutes, rules and regulations prohibiting discrimination in employment, including but not limited to, the Americans with Disabilities Act 42 USC 12101, 28 CFR Part 35, or as amended; 29 USC S.791 et. seq.; Executive Orders 227, 237, 246; MGL C. 151B; and MGL C. 272, S. 92A, S98 et.seq., or any amendments to these provisions. Pursuant to Executive Orders 227 and 246, the Contractor is required to take affirmative actions designed to eliminate the patterns and practices of discrimination including providing written notice of its commitment to non-discrimination to any labor association with which it has an employment agreement, and to certified minority and women-owned businesses and organizations or businesses owned by individuals with disabilities. The SHA/PVPC shall not be liable for any costs associated with the consultant's defense of claims of discrimination.

Public Contracts Debarment
In connection with this bid and all procurement transactions, by signature thereon, the respondent certifies that neither the company nor its principals are suspended, debarred, proposed for debarment, declared ineligible, or voluntarily excluded from the award of contracts, procurement or non procurement programs from the Commonwealth of Massachusetts, United States Federal Government and/or the municipalities of Agawam or East Longmeadow. "Principals" means officers, directors, owners, partners and persons having primary interest, management or supervisory responsibilities with the business entity. Vendors shall provide immediate written notification to the municipalities at any time during the period of the contract of prior or prior to the contract award if the vendor learns of any changed condition with regards to the debarment of the company or its officers. This certification is a material representation of fact upon which reliance will be placed when making the business award. If at any time it is determined that the vendor knowingly misrepresented this certification, in addition to other legal remedies available to the municipalities, the contract will be cancelled and the award revoked.

Qualifications
The Contractor represents that it is qualified to perform the services required under this contract and possesses or shall obtain all requisite licenses and permits.

Tax Compliance Certification
Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.
Employment Security Contributions and Compulsory Workers' Compensation Insurance

Pursuant to MGL C.151A, S.19 and MGL C.152, the Contractor certifies with all laws of the Commonwealth relating to payments to the Employment Security System and all Commonwealth laws relating to required worker's compensation insurance policies.

________________________________
(Signature)

________________________________
(Name of Person Signing Proposal)

________________________________
(Name of Business)

________________________________
(Date)
ATTACHMENT D:

PVPC-MassDEP CONTRACT PROVISIONS

Consultant Services for
Town of Agawam Stormwater System Assessment
and Utility/Fee Planning
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May 2, 2016

Timothy W. Brennan
Executive Director
Pioneer Valley Planning Commission
60 Congress Street
Springfield, MA 01104

RE: Project 16-06/319, Feasibility of a Stormwater Utility for Agawam

Dear Mr. Brennan:

You are hereby given Notice to Proceed with work tasks outlined in the contract between the Department and the Pioneer Valley Planning Commission for the above-named Project 16-06/319, Feasibility of a Stormwater Utility for Agawam. The effective date of this Notice to Proceed is April 20, 2016.

Enclosed you will find an original, signed copy of the Contract. Via email, we will provide (1) a match certification form to document the non-federal match; and (2) a quarterly reporting form, (3) an invoice form, and (4) a Payment Voucher Attachment for M/WBE reporting, which must be filed with each invoice.

All Quarterly Report forms should be emailed to your MassDEP Project Officer, Malcolm Harper, at malcolm.harper@state.ma.us or MassDEP/DMS, 8 New Bond Street, Worcester, MA 01606. All billings, match certification forms, and DMBE/DWBE PV Attachments should be signed by the authorized signatory (e-signature acceptable), scanned, and submitted via email to Christopher Palmer (christopher.palmer@state.ma.us), the Department’s Contract Manager.

Please refer to Project 16-06/319 on all communications regarding this Contract, including official notices, progress reports, and invoices. If you have any questions, please contact Malcolm Harper at 508-767-2795. We look forward to working with you on this project.

Sincerely,

Steven J. McCurdy
Director
Division of Municipal Services

cc: T. Garrigan, USEPA
    Y. Slayman, MassDEP
    C. Palmer, MassDEP
    P. Gambarini, PVPC

This information is available in alternate format. Call Michelle Waters-Ekanem, Diversity Director, at 617-282-5761. TTY# MassRelay Service 1-800-439-2370

MassDEP Website: www.mass.gov/dep
Printed on Recycled Paper
COMMONWELTH OF MASSACHUSETTS ~ STANDARD CONTRACT FORM

This form is jointly issued and published by the Executive Office for Administration and Finance (EOPAF), the Office of the Comptroller (CTR) and the Operational Services Division (OSD) as the default contract for the Commonwealth Departments when another form is not prescribed by regulation or policy. Any changes to the official printed language of this form shall be valid. Additional non-contracting terms may be added by Attachment. Contractors may not change any additional agreements, engagement letters, contract forms or other additional terms as part of this Contract, without OSD approval. Click on hyperlinks for definitions, instructions and legal requirements that are incorporated by reference into this Contract. An electronic copy of this form is available at www.mass.gov/eopaf under Guidance For Vendors - Forms or www.mass.gov/osd under OSD Forms.

CONTRACTOR LEGAL NAME: Pioneer Valley Planning Commission

COMMONWEALTH DEPARTMENT NAME: MMARS Department Code: Department of Environmental Protection

Legal Address: (W-3, W-4, T&C): 60 Congress Street-Floor 1, Springfield, MA 01104-3419

Business Mailing Address: 8 New Bond Street, Worcester MA 01606

Contract Manager: Patty Gambarini

Billing Address (if different): Contract Manager: Christopher Palmer

E-Mail: pgambarini@pvpc.org

Phone: 413-761-6046 Fax: 413-732-2503

E-Mail: christopher.palmer@state.ma.us

Contractor Vendor Code: VC6000159779

Phone: 617-292-5772 Fax: 617-292-6590

Vendor Code Address ID (e.g. "AD001"): AD001

MMARS Doc ID(s): CT EQE 5014

RFR/Procurement or Other ID Number: BW RFR 8 2015-03

Vendor Code Address ID (e.g. "AD001"): AD001

(Note: The Address ID must be set up for EFT payments.)

__ NEW CONTRACT

PROCUREMENT OR EXCEPTION TYPE: (Check one option only)

- Statewide Contract (ODS or OSD-designated Department)
- Collective Purchase (Attach OSD approval, scope, budget)
- Department Procurement (includes State or Federal grants 815 CMR 2.00)
- Emergency Contract (Attach justification for emergency, scope, budget)
- Contract Employee (Attach Employment Status Form, scope, budget)
- Legislative/Legal or Other (Attach authorizing language/justification, scope, and budget)

The following COMMONWEALTH TERMS AND CONDITIONS (T&C) have been executed, filled with CTR and is incorporated by reference into this Contract.

__ Commonwealth Terms and Conditions __ Commonwealth Terms and Conditions for Human and Social Services

COMPENSATION: (Check ONE option): The Department certifies that payments for authorized performance accepted in accordance with the terms of this Contract will be supported in the state accounting system by sufficient appropriations or other non-appropriated funds, subject to intercept for Commonwealth owed debts under 815 CMR 9.00.

- Rate Contract (No Maximum Obligation. Attach details of all rates, units, calculations, conditions or terms and any changes if rates or terms are being amended)
- Maximum Obligation Contract (Enter Maximum Obligation for total duration of this Contract or new Total if Contract is being amended): $66,900.

PROMPT PAYMENT DISCOUNTS (PPD): Commonwealth payments are issued through EFT 45 days from Invoice receipt. Contractors requesting accelerated payments must identify a PPD as follows: Payment issued within 10 days __ % PPD; Payment issued within 15 days __ % PPD; Payment issued within 20 days __ % PPD; Payment issued within 30 days __ % PPD. If PPD percentages are left blank, identify reason: X__agrees to standard 45 day cycle __ statutory/legal or Ready Payments (G.L. c. 23, § 23A): __ initial payment (subsequent payments scheduled to support standard EFT 45 day payment cycle. See Prompt Pay Discounts Policy.)

BRIEF DESCRIPTION OF CONTRACT PERFORMANCE: (Enter the Contract title, purpose, fiscal year(s) and a detailed description of the scope of performance or what is being amended for a Contract Amendment. Attach all supporting documentation and justifications.)

Project 10-09-2019, Feasibility of a Stormwater Utility for Agawam grant project

ANTICIPATED START DATE: (Complete ONE option only) The Department and Contractor certify for this Contract, or Contract Amendment, that Contract obligations:

- 1. may be incurred as of the Effective Date (latest signature date below) and no obligations have been incurred prior to the Effective Date
- 2. may be incurred as of __________, 20__, a date LATER than the Effective Date below and no obligations have been incurred prior to the Effective Date
- 3. were incurred as of _________, 20__, a date PRIOR to the Effective Date below, and the parties agree that payments for any obligations incurred prior to the Effective Date are authorized to be made either as settlement payments or as authorized reimbursement payments, and that the details and circumstances of all obligations under this Contract are attached and incorporated into this Contract, Acceptance of payments forever releases the Commonwealth from further claims related to these obligations.

CONTRACT END DATE: Contract performance shall terminate as of June 30, 2018, with no new obligations being incurred after this date unless the Contract is properly amended, provided that the terms of this Contract and performance expectations and obligations shall survive its termination for the purpose of resolving any claim or dispute, for completing any negotiated terms and warranties, to allow any close out or transition performance, reporting, invoicing or final payments, or during any lapse between amendments.

CERTIFICATIONS: Notwithstanding verbal or other representations by the parties, the “Effective Date” of this Contract or Amendment shall be the latest date that this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, or a later Contract or Amendment Start Date specified above, subject to any required approvals. The Contractor makes all certifications required under the attached Contractor Certifications (incorporated by reference if not attached here) under the pains and penalties of perjury, agrees to provide any required documentation upon request to support compliance, and agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein according to the following hierarchy of document precedence, the applicable Commonwealth Terms and Conditions, this Standard Contract Form including the Instructions and Contractor Certifications, the Request for Response (RFR) or other solicitation, the Contractor's Response, and additional negotiated terms, provided that additional negotiated terms will take precedence over the relevant terms in the RFR and the Contractor's Response only if made using the process outlined in 801 CMR 21.07. Incorporated herein, provided that any amended RFR or Response terms result in best value, lower costs, or a more cost effective Contract.

AUTHORIZED SIGNATURE FOR THE CONTRACTOR:

X: __________________________ Date: 3/21/14

(Signature and Date Must Be Handwritten At Time of Signature)

Print Name: Timothy W. Brennan Print Title: Executive Director

AUTHORIZED SIGNATURE FOR THE COMMONWEALTH:

X: __________________________ Date: 4/1/16

(Signature and Date Must Be Handwritten At Time of Signature)

Print Name: Bawa Wawrzecki Print Title: Director COM Fiscal

(Updated 3/21/2014) Page 1 of 5
INSTRUCTIONS AND CONTRACTOR CERTIFICATIONS

The following instructions and terms are incorporated by reference and apply to this Standard Contract Form. Text that appears underlined indicates a “hyperlink” to an Internet or bookmarked site and are unofficial versions of these documents and Departments and Contractors should consult with their legal counsel to ensure compliance with all legal requirements. Using the Web Toolbar will make navigation between the form and the hyperlinks easier. Please note that all applicable laws have been applied. Text that appears underlined indicates a “hyperlink” to an Internet or bookmarked site.

CONTRACTOR LEGAL NAME (AND DIBIA): Enter the Full Legal Name of the Contractor's business as it appears on the Contractor’s W-4 or W-4 Form (Contract Employees only) and the applicable Commonwealth Terms and Conditions if Contractor also has a “doing business as” (d/b/a) name. BOTH the legal name and the “d/b/a” name must appear in this section.

Contractor Legal Address: Enter the Legal Address of the Contractor as it appears on the Contractor's W-4 or W-4 Form (Contract Employees only) and the applicable Commonwealth Terms and Conditions, which must match the legal address on the 1099 table in MMARS (or the Legal Address in HRCMS for Contract Employee).

Contractor Contract Manager: Enter the authorized Contract Manager who will be responsible for managing the Contract. The Contract Manager should be an Authorized Signatory or, at a minimum, a person designated by the Contractor to represent the Contractor, receive legal notices and negotiate ongoing Contract issues. The Contract Manager is considered “Key Personnel” and may not be changed without the prior written approval of the Department. If the Contract is posted on COMMBUYs, the name of the Contract Manager must be included in the Contract on COMMBUYs.

Contractor E-Mail Address/Phone/Fax: Enter the electronic mail (e-mail) address, phone and fax number of the Contractor Contract Manager. This information must be kept current by the Contractor to ensure that the Department can contact the Contractor and provide any required legal notices. Notice received by the Contractor Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any written legal notice requirements.

Contractor Vendor Code: The Department must enter the MMARS Vendor Code assigned by the Commonwealth. If a Vendor Code has not yet been assigned, leave this space blank and the Department will complete this section when a Vendor Code has been assigned. The Department is responsible under the Vendor File and W-9 P hollow for verifying with authorized signatories of the Contractor, as part of contract execution, that the legal name, address and Federal Tax Identification Number (TIN) in the Contract documents match the state accounting system.

Vendor Code Address ID: (e.g., “AD001”) The Department must enter the MMARS Vendor Code Address Id identifying the payment remittance address for Contract payments, which MUST be set up for EFT payments PRIOR to the first payment under the Contract in accordance with the Bill Paying and Vendor File and W-9 policies.

COMMONWEALTH DEPARTMENT NAME: Enter the full Department name with the authority to obligate funds encumbered for the Contract.

Commonwealth MMARS Alpha Department Code: Enter the three (3) letter MMARS Code assigned by the Commonwealth Department in the state accounting system.

Department Business Mailing Address: Enter the address where all formal correspondence to the Department must be sent. Unless otherwise specified in the Contract, legal notice sent or received by the Department's Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address for the Contract Manager will meet any requirements for written notice.

Department Billing Address: Enter the Billing Address or email address if invoices must be sent to a different location. Billing or confirmation of delivery of performance issues should be resolved through the listed Contract Managers.

Department Contract Manager: Identify the authorized Contract Manager who will be responsible for managing the Contract, who should be an authorized signatory or an employee designated by the Department to represent the Department to receive legal notices and negotiate ongoing Contract issues.

Department E-Mail Address/Phone/Fax: Enter the electronic mail (e-mail) address, phone and fax number of the Department Contract Manager. Unless otherwise specified in the Contract, legal notice sent or received by the Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any requirements for written notice under the Contract.

MMARS Document ID(s): Enter the MMARS 20 character encumbrance transaction number associated with this Contract which must remain the same for the life of the Contract. If multiple numbers exist for this Contract, identify all Doc. ids.

RFR/Procurement or Other ID Number or Name: Enter the Request for Response (RFR) or other Procurement Reference number, Contract ID Number or other reference/tracking number for this Contract or Amendment and will be entered into the Board Award Field in the MMARS encumbrance transaction for this Contract.

NEW CONTRACTS (left side of Form): Complete this section ONLY if this Contract is brand new. Complete the CONTRACT AMENDMENT section for any material changes to an existing or an expired Contract, and for exercising options to renew or annual contracts under a multi-year procurement or grant program.

PROCUREMENT OR EXCEPTION TYPE: Check the appropriate type of procurement or exception for this Contract. Only one option can be selected. See State Finance Law and General Requirements, Acquisition Policy and Fixed Assets, the Commodities and Services Policy and the Procurement Information Center (Department Contract Guidance) for details.

Statewide Contract (OSD or an OSD-designated Department). Check this option for a Statewide Contract under OSD, or by an OSD-designated Department.

Collective Purchase approved by OSD. Check this option for Contracts approved by OSD for collective purchases through federal, state, local government or other entities.

Department Contract Procurement. Check this option for a Department procurement including state grants and federal sub-grants under 215 CMR 2.00 and State Grants and Federal Subgrants Policy, Departmental Master Agreements (MA). If multi-Department user Contract, Identify multi-Department use is allowable in Brief Description.

Emergency Contract. Check this option when the Department has determined that an unforeseen crisis or incident has arisen which requires or mandates immediate purchases to avoid substantial harm to the functioning of government or the provision of necessary or mandated services or whenever the health, welfare or safety of clients or other persons or serious damage to property is threatened.

Contract Employee. Check this option when the Department requires the performance of an Individual Contractor, and when the planned Contract performance with an Individual has been classified using the Employment Status Form (prior to the Contractor's selection) as work of a Contract Employee and not that of an Independent Contractor.

Legislative/Legal or Other. Check this option when legislation, an existing legal obligation, prohibition or other circumstance exempts or prohibits a Contract from being competitively procured, or identify any other procurement exception not already listed.

Interim Contract. Check this option for Contracts approved by any “emergency” exempt the Contract solely from procurement requirements, and all other Contract and state finance laws and policies apply. Supporting documentation must be attached to explain and justify the exemption.

CONTRACT AMENDMENT (Right Side of Form): Complete this section for any Contract being renewed, amended or to continue a lapsed Contract. All Contracts with available options to renew must be amended referencing the original procurement and Contract docs ids, since all continuing contracts must be maintained in the same Contract file (even if the underlying appropriation changes each fiscal year.) See Amendments, Suspensions, and Termination Policy.

Enter Current Contract End Date: Enter the termination date of the Current Contract being amended, even if this date has already passed. (Note: Current Start Date is not requested since this date does not change and is already recorded in MMARS.)

Enter Amendment Amount: Enter the amount of the Amendment increase or decrease to a Maximum Obligation Contract. Enter “no change” for Rate Contracts or if no change.

AMENDMENT TYPE: Identify the type of Amendment being done. Documentation supporting the updates to performance and budget must be attached. Amendment to Scope or Budget. Check this option when renewing a Contract or executing any Amendment ("material change" in Contract terms) even if the Contract has lapsed. The parties may negotiate a change in any contract solely from procurement requirements, and all other Contract and state finance laws and policies apply. Support documentation must be attached to explain and justify the exemption.

Interim Contracts. Check this option for an Interim Contract to prevent a lapse of Contract performance whenever an existing Contract is being re-procured but the new procurement has not been completed, to bridge the gap during implementation between an expiring and a new procurement, or to contract with an Interim Contractor when a current Contractor is unable to complete full performance under a Contract.

Contract Employee. Check this option when the Department requires a renewal or other amendment to the performance of a Contract Employee.

Legislative/Legal or Other. Check this option when legislation, an existing legal obligation, prohibition or other circumstance exempts or prohibits a Contract from being competitively procured, or identify any other procurement exception not already listed. Legislative "earmarks" exempt the Contract solely from procurement requirements, and all other Contract and state finance laws and policies apply. Attach supporting documentation to explain and justify the exemption and whether Contractor selection has been publicly
The Department must enter the date that Contract performance will terminate. If the Contract is being amended and the Contract End Date is not changing, this date must be re-entered again here. A Contract must be signed for at least the initial duration but not longer than the period of procurement listed in the RFR, or other solicitation document (if applicable). No new performance is allowable beyond the end date without a new ethical solicitation, but the Department may allow a Contractor to complete minimal close out performance obligations if substantial performance has been made prior to the termination date of the Contract and prior to the end of the fiscal year in which payments are appropriated, provided that any close out performance is subject to appropriation and funding limits under state finance law, and CTR may adjust encumbrances and payments in the state accounting system to enable final close out payments. Performance dates are subject to G.L. c. 4, §3.

CERTIFICATIONS AND EXECUTION

See Department Head Signature Authorization Policy and the Contractor Authorized Signatory Listing for policies on Contractor and Department signatures.

Authorizing Signature for Contractor/Date: The Authorizer Authorized Signatory must (in their own handwriting and in ink) sign AND enter the date the Contract is signed. See section above under “Anticipated Contract Start Date”. Acceptance of payment by the Contractor shall waive any right of the Contractor to claim the Contract/Amendment is not valid and the Contractor may not void the Contract. Rubber stamps, typed or other images are not acceptable. Proof of Contractor signature authorization on a Contractor Authorized Signatory Listing may not be required for a public website but must appear legibly on file. Contractor Name/Title: The Contractor Authorized Signatory’s name and title must appear legibly as it appears on the Contractor Authorized Signatory Listing.

Authorizing Signature For Commonwealth/Date: The Authorizer Authorized Signatory must (in their own handwriting and in ink) sign AND enter the date the Contract is signed. See section above under “Anticipated Contract Start Date”. Rubber stamps, typed or other images are not accepted. The Authorizer Authorized Signatory must be an employee within the Department legally responsible for the Contract. See Department Head Signature Authorization. The Department must have the legislative funding appropriated for all the costs of this Contract or funding allocated under an approved Interdepartmental Service Agreement (ISA). A Department may not contract for performance to be delivered to or by another state department if the principal legislative authorizing (unless this Contract is a Statewide Contract). For Contracts requiring Secretary sign, evidence of Secretary signoff must be included in the Contract file. Department Name/Title: Enter the Authorized Signatory’s name and title legibly.

CONTRACTOR CERTIFICATIONS AND LEGAL REFERENCES

Notwithstanding verbal or other representations by the parties, the “Effective Date” of this Contract or Amendment shall be the latest date that this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, or a later Contract or Amendment Start Date specified, subject to any required approvals. The Contractor makes all certifications required under this Contract under the pains and penalties of perjury, and agrees to provide any required documentation upon request to support compliance, and agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein:

- Commonwealth and Contractor Ownership Rights. The Contractor certifies and agrees that the Commonwealth is entitled to ownership and possession of all “deliverables” purchased or developed with contract funds. A Department may not relinquish Commonwealth rights to deliverables nor may Contractors sell products developed with Commonwealth resources without just compensation. The Contract should detail all Commonwealth deliverables and ownership rights and any Contractor proprietary rights.

- Qualifications. The Contractor certifies it is qualified and shall at all times remain qualified to perform this Contract; that performance shall be timely and meet or exceed industry standards for the performance required, including obtaining required licenses, registrations, permits, resources for performance, and sufficient professional, liability; and other appropriate insurance to cover the performance. If the Contractor is a business, the Contractor certifies that it is listed under the Secretary of State’s website as licensed to do business in Massachusetts, as required by law.

- Business Ethics and Fraud, Waste and Abuse Prevention. The Contractor certifies that performance under this Contract, in addition to meeting the terms of the Contract, will be made under ethical business standards and good stewardship of taxpayer and other public resources and assets to prevent fraud, waste and abuse. Collusion. The Contractor certifies that this Contract has been offered in good faith and without collusion, fraud or unfair trade practices with any other person, that any actions to avoid or frustrate fair and open competition are prohibited by law, and shall be grounds for rejection or disqualification of a Response or termination of this Contract.

Public Records and Access The Contractor shall provide full access to records related to performance and compliance to the Department and officials listed under Executive Order 195 and G.L. c. 11 §12 seven (7) years beginning on the first day after the final payment.
under this Contract or such longer period necessary for the resolution of any litigation, claim, negotiation, audit or other inquiry involving this Contract. Access to view Contractor records related to any breach or allegation of fraud, waste and/or abuse may not be denied and Contractor cannot claim confidentiality or trade secret protection solely for viewing but not retaining documents. Routine Contract performance compliance reports of documents related to any alleged breach or allegation of non-compliance, fraud, waste, abuse or confusion may be provided electronically and shall be provided at Contractor's own expense. Reasonable costs for copies of non-routine Contract related records shall not exceed the rates for public records under 950 C.M.R. 32.00.

Debarment. The Contractor certifies that neither it nor any of its subcontractors are currently debarred or suspended by the federal or state government under any law or regulation including, Executive Order 147; G.L. c. 29, s. 72F; G.L. c. 30, s. 38R; G.L. c. 149, s. 27G; G.L. c. 149, s. 44C; G.L. c. 149, s. 148B and G.L. c. 152, s. 25C.

Applicable Laws. The Contractor shall comply with all applicable state laws and regulations including but not limited to the applicable Massachusetts General Laws; the Official Code of Massachusetts Regulations; Code of Massachusetts Regulations (unofficial); 801 CMR 21.00 (Procurement of Commodities and Service Provider Including Human and Social Services); 815 CMR 2.00 (Grants and Subsidies); 408 CMR 1.00 (Compliance, Reporting and Auditing for Human and Social Services); AICPA Standards; confidentiality of Department records under G.L. c. 66A; and the Massachusetts Constitution Article XVII if applicable.

Invoices. The Contractor must submit invoices in accordance with the terms of the Contract and the Commonwealth Bill Paying Policy. Contractors must be able to reconcile and properly attribute concurrent payments from multiple Departments. Final invoices in any fiscal year must be submitted no later than August 15th for performance made and received (goods delivered, services completed) prior to June 30th. In accordance with filing fees for the month of fiscal year, regarding the certification of non-appropriation of funds and allotment, or sufficient non-appropriated available funds. Any oral or written representation, commitments, or assurances made by the Department or any other Commonwealth representative are not binding. The Commonwealth has no legal obligation to compensate a Contractor for performance that is not requested and is intentionally delivered by a Contractor outside the scope of a Contract. Contractors should verify funding prior to beginning performance.

Deposit. Contractors may be registered as Customers in the Vendor file if the Contractor agrees to a zero balance deposit of undeposited, and overpayments of Contract payments that are not reimbursed timely shall be subject to prompt reconsideration pursuant to G.L. c. 7A, s. 3 and 815 CMR 9.00. Contract overpayments will be subject to immediate intercept or payment offset. The Contractor may not penalize any state Department or assess late fees, cancel a Contract or other services if amounts are intercapped or offset due to resumption of an overpayment, outstanding taxes, support, other overdue debts or Contract overpayments.

Tax Law Compliance. The Contractor certifies under the pains and penalties of perjury tax compliance with Federal tax laws: state tax laws including but not limited to G.L. c. 62C, G.L. c. 92C, s. 49A; compliance with all state tax laws, reporting of employees and contractors that are employers certify compliance with all applicable employment taxes and child support obligations in good standing with respect to all state taxes and returns due, reporting of employers and contractors under G.L. c. 62E, withholding and remitting child support including G.L. c. 119A, s. 12; TIR 05-11: New Independent Contractor Provisions and applicable TIRs.

Bankruptcy, Judgments, Potential Structural Changes, Pending Legal Matters and Conflicts. The Contractor certifies it has not been in bankruptcy and/or receivership within the last three calendar years, and the Contractor certifies that it will immediately notify the Department in writing at least 45 days prior to filing for bankruptcy and/or receivership, any potential structural change in its organization, or if there is any risk to the solvency of the Contractor that may impact the Contractor's ability to timely fulfill the terms of this Contract. A Commonwealth debt. Unresolved and that at any time during the period of execution of this Contract the Contractor is required to affirmatively disclose in writing to the Department Contract Manager the details of any judgment, criminal conviction, investigation or litigation pending against the Contractor or any of its officers, directors, employees, agents, or subcontractors, including any potential conflicts of interest of which the Contractor has knowledge, or learnings of during the Contract term. Law firms or Attorneys providing legal services are required to identify any potential conflict with representation of any Department client in accordance with Massachusetts Board of Bar Overseers (BBO) rules.

Federal Anti-Lobbying and Other Federal Requirements. If receiving federal funds, the Contractor certifies compliance with federal anti-lobbying requirements including 31 USC 1352; other federal requirements: Executive Order 11246; Air Pollution Act; Federal Water Pollution Control Act and Federal Employment Laws.

Protection of Personal Data and Information. The Contractor certifies that all steps will be taken to ensure the security and confidentiality of all Commonwealth data for which the Contractor becomes a holder, either as part of performance or inadvertently during performance of a Contract, with special attention to restricting access, use and disposition of personal data and information under G.L. c. 93H and c. 66A and Executive Order 504. The Contractor is required to comply with G.L. c. 93H for the proper disposal of all paper and electronic media, backups or systems containing personal data and information, provided further that the Contractor is required to ensure that any personal data or information transmitted electronically or through a portable device be properly encrypted using a (at a minimum) Information Technology Division (ITD) Protection of Sensitive Information, provided further that any Contractor having access to credit card or banking information of Commonwealth customers certifies that the Contractor is PCI compliant in accordance with the Payment Card Industry Council Standards and shall provide confirmation compliance during the Contract, provide further that the Contractor shall immediately notify the Department in the event of any security breach including the unauthorized access, disposition, use or disposal of personal data or Information, and in the event of a security breach, the Contractor shall cooperate fully with the Commonwealth and provide access to any information necessary for the Commonwealth to respond to the security breach and shall be fully responsible for any damages associated with the Contractor's breach including but not limited to G.L. c. 37A, s. 40A.

Corporate and Business Filings. The Contractor certifies compliance with all applicable federal and state laws and regulations prohibiting discrimination, including but not limited to, filing, reporting and service of process requirements of the Secretary of the Commonwealth, the Office of the Attorney General or other Departments as related to its conduct of business in the Commonwealth; and with its incorporating state (or foreign entity).

Employer Requirements. Contractors that are employers certify compliance with the Commonwealth Bill Paying Policy and the State's Employment Opportunity (SEO) laws with the Americans with Disabilities Act; 42 USC Sec. 12101, et seq., the Rehabilitation Act, 29 USC s. 794; 29 USC s. 16; 701; 29 USC s. 14, 629; the 42 USC s. 45; (Federal Housing Act); G.L. c. 151B (Unlawful Discrimination); G.L. c. 151C (Business Discrimination); G.L. c. 152 (Workers' Compensation); G.L. c. 153 (Liability for Injuries); 29 USC s. 6 (Fair Labor Standards); 29 USC s. 26 and the Federal Family and Medical Leave Act.

Federal And State Laws And Regulations Prohibiting Discrimination Including but not limited to the Federal Equal Employment Opportunity (EEO) Laws the Americans with Disabilities Act: 42 U.S.C. Sec. 12101, et seq., the Rehabilitation Act, 29 USC s. 794; 29 USC s. 16; 701; 29 USC s. 14, 629; the 42 USC s. 45; (Federal Housing Act); G.L. c. 151B (Unlawful Discrimination); G.L. c. 151C (Business Discrimination); the Public Accommodations Law G.L. c. 272, s. 92A; G.L. c. 272, s. 98 and 98A, Massachusetts Constitution Article CXIV and G.L. c. 93, s. 103; 47 USC s. 5, ss. II, Part II, s. 255 (Telecommunication Act); Chapter 149, s. 151C, G.L. c. 272, Section 92A, Section 98 and Section 98A, and G.L. c. 111, Section 199A, and Massachusetts Disability-Based Non-Discrimination Standards For Executive Branch Entities, and related Standards and Guidelines, authorized under Massachusetts Executive Order or any disability-based protection arising from state or federal law or precedent. See also MACED and MACED links and Resources.

Small Business Purchasing Program. A Contractor may be eligible to participate in the SBPP, created pursuant to Executive Order 523, if qualified through the SBPP COMMBUYs subscription process at: www.commbuys.com and with acceptance of the terms of the SBPP participation agreement.

Limitation of Liability for Information Technology Contracts (and other Contracts as Authorized). The Information Technology Mandatory Specifications and the IT Acquisition Accessibility Contract Language are incorporated by reference into Information Technology Contracts. The following language will apply to Information Technology contracts in the U01, U02, U03, U04, U05, U07, U08, U10, U15, U75, U09 object codes in the Contract. Any party to the Contract, or its contractors shall be liable to the Commonwealth for any damage, cost or expense incurred by the Commonwealth in connection with any breach of the terms of the Contract, including, without limitation, any costs incurred to repair, return, replace or seek cover (purchase of comparable substitute commodities and services) under a Contract. "Other damages" shall not include damages to the Commonwealth as a result of third party claims, provided, however, that the foregoing in no way limits the Commonwealth's right of recovery for personal injury or property damages or patent and copyright infringement under Section 11 or the Commonwealth's ability to join the contractor as a third party defendant. Further, the term
"other damages" shall not include, and in no event shall the contractor be liable for, damages for the Commonwealth's use of contractor provided products or services, loss of Commonwealth records, or data (or other Intangible property), loss of use of equipment, lost revenue, lost savings or lost profits of the Contractor. In no event shall "other damages" exceed the greater of $100,000, or two times the value of the product or service, as defined in the Contract scope of work) that is the subject of the claim. Section 11 sets forth the contractor's entire liability under a Contract. Nothing in this section shall limit the Commonwealth's ability to negotiate higher limitations of liability in a particular Contract, provided that any such limitation must specifically reference Section 11 of the Commonwealth Terms and Conditions. In the event the limitation of liability conflicts with accounting standards which mandate that there can be no cap of damages, the limitation shall be considered waived for that audit engagement. These terms may be applied to other Contracts only with prior written confirmation from the Operational Services Division or the Office of the Comptroller. The terms in this Clarification may not be modified.

Northern Ireland Certification. Pursuant to G.L. c. 7. s. 22C for state agencies, state authorities, the House of Representatives or the state Senate, by signing this Contract the Contractor certifies that it does not employ ten or more employees in an office or other such employees by the Contractor, or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interests of the Contractor.

Indirectly owned at least 51% of the ownership interests of the Contractor, or which directly owned at least 51% of the ownership interests of the Contractor.

be entitled to rescind this Contract. As used herein, an affiliated company shall be any company defined, participates in or cooperates with an International boycott (See IRC § 999(b)(3) and "NN" and "US" object codes subject to G.L. Chapter 23, s. 264). Contractors must make required disclosures as part of the RFR Response or using the Consultant Contractor Mandatory Submission Form.

Attorneys. Attorneys or firms providing legal services or representing Commonwealth Departments shall be subject to G.L. c. 30, s. 65, and if providing litigation services must be approved by the Office of the General to appear on behalf of a Department, and shall have a continuing obligation to notify the Commonwealth of any conflicts of interest arising under the Contract.

Contractor Subperformance. The Contractor certifies full responsibility for Contract performance, including subcontractors, and that comparable Contract terms will be included in subcontracts, and that the Department will not be required to directly or indirectly manage subcontractors or have any payment obligations to subcontractors.

EXECUTIVE ORDERS

For covered Executive state Departments, the Contractor certifies compliance with applicable Executive Orders (see also Massachusetts Executive Orders), including but not limited to the specific orders listed below. A breach during period of a Contract may be considered a material breach and subject Contractor to appropriate monetary or Contract sanctions.

Executive Order 481. Prohibiting the Use of Undocumented Workers on State Contracts. For all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now or hereafter established, the Contractor shall: (1) obtain a copy, review, and comply with the contracting agency's Information Security Program (ISP) and any pertinent security guidelines, standards, and policies; (2) comply with all of the Commonwealth Information Technology Division's "Security Policies"; (3) communicate and enforce the contracting agency's ISP and any pertinent security guidelines, standards, and policies.

Information Technology Division's "Security Policies" (3) communicate and enforce the contracting agency's ISP and any pertinent security guidelines, standards, and policies.

Regarding the Security and Confidentiality of Personal Information.

For all Contracts involving the Contractor's access to personal Information, as defined in G.L. c. 93H and personal data, as defined in G.L. c. 66A, owned or controlled by Executive Department agencies, or access to agency systems containing such information or data (herein collectively "personal information"). Contractor certifies under the pains and penalties of perjury that the Contractor (1) has read Massachusetts Executive Order 504 and agrees to protect any and all personal information; and (2) has reviewed all of the Commonwealth Information Technology Division's Security Policies. Notwithstanding any contractual provision to the contrary, in connection with the Contractor's performance under this Contract, for all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now or hereafter established, the Contractor shall: (1) obtain a copy, review, and comply with the contracting agency's Information Security Program (ISP) and any pertinent security guidelines, standards, and policies; (2) comply with all of the Commonwealth Information Technology Division's "Security Policies"; (3) communicate and enforce the contracting agency's ISP and such Security Policies against all employees (whether such employees are direct or contracted) and subcontractors; (4) implement and maintain any other reasonable appropriate security procedures and practices necessary to protect personal Information to which the Contractor is given access by the contracting agency from the unauthorized access, destruction, use, modification, disclosure or loss of the personal Information (collectively referred to as the "unauthorized use"); (5) immediately notify the contracting agency if the Contractor becomes aware of the unauthorized use; (b) provide full cooperation and access to Information necessary for the contracting agency to determine the scope of the unauthorized use; and (c) provide full cooperation and access to information necessary for the contracting agency and the Contractor to fulfill any notification requirements. Breach of these terms may be regarded as a material breach of this Contract, such that the Commonwealth may exercise any and all contractual rights and remedies, including without limitation indemnification under Section 11 of the Commonwealth's Terms and Conditions, withholding of payments, Contract suspension, or termination. In addition, the Contractor may be subject to applicable statutory or regulatory penalties, including and without limitation, those imposed pursuant to G.L. c. 93H and under G.L. c. 214, § 36 for violations under G.L. c. 66A.

Executive Orders 523, 524 and 526. Executive Order 526 (Order Regarding Non-Discrimination, Diversity, Equal Opportunity and Affirmative Action which supersedes Executive Order 473). Executive Order 524 (Establishing the Massachusetts Supplier Diversity Program which supersedes Executive Order 390). Executive Order 523 (Establishing the Massachusetts Small Business Purchasing Program.) All programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background. The Contractor and any subcontractors may not engage in discriminatory employment practices; and the Contractor certifies compliance with applicable federal and state laws, rules, and regulations governing fair labor and employment practices; and the Contractor commits to purchase supplies and services from certified minority or women-owned businesses, small businesses, or businesses owned by socially or economically disadvantaged persons or persons with disabilities. These provisions shall be enforced through the contracting agency, OSG, and the Massachusetts Commission Against Discrimination. Any such provision shall be regarded as a material breach of the contract that may subject the contractor to appropriate sanctions.

Executive Order 139. Anti-Boycott. The Contractor warrants, represents and agrees that during the time this Contract is in effect, neither it nor any affiliated company, as hereinafter defined, participates in or cooperates with an International boycott (See IRC § 999(b)(3) and "NN" and "US" object codes subject to G.L. Chapter 23, s. 264). A breach in the warranty, representation, and agreement contained in this paragraph, without limiting such other rights as it may have, the Commonwealth shall be entitled to rescind this Contract. As used herein, an affiliated company shall be any business entity of which at least 51% of the ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interests of the Contractor, or which directly or indirectly owns at least 51% of the ownership interests of the Contractor.

Executive Order 346. Hitting of State Employees by State Contractors. Contractor certifies compliance with both the conflict of interest law G.L. c. 26A specifically s. 5 (i) and this order; and includes limitations regarding the hitting of state employees by private companies contracting with the Commonwealth. A privatization contract shall be deemed to include a specific prohibition against the hiring of at any time during the term of Contract, and for any position in the Contractor's company, any state management employee who is, was, or will be involved in the preparation of the RFP, the negotiations leading to the awarding of the Contract, the decision to award the Contract, and/or the supervision or oversight of performance under the Contract.

Executive Order 444. Disclosure of Family Relationships With Other State Employees. Each person applying for employment (including Contract work) within the Executive Branch under the Governor must disclose in writing the names of all immediate family related to immediate family by marriage who serve as employees or elected officials of the Commonwealth. All disclosures made by applicants hired by the Executive Branch under the Governor shall be made available for public inspection to the extent permissible by law by the official with whom such disclosure has been filed.
Feasibility of a Stormwater Utility for Agawam
16-06/319

Introduction:
This project will study the possibility of establishing a stormwater utility in Agawam. It will identify major needs and costs for a municipal stormwater program and evaluating billing, unit, rate, and other financial considerations. Goals for the project including a robust public engagement process to promote deep understanding of the challenges as well as full engagement in exploring a sustainable source of funding for the stormwater program. This process will be achieved in large part through the use of a citizen’s advisory group with appointments from key political leaders and representation from the breadth of stakeholders (residents, businesses, institutions).

Project work will also focus on elevating the visibility of municipal stormwater work through educational materials. The Grantee is the Pioneer Valley Planning Commission.

Project Goals:
Engage a citizen’s advisory group to learn about needs, costs, and options in establishing a sustainable funding source for Agawam’s stormwater program. Conduct investigations to help inform ensure better understanding of local perceptions of stormwater issues. The other goals are:

- Identify stormwater program needs and costs in terms of compliance with the forthcoming permit and priority infrastructure repairs and improvements
- Evaluate fee models/rate methodologies and identify which would work best for Agawam
- Describe costs for implementation and define a strategy for moving forward.

Targeted Pollutants and Waterbodies:
The pollutant of concern: nutrients and pathogens. The waterbodies of concern are the Westfield and Connecticut Rivers.

Scope of Services:
The scope of services for this contract shall consist of the following tasks and deliverables as outlined below, consistent with the Grantee’s technical proposal received on June 2, 2015 and as outlined in the RFR of April 1, 2015. In order for a deliverable to be considered complete under the contract, the deliverable must be completed in accordance with the contract specifications and contract schedule, must be approved by MassDEP.

Task 1: Hire consulting firms that are qualified to help with more technical aspects of project. Contractor will define stormwater program costs, ensure data is in good form, and evaluate rate methodologies and related billing and credit systems for Agawam. The other firm is to produce exceptional graphics for communicating about stormwater work and help with messaging based on results of surveys and interviews.

Deliverable 1:
- Requests for proposals
- Proposal evaluation forms
Task 2: Identify major needs, priorities and costs for Agawam’s municipal stormwater program to produce an estimate of revenue requirements that will help to inform rate and rate structure. Characterize existing infrastructure and describe specific problems, evaluate financial needs forthcoming capital costs and MS4 permit compliance costs, and define priorities.

Deliverable 2:
Written report describing existing infrastructure needs, costs, and priorities, and permit compliance costs.

Task 3: Recruit and engage a broad-based citizen advisory task force that will learn about stormwater funding needs in Agawam, explore possible funding options, and make recommendations. It should be composed of appointees, with attention to ensuring representation from the various types of property owners, as well as senior citizens in Agawam. The task force will learn in-depth about the needs and costs for Agawam’s stormwater program, consider the options in establishing a sustainable funding source for the program, and make recommendations.

Deliverable 3:
- Advisory task force members and their affiliations
- At least 8 meetings of the advisory committee with attendance lists, and written notes from each meeting
- Written findings/recommendations from the advisory task force with a recommended strategy for moving forward

Task 4: Conduct other public outreach and education to help promote understanding about stormwater funding needs, but also define what matters most to Agawam’s property owners. Conduct interviews or a survey that provides information for defining and articulating a meaningful local case for stormwater funding. Project work will also help to elevate the visibility of municipal stormwater work through educational materials that clearly depict drinking water, wastewater, and stormwater systems so that people understand the distinctions and importance of each system. Following on the advisory task force’s recommendations, provide support for conducting 2 to 3 larger public meetings so that the work of the task force and recommendations can be widely shared.

Deliverable 4:
- Results from a series of interviews or survey
- Outreach materials supporting a meaningful local case for stormwater funding
- 2 to 3 public meetings with accompanying publicity, attendance lists, and presentation materials

Task 5: Conduct parcel analysis and calculate equivalent residential unit (ERU)
Review existing GIS parcel data and attributes to assess impervious area by land use characteristics in Agawam. Determine the financial impact of assessing rates based on impervious area for Task #6 below. Determine how current utility billing can be brought together with GIS information and improved for a stormwater utility. Conduct the parcel analysis and work closely with the consulting firm in calculating the ERU and evaluating the capacity of the current billing system to interface with GIS information.

Deliverable 5:
- Total impervious area and parcel count by classification
- Estimated total billing unit and projected ERU charge
- Evaluation of current billing system to interface with GIS information
Task 6: Define rate structure options, projected income growth, evaluate willingness/ability to pay, possible set up for credits program, and capacity of the Town to logistically support each option
Define and evaluate the financial elements of the stormwater utility to help inform the work of the advisory task force. This will include defining the various options for structuring the rate and describing the Town’s capacity to logistically support each option. A written report will be made available to the advisory task force once the group has agreed on which rate structure seems to make the best sense for Agawam. Provide a draft rate ordinance for inclusion in the task force’s findings and recommendations.

**Deliverable 6:**
- Draft rate ordinance
- Written report describing the financial considerations of a stormwater utility

Task 7: Reporting and Project Oversight
The Grantee will submit the following deliverables to MassDEP in accordance with the Milestone Schedule in Attachment C:

7a: Quarterly progress reports will be submitted to the 319 Project Officer. Quarterly reports must be submitted by email in a format compatible with the Department’s software (MS Word unless otherwise specified). These reports must contain a summary of all work completed, by task and as a percentage of each task completed, during the reporting period; and planned activities for the next quarter.

7b: The Invoice, Attachment for DM/DWBE Reporting, and Match Certification forms should be signed by the authorized signatory, scanned, and submitted via email to the Department’s Contract Manager. Hard copies are not required. Supporting documentation can also be submitted via email to the Department’s Contracts Manager.

7c: Quarterly reports described above must be submitted to the Department within 15 days following the end of the reporting quarter (i.e.; by January 15th, April 15th, July 15th and October 15th of each year).

7d: A draft final report shall be submitted to the 319 Project Officer for review and comment at least two (2) months prior to the contract end date. This report must include a description of all activities undertaken as part of the project and a summary of the project.

7e: Two complete hard copies of the final report and three CDs with electronic versions of the final report will be submitted to the Department by the project end date. The electronic report shall be authored in MS Word and then converted to tagged PDF files for compatibility with the Department’s internet web site. CDs should include both Word and PDF versions of the report and other project deliverables as appropriate.

Any files that are intended for publication on the MassDEP web site must comply with accessibility guidelines found at www.mass.gov/accessibility

**Deliverable 7:**
1. Quarterly progress and fiscal reports.
Additional Contract Conditions

1. All materials, software, maps, reports and other products produced through this contract shall be considered in the public domain and thus available at the cost of production. If GIS products are produced, a copy of any spatial data developed and full meta-data documentation must be provided as part of the project deliverables. A template for meta-data documentation is available from MassGIS. Data should be provided in either an ESRI file geo-database or shapefile.

2. During the project, title to any and all real and personal property, equipment and accessories purchased and used for the project scope of work and funded in whole or part by this contract shall be in the name and control of the Grantee.

3. After termination of the project, the manner of use and disposition of any equipment and accessories purchased and used for the project and funded in whole or part under this contract shall be determined by the Department.

4. Grantees must immediately notify the Department of the loss or reassignment of any key employee or subcontractor identified in the proposal, and the Department requires that a replacement employee or subcontractor be assigned within 60 days. The Department reserves the right to terminate the contract if the Grantee fails to replace a key employee or subcontractor within this time frame or to substitute appropriately qualified key employee.

5. Any changes to the contract scope of work or budget categories must be approved in writing by the Department. Requests for contract scope or budget modifications must be submitted in writing to the 319 Project Officer for review and approval.

6. The award of this Grant by the Department does not constitute a permit or any other approval that may be required for the implementation of the project funded by the Grant. The grantee shall timely obtain, and comply with, all federal, state and local permits and approvals required for the project.

7. The Department reserves the right to approve the selection of all consultants or subcontractors.

8. Public Awareness Terms and Conditions
   • Prior written approval from the Department is required before material derived from the deliverables received under this Agreement is presented for publication or posted on the internet. An Acknowledgment of Support must be made in connection with the publishing or Internet posting of any material based on or developed under this Agreement. The acknowledgment will be in the form of a statement substantially as follows: “This project has been financed with Federal Funds from the Environmental Protection Agency (EPA) to the Massachusetts Department of Environmental Protection (the Department) under an s. 319 competitive grant. The contents do not necessarily reflect the views and policies of EPA or of the Department, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.”
   • Statements to the press are authorized as long as proper acknowledgment is given to the Department and EPA.
• Announcements: The grant recipient agrees that announcements through the web or print materials for Workshop, conference, demonstration days or other events as part of a project funded by a 319 assistance agreement shall contain a statement that the materials or conference has been funded by the Massachusetts Department of Environmental Protection and the United States Environmental Protection Agency.

• Public or Media Events: The Recipient agrees to notify the MassDEP and EPA Project Officers of public or media events publicizing the accomplishment of significant events related to construction projects as a result of this agreement, and provide the opportunity for attendance and participation by state and federal representatives with at least ten working days notice.

• Limited English Proficiency Communities: To increase public awareness of projects serving communities where English is not the predominant language, recipients are encouraged to include in their outreach strategies communication in non-English languages. Translation costs for this purpose are allowable, provided the costs are reasonable.
Attachment B
Project Budget

Feasibility of a Stormwater Utility for Agawam
16-06/319

<table>
<thead>
<tr>
<th>Expense Items</th>
<th>s.319 Amount</th>
<th>Non-Federal Match and Source</th>
<th>Total Amount</th>
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<tr>
<td><strong>Salary - By Title and salary range</strong></td>
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<tr>
<td>Town of Agawam</td>
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<td>DPW Superintendent</td>
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<td>Identify Needs, Priorities, Costs</td>
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<td>Engage Citizens Task Force</td>
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<td>Other Public Outreach</td>
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<td>Conduct Parcel Analysis and Calculate ERU</td>
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<td><strong>Percent</strong></td>
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The Disadvantaged Business Enterprise, (DBE) Program "Fair Share" goals for the project are: $3,791 for D/MBE (3.4%) and $4,237 for D/WBE (3.8%). Firms utilized in Federally Assisted Projects must be certified as either an MBE or WBE and a DBE.

The Department will retain 10% of the total maximum obligation of the 319 grant funds or the final invoice submitted by the Grantee, whichever is greater, until all contract provisions are satisfied and final reports and other products are delivered and accepted. This 10% retainage shall be reflected on each invoice submitted by the Grantee and will be cumulative in the amount of $6,690 (10% of the contract amount.)
## Feasibility of a Stormwater Utility for Agawam

### 16-06/319

<table>
<thead>
<tr>
<th>TASK 1: Hire consulting firms</th>
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<th>TASK 2: Identify major needs, priorities and costs for stormwater program</th>
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<th>TASK 6: Define rate structure options, projected income growth, evaluate willingness/ability to pay, possible set up for credits program, and capacity of the Town to logistically support each option</th>
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COMMONWEALTH TERMS AND CONDITIONS

This Commonwealth Terms and Conditions form is jointly issued by the Executive Office for Administration and Finance (ANF), the Office of the Comptroller (CTR), and the Operational Services Division (OSD) for use by all Commonwealth of Massachusetts ("State") Departments and Contractors. Any changes or electronic alterations by either the Department or the Contractor to the official version of this form, as jointly published by ANF, CTR and OSD, shall be void. Upon execution of these Commonwealth Terms and Conditions by the Contractor and filing as prescribed by the Office of the Comptroller, these Commonwealth Terms and Conditions will be incorporated by reference into any Contract for Commodities and Services executed by the Contractor and any State Department, in the absence of a superseding law or regulation requiring a different Contract form. Performance shall include services rendered, obligations due, costs incurred, commodities and deliverables provided and accepted by the Department, programs provided or other commitments authorized under a Contract. A deliverable shall include any tangible product to be delivered as an element of performance under a Contract. The Commonwealth is entitled to ownership and possession of all deliverables purchased or developed with State funds. Contract shall mean the Standard Contract Form issued jointly by ANF, CTR and OSD.

1. Contract Effective Start Date. Notwithstanding verbal or other representations by the parties, or an earlier start date indicated in a Contract, the effective start date of performance under a Contract shall be the date a Contract has been executed by an authorized signatory of the Contractor, the Department, a later date specified in the Contract or the date of any approvals required by law or regulation, whichever is later.

2. Payments and Compensation. The Contractor shall only be compensated for performance delivered and accepted by the Department in accordance with the specific terms and conditions of a Contract. All Contract payments are subject to appropriation pursuant to M.G.L. C. 29, §26, or the availability of sufficient non-appropriated funds for the purposes of a Contract, and shall be subject to interplant pursuant to M.G.L. C. 7A, §3 and 815 CMR 9.00. Overpayments shall be reimbursed by the Contractor or may be offset by the Department from future payments in accordance with state finance law. Acceptance by the Contractor of any payment or partial payment, without any written objection by the Contractor, shall in each instance operate as a release and discharge of the State from all claims, liabilities or other obligations relating to the performance of a Contract.

3. Contractor Payment Mechanism. All Contractors shall be paid using the Payment Voucher System unless a different payment mechanism is required. The Contractor shall timely submit invoices (Payment Vouchers - Form PV) and supporting documentation as prescribed in a Contract. The Department shall review and return rejected invoices within fifteen (15) days of receipt with a written explanation for rejection. Payments shall be made in accordance with the policy issued by the Office of the Comptroller and 815 CMR 4.00, provided that payment periods listed in a Contract of less than forty-five (45) days from the date of receipt of an invoice shall be effective only to enable a Department to take advantage of early payment incentives and shall not subject any payment made within the forty-five (45) day period to a penalty. The Contractor Payroll System, shall be used only for "Individual Contractors" who have been determined to be "Contract Employees" as a result of the Department's completion of an Internal Revenue Service SS-8 form in accordance with the Omnibus Budget Reconciliation Act (OBRA) 1990, and shall automatically process all state and federal mandated payroll, tax, and retirement deductions.

4. Contract Termination or Suspension. A Contract shall terminate on the date specified in a Contract, unless this date is properly amended in accordance with all applicable laws and regulations prior to this date, or unless terminated or suspended under this Section upon prior written notice to the Contractor. The Department may terminate a Contract without cause and without penalty, or may terminate or suspend a Contract if the Contractor breaches any material term or condition or fails to perform or fulfill any material obligation required by a Contract, or in the event of an elimination of an appropriation or availability of sufficient funds for the purposes of a Contract, or in the event of an unforeseen public emergency mandating immediate Department action. Upon immediate notification to the other party, neither the Department nor the Contractor shall be deemed to be in breach for failure or delay in performance due to Acts of God or other causes factually beyond their control and without their fault or negligence. Subcontractor failure to perform or price increases due to market fluctuations or product availability will not be deemed factually beyond the Contractor's control.

5. Written Notice. Any notice shall be deemed delivered and received when submitted in writing in person or when delivered by any other appropriate method evidencing actual receipt by the Department or the Contractor. Any written notice of termination or suspension delivered to the Contractor shall state the effective date and period of the notice, the reasons for the termination or suspension, if applicable, any alleged breach or failure to perform, a reasonable period to cure any alleged breach or failure to perform, if applicable, and any instructions or restrictions concerning allowable activities, costs or expenditures by the Contractor during the notice period.

6. Confidentiality. The Contractor shall comply with M.G.L. C. 66A if the Contractor becomes a "holder" of "personal data". The Contractor shall also protect the physical security and restrict any access to personal or other Department data in the Contractor's possession, or used by the Contractor in the performance of a Contract, which shall include, but is not limited to the Department's public records, documents, files, software, equipment or systems.

7. Record-keeping and Retention, Inspection of Records. The Contractor shall maintain records, books, and other data as specified in a Contract and in such detail as shall properly substantiate claims for payment under a Contract, for a minimum retention period of seven (7) years beginning on the first day after the final payment under a Contract, or such longer period as is necessary for the resolution of any litigation, claim, negotiation, audit or other inquiry involving a Contract. The Department shall have access, as well as any parties identified under Executive Order 195, during the Contractor's regular business hours and upon reasonable prior notice, to such records, including on-site reviews and reproduction of such records at a reasonable expense.

8. Assignment. The Contractor shall not assign or subcontract in whole or in part, or otherwise transfer any liability, responsibility, obligation, duty or interest under a Contract, with the exception that the Contractor shall be authorized to assign present and prospective claims for payment due to the Contractor pursuant to a Contract in accordance with M.G.L. C. 106, §9-318. The Contractor must provide sufficient notice of assignment and supporting documentation to enable the Department to verify and implement the assignment. Payments to third party assignees will be processed as if such payments were being made directly to the Contractor and these payments will be subject to intercept, offset, counter claims or any other Department rights which are available to the Department or the State against the Contractor.

9. Subcontracting by Contractor. Any subcontract entered into by the Contractor for the purposes of fulfilling the obligations under a Contract must be in writing, authorized in advance by the Department and shall be consistent with and subject to the provisions of these Commonwealth Terms and Conditions and a Contract. Subcontracts will not relieve or discharge the Contractor from any duty, obligation, responsibility or liability arising under a Contract. The Department is entitled to copies of all subcontracts and shall not be bound by any provisions contained in a subcontract to which it is not a party.

10. Affirmative Action, Non-Discrimination In Hiring And Employment. The Contractor shall comply with all federal and state laws, rules and regulations promoting fair employment practices or prohibiting employment discrimination and unfair labor practices and shall not discriminate in the hiring of any applicant for employment nor shall any qualified employee be demoted, discharged or otherwise subject to discrimination in the tenure, position, promotional opportunities, wages, benefits or terms and conditions of their employment because of race, color, national origin, ancestry, age, sex, religion, disability, handicap, sexual orientation or for exercising any rights afforded by law. The Contractor commits to purchasing supplies and services from certified minority or women-owned businesses, small businesses or businesses owned by socially or economically disadvantaged persons or persons with disabilities.

11. Indemnification. Unless otherwise exempted by law, the Contractor shall indemnify and hold harmless the State, including the Department, its agents, officers and employees against any and all claims, liabilities and costs for any personal injury or property damages, patent or copyright infringement or other damages that the State may incur as a result of the Contractor's performance of a Contract, including but not limited to the negligence, reckless or intentional conduct of the Contractor, its agents, officers, employees or subcontractors. The Contractor shall at no time be considered an 'agent or representative of the Department or the State. After prompt notification of a claim by the State, the Contractor shall have an opportunity to participate in the defense of such claim and any negotiated
settlement agreement or judgment. The State shall not be liable for any costs incurred by the Contractor arising under this paragraph. Any indemnification of the Contractor shall be subject to appropriation and applicable law.

12. Waivers. Forbearance or indulgence in any form or manner by a party shall not be construed as a waiver, nor in any way limit the legal or equitable remedies available to that party. No waiver by either party of any default or breach shall constitute a waiver of any subsequent default or breach.

13. Risk Of Loss. The Contractor shall bear the risk of loss for any Contractor materials used for a Contract and for all deliverables, Department personal or other data which is in the possession of the Contractor or used by the Contractor in the performance of a Contract until possession, ownership and full legal title to the deliverables are transferred to and accepted by the Department.

14. Forum. Choice of Law And Mediation. Any actions arising out of a Contract shall be governed by the laws of Massachusetts, and shall be brought and maintained in a State or federal court in Massachusetts which shall have exclusive jurisdiction thereof. The Department, with the approval of the Attorney General's Office, and the Contractor may agree to voluntary mediation through the Massachusetts Office of Dispute Resolution (MODR) of any Contract dispute and will share the costs of such mediation. No legal or equitable rights of the parties shall be limited by this Section.

15. Contract Boilerplate Interpretation, Severability, Conflicts With Law, Integration. Any amendment or attachment to any Contract which contains conflicting language or has the affect of a deleting, replacing or modifying any printed language of these Commonwealth Terms and Conditions, as officially published by ANF, CTR and OSD, shall be interpreted as superseded by the official printed language. If any provision of a Contract is found to be superseded by state or federal law or regulation, in whole or in part, then both parties shall be relieved of all obligations under that provision only to the extent necessary to comply with the superseding law, provided however, that the remaining provisions of the Contract, or portions thereof, shall be enforced to the fullest extent permitted by law. All amendments must be executed by the parties in accordance with Section 1. of these Commonwealth Terms and Conditions and filed with the original record copy of a Contract as prescribed by CTR. The printed language of the Standard Contract Form, as officially published by ANF, CTR and OSD, which incorporates by reference these Commonwealth Terms and Conditions, shall supersede any conflicting verbal or written agreements relating to the performance of a Contract, or attached thereto, including contract forms, purchase orders or invoices of the Contractor. The order of priority of documents to interpret a Contract shall be as follows: the printed language of the Commonwealth Terms and Conditions; the Standard Contract Form, the Department's Request for Response (RFR) solicitation document and the Contractor's Response to the RFR solicitation, excluding any language stricken by a Department as unacceptable and including any negotiated terms and conditions allowable pursuant to law or regulation.

IN WITNESS WHEREOF, The Contractor certify under the pains and penalties of perjury that it shall comply with these Commonwealth Terms and Conditions as certified by their authorized signatory below:

CONTRACTOR AUTHORIZED SIGNATORY:

Print Name: Timothy W. Brennan
Title: Executive Director
Date: 5/27/15
(Check One): Organization Individual
Full Legal Organization or Individual Name: Pioneer Valley Planning Commission
Doing Business As: Name (If Different):
Tax Identification Number: 04-2376717
Address: 60 Congress Street, 1st Floor, Springfield MA 00104
Telephone: 413-781-6045 FAX: 413-732-2593

INSTRUCTIONS FOR FILING THE COMMONWEALTH TERMS AND CONDITIONS

A “Request for Verification of Taxation Reporting Information” form (Massachusetts Substitute W-9 Format), that contains the Contractor’s correct TIN, name and legal address information, must be on file with the Office of the Comptroller. If the Contractor has not previously filed this form with the Comptroller, or if the information contained on a previously filed form has changed, please fill out a W-9 form and return it attached to the executed COMMONWEALTH TERMS AND CONDITIONS.

If the Contractor is responding to a Request for Response (RFR), the COMMONWEALTH TERMS AND CONDITIONS must be submitted with the Response to RFR or as specified in the RFR. Otherwise, Departments or Contractors must timely submit the completed and properly executed COMMONWEALTH TERMS AND CONDITIONS (and the W-9 form if applicable) to the: Payee and Payments Unit, Office of the Comptroller, 9th Floor, One Ashburton Place, Boston, MA 02108 in order to record the filing of this form on the MMARS Vendor File. Contractors are required to execute and file this form only once.
**Non-Price Proposal Evaluation Worksheet for Consultant Services for Town of Agawam Stormwater System Assessment and Utility Fee/Planning**

**Contract will be awarded to the finalist who submits the most advantageous proposal based on all of the evaluation criteria and price**

**Reviewer name:** ______________________________________

September 23, 2016

### Evaluation Criteria

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<tr>
<th>Complete submission? (indicate that item included in submission with check mark)</th>
<th>Amec Foster Wheeler</th>
<th>Comprehensive Environmental</th>
<th>Tighe &amp; Bond</th>
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<tbody>
<tr>
<td>__ Table of Contents</td>
<td>__ Project Understanding and Approach</td>
<td>__ Project Understanding and Approach</td>
<td>__ Project Understanding and Approach</td>
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<td>__ Scope of Services</td>
<td>__ Schedule</td>
<td>__ Schedule</td>
<td>__ Schedule</td>
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<tr>
<td>__ Project Team - organizational chart</td>
<td>__ Project Descriptions and Experience</td>
<td>__ Project Descriptions and Experience</td>
<td>__ Project Descriptions and Experience</td>
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<td><strong>Stormwater System Assessments and Management Plans</strong></td>
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<td><strong>Asset Management Planning</strong></td>
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<td><strong>Developing prioritized Capital Improvement Plans (CIP)</strong></td>
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<td><strong>Development and Implementation of a new stormwater utility, including financial management and regulatory aspects</strong></td>
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<td>__ References - Provide the names and contact information for references = municipalities</td>
<td>__ Comparative Evaluation Criteria</td>
<td>__ Comparative Evaluation Criteria</td>
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<td>__ Completed Compliance Certification Form</td>
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### Minimum requirements

Acceptable evidence or certification must be provided to demonstrate the minimum standards are being met. Failure to meet the minimum standards as described below shall result in a rejection of the proposal.

**The principal representative assigned to serve the PVPC and the Town shall have:**

- completed at least 3 Stormwater Management System Assessments within the past 7 years
- completed at least 2 stormwater utility feasibility studies in the past 7 years
- successfully developed and implemented NPDES Phase II MS4 programs for at least 2 Massachusetts municipalities under the 2003 permit

**#1: Project understanding and approach**

(see detail on page 6 of RFP)

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**#2: Plan of services**

(see detail on page 7 of RFP)

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Price proposals will be opened after evaluation and ranking of on-price proposals are completed.

### #10: Quality of Interview - Only finalists based on an evaluation of proposals

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Task 2: Identify major needs, priorities, costs for stormwater program

2-1 Written report describing existing infrastructure needs, costs, and priorities, and permit compliance costs: *Technical Memorandum: Finance & Funding Policy Considerations* (handout from Task Force meeting #3)
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Technical Memorandum
Finance & Funding Policy Considerations

Stormwater Funding Background
There are a series of interrelated funding policy issues that need to be resolved to move the finance track forward as a stormwater utility option is evaluated for Agawam. Many policies can simply be answered at the staff level and are relatively independent of other decisions. Some rely on program decisions, legality, or preferences and past practice. Amec Foster Wheeler has prepared this memorandum which outlines key funding issues and policy decisions to be considered.

Resources, Money, and Revenue
Municipalities and their subsidiary organizations employ a variety of “funding” methods, including service charges, several types of taxes, franchises and other fees, fines, and penalties. It is important to understand the three main ways of providing support to stormwater programs: resources, money and revenue:

► **Resources** include all the non-cash ways that a local stormwater program can be supported including: free resources available from the internet, shared costs with neighbors, transformation of current programs to better support stormwater needs, volunteer programs, etc. Resources are **not free** in that they often require significant staff time to find, coordinate, and manage.

► **Money** includes all one-time infusions of funds. This includes Federal and state grants, loans, penalties, bonds, special sales taxes, one-time development related fees and payments, penalties, etc. Money is often targeted to a specific need or program activity. It may, or may not, be sufficient to cover an entire program but its key characteristic is that it is **one-time**.

► **Revenue** includes all ongoing flows of funds. For local government, this typically includes real property and other ad valorem taxes, sales or gasoline taxes, franchise fees, user fees, etc. The key characteristic of this type of support is that it is **ongoing**.

Each of these basic types of support has advantages and disadvantages and can be targeted toward different aspects of the stormwater program – operational, administrative or capital. However, experience has shown that the bulk of the cost of local stormwater programs must be borne by **revenue** producing support sources not “resources” or “money”. Since stormwater historically has struggled to compete effectively for general fund tax dollars with public safety,
schools, and a myriad of other local needs, most local governments find that establishing a legally dedicated revenue is the most reliable way to fund an effective, long-term stormwater program.

**Four Legal Categories**

Various funding methods have distinctive characteristics which separate them legally, technically, and in terms of public perceptions. Four major categories of municipal revenue generation include taxes, service charges, exactions, and assessments.

- **Taxes** are intended primarily as revenue generators, and with some exceptions (such as earmarked taxes), without any particular association with the activities or improvements that they fund. They can be used for the general purposes of local government. These include property tax, income tax, sales tax, etc.

- **Service charges or fees** are not established simply to generate revenue, but must be tied to the objectives of a specific program to which they are associated. For example, water and sewer service charges are structured to cover the cost of providing those services, not to simply generate revenue. Thus, the total revenue generated must be tied to the cost of providing services and the amount each rate payer is charged must be related to their relative impact or “use” of the system (rational nexus).

- **Exactions** are related to the extension of an approval or privilege to use. Franchise fees for the privilege of using the right-of-way for cable and phone companies are an exaction. Licenses, tap fees, impact fees, fees in lieu of detention, capital recovery charges and the mandatory dedication of infrastructure during development are also exactions.

- **Assessments** are geographically or otherwise limited fees levied for improvements or activities of direct and special benefit to those who are being charged, such as an assessment for an extension of a sewer line to a home or business. The benefit must be direct – tied to a specific and measurable or estimable property improvement.

**User Fees**

A popular source of funding for stormwater management is in the form of a service charge or user fee system typically referred to as a stormwater “utility” – an enterprise or special revenue fund. This form of funding has several advantages over other competing forms of finance including its equitability, stability and adequacy. The user fee concept of a stormwater utility based funding method has grown quickly as stormwater management issues have become more important in terms of both flood control and water quality protection. In the early 1970's there were only one or two true stormwater utilities in existence. By 2017 the number has grown to approximately 2,000 across North America.

A stormwater utility is primarily a fee for service. It is based on the concept that providing public stormwater services by way of an extensive collection and management system is similar to wastewater or water supply utility services. When a demand is placed on either of these two later systems the user pays. The basic premise for a stormwater fee, is that when a property is developed and forested or grassy area is replaced with buildings and pavement, runoff from the property increases and a greater demand is placed on the public drainage system. The greater the demand (i.e. the more the parcel of land is paved), the greater the share of the public burden the property owner should bear.
The distinctions of the four revenue categories are very important. One of the critical issues which typically must be resolved if a utility service charge of any type is legally challenged is whether the service charge is clearly related to and incidental to the activities and improvements of the utility, or is in fact merely a means of creating revenue for all governmental purposes generally (a tax). Thus, a stormwater utility fee must be based on the cost of specific stormwater management services and not simply a perceived financial need or willingness to pay.

A stormwater utility is an umbrella under which individual communities can establish a fund to address their own unique needs in a manner consistent with local problems, priorities and practices. A stormwater utility is typically considered equitable because the cost is borne by the user based on an estimate of the demand placed on the drainage system. It is stable because it is not dependent on the vagaries of the annual budgetary process as are taxes. It is adequate because the stormwater fee is set to cover a specific set of activities. And it is legally defensible as legislatures and the courts have established requirements and precedents for establishment of acceptable user fee approaches.

A stormwater utility is the preferred funding options for many communities because it can be a vehicle for:

► consolidating or coordinating responsibilities that were previously dispersed among several departments and divisions
► generating funding that is adequate, stable, equitable and dedicated solely to the stormwater function
► developing programs that support effective long-term stormwater management and are consistent year-to-year

## Rate Structures

Utility funding is based on an independent revenue stream that is dedicated to a specific purpose such as water supply, wastewater treatment, solid waste management, or stormwater management. Service fees provide the bulk of a utility’s revenue. A methodology for calculating the service fees, based on customers’ demand upon the utility services, must be identified to establish the basis for the revenue stream.

In the case of stormwater services, a user fee recognizes properties’ demand on the stormwater system for discharging their runoff and the benefits the community receives from having a functioning stormwater system. The framework that describes how the cost of public services is distributed across properties in a community is called the “rate structure.” The rate structure developed for a utility is divided into three modules:

► Basic rate methodology;
► Modification factors, which can be applied to any of the rate concepts to enhance equity, reduce costs, and meet other objectives; and
► Secondary funding methods that can be adopted in concert with the service charges.
Rate structures differ among utilities. The differences sometimes reflect program goals or priorities such as the desire to encourage green designs or preserve open space, the influence of other policy objectives such as growth management or economic development, technical constraints, or the availability of information like geographical information systems (GIS) or other databases.

A key attribute of utility service fee funding is that the governing body of a utility’s jurisdiction has broad authority to design its rate methodology to fit local circumstances and practices and achieve an allocation of the cost of services and facilities that it desires, while staying within legal boundaries. The goal of a utility’s funding decisions is to design a user fee structure that reflects the character and desires of the community and that meets five tests:

1. is equitable and reasonable;
2. is not discriminatory or confiscatory;
3. has costs that are substantially related to provision of facilities and services;
4. has a rate that is related to demand of the stormwater systems and services for each individual property (rational nexus); and
5. reflects the authority inherent in state law.

**Funding Policies**

**Basic Rate Methodology**

The basic rate methodology defines the basis for the rate that users will be paying. The three main impacts on surface water from run-off related to development are increases in peak flow, volume of discharge, and amount of pollution. The variable most closely associated with each of these three major impacts is the conversion of pervious areas (forests and fields) to impervious areas (pavement, roof tops, and other hard surfaces). Rate structures can be designed to be flexible enough to accommodate other key factors as appropriate, although it is important to remember that simplicity is best in terms of both customer understanding and ease of management.

Accommodating the runoff that occurs when pervious area that historically absorbs rainwater is converted to impervious area requires investment in the public drainage system. Therefore, it is appropriate to use a measurement of impervious area or surrogate of impervious area in rate methodologies. Most stormwater programs have taken this approach: The Black & Veatch 2016 Stormwater Utility Survey reported that 77% of respondents based their fees on impervious area. This is up from a 2007 on-line survey that found that 65% of utilities used impervious area as the main factor for rate calculation. As impervious data has become more affordable to obtain and manage, impervious area continues to be the preferred rate methodology. While impervious area does not directly account for all stormwater program costs, urbanization of land as reflected in intensity of development is, by far, the best measure of cost causation and provides a court-tested rational nexus for the fee amount.

Most stormwater utilities set their fees based on charging for stormwater services based on either a flat fee per stormwater billing unit for all properties (i.e. a charge for every 1,000 SF of
impervious area on a parcel) or they establish an Equivalent Residential Unit (ERU) as their billing unit and have separate rate structures with two fee classifications based on land use type: Non-Single Family residential (NSFR) and Single Family residential (SFR).

Both options rely on using aerial photography, parcel data, and calculation of impervious area on properties. The ERU is determined by calculating the median or average amount of impervious area on residential properties in a community and then applying the ERU to non-residential properties. Figure 1 shows an example of the impervious coverage on a non-residential parcel in Portsmouth NH that has 10,535 square feet of impervious area. With the ERU set at 2,500 square feet, this parcel contains 4.2 ERUs. Often the charge is based on an “ERUs or part thereof” making this parcel 5 ERUs. So, for example, if the charge per ERU was $6.00 per month, the fee for this property would be $30 per month or $360 per year.

There are, however, additional ways to configure the rate methodology to emphasize certain other impacts or recognize the benefits of certain kinds of development practices. Many of these considerations are handled with a stormwater crediting or secondary funding system, but some factors can also be handled in the makeup of the basic rate methodology itself. Factors commonly considered are:

► Some communities charge for gross parcel area in addition to impervious area, reasoning that stormwater runs off all parcels (even if the parcel is not developed) and thus, all should pay.

► Some communities want to encourage green space and set up charges based on an intensity of development factor – so that the same amount of imperviousness would be charged less if it were located on a larger lot with more green space.

► Some communities attempt to simplify the non-residential rate by charging based on a small number of tiers rather than per ERU or by placing a cap on fees. When compared to a straight impervious methodology, this has the result of shifting costs, sometimes dramatically, to smaller properties, and those on the high side pay proportionally less.

Included in the decisions related to selecting the basic rate methodology are policy issues such as: rounding of billing units, where the break is for tiers and why, and the need for updating or maintaining data that supports cost distribution.
Rate Modifiers or Class Exemptions

Rate modifiers or class exemptions are the second component of the rate structure and are policies that change the user fee charged to certain classes or types of properties. They are designed to appropriately increase simplicity or enhance equity. One should use caution when considering exemptions or fee reductions, keeping in mind that reducing or exempting some properties from the fee results in increasing the rate for other rate payers. That said, nearly all utilities adopt one or more rate modifiers.

Rate modifiers and class exemptions that can be considered include:

- **Residential Charges.** Should residential charges be simplified in some way such as a single flat rate, several tiers, or should they be based on individual measurement? Should condominiums and/or apartments be handled differently than multi-family properties?

- **Fixed Cost per Account.** Should there be a fixed cost per account to recover administrative costs or other costs affiliated with the stormwater program that are not properly allocated based on demand upon the system or its surrogate?

- **Variable Charges Based on Property Class.** Should there be a differing charge based on class of the ratepayer such as: (1) publicly owned property, (2) roads – public or private, (3) non-profits, (4) income disadvantaged, (5) elderly, (6) parkland or others.

- **Stormwater Credits.** Often variable charges are accounted for in the form of credits. Generally, stormwater credits are granted both to increase equity and to provide incentives to implement an overall community stormwater management plan. A credit is an ongoing reduction in a property’s calculated stormwater fee for:
  - on-going activities on the property that reduce the demand upon the public stormwater system;
  - on-going activities on the property that reduce the City’s cost of service.

Stormwater programs vary considerably in the amount of the user fees that they make eligible for crediting. The amount of a fee that is eligible for credits may be seen as the relative “generosity” of the credit. The extent or generosity of the credit should include consideration of which stormwater program costs can be reduced by the qualifying activities for which users can receive credits. For instance, while a business may reduce its impact on the stormwater system through installing and maintaining a detention pond, the utility may be unable to credit the business for its entire bill. Reasons for this might include the fact that a detention pond does not reduce all the impacts of the property on the system (volume and pollution) and the reality that there are some fixed program costs that remain regardless of individual actions.

Common stormwater credits include:
- detention, retention, or best management practices,
- education credit,
- green design credit,
- NPDES permit credit for industries.
Secondary Funding Methods
Secondary funding methods are employed to enhance the revenue stream of the utility and to increase equity by shifting costs for specific services or service levels to those requiring the services. There are many secondary funding methods employed by local governments that may impact program funding:

► Grants or other state and Federal money
► Revenue or general obligation bond funds or loans
► Public-private partnerships that share costs and risks in development projects
► Plan review and inspection fees associated with new development projects.
► Special charges (often called surcharges) - For example, some homeowner groups maintain their own detention ponds. Others, for a surcharge, may request that the municipality provide such maintenance.
► System development charges or system extension fees - typically one-time charges to a single property or development to fund the extension of stormwater services to those customers
► Fines and penalties for violation of local, state or Federal laws or regulations (i.e. illegal dumping into the stormwater system)

Miscellaneous Considerations
There are numerous other policy considerations that will enter the development of the financial model and setting of rates. These may include:

► Valuation of stormwater assets (if any) and how they are handled;
► Timing of rate changes, escalation factors, program growth curves;
► Estimates for such considerations as: inflation, the cost of money, bad debt, revenue growth, indirect cost allocations, billing and collection charges;
► Timing of debt and capital construction;
► Structure of the stormwater fee in terms of enterprise fund or special revenue fund;
► Policies on credits, appeals, delinquencies and other matters and
► Rate ordinance form and function, hearing process, placement in the municipal code.
Task 3: Recruit and engage a broad-based citizen advisory task force

3-1 Advisory task force members and their affiliations

3-2 Six meetings of the advisory committee with agendas, attendance lists, and written notes from each meeting

3-3 Written findings/recommendations from the advisory task force with a recommended strategy for moving forward
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Members of the Agawam Stormwater Advisory Task Force

James Cichetti, Agawam City Councilor
Christopher Johnson, Agawam City Councilor
Donald Rheault, Agawam City Councilor
Susan Dawson, Former Agawam Mayor
Herbert Holl, Agawam Resident
Rob Donaldson, Reverend Feeding Hills Congregational Church
Henry Kosloski, Agawam Conservation Commissioner
Mario Tedeschi, Owner of Allied Flooring and Paint Owner
Dave Jenks, Six Flags New England Facilities Manager
Chris Golba, Agawam Public Works Director
Michelle Chase, Agawam Town Engineer
Town of Agawam, MA
Stormwater System Assessment and Utility/Fee Planning Project

Agawam Stormwater Task Force - Meeting #1
April 26, 2017

Agawam Senior Center
Dining Room
654 Main Street
Agawam, MA 01001

Agenda:

5:45 p.m. ARRIVAL AND SIGN IN

6:00 - 6:10 p.m. WELCOME AND INTRODUCTIONS

6:10 - 6:25 p.m. CURRENT PROJECT
• Overview, goals, scope and schedule
• Roles and responsibilities

6:25 – 6:50 p.m. MUNICIPAL STORMWATER SYSTEM
• History in Agawam
• How it works and mapping
• Agawam DPW activities

6:50 - 7:00 p.m. BREAK

7:00 - 7:35 p.m. STORMWATER NEEDS
• Infrastructure, water quality and flooding
• Regulatory requirements and 2016 EPA permit

7:35 – 7:50 p.m. PUBLIC EDUCATION AND OUTREACH
• Proposed activities
• Focus group and survey feedback

7:50 - 8:00 p.m. NEXT STEPS
## Task Force Members

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<td>James Cichetti</td>
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<td>President</td>
<td>413-246-8766</td>
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<td>Rob Donaldson</td>
<td>Feeding Hills Congregational Church</td>
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<td>Six Flags New England</td>
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<td><a href="mailto:CJohnson@agawam.ma.us">CJohnson@agawam.ma.us</a></td>
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<td>Mario Tedeschi</td>
<td>Allied Flooring and Paint</td>
<td>Owner</td>
<td>413-233-3100</td>
<td><a href="mailto:MartioT@alliedflooringandpaint.com">MartioT@alliedflooringandpaint.com</a></td>
<td></td>
</tr>
</tbody>
</table>
Town of Agawam, MA  
Stormwater System Assessment and Utility/Fee Planning Project

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Title</th>
<th>Phone</th>
<th>Email</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Albro</td>
<td>Agawam Engineering</td>
<td>Assistant Town Engineer</td>
<td>413-726-2803</td>
<td><a href="mailto:MAlbro@agawam.ma.us">MAlbro@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Steve Bonesteel</td>
<td>Agawam Department of Public Works</td>
<td>Deputy Superintendent Highway</td>
<td>413-821-0626</td>
<td><a href="mailto:Sbonesteel@agawam.ma.us">Sbonesteel@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Michelle Chase</td>
<td>Agawam Engineering</td>
<td>Town Engineer</td>
<td>413-821-0625</td>
<td><a href="mailto:MChase@agawam.ma.us">MChase@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>John Decker</td>
<td>Agawam Department of Public Works</td>
<td>Deputy Superintendent Water Department</td>
<td>413-821-0627</td>
<td><a href="mailto:JDecker@agawam.ma.us">JDecker@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Tracy DeMaio</td>
<td>Agawam Department of Public Works</td>
<td>Environmental Project Coordinator</td>
<td>413-821-0624</td>
<td><a href="mailto:TDeMaio@agawam.ma.us">TDeMaio@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Laurel Placzek</td>
<td>Town of Agawam</td>
<td>Treasurer / Collector</td>
<td>413-82190712</td>
<td><a href="mailto:Lplaczek@agawam.ma.us">Lplaczek@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Elizabeth Flanary</td>
<td>Amec Foster Wheeler</td>
<td>Project Engineer</td>
<td>978-727-4007</td>
<td><a href="mailto:elizabeth.flannary@amecfw.com">elizabeth.flannary@amecfw.com</a></td>
<td></td>
</tr>
<tr>
<td>Patty Gambarini</td>
<td>Pioneer Valley Planning Commission</td>
<td>Principal Environmental Planner</td>
<td>413-781-6045</td>
<td><a href="mailto:PGambarini@PVPC.ORG">PGambarini@PVPC.ORG</a></td>
<td></td>
</tr>
<tr>
<td>Christopher Golba</td>
<td>Agawam Department of Public Works</td>
<td>Superintendent</td>
<td>413-821-0623</td>
<td><a href="mailto:CGolba@agawam.ma.us">CGolba@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Jean Haggerty</td>
<td>Amec Foster Wheeler</td>
<td>Technical Advisor</td>
<td>781-790-3989</td>
<td><a href="mailto:jean.haggerty@amecfw.com">jean.haggerty@amecfw.com</a></td>
<td></td>
</tr>
<tr>
<td>Rich Niles</td>
<td>Amec Foster Wheeler</td>
<td>Project Manager</td>
<td>978-392-5355</td>
<td><a href="mailto:rich.niles@amecfw.com">rich.niles@amecfw.com</a></td>
<td></td>
</tr>
<tr>
<td>Andy Reese</td>
<td>Amec Foster Wheeler</td>
<td>Technical Advisor</td>
<td>615-333-0630</td>
<td><a href="mailto:andrew.reese@amecfw.com">andrew.reese@amecfw.com</a></td>
<td></td>
</tr>
</tbody>
</table>

Citizen Advisory Task Force Meeting #1  
April 26, 2016
Town of Agawam Stormwater System Assessment and Utility/Fee Planning Project

Citizen Advisory Task Force Meeting #1
## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 - 610p:</td>
<td>Welcome and Introductions</td>
</tr>
<tr>
<td>610 - 625p:</td>
<td>Current Project</td>
</tr>
<tr>
<td></td>
<td>- Overview, goals, scope and schedule</td>
</tr>
<tr>
<td></td>
<td>- Roles and responsibilities</td>
</tr>
<tr>
<td>625 - 650p:</td>
<td>Municipal Stormwater System</td>
</tr>
<tr>
<td></td>
<td>- History in Agawam</td>
</tr>
<tr>
<td></td>
<td>- How it works and mapping</td>
</tr>
<tr>
<td></td>
<td>- Agawam DPW activities</td>
</tr>
<tr>
<td>650 - 700p:</td>
<td>Break</td>
</tr>
<tr>
<td>700 - 735p:</td>
<td>Stormwater Needs</td>
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<tr>
<td></td>
<td>- Infrastructure, water quality and flooding</td>
</tr>
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<td></td>
<td>- Regulatory requirements and 2016 EPA permit</td>
</tr>
<tr>
<td>735 - 750p:</td>
<td>Public Education and Outreach</td>
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<td></td>
<td>- Proposed activities</td>
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<td></td>
<td>- Focus group and survey feedback</td>
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<tr>
<td>750 - 800p:</td>
<td>Next Steps</td>
</tr>
</tbody>
</table>
Current Project

Overview

Why are we here?

- The Town has existing stormwater problems.
- Stormwater management needs are increasing.
- The Town has limited resources and funding.
- We have the ability to solve these problems and manage stormwater better, but it will cost more.
- What’s the best approach to move forward?
Current Project

**Goals**

MassDEP s319 Grant: Project 16-06/319

**Goals:**

1. Obtain a local consensus on Agawam’s current and future stormwater management program needs, priorities and costs.

2. Execute a robust public engagement process to promote a deep understanding of stormwater issues and funding needs.

3. Study the possibility of establishing a stormwater utility in Agawam.

4. Develop recommendations and a consensus for next steps.
Current Project

Scope

► Task 1 – Hire Consulting Firms
► Task 2 – Identify Major Needs, Priorities and Costs for Stormwater Program
► Task 3 – Recruit and Engage Broad-Based Citizen Advisory Task Force
► Task 4 – Conduct Other Public Outreach and Education
► Task 5 – Conduct Parcel Analysis and Calculate ERU
► Task 6 – Define and Evaluate the Financial Elements of the Stormwater Utility
► Task 7 – Project Reporting
<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>Q4 2016</th>
<th>Q1 2017</th>
<th>Q2 2017</th>
<th>Q3 2017</th>
<th>Q4 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hire Consulting Firms</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>a. Hire Amec Foster Wheeler</td>
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<td></td>
<td>b. Hire graphic artist</td>
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<tr>
<td>2-1</td>
<td>Identify Major Needs, Priorities and Costs for Stormwater Program</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>a. Kick-off meeting to review program needs and priorities</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>b. Preliminary program analysis, needs and budget estimates</td>
<td></td>
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<tr>
<td></td>
<td>c. Meeting #1 with Task Force to review preliminary analysis</td>
<td></td>
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<tr>
<td></td>
<td>d. Finalize program analysis, priorities and draft Stormwater Program Report</td>
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<tr>
<td></td>
<td>e. Meeting #2 with Task Force to present findings</td>
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<td></td>
<td>f. Public Meeting #1 to present findings</td>
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<tr>
<td>3</td>
<td>Recruit and engage broad-based citizen advisory task force</td>
<td></td>
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<tr>
<td></td>
<td>a. Establish Task Force, issue and follow up on invites</td>
<td></td>
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<tr>
<td></td>
<td>b. Set up Task Force meeting schedule, secure location</td>
<td></td>
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<tr>
<td></td>
<td>c. Write up notes from each Task Force meeting (at least 3 meetings)</td>
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<tr>
<td>4</td>
<td>Conduct other public outreach and education</td>
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<tr>
<td></td>
<td>a. Set up larger public meeting schedule, secure location (2 to 3 meetings)</td>
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<tr>
<td></td>
<td>b. Prepare and conduct interviews/survey to explore cases and write up results</td>
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<td>c. Produce outreach materials based on interviews/survey results</td>
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<tr>
<td>5.2</td>
<td>Conduct Parcel Analysis and Calculate ERU</td>
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<tr>
<td></td>
<td>a. Analysis of GIS and assessment data, ERU (other rolling units and billing actions)</td>
<td></td>
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<tr>
<td></td>
<td>b. Develop memo on analysis, findings and recommendations</td>
<td></td>
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<tr>
<td></td>
<td>c. Meeting #3 with Task Force to present findings</td>
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<tr>
<td>6.3</td>
<td>Define and Evaluate the Financial Elements of the Stormwater Utility</td>
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<tr>
<td></td>
<td>a. Preliminary rate approach, funding evaluation and outline of policies</td>
<td></td>
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<tr>
<td></td>
<td>b. Meeting #4 with Task Force to review preliminary analysis</td>
<td></td>
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<tr>
<td></td>
<td>c. Develop draft funding and policy memorandum</td>
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<tr>
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<td>d. Meeting #5 with Task Force to review funding policies</td>
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<tr>
<td></td>
<td>e. Develop draft rate ordinance</td>
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<td></td>
<td>f. Meeting #6 with Task Force to present findings and review draft rate ordinance</td>
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<td>7</td>
<td>Project reporting</td>
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<tr>
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<td>a. Quarterly reporting to MassDEP</td>
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<td></td>
<td>b. Final report (to be prepared well in advance of project end date of 6-30-18)</td>
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</table>

- = Key Meeting  
△ = Final Task Deliverable
Current Project

Roles and Responsibilities

► Project Team:
  ► Town Staff – provide input on stormwater management program, costs, priorities, and policy recommendations
  ► Pioneer Valley Planning Commission – manage grant, review project deliverables, conduct public education and outreach, support GIS updates
  ► Amec Foster Wheeler – guide study, facilitate meetings, and provide technical analysis and report writing
  ► Graphic Designer – develop public education and outreach materials

► Task Force:
  ► Attend 6 meetings
  ► Provide input throughout the project
  ► Provide recommendations for consideration by the Town Council and the general public

► Town Council:
  ► Participate in Task Force and Public Meetings
Municipal Stormwater System

History in Agawam

1636 – First House Built in Agawam Meadows.
1760 – “Voted: that rum and cider shall be provided for the raising of the meeting house at the cost and charge of the parish”.
1874 – Town Hall and school house built in both Feeding Hills and Agawam.
Early 1900s – first storm drain systems constructed.
1927 – first drinking water distribution system.
1990s – first stormwater BMP constructed.
2003 – EPA permit required for Town to discharge stormwater.
2016 – EPA stormwater permit renewed.
Municipal Stormwater System
How it Works
Municipal Stormwater System

How it Works

Combined Sewer Overflow

[Diagram showing the flow of sewage and stormwater through a combined sewer system during heavy rain, with labels for roof drain, storm drain, outfall pipe to waterway, and combined sewer overflow.]
Municipal Stormwater System
How it Works

1985 Sewer Separation Project
Municipal Stormwater System

How it Works

Combined Sewer Overflows:
► 10 removed in Agawam between 1980s-2000
Municipal Stormwater System

How it Works

Separate drainage system
Municipal Stormwater System

How it Works
Municipal Stormwater System

How it Works
Municipal Stormwater System
Mapping

Storm Drain Infrastructure:
- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts
Existing Activities:

► Catch basin cleaning
► Street sweeping
► Drainage structure repair and replacement
► Culvert cleaning, repair and replacement
► Management of stormwater treatment facilities
► Road shoulder and ditch repair
► Flood response and related improvements
► Engineering and planning for upgrades
► Drainage mapping and assessments
► Stormwater permit compliance
Agawam Marching Band

Source: Agawam Historical Association
Stormwater Needs

Infrastructure

Additional Needs:
► Ongoing operation and maintenance (repairs & reconstruction) challenges
► Maintenance backlog of deteriorated storm drain infrastructure
► Culvert failures: North Street culvert is severely deteriorated, resulting in bank erosion for White Brook
► Pipe failures: Westford Circle outfall pipe separation and erosion
► Detention pond maintenance: private maintenance is not performed, resulting in failure and burden upon the municipal system
► Undersized pipes to convey flow
► Sanitary sewer cross-connections
# Municipal Stormwater System

## Infrastructure

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<tr>
<th>Year</th>
<th>Feet of Pipe</th>
<th>%</th>
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<tbody>
<tr>
<td>Pre 1960</td>
<td>8,937</td>
<td>1.4%</td>
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<tr>
<td>1960-69</td>
<td>29,213</td>
<td>4.6%</td>
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<tr>
<td>1970-79</td>
<td>69,018</td>
<td>10.8%</td>
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<tr>
<td>1980-89</td>
<td>55,860</td>
<td>8.7%</td>
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<tr>
<td>1990-99</td>
<td>24,103</td>
<td>3.8%</td>
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<tr>
<td>2000-09</td>
<td>79,278</td>
<td>12.4%</td>
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<tr>
<td>2010+</td>
<td>6,267</td>
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<tr>
<td>No Data</td>
<td>368,602</td>
<td>57.5%</td>
</tr>
<tr>
<td>Total</td>
<td>641,278</td>
<td>100.0%</td>
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</tbody>
</table>
Stormwater Needs

Water Quality

Impaired Water Bodies:

► Connecticut River
  ► E. coli, nutrients, total suspended solids (TSS), and PCBs in fish tissue
  ► Long Island Sound TMDL (nitrogen) – applies to Agawam
  ► Incorporated into EPA stormwater permit

Connecticut River at Pynchon Point Park

River Road
Agawam, MA
Longitude/Latitude: -72.585449 / 42.083300

Pynchon Point Park is located at the mouth of the Westfield River where it joins the Connecticut River. Down a short path from the parking lot, is an unimproved ramp for car-top boats only.

Is It Clean?

Pynchon Point is sampled Thursdays from June to September by volunteers coordinated by the Pioneer Valley Planning Commission.

<table>
<thead>
<tr>
<th>Sample Date</th>
<th>Status</th>
<th>CFU/100ml</th>
<th>Wet</th>
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<tbody>
<tr>
<td>2016-09-28</td>
<td>Clean for Boating and Swimming</td>
<td>190</td>
<td>Y</td>
</tr>
<tr>
<td>2016-09-21</td>
<td>Clean for Boating</td>
<td>270</td>
<td>Y</td>
</tr>
<tr>
<td>2016-09-14</td>
<td>Clean for Boating and Swimming</td>
<td>18</td>
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<tr>
<td>2016-09-07</td>
<td>Clean for Boating and Swimming</td>
<td>116</td>
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<tr>
<td>2016-08-31</td>
<td>Clean for Boating and Swimming</td>
<td>54</td>
<td>N</td>
</tr>
</tbody>
</table>

Get more data | What do these numbers mean?
Stormwater Needs

*Water Quality*

Potential Causes of Impairments:

► Urban stormwater runoff
► Illicit discharges
► Sanitary sewer I/I and SSOs
► Septic systems
► Waterfowl
► Pet waste
Stormwater Needs

Flooding

Known Problem Areas:

► Arnold Street (north) – flooding during heavy storms, failed infiltration system
► Meadow Street near Joseph Street – heavy storms overwhelm undersized pipes
► Fairview Street and Federal St. Ext. – flooding due to tree roots in pipes
► Ramah Circle – flooding due to uncontrolled runoff from development
► Basement flooding during extreme storms
Stormwater Needs

Example Problem Areas
Stormwater Needs

Additional Problem Areas – Interactive Map

http://amecei.maps.arcgis.com/apps/webappviewer/index.html?id=962d1c8f946a0ba2de2f8e4516c
Stormwater Needs Feedback

“We need a better stormwater management program because:”

► Aging infrastructure
► Compliance requirements
► Flooding problems
► Water quality problems
► Beach closures or swimming restrictions
► Ecological concerns
► Preservation of property value
► Erosion of channels and streams
► Preserve recreation or fisheries
► Wastewater or septic pressures
► Development pressures
► Drinking water protection
► Prevent lawsuits

Everyone gets 5 votes
Stormwater Needs
Regulatory Requirements

- Small Municipal Separate Storm Sewer System (MS4) General Permit
  - Re-issued on April 4, 2016
  - Becomes effective July 1, 2017
  - Expires June 30, 2022
  - Replaces prior MS4 permit that expired in 2008
  - [https://www3.epa.gov/region1/npdes/stormwater/MS4_MA.html](https://www3.epa.gov/region1/npdes/stormwater/MS4_MA.html)
Stormwater Needs

Regulatory Requirements

Who is regulated?

- 26 MS4s in Pioneer Valley
- 2 waivers (1 pending)
- 260 MS4s in MA
Stormwater Needs
Regulatory Requirements

STORMWATER DISCHARGES ARE CAUSING OR CONTRIBUTING TO AT LEAST OF THE 55% IMPAIRMENTS IN ALL MASSACHUSETTS’ ASSESSED WATERS

Source: Newt Tedder, EPA permit writer, PVPC presentation 5-9-16
Stormwater Needs

Regulatory Requirements

MS4 Permit - 6 Minimum Control Measures (MCMs)

- MCM 1: Public Education and Outreach
- MCM 2: Public Involvement and Participation
- MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program
- MCM 4: Construction Site Stormwater Runoff Control
- MCM 5: Stormwater Management in New Development and Redevelopment
- MCM 6: Pollution Prevention and Good Housekeeping
Stormwater Needs

Regulatory Requirements

1. Public Education and Outreach
   - 2 messages to 4 key audiences: residents, businesses and commercial facilities, developers, industrial facilities
   - Additional messages based on water quality problems
   - Evaluate effectiveness of messages and overall program

2. Public Involvement and Participation
   - Make SWMP and all annual reports available for review
   - Engage public in annual review of SWMP
   - The above may include activities such as: websites, hotlines, clean-up teams, monitoring teams, or an advisory committee

Source: City of Orlando, Florida
3. Illicit Discharge Detection and Elimination (IDDE) Program

- Any discharge to the storm drain system that is not composed entirely of stormwater
  - Improper connections or discharges (e.g., vehicle wash water)
  - Illegal dumping and spills
  - Failed septic systems
3. Illicit Discharge Detection and Elimination (IDDE) Program

- Rank Outfalls
- Dry weather screening
- Re rank outfalls
- Remove illicits
- Map/investigate catchments
- Conduct investigations
- Follow-up screening
- System has been fully investigated!

Source: Newt Tedder, EPA permit writer, PVPC presentation 5-9-16
4. Construction Site Stormwater Runoff Control

- Erosion & sediment control regulatory mechanism
- Site inspection procedures
- Sediment control requirements
- Requirements to control waste
- Site plan review procedures
5. Stormwater Management in New Development and Redevelopment

► Continue to implement and enforce a program for sites that disturb >1 acre
► Modify local ordinances by July 1, 2019 to incorporate Low Impact Development (LID) strategies and MA Stormwater Handbook requirements
► In new development, redevelopment, optimize BMPs for nitrogen and phosphorous removal
► Develop reports on: 1) creation of impervious surfaces; and 2) feasibility of green roofs, infiltration practices and rain harvesting
► Identify a minimum of 5 municipal properties that could be retrofitted with BMPs
6. Pollution Prevention and Good Housekeeping

- O & M procedures
- Catch basin cleaning
- Street sweeping (2 times per year based on Long Island Sound Nitrogen TMDL)
- Stormwater Pollution Prevention Plan for maintenance garages, DPW yards, transfer stations
# Stormwater Needs

## Regulatory Requirements

<table>
<thead>
<tr>
<th>Permit Element or Minimum Control Measure (MCM)</th>
<th>Status of Town’s Existing Program</th>
<th>Needed Actions</th>
<th>Permit Reference</th>
<th>Schedule For Compliance*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MCM #2 – Public Involvement and Participation</strong></td>
<td>Various activities reported since 2013</td>
<td>Continue program, SWMP &amp; annual reports available to public, provide opportunity (annually) for public in review &amp; implementation of SWMP.</td>
<td>Part 2.3.3, page 29</td>
<td>End Year 1 (July 2018) ❌</td>
</tr>
<tr>
<td><strong>MCM #3 – Illicit Detection &amp; Elimination (IDDE) Program</strong></td>
<td>IDDE Bylaw adopted in 2011; outfalls were mapped by Tighe &amp; Bond; and preliminary IDDE testing performed.</td>
<td>Written IDDE Plan (assessment of priority &amp; problem catchments, procedures for wet weather monitoring &amp; methods to evaluate progress).</td>
<td>Part 2.3.4.6, page 25</td>
<td>End Year 1 (July 2018) $6,950</td>
</tr>
</tbody>
</table>

**Budget Estimates – Professional Services**

<table>
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<tr>
<th></th>
<th>End Year 1 (July 2018)</th>
<th>End Year 2 (June 2019)</th>
<th>End Year 3 (June 2020)</th>
<th>End Year 4 (June 2021)</th>
<th>End Year 5 (June 2022)</th>
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<tr>
<td>Written IDDE Plan</td>
<td>$15,210</td>
<td>$23,900</td>
<td>$23,900</td>
<td>$23,900</td>
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<td>Dry weather Catchment Investigation Procedures for illicit discharges based on IDDE Plan.</td>
<td>Part 2.3.4.8, pages 27-41</td>
<td>Investigation for 33% of “problem” catchments</td>
<td>Investigation for additional 33% of “problem” catchments</td>
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<tr>
<td><strong>Budget Estimates – Professional Services</strong></td>
<td>$31,940</td>
<td>$31,940</td>
<td>$31,940</td>
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</tr>
</tbody>
</table>

**To be discussed further at Task Force meeting #2**
Stormwater Needs

Summary

Stormwater Program Challenges:

► Aging infrastructure
► Flooding and drainage system capacity
► Water quality impacts
► Mapping and understanding of the storm drain system (age, condition, etc.)
► System maintenance
► Capital improvements
► Regulatory requirements
► Increasing costs
► Limited resources and funding
Public Education and Outreach

Proposed Activities

► Conduct Survey and Interviews
  ▶ Define and articulate a meaningful local case for stormwater funding

► Develop Educational Materials
  ▶ Elevate the visibility of municipal stormwater work
  ▶ Distinguish between drinking water, wastewater and stormwater systems
  ▶ Engage graphic designer for material development

► Conduct 2 to 3 Public Meetings
  ▶ Share work of Task Force and recommendations
  ▶ Solicit feedback
Public Education and Outreach

Focus Group and Survey Feedback

► Identify Focus Group
► Provide Example Survey
► Feedback
Next Steps

 ► Stormwater Program Analysis
   ► Outline needs and priorities
   ► Develop existing and future costs

 ► Data Analysis
   ► GIS updates and impervious area analysis

 ► Public Outreach
   ► Finalize survey and conduct interviews

 ► Task Force Meeting #2 in May
   ► Review stormwater program analysis
Town of Agawam, MA
Stormwater System Assessment and Utility/Fee Planning

Stormwater Utility Group Meeting
April 26, 2017

Meeting Summary

Meeting Date: Tuesday April 26, 2017
Time: 6:00 to 8:00 p.m.
Location: Agawam Senior Center, 954 Main St, Agawam, MA
Prepared by: Rich Niles (Amec Foster Wheeler)
Elizabeth Flanary (Amec Foster Wheeler)

Attached for reference are the attendee sign-in sheet and meeting agenda and below are the next steps, followed by a summary of key discussion and information related to the project.

Next Steps:
- Outline existing and future costs for the stormwater program
- Continue to update the GIS database and conduct the impervious area analysis
- Interview Task Force on public outreach suggestions
- Plan for Task Force meeting #2 at the end of May or early June

Summary:

1. Statement of Goals and Objectives
   - Rich Niles provided introductory remarks, presented the scope of the project with the anticipated schedule of tasks and deliverables, and discussed the roles and responsibilities for members of the Project Team and Task Force. The project includes six Task Force meetings, two public meetings, and a final report with recommendations for stormwater funding by the end of 2017.

2. Municipal Stormwater System Overview
   - Rich Niles presented an overview on the components of a municipal stormwater system and common problems associated with historical combined stormwater and sanitary sewer systems, such as overflows. These systems were separated in recent years and
the existing stormwater infrastructure was reviewed. Existing stormwater management activities performed by the DPW were also discussed.

- It was noted that under the new EPA NPDES MS4 permit there will be stricter regulations on certain operational activities, such as catch basin cleaning and street sweeping that will require an increase in funding. Separate from these regulations, increased design standards for culverts have historically increased costs, as they must be designed as a bridge for stream crossings in many cases. Although these requirements have been in place for some time, culvert replacement efforts are increasing as the infrastructure ages. Another expense that needs to be addressed is the maintenance of stormwater best management practices (BMPs) that are on private properties (e.g., mowing, removing clippings and debris).
- The current budget status of the DPW was discussed and whether it was adequate to properly meet the Town’s needs for storm drain infrastructure management. The current DPW budget for stormwater activities has been static for years and is not adequate to address the known and anticipated infrastructure needs. The release of the EPA NPDES MS4 permit is a significant driver that will compel the Town to address the management of the storm drain system and impose additional requirements that are not part of the current stormwater program.

3. Stormwater Needs

- The Town’s current understanding of stormwater system needs were discussed by Town staff, who elaborated on several problem areas, such as: increased expense of culvert reconstruction, problems with detention ponds on private property not being maintained, regulatory compliance challenges, and maintenance issues. It was explained that the Town's subdivision regulations currently require that homeowners take on maintenance of detention basins. This is regarded by many as a major burden. With funding, the idea is that the Town may be able to take on maintenance of these facilities.
- A GIS map showing current stormwater infrastructure in Town was displayed during the presentation with a hard copy on the table for Task Force members to review. The map illustrated stormwater pipe systems (by color) based on the approximate age of construction. Approximately 6% of the pipe systems is older than 1970 and 57.5% of piping is of an unknown age. The high percentage of unknown piping is a data gap that requires further assessment.
- The Town is subject to regulatory requirements due to water quality impairments for the Connecticut River for TSS, E. coli, nutrients, and PCBs in fish. Potential causes of the impairments were discussed in the context of stormwater contributions and management needs.
- Areas in Town that are frequently subject to flooding were identified on a GIS map that was also printed for Task Force members to review. Frequent street flooding accelerates the deterioration of pavement, culverts, and stormwater conveyance systems, adding to costs and putting DPW in the position of being reactive. Addressing these issues should be a priority for remediation and prevention efforts. The DPW added that they have purchased a camera for drain pipe inspection, however, they are constrained by the staff time required to properly inspect all drainage pipes.
- Amec Foster Wheeler developed a preliminary online stormwater problem reporting map that can be made available to the public. The interactive map shows current stormwater
infrastructure and allows the public to report issues. To streamline the process and consistently manage data, several common issues are provided in a dropdown menu for users to select.

- Task Force members were polled and asked to select the top five stormwater issues that they felt were priorities for the Town’s stormwater program. The results are summarized below:
  - Aging infrastructure – 5
  - Flooding problems – 5
  - Erosion of channels and streams – 4
  - Water quality problems – 3
  - Wastewater or septic pressures – 3
  - Drinking water protection – 3
  - Compliance requirements – 2
  - Preserve recreation or fisheries – 2
  - Ecological concerns – 2
  - Understanding of the stormwater system / data quality – 1 (added to list at Task Force member request)
  - Beach closures or swimming restrictions – 0
  - Preservation of property value – 0
  - Development pressures – 0
  - Prevent lawsuits – 0

- The requirements of the new MS4 permit that becomes effective July 1 were presented. The permit is developed around six Minimum Control Measures (MCMs): public education and outreach, public involvement and participation, illicit discharge detection and elimination, construction site stormwater runoff control, stormwater management in new development and redevelopment, and pollution prevention and good housekeeping. Each of the six MCMs were explained to the Task Force in greater detail. Upcoming regulatory requirements will be discussed in greater detail at Task Force Meeting #2 with anticipated cost estimates.

- It was mentioned that the new MS4 permit requirements will place an additional administrative burden upon Town staff. It was suggested that the costs associated with stormwater be separated from Town politics and marketed to the public as a necessary utility, in the same manner as sewerage and electricity. The stormwater program will affect all residents and businesses and the public needs to understand the needs to manage the program, as well as the options for funding.

4. Public Engagement

- Patty Gambarini (PVPC) presented proposed activities and objectives related to public outreach. Task Force members were urged to think of how to most effectively engage the public on stormwater and which groups in Town might be most interested. Task Force members commented on the importance of continuing and enhancing youth outreach and the need for more programs and education at local schools.

- One Task Force member noted that there needs to be a lot of outreach for people to understand the stormwater (as a topic with growing needs) since it is competing with all other needs in Town. Examples of specific infrastructure projects that have been completed with costs would be very useful in helping people to understanding needs.
The Town noted that currently most stormwater work is not highly visible or recognized by the public. The DPW is currently implementing a program to distribute door hangers that will explain infrastructure and best management practices. These will be distributed when the DPW is performing stormwater work in neighborhoods. As part of this project, a graphic designer will assist in developing public education and outreach materials.
Agawam Stormwater Task Force - Meeting #2
June 7, 2017

Agawam Public Library
750 Cooper Street
Agawam, MA 01001

Agenda:

5:45 p.m. ARRIVAL AND SIGN IN

6:00 - 6:10 p.m. REVIEW OF MEETING #1 AND ONGOING WORK

6:10 - 6:35 p.m. EXISTING STORMWATER PROGRAM
• Summary of activities
• Estimate of costs
• Funding approach and options

6:35 - 6:55 p.m. PUBLIC EDUCATION AND OUTREACH
• Input on proposed activities

6:55 - 7:05 p.m. BREAK

7:05 - 7:35 p.m. FUTURE STORMWATER PROGRAM
• Needs and cost estimates
• Program level of service
• Funding options (introduction)

7:35 - 7:50 p.m. DISCUSSION AND FEEDBACK

7:50 - 8:00 p.m. NEXT STEPS
## Town of Agawam, MA
### Stormwater System Assessment and Utility/Fee Planning Project

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Title</th>
<th>Phone</th>
<th>Email</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Albro</td>
<td>Agawam Engineering</td>
<td>Assistant Town Engineer</td>
<td>413-726-2803</td>
<td><a href="mailto:MAlbro@agawam.ma.us">MAlbro@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Steve Bonesteel</td>
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<td>413-821-0626</td>
<td><a href="mailto:Sbonesteel@agawam.ma.us">Sbonesteel@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
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<td>413-821-0625</td>
<td><a href="mailto:MChase@agawam.ma.us">MChase@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>John Decker</td>
<td>Agawam Department of Public Works</td>
<td>Deputy Superintendent Water Department</td>
<td>413-821-0627</td>
<td><a href="mailto:JDecker@agawam.ma.us">JDecker@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Tracy DeMaio</td>
<td>Agawam Department of Public Works</td>
<td>Environmental Project Coordinator</td>
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<td><a href="mailto:TDeMaio@agawam.ma.us">TDeMaio@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Laurel Placzek</td>
<td>Town of Agawam</td>
<td>Treasurer / Collector</td>
<td>413-82190712</td>
<td><a href="mailto:Lplaczek@agawam.ma.us">Lplaczek@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Elizabeth Flanary</td>
<td>Amec Foster Wheeler</td>
<td>Project Engineer</td>
<td>978-727-4007</td>
<td><a href="mailto:elizabeth.flannary@amecfw.com">elizabeth.flannary@amecfw.com</a></td>
<td></td>
</tr>
<tr>
<td>Patty Gambarini</td>
<td>Pioneer Valley Planning Commission</td>
<td>Principal Environmental Planner</td>
<td>413-781-6045</td>
<td><a href="mailto:PGambarini@PVPC.ORG">PGambarini@PVPC.ORG</a></td>
<td></td>
</tr>
<tr>
<td>Christopher Golba</td>
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<td>Superintendent</td>
<td>413-821-0623</td>
<td><a href="mailto:CGolba@agawam.ma.us">CGolba@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>Rich Niles</td>
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<td>978-392-5355</td>
<td><a href="mailto:rich.niles@amecfw.com">rich.niles@amecfw.com</a></td>
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</tr>
<tr>
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<td>Amec Foster Wheeler</td>
<td>Technical Advisor</td>
<td>615-333-0630</td>
<td><a href="mailto:andrew.reese@amecfw.com">andrew.reese@amecfw.com</a></td>
<td></td>
</tr>
</tbody>
</table>

Citizen Advisory Task Force Meeting #2  
June 7, 2017
## Task Force Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Title</th>
<th>Phone</th>
<th>Email</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Cichetti</td>
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<td>President</td>
<td>413-246-8766</td>
<td><a href="mailto:JCichetti@agawam.ma.us">JCichetti@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Susan Dawson</td>
<td></td>
<td>Resident</td>
<td>413-896-1750</td>
<td><a href="mailto:SRDawson@comcast.net">SRDawson@comcast.net</a></td>
<td></td>
</tr>
<tr>
<td>Rob Donaldson</td>
<td>Feeding Hills Congregational Church</td>
<td>Reverend</td>
<td>413-330-9554</td>
<td><a href="mailto:RevRobucc@comcast.net">RevRobucc@comcast.net</a></td>
<td></td>
</tr>
<tr>
<td>Herbert Holl</td>
<td></td>
<td>Resident</td>
<td></td>
<td><a href="mailto:herb.holl@hs.utc.com">herb.holl@hs.utc.com</a></td>
<td></td>
</tr>
<tr>
<td>Dave Jenks</td>
<td>Six Flags New England</td>
<td>Construction and Facilities Manager</td>
<td>413-479-9354</td>
<td><a href="mailto:djenks@sftp.com">djenks@sftp.com</a></td>
<td></td>
</tr>
<tr>
<td>Christopher Johnson</td>
<td>Agawam City Council</td>
<td>Member</td>
<td>413-786-6297</td>
<td><a href="mailto:CJohnson@agawam.ma.us">CJohnson@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Henry Kosloski</td>
<td>Agawam Conservation Commission</td>
<td>Chair</td>
<td></td>
<td><a href="mailto:aboissonneault@agawam.ma.us">aboissonneault@agawam.ma.us</a></td>
<td></td>
</tr>
<tr>
<td>Mario Tedeschi</td>
<td>Allied Flooring and Paint</td>
<td>Owner</td>
<td>413-233-3100</td>
<td><a href="mailto:MartioT@alliedflooringandpaint.com">MartioT@alliedflooringandpaint.com</a></td>
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<tr>
<td>Bob Ross</td>
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Town of Agawam
Stormwater System Assessment and Utility/Fee Planning Project

Citizen Advisory Task Force Meeting #2

June 7, 2017
Agenda

600 - 610p: Review of Meeting #1

610 - 635p: Existing Stormwater Program
► Activities and Services
► Current Costs
► Current Funding Approach & Options

635 - 655p: Public Engagement
► Input on Proposed Activities

655 - 705p: Break

705 - 735p: Future Stormwater Program
► Needs and Cost Estimates
► Program Levels of Service
► Future Funding Options (introduction)

735 - 750p: Discussion and Feedback

750 - 800p: Next Steps
Review of Task Force Meeting #1
Summary of Key Issues Covered

► History of the combined sanitary sewer and storm sewer systems – separation projects from 1980s-2000
► Overview of the Town’s municipal storm sewer system – pipe, culverts, catch basins, outfalls, stormwater BMPs
► Town’s current stormwater management challenges:
  ▶ Aging assets and increased maintenance
  ▶ MS4 permit compliance
  ▶ Budget constraints
► Local stormwater issues and interactive map showing problem areas
► Overview of the MS4 permit – 6 Minimum Control Measures
► Public engagement and proposed activities and initial thoughts on messaging:
  ▶ Understanding of stormwater issues is lacking and a robust outreach program is needed with examples to show the growing need
  ▶ Need for continued youth education programs
  ▶ Stormwater projects need to be more visible
Review of Task Force Meeting #1
Summary of Key Issues Covered

- Initial Priorities from Task Force Poll:
  - Aging infrastructure – 5
  - Flooding problems – 5
  - Erosion of channels and streams – 4
  - Water quality problems – 3
  - Wastewater or septic pressures – 3
  - Drinking water protection – 3
  - Compliance requirements – 2
  - Preserve recreation or fisheries – 2
  - Ecological concerns – 2
  - Understanding of the stormwater system / data quality – 1 (added to list at Task Force member request)
  - Beach closures or swimming restrictions – 0
  - Preservation of property value – 0
  - Development pressures – 0
  - Prevent lawsuits – 0
Review of Task Force Meeting #1

Existing Town Stormwater Services

Activities:
► Catch basin cleaning
► Street sweeping and waste disposal
► Drainage structure repair and replacement
► Culvert cleaning, repair and replacement
► Management of stormwater treatment facilities
► Road shoulder and ditch repair
► Flood response and related improvements
► Engineering, planning and oversight of upgrades
► Drainage mapping and assessments
► Permit compliance tracking and reporting
► Enforcement of drainage design standards
► Public outreach & education
► Contract management
Review of Task Force Meeting #1

Stormwater System Assets

Storm Drain Infrastructure:
- 512 outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts
Ongoing Work

► Public engagement activities
  ► Press release
  ► Informational web page
  ► Interactive map for public to identify stormwater needs or concerns

► GIS data update and analysis of data for funding approaches
  ► Parcel analysis
  ► Analysis of billing units
  ► Billing approaches
Existing Stormwater Program

Current MS4 Permit Budget Approach

STORMWATER MANAGEMENT FY2017 = $173,000 line item

► Focused on MS4 Permit Compliance
► MS4 Permit - 6 Minimum Control Measures (MCMs)
  ▶ MCM 1: Public Education and Outreach ($3,000)
  ▶ MCM 2: Public Involvement and Participation ($1,500)
  ▶ MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program ($20,000)
  ▶ MCM 4: Construction Site Stormwater Runoff Control ($5,000)
  ▶ MCM 5: Stormwater Management in New Development and Redevelopment ($5,000)
  ▶ MCM 6: Pollution Prevention and Good Housekeeping ($138,500)

► Does not include:
  ▶ Labor associated with operations and management
  ▶ Labor for administration, management, engineering, planning, inspection/enforcement
  ▶ Capital projects and equipment costs
  ▶ Additional contract services
Existing Stormwater Program

Summary of Activities by Function

1. Stormwater Program Administration
   - General administration (budgets, personnel, management, etc.)
   - Grant application/management
   - Internal/external project coordination

2. Stormwater Operations and Maintenance
   - Catch basin repairs
   - Storm drain and culvert repairs
   - Street sweeping
   - Catch basin cleaning
   - Storm cleanup/flood relief response
   - Ditch/channel maintenance
   - Equipment maintenance/repair

3. Drainage Engineering and Stormwater Management Planning
   - System conditions inspection/video
   - Asset management
   - Planning/design of collection system upgrades
Existing Stormwater Program

Summary of Activities by Function

► 3. Drainage Engineering and Stormwater Management Planning (continued)
  ► Planning/design of collection system upgrades
  ► Planning/design of stormwater treatment (BMPs)
  ► Drainage design standards and bylaws
  ► System mapping and database management
  ► Water quality monitoring
  ► Public involvement/outreach

► 4. Regulatory Compliance/Enforcement
  ► MS4 permit compliance
  ► Review and approval of stormwater plans
  ► Construction inspections and reporting
  ► BMP inspection and enforcement

► 5. Stormwater Capital Improvement Projects and Equipment
  ► Minor projects: drainage improvements (existing systems)
  ► Major projects: new infrastructure/BMPs
  ► Capital equipment
## Existing Stormwater Program

### Summary of Current Costs

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<th>Functional Category</th>
<th>FY '17 Budget</th>
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<td>1. Stormwater Program Administration</td>
<td>$37,676</td>
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<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
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<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>$135,725</td>
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<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>$100,917</td>
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<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
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<td><strong>Total</strong></td>
<td><strong>$892,571</strong></td>
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- Preliminary costs are derived primarily from:
  - Existing and estimated budget items
  - Estimated personnel (labor) efforts
  - Contractors and expenses
# Existing Stormwater Program

## Summary of Current Costs

Personnel efforts (FY ’17) – preliminary analysis

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<th>Functional Category</th>
<th>FTEs*</th>
<th>Labor Cost**</th>
<th>Total Budget</th>
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<td>2. Stormwater Operations and Maintenance</td>
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<td>4. Regulatory Compliance/Enforcement</td>
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<td>5. Stormwater Capital Improvement Projects and Equipment</td>
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<td><strong>Total</strong></td>
<td>4.85</td>
<td><strong>$704,110</strong></td>
<td><strong>$892,571</strong></td>
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*FTEs = number of full-time employees across all personnel categories

**Based on a full-burdened rate of 1.4 for indirect benefits
### Existing Stormwater Program

#### Summary of Current Costs

Personnel efforts (FY ’17) – supporting analysis example

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<th>Town Department</th>
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<td>Deputy</td>
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<td>Special Heavy</td>
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<td>Special Heavy</td>
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<td>Equipment Operator (7)</td>
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<td>Full Burden Rate (1.4)</td>
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<td>$76,238</td>
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**Functional Category & Subcategories**

1. Stormwater Program Administration
   - General Administration (budgets, personnel management, etc.) 0.02
   - Grant application/management
   - Internal/External Project Coordination
     - 0.02 0 0 0 0 0 0 0 0 0

2. Stormwater Operations and Maintenance
   - Catch basin repairs 0.1 0.2 0.2 0.1 0.1 0.1 0.1 0.1
   - Storm drain and culvert repairs 0.05 0.2 0.2 0.1 0.1 0.1 0.1 0.1
   - Street sweeping 0.02
   - Storm cleanup/flood relief response 0.02 0.05 0.05 0.05 0.05 0.05 0.05 0.05
   - Ditch/channel maintenance 0.02 0.05 0.1 0.05 0.05 0.05 0.05 0.05
   - Equipment maintenance/repair 0.01
     - 0.22 0.5 0.5 0.3 0.25 0.3 0.3 0.3

3. Drainage Engineering and Stormwater Management Planning
   - System Conditions Inspections/Video 0.02
   - Asset Management
   - Planning/Design of Collection System Upgrades
   - Planning/Design of Stormwater Treatment (BMPs)
   - Drainage Design Standards and Bylaws
   - System Mapping and Database Management
   - Water Quality Monitoring
   - Public Involvement/Outreach
     - 0.02 0 0 0 0 0 0 0 0
## Existing Stormwater Program
### Summary of Current Costs

Contractors and expenses backup summary - $188,461 total

<table>
<thead>
<tr>
<th>FY 2017 Budget</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>1. Stormwater Program Administration</strong></td>
</tr>
<tr>
<td>a $ 2,000</td>
<td>Connecticut River Watershed Stormwater Coalition</td>
</tr>
<tr>
<td>b $ 2,000</td>
<td>PVPC Local Technical Assistance</td>
</tr>
<tr>
<td>c $ 500</td>
<td>Staff training and seminars</td>
</tr>
<tr>
<td>d $ 3,000</td>
<td>Public education and outreach</td>
</tr>
<tr>
<td>e $ 1,500</td>
<td>Public involvement and participation</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$ 9,000</strong></td>
</tr>
<tr>
<td></td>
<td><strong>2. Stormwater Operations and Maintenance</strong></td>
</tr>
<tr>
<td>a $ 73,200</td>
<td>Street sweeper rental (Purchased Services 52070)</td>
</tr>
<tr>
<td>b $ 20,000</td>
<td>Storm drain material (supplies)</td>
</tr>
<tr>
<td>c $ 24,780</td>
<td>Catch basin cleaning - MS4 budget</td>
</tr>
<tr>
<td>f $ 5,000</td>
<td>Installation and maintenance of erosion and sediment controls (materials) - MS4 budget</td>
</tr>
<tr>
<td>g $ 5,000</td>
<td>Repairs of BMPs (materials) - MS4 budget</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$ 127,980</strong></td>
</tr>
<tr>
<td></td>
<td><strong>3. Drainage Engineering and Stormwater Management Planning</strong></td>
</tr>
<tr>
<td>a $ 500</td>
<td>Staff training and seminars</td>
</tr>
<tr>
<td>b $ 2,156</td>
<td>Computer software licenses (stormwater only)</td>
</tr>
<tr>
<td>c $ 5,000</td>
<td>Computers, printers, plotters, scanners (10-yr replacement)</td>
</tr>
<tr>
<td>d $ 825</td>
<td>Work orders (water billing software)</td>
</tr>
<tr>
<td>f $ 20,000</td>
<td>Illicit discharge detection and elimination (field investigations and mapping)</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$ 28,481</strong></td>
</tr>
<tr>
<td></td>
<td><strong>4. Regulatory Compliance/Enforcement</strong></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>-</strong></td>
</tr>
<tr>
<td></td>
<td><strong>5. Stormwater Capital Improvement Projects and Equipment</strong></td>
</tr>
<tr>
<td>c $ 23,000</td>
<td>Capital equipment costs (10-yr lease of equipment 50% dedicated to stormwater)</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$ 23,000</strong></td>
</tr>
</tbody>
</table>
Existing Stormwater Program
Current Funding Approach and Options

General Fund (property tax)
► Based on assessed property value
► Does not include tax-exempt properties

Grants (e.g., 604b, s319, DLTA)
► Limited funding
► Very competitive
► Project-based (day to day operations and expenses not eligible)

Plan Review Fees
► Does not cover cost of all related Town services (multiple reviews; follow on inspections)

Chapter 90 (fuel tax for roads)
► Mostly dedicated to roads (minor stormwater improvements)
Objective: Define message about stormwater funding based on understanding of concerns and what matters most to people in Agawam.
Public Engagement

Proposed Activities

1. Conduct survey or interviews

   **Objective**: Define message about stormwater funding based on understanding of concerns and what matters most to people in Agawam.

2. Develop educational materials

   **Objective**: Elevate the visibility of municipal stormwater work and promote greater understanding about funding needs.

3. Conduct 2 to 3 public meetings

   **Objective**: Share work of the Stormwater Task Force and recommendations.
Break
Future Stormwater Program

**Stormwater Needs**

Example Identified Needs:

- Maintenance backlog of deteriorated storm drain infrastructure with associated increased effort for labor and equipment
- Repair failing culverts: North Street culvert is severely deteriorated, resulting in bank erosion for White Brook
- Replace failed pipes: Westford Circle outfall pipe separation and erosion
- Educate and enforce detention pond maintenance: private systems
- Increase maintenance of publicly-owned detention basins
- Design/replace undersized pipes: Arnold Street
- Identify and eliminate sanitary sewer cross-connections and other illicit discharges
- Implement increasing MS4 permit requirements: inventories, inspections, outfall screening, good-housekeeping activities (street sweeping and catch basin cleaning)
- Additional administration, engineering, planning, asset management, etc.
### Future Stormwater Program

**Summary of Future Costs**

**Preliminary Estimate:**

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '17</th>
<th>FY '18</th>
<th>FY '19</th>
<th>FY '20</th>
<th>FY '21</th>
<th>FY '22</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>$37,676</td>
<td>$66,182</td>
<td>$67,236</td>
<td>$67,236</td>
<td>$67,236</td>
<td>$67,236</td>
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<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,179,723</td>
<td>$1,197,723</td>
<td>$1,215,723</td>
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<tr>
<td>4. Regulatory Compliance / Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
</tr>
<tr>
<td>Total</td>
<td>$892,571</td>
<td>$1,630,481</td>
<td>$1,953,593</td>
<td>$1,973,628</td>
<td>$2,040,778</td>
<td>$2,032,568</td>
</tr>
</tbody>
</table>

► **FY '17**

- 2 (66%)
- 3 (15%)
- 4 (11%)
- 5 (4%)

► **FY '18-22 (5-yr avg.)**

- 2 (60%)
- 3 (15%)
- 4 (9%)
- 5 (12%)
- 1 (4%)
Future Stormwater Program

Summary of Future Costs

Summary and considerations:

► $892,571 (FY ’17)

► $1,071,399 (FY ’18) – costs if none of the study analysis is included
  ► ~ $25,300 increase in labor from FY ’17 to FY ’18 due to salary increases
  ► Stormwater Management existing budget line item increased $153,500 from FY ’17 to FY ’18

► 2% salary increase (assumed) each year

► $854,810 – net increase
  ► Includes $250K for minor and major capital projects

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>5-yr avg. (FY ’18-22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>$67,025</td>
</tr>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$1,149,447</td>
</tr>
<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>$291,248</td>
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<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>$178,605</td>
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<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td>$239,885</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$1,926,209</strong></td>
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</tbody>
</table>
## Existing Stormwater Program

### Summary of Future Costs

Personnel efforts – preliminary analysis and comparison of FY ’17 and FY ’18-22

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY 2018-2022 (avg.)</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FTEs*</td>
<td>Labor Cost**</td>
</tr>
<tr>
<td>1. Stormwater Program Administration</td>
<td>0.26</td>
<td>$52,682</td>
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<td>2. Stormwater Operations and Maintenance</td>
<td>3.02</td>
<td>$690,739</td>
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<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>0.8</td>
<td>$177,223</td>
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<tr>
<td>4. Regulatory Compliance / Enforcement</td>
<td>0.7</td>
<td>$165,950</td>
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<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td>0.07</td>
<td>$16,619</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>7.21</strong></td>
<td><strong>$1,103,212</strong></td>
</tr>
</tbody>
</table>

*FTEs = number of full-time employees across all personnel categories

**Based on a full-burdened rate of 1.4 for indirect benefits

► Increase of 2.36 FTEs and $399,102 labor budget
### Existing Stormwater Program

#### Summary of Future Costs

Personnel efforts (FY ’18-22) – supporting analysis example

<table>
<thead>
<tr>
<th>Town Department</th>
<th>Engineering</th>
<th>Highways and Grounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>Town Engineer</td>
<td>Asst Town Engineer</td>
</tr>
<tr>
<td>Annual Salary w/ Direct Benefits</td>
<td>$ 95,574</td>
<td>$ 78,763</td>
</tr>
<tr>
<td>Fully Burdened Rate (1.4)</td>
<td>$ 131,004</td>
<td>$ 110,268</td>
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</table>

#### 2. Stormwater Operations and Maintenance

<table>
<thead>
<tr>
<th>Activity</th>
<th>Town Engineer</th>
<th>Asst Town Engineer</th>
<th>Civil Engineer 1 (3)</th>
<th>Depty Superintendent</th>
<th>Working Foreman</th>
<th>Special Heavy Equip Operator</th>
<th>Special Heavy Equip Operator</th>
<th>Heavy Equip Operators (7)</th>
<th>Maintenance Crew (4)</th>
<th>Laborer (4)</th>
<th>Foreman (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catch basin repairs</td>
<td>0.1</td>
<td>0.2</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storm drain and culvert repairs</td>
<td>0.07</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
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</tr>
<tr>
<td>Street sweeping</td>
<td>0.04</td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Storm cleanup/flood relief response</td>
<td>0.02</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Ditch/channel maintenance</td>
<td>0.04</td>
<td>0.07</td>
<td>0.15</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Equipment maintenance/repair</td>
<td>0.01</td>
<td></td>
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</table>

#### 3. Drainage Engineering and Stormwater Management Planning

<table>
<thead>
<tr>
<th>Activity</th>
<th>Town Engineer</th>
<th>Asst Town Engineer</th>
<th>Civil Engineer 1 (3)</th>
<th>Depty Superintendent</th>
<th>Working Foreman</th>
<th>Special Heavy Equip Operator</th>
<th>Special Heavy Equip Operator</th>
<th>Heavy Equip Operators (7)</th>
<th>Maintenance Crew (4)</th>
<th>Laborer (4)</th>
<th>Foreman (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Conditions Inspections/Video</td>
<td>0.02</td>
<td>0.1</td>
<td>0.05</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asset Management</td>
<td>0.01</td>
<td>0.05</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning/Design of Collection System Upgrades</td>
<td>0.07</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning/Design of Stormwater Treatment (BMPs)</td>
<td>0.03</td>
<td>0.15</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage Design Standards and Bylaws</td>
<td>0.02</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Mapping and Database Management</td>
<td>0.02</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Water Quality Monitoring</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Involvement/Outreach</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 4. Regulatory Compliance/Enforcement

<table>
<thead>
<tr>
<th>Activity</th>
<th>Town Engineer</th>
<th>Asst Town Engineer</th>
<th>Civil Engineer 1 (3)</th>
<th>Depty Superintendent</th>
<th>Working Foreman</th>
<th>Special Heavy Equip Operator</th>
<th>Special Heavy Equip Operator</th>
<th>Heavy Equip Operators (7)</th>
<th>Maintenance Crew (4)</th>
<th>Laborer (4)</th>
<th>Foreman (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS4 permit compliance</td>
<td>0.05</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review and Approval of Stormwater Plans</td>
<td>0.04</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Inspection (E&amp;S, SW plans)</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWPPPS/Reporting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMP Inspection/Enforcement</td>
<td>0.16</td>
<td>0.17</td>
<td>0.27</td>
<td>0.1</td>
<td>0.2</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23
## Future Stormwater Program
### FY ’17-’18 MS4 Permit Budget Comparison

<table>
<thead>
<tr>
<th>Project Code</th>
<th>FY 2017</th>
<th>FY 2018</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 1: Public Education and Outreach</td>
<td>$3,000</td>
<td>$6,000</td>
<td>PVPC LTA, postcards, storm drain markers, mailings, etc.</td>
</tr>
<tr>
<td>MCM 2: Public Involvement and Participation</td>
<td>$1,500</td>
<td>$3,000</td>
<td>Materials and supplies for community cleanups, water quality monitoring expenses (future)</td>
</tr>
<tr>
<td>MCM 3: Illicit Discharge Detection and Elimination</td>
<td>$20,000</td>
<td>$20,000</td>
<td>Mapping updates, outfall inventories, field investigations, staff training</td>
</tr>
<tr>
<td>MCM 4: Construction Site Runoff Control</td>
<td>$5,000</td>
<td>$5,000</td>
<td>Installation and maintenance of erosion and sediment controls (materials)</td>
</tr>
<tr>
<td>MCM 5: Post Construction Stormwater Management</td>
<td>$5,000</td>
<td>$5,000</td>
<td>Repairs of BMPs (materials)</td>
</tr>
<tr>
<td>MCM 6: Good Housekeeping / Pollution Prevention</td>
<td>$138,500</td>
<td>$287,500</td>
<td>Street sweeping, catch basin cleaning, s319 grant match (future), and catch basin inspections (future)</td>
</tr>
</tbody>
</table>

**Total** | $173,000 | $326,500 |

Does not include:
- Labor associated with operations and management
- Labor for administration, management, engineering, planning, inspection/enforcement
- Capital projects and equipment costs
- Additional contract services
Future Stormwater Program
5-Year MS4 Permit Budget Evaluation

Year-by-year evaluation (initial estimate):
► Based on MS4 permit deadlines
► Aligns with some FY18 MS4 Permit budget line items
► Consists of contractor costs
► Does not include Town labor, capital projects or equipment

<table>
<thead>
<tr>
<th></th>
<th>FY 2018</th>
<th>FY 2019</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$103,980</td>
<td>$114,270</td>
<td>$81,200</td>
<td>$130,350</td>
<td>$104,140</td>
</tr>
<tr>
<td>5-yr avg.</td>
<td>$106,788</td>
<td></td>
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</tr>
<tr>
<td>5-yr Total</td>
<td>$533,940</td>
<td></td>
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</tbody>
</table>

► Approximately $29,000 was included in the FY 2018 MS4 permit budget
► FY 2018 MS4 permit budget was merged with 5-year analysis
## Future Stormwater Program
### 5-Year MS4 Permit Budget Evaluation

#### Summary of requirements and budget estimates

<table>
<thead>
<tr>
<th>Permit Element or Minimum Control Measure (MCM)</th>
<th>Status of Town's Existing Program</th>
<th>Needed Actions</th>
<th>Permit Reference</th>
<th>Schedule For Compliance*</th>
<th>Budget Estimates - Professional Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM #2 – Public Involvement and Participation</td>
<td>Various activities reported since 2013</td>
<td>Continue program, SWMP &amp; annual reports available to public, provide opportunity (annually) for public in review &amp; implementation of SWMP</td>
<td>Part 2.3.3, page 29</td>
<td>End Year 1 (July 2018) - X, End Year 2 (June 2019) - X, End Year 3 (June 2020) - X, End Year 4 (June 2021) - X, End Year 5 (June 2022) - X</td>
<td>$2,000, $1,000, $2,000, $2,000, $2,000</td>
</tr>
</tbody>
</table>

- **MCM #4 – Illl Discharge Detection & Elimination (IDDE)**
  - Bypress adopted in 2011: outfalls were mapped to Tighe & Bond and preliminary IDDE testing performed
  - Written IDDE Plan (assessment of priority & problem catchments, procedures for wet weather monitoring & methods to evaluate progress)
    - Part 2.3.4.6, page 53, Part 2.3.4.7b, page 35
    - Delimit 621 outfall catchments
    - Calculate prioritization and written IDDE Plan
    - Dry weather screening and sampling of dry weather outfalls (50% completed)
    - Dry weather screening and sampling of dry weather outfalls (100% completed)
    - Budget Estimates - Professional Services: $25,450, $22,340, $22,340
  - Dry weather Catchment Investigation Procedures for all catchments based on IDDE Plan
    - Part 2.3.4.8, page 39-41
    - Investigation for 33% of “problem” catchments
    - Investigation for additional 33% of “problem” catchments
    - Budget Estimates - Professional Services: $31,940, $31,940
  - Wet weather sampling in catchments with identified system vulnerability factors based on IDDE Plan
    - Part 2.3.4.8.dii.2b, page 40
    - 10 outfall catchments with one system vulnerability factor
    - Budget Estimates - Professional Services: $16,730
  - IDDE training program for municipal staff and train each year
    - Part 2.3.4.11, page 41
    - Develop program & training
    - Budget Estimates - Professional Services: $5,980, $1,750, $1,750, $1,750, $1,750
## Existing Stormwater Program

### Summary of Future Costs

Contractors and expenses backup summary - $805,346 total (5-yr avg.)

<table>
<thead>
<tr>
<th>Description</th>
<th>FY 2017 Budget</th>
<th>FY 2018-2022</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Stormwater Program Administration</strong></td>
<td></td>
<td></td>
<td>CT River Watershed Stormwater Coalition</td>
</tr>
<tr>
<td>a</td>
<td>$2,000</td>
<td>$2,000</td>
<td>PVPC Local Technical Assistance</td>
</tr>
<tr>
<td>b</td>
<td>$2,000</td>
<td>$2,000</td>
<td>Staff training and seminars</td>
</tr>
<tr>
<td>c</td>
<td>$500</td>
<td>$500</td>
<td>Public education and outreach</td>
</tr>
<tr>
<td>d</td>
<td>$3,000</td>
<td>$6,000</td>
<td>Public involvement and participation</td>
</tr>
<tr>
<td>e</td>
<td>$1,500</td>
<td>$3,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$9,000</td>
<td>$13,500</td>
<td></td>
</tr>
<tr>
<td><strong>2. Stormwater Operations and Maintenance</strong></td>
<td>$127,980</td>
<td>$447,657</td>
<td>Street sweep rental (Purchased Services 52070) for FY17, MS4 budget for FY18-FY22</td>
</tr>
<tr>
<td>a</td>
<td>$73,200</td>
<td>$116,383</td>
<td>Storm drain material (supplies)</td>
</tr>
<tr>
<td>b</td>
<td>$20,000</td>
<td>$20,000</td>
<td>Catch basin cleaning - MS4 budget (10% FY '18, 20% FY '19, 25% FY '20 - FY '22)</td>
</tr>
<tr>
<td>c</td>
<td>$24,780</td>
<td>$147,412</td>
<td>Catch basin inspection - MS4 budget</td>
</tr>
<tr>
<td>d</td>
<td>$-</td>
<td>$97,763</td>
<td>Detention basin maintenance: 15 in the first year, additional 10 each year thereafter (92 town-owned basins)</td>
</tr>
<tr>
<td>e</td>
<td>$5,000</td>
<td>$5,000</td>
<td>New capital operation and maintenance (2% of accured new capital value)</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$127,980</td>
<td>$447,657</td>
<td></td>
</tr>
<tr>
<td><strong>3. Drainage Engineering and Stormwater Management Planning</strong></td>
<td>$28,481</td>
<td>$111,189</td>
<td>Staff training and seminars</td>
</tr>
<tr>
<td>a</td>
<td>$500</td>
<td>$500</td>
<td>Computer software licenses (stormwater only)</td>
</tr>
<tr>
<td>b</td>
<td>$2,156</td>
<td>$2,156</td>
<td>Computers, printers, plotters, scanners (10-yr replacement)</td>
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<tr>
<td>c</td>
<td>$825</td>
<td>$825</td>
<td>Work orders (water billing software)</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$28,481</td>
<td>$111,189</td>
<td></td>
</tr>
</tbody>
</table>
## Existing Stormwater Program

### Summary of Future Costs

Contractors and expenses backup summary - $805,346 total (5-yr avg.)

<table>
<thead>
<tr>
<th>FY 2017 Budget</th>
<th>FY 2018-2022</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a $ -</td>
<td>$ 5,000</td>
<td>Third party inspection of erosion and sediment controls</td>
</tr>
<tr>
<td>b $ -</td>
<td>$ 5,000</td>
<td>Third party inspection of BMPs</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$ -</td>
<td>$ 10,000</td>
</tr>
<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a $ -</td>
<td>$ 120,000</td>
<td>Major capital projects by outside contractors for problem areas</td>
</tr>
<tr>
<td>b $ -</td>
<td>$ 80,000</td>
<td>Minor capital projects by Town or outside contractors (capital renewal)</td>
</tr>
<tr>
<td>c $ 23,000</td>
<td>$ 23,000</td>
<td>Capital equipment costs (10-yr lease of equipment 50% dedicated to stormwater)</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$ 23,000</td>
<td>$ 223,000</td>
</tr>
</tbody>
</table>
Existing Stormwater Program

Summary of Future Costs

Contractors and expenses, major cost components (annual):

► $116,383 – street sweeping (2x/yr, 582 total curb miles, $199.97/curb mile)
► $140,420 – catch basin cleaning ($147.50/basin, 1,190 basins)
► $98,175 – catch basin inspection ($82.50/basin, 1,190 basins)
► $150,000 – major capital projects (new infrastructure), beginning FY 2019
► $100,000 – minor capital projects (remedial maintenance), beginning FY 2019
► $73,788 – MS4 permit compliance

► Note that major and minor capital project budgets need to be refined over time based on new data from inspections and assessments
## Existing Stormwater Program

### Summary of Future Costs

**Example Major Capital Project:**

- ~$324,900 (Fairview St. / Federal St. Ext.)
- Flooding during heavy rainstorms

### Fairview Street

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>ITEM</th>
<th>UNIT</th>
<th>QUANT.</th>
<th>UNIT PRICE</th>
<th>HDPE PIPE 24X24X8 CB Cover</th>
<th>RCP PIPE 24X24X8 CB Cover</th>
<th>HDPE PIPE CB Top-Type &quot;C&quot;</th>
<th>RCP PIPE CB Top-Type &quot;C&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>12&quot; HDPE</td>
<td>LF</td>
<td>1590</td>
<td>$6.50</td>
<td>$10,335.00</td>
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<td>$10,335.00</td>
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<tr>
<td>6</td>
<td>12&quot; RCP</td>
<td>LF</td>
<td>1590</td>
<td>$8.07</td>
<td>-</td>
<td>$12,831.30</td>
<td>-</td>
<td>$12,831.30</td>
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<tr>
<td>9</td>
<td>25 LB BUCKET LUBE</td>
<td>EA</td>
<td>1</td>
<td>$45.95</td>
<td>-</td>
<td>-</td>
<td>$45.95</td>
<td>-</td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>10</td>
<td>2' CB SUMP</td>
<td>EA</td>
<td>14</td>
<td>$267.00</td>
<td>$3,738.00</td>
<td>$3,738.00</td>
<td>$3,738.00</td>
<td>$3,738.00</td>
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<tr>
<td>11</td>
<td>2' CB RISER SOL</td>
<td>EA</td>
<td>14</td>
<td>$208.00</td>
<td>$2,912.00</td>
<td>$2,912.00</td>
<td>$2,912.00</td>
<td>$2,912.00</td>
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<tr>
<td>12</td>
<td>4' CB KO C-RISER (4' High w/4&quot; Flange)</td>
<td>EA</td>
<td>14</td>
<td>$320.00</td>
<td>$4,480.00</td>
<td>$4,480.00</td>
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<tr>
<td>13</td>
<td>TYPE &quot;C&quot; BIT Curb CB Top</td>
<td>EA</td>
<td>14</td>
<td>$424.00</td>
<td>-</td>
<td>-</td>
<td>$5,936.00</td>
<td>$5,936.00</td>
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<tr>
<td>14</td>
<td>24&quot; x 24&quot; x 8&quot; 3 Flange CB Frame</td>
<td>EA</td>
<td>14</td>
<td>$408.00</td>
<td>$5,712.28</td>
<td>$5,712.28</td>
<td>-</td>
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<tr>
<td>15</td>
<td>CB Hood, Cast Iron</td>
<td>EA</td>
<td>14</td>
<td>$424.00</td>
<td>-</td>
<td>-</td>
<td>$5,936.00</td>
<td>$5,936.00</td>
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<tr>
<td>16</td>
<td>48&quot; x 4' BASE EXT WHOLE</td>
<td>EA</td>
<td>7</td>
<td>$374.00</td>
<td>$2,618.00</td>
<td>$2,618.00</td>
<td>$2,618.00</td>
<td>$2,618.00</td>
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<tr>
<td>17</td>
<td>3&quot; X 48&quot; CONE W/24&quot; OPNG</td>
<td>EA</td>
<td>7</td>
<td>$192.00</td>
<td>$1,344.00</td>
<td>$1,344.00</td>
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<td>$1,344.00</td>
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<tr>
<td>18</td>
<td>48&quot; X 1' RISER PER FT</td>
<td>PF</td>
<td>9</td>
<td>$64.00</td>
<td>$576.00</td>
<td>$576.00</td>
<td>$576.00</td>
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<tr>
<td>19</td>
<td>48&quot; CONSEAL JOINT</td>
<td>EA</td>
<td>12</td>
<td>$8.00</td>
<td>$96.00</td>
<td>$96.00</td>
<td>$96.00</td>
<td>$96.00</td>
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<tr>
<td>20</td>
<td>Massachusetts 26&quot;x8&quot; Frame &amp;</td>
<td>EA</td>
<td>7</td>
<td>$395.44</td>
<td>$2,768.08</td>
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</table>

**SUBTOTAL =** $35,824.80

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>ITEM</th>
<th>UNIT</th>
<th>QUANT.</th>
<th>UNIT PRICE</th>
<th>HDPE PIPE 24X24X8 CB Cover</th>
<th>RCP PIPE 24X24X8 CB Cover</th>
<th>HDPE PIPE CB Top-Type &quot;C&quot;</th>
<th>RCP PIPE CB Top-Type &quot;C&quot;</th>
</tr>
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<tbody>
<tr>
<td>21</td>
<td>PIPE, 8' - 15&quot;</td>
<td>LF</td>
<td>1590</td>
<td>$55.00</td>
<td>$87,450</td>
<td>-</td>
<td>$87,450</td>
<td>-</td>
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<tr>
<td>23</td>
<td>DMH &amp; CB</td>
<td>EA</td>
<td>21</td>
<td>$1,100.00</td>
<td>$25,100</td>
<td>-</td>
<td>$25,100</td>
<td>-</td>
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</tr>
</tbody>
</table>

**SUBTOTAL =** $110,550.00

**TOTAL =** $146,374.80

**COST (INSTALL) =** $149,140.77
Future Stormwater Program

Levels of Service

Thoughts on the following:

► Total Program Level of Service for Agawam
  ▶ Minimal Level of Service = $1.07M (status quo, minimally compliant)
  ▶ Moderate Level of Service = $1.5M to $2M (allows for program growth)
  ▶ High Level of Service = $2M to $2.5M (condenses schedule for capital improvements)
  ▶ Exceptional Level of Service = >$2.5M (aggressive, sustainable more rapidly)

► Total Program Cost and Affordability
  ▶ Net cost is total stormwater fee minus tax decrease
  ▶ Budget transfer from DPW general fund to stormwater fee

► Options for Phasing Program Over Time
  ▶ Program growth

► Capital Expenditures and Schedule
  ▶ Pay as you go
  ▶ Bonding
  ▶ Back-end loading
Future Stormwater Program

Levels of Service

Future program considerations:

► Level of service options
► Setting expectations
► Solving problems
► Program growth over time

Examples:

► Northampton, MA (moderate to high level of service)
  ► MS4 Compliance, water quality BMPs, flood control
► Franklin, MA (moderate to high level of service)
  ► Green infrastructure redevelopment program
► South Burlington, VT (high level of service)
  ► Water quality BMPs, flood control, stream restoration
► Portland, OR (exceptional level of service)
  ► Green Street Steward and Ecoroofs Programs

Source: https://www.portlandoregon.gov/bes/52501
Future Stormwater Program

Levels of Service

At this time, my feelings on an appropriate level of service are . . .

- Minimal Level of Service
  - Minimal (status quo)
  - Moderate (improvement from existing)
- High Level of Service
  - Exceptional (solves problems aggressively)
- No action
  - Exceptional
  - Other or no vote

★ Note that this is an ongoing discussion . . .
### Future Stormwater Program

#### Future Funding Options

**Common Methods for Funding Stormwater Programs**

<table>
<thead>
<tr>
<th>General Fund</th>
<th>User Fee</th>
<th>Sponsors</th>
<th>Fines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact Fee</td>
<td>Bonds</td>
<td>Special Assessment</td>
<td>Tax Set-aside</td>
</tr>
<tr>
<td>Shared Costs</td>
<td>Inspection Fees</td>
<td>Grants</td>
<td>Chapter 90</td>
</tr>
</tbody>
</table>
Future Stormwater Program
Primary Funding Options

Tax Revenue vs. User-Fee

► **Option A: Tax Override**
  ► Based on property value
  ► Funds allocated to DPW or other account
  ► Town Meeting vote annually

► **Option B: Municipal Water Infrastructure Investment Fund**
  *(MGL Chapter 259 (Section 39M): An Act Improving Drinking Water and Wastewater Infrastructure)*
  ► Based on property value (surcharge up to 3%)
  ► Use of funds is not limited solely to stormwater
  ► Town Meeting vote to establish

► **Option C: Stormwater Utility (user-fee)**
  ► Based on impervious cover, not property value
  ► Dedicated funding, stormwater only
  ► Town Meeting vote to establish
  ► Opportunities for credits
Discussion and Feedback

Topics to Consider

► What program elements need to be refined or emphasized the most moving forward?
  ► Staffing needs and operations
  ► Remedial maintenance
  ► Capital projects

► Any changes in program priorities?

► Thoughts on public engagement?
  ► Reinforcement of key messages
  ► Additional outreach methods
  ► Underrepresented members
  ► Timing

► What are the most important aspects of this project?

► Information that would be helpful in the future?
Next Steps

► Refine Future Program Cost Estimate
  ► Consider varying levels of service

► Data Analysis
  ► GIS updates and impervious area analysis

► Public Engagement
  ► Roll out web page with interactive map
  ► Engage public through press releases and future meetings

► Task Force Meeting #3 – June 28, 2017
  ► Review data analysis and funding approaches
Town of Agawam, MA
Stormwater System Assessment and Utility/Fee Planning

Citizen Advisory Task Force Meeting #2
June 7, 2017

Meeting Summary

Meeting Date: Wednesday June 7, 2017
Time: 6:00 to 8:00 p.m.
Location: Agawam Public Library, 750 Cooper St, Agawam, MA
Prepared by: Rich Niles (Amec Foster Wheeler)
              Elizabeth Flanary (Amec Foster Wheeler)

Attached for reference are the attendee sign-in sheet and meeting agenda and below are the next steps, followed by a summary of key discussion and information related to the project.

Next Steps:
- Refine future stormwater program cost estimates
- Continue to update the GIS database and conduct the impervious area analysis
- Roll out web page with interactive map
- Engage public through press releases and future meetings
- Plan for Task Force Meeting #3 at the end of June or mid-July

Summary:

1. Review of Task Force Meeting #1
   Chris Golba provided introductory remarks and Rich Niles presented a summary of Task Force Meeting #1. The first meeting discussed the Town’s current stormwater system challenges, inventory of present infrastructure, existing services, and known problem areas. The initial Task Force poll results indicate that the top priorities are aging infrastructure, flooding problems, and erosion of channels and streams.

2. Existing Stormwater Program Costs
   The key activities performed by the existing stormwater program were broken down and summarized by function.
1. **Stormwater Program Administration**: involves project coordination, grant application and general administration.

2. **Stormwater Operations and Maintenance**: involves infrastructure repair, cleaning, and maintenance, e.g., street sweeping and catch basin repairs.

3. **Drainage Engineering and Stormwater Management Planning**: relates to all system inspection, mapping, and planning/design efforts. Public involvement and outreach also falls under this category.

4. **Regulatory Compliance/Enforcement**: covers MS4 permit compliance, review of stormwater plans, and construction inspection and reporting.

5. **Stormwater Capital Improvement Projects and Equipment**: involves funding for minor projects such as drainage improvement, major projects such as new infrastructure, and equipment costs.

The current cost for each function was then summarized, with Stormwater Operations and Maintenance accounting for the largest portion with the majority of the effort as labor costs. The labor costs pertaining to stormwater were broken out from the overall DPW budget. In total, stormwater labor efforts require approximately four full-time employees that represent partial efforts by numerous staff across administrative, engineering and operational categories. It was noted that stormwater activities in Town are very decentralized and spread across several different departments and parts of the Public Works operation. The "whole picture" costs approach with the current stormwater budget provides the ability to prepare an analogous future program budget that can better address questions and answers about future needs.

It was noted that the current stormwater budget does not include funding for capital projects and that the overall level of effort to meet future needs exceeds current funding levels.

3. **Future Stormwater Program Costs**

The project team and Town staff have evaluated future needs to identify all of the known and potential areas where increased funding will be required. The following are examples of areas where the needs are increasing:

- Numerous drainage infrastructure and culvert replacement projects that need repair.
- Increased maintenance and education for private and public detention pond systems.
- The updated MS4 permit will place more stringent requirements upon the Town that will require increases in engineering, inspections, and cleaning activities (e.g., street sweeping and catch basin cleaning).

The presentation illustrates the number of major and minor stormwater activities that occur and will increase to more sustainably manage the storm drain infrastructure and permit compliance. It is important to look at all stormwater-related costs (even engineering software) to emphasize the fact that there are a variety of stormwater program needs that will need to be managed in a more cohesive and comprehensive manner. This approach will benefit the public in a number of ways, but will also result in more efficient management and maximize the use of available funds.

Town staff emphasized that MS4 permit compliance is an unfunded Federal mandate, thus the onus is on the Town to meet certain requirements and bear the associated costs. Many of the
future needs (e.g., aging infrastructure), however, exist regardless of the MS4 permit requirements. The Town is trying to develop a better stormwater management program to address known problems and more sustainably manage its infrastructure.

Preliminary estimates show the budget will almost double from current expenditures to the annual average projected costs for the next 5 years. The following key items were discussed with the Task Force:

- Increased labor efforts for storm drain system repairs, engineering, and administration represent the single largest increase to the future budget.
- Under the updated MS4 permit, the street sweeping and catch basin cleaning requirements represent one of the largest operational cost increases.
- The future stormwater program includes a budget of $250K for minor and major capital projects to address aging infrastructure and build projects to improve or upgrade the storm drain system. This is an initial budget will need to be refined over time and will likely increase. The funding analysis for this project will consider a range of funding for capital projects.
- Town staff noted that the DPW may have difficulty managing and spending a large capital budget at this time. The department is at capacity to meet current demands with the present manpower. Additional dedicated stormwater staff would be required to handle the future increase.
- Task Force members commented that if people are paying a separate stormwater bill, the funding level should be adequate such that they can see tangible results for their funds. A higher level of service that shows results would be preferable to a program with less funding that only provides minimal services.

4. Levels of Service and Funding Options
Possible Levels of Service for stormwater were described, with options ranging from the minimum to meet permit requirements, to a level that would provide an exceptional level of service. The ideal range would be in the moderate (enough capital to show improvement from existing) to high (significant improvement) level of service. Task Force members wanted to see the funding analysis and impacts to property owners before developing a final recommendation. Levels of Service will continue to be evaluated as part of the future funding analysis.

A brief introduction to funding options was provided and Task Force members asked multiple questions related to the concept of an enterprise fund (stormwater utility), which are included in the discussion below.

5. Questions and Additional Discussion
While the focus of Task Force Meeting #2 was the current and future stormwater program costs, the following items were discussed based on questions by Task Force members and will be addressed in further detail in subsequent meetings:

- How would fees be assessed under a stormwater utility? Will it be based on data and how would it be calculated? Amec Foster Wheeler will perform an analysis of the
Town’s data for impervious surfaces by parcel to develop options for a fee-based approach to fund the stormwater program. This will be the focus of Meeting #3 and subsequent meetings.

- How can properties mitigate their fee and what are the options? Property owners can reduce impervious surfaces or apply for a credit for systems that exist or are constructed to treat stormwater before it enters the Town’s system. This was discussed briefly and will be discussed in more detail in subsequent meetings.
- How is the fee system structured and managed? Billing units are calculated for all properties and the total stormwater cost is divided by the number of billing units to calculate the cost per billing unit. Each property is then billed based on its number of billing units.
- Would the stormwater fee be billed with taxes or a utility bill? There are multiple options and this will be evaluated during the course of the project.

All of the above questions will be addressed in more detail during subsequent meetings and Task Force members will be asked to provide their opinions and recommendations for a variety of policies related to data, funding, and management topics.

6. Public Engagement

Patty Gambarini provided an overview of the goals and objectives of the public engagement component of the project and facilitated a discussion of messages and activities with the Task Force. This included a discussion of the following:

- A draft press release that was prepared for review by the Task Force. Task Force members had no recommendations for changes. The press release will be posted in one or more media outlets.
- Updates to the Town website to dedicate a page to the project where information can be posted (e.g., agendas and presentations) with a link to the interactive map that was previously developed to report and track stormwater issues and information. In general, the Task Force felt that this would be helpful for public engagement and to direct people who are seeking information on the project.
- Questions for Task Force members on engagement messaging and methods. Patty led a brainstorming session on several questions. This information and a summary of the results are provided in Tables 1 and 2 below.

1. Are there specific groups of people we should reach? If yes, who?
2. What are your thoughts on most effective ways to engage a wider audience in talking about stormwater? (e.g., interviews, focus group, other?)

<table>
<thead>
<tr>
<th>Table 1. Public Groups to Engage and Potential Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Specific groups noted</td>
</tr>
<tr>
<td>a. Senior citizens</td>
</tr>
<tr>
<td>b. Detention pond owners</td>
</tr>
</tbody>
</table>

Page 4 of 6
c. People who live and work in area of Town where there are stormwater problems | Mailer, neighborhood meetings  
---|---
d. Businesses | Chambers of Commerce, Rotary Club  
e. Large property owners (owners with large impervious surfaces) | Chamber of Commerce, direct mailings, small group meetings  
f. Senior leadership | City Council or legislative committee workshop, or even during citizen speak at regular meeting (not a lot of time provided though)  
g. High school students | National Honors Society, social media  
h. Taxpayers | Mailer, possibly the tax bill, social media  
i. Condo owners | Condo association meetings  
Note: need to help them understand stormwater (some still don't understand that there is no trash pick-up at condos)

Other methods noted to reach people:
- Inserts in *Agawam Advertiser News* local paper, especially August Back to School issue when do "total market saturation" mailing of newspaper
- City-wide notification system "Red" - can set up specific distribution list and then link to have posted
- Local cable access station (Jeff Hulbert, IT Director is contact)
- Summer concert series (hand out flyers)
- Harvest Festival

3. What are major concerns you think we might anticipate?  
4. What do you think are meaningful responses to these concerns?

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Town of Agawam, MA
Stormwater System Assessment and Utility/Fee Planning Project

Agawam Stormwater Task Force - Meeting #3
June 28, 2017

Agawam Public Library
750 Cooper Street
Agawam, MA 01001

Agenda:

5:45 p.m.        ARRIVAL AND SIGN IN

6:00 - 6:10 p.m.  REVIEW OF MEETING #2

6:10 - 6:25 p.m.  STORMWATER UTILITIES
• Introduction and funding approach

6:25 - 6:55 p.m.  AGAWAM DATA ANALYSIS
• Impervious cover and parcel analysis
• Stormwater billing units (ERU and others)
• Next steps

6:55 - 7:05 p.m.  BREAK

7:05 - 7:45 p.m.  PRELIMINARY FUNDING ANALYSIS
• Revenue need and level of service
• Rate structure, initial rates and sample properties
• Next steps to update funding analysis

7:45 - 7:55 p.m.  PUBLIC ENGAGEMENT
• Update on ongoing and future activities

7:55 - 8:00 p.m.  NEXT STEPS
## Task Force Members

<table>
<thead>
<tr>
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<tr>
<td>James Cichetti</td>
<td>Agawam City Council</td>
<td>President</td>
<td>413-246-8766</td>
<td><a href="mailto:JCichetti@agawam.ma.us">JCichetti@agawam.ma.us</a></td>
</tr>
<tr>
<td>Susan Dawson</td>
<td></td>
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<td>413-896-1750</td>
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</tr>
<tr>
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<td>Reverend</td>
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<td><a href="mailto:RevRobucc@comcast.net">RevRobucc@comcast.net</a></td>
</tr>
<tr>
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<td></td>
<td>Resident</td>
<td></td>
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</tr>
<tr>
<td>Dave Jenks</td>
<td>Six Flags New England</td>
<td>Construction and Facilities Manager</td>
<td>413-479-9354</td>
<td><a href="mailto:djenks@sftp.com">djenks@sftp.com</a></td>
</tr>
<tr>
<td>Christopher Johnson</td>
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<td>Member</td>
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<td><a href="mailto:CJohnson@agawam.ma.us">CJohnson@agawam.ma.us</a></td>
</tr>
<tr>
<td>Henry Kosloski</td>
<td>Agawam Conservation Commission</td>
<td>Chair</td>
<td></td>
<td><a href="mailto:aboissonneault@agawam.ma.us">aboissonneault@agawam.ma.us</a></td>
</tr>
<tr>
<td>Robert Rossi</td>
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<td>Member</td>
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<td><a href="mailto:user@comcast.net">user@comcast.net</a></td>
</tr>
<tr>
<td>Mario Tedeschi</td>
<td>Allied Flooring and Paint</td>
<td>Owner</td>
<td>413-233-3100</td>
<td><a href="mailto:MartioT@alliedflooringandpaint.com">MartioT@alliedflooringandpaint.com</a></td>
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## Project Management Team

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<tbody>
<tr>
<td>Michael Albro</td>
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<td>Assistant Town Engineer</td>
<td>413-726-2803</td>
<td><a href="mailto:MAlbro@agawam.ma.us">MAlbro@agawam.ma.us</a></td>
<td>Michael Albro</td>
</tr>
<tr>
<td>Steve Bonesteel</td>
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<td>Deputy Superintendent Highway</td>
<td>413-821-0626</td>
<td><a href="mailto:Sbonesteel@agawam.ma.us">Sbonesteel@agawam.ma.us</a></td>
<td>Steve Bonesteel</td>
</tr>
<tr>
<td>Michelle Chase</td>
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<td>Town Engineer</td>
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<td>Michelle Chase</td>
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<td>John Decker</td>
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<td>Tracy DeMaio</td>
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<td>Laurel Placzek</td>
</tr>
<tr>
<td>Elizabeth Flanary</td>
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<td>Elizabeth Flanary</td>
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<td>Principal Environmental Planner</td>
<td>413-781-6045</td>
<td><a href="mailto:PGambarini@PVPC.ORG">PGambarini@PVPC.ORG</a></td>
<td>Patty Gambarini</td>
</tr>
<tr>
<td>Christopher Golba</td>
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<td>Superintendent</td>
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<td>Christopher Golba</td>
</tr>
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<td>Jean Haggerty</td>
</tr>
<tr>
<td>Carrie McCrea</td>
<td>Amec Foster Wheeler</td>
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<td>303-742-5312</td>
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<td>Carrie McCrea</td>
</tr>
<tr>
<td>Rich Niles</td>
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<td>978-392-5355</td>
<td><a href="mailto:rich.niles@amecfw.com">rich.niles@amecfw.com</a></td>
<td>Rich Niles</td>
</tr>
<tr>
<td>Andy Reese</td>
<td>Amec Foster Wheeler</td>
<td>Technical Advisor</td>
<td>615-333-0630</td>
<td><a href="mailto:andrew.reese@amecfw.com">andrew.reese@amecfw.com</a></td>
<td>Andy Reese</td>
</tr>
</tbody>
</table>

**Citizen Advisory Task Force Meeting #3**

**June 28, 2017**
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
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<tbody>
<tr>
<td>6:00-6:10p</td>
<td>Review of Meeting #2</td>
</tr>
<tr>
<td>6:10-6:25p</td>
<td>Stormwater Utilities</td>
</tr>
<tr>
<td></td>
<td>► Introduction and funding approach</td>
</tr>
<tr>
<td>6:25-6:55p</td>
<td>Agawam Data Analysis</td>
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<tr>
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<td>► Impervious cover and parcel analysis</td>
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<td>► Stormwater billing units (ERU and other options)</td>
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<td>6:55-7:05p</td>
<td>Break</td>
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<tr>
<td>7:05-7:45p</td>
<td>Preliminary Funding Analysis</td>
</tr>
<tr>
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<td>► Revenue need and level of service</td>
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<td>► Rate structure, initial rates, and sample properties</td>
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<td>7:45-7:55p</td>
<td>Public Engagement Update</td>
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<td>7:50-8:00p</td>
<td>Next Steps</td>
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Review of Task Force Meeting #2

Summary of Key Issues Covered

► Agawam’s existing stormwater services and costs
  ▪ Key functions – program administration, operations and maintenance, engineering and planning, regulatory compliance and enforcement (including MS4 permit), capital improvements
  ▪ Summary of current costs by function – labor, contract services, expenses
► Stormwater challenges and needs
► Projected future stormwater costs
► Level of service considerations
► Public engagement and proposed activities – audiences and messages
► Preliminary discussion on stormwater program funding options
Summary of Activities by Function

- **Stormwater Program Administration**
  - General administration (budgets, personnel, management, grants, etc.)

- **Stormwater Operations and Maintenance**
  - Inspection, cleaning, maintenance and repairs of all stormwater assets
  - Street sweeping
  - Storm cleanup/flood relief response
  - Equipment maintenance/repair

- **Drainage Engineering and Stormwater Management Planning**
  - Conditions Assessments and Asset management
  - Planning/design of upgrades and replacements
  - System mapping and database management

- **Regulatory Compliance/Enforcement**
  - Permit compliance
  - Plan reviews, inspections and reporting

- **Stormwater Capital Improvement Projects and Equipment**
Review of Task Force Meeting #2

Summary of Current Costs

<table>
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<tr>
<th>Functional Category</th>
<th>FY '17 Budget</th>
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<tr>
<td>1. Stormwater Program Administration</td>
<td>$37,676</td>
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<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
</tr>
<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>$135,725</td>
</tr>
<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>$100,917</td>
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<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td>$31,456</td>
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<tr>
<td><strong>Total</strong></td>
<td>$892,571</td>
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Preliminary costs are derived primarily from:
- Existing and estimated budget items
- Estimated personnel (labor) efforts
- Contractors and expenses
Identified Needs:

- Maintenance backlog of deteriorated storm drain infrastructure with associated increased effort for labor and equipment
- Culvert repairs: North Street culvert is severely deteriorated, resulting in bank erosion for White Brook
- Replace failed pipes: Westford Circle outfall pipe separation and erosion
- Educate and enforce detention pond maintenance: private systems
- Increase maintenance of publicly-owned detention basins
- Design/replace undersized pipes: Arnold Street
- Identify and eliminate sanitary sewer cross-connections and other illicit discharges
- Increasing MS4 permit requirements: inventories, inspections, outfall screening, good-housekeeping activities (street sweeping and catch basin cleaning)
- Additional administration, engineering, planning, and asset management to support assessment and implementation of planned system rehabilitation and replacement
## Review of Task Force Meeting #2

### Projected Future Stormwater Program Costs

#### Preliminary Estimate:

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<th>FY '18</th>
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<th>FY '22</th>
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<td>1. Stormwater Program Administration</td>
<td>$37,676</td>
<td>$66,182</td>
<td>$67,236</td>
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<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,179,723</td>
<td>$1,197,723</td>
<td>$1,215,723</td>
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<td>4. Regulatory Compliance / Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$892,571</strong></td>
<td><strong>$1,630,481</strong></td>
<td><strong>$1,953,593</strong></td>
<td><strong>$1,973,628</strong></td>
<td><strong>$2,040,778</strong></td>
<td><strong>$2,032,568</strong></td>
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► FY '17

- 2 (66%)
- 3 (15%)
- 4 (11%)
- 5 (4%)

► FY '18-22 (5-yr avg.)

- 2 (60%)
- 3 (15%)
- 4 (9%)
- 5 (12%)
- 1 (4%)
Thoughts on the following:

► Total Program Level of Service for Agawam
  ▪ Minimal Level of Service = $1.07M (status quo, minimally compliant)
  ▪ Moderate Level of Service = $1.5M to $2M (allows for program growth)
  ▪ High Level of Service = $2M to $2.5M (condenses schedule for capital improvements)
  ▪ Exceptional Level of Service = >$2.5M (aggressive, sustainable more rapidly)

► Total Program Cost and Affordability
  ▪ Net cost is total stormwater fee minus tax decrease
  ▪ Budget transfer from DPW general fund to stormwater fee

► Options for Phasing Program Over Time
  ▪ Program growth

► Capital Expenditures and Schedule
  ▪ Pay as you go
  ▪ Bonding
  ▪ Back-end loading
Review of Task Force Meeting #2
Input on Public Engagement Plan

Questions to facilitate input:
1. Are there specific groups of people we should reach? If yes, who?
2. What are your thoughts on most effective ways to engage a wider audience in talking about stormwater?

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<th>2. Ideas for ways to reach groups</th>
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<td>a. Senior citizens</td>
<td>Join them for luncheon at the Senior Center and then hold &quot;office hours&quot; for them to come talk individually</td>
</tr>
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<td>b. Detention pond owners</td>
<td>Door hangers, mailing, separate meeting</td>
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<tr>
<td>c. People who live and work in area of Town where there are stormwater problems</td>
<td>Mailer, neighborhood meetings</td>
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<tr>
<td>d. Businesses</td>
<td>Chambers of Commerce, Rotary Club</td>
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<tr>
<td>e. Large property owners (owners with large impervious surfaces)</td>
<td>Chamber of Commerce, direct mailings, small group meetings</td>
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<td>f. Senior leadership</td>
<td>City Council or legislative committee workshop, or even during citizen speak at regular meeting (not a lot of time provided though)</td>
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<tr>
<td>g. High school students</td>
<td>National Honors Society, social media</td>
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<td>h. Taxpayers</td>
<td>Mailer, possibly the tax bill, social media</td>
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Note: need to help them understand stormwater (some still don't understand that there is no trash pick-up at condos)
Review of Task Force Meeting #2
Input on Public Engagement Plan

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Primary Funding Options

Tax Revenue vs. User-Fee

► **Option A: Tax Override**
  - Based on property value
  - Funds allocated to DPW or other account
  - Town Meeting vote annually

► **Option B: Municipal Water Infrastructure Investment Fund** *(MGL Chapter 259 (Section 39M): An Act Improving Drinking Water and Wastewater Infrastructure)*
  - Based on property value (surcharge up to 3%)
  - Use of funds is not limited solely to stormwater
  - Town Meeting vote to establish

► **Option C: Stormwater Utility (user-fee)**
  - Based on impervious cover, not property value
  - Dedicated funding, stormwater only
  - Town Meeting vote to establish
  - Opportunities for credits
What is a Stormwater Utility?

Mix of Methods

- A use-based funding method
- A program concept
- An organizational entity
How Does it Work?

- Fees assigned to a parcel for services provided
- Fee is proportional to the stormwater burden on the stormwater system/program
- More impervious areas…
  - …more stormwater runoff…
  - …larger burden on the system…
  - …larger user fee
- Therefore, even tax-exempt properties like schools contribute
- Not a “Rain Tax” – Value of the Property is Not Considered
Key Advantages

- **It is Stable** because it is not as dependent on the vagaries of the annual budgetary process as taxes are.

- **It is Adequate** because a typical stormwater fee is based on a well thought out stormwater program to meet the needs and demands of the community, as well as other program drivers (e.g., water quality, regulations).

- **It is Flexible** because fees can be structured in multiple ways, and the program can be managed to fund activities based on changing priorities and needs.

- **It is more Equitable** than most other funding sources because the cost is borne by the user on the basis of demand placed on the drainage system.
Stormwater Utilities
Stable Funding

User Fee vs. Tax Revenue

User fee based

Tax-based

Maximum possible program

Time

$$
Stormwater Utilities
Flexible Funding Approach

Flexibility Can Be Built-In

A user fee design can:

- Be a primary source of revenue for the whole program
- Be a supplement to other fees to enhance equity
- Provide credits to encourage good performance
- Adjusted annually or be set for multiple years
- Include program adjustments/changes
Stormwater program costs are primarily driven by:

- Runoff peak flow
- Runoff volume
- Runoff pollution

Each of these variables is directly related to impervious area

“The more you pave the more you pay”
Who may not like the concept?

- People with large paved areas and low building assessments
- Tax exempt properties
- State & federal properties
- Individuals with fixed income
- Sometimes developers don’t like it – though they don’t pay a fee
Stormwater Utilities

Why Use Impervious Area to Distribute Costs?

Relationship Between Impervious Area and Stormwater Runoff

**Natural Land**
- 40% evaporation
- 10% runoff
- 25% shallow infiltration
- 25% deep infiltration

**Developed Land**
- 30% evaporation
- 55% runoff
- 10% shallow infiltration
- 5% deep infiltration
The Impervious Cover Model

- Non supporting (>25%)
- Impacted (11 to 25%)
- Sensitive (0 to 10%)

Level of stream quality:
- good
- fair
- low

Watershed impervious cover

Source: Center for Watershed Protection

Agawam Impervious Cover Statistics*
Average Town-wide = 15.5%
Range of sub-basins = ~2.5% to ~28.5%

*Source: MassGIS and Agawam IA Data
National Trends for Stormwater Utilities

> 1,600 utilities / dedicated funds

National Statistics*
Avg. Population = 70,765
Median Population = 18,390
Smallest = 88 (Indian Creek Village, FL)

*Source: Stormwater Utility Survey 2016, Warren Campbell, Western Kentucky University

Source: Stormwater Utility Survey 2016, Figure 1, Warren Campbell, Western Kentucky University
Massachusetts

Sample Stormwater Utility Rates

Average Residential Stormwater Fees

- **Reading** (pop. 24,747)
  - $3.33/Month
  - $400,000 annual revenue

- **Newton** (pop. 85,146)
  - $6.25/Month
  - $1,750,000 annual revenue

- **Northampton** (pop. 28,540)
  - $7.50/Month
  - $1,940,000 annual revenue

- **Chicopee** (pop. 55,298)
  - $8.33/Month
  - $1M annual revenue
Massachusetts Utility Law

Primary stormwater user fee authority is contained in M.G.L. Chapter 83, Section 16:

- The aldermen of any city or the sewer commissioners, selectmen or road commissioners of a town, may from time to time establish just and equitable annual charges for the use of common sewers and main drains and related stormwater facilities, which shall be paid by every person who enters his particular sewer therein.

- The money so received may be applied to the payment of the cost of maintenance and repairs of such sewers or of any debt contracted for sewer purposes.

- In establishing quarterly or annual charges for the use of main drains and related stormwater facilities, the city, town, or district may either charge a uniform fee for residential properties and a separate uniform fee for commercial properties…but, the charge shall be assessed in a fair and equitable manner.

- The annual charge shall be calculated to supplement other available funds as may be necessary to plan, construct, operate and maintain stormwater facilities and to conduct stormwater programs.

- The city, town or district may grant credits against the amount of the quarterly or annual charge to those property owners who maintain on-site functioning retention/detention basins or other filtration structures as approved by the stormwater utility or appropriate authority.
Due Diligence Required to Ensure Compliance with State and Local laws

Establishing a successful stormwater utility requires that you pay attention to five key areas of due diligence:

1. Governance of the utility and how it will function
2. Public and political education and support
3. Program concept and the compelling case for change
4. Funding policies and documents
5. Data development & accuracy and customer service
Agawam Data Analysis

*Impervious Cover and Parcel Analysis*

- GIS data was updated and analyzed to determine parcel boundaries and impervious area (IA).
- Aerial photography and GIS tools were used to perform an initial identification of impervious area per parcel in Agawam.
  - The analysis identified 9,179 developed parcels (having at least 200 SF of IA) with a total of 78,678,230 SF of IA
Agawam Data Analysis

Impervious Cover and Parcel Analysis

- GIS data was updated and analyzed to determine parcel boundaries and impervious area (IA).
- The GIS data was then linked to the Town Assessor’s files by parcel ID. Using the Assessor’s land use codes, properties were designated Single-Family Residential (SFR) or Non-Single-Family Residential (NSFR).
  - Of the 9,179 developed parcels: 84% or 7,710 are SFR and 16% or 1,469 are NSFR.
  - The SFR properties contained 30,464,260 SF of IA
  - The NSFR properties contained 48,213,970 SF of IA
Agawam Data Analysis

Preliminary Stormwater Rate Structure Options

The data analysis confirms that there is sufficient, quality data to support an impervious area rate methodology. To select the most appropriate rate method for Agawam, two impervious-based rate structure options were considered:

Option 1: Billing unit is based on an “equivalent residential unit” (ERU)

- Assumes residential parcels are generally similar in their impact on the public stormwater system and non-residential parcels are dissimilar - parcels are categorized into 2 categories: SFR and NSFR for billing purposes

Similar IA for most single-family residential properties
Option 1: Billing unit is based on an ERU (Continued)

The IA on all SFR properties was estimated and the median value (or ERU) for Agawam is 3,250 SF of IA.

- For billing purposes, all SFR properties would be billed one (1) ERU. NSFR IA would be calculated by parcel and the total divided by the ERU to determine total billing units.
- Note that SFR properties could be placed in “Tiers” based on the number of ERUs, among other basic rate structure options.

### Histogram of IA - SFR Properties

![Histogram of IA - SFR Properties](image)
Option 2: Billing unit is based on a set **Flat Billing Rate**

- **For Agawam, we selected a 1,000 SF billing unit.** This is large enough to minimize minor issues in using aerial photography to determine IA but small enough to recognize differences in property runoff impacts.

- Eliminates the need to assign land use codes to property, as all properties are billed on the same basis.

- Requires more accurate IA calculation on all SFR properties, but billing will align more closely with actual IA on properties across Town.
Agawam Data Analysis

*Preliminary Distribution of Costs*

Option 1: Billing unit is based on an “equivalent residential unit” (ERU)

Option 2: Billing unit is based on a set **Flat Billing Rate**
Agawam Data Analysis

Potential Billing Units

Rate Methods and Structure: Billing Options

For each option, the number of billing units (BU) were projected. The preliminary results show:

<table>
<thead>
<tr>
<th></th>
<th>SFR</th>
<th>NSFR</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parcels</td>
<td>7,710</td>
<td>1,469</td>
<td>9,179</td>
</tr>
<tr>
<td>Total IA (SF)</td>
<td>30,464,260</td>
<td>48,213,970</td>
<td>78,678,230</td>
</tr>
<tr>
<td>1. BU - ERU</td>
<td>7,710</td>
<td>15,015</td>
<td>22,725</td>
</tr>
<tr>
<td>2. BU - Flat Rate</td>
<td>30,499</td>
<td>48,253</td>
<td>78,702</td>
</tr>
</tbody>
</table>

The preliminary rate models will be run with each of these options so impacts on rate payers can be compared.
There are multiple iterations and approaches to the basic rate structure that will be reviewed during Task Force Meeting #4.

**Popular Rate Methodologies***:

- Impervious Area (IA) (77%)
- Gross Area with Intensity of Development Factor (14%)
- Gross Area Only (8%)
- Others: water meter size, flat rates, zoning class

*Source: 2016 Stormwater Utility Survey, Black & Veatch (74 participants from 24 states)

See handout titled “Finance and Funding Policy Considerations”
Break
To estimate the rate that the utility would need to charge customers to support the Town’s stormwater program, we must complete the following steps:

1. Determine the Level of Service (LOS) & annual costs of the program
2. In addition to direct program costs, the additional costs of operating the utility need to be determined (billing, credits, delinquencies, operating reserves)
3. Once the total annual revenue needs are determined, compare options and select a preferred rate structure and rate per billing unit.
4. The preferred approach will continue to be refined as policy and technical issues are finalized on such issues as credits, billing process and timing of implementation.
The American Water Works Association is a trade group that prepares manuals and best practice guidance for public water utilities.

Based on life expectancy of pipes and related infrastructure, they recommend that utility operators invest 1-2% of the value of their assets in annual maintenance (older systems at the higher end) and 1-2% in capital replacement or capital reserves.

A rough estimate of the replacement value of Agawam’s existing stormwater infrastructure is $150M.

► For O&M at 1% - $1.5M/yr.
► For Capital at 1% - $1.5M/yr.

Agawam Storm Drain Infrastructure:
- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts
Funding needs depend on the LOS to be provided:

- Preliminary future cost estimates were based on a “moderate” LOS.
- Moderate represents a doubling over the current service level and would provide for more proactive maintenance, regular system inspections, meet regulatory mandates, and include a consistent set-aside of $250,000 a year to start to address the backlog of infrastructure repair and replacement needs.

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '17</th>
<th>FY '18</th>
<th>FY '19</th>
<th>FY '20</th>
<th>FY '21</th>
<th>FY '22</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>$37,676</td>
<td>$66,182</td>
<td>$67,236</td>
<td>$67,236</td>
<td>$67,236</td>
<td>$67,236</td>
</tr>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,179,723</td>
<td>$1,197,723</td>
<td>$1,215,723</td>
</tr>
<tr>
<td>4. Regulatory Compliance / Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$892,571</strong></td>
<td><strong>$1,630,481</strong></td>
<td><strong>$1,953,593</strong></td>
<td><strong>$1,973,628</strong></td>
<td><strong>$2,040,778</strong></td>
<td><strong>$2,032,568</strong></td>
</tr>
</tbody>
</table>
For comparison purposes, cost estimates for a higher level of service were prepared:

- The higher level of service represents an average increase of 2.5 times the current service level and would provide for proactive maintenance and regulatory compliance at a moderate level and adds an accelerated schedule for system inspections and capital improvement investment.

- Included in the Higher LOS is an additional $250,000 a year for Capital Improvements (over the Moderate LOS) starting in year 3 and a new position for an engineer starting in year 2 to support inspections and capital contracts.

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '17</th>
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<th>FY '19</th>
<th>FY '20</th>
<th>FY '21</th>
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<td>$67,236</td>
</tr>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,184,723</td>
<td>$1,207,723</td>
<td>$1,230,723</td>
</tr>
<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$892,571</strong></td>
<td><strong>$1,630,481</strong></td>
<td><strong>$2,035,593</strong></td>
<td><strong>$2,312,268</strong></td>
<td><strong>$2,386,090</strong></td>
<td><strong>$2,384,568</strong></td>
</tr>
</tbody>
</table>
Preliminary Funding Analysis

Moderate and Higher LOS

FY '17 BUDGET

Moderate FY '18-22 BUDGET

1. Stormwater Program Administration
2. Stormwater Operations and Maintenance
3. Drainage Engineering and Stormwater Management Planning
4. Regulatory Compliance/Enforcement
5. Stormwater Capital Improvement Projects and Equipment

Higher FY '18-22 BUDGET

1. Stormwater Program Administration
2. Stormwater Operations and Maintenance
3. Drainage Engineering and Stormwater Management Planning
4. Regulatory Compliance/Enforcement
5. Stormwater Capital Improvement Projects and Equipment
Preliminary Estimate of Revenue Needs

Additional Operating costs. To estimate total revenue needs, the following financial assumptions were made:

► Credit program funded at 3% of total program costs (this is revenue dedicated to a credit program that gives credits on fees to property owners who manage on-site stormwater controls)
► 2% bad debt (delinquent accounts)
► Cost of database management, billing, collection and other stormwater fee management activities estimated at $30,000 per year.
► Assumes 0% SBU growth rate

<table>
<thead>
<tr>
<th></th>
<th>Moderate LOS</th>
<th>Higher LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-yr Average Annual Program Cost</td>
<td>$1,926,209</td>
<td>$2,159,800</td>
</tr>
<tr>
<td>Additional operating adjustments</td>
<td>$126,310</td>
<td>$137,990</td>
</tr>
<tr>
<td><strong>Total Avg. Annual Revenue Needed</strong></td>
<td><strong>$2,052,519</strong></td>
<td><strong>$2,297,790</strong></td>
</tr>
</tbody>
</table>
Using the two rate structure billing options discussed above, the revenue potential of each approach was calculated:

► **Option 1:** 3,250 SF ERU. At $1.00 per month per billing unit, the fee would generate $22,725 a month or $272,700 a year.

► **Option 2:** flat, town-wide billing unit of 1,000 SF would result in 78,702 smaller billing units. For each $1.00 per month per billing unit, the fee would generate $78,702 a month or $944,424 a year.

Applied to the Moderate and Higher level of service options, the following rates per billing unit per month would be required:

<table>
<thead>
<tr>
<th>Program</th>
<th>ERU (3,250 SF IA)</th>
<th>Flat rate (1,000 SF IA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate LOS</td>
<td>$7.53/month</td>
<td>$90.36</td>
</tr>
<tr>
<td>($2,052,519)</td>
<td></td>
<td>$2.17/month</td>
</tr>
<tr>
<td>Higher LOS</td>
<td>$8.42/month</td>
<td>$101.04</td>
</tr>
<tr>
<td>($2,297,790)</td>
<td></td>
<td>$2.43/month</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$29.16</td>
</tr>
</tbody>
</table>
To generate sufficient revenue to support the Moderate and Higher LOS options, the annual rate for the ERU and Flat Rate options will increase over the projected planning period from FY18-FY22, as shown below.

<table>
<thead>
<tr>
<th></th>
<th>FY 18</th>
<th>FY 19</th>
<th>FY 20</th>
<th>FY 21</th>
<th>FY 22</th>
<th>5-Yr Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moderate LOS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Revenue Need</td>
<td>$1,742,005</td>
<td>$2,081,273</td>
<td>$2,102,309</td>
<td>$2,172,817</td>
<td>$2,164,196</td>
<td>$2,052,519</td>
</tr>
<tr>
<td>Annual Rate per ERU (3,250)</td>
<td>$76</td>
<td>$91</td>
<td>$92</td>
<td>$95</td>
<td>$95</td>
<td>$90</td>
</tr>
<tr>
<td>Annual Rate per Flat Fee (1,000 SF)</td>
<td>$22</td>
<td>$26</td>
<td>$26</td>
<td>$27</td>
<td>$27</td>
<td>$26</td>
</tr>
<tr>
<td><strong>Higher LOS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Revenue Need</td>
<td>$1,742,005</td>
<td>$2,167,373</td>
<td>$2,457,881</td>
<td>$2,535,395</td>
<td>$2,533,796</td>
<td>$2,297,790</td>
</tr>
<tr>
<td>Annual Rate per ERU (3,250)</td>
<td>$76</td>
<td>$95</td>
<td>$108</td>
<td>$111</td>
<td>$111</td>
<td>$101</td>
</tr>
<tr>
<td>Annual Rate per Flat Fee (1,000 SF)</td>
<td>$22</td>
<td>$27</td>
<td>$31</td>
<td>$32</td>
<td>$32</td>
<td>$29</td>
</tr>
</tbody>
</table>
Upcoming examples do not include:

► Potential credits that properties may obtain
► Tax obligation for existing program (already paying for existing through taxes)
  – preliminary fees represent existing and future costs
► Fee versus tax comparisons are provided at the end
Preliminary Funding Analysis

Tax Versus Fee

Estimated Revenue from Real Property Tax (2017): $57,860,000
Tax rates: Residential $16.31/1000 and Commercial $31.12/1000

Tax increase to fund increased program entirely from property tax
(note: tax exempt properties would not pay under this scenario)

► Moderate LOS ($1,926,209 - $892,571) = $1,033,638 +1.8%
► Higher LOS ($2,159,800 - $892,571) = $1,267,329 +2.2%

Potential tax decrease if current program costs ($892,571) is funded by fee: -1.5%

This is a preliminary estimate and will change based on final funding policies (decisions) by the Town and fees assessed for public properties.
Preliminary Funding Analysis
Financial Impacts on Sample Properties

Single Family Home - Morningside Circle

Estimated Impervious Area
► 2,889 SF

Preliminary Annual Range of Rates:

Option 1 (ERU – 3,250 SF)
► Moderate LOS - $90.36
► Higher LOS - $101.04

Option 2 (1,000 SF BU)
► Moderate LOS - $26.04 x 3 = $78.12
► Higher LOS – $29.16 x 3 = $87.48
Preliminary Funding Analysis

*Financial Impacts on Sample Properties*

**Single Family Home - North West St**

*Estimated Impervious Area*

- 2,823 SF

*Preliminary Annual Range of Rates:*

**Option 1 (ERU – 3,250 SF)**

- Moderate LOS - $90.36
- Higher LOS - $101.04

**Option 2 (1,000 SF BU)**

- Moderate LOS - $26.04 x 3 = $78.12
- Higher LOS - $29.16 x 3 = $87.48
Preliminary Funding Analysis

Financial Impacts on Sample Properties

Single Family Home - Colemore St

Estimated Impervious Area

► 4,797 SF

Preliminary Annual Range of Rates:

Option 1 (ERU – 3,250 SF)

► Moderate LOS - $90.36
► Higher LOS - $101.04

Option 2 (1,000 SF BU)

► Moderate LOS - $26.04 x 5 = $130.20
► Higher LOS - $29.16 x 5 = $145.80
Single Family Home - Alexander Drive

Estimated Impervious Area
► 4,377 SF

Preliminary Annual Range of Rates:
Option 1 (ERU – 3,250 SF)
► Moderate LOS - $90.36
► Higher LOS - $101.04

Option 2 (1,000 SF BU)
► Moderate LOS - $26.04 x 4* = $104.16
► Higher LOS - $29.16 x 4 = $116.64

*assumes rounding to nearest whole number
Preliminary Funding Analysis

Financial Impacts on Sample Properties

Tax-Exempt Property - Feeding Hills Church

Estimated Impervious Area

- 40,899 SF

Preliminary Annual Range of Rates:

Option 1 (ERU – 3,250 SF)

- Moderate LOS - $90.36 x 13 = $1,174.68
- Higher LOS - $101.04 x 13 = $1,313.52

Option 2 (1,000 SF BU)

- Moderate LOS - $26.04 x 41 = $1,067.64
- Higher LOS - $29.16 x 41 = $1,195.56
Preliminary Funding Analysis

Financial Impacts on Sample Properties

Commercial Property - Allied Floor

Estimated Impervious Area

- 47,402 SF

Preliminary Annual Range of Rates:

Option 1 (ERU – 3,250 SF)

- Moderate LOS - $90.36 x 15 = $1,355.40
- Higher LOS - $101.04 x 15 = $1,515.60

Option 2 (1,000 SF BU)

- Moderate LOS - $26.04 x 47 = $1,223.88
- Higher LOS - $29.16 x 47 = $1,370.52
Preliminary Funding Analysis

Financial Impacts on Sample Properties

Commercial Property - Sarat Ford

Estimated Impervious Area
► 142,996 SF

Preliminary Annual Range of Rates:
Option 1 (ERU – 3,250 SF)
► Moderate LOS - $90.36 x 44 = $3,975.84
► Higher LOS - $101.04 x 44 = $4,445.76

Option 2 (1,000 SF BU)
► Moderate LOS - $26.04 x 143 = $3,723.72
► Higher LOS - $29.16 x 143 = $4,169.88
Commercial Property -
KP Hood (2 parcels)

Estimated Impervious Area
► 509,385 SF

Preliminary Annual Range of Rates:
Option 1 (ERU – 3,250 SF)
► Moderate LOS - $90.36 x 157 = $14,186.52
► Higher LOS - $101.04 x 157 = $15,863.28

Option 2 (1,000 SF BU)
► Moderate LOS - $26.04 x 509 = $13,254.36
► Higher LOS - $29.16 x 509 = $14,842.44
Preliminary Funding Analysis
Financial Impacts on Sample Properties

Commercial Property -
Six Flags

Estimated Impervious Area
► 2,414,275 SF

Preliminary Annual Range of Rates:
Option 1 (ERU – 3,250 SF)
► Moderate LOS - $90.36 x 743 = $67,137
► Higher LOS - $101.04 x 743 = $75,072

Option 2 (1,000 SF BU)
► Moderate LOS - $26.04 x 2,414 = $62,860
► Higher LOS - $29.16 x 2,414 = $70,392
Revenue Distribution

1,000 sf IA Basis

- SFR: 39%
- NSFR: 61%

SW Based on Property Value

- SFR: 40%
- NSFR: 60%

Revenue is the same from both property classes under each funding approach, but the 1,000 sf basis (stormwater utility) does not consider property value and recognizes differences in properties and their runoff. Also, every property pays under a stormwater utility.
Preliminary Funding Analysis

Tax Versus Fee – Residential Example

Typical single-family home in Agawam valued at approximately $250,000 and has 3,250 SF of IA

Stormwater Fee

Preliminary Estimate of fees

► Moderate LOS program - $78-$90 per year
► Higher LOS program - $88 - $101 per year
► Plus potential tax savings of 1.5% or $61.16

Property Tax

Current property tax on $250,000 = $4,077 per year

  1.8% increase = +$73.40 (moderate LOS)
  2.2% increase = +$89.69 (higher LOS)
Preliminary Funding Analysis

Tax Versus Fee - Commercial

Varies Widely - Depends on footprint, number of stories, and value

### Allied Floor
- Tax value = $552,500
- IA = 47,402 SF

**Stormwater Fee**
- Preliminary estimate of fees
  - Moderate LOS program = $1,223 to $1,355 /yr
  - Higher LOS program = $1,370 to $1,515 /yr
  - Plus potential tax savings of 1.5% or $258

**Property Tax**
- Current property tax on $552,500 = $17,194 per year
  - 1.8% increase = +$309
  - 2.2% increase = +$378

### County Manor Apts.
- Tax value = $3,347,700
- IA = 51,612 SF

**Stormwater Fee**
- Preliminary estimate of fees
  - Moderate LOS program = $1,354 to $1,445 /yr
  - Higher LOS program = $1,516 to $1,616 /yr
  - Plus potential tax savings of 1.5% or $1,562

**Property Tax**
- Current property tax on $3,347,700 = $104,180 per year
  - 1.8% increase = +$1,875
  - 2.2% increase = +$2,292
Future Stormwater Program

Levels of Service

Based on what I’ve seen, my feelings on the appropriate level of service are...

Note: that this is an ongoing discussion...
Public Engagement Update

Departments > Public Works > Stormwater > Stormwater Task Force

Citizen Stormwater Advisory Task Force

The purpose of the Stormwater Task Force is to explore the stormwater management program for the Town of Agawam and identify its major needs, priorities, and costs. The costs for the stormwater program are going to increase in the next few years to address known problems, aging infrastructure, and increases in the U.S. EPA NPDES MS4 Permit requirements to develop a more comprehensive stormwater management program.

Currently, stormwater costs are funded through the general fund (taxes). Another approach is to fund stormwater related expenses by treating the stormwater system like a utility (such as a water or sewer utility) with a dedicated enterprise fund and revenue from user fees. The current study “Town of Agawam Stormwater System Assessment and Utility/Fee Planning Project” is intended to explore this funding approach through a series of meetings with the Task Force.

At the bottom of the page are materials and summaries from the regular Task Force meetings. These meetings are open to the public with four future meetings planned, as well as two or three broader public meetings before the end of 2017. The purpose of these meetings is to present the stormwater program’s needs to the community and listen to their comments and suggestions (Dates/Times: TBD).

Members of the Stormwater Advisory Task Force are:


Agawam Stormwater System - Information Reporting Map

Instructions:
1. Once you open the web page, click ok to begin.
2. Hover your pointer over the functions at the bottom of the screen.
3. The first icon is used to add information.
4. Click on the “Add Information” icon.
5. Choose one of the tools that best fits the stormwater issue or information that you wish to add.
6. Click the location on the map.
7. Use the drop-down menu to populate the information. Provide additional description if necessary.
8. Name and contact information is optional and any attachment (photos) are helpful.

Task Force Meeting Materials and Summaries

Meeting 1 - April 26, 2017
- Agenda
- Presentation
- Notes

Meeting 2 - June 7, 2017
- Agenda
- Presentation
- Notes

Press Release - June 11, 2017
Next Steps

► Refine Future Program, Costs, and Rate Structure
  ▪ Consider rate options and modifiers, including credits

► Data and Revenue Analysis
  ▪ Refine analysis
  ▪ Evaluate billing system options

► Public Engagement
  ▪ Build engagement plan

► Task Force Meeting #4 – early September 2017
Attached for reference are the attendee sign-in sheet and meeting agenda and below are the next steps, followed by a summary of key discussion and information related to the project.

Next Steps:

- Update funding analysis and outline policies
- Update information on web site
- Continue to engage public through press releases and future meetings
- Plan for Task Force Meeting #4 in September

Summary:

1. Review of Task Force Meeting #2

Rich Niles presented a summary of Task Force Meeting #2. The second meeting focused primarily on the Town’s stormwater management needs and projected future costs. Various levels of service (minimal to exceptional) were presented to have an initial discussion around the level of funding and associated services that are appropriate for Agawam. An introduction to some of the primary funding options for the stormwater program were introduced. The Task Force expressed the need for more information regarding the financial impacts of different levels of service so they could better understand the impacts of funding the stormwater program through the general fund versus a stormwater utility fee. During Meeting #2, the Task Force provided valuable input for the Public Engagement Plan regarding the groups of people to reach, ways to reach those groups, the concerns they may have, and responses to the concerns.
2. Stormwater Utilities (introduction and funding approach)

The concept of stormwater utilities was discussed with an emphasis on the key benefits and how they typically work. Similar to water or sewer fees, stormwater fees are assigned to all developed parcels based on an estimate of their stormwater runoff contribution or “use” of the public system. This funding approach is often seen as a more appropriate method for generating revenue for stormwater activities versus the general fund that is based on property value and does not recognize good or poor stormwater management.

The estimate of “use” is typically based on impervious surfaces, which result in excess stormwater flows and associated pollutants when not properly managed. Research has shown that when the percentage of impervious surfaces in a watershed exceeds 10%, stream quality becomes impacted. Streams can no longer support habitat beyond 25% impervious. In Agawam, the drainage sub-basins range from ~2.5% to 28.5% impervious. This is often why the measurement of impervious surfaces is seen as a reasonable basis to measure stormwater impacts and associate fees.

National trends for stormwater utilities and examples in Massachusetts were discussed. It was noted that each program varies in terms of services provided and the fees and revenues vary widely due to rate structures and makeup of rate payers (e.g., residential versus non-residential). Enabling legislation for stormwater utilities in Massachusetts was discussed to highlight the key components that need to be addressed when implementing a stormwater utility. Emphasis was placed on the need to perform due diligence across several key areas to establish a successful, legally-defensible stormwater utility.

3. Agawam Data Analysis

Carrie McCrea discussed the data analysis that was performed for Agawam using GIS data and Assessor’s records for each parcel in Town. The data consists of parcel and land use data from the Town and GIS data from MassGIS that includes parcel boundaries and impervious surfaces. It was noted that the Pioneer Valley Planning Commission recently completed an update to the MassGIS impervious surface GIS data layer to clean up significant over and under-capture areas.

The initial data analysis shows that there are 9,179 developed parcels (at least 200 sf of impervious area) that total of 78,678,230 sf or 1,806 acres of impervious area. It is important to note that the total number of single family residential parcels represents 84% of the parcels in Town while those parcels have only 39% of the total impervious area.

Amec Foster Wheeler developed preliminary stormwater rate structure options using an equivalent residential unit (ERU) and a flat billing unit of 1,000 sf of impervious area (IA). The ERU was calculated to be 3,250 sf of IA, which is the median value of IA (house, driveway, patio, etc.) for a single family residential (SFR) property in Agawam. Both the ERU and the 1,000 sf flat billing unit show a better distribution of stormwater program costs that more closely matches the distribution of IA by property type (SFR versus all others) than the current approach of using tax funding.

Using these two basic rate structure options, the total number of billing units were calculated for every parcel and resulted in 22,725 billing units using the ERU approach and 78,702 billing units using the Flat Fee approach. The total number of billing units serves as the basis for setting the fee under each option. It was noted that there are multiple rate structure options and these will be discussed further in subsequent meetings with the Task Force.
4. Preliminary Funding Analysis
Amec Foster Wheeler completed a preliminary funding analysis based on the feedback from Task Force members during Meeting #2. The presentation of this analysis was originally scheduled for Meeting #4, but Task Force members wanted an understanding of costs and potential fees. They also requested examples for specific properties so they could provide additional feedback on the Level of Service and financial impacts. The funding analysis, therefore, was accelerated to provide preliminary rates for the two rate structures discussed above using two different Levels of Service. It was noted that these rates are preliminary and there are still multiple funding policies that need to be discussed with the Task Force prior to setting a final recommended rate.

Level of Service Update
Rich Niles presented an update to the future stormwater program costs and Level of Service (LOS) analysis presented during Meeting #2. As a point of comparison, Amec Foster Wheeler estimated the replacement value for Agawam’s existing stormwater infrastructure at approximately $150M. Using best practice guidelines from the American Water Works Association, the Town should be investing 1-2% of the value of these assets in annual maintenance, as well as capital replacement or capital reserves. This means that sustainable management of the stormwater infrastructure should be close to a $3M investment annually. This investment may need to be even higher based on the condition of the stormwater infrastructure, once fully assessed.

The future projected stormwater costs for a moderate level of service for Agawam is ~$1.93M annually (over the five-year planning period) and includes a doubling of the current LOS to:
- Provide more proactive maintenance;
- Provide regular system inspections;
- Meet regulatory mandates; and
- Address the backlog of infrastructure repair and replacement needs with a consistent set-aside of $250,000 per year.

The future projected stormwater costs for a higher level of service for Agawam is ~$2.16M annually and represents an average increase of 2.5 times the current LOS to:
- Provide the same as the moderate LOS, but with an accelerated schedule for system inspections and capital improvements;
- Provide a new engineer in year 2 to support inspections and capital contracts; and
- Provide $250K more for capital improvements ($500K total) starting in year 3.

It is important to note that the LOS estimates are well below the $3M target based on infrastructure value, but the projected stormwater costs are for the next 5 years only. It is reasonable to assume that the LOS and costs could continue to grow to a more sustainable level as the program matures and needs are better quantified with new inspection data.

Revenue Estimate and Preliminary Rates
Using the future projected stormwater costs for the LOS estimates, a preliminary estimate of revenue needs was developed to incorporate the additional operating costs for a stormwater utility that include credits (3%), bad debt (2%) and the costs for database management, billing, collection and other activities. This results in annual costs of $2.05M to $2.30M for the moderate and higher LOS using a 5-year average.
The preliminary stormwater rates were calculated for each program LOS by dividing the annual revenue needs by the number of billing units for each rate structure (ERU versus 1,000 sf IA). A summary of the preliminary rates is provided below.

<table>
<thead>
<tr>
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<th>ERU (3,250 SF IA)</th>
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*Note: the flat rate is for every 1,000 SF of IA; therefore, using a flat rate approach the fee for a property with 3,000 SF IA or 3 billing units (approx. 1 ERU) is $6.51/ month or $78.12/ year for a moderate LOS and $7.29/ month or $87.48/ year for a higher LOS. See discussion of sample properties below.

The above stormwater fees were compared to the tax increase needed to fund the program through the general fund. For the moderate LOS, a tax increase of ~1.8% would be needed to fund the average increase in program costs ($1,926,209-$892,571). For the higher LOS, a tax increase of ~2.2% would be needed to fund the increase in program costs ($2,159,800-$892,571). It is important to note that a potential tax savings of ~1.5% may be realized if a stormwater fee is implemented due to the current program costs ($892,571) no longer being funded through taxes.

Sample Properties
Information on numerous local sample properties were presented to illustrate the stormwater fee calculations using two rate approaches and the moderate versus higher LOS. In general, the 1,000 sf IA rate structure recognizes smaller differences in properties, which results in varying costs for SFR properties. Under an ERU rate structure, all SFR properties would be treated the same. The ERU approach results in fewer billing units and a higher cost per billing unit (which typically impacts non-residential properties the most due to more impervious area and a greater number of billing units). Examples were also provided to illustrate the difference between funding the stormwater program through the taxes versus a fee. The examples demonstrated that costs and potential savings can vary significantly depending on the value of the property and its impervious area.

Task Force Feedback
The Task Force was asked to provide feedback on the preliminary funding analysis and sample properties. Members of the Task Force felt that the future costs are a significant increase overall (up to 2.2% tax increase), especially when considering that tax increases do not exceed 2.5% annually. Members of the Task Force, however, agreed that there are stormwater needs that are not met and the current level of funding is not adequate. In general, members of the Task Force felt that a stormwater fee was a better way to distribute costs and the costs for sample residential properties seemed reasonable for both LOS and rate scenarios. Members of the Task Force that are business and tax-exempt property owners commented that the annual fees for a stormwater utility appeared to be reasonable and noted that the increase for a higher LOS would advance the program for little added cost. Feeding Hills Church commented that charging all properties for stormwater services is a way for everyone to contribute to the needs of the community.

Additional comments from the Task Force emphasized the need to effectively engage the public and inform them of the needs and costs related to stormwater management.
5. Public Engagement Update
A brief update on public engagement activities was provided. Specifically it was mentioned that the web page has been updated to provide the past meeting materials and summaries, as well as the link to the interactive map. Another press release is anticipated in the coming weeks and the PVPC will continue to work on materials to support the Public Engagement Plan.
Agawam Stormwater Task Force - Meeting #4
October 11, 2017

Agawam Senior Center
Dining Room
954 Main Street
Agawam, MA 01001

Agenda:

5:45 p.m. ARRIVAL AND SIGN IN

6:00 - 6:10 p.m. REVIEW OF MEETING #3

6:10 - 6:45 p.m. PUBLIC ENGAGEMENT UPDATE
• Summary and feedback from September 25, 2017 workshop
• Update on ongoing and future activities

6:45 - 6:55 p.m. BREAK

6:55 - 7:25 p.m. STORMWATER UTILITY FUNDING APPROACH AND POLICIES
• Review of rate methodologies and billing units
• Billing methods
• Feedback

7:25 - 7:55 p.m. STORMWATER UTILITY CREDITS
• Types and amounts of credits
• Examples
• Feedback

7:55 - 8:00 p.m. NEXT STEPS
## Task Force Members

<table>
<thead>
<tr>
<th>Name</th>
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<th>Title</th>
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## Town of Agawam, MA
### Stormwater System Assessment and Utility/Fee Planning Project

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<thead>
<tr>
<th>Name</th>
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**Citizen Advisory Task Force Meeting #4**  
**October 11, 2017**
Agenda

6:00 - 6:10 p.m.: Review of Meeting #3

6:10 - 6:45 p.m.: Public Engagement Update
► Summary and feedback from September 25th workshop
► Update on ongoing and future activities

6:45 - 6:55 p.m.: Break

6:55 - 7:25 p.m.: Stormwater Utility Funding Approach and Policies
► Review of rate methodologies and billing units
► Billing methods
► Feedback

7:25 - 7:55 p.m.: Stormwater Utility Credits
► Types and amounts of credits
► Examples
► Feedback

7:55 - 8:00 p.m.: Next Steps
Review of Task Force Meeting #3

Summary of Key Issues Covered

► Stormwater Utilities
  ► Introduction and funding approach

► Agawam Data Analysis
  ► Impervious cover and parcel analysis
  ► Stormwater billing units (ERU and other options)

► Preliminary Funding Analysis
  ► Revenue need and level of service
  ► Rate structure, initial rates, and sample properties
How does it work?

► Fees assigned to a parcel for **services** provided
► Fee is proportional to the stormwater burden on the stormwater system/program
► More impervious areas…
  ► …more stormwater runoff…
  ► …larger burden on the system…
  ► …larger user fee
► Therefore, even tax-exempt properties like schools contribute
► Not a “Rain Tax” – value of the property is **not** considered
Key Advantages

- **It is Stable** because it is not as dependent on the vagaries of the annual budgetary process as taxes are.

- **It is Adequate** because a typical stormwater fee is based on a well thought out stormwater program to meet the needs and demands of the community, as well as other program drivers (e.g., water quality, regulations).

- **It is Flexible** because fees can be structured in multiple ways, and the program can be managed to fund activities based on changing priorities and needs.

- **It is more Equitable** than most other funding sources because the cost is borne by the user on the basis of demand placed on the drainage system.
Massachusetts
Sample Stormwater Utility Rates

Average Residential Stormwater Fees

- **Reading** (pop. 24,747)
  - $3.33/month
  - $400,000 annual revenue

- **Newton** (pop. 85,146)
  - $6.25/month
  - $1,750,000 annual revenue

- **Northampton** (pop. 28,540)
  - $7.50/month
  - $1,940,000 annual revenue

- **Chicopee** (pop. 55,298)
  - $8.33/month
  - $1M annual revenue

**Notes:**
- Programs, fees and revenue can vary widely.
- Revenue potential also varies based on rate structure and rate payers (e.g., residential versus non-residential make-up).
- Fees are for average residential properties – some rate structures include increasing fees for larger residential properties, such as Northampton.
The data analysis confirms that there is sufficient, quality data to support an impervious area rate methodology. To select the most appropriate rate method for Agawam, two impervious-based rate structure options were considered:

**Option 1: Billing unit is based on an “equivalent residential unit” (ERU)**

- Assumes residential parcels are generally similar in their impact on the public stormwater system and non-residential parcels are dissimilar - parcels are categorized into 2 categories: SFR and NSFR for billing purposes.

Similar IA for most single-family residential properties.
Option 1: Billing unit is based on an ERU (continued)

- The IA on all SFR properties was estimated and the median value (or ERU) for Agawam is 3,250 SF of IA.
  - For billing purposes, all SFR properties would be billed one (1) ERU. NSFR IA would be calculated by parcel and the total divided by the ERU to determine total billing units.
  - Note that SFR properties could be placed in “Tiers” based on the number of ERUs, among other basic rate structure options.

![Histogram of IA - SFR Properties](image)
Agawam Data Analysis
Preliminary Stormwater Rate Structure Options

Option 2: Billing unit is based on a set Flat Billing Rate

► **For Agawam, we selected a 1,000 SF billing unit.** This is large enough to minimize minor issues in using aerial photography to determine IA, but small enough to recognize differences in property runoff impacts.

► Eliminates the need to assign land use codes to property, as all properties are billed on the same basis.

► Requires more accurate IA calculation on all SFR properties, but billing will align more closely with actual IA on properties across Town.
The American Water Works Association is a trade group that prepares manuals and best practice guidance for public water utilities.

Based on life expectancy of pipes and related infrastructure, they recommend that utility operators invest 1-2% of the value of their assets in annual maintenance (older systems at the higher end) and 1-2% in capital replacement or capital reserves.

A rough estimate of the replacement value of Agawam’s existing stormwater infrastructure is $150M.

- For O&M at 1% - $1.5M/yr
- For Capital at 1% - $1.5M/yr

$3M is a higher LOS and a goal for program growth

Agawam Storm Drain Infrastructure
- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts

Something to keep in mind as we discuss the appropriate Level of Service (LOS) and annual program costs.
Using the two rate structure billing options discussed above, the revenue potential of each approach was calculated:

► **Option 1**: 3,250 SF ERU. At $1.00 per month per billing unit, the fee would generate $22,725 a month or $272,700 a year.

► **Option 2**: flat, town-wide billing unit of 1,000 SF would result in 78,702 smaller billing units. For each $1.00 per month per billing unit, the fee would generate $78,702 a month or $944,424 a year.

Applied to the Moderate and Higher level of service options, the following rates per billing unit per month would be required:

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Preliminary Funding Analysis
Financial Impacts on Sample Properties

Single Family Home - Morningside Circle

Estimated Impervious Area
► 2,889 SF

Preliminary Annual Range of Rates:

Option 1 (ERU – 3,250 SF)
► Moderate LOS - $90.36
► Higher LOS - $101.04

Option 2 (1,000 SF BU)
► Moderate LOS - $26.04 x 3 = $78.12
► Higher LOS - $29.16 x 3 = $87.48
Commercial Property - Allied Floor

Estimated Impervious Area
► 47,402 SF

Preliminary Annual Range of Rates:

Option 1 (ERU – 3,250 SF)
► Moderate LOS - $90.36 x 15 = $1,355.40
► Higher LOS - $101.04 x 15 = $1,515.60

Option 2 (1,000 SF BU)
► Moderate LOS - $26.04 x 47 = $1,223.88
► Higher LOS - $29.16 x 47 = $1,370.52

Preliminary Funding Analysis
Financial Impacts on Sample Properties
The future costs are a significant increase overall (up to 2.2% tax increase), especially when considering tax increases do not exceed 2.5% annually.

There is agreement that there are stormwater needs that are not met and the current level of funding is not adequate.

Members generally felt that a stormwater fee was a better way to distribute costs and the costs for sample residential properties seemed reasonable for both LOS and rate scenarios.

The annual fees for a stormwater utility appeared to be reasonable and noted that the increase for a higher LOS would advance the program for little added cost.

Need to effectively engage the public and inform them of the needs and costs related to stormwater management.
Project Overview

Rationale and Need

Why are we here?

► The Town has existing stormwater problems.
► Stormwater management needs are increasing.
► The Town has limited resources and funding.
► We have the ability to solve these problems and manage stormwater better, but it will cost more.
► What’s the best approach to move forward?

Attendees

Presentation of study materials

► Task Force meetings 1-3
► Public engagement activities

Discussion and feedback

► Questions and answers
► Invitation to future meetings
Questions and comments:

- What would the fee look like at Sarat Ford or Six Flags?
- FY17 $892,000 is already taken out of the general fund so it's not clear when the five-year time frame starts.
- There is a catch basin that leads to a detention pond in my back yard (10 Shelley Lane). The pond is silting up. Am I going to be responsible for maintaining this?
- If we were caught up on everything we need to do, what would the annual budget look like?
- Are you open to other ways of funding this work? I have an idea for another source that could help to supplement.
- Have you ever seen taxes lowered when raising a stormwater fee?
- The idea of getting more stormwater into streams really causes problems downstream.
- How do we take care of culverts that are plugged on private property? Under town bylaws, we cannot go on private property to improve the stormwater system.
- Detention basins should work as infiltration basins.
Questions and comments (continued):

My neighbor's property floods because of the public storm system and his driveway is deteriorating. The road runs off onto his driveway. Is he going to have to pay the fee?

The presentation is geared to a fee. Will this become a vote?

What is the approximate time frame on this?

Where does the mandate stop and the improvements to the storm system begin?

Note: questions and comments will be addressed in the September 25, 2017 meeting summary, as well as the final report for the project.
Candidates briefed on Agawam stormwater program and funding

What level of service makes sense for the Town of Agawam’s stormwater management program? And what is the best way to fund this program? These were the key questions discussed at a briefing for local political candidates who joined members of the Stormwater Advisory Task Force, Public Works officials, Pioneer Valley Planning Commission’s Patty Gambarrini, and Amec Foster Wheeler’s Rich Niles on Monday night. The briefing aimed to inform attendees about the ongoing Stormwater Funding Feasibility Study that will continue into the first half of 2018.

Mayor Richard Cohen opened the meeting with remarks emphasizing the importance of the study, which will present recommendations on managing and funding Agawam’s stormwater program. These recommendations will help officials make choices that will in turn allow for more integrated planning for the stormwater program.

The evening’s presenter, Niles explained that Agawam’s stormwater system is extensive, with 4,757 street drains (aka catch basins), 122 miles of drain pipe, and 2,352 manholes that convey storm flows to the Town’s 512 outfalls discharging to waterways. Parts of the drainage system are clearly old (pre-1960s), but much of the system is of unknown age. Town Engineer Michelle Chase remarked that with the special camera now available to explore the drainage system more thoroughly, Public Works is finding many old pipes, clogged pipes, and failing pipes that need maintenance. While the Town has always managed this system and there are some important improvement projects under way at Arnold Street, Meadow Street, and South Park Terrace, there has been a lot of deferred maintenance over the years that puts Public Works in a reactive rather than a proactive or sustainable mode when it comes to caring for the system.

On top of properly managing the Town’s existing system, there are state and federal stormwater permit requirements that seek to reduce polluted storm flows from reaching rivers and streams. Activities related to permit compliance are compelling the Town to invest more in stormwater management that is resulting in additional costs.

Niles noted that the $173,000 for the stormwater program in the fiscal year 2017 budget was dedicated to permit compliance. This is essentially a subset of the actual program cost; however, if you take a more holistic and functional look at the budget, accounting
Public Engagement Update
Ongoing and Future Activities

► Planned focus group meetings:
  ► Senior citizen luncheon – October 30th
  ► Religious organizations – date TBD
  ► West of the River Chamber of Commerce – date TBD

► Discussion:
  ► Assistance from Task Force members or others
  ► Content and key messages
  ► Handouts, fact sheets, etc.
  ► Additional considerations

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Agawam Public Works is in your neighborhood, working to better manage storm flow, prevent flooding, and keep local waters clean.

Did you know? The DPW maintains 4,757 catchbasins, 121.5 miles of storm pipe, and 3.2 miles of culverts to keep stormflow from local properties and roads.

Right now, we are working on the following in your neighborhood:

- Catch basin cleaning
- Street sweeping
- Storm system upgrade
- Streetscape stormflow upgrade

For more information, see:
Any questions? Please call __________.
Break
Stormwater Utility Funding Approach

Overview

Key Components:

- Rate Methodology – the metric used to assess the impacts of stormwater runoff to the system (e.g., impervious area (IA)).
- Rate Structure – the metric used to distribute costs among users (e.g., flat rate, tiers, etc.).
- Billing Units – the size of the IA to which a fee is assigned based on the rate structure.

Analogy for water utility:

- Water consumption
- Cubic feet of water; increasing rates for water use over 4,000 cubic feet
- $1.90 per hundred cubic feet of water

Impervious Area = 3,250 square feet (typical residential property in Agawam)
Stormwater Utility Funding Approach

Review of Rate Methodologies

Rate Methodology – the metric used to assess impacts of stormwater runoff to the system.

- Preferred methodologies have evolved over the past 20 years as our technology (aerial photography, GIS, remote sensing, database management) has significantly improved.

- Most common methodologies in use in the US include:
  - Impervious area (IA) (measured)
  - IA (estimated – often based on heated square footage or lot size)
  - Gross area (square footage of parcel)
  - Intensity of development
  - Land use

- Over the past 5 years, rate methodologies have predominantly been based on IA measurement – considered one of the most defensible approaches for estimating a property’s contribution to stormwater runoff.

- **FINDINGS:** Agawam has the type and quality of data available to support the use of measured IA as the rate methodology.
GIS data was updated and analyzed to determine parcel boundaries and impervious area (IA).

The GIS data was then linked to the Town Assessor’s files by parcel ID. Using the Assessor’s land use codes, properties were designated Single-Family Residential (SFR) or Non-Single-Family Residential (NSFR).

- Of the 9,179 developed parcels: 84% or 7,710 are SFR and 16% or 1,469 are NSFR.
- The SFR properties contained 30,464,260 SF of IA
- The NSFR properties contained 48,213,970 SF of IA
What is your preference on the rate methodology?

Note that this is a policy suggestion and not final.
Rate Structure – the metric used to distribute costs among users. It determines who pays and how much each property will pay. A good rate structure provides a solid legal foundation for the charge and assures that the charges are both fairly determined and properly assigned.

- Like rate methodology, the rate structure selected needs to be supported by available data that will allow the IA per parcel to be either estimated or measured so that the differences amongst users can be “fairly” determined and rates can be set to reflect those differences.
Stormwater Utility Funding Approach

Rate Structure Options

Common Rate Structures include:

► **Equivalent Residential Unit (ERU)** – which assumes residential properties are “similar” in amount of runoff generated and estimates the typical amount of impervious area on a community’s residential properties in square feet.
  - All residential properties typically pay the same amount (1 billing unit). Billing for non-residential property is usually determined by measuring the total IA and dividing by the ERU to determine billing units.
  - Variants on the ERU include tiering the residential properties – this requires more data in order to assign properties to the correct tier (IA, total lot size or heated square footage).

► **Flat billing rates** – a standard billing unit, such as 1,000 SF of impervious area, that can be applied across all land use types.
  - This closely mimics rate setting for other utilities (water usage in 100 cf or electric in 100 kW/hrs).
  - Provides the best alignment with actual distribution of IA to fees charged per property and simplifies data management.

► **Agawam has the type and quality of data to use a flat rate fee structure of 1,000 SF as the basis of the rate structure.**
Option 1: Billing unit is based on an ERU (Continued)

- The IA on all SFR properties was estimated and the median value (or ERU) for Agawam is 3,250 SF of IA.
  - For billing purposes, all SFR properties would be billed one (1) ERU. NSFR IA would be calculated by parcel and the total divided by the ERU to determine total billing units.
  - Note that SFR properties could be placed in “Tiers” based on the number of ERUs, among other basic rate structure options.

---

**Histogram of IA - SFR Properties**

<table>
<thead>
<tr>
<th>Total IA</th>
<th>Number of SFR Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>50</td>
</tr>
<tr>
<td>2000</td>
<td>856</td>
</tr>
<tr>
<td>3000</td>
<td>2244</td>
</tr>
<tr>
<td>4000</td>
<td>2125</td>
</tr>
<tr>
<td>5000</td>
<td>1035</td>
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<tr>
<td>6000</td>
<td>557</td>
</tr>
<tr>
<td>7000</td>
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<td>8000</td>
<td>162</td>
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<td>15000</td>
<td>14</td>
</tr>
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<td>16000</td>
<td>17</td>
</tr>
<tr>
<td>17000</td>
<td>8</td>
</tr>
<tr>
<td>18000</td>
<td>7</td>
</tr>
<tr>
<td>19000</td>
<td>6</td>
</tr>
<tr>
<td>20000</td>
<td>11</td>
</tr>
<tr>
<td>More</td>
<td>54</td>
</tr>
</tbody>
</table>
Tiered Approach:

- SFR properties are lumped into tiers of multiple ERUs
- SFR properties >10,000 sf IA and NSFR properties are billed based on multiples of ERUs

**Histogram of IA - SFR Properties**

- Median = 3,250 sf

Number of SFR Properties:

- 1 ERU: 50, 856, 2244, 2125
- 2 ERUs: 500, 856, 2244, 2125
- 3 ERUs: 1035, 557, 301, 162, 92, 71
- Multiple ERUs: 38, 25, 22, 15, 14, 8, 7, 6, 11, 54

Total IA:

- 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10000, 11000, 12000, 13000, 14000, 15000, 16000, 17000, 18000, 19000, 20000, More
Option 2: Billing unit is based on a set Flat Billing Rate

- **For Agawam, we selected a 1,000 SF billing unit.** This is large enough to minimize minor issues in using aerial photography to determine IA but small enough to recognize differences in property runoff impacts.

- Eliminates the need to assign land use codes to property, as all properties are billed on the same basis.

- Requires more accurate IA calculation on all SFR properties, but billing will align more closely with actual IA on properties across Town.
## Stormwater Utility Funding Approach
### Rate Structure Options

### Billing Units
For each option, the number of billing units (BU) were projected. The preliminary results show:

<table>
<thead>
<tr>
<th></th>
<th>SFR</th>
<th>NSFR</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parcels</td>
<td>7,710</td>
<td>1,469</td>
<td>9,179</td>
</tr>
<tr>
<td>Total IA (SF)</td>
<td>30,464,260</td>
<td>48,213,970</td>
<td>78,678,230</td>
</tr>
<tr>
<td>1. BU - ERU</td>
<td>7,710</td>
<td>15,015</td>
<td>22,725</td>
</tr>
<tr>
<td>2. BU - Flat Rate</td>
<td>30,499</td>
<td>48,253</td>
<td>78,702</td>
</tr>
</tbody>
</table>
Divide the total annual revenue needed by the amount of available billing units (1,000 sf IA billing unit):

Calculation:

$2,052,519 \div 78,702 \text{ billing units} = $26.08

or $26.08 per 1,000 sf of IA per year.

Note: this is a preliminary analysis and the rate is dependent on final policies, data, and revenue needs.

Assumptions: the above calculation assumes annual revenue needs for a moderate level of service, 3% revenue for the credit program, 2% revenue for bad debt, and $30,000 in costs for fee management activities (e.g., billing, collection, database management).
Feedback

What is your preference on the rate structure approach?

- Flat Rate (1,000 SF IA)
- Flat Rate with Rate Modifiers
- ERU (3,250 SF IA)
- ERU with Tiers
- ERU with Rate Modifiers
- Other or no vote

Note that this is a policy suggestion and not final.
What are the key reasons for choosing your preferred rate structure?

- Financial impacts
- Fairness
- Ease of understanding
- Simplicity (e.g., data management)
## Billing System Options, Advantages & Disadvantages

<table>
<thead>
<tr>
<th>Billing System Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tax Bill</td>
<td>- Tax file is parcel based, correlates one-to-one for most parcels (except tax exempt)</td>
<td>- Must be a separate invoice, but can be mailed with tax bill*</td>
</tr>
<tr>
<td></td>
<td>- Tax records are updated frequently</td>
<td>- May resemble a tax</td>
</tr>
<tr>
<td>2. Public Utility Bill (water or wastewater)</td>
<td>- More familiar, looks like water &amp; wastewater</td>
<td>- Minor data updates for properties without water or wastewater accounts</td>
</tr>
<tr>
<td></td>
<td>- Legally a user fee, not a tax</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Possible lower delinquency through ability to shut off water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Existing accounts associated with parcel ID</td>
<td></td>
</tr>
<tr>
<td>3. Private Utility Bill</td>
<td>- Existing billing vehicle</td>
<td>- Not all properties currently receive a bill</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Utility managed by a separate entity</td>
</tr>
<tr>
<td>4. New Stand-Alone Bill</td>
<td>- Controlled and focused solely on stormwater</td>
<td>- More costly to develop and maintain</td>
</tr>
<tr>
<td></td>
<td>- Can be billed at any interval</td>
<td>- May be difficult to enforce</td>
</tr>
</tbody>
</table>

*MGL Part I, Title XI, Chapter 60, Section 3A*
Stormwater Utility Funding Approach

Billing Options

► Water utility billing option:
  ► 11,608 water accounts in Agawam
  ► 9,179 developed parcels that would receive a stormwater bill
  ► Requires minor account matching and additional database updates

---

City of Prosperity Utility Bill

Customer Name: Max A. Million
Account Number: 123-45-6789
Billing Date: January 15, 2006
Service Address: 1500 East St.

Water Consumption 3400 gallons
- Water Charge: $50.95
- Sewer Charge: $27.86

Stormwater
- 1.0 ERUs @ $4.50/ERU
  - Stormwater Charge: $4.50

Mitigation Credit: $0.00
Other Adjustments: $0.00

City of Prosperity
Max A. Million
1500 East St.
Prosperity, FL 12345-6789

---

Example Stormwater Fee
On Water Utility Bill
Feedback

What is your preferred billing method?

Note that this is a policy suggestion and not final.
Stormwater Utility Credits

Introduction to Credit Programs

Under Section 16 of Chapter 83 of the General Laws, the Town is allowed to:

“grant credits against the amount of the quarterly or annual charge to those property owners who maintain on-site functioning retention/detention basins or other filtration structures as approved by the stormwater utility, conservation commission, or other governmental entity with appropriate authority.”
Stormwater Utility Credits

Introduction to Credit Programs

Why include a credit program?

► Acknowledges that on-site stormwater management activities can help reduce the cost of public services over the long term
► Supports an equitable distribution of costs across the community
► Can encourage and incentivize the proper on-going maintenance of best management practices (BMPs)
Stormwater Utility Credits

Common Types of Credits

The basis of a credit program is the relationship of the cost of public service to the type of public benefit realized from a site-specific activity.

► What actions typically qualify for stormwater utility fee credits?
  ► BMPs that manage “quantity” - detention or retention facilities that control the peak rate of runoff
  ► BMPS that are designed to reduce the pollutants in stormwater runoff – infiltration basins, constructed wetlands or rain gardens that infiltrate or filter stormwater
  ► Non-structural BMPs, such as street sweeping and use of low impact development (LID) techniques
  ► Industrial NPDES Discharge Permit credits which recognizes that permit holders must comply with water quality controls and provide annual regulatory updates

► What actions don’t typically qualify for credits (but could be included in incentive or subsidy programs)?
  ► One-time purchases or actions (rain barrel purchase or a stormwater workshop)
  ► Financial relief for low income or elderly property owners
  ► Compensation for investment in previously installed stormwater systems; credits typically support on-going activities only (maintenance)
Credit programs typically include a “credit ceiling”. Setting a cap or ceiling acknowledges that on-site facilities or actions help with stormwater management, but have little impact on many parts of a public stormwater program: storm drain maintenance, site inspections, plan reviews, MS4 permit tracking and reporting, watershed planning, etc.

Granting credits impacts the revenue generated from the stormwater fee. This results in property owners that are not participating in the program paying a slightly higher fee to compensate for the reduction in revenue.
Stormwater Utility Credits

*Example of Credit Types and Amounts*

**Portland, Maine: Non-residential Credits**

► **Basic Water Quality Management Credit:** A Basic Credit of 50% is available for impervious area treated with water quality controls that meet the State standards.
  - Wet ponds, filters, infiltration, and/or vegetated buffers must be used to control a runoff volume equal to 1.0 inch of rainfall on all impervious area to be considered treated.

► **Basic Water Quantity Management Credit:** A Basic Credit of 10% is available for impervious area treated with flood reduction controls.
  - Stormwater management systems must detain, retain, or infiltrate stormwater from the 2-year, 10-year and 25-year storm event so that peak flows from the post-development condition do not exceed the peak flows its pre-development condition.

► **Extra Water Quality Management Credit:** An additional 25% credit of the stormwater service charge is available for impervious area that is treated by structural controls that are sized for at least 1.6 inches of rainfall instead of 1 inch.

► **Extra Water Quantity Management Credit:** An additional 15% credit of the stormwater service charge is available for impervious area treated with flood reduction controls that detain, retain, or infiltrate stormwater through the 100-year, 24-hour storm.
Stormwater Utility Credits

Portland Maine Example

Property Owner Information:

<table>
<thead>
<tr>
<th>Name and Mailing Address</th>
<th>Property Location</th>
<th>Land Use</th>
<th>No. of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>424 WARREN AVENUE LLC</td>
<td>429 WARREN AVE</td>
<td>WAREHOUSE &amp; STORAGE</td>
<td>1</td>
</tr>
<tr>
<td>401 WARREN AVE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PORTLAND ME 04103</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Impervious Area Information:

- Building Impervious Area (Square Feet): 37921
- Surface Impervious Area (Square Feet): 71298
- Total Impervious Area (Square Feet): 109219
- Total Property Billing Units: 91
- Total Property Monthly Stormwater Service Charge $6.00 per month: $546

Available Credits:
- 10% Flood Control (2, 10 & 25-yr storms)
- 50% Water Quality (1.0 inch treated)
- 60% Maximum

Credit Granted:
- Monthly charge = $546/mo.
- Annual charge = $6,552/mo.
- 60% of $546/mo. = $327.60/mo.
- Adjusted charge = $218.40/mo.
- Annual savings = $3,931.20

Extra Credits:
- 15% Flood Control (100-yr storm)
- 25% Water Quality (1.6 inch treated)
- 40% Maximum
Stormwater Utility Credits

Example of Credit Types and Amounts

Portland Maine: Residential Credits
Portland has a three-tiered residential fee structure.

- Credits are available to residential properties that treat impervious area with the following structural controls:
  - Cisterns
  - Dry wells
  - Modified French drains
  - Permeable pavers
  - Rain gardens

- Residential properties can earn a credit of 0.5 billing unit for every whole increment of 600 square feet of impervious area treated with a maximum of 1 billing unit credited.
  - **Tier 1** (400 - 1,799 ft²) – maximum credit 0.5 billing unit for 600 sq. ft. treated
  - **Tier 2** (1,800 - 2,999 ft²) – maximum credit 1.0 billing unit for 1,200 sq. ft. treated
  - **Tier 3** (greater than 2,999 ft²) – maximum credit 1.0 billing unit for 1,200 sq. ft. treated
Credits vary widely by community – reflecting local priorities and preferences.

<table>
<thead>
<tr>
<th>Community</th>
<th>Type of Credit</th>
<th>Credit %</th>
<th>Applicability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt. Lebanon, PA</td>
<td>Quantity: controls 25-year storm event</td>
<td>Up to 50%</td>
<td>Non-Residential</td>
</tr>
<tr>
<td>Virginia Beach, VA</td>
<td>Quantity: controls 25-year storm event</td>
<td>Up to 20%</td>
<td>Non-Residential</td>
</tr>
<tr>
<td>Bloomington, IN</td>
<td>Quality: BMPs that remove 90% of TSS during the 1-year storm</td>
<td>Up to 15%</td>
<td>All Properties</td>
</tr>
<tr>
<td>South Burlington, VT</td>
<td>Quality: meets State manual requirements</td>
<td>15%</td>
<td>Non-Residential</td>
</tr>
<tr>
<td>South Burlington, VT</td>
<td>Education: approved school Water Quality protection curriculum</td>
<td>10%</td>
<td>Public and private schools</td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td>Industrial NPDES Permit: current, approved permit</td>
<td>7%</td>
<td>Industrial facilities</td>
</tr>
<tr>
<td>Falls Church, VA</td>
<td>Residential incentives: use of various “toolbox” practices</td>
<td>Up to 10%</td>
<td>Residential</td>
</tr>
</tbody>
</table>
Group discussion on Agawam’s credit options:

- Credits types?
  - Water quantity management
  - Water quality management
  - Small user credits (tailored to small IA properties)
  - Education
  - NPDES Discharge Permit
  - Other

Everyone votes once for each credit type
What should be the maximum credit allowed for all types?

Note that this is a policy suggestion and not final.
Next Steps

► Develop draft stormwater utility ordinance
  ► For review with Task Force

► Develop draft study report outline
  ► For review with Task Force

► Public Engagement
  ► Continue engagement plan

► Task Force Meeting #5 – mid November 2017
Town of Agawam, MA  
Stormwater System Assessment and Utility/Fee Planning  
Citizen Advisory Task Force Meeting #4  
October 11, 2017  

Meeting Summary  

Meeting Date: Wednesday October 11, 2017  
Time: 6:00 to 8:00 p.m.  
Location: Agawam Senior Center, 954 Main St, Agawam, MA  
Prepared by: Rich Niles (Amec Foster Wheeler)  
Patty Gambarini (Pioneer Valley Planning Commission)  

Attached for reference are the attendee sign-in sheet and meeting agenda. The meeting notes below include a listing of the next steps for the project, followed by a summary of key discussion points from meeting #4.  

Next Steps:  
- Continue funding discussion with stormwater utility credits  
- Develop draft stormwater utility ordinance  
- Develop draft study report outline  
- Continue to engage public through press releases and future meetings  
- Plan for Task Force Meeting #5 in December  

Summary:  

1. Review of Task Force Meeting #3  
Rich Niles presented a summary of Task Force Meeting #3. The third meeting focused on a stormwater utility as a potential funding approach for Agawam’s stormwater program; the analysis of Agawam’s GIS and land use data; and the preliminary funding analysis. The concept of a stormwater utility was presented with examples from other communities in Massachusetts that have established stormwater utilities. The analysis of Agawam’s data was used to evaluate impervious cover per parcel as a basis for an assumed rate structure and funding approach.  

Two example rate structure approaches were presented for comparison with two different levels of service for the stormwater program. Specific sample properties in Town were evaluated using these approaches and levels of service to illustrate the potential fees under a stormwater utility.
Comparisons were also provided that demonstrated the impacts of funding the stormwater program needs on the basis of taxes versus a stormwater utility fee. The Task Force provided valuable feedback during Meeting #3 that will assist with public engagement messaging.

2. Public Engagement Update

A brief update on public engagement activities was provided and focused on the September 25, 2017 public meeting (refer to the public meeting summary for more information). Key questions and feedback from the September 25th meeting were discussed with the Task Force to help understand broader public opinions and how to best conduct future engagement activities.

A press release was issued on September 27th and the PVPC will continue to work on materials to support the Public Engagement Plan with planned focus group meetings to be held with senior citizens, religious organizations and the West of the River Chamber of Commerce. Patty Gambarini informed the Task Force of public education materials that were being developed, such as door hangers related to public works maintenance activities (e.g., street sweeping and catch basin cleaning). Task Force members suggested opportunities to make stormwater work more visible, such as posting signs at DPW stormwater projects that say “a DPW project to improve the storm drain system” or “a DPW project to control flooding and erosion”, for example.

3. Stormwater Utilities Funding Approach and Policies

Rich Niles presented an overview of the key components of a stormwater utility as a funding approach for stormwater programs. Rate methodologies, rate structures and stormwater billing units were discussed to provide the Task Force with an understanding of how stormwater utilities are typically structured.

Rate Methodology: Rate methodologies were discussed and examples provided to illustrate how the rate methodology can recognize the difference in development characteristics of properties and their impact on the stormwater management system. The Task Force was then asked to indicate their preference on a rate methodology and the results are summarized below.

<table>
<thead>
<tr>
<th>Preference on Rate Methodology</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intensity of development</td>
<td>0</td>
</tr>
<tr>
<td>2. Land use</td>
<td>0</td>
</tr>
<tr>
<td>3. Impervious area only</td>
<td>6</td>
</tr>
<tr>
<td>4. Gross parcel area (similar to Chicopee)</td>
<td>0</td>
</tr>
<tr>
<td>5. Impervious area and gross area</td>
<td>3</td>
</tr>
</tbody>
</table>

A Task Force member asked: “Do any towns have different billing units for residential versus businesses?” Rich Niles noted that for the rate methodology to be considered equitable, it should treat all properties the same and it is not typical to charge residential properties on a different basis than businesses. This can be seen as setting arbitrary fees with no underlying rationale, which can be challenged in court. The same Task Force member commented: “This seems a little tough and unfair, especially when you consider that businesses are required to have a certain number of parking spaces.” The rate structure and potential rate modifiers can be used to account (in some part) for differences in property types and to balance equity. This can be refined once
the rate methodology is established. For example, the Town can consider supporting waivers from zoning requirements to allow pavers or other pervious options for parking spaces.

Rate Structure: Multiple rate structure options that are used by existing stormwater utilities were discussed and included: an equivalent residential unit (ERU) that represents the median impervious area for a single-family residential (SFR) property (3,250 sf in Agawam) and all residential properties are billed the same while non-residential properties are billed multiple ERUs based on their total impervious area; tiers based on ERUs for SFR properties, where small properties are billed one ERU and larger properties are billed two or more ERUs; and a flat rate such as 1,000 sf of impervious area where all properties are billed based on their total impervious area.

There are advantages and disadvantages of each rate structure in terms of accuracy, equity and complexity. There can also be additional rate structures that include rate modifiers (such as credits) for each option to recognize the difference between certain types of properties and their impact on the stormwater system. After discussing each option, the Task Force was asked to indicate their preference on a rate structure and the results are summarized below.

<table>
<thead>
<tr>
<th>Preference on Rate Structure</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Flat Rate (1,000 sf of IA)</td>
<td>3</td>
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<td>0</td>
</tr>
<tr>
<td>4. ERU with Tiers</td>
<td>1</td>
</tr>
<tr>
<td>5. ERU with Rate Modifiers</td>
<td>1</td>
</tr>
</tbody>
</table>

Due to the quality of data available for Agawam, a flat rate structure provides more equity by treating all properties the same and reduces complexity by eliminating property classifications. Michelle Chase suggested the possibility of a 6th option on rate: 75% impervious and 25% gross area broken into different categories, which would be similar to the rate structure for Northampton, MA. A comment was made that apportion and distribution changes with each rate structure option, but the impervious cover and number of properties do not change.

While there was a preference for an impervious area based rate methodology and a flat rate structure, further vetting of these options will be necessary if the Town decides to move forward with implementation of a stormwater utility.

Billing Method: Billing system options, advantages, and disadvantages were discussed with the Task Force. The Task Force was then asked to indicate their preferred billing method and the results are summarized below.

<table>
<thead>
<tr>
<th>Preference on Billing Method</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. With Tax Bill</td>
<td>0</td>
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<tr>
<td>2. Public Utility Bill (w/water &amp; sewer)</td>
<td>8</td>
</tr>
<tr>
<td>3. Private Utility Bill</td>
<td>0</td>
</tr>
</tbody>
</table>
4. Questions and General Discussion
Throughout the meeting, the Task Force had several questions and comments that led to productive conversation around the stormwater program and how it is funded. This information is summarized below.

Question: “All options are based on impervious cover because that is the fair thing to do. I get that, but did towns ever ask, do you really want a business to be paying 8 times more than a residential property? It seems that you wouldn’t want to discourage businesses in that way.”
   - Response: The idea is not to burden businesses, but to distribute costs based on runoff from impervious area. Using a flat rate approach treats all properties in a similar manner, so homes with significant impervious area will pay the same as a business with comparable impervious surfaces. When considering other funding approaches, many properties would pay the same or more if the stormwater program was funded on the basis of taxes. It is a concern, however, that costs be kept manageable for all properties and there are ways to manage these impacts in the rate structure, through capping of rate increases and allowing credits.

Question: “When something breaks down (i.e., storm drain system), if it’s an emergency, is that more expensive to fix?”
   - Responses:
     - Yes, typically planned projects are competitively bid so you get a lower price.
     - Yes, emergency repairs can often cost 30 to 40% more.
     - Emergencies typically involve band-aid approaches where the repair is only short term. “You’re really just kicking the can down the road.”
     - We don’t manage stormwater in quite the way that we manage other utilities. The idea of an interruption in service when it comes to drinking water or wastewater service is different than an interruption in service with stormwater. You don’t really know that you have an interruption in service unless you are the one getting flooded.
     - The idea is to have a much more proactive program to address the issues that people are having. With more detailed inspections, we can get a much better understanding of the system and be more targeted in our response.

Question: “Does everything have to go out to bid or can public works fix small problems like the pipe at Westford Circle?”
   - Response: That Westford Circle project is currently included as part of a capital project because it involves installation of a reinforced concrete pipe. It is not really a small project that DPW can handle. The scope of work for other projects, such as Meadow Street and South Park Terrace also will probably require hiring a contractor. A portion of the budget incorporated into the future stormwater program costs includes increased effort by DPW to address minor projects. There is also flexibility in the program, however, to hire
contractors for certain work based on the DPW workload and unforeseen issues that may arise.

**Question:** “How will you have the ability to do these much larger projects when you are generating just the $2 million or so per year?”

- **Response:** If this is set up as an enterprise fund, the Town can have a reserve from one year to the next to complete larger projects. Also, it makes it easier for the Town to use bonds to fund projects and pay them off over time and allows access to more funding, such as grants, if there is an established enterprise fund.

Members of the Task Force noted the following comments, concerns, and questions that are circulating in the business community around the topic of a stormwater utility fee:

- Most importantly, how much is this going to cost them?
- Why do we need this and what factors into these needs?
- Is this just a “shell” game?
- How fair is this to the business community as compared to residents?
- Need transparency.
- How can we be sure that money we are putting into stormwater will go to stormwater?
- How do we avoid paying for a truck in this program that will only get used 20% of the time?
- What assurances do we have that the dollars will be used as promised?

Members of the Task Force noted the following comments, concerns, and questions that are circulating among religious organizations:

- What ability will we have to pay the fee at a time when congregations and revenues are shrinking?
- What are the credit opportunities?
- While this seems the right thing to do, there are many community services that religious organizations already provide, such as hosting meetings for scouts, AA, etc.

This is important information that needs to be discussed at upcoming public engagement activities with the business and religious communities. These are all reasonable questions and can be answered to some degree during this feasibility study. It is important, however, that people understand that the Town is at the feasibility level in this process. Part of this preliminary process is having informed discussions about how to best fund the Town’s stormwater needs. Fortunately, there is a lot of flexibility in how it can be done.
Agawam Stormwater Task Force - Meeting #5

November 29, 2017

Agawam Public Library
Community Room
750 Cooper Street
Agawam, MA 01001

Agenda:

5:45 p.m. ARRIVAL AND SIGN IN

6:00 - 6:25 p.m. PROJECT OVERVIEW AND RECENT WORK
  • Stormwater needs and costs
  • Task Force Meeting #4

6:25 - 6:40 p.m. PUBLIC ENGAGEMENT UPDATE

6:40 - 6:55 p.m. REVIEW OF DRAFT STORMWATER UTILITY ORDINANCE

6:55 - 7:10 p.m. BREAK

7:10 - 7:55 p.m. STORMWATER UTILITY CREDITS
  • Types and amounts of credits
  • Examples

7:55 - 8:00 p.m. NEXT STEPS
<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Title</th>
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<tbody>
<tr>
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<tr>
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<td></td>
<td>Mayor Elect</td>
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<tr>
<td>Mario Tedeschi</td>
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<td>Pres.</td>
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<tr>
<td>Rosemary Sandin</td>
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# Town of Agawam, MA
## Stormwater System Assessment and Utility/Fee Planning Project

<table>
<thead>
<tr>
<th>Name</th>
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</thead>
<tbody>
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<tr>
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<tr>
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<tr>
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<td>Amec Foster Wheeler</td>
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<td><a href="mailto:andrew.reese@amecfw.com">andrew.reese@amecfw.com</a></td>
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*Citizen Advisory Task Force Meeting #5
November 29, 2017*
Town of Agawam
Stormwater System Assessment and Utility/Fee Planning Project

Citizen Advisory Task Force Meeting #5

November 29, 2017
Agenda

600 - 625p: Project Overview and Recent Work
  ► Stormwater needs and costs
  ► Task Force Meeting #4

625 - 640p: Public Engagement Update
  ► Update on ongoing and future activities

640 - 655p: Review of Draft Stormwater Utility Ordinance

655 - 710p: Break

710 - 755p: Stormwater Utility Credits
  ► Types and amounts of credits
  ► Examples

755 - 800p: Next Steps
Project Overview

Rationale and Need

Why are we here?

► The Town has existing stormwater problems.
► Stormwater management needs are increasing.
► The Town has limited resources and funding.
► We have the ability to solve these problems and manage stormwater better, but it will cost more.

► What’s the best approach to move forward?
Existing Activities:
- Catch basin cleaning
- Street sweeping
- Drainage structure repair and replacement
- Culvert cleaning, repair and replacement
- Management of stormwater treatment facilities
- Road shoulder and ditch repair
- Flood response and related improvements
- Engineering and planning for upgrades
- Drainage mapping and assessments
- Stormwater permit compliance
## Existing Stormwater Program

### All Stormwater Related Expenditures

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '18 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>$42,176</td>
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<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$735,799</td>
</tr>
<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>$135,725</td>
</tr>
<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>$100,917</td>
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<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td>$31,456</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,046,071</strong></td>
</tr>
</tbody>
</table>

- Preliminary costs are derived primarily from:
  - Existing and estimated budget items
  - Estimated personnel (labor) efforts – approx. 5 full time employees (FTEs)
  - Contractors and expenses
Stormwater Needs

Summary

Stormwater Program Challenges:

- Aging infrastructure
- Flooding and drainage system capacity
- Water quality impacts
- Mapping and understanding of the storm drain system (age, condition, etc.)
- System maintenance
- Capital improvements
- Regulatory requirements
- Increasing costs
- Limited resources and funding
# Future Stormwater Program
## Summary of Future Costs

### Preliminary Estimate:

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '18</th>
<th>FY '19</th>
<th>FY '20</th>
<th>FY '21</th>
<th>FY '22</th>
<th>FY '23</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$735,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,179,723</td>
<td>$1,197,723</td>
<td>$1,215,723</td>
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<tr>
<td>4. Regulatory Compliance / Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$1,046,071</strong></td>
<td><strong>$1,630,481</strong></td>
<td><strong>$1,953,593</strong></td>
<td><strong>$1,973,628</strong></td>
<td><strong>$2,040,778</strong></td>
<td><strong>$2,032,568</strong></td>
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</tbody>
</table>

### Key Considerations:
- $880,138 – net increase
- Increase of ~2.5 FTEs
- Increased contractor costs
- Includes $250K for minor and major capital projects
  - Budget needs to be refined over time based on new data from future assessments.
- FY ’19-23 (5-yr avg.): $1,926,209
The American Water Works Association is a trade group that prepares manuals and best practice guidance for public water utilities.

Based on life expectancy of pipes and related infrastructure, they recommend that utility operators invest 1-2% of the value of their assets in annual maintenance (older systems at the higher end) and 1-2% in capital replacement or capital reserves.

A rough estimate of the replacement value of Agawam’s existing stormwater infrastructure is $150M.

- For O&M at 1% - $1.5M/yr.
- For Capital at 1% - $1.5M/yr.

$3M is a reasonable LOS and a goal for program growth

Agawam Storm Drain Infrastructure:
- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts

Something to keep in mind as we discuss the appropriate Level of Service (LOS) and annual program costs.
Future Stormwater Program

Primary Funding Options

Tax Revenue vs. User-Fee

► **Option A: Tax Override**
  ► Based on property value
  ► Funds allocated to DPW or other account
  ► Town Meeting vote annually

► **Option B: Municipal Water Infrastructure Investment Fund**
  *(MGL Chapter 259 (Section 39M): An Act Improving Drinking Water and Wastewater Infrastructure)*
  ► Based on property value (surcharge up to 3%)
  ► Use of funds is not limited solely to stormwater
  ► Town Meeting vote to establish

► **Option C: Stormwater Utility (user-fee)**
  ► Based on impervious cover, not property value
  ► Dedicated funding, stormwater only
  ► Town Meeting vote to establish
  ► Opportunities for credits
Review of Task Force Meeting #4

Summary of Key Issues Covered

- Stormwater Utility Funding Approach and Policies
  - Rate methodology
  - Rate structure
  - Billing method

Histogram of IA - SFR Properties
## Preference on Rate Methodology

<table>
<thead>
<tr>
<th>Preference</th>
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<tr>
<td>1. Intensity of development</td>
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<td>2. Land use</td>
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<tr>
<td>3. Impervious area only</td>
<td>6</td>
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<tr>
<td>4. Gross parcel area (similar to Chicopee)</td>
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<tr>
<td>5. Impervious area and gross area</td>
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</table>

In general, the Task Force felt that the basic rate methodology should use impervious area and there should be some consideration for the stormwater runoff from the gross (undeveloped) area of properties.
Review of Task Force Meeting #4

*Rate Structure*

- **Task Force Feedback**

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- **Option 6**: 75% IA and 25% gross area broken into different categories.

- In general, the Task Force preferred a flat rate with potential modifiers to recognize differences in properties.
Task Force Feedback

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<td>4. Stand-alone Bill</td>
<td>1</td>
</tr>
<tr>
<td>5. Other/No Vote</td>
<td>0</td>
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The Task Force preferred billing for stormwater with the existing public utility bill for water and sewer.
Comments, concerns, and questions that are circulating in the business community around the topic of a stormwater utility fee:

- Most importantly, how much is this going to cost them?
- Why do we need this and what factors into these needs?
- Is this just a “shell” game?
- How fair is this to the business community as compared to residents?
- Need transparency.
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- What ability will we have to pay the fee at a time when congregations and revenues are shrinking?
- What are the credit opportunities?
- While this seems the right thing to do, there are many community services that religious organizations already provide, such as hosting meetings for scouts, AA, etc.

Additional Remarks:

- This information needs to be discussed throughout the public engagement process.
- We want to have informed discussions about how to best fund the Town’s stormwater needs.
- There is a lot of flexibility in how it can be done.
- This is a feasibility study and many items will be vetted further if the Town chooses to continue this process.
Public Engagement Update

Ongoing and Future Activities

► Planned outreach meetings:
  ► Seniors - October 30 luncheon
  ► Religious organizations – Tuesday, January 9 monthly meeting
  ► Business organizations – date TBD (mid January or so)

► Feedback from Senior Citizen luncheon:
  ► Concern about too much taxing and not enough efficiency in budgets
  ► Heard a lot about specific drainage and flooding problems
    (Brookline Avenue/Springfield Street; Oak Street; Valentine Terrace)
  ► People are looking for solutions to these problems and seem receptive to idea of a
    fee if it will help address flooding and drainage problems

► Identify emerging themes from conversations
  (including Advisory Task Force, outreach meetings, and other public meetings)

► Develop specific messages/information

► Identify effective way to convey messages/information
Emerging themes to date (what appears to matter most to people)

- Understanding needs and costs and how will translate to better services/care of the storm system
- What fee looks like for individual property owners and credit opportunities
- Fairness
- Assurances that money will be used as specified/promised
- Localized flooding and drainage problems
Public Engagement Update

Ongoing and Future Activities

► Discussion:
  ► Any other themes that you feel are important?
  ► Any Task Force members available to join us at upcoming outreach meetings?
Draft Stormwater Utility Ordinance
For Discussion Purposes

Ordinance Anatomy:

► Legal authority to establish a utility
► Organizational structure – who would manage the fund and provide stormwater services
► Purpose of the fund – what activities could be covered by the fund
► Rate setting process
► Fee exemptions
► Credits
► Billing & collections
► Appeals

See Handout “Draft Ordinance”
Public engagement:
► Robust campaign prior to Council vote to establish stormwater utility.
► Communicate program needs, costs, and impacts to property owners.

Town Council vote:
► Establish organizational structure and approve stormwater utility.
► Set rate and billing procedures.

Final implementation steps:
► Finalize revenue need
► Finalize rate structure, credits, and fees
► Establish billing and collection procedures
► Ongoing public engagement
Break
Stormwater Utility Credits

Introduction to Credit Programs

Under Section 16 of Chapter 83 of the General Laws, the Town is allowed to:

“grant credits against the amount of the quarterly or annual charge to those property owners who maintain on-site functioning retention/detention basins or other filtration structures as approved by the stormwater utility, conservation commission, or other governmental entity with appropriate authority.”

Note: credits are not available through other funding mechanisms, such as the general fund.
Why include a credit program?

- Acknowledges that on-site stormwater management activities can help reduce the cost of public services over the long term
- Supports an equitable distribution of costs across the community
- Can encourage and incentivize the proper on-going maintenance of best management practices (BMPs)
Stormwater Utility Credits

Common Types of Credits

The basis of a credit program is the relationship of the cost of public service to the type of public benefit realized from a site-specific activity.

► What actions typically qualify for stormwater utility fee credits?
  ► BMPs that manage “quantity” - detention or retention facilities that control the peak rate of runoff
  ► BMPs that are designed to reduce the pollutants in stormwater runoff – infiltration basins, constructed wetlands or rain gardens that infiltrate or filter stormwater
  ► Non-structural BMPs, such as street sweeping and use of low impact development (LID) techniques
  ► Industrial NPDES Discharge Permit credits which recognizes that permit holders must comply with water quality controls and provide annual regulatory updates

► What actions don’t typically qualify for credits (but could be included in incentive or subsidy programs)?
  ► One-time purchases or actions (rain barrel purchase or a stormwater workshop)
  ► Financial relief for low income or elderly property owners
  ► Compensation for investment in previously installed stormwater systems; credits typically support on-going activities only (maintenance)
Credit programs typically include a “credit ceiling”. Setting a cap or ceiling acknowledges that on-site facilities or actions help with stormwater management, but have little impact on many parts of a public stormwater program: storm drain maintenance, site inspections, plan reviews, MS4 permit tracking and reporting, watershed planning, etc.

Granting credits impacts the revenue generated from the stormwater fee. This results in property owners that are not participating in the program paying a slightly higher fee to compensate for the reduction in revenue.
Stormwater Utility Credits

Amount of Credit

- Considerations for the total credit amount or “ceiling”:
  - On-site stormwater controls can help defray some costs, but the Town is still responsible for Town-wide existing infrastructure management and water quality protections.
  - The cumulative impacts of development including volume increase, peak increase, and water quality impacts continue to require an extensive public stormwater system.
  - The use of the stormwater program by every downstream property is protected by the imposition of controls on all upstream parcels.
  - The shared runoff impacts are realized through the construction of roadways and other public hard surfaces whose impact and benefit can be properly distributed across the rate base.

- Example credit “ceilings”:
  - 50% Northampton, MA
  - 60% Portland, ME
  - 50% South Burlington, VT
## Stormwater Utility Credits

**Amount of Credit**

- **Consideration of Agawam’s future “fixed” costs:**

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>5-yr avg. (FY ’19-’23)</th>
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<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>$67,025</td>
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<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$1,149,447</td>
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<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>$291,248</td>
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<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>$178,605</td>
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<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td>$239,885</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$1,926,209</strong></td>
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~30% fixed costs

~1/2 is for dedicated staff and equipment

(~30% of total cost) . . . represents some fixed costs
Stormwater Utility Credits

Example of Credit Types and Amounts

Portland, Maine: Non-residential Credits

► **Basic Water Quality Management Credit**: A Basic Credit of 50% is available for impervious area treated with water quality controls that meet the State standards.
  - Wet ponds, filters, infiltration, and/or vegetated buffers must be used to control a runoff volume equal to 1.0 inch of rainfall on all impervious area to be considered treated.

► **Basic Water Quantity Management Credit**: A Basic Credit of 10% is available for impervious area treated with flood reduction controls.
  - Stormwater management systems must detain, retain, or infiltrate stormwater from the 2-year, 10-year and 25-year storm event so that peak flows from the post-development condition do not exceed the peak flows its pre-development condition.

► **Extra Water Quality Management Credit**: An additional 25% credit of the stormwater service charge is available for impervious area that is treated by structural controls that are sized for at least 1.6 inches of rainfall instead of 1 inch.

► **Extra Water Quantity Management Credit**: An additional 15% credit of the stormwater service charge is available for impervious area treated with flood reduction controls that detain, retain, or infiltrate stormwater through the 100-year, 24-hour storm.
Stormwater Utility Credits

Portland Maine Example

<table>
<thead>
<tr>
<th>Property Owner Information:</th>
<th>Property Location</th>
<th>Land Use</th>
<th>No. of Units</th>
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</thead>
<tbody>
<tr>
<td>Name and Mailing Address</td>
<td>Property Location</td>
<td>Land Use</td>
<td>No. of Units</td>
</tr>
<tr>
<td>424 WARREN AVENUE LLC</td>
<td>429 WARREN AVE</td>
<td>WAREHOUSE &amp; STORAGE</td>
<td>1</td>
</tr>
<tr>
<td>401 WARREN AVE</td>
<td>PORTLAND ME 04103</td>
<td></td>
<td></td>
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</tbody>
</table>

Impervious Area Information:

- Building Impervious Area (Square Feet): 37921
- Surface Impervious Area (Square Feet): 71298
- Total Impervious Area (Square Feet): 109219
- Total Property Billing Units: 91
- Total Property Monthly Stormwater Service Charge $6.00 per month: $546

Available Credits:
- 10% Flood Control (2, 10 & 25-yr storms)
- 50% Water Quality (1.0 inch treated)
- 60% Maximum

Credit Granted:
- Monthly charge = $546/mo.
- Annual charge = $6,552/mo.
- 60% of $546/mo. = $327.60/mo.
- Adjusted charge = $218.40/mo.
- Annual savings = $3,931.20

Extra Credits:
- 15% Flood Control (100-yr storm)
- 25% Water Quality (1.6 inch treated)
- 40% Maximum

Stormwater Utility Credits Portland Maine Example

Available Credits:
- 10% Flood Control (2, 10 & 25-yr storms)
- 50% Water Quality (1.0 inch treated)
- 60% Maximum

Credit Granted:
- Monthly charge = $546/mo.
- Annual charge = $6,552/mo.
- 60% of $546/mo. = $327.60/mo.
- Adjusted charge = $218.40/mo.
- Annual savings = $3,931.20

Extra Credits:
- 15% Flood Control (100-yr storm)
- 25% Water Quality (1.6 inch treated)
- 40% Maximum
Stormwater Utility Credits

Example of Credit Types and Amounts

Portland Maine: Residential Credits
Portland has a three-tiered residential credit structure.

- Credits are available to residential properties that treat impervious area with the following structural controls:
  - Cisterns
  - Dry wells
  - Modified French drains
  - Permeable pavers
  - Rain gardens

- Residential properties can earn a credit of 0.5 billing unit for every whole increment of 600 square feet of impervious area treated with a maximum of 1 billing unit credited.

- **Tier 1** (400 - 1,799 ft²) – maximum credit 0.5 billing unit for 600 sq. ft. treated
- **Tier 2** (1,800 - 2,999 ft²) – maximum credit 1.0 billing unit for 1,200 sq. ft. treated
- **Tier 3** (greater than 2,999 ft²) – maximum credit 1.0 billing unit for 1,200 sq. ft. treated
Credits vary widely – reflecting local priorities and preferences.

<table>
<thead>
<tr>
<th>Community</th>
<th>Type of Credit</th>
<th>Credit %</th>
<th>Applicability</th>
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<tbody>
<tr>
<td>Mt. Lebanon, PA</td>
<td>Quantity: controls 25-year storm event</td>
<td>Up to 50%</td>
<td>Non-Residential</td>
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<tr>
<td>Virginia Beach, VA</td>
<td>Quantity: controls 25-year storm event</td>
<td>Up to 20%</td>
<td>Non-Residential</td>
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<tr>
<td>Bloomington, IN</td>
<td>Quality: BMPs that remove 90% of TSS during the 1-year storm</td>
<td>Up to 15%</td>
<td>All Properties</td>
</tr>
<tr>
<td>South Burlington, VT</td>
<td>Quality: meets State manual requirements</td>
<td>15%</td>
<td>Non-Residential</td>
</tr>
<tr>
<td>Greenville, NC</td>
<td>Quality: BMPs that provide nutrient load reduction</td>
<td>20%</td>
<td>All Properties</td>
</tr>
<tr>
<td>South Burlington, VT</td>
<td>Education: approved school Water Quality protection curriculum</td>
<td>10%</td>
<td>Public and private schools</td>
</tr>
<tr>
<td>Jacksonville, FL</td>
<td>Education: curriculum that reaches &gt;100 individuals</td>
<td>5%</td>
<td>Institutions and Businesses</td>
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<tr>
<td>Philadelphia, PA</td>
<td>Industrial NPDES Permit: current, approved permit</td>
<td>7%</td>
<td>Industrial facilities</td>
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<tr>
<td>Falls Church, VA</td>
<td>Residential incentives: use of various “toolbox” practices</td>
<td>Up to 10%</td>
<td>Residential</td>
</tr>
</tbody>
</table>
Group discussion on Agawam’s credit options:

- Credits types?
  - Water quantity management
  - Water quality management
  - Small user credits (tailored to small IA properties)
  - Education
  - NPDES discharge permit
  - Other

- Consider Agawam’s needs and priorities . . . previous voting
  - Aging infrastructure – 5 votes
  - Flooding problems – 5 votes
  - Erosion of channels and streams – 4 votes
  - Water quality problems – 3 votes
  - Wastewater or septic pressures – 3 votes
  - Drinking water protection – 3 votes

- Should there be one credit program for all property types?
What should be the maximum credit allowed for all types?

Note that this is a policy suggestion and not final.
Next Steps

► Public Engagement
  ▶ Continue engagement plan

► Develop draft study report outline
  ▶ For review with Task Force
  ▶ Outline recommendations and key messages

► Task Force Meeting #6 – January 2018
Town of Agawam, MA
Stormwater System Assessment and Utility/Fee Planning Project

Agawam Stormwater Task Force - Meeting #6
February 6, 2017

Agawam Public Library
Community Room
750 Cooper Street
Agawam, MA 01001

Agenda:

5:45 p.m. ARRIVAL AND SIGN IN

6:00 - 6:20 p.m. PUBLIC ENGAGEMENT UPDATE

6:20 - 7:00 p.m. STORMWATER EDUCATION VIDEO
• Draft script outline
• Key messages

7:00 - 7:10 p.m. BREAK

7:10 - 7:55 p.m. FINAL REPORT
• Review of draft outline
• Review of Task Force feedback
• Recommendations

7:55 - 8:00 p.m. NEXT STEPS
# Town of Agawam, MA

## Stormwater System Assessment and Utility/Fee Planning Project

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Title</th>
<th>Phone</th>
<th>Email</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
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**Citizen Advisory Task Force Meeting #6**

*February 6, 2018*
## Town of Agawam, MA
### Stormwater System Assessment and Utility/Fee Planning Project

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<tbody>
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<tr>
<td>Andy Reese</td>
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<td>615-333-0630</td>
<td><a href="mailto:andrew.reese@amecfw.com">andrew.reese@amecfw.com</a></td>
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Citizen Advisory Task Force Meeting #6
February 6, 2018
Cecelia Calabrese, Town of Agawam Council
Town of Agawam
Stormwater System Assessment and Utility/Fee Planning Project

Citizen Advisory Task Force Meeting #6

February 6, 2018
Agenda

600 - 620p: Public Engagement Update

620 - 700p: Stormwater Education Video
► Draft script outline
► Key messages

700 - 710p: Break

710 - 755p: Final Report
► Review of draft outline
► Review of Task Force feedback
► Recommendations

755 - 800p: Next Steps
Outreach meetings thus far:
- Seniors - October 30, 2017 luncheon (discussed at Task Force Mtg. #5)
- Religious organizations – January 9, 2018
- Business organizations – January 16, 2018

Note: responses to the feedback and questions related to the above meetings and on the following slides will be provided in the meeting summaries and the final study report.
Public Engagement Update

Recent Activities

► Religious Organizations:
  ► Attendees: Lighthouse, Agawam United Methodist Church, Bethany Assembly of God, Agawam Congregational Church, Redeeming the Time Ministries/First Baptist Church, and Sacred Heart Parish

► Feedback from Religious Organizations:
  ► Can you explore exemptions for nonprofits and churches on this fee?
  ► As churches, we reach out to help the community in so many ways already. How can we possibly absorb these costs for stormwater?
  ► There is no "just" in this cost. What it means is that we will no longer be able to provide certain services to the community.
  ► How do you plan to enforce the payment of a fee?
  ► What are the annual financial goals of the utility and what are the objectives of the program? You need to be much more specific about what you are trying to do with this new fee.
  ► What is DPW's total budget and what percent of this is currently dedicated to stormwater?
  ► Discussion of specific problem areas.
Public Engagement Update

Recent Activities

► Businesses:
  ► Attendees: Feeding Hills Farm, Colvest Group, J.R. Sweeping Service, Sarat Ford, Valenti Real Estate, Coriwald LLC, Six Flags New England, Allied Flooring and Paint

► Feedback from Businesses:
  ► My property drains to a wetland. Don’t believe any drainage goes into Town system. Then state throws drainage onto my property. Would I have to pay?
  ► What about farms and open space, will those properties be charged under the stormwater utility? They are contributing to stormwater too.
  ► Are there communities that have split tax rate and also stormwater utility?
  ► Businesses pay tax, but do not get trash pick up. How is that fair?
  ► Why don’t we just raise property taxes enough to get the $2 to $3 million needed for stormwater?
  ► But if you keep it in property taxes, that means there are property owners using the system that don’t pay for it. What we could consider is maybe shifting the rate so that there is less of a burden on businesses.
Feedback from Businesses (cont’d):

- I am looking at $20,000 for an annual stormwater fee when you account for all the parcels that make up my business. I don’t disagree with the idea of what you are suggesting because it is the Town’s infrastructure and we need to take care of it. As a business owner, I am constantly improving my property. The Town needs to tend to its infrastructure. But what’s next? Drinking water? At what point can we not afford it?

- I have brooks on my farm that go to nowhere. First thing I think about is what can I tear down? That way I find ways to reduce property taxes and the stormwater utility.

- When this comes to the City Council, is that the time to bring up the possibility of exemptions, refinements in rates? When does that negotiation come into play?
Public Engagement Update

Recent Activities

► Major Take Away Points

► Religious Organizations:
  ► Fairness: not paying for stormwater now, but provide many other services and benefits to the community
  ► Affordability: membership is on the decline

► Businesses:
  ► Fairness: already pay more with a split tax rate
  ► Fairness: not all properties drain to the storm system

► These points will be discussed in the public meeting summaries and in the final study report.
Stormwater Education Video

Task Force Input

► General information:
  ► Moonshadow Media and Amec Foster Wheeler to develop video
  ► 2-3 minute video to inform and engage the public
  ► Use voice-over narration, interviews, and footage of current stormwater infrastructure to present key messages
  ► 1 day of on-site filming, plus motion graphic/animation
  ► Example videos: Return of the Tides: The Herring River Restoration Project

  Perspectives on the Land

► Preliminary outline:
  1. Stormwater system and needs (45 sec.)
  2. Funding gap (25 sec.)
  3. Funding options (40 sec.)
  4. Decision process (15 sec.)
Draft script outline:

1. Stormwater system and needs (45 sec.)
   - Introduction, maps, photos, footage of Agawam’s infrastructure
   - Current activities, problem areas (flooding), and challenges
   - Interviews with Agawam residents and DPW

2. Funding gap (25 sec.)
   - Current level of funding
   - Estimated level of investment needed
   - Use charts, tables, and example projects to illustrate work that will be done

3. Funding options (40 sec.)
   - Tax versus fee approach
   - Benefits of a stormwater fee
Stormwater Education Video
Task Force Input

► Draft script outline (cont’d):

4. Decision process (15 sec.)
   ► Process with Town Council
   ► Closing remarks (Mayor)

► Key messages (brainstorm):

1. Stormwater system and needs
2. Funding gap
3. Funding options (fairness)
4. Decision process

► Additional support needed:

► Volunteers for interviews
► Active projects or infrastructure for footage
► Review process
Break
1. Introduction
   1.1 Study Approach and Goals
   1.2 Citizen Advisory Task Force

2. Current Stormwater Program
   2.1 Stormwater System
   2.2 Summary of Existing Activities and Regulatory Requirements
   2.3 Resources and Expenditures

3. Stormwater Program Needs and Challenges
   3.1 Existing and Future Needs
   3.2 Stormwater Program Priorities

4. Proposed Future Stormwater Program
   4.1 Estimated Future Expenditures
   4.2 Level of Service Evaluation

5. Funding Options
   5.1 Stormwater Program Funding Options
   5.2 Overview of Stormwater Utilities
   5.3 Task Force and Public Feedback

The Task Force will have an opportunity to review the draft report.
6. Data Analysis
   6.1 Impervious Surface Update
   6.2 Parcel Data and Stormwater Billing Units

7. Stormwater Utility Funding Evaluation
   7.1 Rate Methodology
   7.2 Revenue Analysis
   7.3 Credits and Other Policy Considerations
   7.4 Task Force Feedback

8. Public Engagement Activities
   8.1 Activities Completed
   8.2 Ongoing and Future Activities

9. Agawam Draft Stormwater Utility Ordinance

10. Final Recommendations and Road Map
    11.1 Task Force Recommendations
    11.2 Future Policy Considerations
    11.3 Road Map for Next Steps

Appendices: cost analysis backup, public outreach materials, press releases, and meeting summaries.
“We need a better stormwater management program because:”

- Aging infrastructure – 5 votes
- Flooding problems – 5 votes
- Erosion of channels and streams – 4 votes
- Water quality problems – 3 votes
- Wastewater or septic pressures – 3 votes
- Drinking water protection – 3 votes
- Compliance requirements – 2 votes
- Preserve recreation or fisheries – 2 votes
- Ecological concerns – 2 votes
- Understanding of the stormwater system / data quality – 1 vote
- Beach closures or swimming restrictions – 0 votes
- Preservation of property value – 0 votes
- Development pressures – 0 votes
- Prevent lawsuits – 0 votes

Everyone got 5 votes
Rate Methodology for Stormwater Fee

<table>
<thead>
<tr>
<th>Preference on Rate Methodology</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intensity of development</td>
<td>0</td>
</tr>
<tr>
<td>2. Land use</td>
<td>0</td>
</tr>
<tr>
<td>3. Impervious area only</td>
<td>6</td>
</tr>
<tr>
<td>4. Gross parcel area (similar to Chicopee)</td>
<td>0</td>
</tr>
<tr>
<td>5. Impervious area and gross area</td>
<td>3</td>
</tr>
</tbody>
</table>

In general, the Task Force felt that the basic rate methodology should use impervious area and there should be some consideration for the stormwater runoff from the gross (undeveloped) area of properties.
Final Report
Review of Task Force Feedback

Rate Structure for Stormwater Fee

<table>
<thead>
<tr>
<th>Preference on Rate Structure</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Flat Rate (1,000 sf of IA)</td>
<td>3</td>
</tr>
<tr>
<td>2. Flat Rate with Modifiers</td>
<td>4</td>
</tr>
<tr>
<td>3. ERU (3,250 sf of IA)</td>
<td>0</td>
</tr>
<tr>
<td>4. ERU with Tiers</td>
<td>1</td>
</tr>
<tr>
<td>5. ERU with Rate Modifiers</td>
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</table>

Option 6: 75% IA and 25% gross area broken into different categories.

In general, the Task Force preferred a flat rate with potential modifiers to recognize differences in properties.
Billing Method for Stormwater Fee

<table>
<thead>
<tr>
<th>Preference on Billing Method</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. With Tax Bill</td>
<td>0</td>
</tr>
<tr>
<td>2. Public Utility Bill (w/water &amp; sewer)</td>
<td>8</td>
</tr>
<tr>
<td>3. Private Utility Bill</td>
<td>0</td>
</tr>
<tr>
<td>4. Stand-alone Bill</td>
<td>1</td>
</tr>
<tr>
<td>5. Other/No Vote</td>
<td>0</td>
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</tbody>
</table>

The Task Force preferred billing for stormwater with the existing public utility bill for water and sewer.
Credits for Stormwater Fee

<table>
<thead>
<tr>
<th>Credit Types</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Water quantity management</td>
<td>16</td>
</tr>
<tr>
<td>2. Water quality management</td>
<td>12</td>
</tr>
<tr>
<td>3. Small user credits (tailored to small IA properties)</td>
<td>5</td>
</tr>
<tr>
<td>4. Education*</td>
<td>0</td>
</tr>
<tr>
<td>5. NPDES discharge permit</td>
<td>0</td>
</tr>
<tr>
<td>6. Other</td>
<td>0</td>
</tr>
</tbody>
</table>

*Everyone voted once for each credit type*

*There was some interest in exploring potential education credits in the future.*
Credits for Stormwater Fee

<table>
<thead>
<tr>
<th>Maximum Credit</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>5</td>
</tr>
<tr>
<td>40%</td>
<td>1</td>
</tr>
<tr>
<td>50%</td>
<td>7</td>
</tr>
<tr>
<td>70%</td>
<td>1</td>
</tr>
</tbody>
</table>

Everyone voted once
The American Water Works Association is a trade group that prepares manuals and best practice guidance for public water utilities.

Based on life expectancy of pipes and related infrastructure, they recommend that utility operators invest 1-2% of the value of their assets in annual maintenance (older systems at the higher end) and 1-2% in capital replacement or capital reserves.

A rough estimate of the replacement value of Agawam’s existing stormwater infrastructure is $150M.

- For O&M at 1% - $1.5M/yr.
- For Capital at 1% - $1.5M/yr.

$3M is a reasonable LOS and a goal for program growth.

Agawam Storm Drain Infrastructure:
- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts

Something to keep in mind as we discuss the appropriate Level of Service (LOS) and annual program costs.
# Stormwater Program

## Moderate and Higher Level of Service

- **$1,926,209** – moderate level of service
  - $880,138 – net increase
  - $250K for capital projects

- **$2,149,800** – higher level of service
  - $1,103,729 – net increase
  - Additional $250K for capital projects starting in FY ‘21

## Preliminary Estimate (higher level of service):

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '18</th>
<th>FY '19</th>
<th>FY '20</th>
<th>FY '21</th>
<th>FY '22</th>
<th>FY '23</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$735,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,184,723</td>
<td>$1,207,723</td>
<td>$1,230,723</td>
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<tr>
<td>4. Regulatory Compliance / Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$1,046,071</strong></td>
<td><strong>$1,630,481</strong></td>
<td><strong>$2,035,593</strong></td>
<td><strong>$2,312,268</strong></td>
<td><strong>$2,386,090</strong></td>
<td><strong>$2,384,568</strong></td>
</tr>
</tbody>
</table>
Overall Feedback on Needs, Tax versus Fee, and Level of Service (LOS)

► There is agreement that there are stormwater needs that are not met and the current level of funding is not adequate.

► Members generally felt that a stormwater fee was a better way to distribute costs and the costs for sample residential properties seemed reasonable for both LOS and rate scenarios.

► The annual fees for a stormwater utility appear to be reasonable and the increase for a higher LOS would advance the program for little added cost.

► However, the future costs are a significant increase overall (up to 1.8% tax increase), especially when considering tax increases do not exceed 2.5% annually.

► Need to effectively engage the public and inform them of the needs and costs related to stormwater management.
1. **Stormwater Program Cost & 5-Year Plan**
   - Update existing and future program costs
   - Develop program 5-year plan
   - Evaluate additional funding sources (grants, partnerships)

2. **Impervious Area Update**
   - Update remaining parcels to 1,000 sf IA billing accuracy

3. **Final Cost & Rate Structure**
   - Evaluate organizational structure, indirect costs, billing & credits
   - Update funding analysis, develop cash flow model
   - Meeting #2 w/Task Force, finalize policies & rate structure

4. **Public Engagement Activities**
   - Develop Engagement Plan, outreach materials and schedule
   - Meeting #3 w/Task Force, review Plan
   - 2-3 public information sessions
   - Perform activities (e.g., website updates, handouts, press releases)
5. **Final Analysis & Rate Study**
   - Develop credit manual & update rate study
   - Meeting #4 w/Task Force, review final analysis
   - Meeting #2 w/Town Council, review final analysis

6. **Finalize Rate Ordinance**
   - Update draft rate ordinance
   - Present to Town Council and adopt

7. **Development of Master Account File for Billing**
   - Develop final database
   - Develop data maintenance & billing procedures guidance

8. **Customer Support Training and Trial Run of Bills**
   - Develop customer service training guidance, fact sheets & FAQ
   - Staff training for customer service
   - Go live date TBD
# Final Report

## Preliminary Road Map

For discussion purposes only . . . .

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Q2 2018</th>
<th>Q3 2018</th>
<th>Q4 2018</th>
<th>Q1 2019</th>
<th>Q2 2019</th>
<th>Q3 2019</th>
<th>Q4 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Evaluate Funding and Apply for Grants</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1. Stormwater Program Cost &amp; 5-Year Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Impervious Area Update</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Final Cost and Rate Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Public Involvement Plan and Outreach Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Final Analysis and Rate Study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Finalize Rate Ordinance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Development of Master Account File for Billing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Customer Support Training and Trial Run of Bills</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Task Force Final Recommendations (vote):

1. Do you fully support an enhanced stormwater program to meet current and future needs?

2. What is the recommended level of service?
   - A. Moderate ($2.05M program) = $26.08/1,000 sf impervious area
   - B. Higher ($2.29M program) = $29.20/1,000 sf impervious area
   - C. Other

3. Should the Town Council vote to pursue implementation of a utility?
   
   Refer to Road Map
Next Steps

► Public engagement
  ► Develop video
  ► 1 public meeting TBD

► Complete study report
  ► Draft report review opportunity for Task Force
  ► Present report and recommendations to Town Council

► Project complete by June 30th
Stormwater Assessment and Utility/Fee Planning Project
Town of Agawam, Massachusetts

Prepared for:
Pioneer Valley Planning Commission
Springfield, Massachusetts

Town of Agawam
Department of Public Works

Prepared by:
Wood Environment & Infrastructure Solutions, Inc.
271 Mill Rd, 3rd Floor
Chelmsford, MA 01824

September 2018
Project No. 3652160085

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Stormwater Assessment and Utility/Fee Planning Project

Town of Agawam, MA

Prepared for:
Pioneer Valley Planning Commission
60 Congress Street
Springfield, Massachusetts 01104

Town of Agawam
Department of Public Works
1000 Suffield Street
Agawam, Massachusetts 01001

Prepared by:
Wood Environment & Infrastructure Solutions, Inc.
271 Mill Road, 3rd Floor
Chelmsford, MA 01824

Project No. 3652160085

September 30, 2018
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Wood PLC
October 2018
Project No. 3652160085
woodplc.com
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Appendix E  Stormwater Utility Credit Backgrounder
EXECUTIVE SUMMARY

The Town of Agawam completed an assessment of its stormwater needs and funding options to better manage its storm drain infrastructure and meet future regulatory requirements. This work was completed through an engagement process with a Citizen Advisory Task Force and presented to the City Council and public. The project identified the following themes:

► The Town has existing stormwater problems
► Stormwater management needs are increasing, most notably:
  o Aging infrastructure and the increased demand on the system
  o The new MS4 Permit that became effective July 1, 2018
► The Town has limited resources and funding
► The Town can solve these problems and manage stormwater better, but it will cost more
► A stormwater utility is a preferred funding approach

The replacement value of the Town’s existing stormwater infrastructure is approximately $150M. The current stormwater program expenditures are approximately $1,046,000 annually and the Town estimates that the level of funding needs to increase to approximately $1.93M to $2.15M annually for the initial planning horizon (next 5-years) to coincide with the MS4 Permit and the current understanding of the Town’s stormwater program needs. To be more proactive and manage the storm drain system in a more sustainable manner, the Town should be investing 1% or $1.5M per year in operations and maintenance and another 1% or $1.5M for capital improvements for a total of $3M annually. This should be a goal for growth over time as the stormwater program matures.

Agawam’s existing stormwater program is funded through tax revenues and the future stormwater program cost can be funded in the same manner through a tax increase (override) or through reallocation of existing funds. The alternative option evaluated in this study evaluated funding some or all the future program through a stormwater utility (user-fee). No community in Massachusetts has yet to fund their stormwater program using the Municipal Water Infrastructure Investment Fund and this is essentially an allocation of tax revenue to a “water infrastructure account”.

The fundamental approach for a stormwater utility is to charge fees for each developed parcel for stormwater services based on a measure of the burden on the public stormwater system/program. The fees are typically assigned based on the amount of impervious area (hard surfaces) on each property and a rate methodology to distribute the costs of the entire program in an equitable manner. This study evaluated multiple rate structures and program costs to develop fees around $100/year for single-family residential properties and a much greater range for non-residential properties based on the incremental increase in impervious area.

The recommendations and preferences by the Citizen Advisory Task Force are as follows:

1. Increase the Level of Funding Dedicated for Stormwater to Meet Needs

2. Pursue Implementation of a Stormwater Utility: Task Force members generally felt that a stormwater fee was a better way to distribute costs versus increasing taxes. Additionally, the increased cost for a higher level of service would advance the program for little added cost.

3. Implement the Following Rate Structure Methodology and Credit Policies:
   a. The basic rate methodology for charging fees should be based on impervious area.
b. A flat rate structure based on 1,000 square feet of impervious area and potential
modifiers to balance equity and address impacts to properties with very high fees.

c. Provide credits for water quantity and quality management, as well as small
properties to encourage good stormwater management.

4. **Bill for Stormwater with Existing Utility Bills for Water and Sewer**
1.0 INTRODUCTION

This project was undertaken to assist the Town of Agawam with performing a stormwater system assessment and planning level evaluation of the Town’s stormwater needs. Led by the Pioneer Valley Planning Commission, the project was funded through a MassDEP 319 grant (Project #16-06/319) and from matching funds from the Town of Agawam. Agawam’s stormwater management program costs are expected to increase significantly under the EPA’s newly reissued 2016 National Pollution Discharge Elimination System (NPDES) Small Municipal Separate Storm Sewer (MS4) Permit for Massachusetts. The new Final MS4 Permit became effective on July 1, 2018 and will require additional assessment, engineering, and capital construction efforts related to water quality protection. These additional regulatory requirements are in addition to ever-increasing costs to properly manage the Town’s extensive, existing stormwater infrastructure. Additional information on costs, future needs, and potential options to address funding issues are summarized in the following sections of this report.

1.1 Study Goals and Approach

The goal for this grant-funded study was to explore the possibility of establishing a stormwater utility or stormwater fee to help offset increasing funding needed to continue to properly operate and maintain the Town’s stormwater system. The project has multiple components, but it is aimed at addressing two fundamental items:

1. Identify major needs, priorities, and costs for Agawam’s municipal stormwater management program.
2. Evaluate the feasibility of establishing a stormwater utility or fee to fund the future program.

The approach to exploring funding options, was to first identify current and projected future stormwater program needs, priorities and costs, which would then allow the Town and local stakeholders to be better positioned to assess local programmatic and financial needs. Once a consistent level of understanding was achieved, public outreach and education activities would be undertaken to improve understanding of the Town’s stormwater management challenges and to provide forums for community feedback on options to address future needs. Key components of the study included:

► Analysis of current and projected stormwater services and costs
► Data updates and analysis to support the revenue projections and rate structure options
► Engagement of a Stormwater Task Force to evaluate and provide feedback on potential stormwater funding options
► Implementation of additional public education and outreach efforts designed to increase public understanding of the Town’s stormwater system, services, and challenges

The specific approach to performing this work, included the following project tasks:

► Task 1 – Identify Major Needs, Priorities, and Costs for Stormwater Program
   The goal of this task is to provide a more detailed breakdown and back-up of cost information for specific operation and maintenance and capital cost categories with consideration of the future level of service that may be desired and/or required.

► Task 2 – Conduct Parcel Analysis and Calculate Equivalent Residential Unit (ERU)
   The key aspects of this task involve the review of available GIS data and land use information to assess billing options and establish areas of impervious cover, identify
preferred rate structures, determine the number of potential billing units for various funding scenarios.

► Task 3 – Define Rate Structure Options and Evaluate the Financial Elements of the Stormwater Utility

The goals of this effort are to demonstrate how different rate structures affect how program costs are distributed among potential rate payers under a user fee versus tax-funded approach and to outline the next steps needed for implementation of a utility fee. This includes developing a preliminary rate approach, performing a funding evaluation, outlining funding policies, such as credits, and drafting a stormwater utility ordinance for review.

► Task 4 – Presentations and Public Meetings

The goal of this task is to engage local stakeholders through the establishment of a Citizen Advisory Task Force and the scheduling of public meetings to keep local stakeholders informed on the findings of the study and to obtain feedback on proposed funding solutions. This work also includes developing education materials and leading discussions with a cross-section of residents and businesses on stormwater funding options.

While additional work will be needed to build support and implement a sustainable funding mechanism for stormwater management, the findings of this study advance the process by performing due diligence so that stakeholders understand the potential impacts of alternative means of funding the stormwater program. During Task Force discussions, it was clear that there are concerns about potential cost impacts to residents and businesses from increasing funding needs for stormwater management. Knowing that some cost increases are unavoidable as the Town continues to maintain the aging infrastructure and complies with new regulatory requirements, the Town is interested in identifying and establishing the most reasonable and appropriate long-term funding mechanism for Agawam’s stormwater management program.

1.2 Citizen Advisory Task Force

The purpose of the Citizen Advisory Task Force was to have 10-12 local representatives of various neighborhoods, non-profits, and businesses participate in six facilitated meetings throughout the course of the project (April 2017 – February 2018) and provide input on key project elements including: major needs, priorities and future costs for the stormwater program; parcel and data analysis for stormwater billing units; stormwater funding analysis and rate structure; a draft rate ordinance; and potential next steps for utility implementation. The list of Task Force members and the meeting notes from each of the six Task Force meetings are included in Appendix A.
2.0 CURRENT STORMWATER PROGRAM

The Town of Agawam has an extensive stormwater management system that has been installed and expanded to help control runoff from developed properties for over one hundred years. The major goal of the Town’s Stormwater Management Program is to protect public health and safety by minimizing flooding through proper maintenance and operation of the Town’s assets and by protecting local water quality by complying with state and Federal regulatory requirements. To meet this goal, the Town provides a wide range of stormwater-related activities related to operations and maintenance, engineering, regulatory compliance, capital improvements, and public education. Most of these activities are performed by staff from the Town’s Engineering and Highways and Grounds Departments. It is estimated that 4.85 full time equivalent (FTE) staff are dedicated to stormwater activities. Currently, the stormwater budget is funded primarily from real property tax revenue and in 2017 that budget was $892,500. Additional details on the current program are described in the following sections.

2.1 Stormwater System

The first known storm drains were constructed in Agawam in the early 1900’s. Through the first several decades of the 1900’s, a more extensive drainage system was installed, with stormwater drainage pipes often combined with wastewater pipes. As stormwater management approaches matured, new pipes were designed to handle just storm flows and many combined systems were separated to minimize storm flows to wastewater treatment plants and prevent overflows of polluted combined flows to local rivers and streams. From the 1980’s through 2000, ten (10) combined sewer overflows (CSO) were eliminated in Agawam, helping to improve local water quality.

Growth and updates to the stormwater drainage system from new road construction and projects such as the CSO work, have resulted in the Town currently owning and operating over 120 miles of drain pipe and thousands of appurtenant manholes and catch basins. The Agawam DPW has compiled some data for the age of storm drain pipes and this information is summarized in Table 1. Most of the construction performed since the 1970s is documented; however, information on the age of over 50% of the system is unknown and the condition of the storm drain system is not well documented.

![Agawam Storm Drain Infrastructure]
- 121.5 miles of drain pipe
- 4,757 catch basins
- 2,352 manholes
- 512 Outfalls
- 3.2 miles of culverts

Table 2-1. Estimated Age of Storm Drain Pipes

<table>
<thead>
<tr>
<th>Year</th>
<th>Feet of Pipe</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre 1960</td>
<td>8,937</td>
<td>1.4%</td>
</tr>
<tr>
<td>1960-69</td>
<td>29,213</td>
<td>4.6%</td>
</tr>
<tr>
<td>1970-79</td>
<td>69,018</td>
<td>10.8%</td>
</tr>
<tr>
<td>1980-89</td>
<td>55,860</td>
<td>8.7%</td>
</tr>
<tr>
<td>1990-99</td>
<td>24,103</td>
<td>3.8%</td>
</tr>
<tr>
<td>2000-09</td>
<td>79,278</td>
<td>12.4%</td>
</tr>
<tr>
<td>2010+</td>
<td>6,267</td>
<td>1.0%</td>
</tr>
<tr>
<td>No Data</td>
<td>368,602</td>
<td>57.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>641,278</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
2.2 Summary of Existing Activities and Regulatory Requirements

In Agawam, the Department of Public Works (DPW) is primarily responsible for operating and maintaining the stormwater system. The DPW goals are to protect public health and safety by minimizing flooding through proper maintenance of the storm drainage system, protecting water quality by keeping non-stormwater materials and flows out of the drainage system, and enforcing stormwater design standards for new and redevelopment activities. Key stormwater activities managed by DPW include:

- Catch basin cleaning and waste disposal
- Street sweeping and waste disposal
- Drainage structure repair and replacement
- Culvert cleaning, repair and replacement
- Management of stormwater treatment facilities
- Road shoulder and ditch repair
- Flood response and related improvements
- Engineering, planning and oversight of upgrades
- Drainage mapping and assessments
- Enforcement of drainage design standards
- Public outreach & education
- Contract management
- Stormwater permit compliance tracking and reporting

The last item listed, stormwater permit compliance, refers to the Town’s coverage under the Federal Clean Water Act and the Massachusetts Clean Water Act. Since 2003, small and medium sized urbanized municipalities that own and operate public stormwater systems must comply with water quality management requirements as outlined under the National Pollution Discharge Elimination System (NPDES) Phase II permit regulations. In Massachusetts these regulations are detailed in the General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4).

The Town of Agawam has continuously implemented its (MS4) permit since 2003 to meet the requirements of the six minimum control measures:

- 1: Public Education and Outreach
- 2: Public Involvement and Participation
- 3: Illicit Discharge Detection and Elimination (IDDE) Program
- 4: Construction Site Stormwater Runoff Control
- 5: Stormwater Management in New Development and Redevelopment
- 6: Pollution Prevention and Good Housekeeping

Recently the MS4 permit has been reissued and includes additional compliance requirements. The new permit is scheduled to become effective on July 1, 2018. The future costs presented in Section 4 below, include potential costs to comply with these additional regulatory requirements.

2.3 Resources and Expenditures

Agawam funds its stormwater program primarily through tax-generated General Funds. The Town allocates funding annually, based on priorities and available resources. Stormwater services are provided using a combination of in-house labor and outside support/direct expenses. In-house
labor, predominately from DPW supervisory and maintenance personnel, totaled approximately 4.85 full-time equivalent positions in FY2017. Adding indirect costs, including overhead and benefits, results in a total labor cost of $704,110. Additional direct expenses for items such as contracted catch basin cleaning and illicit discharge detection field investigations, street sweeper rental, supplies for construction/repairs, public education materials, and computer software totaled an additional $188,461. Total estimated stormwater costs by major function are listed in Table 2-2. Cost backup cost spreadsheets are provided in Appendix B for current and future estimated expenditures (see Section 4.0).

Table 2-2. Existing Stormwater Related Expenditures

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY ’17 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>$37,676</td>
</tr>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
</tr>
<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>$135,725</td>
</tr>
<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>$100,917</td>
</tr>
<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td>$31,456</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$892,571</strong></td>
</tr>
</tbody>
</table>

*Updated FY ’18 Budget* | $1,046,071 |

Note: *the estimated current stormwater expenditure was updated in 2018 as the project progressed and a new FY ’18 budget was developed based on increases to the DPW budget for stormwater program administration ($4,500 for public education and participation activities) and stormwater operations and maintenance ($149,000 for additional street sweeping, catch basin cleaning, and inspection of the storm drain system). This resulted in a new current budget estimate (FY ’18) of $1,046,071.*

Based on life expectancy of pipes and related infrastructure, industry best practices recommend that utility operators invest 1 to 2% of the value of their assets in annual maintenance (older systems at the higher end) and 1-2% in capital replacement or capital reserves to maximize the life of the assets. Based on the limited information available on the age and condition of Agawam’s storm drainage system, Wood developed a rough estimate of the replacement value of approximately $150M for the existing stormwater infrastructure, as summarized in Table 2-3.

Table 2-3. Estimate of Agawam’s Storm Drain Infrastructure Value

<table>
<thead>
<tr>
<th>Component</th>
<th>Total Units</th>
<th>Replacement Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outfalls (each)</td>
<td>512</td>
<td>$12,000</td>
<td>$6,144,000</td>
</tr>
<tr>
<td>Catch Basins (each)</td>
<td>4,757</td>
<td>$5,000</td>
<td>$23,785,000</td>
</tr>
<tr>
<td>Manholes (each)</td>
<td>2,352</td>
<td>$4,500</td>
<td>$10,854,000</td>
</tr>
<tr>
<td>Drain Pipes (linear feet)</td>
<td>641,520</td>
<td>$125</td>
<td>$80,190,000</td>
</tr>
<tr>
<td>Culverts (linear feet)</td>
<td>16,896</td>
<td>$600</td>
<td>$10,137,600</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>$130,840,600</strong></td>
</tr>
<tr>
<td>15% Engineering and Management</td>
<td></td>
<td></td>
<td><strong>$19,626,090</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>$150,467,690</strong></td>
</tr>
</tbody>
</table>

Note: this represents a rough order of magnitude cost in 2018 dollars based on Wood’s experience with MA municipalities and a combination of RS Means cost estimate data and recent construction costs.

To be more proactive and manage the storm drain system in a more sustainable manner, the Town should be investing 1% or $1.5M per year in operations and maintenance and another 1% or $1.5M for capital improvements for a total of $3M annually. The $892,000 currently being spent on stormwater is significant, but well below the industry target. This is a challenge that many
municipalities face since stormwater has typically been underfunded and must compete with all other needs (e.g., police, fire, education) in a community.
# 3.0 STORMWATER PROGRAM NEEDS AND CHALLENGES

With the existing stormwater system aging and flooding concerns increasing, combined with expanding regulatory requirements on Agawam’s stormwater discharges as regulated through the Town’s MS4 permit, the level of effort and costs for managing the system are expected to increase. In the sections below, the projected existing and future needs and Town priorities are identified.

## 3.1 Existing Needs

### Infrastructure Upgrades

As is typical of many storm drainage systems in the Northeast U.S., many sections of Agawam’s drainage system are decades old and need repairs and upgrades to prevent failure. The Town performs minor repairs, as needed, but limited resources have contributed to a backlog of infrastructure projects. Some example current project needs include:

- Replacement of the Reed Street outfall due to deteriorated infrastructure that has resulted in failure of the adjacent slope.
- Replacement of the North Street culvert that is severely deteriorated and has resulted in bank erosion along White Brook.
- Pipe improvement on Westford Circle needed to repair outfall pipe separation and erosion.

### Flood Mitigation

Continued growth in the Town has put additional pressure on the aging storm drainage system with many pipes now undersized or deteriorating and unable to handle increased flows. Several specific areas that need upgrades to deal with flooding include:

- Arnold Street (north) which experiences flooding during heavy storms due to a failed infiltration system.
- Meadow Street near Joseph Street becomes overwhelmed during heavy storms due to undersized pipes.
- Fairview Street and Federal St. Ext. experiences flooding due to tree roots in pipes.
- Ramah Circle is experiencing increased flooding due to uncontrolled runoff from upstream development.
- Basement flooding across the Town is increasing during intense storm events.

### Regulatory Compliance and Water Quality Protection

Compliance with the Town’s MS4 permit requires on-going efforts to meet the six (6) minimum control measures detailed in the permit. Activities related to public education, public involvement, illicit discharge detection and elimination, construction site stormwater runoff controls, management of stormwater from new and redevelopment, and good housekeeping of Town operations require the Town staff to prepare and support public outreach activities, manage inventories and inspections of stormwater management controls, screen outfalls for illicit discharges, and perform water quality protection activities such as street sweeping and catch basin cleaning.
Since the Town’s stormwater discharges impact two main waterways, the Connecticut and Westfield Rivers, there are additional water quality protections required. Stormwater flow to each of these rivers is regulated and due to their or other downstream water bodies’ impaired status, which means they do not meet water quality standards. To comply with state and federal water quality protections, Agawam is required to implement practices to minimize the release of pathogens and nutrients from their storm drain system due to septic systems, sanitary sewer overflows, other illicit discharges, or other significant sources of pathogens and nutrients.

3.2 Future Needs

The aging of the existing stormwater infrastructure, impacts of stormwater runoff on water quality, as well as flooding, are an ever-growing concern in Agawam. The Town anticipates a substantial increase in its responsibilities and costs for stormwater management over the next 5-10 years, predominantly drive by the new MS4 permit that became effective July 1, 2018. The following is a summary of the major anticipated future program needs:

► Maintenance backlog of deteriorated and undersized storm drain infrastructure (pipes and culverts) with associated increased effort for labor and equipment.
► Additional education and enforcement of detention pond maintenance for private systems.
► Increased maintenance of publicly-owned detention basins.
► Additional mapping and inspections to identify and eliminate sanitary sewer cross-connections and other illicit discharges.
► Implementation of increasing MS4 permit requirements: public involvement, inventories, inspections, outfall screening, good-housekeeping activities (increased street sweeping and catch basin cleaning), and tracking and reporting of annual activities.
► Additional administration, engineering, planning, and asset management to effectively manage the stormwater system.

3.3 Task Force Feedback

The Citizen Advisory Task Force members were polled during the April 26, 2017 meeting and asked to select the top five stormwater issues that they felt were priorities for the Town’s stormwater program. The results are summarized below and provide some basis for prioritizing stormwater management activities:

► Aging infrastructure – 5
► Flooding problems – 5
► Erosion of channels and streams – 4
► Water quality problems – 3
► Wastewater or septic pressures – 3
► Drinking water protection – 3
► Compliance requirements – 2
► Preserve recreation or fisheries – 2
► Ecological concerns – 2
► Understanding of the stormwater system / data quality – 1
4.0 PROPOSED FUTURE STORMWATER PROGRAM

4.1 Level of Service

It is important to consider the appropriate level of funding and resulting Level of Service (LOS) that the Town’s stormwater program will provide to address future needs in a cost-effective manner and within a reasonable amount of time. It is also important to recognize that the LOS will need to increase over time as the program matures, but the initial planning horizon is for the first five years to coincide with the MS4 Permit and the current understanding of the Town’s stormwater program needs.

For comparison in the funding analysis, a moderate and a higher LOS were developed:

► The moderate LOS represents an average increase of 84% from the current service level and would provide for more proactive maintenance, regular system inspections, meet regulatory mandates, and include a consistent set-aside of $250,000 a year for capital projects to start to address the backlog of infrastructure repair and replacement needs. Note that this capital budget could be used to pay the debt service on a bond for much larger projects.

► The higher LOS represents an average increase of 2 times the current service level and would provide for proactive maintenance and regulatory compliance at a moderate level. The additional cost is related to an accelerated schedule for system inspections and capital improvement investment, including an additional $250,000 a year starting in year 3 to fund more capital improvements and an engineer starting in year 2 to support inspections and capital contracts.

4.2 Estimated Future Expenditures

The estimated costs to implement a Moderate LOS over the next 5 years (FY19-FY23) are shown in Table 4-1 and result in a 5-year average (FY19-FY23) of $1,926,209. This is a net increase of $880,138 from the current (FY ’18) expenditure. Backup cost spreadsheets associated with the Moderate LOS are provided in Appendix B.

Table 4-1. Estimated Future Expenditures for a Moderate Level of Service

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY ’18</th>
<th>FY ’19</th>
<th>FY ’20</th>
<th>FY ’21</th>
<th>FY ’22</th>
<th>FY ’23</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$735,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,179,723</td>
<td>$1,197,723</td>
<td>$1,215,723</td>
</tr>
<tr>
<td>4. Regulatory Compliance / Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
</tr>
<tr>
<td>Total</td>
<td>$1,046,071</td>
<td>$1,630,481</td>
<td>$1,953,593</td>
<td>$1,973,628</td>
<td>$2,040,778</td>
<td>$2,032,568</td>
</tr>
</tbody>
</table>
The estimated costs to implement a Higher LOS over the next 5 years (FY19-FY23) are shown in Table 4-2 and result in a 5-year average (FY19-FY23) of $2,149,800. This is a net increase of $1,103,729 from the current (FY '18) expenditure. These costs build upon the backup cost spreadsheets for the Moderate LOS.

Table 4-2. Estimated Future Expenditures for a Higher Level of Service

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '18</th>
<th>FY '19</th>
<th>FY '20</th>
<th>FY '21</th>
<th>FY '22</th>
<th>FY '23</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$735,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,184,723</td>
<td>$1,207,723</td>
<td>$1,230,723</td>
</tr>
<tr>
<td>4. Regulatory Compliance / Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,046,071</strong></td>
<td><strong>$1,630,481</strong></td>
<td><strong>$2,035,593</strong></td>
<td><strong>$2,312,268</strong></td>
<td><strong>$2,386,090</strong></td>
<td><strong>$2,384,568</strong></td>
</tr>
</tbody>
</table>
5.0 FUNDING OPTIONS

5.1 Stormwater Program Funding Options

There are several methods that can be used to fund municipal stormwater services, but the two most common being general tax-supported funds and user fees. The three primary options for Massachusetts communities that can provide the level of revenue needed for the stormwater program are summarized below.

► Tax Increase (override)
► Municipal Water Infrastructure Investment Fund (MGL Chapter 259 (Section 39M): An Act Improving Drinking Water and Wastewater Infrastructure)
► Stormwater Utility (user-fee or enterprise fund) (MGL Chapter 83 (Section 16): Charge for Use of Sewers)

Agawam’s existing stormwater program is funded through tax revenues and the future stormwater program cost can be funded in the same manner through a tax increase (override) or through reallocation of existing funds. The alternative option evaluated in this study evaluates funding some or all the future program through a stormwater utility (user-fee). No community in Massachusetts has yet to fund their stormwater program using the Municipal Water Infrastructure Investment Fund and this is essentially an allocation of tax revenue to a “water infrastructure account”.

Over 1,600 communities across the United States now fund their stormwater programs through dedicated user fees.

Source: GIS Data from the Western Kentucky University 2018 Stormwater Utility Survey
Many communities have chosen a stormwater utility because of the following advantages:

► **It is Stable** because it is not as dependent on the vagaries of the annual budgetary process as taxes are.

► **It is Adequate** because a typical stormwater fee is based on a well thought out stormwater program to meet the needs and demands of the community, as well as other program drivers (e.g., water quality, regulations).

► **It is Flexible** because fees can be structured in multiple ways, and the program can be managed to fund activities based on changing priorities and needs.

► **It is Equitable** because the cost is borne by the user based on an estimate of demand placed on the drainage system. Additionally, credits can be given for reducing the burden upon the system or efforts to reduce the program costs.

Section 7 provides a stormwater revenue analysis and comparison of the two basic funding options: 1) property value basis; and 2) user-fee based on the amount of impervious cover on a property. Examples of each funding mechanism were reviewed with the Citizens Advisory Task Force to illustrate the difference in how properties in Agawam would pay for stormwater based on property value versus impervious cover. The feedback from the Task force is also summarized in Section 7.

### 5.2 Stormwater Utility Funding Approach

Although not as prevalent in Massachusetts or New England, stormwater utilities have been in operation across the country since the 1970’s. They vary in accordance with underlying legal enabling frameworks and are typically established to reflect local stormwater priorities and revenue needs. In Massachusetts General Law Chapter 83 Section 16 is the relevant enabling legislation with respect to Stormwater Utilities. Chapter 83 focuses on sewers, drains and sidewalks and section 16 of Chapter 83 more specifically goes into details about sewers with a utility plan. Originally established for sanitary sewer systems, this section was revised in 2004 to include “main drains and related stormwater facilities,” thereby enabling municipalities to charge a fee for stormwater services.

**How does it work?**

► Fees are assigned to a parcel for stormwater services.

► Fees are based on a measure of the burden on the public stormwater system/program.

► More impervious area =
  
  ◦ . . . more stormwater runoff . . .
  ◦ . . . larger burden on the system . . .
  ◦ . . . larger user fee

► Property value is not considered (similar to water and sewer fees)

► Tax-exempt properties contribute.
There are currently about a dozen utilities in Massachusetts with different administrative structures in use for execution and enforcement of their stormwater utilities. These are typically designed to integrate with the least amount of disruption into an existing framework. For instance, maintaining this program within a local Department of Public Works which already operates an enterprise utility system (including billing, work order generation or budgeting processes) is often a preferred approach. The City of Westfield has adopted this approach. The City of Fall River, however, has elected to have their utility administered by a team of Commissioners appointed by the Mayor.

A stormwater utility is often responsible for collection of fees and system operation and maintenance, budgeting and master planning. The purpose to which funds may be, or must be, put is defined within the local by-law or ordinance creating the utility. Public Stormwater Utilities have applied funds across a broad array of stormwater management services, including the following:

- Improvement and maintenance to stormwater pipes and treatment facilities
- Flood mitigation
- Compliance with state or federal regulations
- Operations such as street sweeping or catch basin cleaning
- Monitoring and inspecting stormwater control devices
- Billing and related administrative cost

Stormwater utility fees in Massachusetts are summarized in Table 5-1 to indicate how rates and revenue vary across different size communities. This information was provided by the Pioneer Valley Planning Commission during the summer of 2018.

### Table 5-1. Stormwater Utility Fees in Massachusetts

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Annual Revenue</th>
<th>Annual Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braintree (pop. 35,744)</td>
<td>$600,000</td>
<td>Residential (1 to 3 family) = $25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All other properties = $25 for each ERU (min. charge $25 and max. charge $2,917.50)</td>
</tr>
<tr>
<td>Chelmsford (pop. 33,802)</td>
<td>$1,467,474</td>
<td>Single and two-family = $40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multi-family and non-residential based on 18 tiers of impervious area, from: Tier 1: &lt;5,000 SF IA = $250 to Tier 18: 1.1 million SF IA or more = $8,000</td>
</tr>
<tr>
<td>Chicopee (pop. 55,298)</td>
<td>$1,000,000</td>
<td>Single family residential = $100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multi family, industrial, commercial properties = $1.80 per 1,000 SF IA (min. charge $100 and max. charge $640)</td>
</tr>
<tr>
<td>Fall River (pop. 88,930)</td>
<td>$5,883,757</td>
<td>ERU = 2,800 SF of IA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Residential (1 to 8-family) = $176</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Commercial, industrial, residential &gt; than 8-family = $176 for each ERU</td>
</tr>
<tr>
<td>Longmeadow (pop. 15,806)</td>
<td>$215,000</td>
<td>ERU = 2,800 SF of IA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Residential (1 to 8-family) = $176</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Commercial, industrial, residential &gt; than 8-family = $176 for each ERU</td>
</tr>
<tr>
<td>Milton (pop. 27,003)</td>
<td>$793,836</td>
<td>SF of IA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fee</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single family Tier 1 0–2,075 = $32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tier 2 2,076–2,675 = $44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tier 3 2,676–4,225 = $61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tier 4.1 4,226–8,364 = $110</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tier 4.2 8,365–15,894 = $205</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tier 4.3 ≥15,895 = $468</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other $1.88 x 100 sf Varies by area</td>
</tr>
</tbody>
</table>
### Municiplality

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Annual Revenue</th>
<th>Annual Fees</th>
</tr>
</thead>
</table>
| Newton (pop. 85,146) | $2,100,000     | 4 family dwellings = $75 per year  
|                    |                | All other properties, one of 13 tiers =  
|                    |                | SF of IA  
|                    |                | 0-4,999 $250  
|                    |                | 5,000-7,499 $500  
|                    |                | 7,500-9,999 $750  
|                    |                | 10,000-14,999 $1,000  
|                    |                | 15,000-24,999 $1,250  
|                    |                | 25,000-49,999 $1,500  
|                    |                | 50,000-74,999 $1,750  
|                    |                | 75,000-99,999 $2,000  
|                    |                | 100,000-199,999 $2,500  
|                    |                | 200,000-299,999 $3,000  
|                    |                | 300,000-399,999 $3,500  
|                    |                | 400,000-499,999 $4,000  
|                    |                | 500,000 and greater $5,000  |
| Northampton (pop. 28,540) | $1,940,000 | Residential:  
|                    |                | < 2,250 SF of IA = $63.94  
|                    |                | 2,250 - 3,056 SF of IA = $91.05  
|                    |                | 3,056 - 4,276 SF of IA = $125.60  
|                    |                | > 4,276 SF of IA = $259.07  
|                    |                | Other: (including residential > 4 units) based on actual impervious & pervious area (cap of 1 acre for pervious area) each property with runoff coefficient factors applied to each and pervious area for each property capped at one acre.  
|                    |                | Basic formula is: Impervious Area x 0.95 + Pervious Area x 0.1 = Hydraulic Area. The hydraulic area is then multiplied by the rate that is set each year to calculate the fee.  
| Reading (pop. 24,747) | $517,000 | ERU = 3,210 SF of IA  
|                    |                | Single and two-family residences at $60  
|                    |                | Multi-family, commercial, and industrial properties at $60 per ERU  
| Westfield (pop. 41,094) | $560,000 | Residential: $20  
|                    |                | Non-residential: $0.045/ SF of IA  
|                    |                | • min $100  
|                    |                | • max $640  |
6.0 DATA ANALYSIS

Wood evaluated GIS data available with the Town and MassGIS (i.e., impervious surfaces, parcels, land use, Town boundaries, etc.) to assess options for a preliminary rate structure for a stormwater utility. The rate structure serves as the basis of the revenue analysis in Section 7 and supports the estimate of revenue necessary to operate a stormwater utility in Agawam. The results of this analysis were presented during the June 28, 2017 Task Force meeting.

6.1 Impervious Surface Refinement

Wood provided guidance to the Pioneer Valley Planning Commission to refine the impervious area (IA) geographic information system (GIS) data in support of this project. The goal of the update was to improve the IA representation accuracy by comparing and refining the impervious data to high-quality 2016 imagery. The data used for this effort included the following:

- **Imagery:** 2016 Google Imagery and 2011-2014 Aerial Orthophotos from MassGIS
- **Impervious:** data was derived from two MassGIS sources: a 1-meter raster layer extracted using semi-automated techniques, and a building rooflines layer updated in 2017. Some additional digitized corrections from Agawam data were also incorporated. To prepare the final shapefile to be edited, Wood performed the following geoprocessing:
  - Converted MassGIS IA raster layer to vector polygons
  - Clipped data to Agawam
  - Eliminated small “junk” polygons (under 10 sq ft)
  - Smoothed raster-derived lines
  - Updated with building polygons to create single layer for refinement
  - Intersected polygons at parcels lines
  - Repaired geometry and prepared attributes
- **Parcels and Boundary:** this was provided by the Town of Agawam and used as-is.

PVPC updated the IA data using the following approach:

- **Recommended Map Scale:** In GIS, the data can be displayed “zoomed in” to display a few inches on the ground, or all the way out to show the entire state. The map scale at which impervious surfaces are captured and measured defines the accuracy and precision that can be achieved. The on-screen map scale for this effort was approximately 1:1200.

- **Impervious Refinement Priorities:** To maximize time available for PVPC staff, the IA-refinement effort primarily focused on commercial and other non-single-family residential (NSFR) properties, rather than on single-family residential (SFR) properties. The principal objective was to correct significant “error” – either over-capture or missing impervious at least 500 square feet in area per parcel. Note the following:
  - No editing within public or railroad ROW (see ‘POLY_TYPE’ field).
  - Within SFR properties, only missing primary buildings were added.
  - Within NSFR properties, pervious features at least 500 square feet should be removed.
and impervious features at least 500 square feet should be added.
  o “Slivers” of IA may exist along parcel lines where the roadway IA overlaps them. These junk polygons were deleted whenever possible.

► Impervious Area Interpretation: Only the following surfaces/features will be considered impervious for stormwater purposes:
  o Rooftoplines of walled, fixed structures and mobile homes.
  o Parking lots, driveways, and private streets (paved, asphalt, concrete, maintained dirt/gravel used by vehicles).
  o Private walkways / sidewalks >4 feet wide (paved, asphalt, concrete).
  o Running tracks, compacted sports surfaces, engineered artificial turf.

► Pervious Area Interpretation: The following features are considered pervious and should be removed from the IA data:
  o Non-engineered / natural surfaces (bare-earth, rock outcroppings)
  o Landscaped areas (grass, mulch, plants, pea-gravel, sand)
  o Storm channels / water-control features
  o Water in swimming pools (capture cement apron surrounding, but not pool interior)
  o Bridges
  o Vehicles / wheeled trailers, above-ground structures
  o Railroad tracks, ballasts
  o Water bodies and wetland area

6.2 Impervious Surface Analysis and Stormwater Billing Units

The refined GIS data was updated and analyzed by Wood to determine parcel boundaries and impervious area (IA). GIS tools were used to perform an initial identification of impervious area per parcel in Agawam and identified the following:

► 9,179 developed parcels (having at least 200 square feet of IA)
► A total of 78,678,230 square feet of IA Town-wide

Once the impervious area information was updated, the GIS data was then linked to the Town Assessor’s files by parcel ID. Using the Assessor’s land use codes, properties where designated Single-Family Residential (SFR) or Non-Single-Family Residential (NSFR) and the following information was ascertained:

► Of the 9,179 developed parcels: 84% or 7,710 are SFR and 16% or 1,469 are NSFR.
► The SFR properties contained 30,464,260 SF of IA.
► The NSFR properties contained 48,213,970 SF of IA
The data analysis confirmed that there is sufficient, quality data to support an impervious area rate methodology. To select the most appropriate rate method for Agawam, two impervious-based rate structure options were considered:

**Option 1: billing unit is based on an “equivalent residential unit” (ERU)**

This option assumes residential parcels are generally similar in their impact on the public stormwater system and non-residential parcels are dissimilar - parcels are categorized into 2 categories: SFR and NSFR for billing purposes.

The impervious area (IA) on all SFR properties was estimated and the median value or Equivalent Residential Unit (ERU) for Agawam is 3,250 SF of IA.

- For billing purposes, all SFR properties would be billed one (1) ERU. NSFR IA would be calculated by parcel and the total divided by the ERU to determine total billing units.
- Note that SFR properties could be placed in “Tiers” based on the number of ERUs, among other basic rate structure options.

**Option 2: billing unit is based on a set Flat Billing Rate**

- **For Agawam, a 1,000 SF billing unit was selected.** This is large enough to minimize minor issues in using aerial photography to determine IA but small enough to recognize differences in property runoff impacts.
- Eliminates the need to assign land use codes to property, as all properties are billed on the same basis.
- Requires more accurate IA calculation on all SFR properties, but billing will align more closely with actual IA on properties across Town.

For each option, the number of billing units (BU) were projected and the results are shown in Table 6-1.
To determine which options will fit best in Agawam, the preliminary rate models were run with each of these options so impacts on rate payers can be compared.

<table>
<thead>
<tr>
<th>Billing Unit Option</th>
<th>SFR</th>
<th>NSFR</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parcels</td>
<td>7,710</td>
<td>1,469</td>
<td>9,179</td>
</tr>
<tr>
<td>Total IA (SF)</td>
<td>30,464,260</td>
<td>48,213,970</td>
<td>78,678,230</td>
</tr>
<tr>
<td>1. BU - ERU</td>
<td>7,710</td>
<td>15,015</td>
<td>22,725</td>
</tr>
<tr>
<td>2. BU – Flat Rate</td>
<td>30,499</td>
<td>48,253</td>
<td>78,702</td>
</tr>
</tbody>
</table>
7.0 STORMWATER UTILITY FUNDING EVALUATION

7.1 Rate Methodology and Rate Structure

Preferred methodologies have evolved over the past 20 years as our technology (aerial photography, GIS, remote sensing, database management) has significantly improved. The most common methodologies in use in the U.S. include:

- Impervious area (IA) (measured)
- IA (estimated – often based on heated square footage or lot size)
- Gross area (square footage of parcel)
- Intensity of development
- Land use

Rate Structure is the metric used to distribute costs among users. It determines who pays and how much each property will pay. A good rate structure provides a solid legal foundation for the charge and assures that the charges are both fairly determined and properly assigned. Like rate methodology, the rate structure selected needs to be supported by available data that will allow the IA per parcel to be either estimated or measured so that the differences amongst users can be “fairly” determined and rates can be set to reflect those differences.

Multiple rate structure options that are used by existing stormwater utilities were discussed with the Task Force and included:

- An equivalent residential unit (ERU) that represents the median impervious area for a single-family residential (SFR) property (3,250 sf in Agawam) and all residential properties are billed the same while non-residential properties are billed multiple ERUs based on their total impervious area.
- Tiers based on ERUs for SFR properties, where small properties are billed one ERU and larger properties are billed two or more ERUs.
- A flat rate such as 1,000 sf of impervious area where all properties are billed based on their total impervious area.

There are advantages and disadvantages of each rate structure in terms of accuracy, equity and complexity. There can also be additional rate structures that include rate modifiers (such as credits) for each option to recognize the difference between certain types of properties and their impact on the stormwater system.

The rate methodology and rate structure can take many forms, as shown in Table 5-1 for existing stormwater utilities in Massachusetts. Additional information on funding policies is provided in Appendix D.

**Task Force Feedback**

After discussing rate structure options, the Task Force was asked to indicate their preference on rate methodology and rate structure and the results are summarized in Table 7-1 and 7-2, respectively.

<table>
<thead>
<tr>
<th>Rate Methodology</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intensity of development</td>
<td>0</td>
</tr>
<tr>
<td>2. Land use</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 7-2. Task Force Preference on Rate Structure

<table>
<thead>
<tr>
<th>Rate Structure</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Flat Rate (1,000 sf of IA)</td>
<td>3</td>
</tr>
<tr>
<td>2. Flat Rate with Modifiers</td>
<td>4</td>
</tr>
<tr>
<td>3. ERU (3,250 sf of IA)</td>
<td>0</td>
</tr>
<tr>
<td>4. ERU with Tiers</td>
<td>1</td>
</tr>
<tr>
<td>5. ERU with Rate Modifiers</td>
<td>1</td>
</tr>
</tbody>
</table>

While there was a preference for an impervious area-based rate methodology and a flat rate structure, further vetting of these options will be necessary if the Town decides to move forward with implementation of a stormwater utility.

Billing system options, advantages, and disadvantages were discussed with the Task Force. The Task Force was then asked to indicate their preferred billing method and the results are summarized in Table 7-3.

Table 7-3. Task Force Preference on Billing Method

<table>
<thead>
<tr>
<th>Billing Method</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. With Tax Bill</td>
<td>0</td>
</tr>
<tr>
<td>2. Public Utility Bill (w/water &amp; sewer)</td>
<td>8</td>
</tr>
<tr>
<td>3. Private Utility Bill</td>
<td>0</td>
</tr>
<tr>
<td>4. Stand-alone Bill</td>
<td>1</td>
</tr>
<tr>
<td>5. Other/No Vote</td>
<td>0</td>
</tr>
</tbody>
</table>

7.2 Revenue Analysis

Using the future projected stormwater costs for the level of service (LOS) estimates (refer to Section 4.0), a preliminary estimate of revenue needs was developed to incorporate the additional operating costs for a stormwater utility that include:

- Credit program funded at 3% of total program costs (this is revenue dedicated to a credit program that gives credits on fees to property owners who manage on-site stormwater controls).
- 2% bad debt (delinquent accounts).
- Cost of database management, billing, collection and other stormwater fee management activities estimated at $30,000 per year.
Assumes 0% SBU growth rate.

This results in a total revenue need of $2,052,519 for the moderate LOS and $2,287,290 for the higher LOS. The preliminary stormwater rates were calculated for each program LOS by dividing the annual revenue needs by the number of billing units for each rate structure (ERU versus 1,000 sf IA), as illustrated below.

**Calculation for moderate level of service:**

- $2,052,519 ÷ 78,702 billing units = $26.08 per 1,000 sf of IA per year
- or $26.08 per 1,000 sf of IA per year

A summary of the preliminary rates is provided below in Table 7-3.

<table>
<thead>
<tr>
<th>Program</th>
<th>ERU (3,250 SF IA)</th>
<th>Flat rate (1,000 SF IA)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate LOS ($2,052,519)</td>
<td>$7.53/ month/ ERU</td>
<td>$2.17/ month/ 1,000 SF IA</td>
</tr>
<tr>
<td></td>
<td>$90.36/ year/ ERU</td>
<td>$26.04/ year/ 1,000 SF IA</td>
</tr>
<tr>
<td>Higher LOS ($2,297,790)</td>
<td>$8.42/ month/ ERU</td>
<td>$2.43/ month/ 1,000 SF IA</td>
</tr>
<tr>
<td></td>
<td>$101.04/ year/ ERU</td>
<td>$29.16/ year/ 1,000 SF IA</td>
</tr>
</tbody>
</table>

The preliminary stormwater rates were reviewed with the Task Force and example properties were used to illustrate the fees. One example is provided below and multiple additional property examples are provided in the materials for the Task Force meetings.

**Commercial Property – Allied Floor**

- 47,402 sf impervious area
- 1,000 sf billing unit

**Monthly Fees:**

- Moderate LOS - $26.08 x 47 = $1,225.76
- Higher LOS - $29.16 x 509 = $1,370.52

**Tax versus Fee Consideration**

The revenue analysis included a comparison of taxes versus fees to fund the stormwater program with specific property examples discussed at the Task Force meetings. This analysis is summarized below:

- **Revenue from Real Property Tax (2018):** $60,032,566
- **Tax rates:** Residential $16.61/$1,000 and Commercial $31.47/$1,000
- **Estimated tax increase to fund increased program entirely from property tax**
  - +1.5% for moderate LOS ($1,926,209 - $1,046,071) = $880,138
  - 1.8% for higher LOS ($2,149,800 - $1,046,071) = $1,103,729
Town of Agawam
Stormwater Assessment and Utility/Fee Planning Project

- **Tax decrease if current program costs ($1,046,071) are funded by fee** = -1.7%
- Note that these are preliminary estimates and will change based on final funding policies (decisions) by the Town and fees assessed for public properties.

Two example properties are provided below to illustrate the cost difference between a tax versus fee to pay for the stormwater program. These examples emphasize how a stormwater fee based on impervious area is based on land development characteristics and not property value.

<table>
<thead>
<tr>
<th>Allied Floor</th>
<th>Country Manor Apts.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tax value</strong> = $552,500</td>
<td><strong>Tax value</strong> = $3,347,700</td>
</tr>
<tr>
<td><strong>IA</strong> = 47,402 SF</td>
<td><strong>IA</strong> = 51,612 SF</td>
</tr>
<tr>
<td><strong>Stormwater Fee</strong></td>
<td><strong>Stormwater Fee</strong></td>
</tr>
<tr>
<td>Preliminary estimate of fees</td>
<td>Preliminary estimate of fees</td>
</tr>
<tr>
<td></td>
<td>► Moderate LOS program = $1,225/yr</td>
</tr>
<tr>
<td></td>
<td>► Higher LOS program = $1,370/yr</td>
</tr>
<tr>
<td></td>
<td>► Plus potential tax savings of 1.7% or $303</td>
</tr>
<tr>
<td><strong>Property Tax</strong></td>
<td><strong>Property Tax</strong></td>
</tr>
<tr>
<td>Current property tax on $552,500 = $17,387 per year</td>
<td>Current property tax on $3,347,700 = $105,352 per year</td>
</tr>
<tr>
<td>1.5% increase = +$255</td>
<td>1.5% increase = +$1,545</td>
</tr>
<tr>
<td>1.8% increase = +$320</td>
<td>1.8% increase = +$1,937</td>
</tr>
</tbody>
</table>

### 7.3 Credits

A stormwater credit can be defined as an ongoing reduction in a property's calculated user fee that is given for some rational and legal reason, typically related to private investment for a public good. Under Section 16 of Chapter 83 of the General Laws, the Town is allowed to:

> “grant credits against the amount of the quarterly or annual charge to those property owners who maintain on-site functioning retention/ detention basins or other filtration structures as approved by the stormwater utility, conservation commission, or other governmental entity with appropriate authority.”

A stormwater utility credits “backgrounder” was developed during the project to assist with the discussion of credits for Task Force members and is provided in **Appendix E**. This backgrounder and the presentation for October 11, 2017 Task Force meeting served as the basis for the review of credit options and the discussion of potential credits for a stormwater utility in Agawam.

**Task Force Feedback**

After discussing the types and amounts of credits, the Task Force was asked to indicate their preferences and the results are summarized in **Table 7-5** and **7-6**, respectively.
<table>
<thead>
<tr>
<th>Credit Type</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Water Quality Management</td>
<td>16</td>
</tr>
<tr>
<td>2. Water Quantity Management</td>
<td>12</td>
</tr>
<tr>
<td>3. Small User Credits (tailored to small IA properties)</td>
<td>5</td>
</tr>
<tr>
<td>4. Education</td>
<td>0</td>
</tr>
<tr>
<td>5. NPDES Discharge Permit</td>
<td>0</td>
</tr>
<tr>
<td>6. Other</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 7-6. Task Force Feedback on the Amount of Credits

<table>
<thead>
<tr>
<th>Maximum Credit</th>
<th># Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>5</td>
</tr>
<tr>
<td>40%</td>
<td>1</td>
</tr>
<tr>
<td>50%</td>
<td>7</td>
</tr>
<tr>
<td>70%</td>
<td>0</td>
</tr>
</tbody>
</table>
8.0 PUBLIC ENGAGEMENT ACTIVITIES

8.1 Activities Completed

The following public engagement activities were completed as part of the project:

► Citizen Advisory Task Force Meetings:
  o April 26, 2017
  o June 7, 2017
  o June 28, 2017
  o October 11, 2017
  o November 29, 2017
  o February 6, 2018

► Public Meetings:
  o January 9, 2018 with clergy representative
  o January 16, 2018 with businesses
  o September 25, 2017 with the general public
  o April 30, 2018 City Council workshop
  o September 17, 2018 City Council presentation

► Door hangers were developed by the Pioneer Valley Planning Commission as part of the project to educate homeowners and businesses about stormwater management. The Town began using the door hangers in areas where stormwater activities were performed (e.g., catch basin cleaning).

► Work began on a stormwater video that is anticipated to be released in November 2018 to help the public understand stormwater issues, the funding need, and the concept of a stormwater utility. Filming was completed in September and production is expected to be substantially complete by the end of October. The Agawam Stormwater Video will include interviews with Town staff and members of the public, footage of stormwater management activities, and graphics to illustrate the funding needs and approach.

8.2 Task Force and Public Feedback

Feedback for specific topics and during Task Force of public meetings is provided in the meeting summaries in Appendix A. Below are some of the key comments and concerns, as well as some responses to these concerns:

► The current level of funding is not adequate to address current and future needs.

► People are looking for solutions to stormwater problems and seem receptive to idea of a fee if it will help address flooding and drainage problems.

► Transparency and accountability is important to ensure that funding will go to stormwater.
Effectively engage the public and inform them of the needs and costs related to stormwater management.

My property does not drain to the town’s storm drain system, so why should I pay? I don’t think it’s fair to pay on the basis of my driveway and house.

- The stormwater utility is a funding mechanism to pay for the entire public storm drain system.
- Everyone uses the roads and public storm drain system.
- A stormwater fee based on impervious surfaces is a way to measure the impact from each property based on the total program cost, but it’s not perfect.
- Consider a water utility: customers are charged based on water usage, regardless of how close they are to the treatment plant and water tower.
- Costs can be paid through the general fund, but there is no correlation between property value and the demand on the storm drain system.

This seems like a burden to many properties. We need to address the burden to certain properties since some fees may be a significant burden.

- Raising taxes will also be a burden to many properties, but we can lessen the burden for some properties.
- The Town also wants to promote good stormwater management practices.
- A stormwater fee offers an alternative with additional benefits, including an improved ability to leverage outside funding sources.

We have a detention basin that is maintained by the condominium association, so we are already managing stormwater.

- This property can receive a credit to reduce the stormwater fee. This is not an option when paid by taxes.

8.3 On-going and Planned Future Activities

Following the September 17, 2018 meeting with the City Council, Town staff involved with the project discussed the need for a continued process with the City Council (see Section 10.2) to pursue implementation of a stormwater utility. Additional public outreach to continue promoting understanding and support during this period is expected to include the distribution and airing of the Agawam Stormwater Video (once available) and other outreach and engagement activities such as newspaper articles and information posted on the Town’s webpage.
9.0 AGAWAM DRAFT STORMWATER UTILITY ORDINANCE

In Massachusetts General Law Chapter 83 Section 16 is the relevant enabling legislation with respect to stormwater utilities. Chapter 83 focuses on sewers, drains and sidewalks and section 16 of Chapter 83 more specifically goes into details about sewers with a utility plan. Originally established for sanitary sewer systems, this section was revised in 2004 to include “main drains and related stormwater facilities,” thereby enabling municipalities to charge a fee for stormwater services.

A draft stormwater utility ordinance was written for the Town of Agawam and is provided in Appendix C for the Town’s use. The draft ordinance was developed using example ordinance from existing stormwater utilities in Massachusetts and Wood’s experience with similar work in other New England states. Additionally, the draft ordinance incorporates the relevant recommendations from the Citizen Advisory Task Force (see Section 10.1); however, this information is subject to change based on further review and policy decisions by the Town. For example, Section 5(b) of the draft ordinance outlines a billing rate structure based on billing units of 1,000 square feet of impervious area on a developed parcel and the Town may ultimately decide to implement a different rate structure. One of the benefits of a stormwater utility is the opportunity to develop a rate structure that best fits the Town’s desire for equity and complexity.

Additional Considerations

When finalizing the ordinance, specifically the rate structure, it is important to consider the following section of Chapter 83, Section 16:

“The aldermen of any city or the sewer commissioners, selectmen or road commissioners of a town, may from time to time establish just and equitable annual charges for the use of common sewers and main drains and related stormwater facilities, which shall be paid by every person who enters his particular sewer therein. The money so received may be applied to the payment of the cost of maintenance and repairs of such sewers or of any debt contracted for sewer purposes. In establishing quarterly or annual charges for the use of main drains and related stormwater facilities, the city, town, or district may either charge a uniform fee for residential properties and a separate uniform fee for commercial properties or establish an annual charge based upon a uniform unit method; but, the charge shall be assessed in a fair and equitable manner . . .”

There must be a rational nexus between the cost charged for stormwater and the service provided to be consistent with Chapter 83, Section 16 and provide a defensible approach for the Town’s stormwater utility. An arbitrary fee structure is more susceptible to legal challenges and can undermine public confidence that the stormwater fees are dedicated to address the stormwater demand that developed properties place upon the stormwater program.

Abatements for Elderly Citizens

It is also worth noting the feedback received from the Task Force and other members of the public during public meetings regarding abatements for elderly citizens. The feedback strongly suggested using the same approach that the Town uses for water and sewer utility abatements (tax exemption criteria) for a 10-25% reduction in fees. This is addressed in the rate resolution for these utilities and could be done in the same manner for the stormwater utility.
10.0 FINAL RECOMMENDATIONS AND ROAD MAP

The approach for this project included several technical meetings with the Citizen Advisory Task Force to discuss the details of the stormwater program analysis and funding approach under a stormwater utility scenario. This process provides a sounding board for consideration of the level of service and funding approach (among several other items) by the City Council and the public. Feedback from members of the City Council and the public helps shape the understanding of stormwater issues, funding needs, and an appropriate funding approach to pursue. Based on the work completed and public engagement process, the Task Force provided several recommendations that should be considered as part of next steps.

10.1 Task Force Recommendations

Recommendations and preferences by the Citizen Advisory Task Force are summarized below.

5. Increase the Level of Funding Dedicated for Stormwater to Meet Needs

6. Pursue Implementation of a Stormwater Utility: Task Force members generally felt that a stormwater fee was a better way to distribute costs versus increasing taxes. Additionally, the increased cost for a higher level of service would advance the program for little added cost.

7. Implement the Following Rate Structure Methodology and Credit Policies:
   a. The basic rate methodology for charging fees should be based on impervious area.
   b. A flat rate structure based on 1,000 square feet of impervious area and potential modifiers to balance equity and address impacts to properties with very high fees.
   c. Provide credits for water quantity and quality management, as well as small properties to encourage good stormwater management.

8. Bill for Stormwater with Existing Utility Bills for Water and Sewer

10.2 Road Map of Next Steps

The next steps for the implementation of a stormwater utility in Agawam include a political “track” based on feedback from the Task Force and City Council on the local process. Additionally, there is a technical “track” based on this feedback and Wood’s experience with implementing stormwater utilities. Next steps are summarized below for each track.

Political Track

► Continue with the project and follow the below process with City Council:
   ► Meeting #1 (likely October-November 2018): Hold a public hearing to present recommendations of the Task Force, proposed ordinance language, and estimated funding for implementation of the stormwater utility.
   ► Meeting #2 (likely November-December 2018): Council refers the stormwater utility to a subcommittee for further consideration (timetable to be determined).
   ► Meeting #3: Subcommittee makes recommendation to full Council meeting for a vote.

► Continue to implement a robust public engagement campaign: As the draft ordinance and rate setting go through the public review process, it is expected that public hearings and public meetings will be held to provide information on the utility, the potential rate, impacts on property owners in Town, and timing of implementation.
Technical Track

Wood recommends the following activities to pursue implementation of a stormwater utility fee:

► **Re-establish the Citizen Advisory Task Force:** Final implementation will include development of final rate policies, a final credit program, refining of annual revenue needs, and final rate setting. As the Town finalizes these issues, having Task Force input will provide valuable citizen feedback. Re-establishing the Task Force from the Study provides consistency and continues to build support that can be used during final public reviews and approvals.

► **Finalize Impervious Cover Database:** Update and finalize impervious cover information for all billable parcels in Town to prepare a final rate and define total impervious area (IA) to be billed. The refinement done by PVPC during the Study focused on non-residential properties that needed significant clean-up (greater than 500 SF of IA). The final refinement will require addressing any remaining clean-up, mostly focused on residential properties.

► **Update Financial Analysis and Set Final Rate:** The analyses and policy development steps that are anticipated as part of final determination of the utility fee include a rate structure analysis, a budget and cash flow model, and a final rate determination.

► **Develop Master Account File (MAF) and Integrate Billing:** Develop the MAF based on the final impervious cover database and the Town’s parcel data that classifies all properties (single-family, non-single family [commercial and other], apartments, townhouses, condominiums, vacant) and assign a billing link to each parcel. Once all parcels are linked to a utility account, populate the parcel-based list with the initial billing data and determine data structure and delivery to merge the MAF with the selected billing system.

► **Provide Billing and Customer Support:** It will be important for Town staff to be able to answer questions about bills and troubleshoot the billing system to address any potential issues. This may include basic training for Town staff on topics related to the credit program, maintenance of the MAF, annual rate setting, customer service, the appeals process, or general awareness of the stormwater utility.

### 10.3 Implementation Cost Considerations

The cost to implement a stormwater utility in a community like Agawam based on the work completed to date is generally in the range of $90,000-$120,000 (one-time cost) for outside assistance. The cost is dependent on the level of effort for public education/outreach and the ability of Town staff to support various elements of the utility such as database management, billing and customer service.

Stormwater utility operating costs typically include program administration, database management (updates), customer support and typical enterprise account management (administration). These costs will be based on the final policy and administrative decisions by the Town, which will be vetted through the implementation process. Typically, these costs do not exceed 2-3% of the annual revenue.
Appendix A

Task Force Agendas, Sign-in Sheets, and Meeting Summaries

(provided in the attachments for the Project Final Report submitted to MassDEP)
Appendix B

Cost Backup Spreadsheets for Existing and Future Stormwater Related Expenditures
| Personnel          | Superintendent | Solid Waste/Storm Drain Coordinator | Admin Asst | Town Engineer | Ass't Town Engineer | Cell Engineer 1/2 | Deputy Superintendent | Working Foreman | Special Heavy Squad/Operator | Special Heavy Squad/Operator | Heavy Equip. Operators | Maintenance Crew | Laborer | Foreman (2) | Shop Foreman | Mechanic (2) | Deputy Supervisor | Heavy Equip. Operator | Inspector of Buildings | Grade/Enforcement Officer |
|-------------------|----------------|-----------------------------------|-----------|--------------|-------------------|------------------|---------------------|----------------|-----------------------------|-----------------------------|------------------------|----------------|---------|-----------|-----------|-------------|----------------|------------------------|---------------------|---------------------|------------------------|
| Town of Agawam   | 120,888        | $66,930                           | $48,888   | $89,086      | $75,737           | $172,018         | $35,105              | $54,495        | $96,462                      | $50,462                      | $311,929               | $170,780      | $150,540 | $128,406   | $68,353   | $93,540     | $87,894        | $66,771               | $86,967             | $56,472             |
| Full Time Salary  | 188,288        | $59,191                           | $44,191   | $159,916     | $166,002          | $242,982         | $116,087             | $76,716        | $70,647                      | $80,767                      | $220,929               | $199,844      | $185,984 | $183,430   | $84,743   | $147,764    | $110,475       | $101,756              | $111,173            | $79,694             |

### Functional Category & Subcategories

#### 1. Stormwater Program Administration
- **General Administration (Budgets, personnel management, etc.):** $0.05
- **Grant application/Management:** $0.01
- **Internal/External Project Coordination:** $0.07

#### 2. Stormwater Operations and Maintenance
- **Ditch/Storm drain maintenance:** $0.05
- **Storm drain and culvert repairs:** $0.01
- **Street sweeping:** $0.02
- **Storm cleanup/flood relief response:** $0.02
- **Ditch/channel maintenance:** $0.01
- **Equipment maintenance/repair:** $0.01

#### 3. Drainage Engineering and Stormwater Management Planning
- **System Conditions Inspection/Videos:** $0.01
- **Asset Management:** $0.01
- **Planning/Design of Collection System Upgrades:** $0.05
- **Planning/Design of Stormwater Treatment (MVPs):** $0.01
- **Drainage Design Standards and Bylaws:** $0.01
- **System Mapping and Database Management:** $0.05
- **Water Quality Monitoring:** $0.01
- **Public Involvement/Outreach:** $0.05

#### 4. Regulatory Compliance/Enforcement
- **MVP permit compliance:** $0.02
- **Review and Approval of Stormwater Plans:** $0.02
- **Construction Inspection (SDE, SW Plans):** $0.05
- **SWPPP/Regulations:** $0.04
- **MVP Inspections/Enforcement:** $0.02

#### 5. Stormwater Capital Improvement Projects and Equipment
- **Drainage Improvements (existing systems):** $0.02
- **New Infrastructure/MVPs:** $0.01
- **Capital equipment:** $0.00

### Totals
<table>
<thead>
<tr>
<th>Category</th>
<th>Total FTEs</th>
<th>Total $</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personnel</strong></td>
<td>0.30</td>
<td>$458,819</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5.85</td>
<td>$794,130</td>
</tr>
</tbody>
</table>

(Salary data from 2017 budget - rounded)
<table>
<thead>
<tr>
<th>Permit Element or Minimum Control Measure (MCM)</th>
<th>Status of Town’s Existing Program</th>
<th>Needed Actions</th>
<th>Permit Reference</th>
<th>Schedule For Compliance*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notice of Intent (NOI)</td>
<td>2003 NOI, 13 MS4 Annual Reports</td>
<td>Prepare 2017 NOI; list # outfalls to each water body; summary &amp; assessment of 2003 SWMP activities.</td>
<td>Part 1.7.2, page 7</td>
<td>By October 1, 2017</td>
</tr>
<tr>
<td><strong>Budget Estimate - Professional Services</strong></td>
<td></td>
<td></td>
<td><strong>$10,380</strong></td>
<td></td>
</tr>
<tr>
<td>Documentation of Permit Eligibility for Endangered Species</td>
<td>Complied with 2003 Permit; minimal documentation available</td>
<td>Review available data and maps and consult with MA Natural Heritage and Endangered Species Program.</td>
<td>Part 1.9.1, page 9</td>
<td>Prior to NOI</td>
</tr>
<tr>
<td><strong>Budget Estimate - Professional Services</strong></td>
<td></td>
<td></td>
<td><strong>With NOI</strong></td>
<td></td>
</tr>
<tr>
<td>Documentation of Permit Eligibility for Historic Properties</td>
<td>Complied with 2003 Permit; minimal documentation available</td>
<td>Review federal list of properties and consult with local and state historic commissions.</td>
<td>Part 1.9.2, page 9</td>
<td>Prior to NOI</td>
</tr>
<tr>
<td><strong>Budget Estimate - Professional Services</strong></td>
<td></td>
<td></td>
<td><strong>With NOI</strong></td>
<td></td>
</tr>
<tr>
<td>Stormwater Management Program (SWMP) – written program</td>
<td>No written SWMP; multiple supporting documents available</td>
<td>Adapt existing materials and develop SWMP; documentation of status &amp; proposed measures to achieve 2017 program elements.</td>
<td>Part 1.10, page 10</td>
<td>X X X X X</td>
</tr>
<tr>
<td><strong>Budget Estimate - Professional Services</strong></td>
<td></td>
<td></td>
<td><strong>$23,260</strong></td>
<td></td>
</tr>
<tr>
<td>MCM #1 – Public Education and Outreach</td>
<td>Various activities as documented in MS4 Annual Reports</td>
<td>Continue current program; distribute at least 2 messages to each of 4 audiences (residents, businesses/institutions, developers/contractors and industrial facilities). and supplement the Residential and Business/Commercial/Institution with annual timed messages on specified topics to address TMDL. Adapt materials from EPA and others.</td>
<td>Part 2.3.2, page 26 and Appendix F, Part B.1.1.a.i., page 47</td>
<td>Town to do, vendor for materials Town to do, vendor for materials Town to do, vendor for materials Town to do, vendor for materials Town to do, vendor for materials</td>
</tr>
<tr>
<td><strong>Budget Estimate - Vendor/Contractor Services</strong></td>
<td></td>
<td></td>
<td><strong>$3,500</strong></td>
<td><strong>$2,000</strong> <strong>$2,000</strong> <strong>$2,000</strong> <strong>$2,000</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identify methods to evaluate the effectiveness of the educational messages and the overall program.</td>
<td>Part 2.3.2.e, page 29</td>
<td>X</td>
</tr>
<tr>
<td><strong>Budget Estimate - Professional Services</strong></td>
<td></td>
<td></td>
<td><strong>$4,580</strong></td>
<td></td>
</tr>
<tr>
<td>Permit Element or Minimum Control Measure (MCM)</td>
<td>Status of Town’s Existing Program</td>
<td>Needed Actions</td>
<td>Permit Reference</td>
<td>Schedule For Compliance*</td>
</tr>
<tr>
<td>------------------------------------------------</td>
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</tr>
<tr>
<td>MCM #2 – Public Involvement and Participation</td>
<td>Various activities reported since 2003</td>
<td>Continue program; SWMP &amp; annual reports available to public; provide opportunity (annually) for public in review &amp; implementation of SWMP.</td>
<td>Part 2.3.3, page 29</td>
<td>End Year 1 (July 2018)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>End Year 2 (June 2019)</td>
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<td>End Year 3 (June 2020)</td>
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<td></td>
<td>End Year 4 (June 2021)</td>
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<td></td>
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<td></td>
<td>End Year 5 (June 2022)</td>
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</tbody>
</table>

| MCM #3 – Illicit Discharge Detection & Elimination (IDDE) Program | IDDE Bylaw adopted; in 2011 outfalls were mapped by Tighe & Bond and preliminary IDDE testing performed | Compile and report on inventory of sanitary sewer overflows (SSOs) from the past 5 years. | Part 2.3.4.4.b, page 31 | End Year 1 (July 2018) | $7,000 |
| | | | | End Year 2 (June 2019) | |
| | | | | End Year 3 (June 2020) | |
| | | | | End Year 4 (June 2021) | |
| | | | | End Year 5 (June 2022) | |

| | | Drainage system mapping & field verification of key areas. | 2.3.4.5, page 32 | End Year 1 (July 2018) | $6,950 |
| | | | | End Year 2 (June 2019) | $23,900 |
| | | | | End Year 3 (June 2020) | $23,900 |
| | | | | End Year 4 (June 2021) | $23,900 |
| | | | | End Year 5 (June 2022) | $23,900 |

| | | Written IDDE Plan (assessment of priority & problem catchments, procedures for wet weather monitoring & methods to evaluate progress). | Part 2.3.4.6, page 33; Part 2.3.4.7b, page 35 | End Year 1 (July 2018) | $25,450 |
| | | | | End Year 2 (June 2019) | $22,340 |
| | | | | End Year 3 (June 2020) | $22,340 |
| | | Delineate 521 outfall catchments. Catchment prioritization and written IDDE Plan | Dry weather screening and sampling of flowing outfalls (50% completed) | End Year 1 (July 2018) | $25,450 |
| | | | | End Year 2 (June 2019) | $22,340 |
| | | | | End Year 3 (June 2020) | $22,340 |
| | | | | End Year 4 (June 2021) | $22,340 |
| | | | | End Year 5 (June 2022) | $22,340 |

| | | Dry weather Catchment Investigation Procedures for illicit discharges based on IDDE Plan. | Part 2.3.4.8, pages 37-41 | End Year 1 (July 2018) | $31,940 |
| | | | | End Year 2 (June 2019) | $31,940 |

| | | Wet weather sampling in catchments with identified System Vulnerability Factors based on IDDE Plan. | Part 2.3.4.8.c.ii.2.b, page 40 | End Year 1 (July 2018) | $16,730 |
| | | | | End Year 2 (June 2019) | |
| | | | | End Year 3 (June 2020) | |
| | | | | End Year 4 (June 2021) | |
| | | | | End Year 5 (June 2022) | |

| | | IDDE training program for municipal staff and train each year. | Part 2.3.4.11, page 41 | End Year 1 (July 2018) | $5,000 |
| | | | | End Year 2 (June 2019) | $1,730 |
| | | | | End Year 3 (June 2020) | $1,730 |
| | | | | End Year 4 (June 2021) | $1,730 |
| | | | | End Year 5 (June 2022) | $1,730 |

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*Schedule For Compliance:
- End Year 1 (July 2018)
- End Year 2 (June 2019)
- End Year 3 (June 2020)
- End Year 4 (June 2021)
- End Year 5 (June 2022)
### Schedule For Compliance

<table>
<thead>
<tr>
<th>Permit Element or Minimum Control Measure (MCM)</th>
<th>Status of Town’s Existing Program</th>
<th>Needed Actions</th>
<th>Permi Reference</th>
<th>End Year 1 (July 2018)</th>
<th>End Year 2 (June 2019)</th>
<th>End Year 3 (June 2020)</th>
<th>End Year 4 (June 2021)</th>
<th>End Year 5 (June 2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM #4 – Construction Site Stormwater Runoff Control</td>
<td>Stormwater Bylaw developed; site plan review &amp; inspections on-going; results tracked</td>
<td>Continue program; develop/verify written procedures for site inspections, enforcement &amp; site plan review.</td>
<td>Part 2.3.5.c,ii and v, pages 42-43</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>MCM #5 – Stormwater Management in New Development &amp; Redevelopment (Post Construction Stormwater Management)</td>
<td>Stormwater Bylaw to meet Phase II; references MA SW Policy; site plan review completed.</td>
<td>Continue program; update regulations for most recent MA Stormwater Policy, require as-builts within 1 year; report on local design standards affecting impervious areas; report on local regulations for feasibility of green roofs, infiltration &amp; water harvesting.</td>
<td>Part 2.3.6.a-c, pages 44-47</td>
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</tr>
<tr>
<td>MCM #6 – Good Housekeeping &amp; Pollution Prevention</td>
<td>Some written O&amp;M procedures; SPCC Plan for DPW Facility; SPCC &amp; Stormwater Training Programs (annually); and inventory of municipal facilities.</td>
<td>Develop written O&amp;M procedures for all municipal activities; written infrastructure O&amp;M Plan, including optimization, inspection and maintenance schedules.</td>
<td>Part 2.3.7.a, pages 47-50</td>
<td>O&amp;M procedures; O&amp;M Plan for infrastructure</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Develop &amp; implement SWPPP for DPW Facility.</td>
<td>Part 2.3.7.b, pages 50-54</td>
<td>Develop 1 SWPPP Annual review &amp; report</td>
<td>Annual review &amp; report</td>
<td>Annual review &amp; report</td>
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</tbody>
</table>

**Budget Estimate - Professional Services**

| MCM #4 – Construction Site Stormwater Runoff Control | $5,500 |
| MCM #5 – Stormwater Management in New Development & Redevelopment (Post Construction Stormwater Management) | $7,500 $7,650 $7,650 |
| MCM #6 – Good Housekeeping & Pollution Prevention | $14,550 $14,550 |

**Budget Estimate - Professional Services**

| MCM #4 – Construction Site Stormwater Runoff Control | $11,050 |
| MCM #5 – Stormwater Management in New Development & Redevelopment (Post Construction Stormwater Management) | $6,650 $2,570 $2,570 $2,570 |
| MCM #6 – Good Housekeeping & Pollution Prevention | $4,010 $10,660 $4,010 $4,010 $4,010 |
## Schedule For Compliance*

<table>
<thead>
<tr>
<th>Permit Element or Minimum Control Measure (MCM)</th>
<th>Status of Town’s Existing Program</th>
<th>Needed Actions</th>
<th>Permit Reference</th>
<th>End Year 1 (July 2018)</th>
<th>End Year 2 (June 2019)</th>
<th>End Year 3 (June 2020)</th>
<th>End Year 4 (June 2021)</th>
<th>End Year 5 (June 2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharges to Impaired Waters with an Approved TMDL</td>
<td>Long Island Sound Nitrogen TMDL</td>
<td>Long Island Sound TMDL (via Connecticut River): enhanced BMPs for public education; New and redevelopment nitrogen controls; and Good housekeeping improvements related to fertilizer/grass clippings/parking lot sweeping.</td>
<td>Part 2.2.1.c.i, page 20; and Appendix F, Part B.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual SWMP Updates</td>
<td>Updates are not done since the permit was previously expired.</td>
<td>Annual update of the SWMP to incorporate milestones, plans, results and new procedures.</td>
<td>Part 1.10.2, page 10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Annual Reporting</td>
<td>Annual report discussing: self assessment, BMP appropriateness, progress towards measurable goals and summary of information &amp; data, next activities.</td>
<td>Continue program, expanding on the following: status of TMDL strategy, outfall monitoring data, and BMP results to address impaired waters; additional data under each MCM must be provided to demonstrate progress</td>
<td>Part 4.4, page 56</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Budget Estimate - Professional Services

<table>
<thead>
<tr>
<th>Permit Element or Minimum Control Measure (MCM)</th>
<th>Status of Town’s Existing Program</th>
<th>Needed Actions</th>
<th>Permit Reference</th>
<th>End Year 1 (July 2018)</th>
<th>End Year 2 (June 2019)</th>
<th>End Year 3 (June 2020)</th>
<th>End Year 4 (June 2021)</th>
<th>End Year 5 (June 2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharges to Impaired Waters with an Approved TMDL</td>
<td>Long Island Sound Nitrogen TMDL</td>
<td>Long Island Sound Nitrogen TMDL: develop Nitrogen Control Plan by the end of Permit Year 5.</td>
<td>Part 2.2.1, page 20; and Appendix F, Part B.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual SWMP Updates</td>
<td>Updates are not done since the permit was previously expired.</td>
<td>Annual update of the SWMP to incorporate milestones, plans, results and new procedures.</td>
<td>Part 1.10.2, page 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Reporting</td>
<td>Annual report discussing: self assessment, BMP appropriateness, progress towards measurable goals and summary of information &amp; data, next activities.</td>
<td>Continue program, expanding on the following: status of TMDL strategy, outfall monitoring data, and BMP results to address impaired waters; additional data under each MCM must be provided to demonstrate progress</td>
<td>Part 4.4, page 56</td>
<td></td>
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</tr>
</tbody>
</table>

### Total Program Cost**

<table>
<thead>
<tr>
<th></th>
<th>End Year 1 (July 2018)</th>
<th>End Year 2 (June 2019)</th>
<th>End Year 3 (June 2020)</th>
<th>End Year 4 (June 2021)</th>
<th>End Year 5 (June 2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Year Total</td>
<td>$103,980</td>
<td>$117,820</td>
<td>$81,200</td>
<td>$130,350</td>
<td>$104,140</td>
</tr>
</tbody>
</table>

### 5-Year Total, Annual Average

$107,498

**Notes:**
- *The current estimated schedule for completion of tasks is based on the submittal requirements outlined in the April 4, 2016 permit with an effective date of July 1, 2017. Each permit year thereafter would begin on July 1 and end on June 30.*
- Estimates program costs do not include inflation from year to year.

**General assumptions:** these budget estimates represent a "rough order of magnitude" cost and were developed based on the April 2016 NPDES Phase II Permit for Massachusetts and represents the minimum level of effort necessary to meet the requirements outlined in this permit. These budget estimates do not account for increased labor hours and possibly staff needed by the Town to manage and implement the current and future programs (e.g., recordkeeping/data tracking), as well as additional operation and maintenance costs for infrastructure and equipment or costs associated with enforcement and corrective actions such as illicit discharge removal. Additionally, these budget estimates do not represent the entire cost to the Town for stormwater management and compliance, which includes activities that are funded separately through operating budgets such as street sweeping and catch basin cleaning. These budget estimates do not include the cost to implement many of the recommendations that will be developed during the 5-year permit cycle to address impaired waters and TMDL requirements.
# Town of Agawam - Estimated Annual Stormwater Costs for Personnel

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Estimated Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>General Administration (budgets, personnel management)</td>
<td>$110,104.9</td>
</tr>
<tr>
<td></td>
<td>Grant Application/Management</td>
<td>$2,000.0</td>
</tr>
<tr>
<td></td>
<td>Internal/External Project Coordination</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Equipment Maintenance/Repair</td>
<td>$0.0</td>
</tr>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>Storm drain and catch basin repairs</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Storm drain and catch basin repairs</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Street sweeping</td>
<td>$6,000.0</td>
</tr>
<tr>
<td></td>
<td>Storm drain and catch basin repairs</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Storm drain and catch basin repairs</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Drainage Design/Review and Revise</td>
<td>$66,867.2</td>
</tr>
<tr>
<td></td>
<td>Storm Drainage and Stormwater System Management</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Water Quality Monitoring</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Street Rehabilitation/Reconstruction</td>
<td>$0.0</td>
</tr>
<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>System Condition/Inspections/Videoasset Management Planning</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Planning/Design of Collection System Upgrades</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Planning/Design of Stormwater Treatment (BMV)</td>
<td>$0.0</td>
</tr>
<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>M1/M2 Permit Compliance</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Construction Inspection (BLS &amp; SW Plan)</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>BMV Inspection/Enforcement</td>
<td>$0.0</td>
</tr>
<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td>Drainage Improvements (existing systems)</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>New Infrastructure/BMPs</td>
<td>$0.0</td>
</tr>
<tr>
<td></td>
<td>Capital Improvements</td>
<td>$0.0</td>
</tr>
</tbody>
</table>

**Totals**: $131,854.5
## FY 2018 Budget

<table>
<thead>
<tr>
<th>Description</th>
<th>FY 2017 Budget</th>
<th>FY 2018 Budget</th>
<th>FY 2019 Budget</th>
<th>FY 2020 Budget</th>
<th>FY 2021 Budget</th>
<th>FY 2022 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stormwater Program Administration</strong></td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
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<tr>
<td><strong>PVPC Local Technical Assistance</strong></td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
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<td>$500</td>
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<tr>
<td><strong>Staff training and seminars</strong></td>
<td></td>
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<tr>
<td><strong>Public education and outreach</strong></td>
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<tr>
<td><strong>Public involvement and participation</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$9,000</td>
<td>$9,000</td>
<td>$9,000</td>
<td>$9,000</td>
<td>$9,000</td>
<td>$9,000</td>
</tr>
<tr>
<td><strong>Stormwater Operations and Maintenance</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Street sweeper rental (Purchased Services S2070) $30,000 for FY18-FY22</strong></td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
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<tr>
<td><strong>Storm drain material supplies</strong></td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
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<tr>
<td><strong>CAD</strong></td>
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<tr>
<td><strong>ESRI (GIS)</strong></td>
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<tr>
<td><strong>Software and Hardware</strong></td>
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<tr>
<td><strong>Connecticut River Watershed Stormwater Coalition</strong></td>
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</tr>
<tr>
<td><strong>Chapter 90 funding mostly goes to road improvements and not stormwater specific items</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Tighe &amp; Bond Contract with assessor’s office for Mapping/GIS/Data Management FY 2017 $65,000. This work has gone to the Town to manage the majority of the effort.</strong></td>
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<tr>
<td><strong>Storm Drain Material - Highway line item (supplies): $20,000</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Water Billing Software (15% for stormwater work orders) - 15% of $5,500</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Computers, plotters, scanners (10-yr replacement)</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Catch basin inspection - MS4 budget</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Third party inspection of erosion and sediment controls</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Third party inspection of BMPs</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$223,000</td>
<td>$223,000</td>
<td>$223,000</td>
<td>$223,000</td>
<td>$223,000</td>
<td>$223,000</td>
</tr>
<tr>
<td><strong>HVAC (30% stormwater) - 30% related to stormwater</strong></td>
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</tr>
<tr>
<td><strong>CAD</strong> - 20% related to stormwater (20% of $3,000)**</td>
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<td></td>
</tr>
<tr>
<td><strong>HydroCAD</strong> - 100% stormwater - $500**</td>
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</tr>
<tr>
<td><strong>Mapping/Data Collection Software (100% stormwater) - $500</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Water Billing Software (15% for stormwater work orders) - 15% of $5,500</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Computers, upgrades, hardware (25% stormwater) - 25% of $3,000</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Printers, plotters (25% stormwater) - 25% of $1,000 (annual cost for maintenance contract ($2,500), plus consumables ($500)</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Plotter replacement every 10 years ($10,000) - $1,000 annually</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Printer/scanner (OCE) replacement every 10 years ($25,000) - $2,500 annually</strong></td>
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</tr>
</tbody>
</table>

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**FY2017 Budget Notes:**

**Administrative Support and Training**
- Connecticut River Watershed Stormwater Coalition - $2,000 annually
- PVPC local technical assistance fee - $2,000 for stormwater only (annually)
- Staff training (CLEs) and seminars for stormwater - $500 (annual average)

**Operations and Maintenance**
- Street sweeper rental - Highways line item (Purchased Services S2070) $36,000 for equipment rental
- Storm Drain Material - Highways line item (supplies): $20,000 Storm Drain Materials
- Tighe & Bond Contract with assessor’s office for Mapping/GIS/Data Management - FY 2017 $65,000. This work has gone to the Town to manage the majority of the effort.

**Chapter 90 funding mostly goes to road improvements and not stormwater specific items**
- Catch basin cleaning in 2016 for 168 structures was $7,830.

**Software and Hardware**
- E1HR (30%) - 30% related to stormwater
- CAD - 20% related to stormwater (20% of $3,000)
- HydroCAD - 100% stormwater - $500
- Mapping/Data Collection Software (100% stormwater) - $500
- Water Billing Software (15% for stormwater work orders) - 15% of $5,500
- Computers, upgrades, hardware (25% stormwater) - 25% of $3,000
- Printers, plotters (25% stormwater) - 25% of $1,000 (annual cost for maintenance contract ($2,500), plus consumables ($500))
- Plotter replacement every 10 years ($10,000) - $1,000 annually
- Printer/scanner (OCE) replacement every 10 years ($25,000) - $2,500 annually
## Town of Agawam - Estimated Annual Stormwater Costs for MS4 Permit Compliance

### Current (2017) and Future (2018-2022) Stormwater Program Costs

<table>
<thead>
<tr>
<th>Project Code (per Agawam DPW budget)</th>
<th>FY 2017</th>
<th>FY 2018</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Education and Outreach</td>
<td>$3,000</td>
<td>$6,000</td>
<td>PVPC LTA, postcards, storm drain markers, mailings, etc.</td>
</tr>
<tr>
<td>Public Involvement and Participation</td>
<td>$1,500</td>
<td>$3,000</td>
<td>Materials and supplies for community cleanups, water quality monitoring expenses (future)</td>
</tr>
<tr>
<td>Illicit Discharge Detection and Elimination</td>
<td>$20,000</td>
<td>$20,000</td>
<td>Mapping updates, outfall inventories, field investigations, staff training</td>
</tr>
<tr>
<td>Construction Site Runoff Control</td>
<td>$5,000</td>
<td>$5,000</td>
<td>Installation and maintenance of erosion and sediment controls (materials)</td>
</tr>
<tr>
<td>Post Construction Stormwater Management</td>
<td>$5,000</td>
<td>$5,000</td>
<td>Repairs of BMPs (materials)</td>
</tr>
<tr>
<td>Good Housekeeping / Pollution Prevention</td>
<td>$138,500</td>
<td>$287,500</td>
<td>Street sweeping, catch basin cleaning, s319 grant match (future), and catch basin inspections (future)</td>
</tr>
</tbody>
</table>

**Total** $173,000 $326,500

### Good Housekeeping / Pollution Prevention

<table>
<thead>
<tr>
<th>FY 2017</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street sweeping</td>
<td>$73,200</td>
</tr>
<tr>
<td>Catch basin cleaning</td>
<td>$24,780</td>
</tr>
<tr>
<td>Waste management</td>
<td>$40,520</td>
</tr>
<tr>
<td>Catch basin inspection</td>
<td>-</td>
</tr>
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</table>

**Total** $138,500

<table>
<thead>
<tr>
<th>FY 2018</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street sweeping</td>
<td>$116,383</td>
</tr>
<tr>
<td>Catch basin cleaning</td>
<td>$70,063</td>
</tr>
<tr>
<td>Catch basin inspection</td>
<td>$97,763</td>
</tr>
<tr>
<td>s319 grant project match</td>
<td>$44,600</td>
</tr>
</tbody>
</table>

**Total** $328,808

<table>
<thead>
<tr>
<th>FY 2019</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street sweeping</td>
<td>$116,383</td>
</tr>
<tr>
<td>Catch basin cleaning</td>
<td>$140,420</td>
</tr>
<tr>
<td>Catch basin inspection</td>
<td>$98,175</td>
</tr>
<tr>
<td>s319 grant project match</td>
<td>-</td>
</tr>
</tbody>
</table>

**Total** $354,978

<table>
<thead>
<tr>
<th>FY 2020-2022</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street sweeping</td>
<td>$116,383</td>
</tr>
<tr>
<td>Catch basin cleaning</td>
<td>$175,525</td>
</tr>
<tr>
<td>Catch basin inspection</td>
<td>$98,175</td>
</tr>
<tr>
<td>s319 grant project match</td>
<td>-</td>
</tr>
</tbody>
</table>

**Total** $390,083

### Projected future/new MS4 costs from Amec Foster Wheeler permit analysis (draft 3/2/17)

<table>
<thead>
<tr>
<th>FY 2018</th>
<th>FY 2019</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$103,980</td>
<td>$114,270</td>
<td>$81,200</td>
<td>$130,350</td>
<td>$104,140</td>
<td>Amec Foster Wheeler estimate</td>
</tr>
</tbody>
</table>

5-yr avg. $106,788

**Notes:** Current program (2017) - line item under Dept 660: Administration. Storm Water Management (MS4) Compliance: Code 52425 - $173,000. $139,500 in 2016.
AN ORDINANCE OF THE TOWN OF AGAWAM,
MASSACHUSETTS ESTABLISHING A STORMWATER
UTILITY

WHEREAS, the Town of Agawam has constructed and maintains a system of sewers, drains, basins, inlets, outfalls and other infrastructure to collect and manage stormwater; and
WHEREAS, the existing Stormwater Management System requires maintenance, repair, enhancements and replacement to meet existing and future needs, including flooding concerns and water quality protection; and
WHEREAS, Agawam finds that excess stormwater runoff peak rate, volume and poor water quality in a watershed can threaten public health, safety and welfare; and
WHEREAS, the requirements of the United States Environmental Protection Agency Municipal Separate Storm Sewer System (MS4) permit demand a comprehensive approach to municipal Stormwater management; and
WHEREAS, an engineering and financial analysis of the Stormwater management needs for Agawam has been performed concluding that substantial Stormwater management needs exist; and
WHEREAS, the Massachusetts Constitution (the Home Rule Amendment), Section sixteen of Chapter 83 of the General Laws of the Commonwealth of Massachusetts allows for the establishing of stormwater fees by municipalities,

NOW, THEREFORE, be it ENACTED and ORDAINED by the Agawam City Council, as follows:

SECTION 1.0 GENERAL PROVISIONS

1.1. Title
This Ordinance shall be known as the Stormwater Utility Ordinance of the Town of Agawam, Massachusetts, hereinafter referred to as this "ordinance."

1.2. Responsibility for Administration
The City Council (the "Council") shall administer, implement, and enforce this ordinance. Any powers granted to or duties imposed upon the Council may be delegated in writing by the Council to its employees or agents.

1.3. Purpose
The Stormwater Utility shall administer the stormwater management program of the Town. It shall be funded by revenue collected through the Stormwater Utility fee and such other revenue as may, from time to time, be appropriated. The stormwater management program, described in part through Articles I and II of the Town’s Stormwater Management Regulations, is designed to promote the health and safety of the public, to protect property from flooding and the damage caused by stormwater runoff and to protect and manage water quality by controlling the level of
pollutants in stormwater runoff and the flow of water as conveyed by manmade and by natural
stormwater management systems and facilities.

SECTION 2.0 AUTHORITY

This ordinance is adopted in accordance with the authority granted, inter alia, by Amendment
Article 89 to Article II of the Massachusetts Constitution (the Home Rule Amendment), Section
sixteen of Chapter 83 of the General Laws of the Commonwealth of Massachusetts and such
other powers as granted to cities in the said General Laws.

SECTION 3.0 DEFINITIONS

The following words, terms and phrases, when used in this ordinance, shall have the meanings
ascribed to them in this section, except where the context clearly indicates a different meaning:

1. **Credit** means a reduction in the amount of a Stormwater Utility fee charged to the owner of a
   particular property where that property owner owns, maintains and operates on-site or off-site
   stormwater management systems or facilities, or provides services or activities that reduce or
   mitigate the Town’s cost of providing stormwater management services, in accordance with the
   Town’s approved credit policy.

2. **Developable** shall mean a parcel of land, as designated by the Assessor or other local
   jurisdictional authority, that can be altered from its natural state to include impervious surface
   area.

3. **Developed** means property altered from its natural state by construction or installation of
   greater than or equal to two hundred (200) square feet of impervious surfaces.

4. **Drainage system** shall mean natural and manmade channels, swales, ditches, swamps,
   rivers, streams, creeks, wetlands, branches, reservoirs, ponds, drainage ways, inlets, catch
   basins, gutters, pipes, culverts, bridges, head walls, storm sewers, lakes, and other physical
   works, properties, and improvements that transfer, control, convey or otherwise influence the
   movement of stormwater runoff.


6. **Impervious surface** includes any material or structure on or above the ground that prevents
   water infiltrating the underlying soil. Impervious surfaces include, without limitation, roads,
   paved parking lots, rooftops, buildings or structures, sidewalks, driveways, and other surfaces
   which prevent or impede the natural infiltration of stormwater runoff which existed prior to
   development.

7. **Stormwater** is surface water that results from precipitation and that travels over natural or
   developed land surfaces to discharge into a drainage system or surface water body. Stormwater
   includes stormwater runoff, snow melt runoff, and surface water runoff and drainage.

8. **Stormwater management services** mean all services provided by the Town which relate to
   the:
      (a) Transfer, control, conveyance or movement of stormwater runoff through the Town;
(b) Maintenance, repair and replacement of stormwater management systems and facilities owned, controlled, or maintained by the Town;

(c) Planning, development, design and construction of additional stormwater management systems and facilities to meet current and anticipated needs;

(d) Regulation, oversight, and enforcement of the use of stormwater management services, systems and facilities;

(e) Compliance with applicable State and Federal stormwater management regulations and permit requirements including, but not limited to, public education and outreach. Stormwater management services may address the quality of stormwater runoff as well as the quantity thereof.

(9) Stormwater management systems and facilities mean those natural and manmade channels, swales, ditches, rivers, streams, creeks, branches, reservoirs, ponds, drainage ways, inlets, catch basins, pipes, headwalls, storm sewers, outfalls and other physical works, properties and improvements which transfer, control, convey, detain, retain, treat or otherwise influence the movement of stormwater runoff.

(10) Stormwater Utility fee means the periodic user fee imposed pursuant to this ordinance by the Town of Agawam which will be dedicated to the provision of public stormwater management services.

(11) Undevelopable land is all land including crops, forest land, pasture, conservation or recreation as designated by the Assessor.

(12) Undeveloped land shall mean all land that is not altered from its natural state to an extent that results in greater than two hundred (200) square feet of impervious surface area.

SECTION 4.0 STORMWATER UTILITY FEE AND ENTERPRISE FUND ESTABLISHED; BILLING; DEPOSIT TO STORMWATER ENTERPRISE FUND

(a) Pursuant to Section 16 of Chapter 83 of the General Laws, the Town hereby establishes a charge for the use of the stormwater management services of the Town to be known as the Stormwater Utility fee. Stormwater charges shall be established such that they will provide sufficient funds, proportionately calculated and assessed, to construct, operate, maintain, and regulate the systems and facilities in the Town of Agawam.

(b) The Stormwater Utility fee is assessed to each developed parcel, whether occupied or not. The fee shall be calculated on an annual basis and billed to the record title owner of the property.

(c) The Town shall establish a dedicated Stormwater Enterprise Fund in the Town budget and an accounting system for the purpose of managing all funds collected for the purposes and responsibilities of the stormwater program. All revenues and receipts of the Stormwater Utility shall be placed in the Stormwater Enterprise Fund, which shall be separate from all other funds, and only expenses of the stormwater program shall be paid by the fund as provided in G.L. c.44,s. 53 F1/2.
(d) Expenditure of funds may consider both stormwater quality and quantity management needs, and can be used as described in Section 7.0.

**SECTION 5.0 RATES**

(a) The City Council shall establish reasonable rates to defray the cost of administering and implementing the stormwater management program of the Town. The initial rates, and any later modifications, shall be based upon recommendation of staff and shall be set by the adoption of a Stormwater Fee Schedule Resolution by vote of the City Council. The schedule of said rates shall be on file in the office of the Town Clerk of the Town of Agawam.

(b) The billing rate structure shall consist of a uniform flat rate based on billing units of 1,000 square feet of impervious area on a developed parcel.

(c) Impervious area per parcel is determined by the Town of Agawam by utilizing available GIS data layers to calculate the area of building footprints, building structures, driveways, pathways, pools, sport courts, and parking areas. Any impervious areas within the town-owned right-of-way will not be attributed to the parcel and will not be considered as part of the total impervious area of the parcel.

**SECTION 6.0 SCOPE OF RESPONSIBILITY FOR STORMWATER MANAGEMENT SYSTEMS AND FACILITIES**

(a) The Town owns or otherwise has rights which allow it to operate, maintain, improve and access those stormwater management systems and facilities which are located:

1. Within public road rights-of-way;
2. On private property but within easements granted to, and accepted by, the Town of Agawam, or are otherwise permitted to be located on such private property by written agreements for rights-of-entry, rights-of-access, rights-of-use or such other lawful means to allow for operation, maintenance, improvement and access to the stormwater management system facilities located thereon;
3. On public land which is owned by the Town and/or land of another governmental entity upon which the Town has agreements providing for the operation, maintenance, improvement and access to the stormwater management systems and facilities located thereon.

(b) Operation, maintenance and/or improvement of stormwater management systems and facilities which are located on private or public property not owned by the Town, and for which the Town lacks a lawful right of entry, shall be and remain the legal responsibility of the property owner, except as otherwise provided for by state and federal laws and regulations.

**SECTION 7.0 PURPOSES OF THE STORMWATER UTILITY FUND**

Receipts from the Stormwater Utility fee, to the extent consistent with G.L. c. 44, s. 53 F1/2, shall be used for the following purposes:
(a) The acquisition by gift, purchase or condemnation of real and personal property, and interests therein, necessary to construct, operate, and maintain stormwater management systems and facilities;

(b) All costs of administration and implementation of the stormwater management program, including the cost of labor and equipment attributable to the stormwater management program and the establishment of reasonable operating and capital reserves to meet unanticipated or emergency stormwater management requirements;

(c) Payment on principal and interest on debt obligations;

(d) Engineering and design, debt service and related financing expenses, construction costs for new facilities (including costs for contracted services) and enlargement or improvement or existing facilities;

(e) Operation and maintenance of the stormwater system, including catch basin cleaning, ditch maintenance, street sweeping, pipe repairs, and stormwater facility repairs;

(f) Capital investments including stormwater best management practices (BMPs) and components (e.g., purchase of plants, soils, and other amenities to support stormwater management alternatives utilizing vegetation);

(g) Illicit discharge detection and elimination;

(h) Monitoring, surveillance, and inspection of stormwater control devices;

(i) Water quality monitoring and water quality programs;

(j) Retrofitting developed areas for pollution control;

(k) Inspection and enforcement activities;

(l) Billing and related administrative costs; and

(m) Other activities which are reasonably necessary, including costs related to regulatory compliance.

SECTION 8.0 STORMWATER UTILITY FEE EXEMPTIONS

(a) The Town of Agawam finds that all developed property in the Town contributes to runoff and either uses or benefits from the maintenance of the stormwater system. Therefore, except as provided in this section or otherwise provided by law, no developed public or private property located in the Town of Agawam shall be exempt from the Stormwater Utility fee charges.

(b) The Town establishes exemptions to the Stormwater Utility fee as follows:

(1) Undevelopable land.
(2) Railroad rights-of-way (tracks). However, railroad stations, maintenance buildings, and/or other developed property used for railroad purposes shall not be exempt from Stormwater Utility fee charges.
(3) Public streets, highways and rights-of-way. However, maintenance buildings and/or other developed property used for road maintenance purposes shall not be exempt from...
**Stormwater Utility fee charges.** All other State, Federal, and County properties are subject to the user fee charges on the same basis as private properties.

**SECTION 9.0 STORMWATER UTILITY FEE CREDITS**

(a) The Council (or their designee) is hereby authorized to grant credits to property owners to be applied against the Stormwater Utility fee based on the technical and procedural criteria set forth in the Stormwater Utility Credit Manual (Credit Manual) to be developed, maintained and, from time to time, amended by the Council. The Credit Manual shall be implemented during the first year of the Stormwater Utility and shall be available for inspection by the public at the Department of Public Works.

(b) The percentages for credits shall reflect the extent to which the subject properties reduce the peak rate of runoff from the property, or avoid other costs incurred by the stormwater management program in the delivery of services, and shall be approved by the Council (or their designee). The maximum possible credit for properties shall be detailed in the Credit Manual.

(c) Any credit allowed against the Stormwater Utility fee is conditioned on continuing compliance with the Town's design and performance standards as stated in the Credit Manual and/or upon continuing provision of the controls, systems, facilities, services, and activities provided, operated, and maintained by the property owner or owners upon which the credit is based. The Town may revoke a credit at any time for noncompliance with applicable standards and criteria as established in the Credit Manual or this ordinance.

(d) To obtain a credit, the property owner must make application to the Town on forms provided by the Town for such purpose. The forms are to be fully completed in accordance with the procedures outlined in the Credit Manual.

(e) When an application for a credit is deemed complete by the Director of Public Works, the Town shall have adequate time, to be further detailed in accompanying regulations, from the date the complete application is accepted to either grant the credit in whole, grant the credit in part, or deny the credit. Credits applied for by the property owner and granted in whole or in part, shall apply to all Stormwater Utility fees in accordance with the terms defined in the Credit Manual.

**SECTION 10.0 STORMWATER UTILITY FEE BILLING, DELINQUENCY, COLLECTIONS AND ABATEMENTS**

(a) Failure to receive a Stormwater Utility bill is not justification for non-payment. The property owner, as identified from public land records of the Town of Agawam, shall be obligated to pay the appropriate Stormwater Utility fee for that property. If a property is unbilled, or if no bill is sent for a particular parcel of developed land, the Town may back bill for the fees as applicable for a period not to exceed two years of charges, but no late fees or delinquency charges of any kind shall be charged or recovered from any property owner so back billed.

(b) Stormwater Utility bills shall be committed to the Treasurer/Collector for collection. The Treasurer/Collector shall notify the Council (or their designee) quarterly of the amounts collected, and shall keep records of all paid and unpaid Stormwater Utility bills.
(c) In any case of nonpayment of a Stormwater Utility bill for sixty (60) days after the same is due, the Treasurer/Collector shall send a notice to the delinquent, and shall inform the Council (or their designee) in writing that such notice has been sent.

(d) In accordance with Sections 16A through 16F of Chapter 83 of the General Laws, charges for the Stormwater Utility fee, together with interest thereon and costs relative thereto, shall be a lien upon the real estate for which the charge was billed. Such lien shall take effect by operation of law on the day immediately following the due date of such charge and, unless dissolved by payment or abatement, shall continue until such charge has been added to or committed as a tax in accordance with the requirements of Section 16C of Chapter 83 of the General Laws, and thereafter, unless so dissolved, shall continue as provided in Section 37 of Chapter 60 of the said General Laws.

(e) In addition to the method of collection specified in Sections 16A through 16F of the General Laws, the overdue charge may be collected through any other lawful means.

(f) In the event that a property owner believes the Stormwater Utility fee is improperly calculated or is otherwise incorrect, the property owner may, within thirty (60) days from the date of issuance of the Stormwater Utility bill, and after payment of the bill in full, apply to the Town for an abatement. The application for abatement shall be supported by such information as is necessary for a reasonable person to conclude that it is more likely than not that the billing is in error. The Town shall have sixty (60) days to consider the request for abatement and render a written decision which may deny the abatement, grant the abatement in full or grant the abatement in part.

SECTION 11.0 APPEALS AND HEARINGS

(a) If a property owner is aggrieved by a written decision from the Town denying an application for abatement in whole or in part, or denying an application for a credit, in whole or in part, the property owner shall have thirty (30) days from the date of the written decision to file an appeal to the City Council. The appeal shall be in writing and shall specify the grounds thereof. Upon the filing of the notice of appeal, the Council shall make available all documents constituting the record upon which the particular decision was made. The Council shall set a date for hearing which shall be within ninety (90) days of the filing of the appeal and notice thereof setting forth the place, date and time of hearing shall be sent to the property owner no less than ten (10) days prior to the hearing date. The Council shall render a written decision within ten (10) days of the conclusion of the hearing affirming the action or reversing the action. If reversing the denial of an abatement, the decision shall specify the sum to be abated, which shall not exceed the amounts paid. If reversing the denial of a credit, the decision shall specify the credit to be applied prospectively against future charges unless the property owner has paid the full amount of the Stormwater Utility fee as charged and has also requested an abatement.

SECTION 12.0 SEVERABILITY

The invalidity of any section, provision, paragraph, sentence, or clause of this ordinance shall not invalidate any section, provision, paragraph, sentence, or clause thereof, nor shall it invalidate any permit or determination that previously has been issued.

SECTION 13.0 EFFECTIVE DATE

To be inserted upon ordinance approval

DRAFT
Appendix D

Stormwater Utility Funding Policies Backgrounder
Technical Memorandum
Finance & Funding Policy
Considerations

Stormwater Funding Background
There are a series of interrelated funding policy issues that need to be resolved to move the finance track forward as a stormwater utility option is evaluated for Agawam. Many policies can simply be answered at the staff level and are relatively independent of other decisions. Some rely on program decisions, legality, or preferences and past practice. Amec Foster Wheeler has prepared this memorandum which outlines key funding issues and policy decisions to be considered.

Resources, Money, and Revenue
Municipalities and their subsidiary organizations employ a variety of “funding” methods, including service charges, several types of taxes, franchises and other fees, fines, and penalties. It is important to understand the three main ways of providing support to stormwater programs: resources, money and revenue:

► Resources include all the non-cash ways that a local stormwater program can be supported including: free resources available from the internet, shared costs with neighbors, transformation of current programs to better support stormwater needs, volunteer programs, etc. Resources are not free in that they often require significant staff time to find, coordinate, and manage.

► Money includes all one-time infusions of funds. This includes Federal and state grants, loans, penalties, bonds, special sales taxes, one-time development related fees and payments, penalties, etc. Money is often targeted to a specific need or program activity. It may, or may not, be sufficient to cover an entire program but its key characteristic is that it is one-time.

► Revenue includes all ongoing flows of funds. For local government, this typically includes real property and other ad valorem taxes, sales or gasoline taxes, franchise fees, user fees, etc. The key characteristic of this type of support is that it is ongoing.

Each of these basic types of support has advantages and disadvantages and can be targeted toward different aspects of the stormwater program – operational, administrative or capital. However, experience has shown that the bulk of the cost of local stormwater programs must be borne by revenue producing support sources not “resources” or “money”. Since stormwater historically has struggled to compete effectively for general fund tax dollars with public safety,
schools, and a myriad of other local needs, most local governments find that establishing a legally dedicated revenue is the most reliable way to fund an effective, long-term stormwater program.

**Four Legal Categories**

Various funding methods have distinctive characteristics which separate them legally, technically, and in terms of public perceptions. Four major categories of municipal revenue generation include taxes, service charges, exactions, and assessments.

- **Taxes** are intended primarily as revenue generators, and with some exceptions (such as earmarked taxes), without any particular association with the activities or improvements that they fund. They can be used for the general purposes of local government. These include property tax, income tax, sales tax, etc.

- **Service charges or fees** are not established simply to generate revenue, but must be tied to the objectives of a specific program to which they are associated. For example, water and sewer service charges are structured to cover the cost of providing those services, not to simply generate revenue. Thus, the total revenue generated must be tied to the cost of providing services and the amount each rate payer is charged must be related to their relative impact or “use” of the system (rational nexus).

- **Exactions** are related to the extension of an approval or privilege to use. Franchise fees for the privilege of using the right-of-way for cable and phone companies are an exaction. Licenses, tap fees, impact fees, fees in lieu of detention, capital recovery charges and the mandatory dedication of infrastructure during development are also exactions.

- **Assessments** are geographically or otherwise limited fees levied for improvements or activities of direct and special benefit to those who are being charged, such as an assessment for an extension of a sewer line to a home or business. The benefit must be direct – tied to a specific and measurable or estimable property improvement.

**User Fees**

A popular source of funding for stormwater management is in the form of a service charge or user fee system typically referred to as a stormwater “utility” – an enterprise or special revenue fund. This form of funding has several advantages over other competing forms of finance including its equitability, stability and adequacy. The user fee concept of a stormwater utility based funding method has grown quickly as stormwater management issues have become more important in terms of both flood control and water quality protection. In the early 1970's there were only one or two true stormwater utilities in existence. By 2017 the number has grown to approximately 2,000 across North America.

A stormwater utility is primarily a fee for service. It is based on the concept that providing public stormwater services by way of an extensive collection and management system is similar to wastewater or water supply utility services. When a demand is placed on either of these two later systems the user pays. The basic premise for a stormwater fee, is that when a property is developed and forested or grassy area is replaced with buildings and pavement, runoff from the property increases and a greater demand is placed on the public drainage system. The greater the demand (i.e. the more the parcel of land is paved), the greater the share of the public burden the property owner should bear.
The distinctions of the four revenue categories are very important. One of the critical issues which typically must be resolved if a utility service charge of any type is legally challenged is whether the service charge is clearly related to and incidental to the activities and improvements of the utility, or is in fact merely a means of creating revenue for all governmental purposes generally (a tax). Thus, a stormwater utility fee must be based on the cost of specific stormwater management services and not simply a perceived financial need or willingness to pay.

A stormwater utility is an umbrella under which individual communities can establish a fund to address their own unique needs in a manner consistent with local problems, priorities and practices. A stormwater utility is typically considered equitable because the cost is borne by the user based on an estimate of the demand placed on the drainage system. It is stable because it is not dependent on the vagaries of the annual budgetary process as are taxes. It is adequate because the stormwater fee is set to cover a specific set of activities. And it is legally defensible as legislatures and the courts have established requirements and precedents for establishment of acceptable user fee approaches.

A stormwater utility is the preferred funding options for many communities because it can be a vehicle for:

- consolidating or coordinating responsibilities that were previously dispersed among several departments and divisions
- generating funding that is adequate, stable, equitable and dedicated solely to the stormwater function
- developing programs that support effective long-term stormwater management and are consistent year-to-year

**Rate Structures**

Utility funding is based on an independent revenue stream that is dedicated to a specific purpose such as water supply, wastewater treatment, solid waste management, or stormwater management. Service fees provide the bulk of a utility’s revenue. A methodology for calculating the service fees, based on customers’ demand upon the utility services, must be identified to establish the basis for the revenue stream.

In the case of stormwater services, a user fee recognizes properties’ demand on the stormwater system for discharging their runoff and the benefits the community receives from having a functioning stormwater system. The framework that describes how the cost of public services is distributed across properties in a community is called the “rate structure.” The rate structure developed for a utility is divided into three modules:

- Basic rate methodology;
- Modification factors, which can be applied to any of the rate concepts to enhance equity, reduce costs, and meet other objectives; and
- Secondary funding methods that can be adopted in concert with the service charges.
Rate structures differ among utilities. The differences sometimes reflect program goals or priorities such as the desire to encourage green designs or preserve open space, the influence of other policy objectives such as growth management or economic development, technical constraints, or the availability of information like geographical information systems (GIS) or other databases.

A key attribute of utility service fee funding is that the governing body of a utility’s jurisdiction has broad authority to design its rate methodology to fit local circumstances and practices and achieve an allocation of the cost of services and facilities that it desires, while staying within legal boundaries. The goal of a utility’s funding decisions is to design a user fee structure that reflects the character and desires of the community and that meets five tests:

1. is equitable and reasonable;
2. is not discriminatory or confiscatory;
3. has costs that are substantially related to provision of facilities and services;
4. has a rate that is related to demand of the stormwater systems and services for each individual property (rational nexus); and
5. reflects the authority inherent in state law.

**Funding Policies**

**Basic Rate Methodology**

The basic rate methodology defines the basis for the rate that users will be paying. The three main impacts on surface water from run-off related to development are increases in peak flow, volume of discharge, and amount of pollution. The variable most closely associated with each of these three major impacts is the conversion of pervious areas (forests and fields) to impervious areas (pavement, roof tops, and other hard surfaces). Rate structures can be designed to be flexible enough to accommodate other key factors as appropriate, although it is important to remember that simplicity is best in terms of both customer understanding and ease of management.

Accommodating the runoff that occurs when pervious area that historically absorbs rainwater is converted to impervious area requires investment in the public drainage system. Therefore, it is appropriate to use a measurement of impervious area or surrogate of impervious area in rate methodologies. Most stormwater programs have taken this approach: The Black & Veatch 2016 Stormwater Utility Survey reported that 77% of respondents based their fees on impervious area. This is up from a 2007 on-line survey that found that 65% of utilities used impervious area as the main factor for rate calculation. As impervious data has become more affordable to obtain and manage, impervious area continues to be the preferred rate methodology. While impervious area does not directly account for all stormwater program costs, urbanization of land as reflected in intensity of development is, by far, the best measure of cost causation and provides a court-tested rational nexus for the fee amount.

Most stormwater utilities set their fees based on charging for stormwater services based on either a flat fee per stormwater billing unit for all properties (i.e. a charge for every 1,000 SF of
impervious area on a parcel) or they establish an Equivalent Residential Unit (ERU) as their billing unit and have separate rate structures with two fee classifications based on land use type: Non-Single Family residential (NSFR) and Single Family residential (SFR).

Both options rely on using aerial photography, parcel data, and calculation of impervious area on properties. The ERU is determined by calculating the median or average amount of impervious area on residential properties in a community and then applying the ERU to non-residential properties. Figure 1 shows an example of the impervious coverage on a non-residential parcel in Portsmouth NH that has 10,535 square feet of impervious area. With the ERU set at 2,500 square feet, this parcel contains 4.2 ERUs. Often the charge is based on an “ERUs or part thereof” making this parcel 5 ERUs. So, for example, if the charge per ERU was $6.00 per month, the fee for this property would be $30 per month or $360 per year.

There are, however, additional ways to configure the rate methodology to emphasize certain other impacts or recognize the benefits of certain kinds of development practices. Many of these considerations are handled with a stormwater crediting or secondary funding system, but some factors can also be handled in the makeup of the basic rate methodology itself. Factors commonly considered are:

► Some communities charge for gross parcel area in addition to impervious area, reasoning that stormwater runs off all parcels (even if the parcel is not developed) and thus, all should pay.

► Some communities want to encourage green space and set up charges based on an intensity of development factor – so that the same amount of imperviousness would be charged less if it were located on a larger lot with more green space.

► Some communities attempt to simplify the non-residential rate by charging based on a small number of tiers rather than per ERU or by placing a cap on fees. When compared to a straight impervious methodology, this has the result of shifting costs, sometimes dramatically, to smaller properties, and those on the high side pay proportionally less.

Included in the decisions related to selecting the basic rate methodology are policy issues such as: rounding of billing units, where the break is for tiers and why, and the need for updating or maintaining data that supports cost distribution.
Rate Modifiers or Class Exemptions
Rate modifiers or class exemptions are the second component of the rate structure and are policies that change the user fee charged to certain classes or types of properties. They are designed to appropriately increase simplicity or enhance equity. One should use caution when considering exemptions or fee reductions, keeping in mind that reducing or exempting some properties from the fee results in increasing the rate for other rate payers. That said, nearly all utilities adopt one or more rate modifiers.

Rate modifiers and class exemptions that can be considered include:

- **Residential Charges.** Should residential charges be simplified in some way such as a single flat rate, several tiers, or should they be based on individual measurement? Should condominiums and/or apartments be handled differently than multi-family properties?

- **Fixed Cost per Account.** Should there be a fixed cost per account to recover administrative costs or other costs affiliated with the stormwater program that are not properly allocated based on demand upon the system or its surrogate?

- **Variable Charges Based on Property Class.** Should there be a differing charge based on class of the ratepayer such as: (1) publicly owned property, (2) roads – public or private, (3) non-profits, (4) income disadvantaged, (5) elderly, (6) parkland or others.

- **Stormwater Credits.** Often variable charges are accounted for in the form of credits. Generally, stormwater credits are granted both to increase equity and to provide incentives to implement an overall community stormwater management plan. A credit is an ongoing reduction in a property’s calculated stormwater fee for:
  - on-going activities on the property that reduce the demand upon the public stormwater system;
  - on-going activities on the property that reduce the City’s cost of service.

Stormwater programs vary considerably in the amount of the user fees that they make eligible for crediting. The amount of a fee that is eligible for credits may be seen as the relative “generosity” of the credit. The extent or generosity of the credit should include consideration of which stormwater program costs can be reduced by the qualifying activities for which users can receive credits. For instance, while a business may reduce its impact on the stormwater system through installing and maintaining a detention pond, the utility may be unable to credit the business for its entire bill. Reasons for this might include the fact that a detention pond does not reduce all the impacts of the property on the system (volume and pollution) and the reality that there are some fixed program costs that remain regardless of individual actions.

Common stormwater credits include:
- detention, retention, or best management practices,
- education credit,
- green design credit,
- NPDES permit credit for industries.
Secondary Funding Methods
Secondary funding methods are employed to enhance the revenue stream of the utility and to increase equity by shifting costs for specific services or service levels to those requiring the services. There are many secondary funding methods employed by local governments that may impact program funding:

- Grants or other state and Federal money
- Revenue or general obligation bond funds or loans
- Public-private partnerships that share costs and risks in development projects
- Plan review and inspection fees associated with new development projects.
- Special charges (often called surcharges) - For example, some homeowner groups maintain their own detention ponds. Others, for a surcharge, may request that the municipality provide such maintenance.
- System development charges or system extension fees - typically one-time charges to a single property or development to fund the extension of stormwater services to those customers
- Fines and penalties for violation of local, state or Federal laws or regulations (i.e. illegal dumping into the stormwater system)

Miscellaneous Considerations
There are numerous other policy considerations that will enter the development of the financial model and setting of rates. These may include:

- Valuation of stormwater assets (if any) and how they are handled;
- Timing of rate changes, escalation factors, program growth curves;
- Estimates for such considerations as: inflation, the cost of money, bad debt, revenue growth, indirect cost allocations, billing and collection charges;
- Timing of debt and capital construction;
- Structure of the stormwater fee in terms of enterprise fund or special revenue fund;
- Policies on credits, appeals, delinquencies and other matters and
- Rate ordinance form and function, hearing process, placement in the municipal code.
Appendix E

Stormwater Utility Credit Backgrounder
Stormwater Utility Credits: Background Information for Agawam, Massachusetts

October 2, 2017

Introduction
Properties can generate stormwater and have impacts on receiving waters and community infrastructure at different levels. These impacts are mostly related to the amount of impervious surface (e.g. roofs and parking areas) on the property and the effectiveness of any stormwater best management practices (BMPs) installed on the property to help control runoff. When establishing a stormwater management user fee, the fee structure may take into account these variations and the cost of service for stormwater management by allowing credits.

A stormwater credit can be defined as an ongoing reduction in a property's calculated user fee that is given for some rational and legal reason, typically related to private investment for a public good. Under the Massachusetts enabling legislation for stormwater utilities (Section 16 of Chapter 83 of the General Laws), the Town is allowed to “grant credits against the amount of the quarterly or annual charge to those property owners who maintain on-site functioning retention/detention basins or other filtration structures as approved by the stormwater utility, conservation commission, or other governmental entity with appropriate authority.” Credit systems may be developed to encourage property owners to properly maintain their existing facilities or to undertake “retrofits” of uncontrolled stormwater runoff to help reduce the burden placed on the public system.

In establishing a stormwater management user fee, a rate methodology is developed and applied to each property, similar to other utilities. The fees support the revenue needs to maintain the stormwater management system and mitigate environmental impacts. Modification factors can be applied to a basic rate structure and used to distribute the cost of these services according to a town’s historical development pattern, changes in building policies over time, and stormwater needs. A credit is a modification factor and is an ongoing reduction in a property’s calculated stormwater fee that is given for:

► On-going activities on the property that reduce the impacts on the stormwater system; and
► On-going activities on the property that reduce a town’s cost of service.

Generally, stormwater credits are granted both to increase equity and to provide incentives to implement an overall community stormwater management plan. Credits typically do not have significant total revenue reduction potential, but can make a significant difference to individual rate payers. For example, a typical total annual revenue reduction amount is three to five percent. However, credits can make a financial difference to property owners with large impervious areas as it provides an opportunity to mitigate a portion of their fee.

Stormwater programs vary considerably in the amount of the user fees that they make eligible for crediting. The amount of a fee that is eligible for credits might be seen as the relative “generosity” of the credit. There are rational reasons supporting a broad range of considerations. The extent or generosity of the credit should include consideration of which stormwater program costs can actually be reduced by the qualifying activities for which users can receive credits. For instance, while a business may reduce its impact on the stormwater system through installing and maintaining a detention pond,
the utility may not credit the business for its entire bill. Reasons for this might include the fact that a detention pond does not reduce all of the impacts of the property (i.e. runoff is still generated during significant storm events) and the reality that there are some fixed program costs that remain regardless of individual actions.

It is important to note the difference between the terms “credit” and “offset” or “incentive”. A credit is an annual reduction in the user fee as long as the recipient applies for and continues to properly maintain the stormwater management controls. Offsets and incentives are generally a one-time reduction in stormwater management costs (i.e. reimbursement for a rain barrel).

**Types of Credits**

The types of credits most often given by utilities can be grouped into the following categories, which have varying levels of complexity:

- **Retention or detention:**
  - Reduce peak flow and control the rate at which the runoff volume enters the drainage system.
  - Structures must meet a town’s design and performance criteria.
  - Graduated credits can be offered for those structures meeting standards.

- **Water Quality BMPs or “Green Infrastructure”:**
  - Reduce polluted runoff; supports a town’s NPDES permit requirements, and provide an incentive for being “good” or “green”.
  - Structures must meet a town’s design and performance criteria.
  - Graduated credits can be offered for different levels of treatment.

- **Non-structural BMPs Services or activities that help reduce the quantity and improve the quality of:**
  - Stormwater runoff in lieu of constructing stormwater management infrastructure; examples include maintaining a site-specific NPDES permit for stormwater; pollution prevention activities; and good housekeeping programs (i.e. parking lot sweeping).
  - Supports municipal compliance with NPPDES permit requirements and reduces pollution.
  - Commonly used to reduce fees for school systems or non-profits that have limited funds and are not used to paying utility fees but can provide measureable program support.
  - Tracking, administration, and enforcement can be cumbersome and time-consuming and opportunities for cost savings are often limited.

- **LID or Green Subdivision Residential Credit**
  - Reduces pollution and meets NPPDES permit requirements.
  - Rewards low impact design, smart growth, and smart home purchases.
  - Each property within a designated subdivision would get the same discount.

Where credits are offered to residential properties or properties with relatively small amounts of total impervious area (i.e., less than 3000 square feet), they tend to fall under one of the following categories:

- Credits offered to entire subdivisions to reward specific green building practices.
- Credits provided to entire subdivisions with onsite treatment and maintenance.
- Credits offered to individual properties under a program without onsite verification (i.e., information submitted by a property owner is the basis for the credit calculation without any on-site verification by the town to minimize administrative costs).
Extent of Credits

Stormwater management utility fees use a variety of approaches for setting user fee credits, not only varying the types of credits they offer, but also varying the amount or percentage of the user fee that is eligible for credits. There are no hard and fast rules on how much credit should be given. It is a balanced consideration of many factors, and is done differently from one utility to another. Just as in water and sewer rate making where there is no requirement that the rate be reduced to zero, there is no such requirement in stormwater management. And there may be good reasons not to reduce the charge to zero, having to do with:

1. The inability to reduce the discharge of stormwater, and thus "use" of the public stormwater system, to zero;
2. The multiple impacts of development including volume increase, peak increase, and water quality impacts;
3. The use of the stormwater program made by every downstream property protected by the imposition of controls on all upstream parcels; and
4. The shared runoff impacts realized through the construction of roadways and other public hard surfaces whose impact and benefit can be properly distributed across the rate base.

The extent of the credit should consider which stormwater program costs can or should be reduced by the qualifying activities. A property owner can reduce the impact on the stormwater system by installing a stormwater management practice (e.g., detention pond), but they should still pay for the stormwater program's fixed costs such as system maintenance, NPDES permit compliance, administration and public education. Most towns cap credits, but some choose to offer a 100% credit for designs that exceed the normal criteria and seek to reduce their stormwater runoff impact to zero. These are rare and are typically handled on a case by case basis.

Receiving Credits

Credits are usually granted only upon the approval of a credit application by the town. Requirements for applying for credits vary widely, but typically request that the property owner provide the following information:

1. Property parcel number and address;
2. Description of the facility or activity for which the credit is requested;
3. Confirmation that the qualifying infrastructure or service is operating as designed and is being properly maintained;
4. A map or sketch showing the location of the facility on-site and showing the drainage area being treated; and
5. An agreement that the owner will allow a right-of-entry for periodic inspection.

Many communities charge an application fee to cover the cost of the review and verification process typically range from $20-$100. A community could elect to return the application fee upon approval of the credit application, and perhaps encourage greater participation in the credit program.

Upon approval of a credit system, many stormwater management utilities develop a credit manual and application process that sets forth the criteria and process for obtaining credits. The credit manual details the procedure, policy, and process used to determine the fee reduction and how that is applied to the stormwater fee that a property owner pays.
Task 4: Other public outreach and education

4-1 Stakeholder meetings - notes to inform project

4-2 Press releases and newspaper articles

4-3 Public meetings with accompanying publicity, and presentation materials

4-4 Video supporting a meaningful local case for stormwater funding 4-5 Door hanger for use with stormwater public works projects
Page left blank intentionally.
What are emerging themes from stakeholder meetings (including Advisory Task Force and other public meetings)

- Understanding needs and costs and how will translate to better services/care of the storm system
- What fee looks like for individual property owners and credit opportunities
- Fairness
- Need assurances that money will be used as specified/promised
- Localized flooding and drainage problems

What is key, most resonating evidence for Agawam property owners?
A. Localized flooding

What is/are context/points of emotion for people?

- Split tax rate: businesses paying more per 1,000 sf ($31.47 vs. $16.61) and do not get trash service
- Localized flooding in many locations that pose public safety issues, ongoing inconvenience
- Nonprofits moving from not paying to paying for stormwater when feel that provide many services to community as is (especially religious organizations)
- Desire to see fairness in what charged for stormwater utility
- Need to see visible progress after so much deferred
- Accountability that DPW spending money in ways that benefits property owners
- Past promises not fulfilled: Feeding Hills sewering; street projects (church lady in particular)

What is could be simplest and most compelling message?
Stormwater utility will provide a fair and sustainable way to fund the program over the long term so that Public Works staff can actively solve the many stormwater related problems in Town, responding to failures in the system and localized flooding.

Identify effective way to convey messages/information
Rather than creating a poster showing the separate systems of storm, drinking water, and sewer, a video would be far more effective as a tool for messaging about a sustainably funded stormwater program.
Possible outline for video

A. Funding gap = When you properly take care of stormwater infrastructure, you typically invest $____. Because of the way the stormwater program is currently funded --annually through the general fund—investment has fallen way short at $__.

B. Condition of system/problems that are evident = Show examples, including collapsed pipes and localized flooding, get testimony from people who are suffering from problems because of these.

C. Options, specifically what are they, including process going forward. Get testimony from people indicating that stormwater utility seems a good approach to making sure this system is taken care of, testimony from those who support if localized flooding will be resolved.

D. What improvements will people see...be as specific as possible to create a vision of what can be done with stormwater utility.
Stakeholder Meeting #1 - Seniors on October 30, 2017

Takeaway points:
Quality of life: Flooding issues create barriers and problems for seniors
Accountability: Concern about too much taxing and not enough efficiency in budgets

Specific comments:
Heard a lot about specific drainage and flooding problems (Brookline Avenue/Springfield Street; Oak Street; Valentine Terrace) and the hardships created for people. One couple described how flooding at the end of their driveway becomes a sheet of ice in winter so that they must drive to their mailbox to retrieve the mail each day.

People are looking for solutions to these problems and seem receptive to the idea of a stormwater fee if it will help address flooding and drainage problems.

Stakeholder Meeting #2 - Religious Leaders on January 9, 2018

Attendees: Lighthouse, Agawam United Methodist Church, Bethany Assembly of God, Agawam Congregational Church, Redeeming the Time Ministries/First Baptist Church, and Sacred Heart Parish

Takeaway points:
Fairness: not paying for stormwater now, but provide many other services and benefits to the community
Affordability: membership is on the decline

Specific comments:
• Can you explore exemptions for nonprofits and churches on this fee?
• As churches, we reach out to help the community in so many ways already. How can we possibly absorb these costs for stormwater?
• There is no "just" in this cost. What it means is that we will no longer be able to provide certain services to the community.
• How do you plan to enforce the payment of a fee?
• What are the annual financial goals of the utility and what are the objectives of the program? You need to be much more specific about what you are trying to do with this new fee.
• What is DPW's total budget and what percent of this is currently dedicated to stormwater?
• Discussion of specific problem areas.
Comments, concerns, and questions that are circulating among religious organizations (identified by Task Force members prior to meeting with religious leaders):

- What ability will we have to pay the fee at a time when congregations and revenues are shrinking?
- What are the credit opportunities?
- While this seems the right thing to do, there are many community services that religious organizations already provide, such as hosting meetings for scouts, AA, etc.

Stakeholder Meeting #3 - Businesses on January 16, 2018

Attendees: Feeding Hills Farm, Colvest Group, J.R. Sweeping Service, Sarat Ford, Valenti Real Estate, Coriwald LLC, Six Flags New England, Allied Flooring and Paint

Takeaway points:
Fairness: businesses already pay more with a split tax rate in Town and do not even get trash service
Fairness: not all properties drain to the storm system
Affordability: how do all of the expenses of running a business in town come together (property, stormwater, water, sewer, etc.)

Specific comments:
- My property drains to a wetland. Don’t believe any drainage goes into Town system. Then state throws drainage onto my property. Would I have to pay?
- What about farms and open space, will those properties be charged under the stormwater utility? They are contributing to stormwater too.
- Are there communities that have split tax rate and also stormwater utility?
- Businesses pay tax, but do not get trash pick up. How is that fair?
- Why don’t we just raise property taxes enough to get the $2 to $3 million needed for stormwater?
- But if you keep it in property taxes, that means there are property owners using the system that don't pay for it. What we could consider is maybe shifting the rate so that there is less of a burden on businesses.
- I am looking at $20,000 for an annual stormwater fee when you account for all the parcels that make up my business. I don’t disagree with the idea of what you are suggesting because it is the Town’s infrastructure and we need to take care of it. As a business owner, I am constantly improving my property. The Town needs to tend to its infrastructure. But what’s next? Drinking water? At what point can we not afford it?
- I have brooks on my farm that go to nowhere. First thing I think about is what can I tear down? That way I find ways to reduce property taxes and the stormwater utility.
- When this comes to the City Council, is that the time to bring up the possibility of exemptions, refinements in rates? When does that negotiation come into play?
Comments, concerns, and questions that are circulating in the business community around the topic of a stormwater fee (identified by Task Force members prior to meeting with business community):

- Most importantly, how much is this going to cost them?
- Why do we need this and what factors into these needs?
- Is this just a “shell” game?
- How fair is this to the business community as compared to residents?
- Need transparency.
- How can we be sure that money we are putting into stormwater will go to stormwater?
- How do we avoid paying for a truck in this program that will only get used 20% of the time?
- What assurances do we have that the dollars will be used as promised?
A task force is looking into stormwater enterprise funds which have an anticipated cost to the town. "As we work on the DPW, we are looking at the whole picture of what we need to do to meet our water regulations," said Mayor Richard Cohen. The town is facing a mandate to map, test and drain stormwater, which have an anticipated cost to the town. "We are really not sure exactly how much it will cost," said Cohen. The task force is preparing a plan to go toward maintenance and outreach, and an environmental protection agency is working on a grant to help fund some of the stormwater needs. The task force is working on a grant to help fund some of the stormwater needs. The task force is working on a plan to go toward maintenance and outreach, and an environmental protection agency is working on a grant to help fund some of the stormwater needs. The task force is working on a plan to go toward maintenance and outreach, and an environmental protection agency is working on a grant to help fund some of the stormwater needs.
MEDIA RELEASE

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FOR IMMEDIATE RELEASE
June 9, 2017

Learning about stormwater management in Agawam

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 Public Works Department maintains some 4,757 street drains
(aka 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 maintained by Public Works). To most of us,
this storm system is invisible. Only when things start to fall apart or fail, does it
become clear that this infrastructure is critically important. While roughly 17%
of this system was installed in the last 30 years, the rest of the system is older or
the age is unknown.

At the same time, important new Clean Water Act permit requirements seek to
reduce polluted storm flows from developed areas to rivers and streams. These
requirements entail water quality sampling within the storm system, promoting
stormwater management practices that better soak up rather than convey
rainfall, and more frequent street sweeping and street drain cleaning, among
other actions. Public Works Director Chris Golba notes, "When you align proper
care of our aging storm system with these new permit requirements, we have our
work cut out for us."

A newly formed 10-member Stormwater Advisory Task Force is working
currently with Agawam Public Works officials to help figure out how to better
fund the work of caring for the storm system and reduce polluted flows from
developed areas. For years, storm system work has been funded through the
Town’s General Fund. With the age of the system and expanded Clean Water
Act permit 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 Public Works officials about the system, and careful review of available data and effort needed to meet permit requirements over the next 5 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 proceed with funding the program. This preliminary work in exploring sustainable funding for the stormwater program is made possible through a MassDEP 319 grant to the Pioneer Valley Planning Commission, which has been working closely with Public Works officials. This project will also include a lot of conversation with stakeholders to understand what stormwater issues most concern residents and businesses. For starters, the project has a web page that contains a summary of the project, materials from the two recent Task Force meetings, and an interactive map identifying problem stormwater drainage locations. See: http://www.agawam.ma.us/SW-TaskForce.

Members of the Stormwater Advisory Task Force are: City Councilors James Cichetti, Christopher Johnson, and Donald Rheault, Former Mayor Susan Dawson, Resident Herbert Holl, Reverend Rob Donaldson, Conservation Commissioner Henry Kosloski, Allied Flooring and Paint Owner Mario Tedeschi, Six Flags New England Facilities Manager Dave Jenks, Public Works Director Chris Golba, and Town Engineer Michelle Chase.
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 2,032 manholes to convey storm flows to the town’s 512 outlets that outlet to waterways, which themselves involve some 3.2 miles of culverts maintained by the DPW. To most of us, this storm system is invisible. Only when things start to fall apart or fail does it become clear that this infrastructure is critically important. While roughly 17 percent of this system was installed in the last 30 years, the rest of the system is older and the age is unknown.

New federal Clean Water Act permit requirements seek to reduce polluted storm flows from developed areas to rivers and streams. These requirements entail water quality sampling within the storm system, promoting stormwater management practices that better soak up rather than convey rainfall, and more frequent street sweeping and street drain cleaning, among other actions. Public Works Director Chris Golba notes, “When you align proper care of our aging storm system with these new permit requirements, we have our work cut out for us.”

A newly formed 10-member Stormwater Advisory Task Force is working with DPW officials to help figure out how to better fund the work of caring for the storm system and reduce polluted flows from developed areas. For years, storm system work has been paid through the 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 proceed with funding the program. This preliminary work in exploring sustainable funding for the stormwater program is made possible through a MassDEP 319 grant to the Pioneer Valley Planning Commission, which has been working closely with DPW officials. This project will also include conversations with stakeholders to understand what stormwater issues most concern residents and businesses. For starters, the project has a web page that contains a summary of the project, materials from the two recent Task Force meetings, and an interactive map identifying problem stormwater drainage locations, at www.agawam.ma.us/SW-TaskForce.

Members of the Stormwater Advisory Task Force are city councilors James Cichetti, Christopher Johnson, and Donald Rheault, former Mayor Susan Dawson, resident Herbert Holl, the Rev. Rob Donaldson, Conservation Commissioner Henry Kosloski, Allied Flooring and Paint owner Mario Tedeschi, Six Flags New England Facilities Manager Dave Jenks, Public Works Director Chris Golba and Town Engineer Michelle Chase.
Runoff regs will be $2M drain on budget

DPW task force looking at tax hikes, user fees to cover increased costs of federal environmental mandate

By Michael J. Ballway
mballway@turley.com

Locating, mapping, testing, cleaning, checking and maintaining the stormwater drains and culverts in Agawam will be costly. But under federal EPA regulations taking effect this year, it's also a mandate. And that means finding someone to pay for the $2 million-plus annual estimated cost.

"It's either fund it through the general fund, with taxes, or fund it through an enterprise fund, with fees," said Public Works Superintendent Christopher Golba at a June meeting of the town's Stormwater Advisory Task Force.

At two meetings in June, the task force debated which of those approaches would be fairest. Most infrastructure in town — such as roads, parks and municipal buildings — is funded by a combination of state aid and local property taxes. The larger and more valuable a property is, the more its owner pays toward the upkeep of town-owned facilities.

Rich Niles, a consultant with Amec Foster Wheeler of Chelmsford, Mass., told the task force that some communities charge a "user fee" based on how much stormwater runoff a property produces — as estimated by measuring the square footage of impervious material covering the ground. Unimproved properties would be assessed little or no fee. Properties with extensive pavement or

Field honors Coach Smith

By Gregory A. Scibelli
gscibelli@turley.com

The town is applying for a $400,000 grant to improve O'Brien's Corner, the often congested crossroad where Springfield, North and Maple streets meet.

Town Engineer Michelle Chase said it is the town's first application for funding through the MassDOT Complete Streets program.

Funding eyed for O'Brien's Corner
STORM from page 1

roof coverage would pay much higher fees. Like water and sewer charges, the stormwater fees would be assessed even to properties that don’t pay property tax, such as churches.

That could result in a large new fee hike for the owners of commercial buildings and parking lots, regardless of how valuable their land is. It could result in the owner of a $200,000 house paying more than the owner of a $400,000 house, if the less valuable house had a wider roof or longer driveway.

“The’s no real perfect system for assessing fees,” Niles said. “There’s a lot of different ways to argue equity.”

Both Chicopee and Northampton assess stormwater utility fees, Niles said. The average home pays $7.50 per month in Northampton and $8.33 per month in Chicopee.

One option is to consider all single-family house lots equal, and assess fees on a sliding scale for larger properties. In a preliminary analysis of the equal-payment option, each residential unit would be assessed $90 to $101 per year, depending on budget needs. The other fee-based option, with charges increasing for each $1,000 square feet of impervious surface, could yield lower or higher fees based on the size of the property and the pavement and structures on it.

An additional complication, Niles said, is that not all impervious material directly stormwater into the storm drain system. The owners of properties that slope away from the street, or properties with their own internal system of ditches and basins, could end up paying user fees for a system they don’t use.

Someone will have to pay, however. The EPA, as part of a new round of regulations for municipal separate storm sewer system (MS4) permits, is requiring that all towns keep a map of their storm drains and culverts, test the water quality at each outfall, and make repairs or environmental cleanup as necessary. Those tasks have largely been ignored in the past.

In most communities, the infrastructure is well past its design life. About 50 percent of the infrastructure, we don’t know about.

In the fiscal year that ended June 30, the DPW spent less than $900,000 on the storm drain system. That number is already budgeted to rise in the current fiscal year, but the DPW will need more money to fully implement the EPA’s requirements.

A preliminary estimate by Amec Foster Wheeler would raise the town’s stormwater spending over $1.9 million in fiscal 2019. The money would fund workers to create an inventory of storm drain infrastructure, additional street sweeping and catch basin cleaning to keep debris out of the storm drains, an examination of the system to eliminate connections with the sanitary sewer system, and to eliminate illicit discharges, and other tasks. It would also repair or replace several failing culverts and drain pipes in town.

“These things are real problems out there now that there currently isn’t funding to address,” Niles said.

Added Tracy DeMaio, the town’s stormwater coordinator: “It’s not just the federal mandate. The infrastructure is old.”

The task force plans to continue its discussion on fees and taxes at its next meeting.

Consultant Rich Niles gives a presentation to the Agawam Stormwater Advisory Task Force in early June. TURLEY PUBLICATIONS PHOTO BY MICHAEL J. BALLWAY

Niles said, “That’s just how it’s always been in New England. Some of that infrastructure is well past its design life. About 50 percent of the infrastructure, we don’t know about.”

Superintendent William Sapelli, center left, presents baseball field dedication ceremony on June 25. TURLEY PUBLICATIONS

SMITH

Sapelli, as a student, back in 1970.

“He was not only a teacher in the schools, he coached baseball for 55 seasons, he owns a driving school in Agawam, and he continues to touch the lives as a coach and individual in so many positive ways that we thought we should honor him,” said Sapelli, who recently retired as school superintendent. “Gerry is a good guy and it’s nice to be able to remember him and honor him for awhile to come. I’m very grateful to be here, to be able to share this day with Gerry and his family.”

He added: “He’s a special individual to me. He had a big impact on my life as an impressionable high school student. As a young athlete, you look up to your coach as a second father and Gerry stepped up and assisted me on many different occasions.”

Cohen also chimed in, expressing the gratitude the town has for all the coaches that we have had, and continue to have, to lead our young men and women and...
Candidates briefed on Agawam stormwater program and funding

What level of service makes sense for the Town of Agawam’s stormwater management program? And what is the best way to fund this program? These were the key questions discussed at a briefing for local political candidates who joined members of the Stormwater Advisory Task Force, Public Works officials, Pioneer Valley Planning Commission’s Patty Gambarini, and Amec Foster Wheeler’s Rich Niles on Monday night. The briefing aimed to inform attendees about the ongoing Stormwater Funding Feasibility Study that will continue into the first half of 2018.

Mayor Richard Cohen opened the meeting with remarks emphasizing the importance of the study, which will present recommendations on managing and funding Agawam’s stormwater program. These recommendations will help officials make choices that will in turn allow for more integrated planning for the stormwater program.

The evening’s presenter, Niles explained that Agawam’s stormwater system is extensive, with 4,757 street drains (aka catch basins), 122 miles of drain pipe, and 2,352 manholes that convey storm flows to the Town’s 512 outfalls discharging to waterways. Parts of the drainage system are clearly old (pre-1960s), but much of the system is of unknown age. Town Engineer Michelle Chase remarked that with the special camera now available to explore the drainage system more thoroughly, Public Works is finding many old pipes, clogged pipes, and failing pipes that need maintenance. While the Town has always managed this system and there are some important improvement projects under way at Arnold Street, Meadow Street, and South Park Terrace, there has been a lot of deferred maintenance over the years that puts Public Works in a reactive rather than a proactive or sustainable mode when it comes to caring for the system.

On top of properly managing the Town’s existing system, there are state and federal stormwater permit requirements that seek to reduce polluted storm flows from reaching rivers and streams. Activities related to permit compliance are compelling the Town to invest more in stormwater management that is resulting in additional costs.

Niles noted that the $173,000 for the stormwater program in the fiscal year 2017 budget was dedicated to permit compliance. This is essentially a subset of the actual program cost, however. "If you take a more holistic and functional look at the budget, accounting
for system operations and maintenance, engineering and planning, and capital improvement projects, a more accurate figure for the stormwater program expenditures in fiscal year 2017 is about $893,000,” explained Niles.

With many stormwater challenges facing the Town, including aging infrastructure, flooding, and erosion, Niles indicated that it is important to think about what level of service makes sense for the Town’s stormwater program. A minimal level of service, he noted, would maintain the status quo and be minimally compliant, but would not address known problem areas or necessary capital improvements. A moderate level of service would allow for improvements above the existing program, and a high level of service would allow for significant improvements in a more condensed timeframe. “Some communities have chosen to do an exceptional level of service and they are able to solve problems aggressively,” he noted.

Niles then laid out two preliminary budget options showing a five-year program of growth, one assuming a moderate level of service, and the other a higher level of service. At the moderate level of service, the average annual stormwater budget is estimated to be $1.9 million, and the average annual budget at the higher level of service is estimated to be $2.1 million. These are budget estimates that take into account all stormwater related work (existing and future needs), and allow for important growth in capacity for capital improvement projects, noted Niles.

To fund the stormwater program, there are a few primary options with several additional options to provide supplementary revenue:

- Continue to use property taxes from the General Fund. To meet future costs defined at the moderate level of service, however, this would require a tax increase of 1.8%.
- Create a Municipal Water Infrastructure Investment Fund, a tool that some municipalities have used to create a dedicated funding source to support their water infrastructure (drinking, waste, and stormwater). Funding would come from a surcharge of up to 3% on property taxes.
- Establish a stormwater utility, where a user fee is charged based on the amount of impervious cover on a property. (Impervious cover is the hard surfaces draining to the stormwater system, especially rooftops, driveways, and parking lots.) The more impervious cover on a property, the higher the fee, making payment proportional to the demand placed on the drainage system due to increased stormwater runoff. Under this option, all developed properties pay their proportionate share, including tax exempt properties.

Niles noted that the first two funding options are based entirely on property value, while the third option generates funding based on use of stormwater system services. “The other important thing about a stormwater utility,” explained Niles, “is that it creates
an adequate and stable source of funding with flexibility and the ability for properties to receive credit for good stormwater management, for example."

Concluding the presentation to candidates on Monday night, Niles used examples of several specific properties in Town to show an analysis of impervious cover and potential stormwater utility fees. All of these examples, and other materials can be viewed on the Stormwater Advisory Task Force web page at: http://agawam.ma.us/SW-TaskForce. Niles also emphasized that the analysis is preliminary and everyone should understand the difference between funding a stormwater program with a higher level of service through taxes versus a stormwater utility fee. Additionally, this is an ongoing evaluation and additional public engagement activities are planned to inform the public and solicit input.

The Stormwater Advisory Task Force will be further exploring these approaches to fund the stormwater program and the idea of a stormwater utility and will present recommendations to the City Council for their consideration in several months time. This work is financed with funds from the Environmental Protection Agency (EPA) to the Massachusetts Department of Environmental Protection (the Department) under a Section 319 competitive grant.
Phelps School tops library reading drive

As part of the “Build a Better World” Summer Reading Program at the Agawam Public Library, the Friends of the Agawam Public Library held a contest for the students of the Agawam elementary schools. The school with the highest percentage of 25-Day Summer Readers was awarded $200 from the Friends of the Agawam Public Library, the Friends of the Agawam Public Library held a contest for the students of the Agawam Public Library, and Noelle Colbert, Phelps School principal.

Marcia Cuppums, third from left, presents a check to Jennifer Green, Phelps School librarian. Also present at the award ceremony are, from left, Pame- la Weingart, Youth Services Librarian; Jean Clark, treasurer of the Friends of the Agawam Public Library; Nicole Brady, library assistant at Phelps School; and Noelle Colbert, Phelps School principal. (SUBMITTED PHOTO)

Stormwater consultants detail several potential taxes, fees to maintain system

What level of service makes sense for Agawam’s stormwater management program? And what is the best way to fund this program? These were the questions discussed at a briefing for local political candidates who joined members of the Stormwa- ter Advisory Task Force, public works officials, the Pioneer Val- ley Planning Commission’s Pat- ty Gamburini, and Amec Foster Wheeler’s Rich Niles on Sept. 25. The briefing aimed to inform atten- dtees about the ongoing Storm- water Funding Feasibility Study that will continue into the first half of 2018.

Mayor Richard Cohen opened the meeting with remarks em- phasizing the importance of the study, which will present recom- mendations on managing and funding Agawam’s stormwater program. These recommenda- tions will help officials make choices that will in turn allow for more integrated planning for the stormwater program.

The evening’s presenter, Niles explained that Agawam’s storm- water system is extensive, with 4,757 street drains (also called catch basins), 122 miles of drain- pipe, and 2,352 manholes that car- ry rainwater to 512 outfalls into waterways. Parts of the drainage system are clearly old (pre-1960s), but much of the system is of unknown age. Town Engineer Mi- chelle Chase remarked that the special camera now available to explore the drainage system more thoroughly, the Department of Public Works is finding many old pipes, clogged pipes, or failing pipes that need maintenance. While the town has always man- aged the system and there are some important improvement projects underway at Arnold Street, Meadow Street, and South Park Terrace, deferred main- tenance over the years has put Agawam in a reactive, rather than proactive, mode, Chase said.

There are also state and federal stormwater permit requirements that seek to reduce polluted storm flows from reaching rivers and streams. New permit rules are compelling the town to invest more in stormwater management, resulting in additional costs.

Niles noted that the $173,000 for the stormwater program in the fiscal year 2017 budget was dedi- cated to permit compliance, and it is just the beginning. “If you take a more holistic and functional look at the budget, accounting for system operations and maintenance, engineering and planning, and capital im- provement projects, a more ac- curate figure for the stormwater program expenditures in fiscal year 2017 is about $893,000,” ex- plained Niles.

With many stormwater chal- lenges facing the town, including accounting infrastructure challenges, Niles indicated that it is important to think about what level of service the town’s stormwater program, minimal level of service, he noted, would maintain the status quo and be minimally compliant with state and federal regulations, but would not address known problem ar- eas or necessary capital improve- ments. A moderate level of service would allow for improvements above the existing program, and a high level of service would allow for significant improvements in a more condensed timeframe. “Some communities have cho- sen to do an exceptional level of service and they are able to solve problems aggressively,” he noted.

Niles then laid out two prelim- inary budget options showing a five-year program of growth, one assuming a moderate level of ser- vice, and the other a higher level of service. At the moderate level of service, the average annual storm- water budget is estimated to be $1.9 million, and the average an- nual budget at the higher level of service is estimated to be $2.1 mil- lion. These are budget estimates that take into account all storm- water-related work, including ex- isting and future needs, and allow for important growth in capacity for capital improvement projects, maintenance.

To fund the stormwater pro- gram, there are a few primary options with several additional options to provide supplementa- ry revenue:

• Continue to use property tax- es from the general fund. To meet future costs defined at the moder- ate level of service, however, this would require a tax increase of 1.8

Alan R Cohen
Proprietor
info@agawampackandship.com

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at East Longmeadow on September 15. “My main objective in every game that we play is not to lose any goals,” Mielnikowski said. “I did my job, but we weren’t able to score any goals of our own.” Mielnikowski also added a pair of shutouts to his resume against Western in the following afternoon, and against Northampton, the last Friday afternoon. The final score in both of those home matches were 0-0. The members of the Brownies defensive unit are sophomore Nate Martens, junior Tommaso Decaro, senior Jeremy Bogacz, and senior Sam Stejchuk. Down at the other end of the field, Ludlow senior goalie Alec Albright made a total of seven saves in posting his second shutout of the season. He also made seven saves in a 3-0 home win over Amherst four days earlier. Albright received plenty of support from his defensive unit led by senior Ben Woisnians, junior Zach Grimes, junior Cameron Blackburn, and sophomore Michael Riley. The first shot on goal by either team in last Monday’s match was taken by Agawam junior Eyan Corridan during the seventh minute. He went on to tie a couple of defenders before firing a wide shot.

**WATER**

- Create a Municipal Water Infrastructure Investment Fund, a tool that some municipalities have used to create a dedicated funding source to support their water infrastructure (drinking-, waste-, and stormwater). Funding would come from a surcharge on a stormwater property tax.

- Establish a stormwater utility, where a user fee is charged based on the amount of impervious cover on a property. The more impervious cover — hard surfaces draining into the stormwater system, such as rooftops, driveways and parking lots — the higher the fee, making payment proportional to the demand placed on the drainage system. Under this option, all developed properties pay their proportionate share, including tax-exempt properties.

- Niles highlighted several specific properties in town to show an analysis of impervious cover and potential stormwater utility fees. All of these examples, and other materials, can be viewed on the Stormwater Advisory Task Force web page at agawam.ma.us/SW-Task-Force. Niles also emphasized that the analysis is preliminary and everyone should understand the difference between funding a stormwater program with a higher level of service through taxation versus a stormwater utility fee. Additionally, this is an ongoing evaluation and additional public engagement activities are planned to inform the public and solicit input.

- The Stormwater Advisory Task Force will be further exploring these approaches to fund the stormwater program and the idea of a stormwater utility and will present recommendations to the City Council for their consideration in several months’ time. This work the project is financed with funds from the federal Environmental Protection Agency and Massachu- setts Department of Environment Protection, and the ability for properties to receive credit for good stormwater management, for example.

About 20 minutes later, a shot taken by Agawam sophomore Daniel Rygal was saved by Albright. During the 36th minute, Mielnikowski, who joined the varsity soccer team last year, made a diving save on a wide open shot from the right side of the box by senior Brandon Martins.

“I practiced making diving saves a lot over the summer,” Mielnikowski said. “It’s something that I’m able to do in games.”

The Brownies goalie also made another save on a shot by senior Jared Leroux, which kept the match scoreless at halftime.

The second half was also hard fought and both teams had several scoring chances.

About six minutes into the half, Agawam junior Sammyingston Han lined a shot from the top of the box which went wide.

The Lions best scoring chance of the second half came during the 77th minute on another shot attempt by Martins, which was cleared off the line by Bogacz.

In the final seconds of the match, the Lions had a corner kick. The kick was taken from the right corner by Riley, which was headed in the box before the referee blew his whistle for the final time.

The second meeting of the regular season between the two teams is scheduled to take place at Ludlow High School on Monday night.

**FOOTBALL**

After Aidan Page hit the extra point to make it 25-7, Agawam left the field was some confidence with 2:59 remaining in the second quarter. That confidence was taken away when East Longmeadow was able to score on the ensuing kickoff. Hunter Mazza caught the kick-off from Page and went 73 yards to the end zone for another touchdown, erasing Agawam’s score just seconds earlier. With the two-point conversion conversion the Spartans lead was 33-7.

East Longmeadow took the lead to halftime and kicked off to Agawam in the second half. Parnie was able to lead the Brownies must of the way down the field until East Longmeadow made a stop near the end zone. The Spartans took over and scored on their next drive to make it 40-7.

Agawam scored late in the game as Pirnie connected with Dan Dobrowolski for an eight-yard touchdown pass. Nate Gordini caught a 13-yard pass for the third touchdown of the game.

Page made both extra points as the Brownies did get some offense going.

Parnie, who is in his first year as starting quarterback for Agawam, connected on 5-of-14 pass attempts for 110 yards. He had three touchdown passes against one intercepted. Durecure caught two of those passes for 59 yards.

The ground game is where Agawam has struggled a bit. Thomas Caraccia was finished with 50 yards on five carries. Durocher would carry for 13 times for 49 yards. Anthony Adams had 45 yards on 11 attempts.

The Brownies will start AA Conference action coming up on Friday, Sept. 29, at 7 p.m. Agawam will be at home against Westfield. The Bombers are 0-2 heading into conference play.
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Calendar

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By Michael J. Railway

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Public Safety --S
Sports

Stormwater panel's focus
turns to public outreach

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YOWL —

16 PAGES
DEATH NOTICES
Barry, Marguerite M.
Died Nov. 28
Funeral Dec, 6
Toomey-O'Brien Funeral Home
West Springfield
Clebater, Theodore T.
Died Nov. 27
Funeral Dec. 1
Curran-Jones Funeral Home
Agawam
Cosimini, Henry H.
Died Dec. 2
Funeral Miss. Dec. B
St. John the Evangelist Church
Agawam Funeral Home
Grus, Edward J.
Died Nov. 29
Funeral Dec. 6
Byron Keenan Funeral Home
and Cremation Trbute Center
Springfield

mballway@taleycom
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 Usk Force turned its attention on Nov.
29 to how it would sell Agawiun residents
on the need for a new utility fee to finance
an additional million dollars in spending,
annually, on maintenance, repair, environmental cleanup and permit compliance for
the storm drain system in town.
"We've got to convince the people they
need to make this investment" said City
Councilor-elect Dino Memo:I:tante, who
is also a business owner in town. "If they
can't see it, it'll be hard to convince them.
... 'They're asking me to pay for something I don't see as a problem: They don't
want to be taxed any more:'
Rich Niles, a consultant with Amec
Foster Wheeler of Chelmsford, Mass., has
been helping the task force identify upkeep needs of the town-wide drainage system, which is separate from the sanitary
sewers, as well as educating them about
costs the town will incur under new federal mandates. At previous meetings, the
task force agreed it makes the most sense
to fund the growth in the stormwater
budget — from about $1.05 million today
to about $2.04 million in fiscal 2023 — by
charging a new utility fee to each property iri town, based upon how much of the
land is covered by an impervious surface,
such as asphalt or a solid roof. In theory,
this means the properties that place the
highest burden on the stormwater system
would be the ones that contribute the
most to funding it.
"ft's • not a perfect system, but many
peopte' see it as a better syst-ein thart

modify their property to reditce 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.

BISON in the good
The town has to raise revenue not only
to meet new Environmental Protection
Agency water quality requirements but
also to keep the current infrastructure in
good working order. Niles said the town's
storm drain system includes 3.2 miles
of culverts, 121.5 miles of drainpipe, 512
outfalls, 2,352 manholes and 4,757 catchbasins — much of which is decades old
and has never been maintained. He said
the American Water Works Association
recommends that utility operators invest
1-2 percent of the value of their assets
in annual maintenance, and another 1-2
percent on capital improvements.
"We estimate there's approximately
$150' million of assets in the ground, in
terms of stormwater management" said
Niles. That would mean more than $3 million per year in spending on repairs and
replacements.
Niles current suggested spending
plan would increase the stormwater operations and management budget from
$735,799 this year to $1.03 million in
fiscal 2019, and eventually to $1.22 million in fiscal 2023. The budget for capital
improvement projects and equipment
would rise from $31,456 currently to
$289,951 in fiscal 2020, and stay at that
level forthe next four years.
.Henry gozloskr, chairman of the

The throe wise men — fro
Robert Rivets — participa
Redemption in 2014. FILE P

Church h
Nativity t

The Church of Rede
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are invited to bring fam
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side the manger.
The event is free of
413-304-2313. The chur

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'Over the past nine
members, employees a
the holidays for childr


Vergani, Katherine E.
Died Dec. 3
Funeral Dec. 7
Curran-Jonas Funeral Home
Agawam

Obituary

Exceptions will be made to the funeral date and place.

The other is a paid obituary, costing $75, which allows families to publish extended death notice information of their own choice and may include a photograph.

Obituary, $75; which allows families to publish extended death notice information of their own choice and may include a photograph.

Paid Obituaries

Paid obituaries are open to all.

The panel will not meet in December, but has not yet determined a meeting date for January. The task force also plans to hold public information sessions and meetings later in 2018.

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Singing Christmas Tree

Bethany Assembly of God in Agawam will present the Spectacular this weekend—Second and final weekend of the Singing Christmas Tree.

The multimedia production includes a 60-voice choir, along with dramatic re-enactments of the Nativity story. Presentation is Friday, Saturday, and Sunday at 3 and 6 p.m., on Dec. 8-10. All seats are free, with no individual reserved seating.

For businesses in particular, one positive side of the stormwater utility fee, as opposed to funding the stormwater through general tax revenues, is that it allows the town to issue credits to property owners who reduce their reliance on impervious surface — large parking lots, for example — but also already pay a property tax rate double the residential rate, while at the same time burdening certain big-ticket town expenses, such as schools, much less.

“Fairness is the big question,” Tedeschi said.

Finding a way to convince homeowners and businesses — including such varied land uses as professional offices, small retailers and large industrial sites — will be one of the task force’s greatest challenges in 2018, members agreed.

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Mercadante said he is confident that voters will accept a stormwater fee if it is necessary.

“As long as we tell the voters the truth,” they will support a reasonable plan to pay for prudent expenses, Mercadante said. But the lobbying effort has to be “100 percent transparent.”

The Citizen Stormwater Advisory Task Force has been meeting on a monthly basis for the past half-year. The panel is made up of Department of Public Works employees, political leaders, business owners and residents in town. Meetings are open to all.

The panel will not meet in December, but has not yet determined a meeting date for January. The task force also plans to hold public information sessions and hearings later in 2018.

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Stormwater maintenance costs expected to rise

Aging system, permit costs blamed for spike

BY CONOR BERRY
cberry@repub.com

The town's aging stormwater management system and stricter federal requirements to prevent pollutants from entering waterways are expected to lead to higher system maintenance costs for Agawam.

For years, storm system maintenance work has been funded through the town's general fund. But considering the age of the system and new permit requirements of the federal Clean Water Act, the cost of caring for the aging system is expected to increase significantly in the coming years, according to town officials.

Just how much costs will rise remains to be seen, which is why the Agawam Stormwater Advisory Task Force was recently formed. It's also why Amec Foster Wheeler, a global utility and energy consulting firm, is evaluating the town's current stormwater system.

"When you align proper care of our aging storm system with these new permit requirements, we have our work cut out for us," said Chris Golba, director of the Agawam Department of Public Works.

The expanded federal permit requirements aim to reduce the amount of polluted runoff entering rivers and streams. These requirements mandate water quality sampling within the storm system, promoting stormwater management practices that better soak up rainfall rather than catch and move water, and more frequent street sweeping and street drain cleaning, among other actions.

To prepare for the changes, Agawam officials plan to meet next month with local business owners to receive feedback, review the progress of the Stormwater Task Force, and discuss options to meet future funding needs for the town's stormwater management program.

Michelle Chase, the town's engineer, and Patty Gambarini, principal environmental planner for the Pioneer Valley Planning Commission, are among the officials who are expected to be involved in these ongoing discussions.

Chase and Golba are both members of the Stormwater Task Force, a 10-member task force responsible for figuring out how to better fund Agawam's storm system and reduce pollutants from flowing into waterways.

Since its formation this past summer, the task force -- a mix of residents and public officials -- has attended several meetings to learn more about stormwater management in Agawam, including current and projected program costs. More information about the task force is available online at agawam.ma.us/SW-TaskForce.

In Agawam, the DPW maintains more than 4,700 street drains -- also known as catch basins -- 122 miles of drain pipe, and more than 2,300 manholes that catch and move stormwater to the town's 512 outfall pipes that lead to local waterways.

To residents, the storm management system is largely invisible until it starts to fall apart or fail. Roughly 17 percent of the system was installed over the past 30 years, but the remainder is far older or of indeterminate age, according to town officials.

Rainfall soaks into natural ground. But when it hits a hard or impermeable surface -- such as a road, roof, driveway or parking lot -- it tends to "run off" to the nearest street drain, where it then moves through a series of pipes leading to local streams and the Westfield and Connecticut rivers.
Town stormwater maintenance costs expected to rise

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Businesses question stormwater fee

By Peter Spottis

A stormwater utility fee could have a massive impact on businesses, merchants said in a public hearing this week.

Manufacturing and retail properties with wide roofs and large parking lots would be especially hard hit, business owners said at the Jan. 16 hearing.

Businessmen such as Jack Sarat of Sarat Ford, and Mario Tedeschi of Allied Flooring and Paint, said an impervious surface fee would particularly affect business owners who have put money into developing their properties, and wondered how the hundreds of acres of farm land and open space will be handled.

"Who is hashing that out and at what point do we throw in the fee?"
farms and open space to pay their fair share? When does this get to the point where everybody pays?" Tedeschi asked.

Consultant Rich Niles from Amec Foster Wheeler responded that in some Massachusetts towns that have adopted a stormwater fee — there are currently more than 200 of them — agricultural land is charged a fee that is 10 percent of the impervious area for the gross area of their properties. He said that's a detail that would be discussed later in the process.

Farmers Gary and Scott Brown argued that if their water is not going into the stormwater system, they shouldn't be charged.

"As farmers, we know what we do to water flows, we don't have issues," Gary Brown said. "If they can't manage their own water flow, that's a problem and it should be. But we're not going to be charged for the town for a long time, I know how these fees structure work. They only go up, and I'd rather see it go through the general fund."

The Brown brothers also expressed concern over a fee system based around impervious area as it relates to smaller structures, such as plastic greenhouses.

"From an agricultural view, I'm looking at what I should tear down," Gary Brown said. "The first thing I think about is what can I tear down to save money on taxes and avoid this [fee]. Am I going down the road that I'm going to have to tear down buildings built less than five years ago?"

Niles said the precise definition of "impervious surface" would have to be determined, then the costs could be assessed based on much money the town wants to spend on stormwater maintenance, the average homeowner could see a $78 fee, but there would also be an estimated property tax decrease of 1.7 percent, a $72 savings for a $250,000 house, leaving a net increase of only $6. If stormwater costs were added to the property tax, it would mean an estimated $60.88 increase for the average homeowner, he said.

Those numbers are still estimates. Niles said the task force still needs to decide on how to define billing, whether commercial and residential properties will have different rates, and how farmland or open space will be charged.

Niles also said a fee system could provide opportunities for tax breaks as services related to the stormwater system that are currently funded by the general fund could be moved to the fees instead. That fact is one of many reasons Mayor William Sepelli voiced his support for a fee structure.

"Yes, we can raise taxes, but the problem with that is it goes into the general fund money and down the road, what will we be doing again? Putting this on the back burner and spending money somewhere else. You do it as that fee and identify that money for this and this only is, to me, the way to go," Sepelli said.

Members of the task force agreed that the stormwater system needs investment sooner rather than later. According to Niles, Agawam has 121.5 miles of drainage pipe, and for 57 percent of that pipe, the town has no data on how old it is. It is known that 6 percent of the pipe predates 1970, and Niles said these systems typically only last 50 years. He said the city would need $150 million to replace the entire system and make it "as good as new.$3 million to replace the entire system and make it "as good as new."
Stormwater plan is not ready yet

Utility fee proposal not expected at City Council before September

By Peter Spotts
aan@turley.com

The Citizen Stormwater Advisory Task Force is getting closer to presenting findings to City Council, but it needs a recommendation from consultant Amec Foster Wheeler first.

Mayor William Sapelli said that Amec Foster Wheeler is in the process of getting its recommendation together. After six public meetings and two workshops, including an outreach to business owners in town, the consultant has a large amount of information to incorporate into determining how best to fund federally mandated upgrades to the town’s stormwater management system.

“They’ve investigated a number of options, discussed a number of alternatives,” Sapelli said. “What is very obvious to all communities today, with the new federal legislation that is passed on the water issues, is that we need to do something.”

The town has 121.5 miles of drain pipe, 3.2 miles of culverts, 512 outfalls, more than 4,700 catch basins and 2,352 manholes. Only 17 percent of the system was built or repaired in the past 30 years. Sapelli said educating the public on the issue has been important over the past year, because with most of the system underground, it’s easy to forget that the system plays a vital role in reducing flooding and preserving the health of local waterways.

“That’s a big job. It prevents debris from getting into the pipes and clogging things there and from getting into the lakes or streams and clogging things there,” Sapelli explained. “With stormwater, it’s something you don’t normally think about because it’s all underground. In Agawam, that’s going to be breaking down and it is breaking down.”

Additionally, new federal regulations are forcing all towns to perform regular inspections of their stormwater systems to ensure that polluted runoff is not entering streams and ponds. The new focus on maintenance and inspection will not come cheap.

According to Sapelli, a study was conducted and determined that Agawam would need about $2 million per year to catch up on deferred maintenance and comply with environmental mandates. The town’s Citizen Stormwater Advisory Task Force agreed that it makes sense to raise the funds outside of the general town budget, which is funded mainly by property taxes.

One option discussed to fund stormwater costs would be a flat fee assigned to residents and small, medium and large businesses respectively. The second option is to create a sliding scale stormwater facility fee, which would charge property owners based on the square footage of impervious property they own. Impervious surface is any surface that directs rainwater into the publicly maintained storm system, including roofs, sidewalks, sheds and paved areas such as driveways and parking lots.

Once the task force receives the recommendation from Amec Foster Wheeler, it will present its findings to the City Council, incorporating all the feedback from the public, study results and recommendations. The council has its own discussion and determine which option it wants to pursue.

Based on the current summer schedule for council — meeting just once in July and once in August— Sapelli anticipates the issue won’t come up for debate until September. He said he doesn’t think the task force, which held eight public meetings from April 2017 through the start of this year, will see the need for additional public input outside of the City Council meetings.

“They’ve had several [meetings] now and there’s been more than ample time, over a year, for the public to weigh in on it,” he said. “There will possibly be a public hearing the City Council will hold before they enact any of this legislation. So, there will be a chance for people to weigh in, I would expect, before anything is passed by the council at a council meeting.”

For more information on the task force and stormwater system, visit the Citizen Stormwater Advisory Task Force page on agawam.ma.us.

CITY COUNCIL AGENDA

7 p.m. Monday, July 9
Agawam Public Library
750 Cooper St., Agawam

A. Roll call

from the Commonwealth of Massachusetts Executive Office for Administration and Finance pursuant to Massachusetts General Laws Chapter 44, Section 53A (Mayor)

Town of Agawam Zoning Ordinance to allow site plan review waivers (Planning Board) (One of two readings) (Referred to Legislative Committee) City Council Public Hearing

4. TC-2018-26 — Order granting or renewing a Permit for Weekly Affirmation for Six Flags New England, 1823 Main St., Agawam (Clark/Santos) in Administration

EMPLOYMENT OPPORTUNITIES

EXPERIENCED WRITERS & JOURNALISTS WANTED

Turley Publications, Inc. is seeking Experienced Writers/Journalists to produce news and/or feature stories of local interest for various towns and cities. Must be dependable, professional and able to meet strict deadlines. Photography skills and own camera a plus. Salary based on a flat rate by story and photo.

Send writing samples with resume to:
Aimee Henderson, Executive Editor
24 Water St., Palmer, MA 01069
or email directly to: ahenderson@turley.com

WARE OFFICE

STAFF WRITER SOUGHT FOR WARE, WARREN & BROOKFIELDS

The Ware River News and the Quaboag Current weekly community newspapers, are seeking a staff writer to report local news in Ware, Warren, and the Brookfields. Applicants must be dependable, have a passion for community journalism, feature reporting, editing, social media; be able to cover evening meetings and meet strict deadlines. The successful candidate will maintain cultural, political, educational and municipal relationships within their respective territory. Photography skills and own camera a plus. This is a full-time position. We will consider less experienced applicants, but a journalism degree is desired.

Three writing samples required with resume:
Eileen Kennedy, Editor
80 Main Street, Ware, MA 01082
or email directly to: ekennedy@turley.com

SPORTS CORRESPONDENTS & PHOTOGRAPHERS

Turley Publications, Inc. is looking to add Sports Correspondents and Photographers to its team to provide coverage of local sports for multiple regions. Applicants should have an understanding of a wide-range of sports and have a degree in English, journalism or communications. Applicants must be dependable, have a command of AP Style and be able to meet strict deadlines.
AGAWAM -- Additional funds are needed to deal with storm-related flooding in the city, according to the Agawam Department of Public Works and a Citizens Advisory Stormwater Task Force.

The task force, formed in 2017, has recommended treating the stormwater system like a utility -- akin to the water and sewer utilities -- with a dedicated enterprise fund and revenue from user fees.

The City Council will discuss the proposed "stormwater enterprise utility" at its Sept. 17 meeting, and hear a presentation. Council approval will be needed at some point to form such a utility and determine its fee structure.

The task force has recommended a uniform flat rate, based upon every 1,000 square feet of impervious surface on a developed parcel, with potential "modifiers."
The city needs an additional $2 million to $3 million per year to replace aging infrastructure and comply with new state mandates, according to a recent presentation from the task force.

As it is, stormwater system maintenance costs are paid via property taxes through the general fund.

The current budget does not allow for "large scale capital projects necessary to correct the numerous flooding problems throughout Agawam," according to an Aug. 31 letter signed by DPW Superintendent Christopher J. Golba, Town Engineer Michelle C. Chase, and Assistant Town Engineer Michael F. Albro.

An official from the former Amec Foster Wheeler, now known as Wood Group, is scheduled to attend the Sept. 17 council meeting and make a presentation, according to the letter.

**If you go:**

**What:** Agawam City Council and stormwater utility presentation  
**When:** Sept. 17, 7 p.m.  
**Where:** Doering Middle School, 68 Main St.
Stormwater Utility

Drain fee would average $88/year

By Michael Ballway
mballway@turley.com

Of all the ways the town could raise $1.1 million for storm drain repairs, assessments on impervious surfaces are probably the fairest, a consultant told the City Council last week.

Those assessments would work out to about $88 per year for the average single-family home in Agawam, with a higher cost for properties with wider roofs or more paved surfaces. Property owners who could show that they keep rain runoff on their property, or treat it for pollutants before it leaves the property, could see their bills discounted up to 50 percent.

"We recognize that different properties drain different ways," said Rich Niles of Wood Group, formerly Amec Foster Wheeler, which consulted with the town's Citizens Stormwater Advisory Task Force. "They wanted to give properties credits for water quantity and quality management."

Officials are looking for ways to dramatically increase the town's spending on storm drains as new federal regulations go into effect mandating mapping, testing and maintenance of every stormwater pipe and outfall in town. Agawam has 4,757 catchbasins, 121.5 miles of drain pipe and 3.2 miles of culverts leading to 512 different outfalls, Niles said — $150 million worth of infrastructure. Parts of

Election 2018

Workers' rights.

FEEDING HILLS CONGREGATIONAL CHURCH

Banner day for acceptance

Grassroots donors help ensure that pride flag flies again

By Geoffrey Oldmixon
aani@turley.com

More than three dozen congregants of Feeding Hills Congregational Church turned out Saturday to help the town's oldest church rededicate its LGBTQ pride banner and flag. The new flag and banner replace those cut down and stolen last month in what was presumed to be an act of vandalism.

"Through God's power and God's love, we rise above all discrimination, we rise above all bigotry, and we will rise all together — gay, cis, trans, lesbian, whoever we are," the Rev. Rob Donaldson, the church's pastor, told a crowd gathered on the church lawn for the rededication ceremony.

The new LGBTQ pride banner and rainbow flag are displayed on the front of the North Westfield Street church property. They were funded by an online campaign arranged by congregant Amanda Rogers and other church members.

According to Donaldson, the LGBTQ pride flag and its flagpole were noticed missing on Thursday, Aug. 23. "Nothing else was taken. Nothing was damaged," he said.

That Sunday, Donaldson recalled, the large banner on the front of the church greeted his congregation, as usual. The following Monday, however, the

Net
Ali, members of the Agawam City Council and the Agawam Senior Center attended a tour of the Tenaska Power Plant. The Nebraska company finalized its purchase of Berkley natural gas generator on Moylan Drive off Shoe-String Avenue.

September 27, 2018
AGAWAM ADVERTISER NEWS
FEE

The system date back to the 1960s or earlier. Maintenance has been underfunded for years, and storm-related flooding in several parts of Agawam — from Meadow Street to Philo Brook to Ramah Circle — is the result.

"It's going to be a nightmare in the future if we don't do something," commented Councilor Robert Magovern.

"It's a huge amount of money," said Councilor George Bitzas. "We have to educate people.

The other options, Niles said, would be a simple tax hike, to continue funding the stormwater system through the town's general fund; or a separate budget funded by a property tax surcharge. The drawback of both of those approaches, Niles said, is that each taxpayer's share of stormwater costs would be based on property values, which do not necessarily line up with burden placed on the stormwater system.

The utility fee approach, on the other hand, is tied directly to a factor that increases strain on storm drains, impervious cover. Furthermore, Niles added, this option allows the town greater flexibility to offer credits to property owners who can demonstrate that they are burdening the stormwater system less than their square footage of impervious cover would suggest.

Though some communities allow property owners to accumulate enough credits to cover 100% of their stormwater fees, Niles said task force members asked him to cap it at half, to account for each property owner's share of the storm drains on public property, such as catchbasins on the town's paved roads.

Four other communities in Western Massachusetts — Chicopee, Longmeadow, Northampton and Westfield — have already adopted a similar fee. Chicopee, the first city in New England to adopt a stormwater fee, did so 20 years ago.

The council plans to hold a public hearing on the stormwater utility fee before voting on whether to adopt it.

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Lunch Menu
Monday, Oct. 1: Chicken breast and broccoli alfredo over ziti, spinach and cranberry salad, fresh pear.
Tuesday, Oct. 2: French meat pie, mashed potatoes, gravy, mixed vegetables, birthday cake.
Wednesday, Oct. 3: Roasted chicken capri, confetti rice, green beans, playful.
Thursday, Oct. 4: Vegetable orzo soup, egg salad sandwich, lettuce and tomato, pudding.
Friday, Oct. 5: Cheddar broccoli quiche, hash browns, tomato salad, fruit cocktail.

Calendar of Events
Monday, Oct. 1: 6:15 a.m., yoga; 8:30 a.m., weight training; 9:45 a.m., line dancing; 11:30 a.m., Gentle Yoga; 1 p.m., Bingo; 3:30 p.m., senior theater group meets.
Tuesday, Oct. 2: 9 a.m., open knitting group, YMCA exercise with Sue Woods; noon, lunch.
Wednesday, Oct. 3: 8:15 a.m., Gentle Yoga; 8:30 a.m., weight training; 9 a.m., hearing checks; 9:45 a.m., Gentle Yoga; 10 a.m., friends meeting; 11:15 a.m., tai chi; 12:30 p.m., bridge; 1 p.m., Senior Club; 1:30 p.m., Golden Age (Chapter 2)
Thursday, Oct. 4: 9 a.m., exercise program with YMCA; 10 a.m., line dancing; 10:30 a.m., Reiki with Carlene; 12:15 p.m., bridge; 12:30 p.m., Mexican Train Game; 1 p.m., pitch; 1:30 p.m., writing group; 2 p.m., Melody Band practice; 4 p.m., Yoga with Loretta; 6:30 p.m., pitch
Friday, Oct. 5: 9:15 a.m., exercise; 10:30 a.m., Let's Paint; 11 a.m., canasta; 1 p.m., pitch; 1:30 p.m., card games; 4 p.m., Senior Club; 6:30 p.m., pitch
September 7, 2017

Re: Financing Agawam’s Stormwater Management

Dear Agawam Stakeholder:

The Department of Public Works would like to invite you to an informational session on financing Agawam's stormwater program to be held for current City Council members, candidates for political office, and other stakeholders. This one-hour session will take place on Monday, September 25th at 7PM in the Agawam Senior Center Dining Room.

The Town of Agawam has been working with the Pioneer Valley Planning Commission, which received a grant funded by the Massachusetts Department of Environmental Protection (MassDEP), to conduct a "Stormwater System Assessment and Utility/Fee Planning Project" for Agawam.

This project has multiple components, but it is aimed to address two fundamental items:

1) Identify major needs, priorities, and costs for Agawam’s municipal stormwater management program; and
2) Evaluate the feasibility of establishing a stormwater utility or fee to fund the future program.

We believe it is important for you to understand this process and hope that you will join us to learn more about Agawam’s stormwater infrastructure, the town's responsibility to manage this infrastructure and protect natural resources.

Thank you for your time and we look forward to seeing you at this workshop.

Regards,

Christopher J. Golba
Superintendent

Michelle C. Chase, P.E.
Town Engineer

Tracy DeMaio
Stormwater Task Force Coordinator
Project Overview

Rationale and Need

Why are we here?

► The Town has existing stormwater problems.
► Stormwater management needs are increasing.
► The Town has limited resources and funding.
► We have the ability to solve these problems and manage stormwater better, but it will cost more.
► What’s the best approach to move forward?
MassDEP s319 Grant: Project 16-06/319

Goals:

1. Obtain a local consensus on Agawam’s current and future stormwater management program needs, priorities and costs.
2. Execute a robust public engagement process to promote a deep understanding of stormwater issues and funding needs.
3. Study the possibility of establishing a stormwater utility in Agawam.
4. Develop recommendations and a consensus for next steps.
Project Overview

Roles and Responsibilities

► Project Team:
  ► Town Staff – provide input on stormwater management program, costs, priorities, and policy recommendations
  ► Pioneer Valley Planning Commission – manage grant, review project deliverables, conduct public education and outreach, support GIS updates
  ► Amec Foster Wheeler – guide study, facilitate meetings, and provide technical analysis and report writing
  ► Graphic Designer – develop public education and outreach materials

► Advisory Task Force:
  ► Attend 6 meetings
  ► Provide input throughout the project
  ► Provide recommendations for consideration by the Town Council and the general public

► Town Council:
  ► Participate in Task Force and Public Meetings
Municipal Stormwater System

How it Works
Municipal Stormwater System

How it Works

Combined Sewer Overflows:
- 10 removed in Agawam between 1980s-2000
Municipal Stormwater System

How it Works

Separated drainage system
Municipal Stormwater System

Extent

Storm Drain Infrastructure:
► 512 Outfalls
► 4,757 catch basins
► 2,352 manholes
► 121.5 miles drain pipe
► 3.2 miles culverts
# Municipal Stormwater System

## Age

<table>
<thead>
<tr>
<th>Year</th>
<th>Feet of Pipe</th>
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<tr>
<td>Pre 1960</td>
<td>8,937</td>
<td>1.4%</td>
</tr>
<tr>
<td>1960-69</td>
<td>29,213</td>
<td>4.6%</td>
</tr>
<tr>
<td>1970-79</td>
<td>69,018</td>
<td>10.8%</td>
</tr>
<tr>
<td>1980-89</td>
<td>55,860</td>
<td>8.7%</td>
</tr>
<tr>
<td>1990-99</td>
<td>24,103</td>
<td>3.8%</td>
</tr>
<tr>
<td>2000-09</td>
<td>79,278</td>
<td>12.4%</td>
</tr>
<tr>
<td>2010+</td>
<td>6,267</td>
<td>1.0%</td>
</tr>
<tr>
<td>No Data</td>
<td>368,602</td>
<td>57.5%</td>
</tr>
<tr>
<td>Total</td>
<td>641,278</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

[Map of stormwater system]
Existing Activities:
- Catch basin cleaning
- Street sweeping
- Drainage structure repair and replacement
- Culvert cleaning, repair and replacement
- Management of stormwater treatment facilities
- Road shoulder and ditch repair
- Flood response and related improvements
- Engineering and planning for upgrades
- Drainage mapping and assessments
- Stormwater permit compliance
Stormwater Needs

Infrastructure

Additional Needs:

► Ongoing operation and maintenance (repairs & reconstruction) challenges
► Maintenance backlog of deteriorated storm drain infrastructure
► Culvert failures: North Street culvert is severely deteriorated, resulting in bank erosion for White Brook
► Pipe failures: Westford Circle outfall pipe separation and erosion
► Detention pond maintenance: private maintenance is not performed, resulting in failure and burden upon the municipal system
► Undersized pipes to convey flow
► Sanitary sewer cross-connections
Stormwater Needs

Water Quality

Impaired Water Bodies:

► Connecticut River
  ► E. coli, nutrients, total suspended solids (TSS), and PCBs in fish tissue
  ► Long Island Sound TMDL (nitrogen) – applies to Agawam
  ► Incorporated into EPA stormwater permit

► Potential Causes of Impairments:
  ► Urban stormwater runoff
  ► Illicit discharges
  ► Sanitary sewer I/I and SSOs
  ► Septic systems
  ► Waterfowl
  ► Pet waste

Pynchon Point Park is located at the mouth of the Westfield River where it joins the Connecticut River. Down a short path from the parking lot, is an unimproved ramp for car-top boats only.

Is It Clean?
Pynchon Point is sampled Thursdays from June to September by volunteers coordinated by the Pioneer Valley Planning Commission.

<table>
<thead>
<tr>
<th>Sample Date</th>
<th>Status</th>
<th>CFU/100ml</th>
<th>Wet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-09-28</td>
<td>Clean for Boating and Swimming</td>
<td>190</td>
<td>Y</td>
</tr>
<tr>
<td>2016-09-21</td>
<td>Clean for Boating</td>
<td>270</td>
<td>Y</td>
</tr>
<tr>
<td>2016-09-14</td>
<td>Clean for Boating and Swimming</td>
<td>18</td>
<td>N</td>
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<tr>
<td>2016-09-07</td>
<td>Clean for Boating and Swimming</td>
<td>116</td>
<td>N</td>
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<tr>
<td>2016-08-31</td>
<td>Clean for Boating and Swimming</td>
<td>54</td>
<td>N</td>
</tr>
</tbody>
</table>

Get more data | What do these numbers mean?
Stormwater Needs

Flooding

Known Problem Areas:
► Arnold Street (north) – flooding during heavy storms, failed infiltration system
► Meadow Street near Joseph Street – heavy storms overwhelm undersized pipes
► Fairview Street and Federal St. Ext. – flooding due to tree roots in pipes
► Basement flooding during extreme storms
► Increased intensity of storms and resulting flooding and erosion
Stormwater Needs

Example Problem Areas
Stormwater Needs
Advisory Task Force feedback

“We need a better stormwater management program because:”

► Aging infrastructure – 5 votes
► Flooding problems – 5 votes
► Erosion of channels and streams – 4 votes
► Water quality problems – 3 votes
► Wastewater or septic pressures – 3 votes
► Drinking water protection – 3 votes
► Compliance requirements – 2 votes
► Preserve recreation or fisheries – 2 votes
► Ecological concerns – 2 votes
► Understanding of the stormwater system / data quality – 1 vote
► Beach closures or swimming restrictions – 0 votes
► Preservation of property value – 0 votes
► Development pressures – 0 votes
► Prevent lawsuits – 0 votes
Stormwater Needs
Regulatory Requirements

► Small Municipal Separate Storm Sewer System (MS4) General Permit
  ► Re-issued by EPA on April 4, 2016
  ► Becomes effective July 1, 2018
  ► Replaces prior MS4 permit issued in 2003

► Who is regulated?
  ► 26 MS4s in Pioneer Valley
  ► 260 MS4s across MA

Note: Pelham and Westhampton obtained waivers.
Stormwater Needs

Regulatory Requirements

MS4 Permit - 6 Minimum Control Measures (MCMs)

► MCM 1: Public Education and Outreach
► MCM 2: Public Involvement and Participation
► MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program
► MCM 4: Construction Site Stormwater Runoff Control
► MCM 5: Stormwater Management in New Development and Redevelopment
► MCM 6: Pollution Prevention and Good Housekeeping

Represent the majority of operational and engineering costs . . . .
Stormwater Needs

Summary of Part 1 - Background

Stormwater Program Challenges:

► Aging infrastructure
► Flooding and drainage system capacity
► Water quality impacts
► Mapping and understanding of the storm drain system (age, condition, etc.)
► System maintenance
► Capital improvements
► Regulatory requirements
► Increasing costs
► Limited resources and funding
Existing Stormwater Program

Current MS4 Permit Budget Approach

STORMWATER MANAGEMENT FY2017 = $173,000 line item

► Focused on MS4 Permit Compliance
► MS4 Permit - 6 Minimum Control Measures (MCMs)
  ► MCM 1: Public Education and Outreach ($3,000)
  ► MCM 2: Public Involvement and Participation ($1,500)
  ► MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program ($20,000)
  ► MCM 4: Construction Site Stormwater Runoff Control ($5,000)
  ► MCM 5: Stormwater Management in New Development and Redevelopment ($5,000)
  ► MCM 6: Pollution Prevention and Good Housekeeping ($138,500)

► Does not include:
  ► Labor associated with operations and management
  ► Labor for administration, management, engineering, planning, inspection/enforcement
  ► Capital projects and equipment costs
  ► Additional contract services
### Existing Stormwater Program

**All Stormwater Related Expenditures**

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '17 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>$37,676</td>
</tr>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
</tr>
<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>$135,725</td>
</tr>
<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>$100,917</td>
</tr>
<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td>$31,456</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$892,571</strong></td>
</tr>
</tbody>
</table>

**Preliminary costs are derived primarily from:**

- Existing and estimated budget items
- Estimated personnel (labor) efforts – approx. 5 full time employees (FTEs)
- Contractors and expenses
Existing Stormwater Program

Functional Approach for All Expenditures

1. Stormwater Program Administration
   - General administration (budgets, personnel, management, etc.)
   - Grant application/management
   - Internal/external project coordination

2. Stormwater Operations and Maintenance
   - Catch basin repairs
   - Storm drain and culvert repairs
   - Street sweeping
   - Catch basin cleaning
   - Storm cleanup/flood relief response
   - Ditch/channel maintenance
   - Equipment maintenance/repair

3. Drainage Engineering and Stormwater Management Planning
   - System conditions inspection/video
   - Asset management
   - Planning/design of collection system upgrades
Existing Stormwater Program

Functional Approach for All Expenditures

3. Drainage Engineering and Stormwater Management Planning (continued)
   - Planning/design of collection system upgrades
   - Planning/design of stormwater treatment (BMPs)
   - Drainage design standards and bylaws
   - System mapping and database management
   - Water quality monitoring
   - Public involvement/outreach

4. Regulatory Compliance/Enforcement
   - MS4 permit compliance
   - Review and approval of stormwater plans
   - Construction inspections and reporting
   - BMP inspection and enforcement

5. Stormwater Capital Improvement Projects and Equipment
   - Minor projects: drainage improvements (existing systems)
   - Major projects: new infrastructure/BMPs
   - Capital equipment
Future Stormwater Program

Stormwater Needs

Example Identified Needs:

► Maintenance backlog of deteriorated storm drain infrastructure with associated increased effort for labor and equipment

► Repair failing culverts: North Street culvert is severely deteriorated, resulting in bank erosion for White Brook

► Replace failed pipes: Westford Circle outfall pipe separation and erosion

► Educate and enforce detention pond maintenance: private systems

► Increase maintenance of publicly-owned detention basins

► Design/replace undersized pipes: Arnold Street

► Identify and eliminate sanitary sewer cross-connections and other illicit discharges

► Implement increasing MS4 permit requirements: inventories, inspections, outfall screening, good-housekeeping activities (street sweeping and catch basin cleaning)

► Additional administration, engineering, planning, asset management, etc.
Future Stormwater Program

Summary of Future Costs

Preliminary Estimate:

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '17</th>
<th>FY '18</th>
<th>FY '19</th>
<th>FY '20</th>
<th>FY '21</th>
<th>FY '22</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>$37,676</td>
<td>$66,182</td>
<td>$67,236</td>
<td>$67,236</td>
<td>$67,236</td>
<td>$67,236</td>
</tr>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,179,723</td>
<td>$1,197,723</td>
<td>$1,215,723</td>
</tr>
<tr>
<td>4. Regulatory Compliance / Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$892,571</strong></td>
<td><strong>$1,630,481</strong></td>
<td><strong>$1,953,593</strong></td>
<td><strong>$1,973,628</strong></td>
<td><strong>$2,040,778</strong></td>
<td><strong>$2,032,568</strong></td>
</tr>
</tbody>
</table>

Key Considerations:

► $854,810 – net increase
► Increase of ~2.5 FTEs
► Increased contractor costs
► Includes $250K for minor and major capital projects
  ► Budget needs to be refined over time based on new data from future assessments.

FY ’18-22 (5-yr avg.): $1,926,209
### Future Stormwater Program

#### Summary of Future Costs

**Example Major Capital Project:**

- ~$324,900 (Fairview St. / Federal St. Ext.)
- Flooding during heavy rainstorms

---

**FAIRVIEW STREET**

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>ITEM</th>
<th>UNIT</th>
<th>QUANT.</th>
<th>UNIT PRICE</th>
<th>HDPE PIPE 24X24X8 CB Cover</th>
<th>RCP PIPE 24X24X8 CB Cover</th>
<th>HDPE PIPE CB Top-Type “C”</th>
<th>RCP PIPE CB Top-Type “C”</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>12” HDPE</td>
<td>LF</td>
<td>1590</td>
<td>$6.50</td>
<td>$10,335.00</td>
<td>-</td>
<td>$10,335.00</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>12” RCP</td>
<td>LF</td>
<td>1590</td>
<td>$8.07</td>
<td>-</td>
<td>$12,831.30</td>
<td>-</td>
<td>$12,831.30</td>
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<tr>
<td>9</td>
<td>25 LB BUCKET LUBE</td>
<td>EA</td>
<td>1</td>
<td>$45.95</td>
<td>-</td>
<td>$45.95</td>
<td>-</td>
<td>$45.95</td>
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<tr>
<td>10</td>
<td>2’ CB SUMP</td>
<td>EA</td>
<td>14</td>
<td>$267.00</td>
<td>$3,738.00</td>
<td>$3,738.00</td>
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<tr>
<td>11</td>
<td>2’ CB RISER SOL</td>
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<td>14</td>
<td>$208.00</td>
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<td>12</td>
<td>4’ CB KO C-RISER (4’ High w/ 1” O.D.)</td>
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<td>14</td>
<td>$320.00</td>
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<tr>
<td>13</td>
<td>TYPE “C” BIT CURB CB TOP</td>
<td>EA</td>
<td>14</td>
<td>$424.00</td>
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<td>-</td>
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<td>-</td>
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<tr>
<td>14</td>
<td>24” x 24” x 8” 3 Flange CB Frar</td>
<td>EA</td>
<td>14</td>
<td>$408.02</td>
<td>$5,712.28</td>
<td>$5,712.28</td>
<td>-</td>
<td>-</td>
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<tr>
<td>15</td>
<td>CB Hood, Cast Iron</td>
<td>EA</td>
<td>14</td>
<td>$88.96</td>
<td>$1,245.44</td>
<td>$1,245.44</td>
<td>$1,245.44</td>
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<tr>
<td>16</td>
<td>48” x 4” BASE EXT WHOLE</td>
<td>EA</td>
<td>7</td>
<td>$374.00</td>
<td>$2,618.00</td>
<td>$2,618.00</td>
<td>$2,618.00</td>
<td>$2,618.00</td>
</tr>
<tr>
<td>17</td>
<td>3” x 48” CONE W/24” OPNG</td>
<td>EA</td>
<td>7</td>
<td>$192.00</td>
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<td>$1,344.00</td>
<td>$1,344.00</td>
<td>$1,344.00</td>
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<tr>
<td>18</td>
<td>48” x 1” RISER PER FT</td>
<td>PF</td>
<td>9</td>
<td>$64.00</td>
<td>$576.00</td>
<td>$576.00</td>
<td>$576.00</td>
<td>$576.00</td>
</tr>
<tr>
<td>19</td>
<td>48” CONSEAL JOINT</td>
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<td>12</td>
<td>$8.00</td>
<td>$96.00</td>
<td>$96.00</td>
<td>$96.00</td>
<td>$96.00</td>
</tr>
<tr>
<td>20</td>
<td>Massachusetts 26”x8” Frame &amp;</td>
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<td>7</td>
<td>$395.44</td>
<td>$2,768.08</td>
<td>$2,768.08</td>
<td>$2,768.08</td>
<td>$2,768.08</td>
</tr>
</tbody>
</table>

**SUBTOTAL = $35,824.80**

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>ITEM</th>
<th>UNIT</th>
<th>QUANT.</th>
<th>UNIT PRICE</th>
<th>COST (INSTALL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>PIPE, 8” - 15”</td>
<td>LF</td>
<td>1590</td>
<td>$55.00</td>
<td>$87,450</td>
</tr>
<tr>
<td>23</td>
<td>DMH &amp; CB</td>
<td>EA</td>
<td>21</td>
<td>$1,100.00</td>
<td>$23,100</td>
</tr>
</tbody>
</table>

**SUBTOTAL = $110,550.00**

**TOTAL = $146,374.80**
Future Stormwater Program
Levels of Service

Future program considerations:

- Level of service options
- Setting expectations
- Solving problems
- Program growth over time

Source: https://www.portlandoregon.gov/bes/52501

Note: That this is an ongoing discussion...
Stormwater Asset Replacement Value
LOS and Best Practice Example Approach

Something to keep in mind as we discuss the appropriate Level of Service (LOS) and annual program costs.

The American Water Works Association is a trade group that prepares manuals and best practice guidance for public water utilities.

Based on life expectancy of pipes and related infrastructure, they recommend that utility operators invest 1-2% of the value of their assets in annual maintenance (older systems at the higher end) and 1-2% in capital replacement or capital reserves.

A rough estimate of the replacement value of Agawam’s existing stormwater infrastructure is $150M.

- For O&M at 1% - $1.5M/yr.
- For Capital at 1% - $1.5M/yr.

$3M is a reasonable LOS and a goal for program growth.

Agawam Storm Drain Infrastructure:
- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts
Preliminary Funding Analysis

LOS Option A - Moderate

Funding needs depend on the LOS to be provided:

► Preliminary future cost estimates were based on a “moderate” LOS.
► Moderate represents a doubling over the current service level and would provide for more proactive maintenance, regular system inspections, meet regulatory mandates, and include a consistent set-aside of $250,000 a year to start to address the backlog of infrastructure repair and replacement needs.

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '17</th>
<th>FY '18</th>
<th>FY '19</th>
<th>FY '20</th>
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<td>$1,215,723</td>
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<tr>
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<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
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<td><strong>$1,973,628</strong></td>
<td><strong>$2,040,778</strong></td>
<td><strong>$2,032,568</strong></td>
</tr>
</tbody>
</table>
For comparison purposes, cost estimates for a higher level of service were prepared:

► The higher level of service represents an average increase of 2.5 times the current service level and would provide for proactive maintenance and regulatory compliance at a moderate level and adds an accelerated schedule for system inspections and capital improvement investment.

► Included in the Higher LOS is an additional $250,000 a year for Capital Improvements (over the Moderate LOS) starting in year 3 and a new position for an engineer starting in year 2 to support inspections and capital contracts.

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '17</th>
<th>FY '18</th>
<th>FY '19</th>
<th>FY '20</th>
<th>FY '21</th>
<th>FY '22</th>
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<td>$1,207,723</td>
<td>$1,230,723</td>
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<td>4. Regulatory Compliance/Enforcement</td>
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<td>$175,950</td>
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<tr>
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<td>$2,035,593</td>
<td>$2,312,268</td>
<td>$2,386,090</td>
<td>$2,384,568</td>
</tr>
</tbody>
</table>
### Common Methods for Funding Stormwater Programs

<table>
<thead>
<tr>
<th>General Fund</th>
<th>User Fee</th>
<th>Sponsors</th>
<th>Fines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact Fee</td>
<td>Bonds</td>
<td>Special Assessment</td>
<td>Tax Set-aside</td>
</tr>
<tr>
<td>Shared Costs</td>
<td>Inspection Fees</td>
<td>Grants</td>
<td>Chapter 90</td>
</tr>
</tbody>
</table>
Future Stormwater Program

Primary Funding Options

Tax Revenue vs. User-Fee

► **Option A: Tax Override**
  ► Based on property value
  ► Funds allocated to DPW or other account
  ► Town Meeting vote annually

► **Option B: Municipal Water Infrastructure Investment Fund**
  *(MGL Chapter 259 (Section 39M): An Act Improving Drinking Water and Wastewater Infrastructure)*
  ► Based on property value (surcharge up to 3%)
  ► Use of funds is not limited solely to stormwater
  ► Town Meeting vote to establish

► **Option C: Stormwater Utility (user-fee)**
  ► Based on impervious cover, not property value
  ► Dedicated funding, stormwater only
  ► Town Meeting vote to establish
  ► Opportunities for credits
Stormwater Utilities
Rational Nexus

How Does it Work?

- Fees assigned to a parcel for services provided
- Fee is proportional to the stormwater burden on the stormwater system/program
- More impervious areas…
  - …more stormwater runoff…
  - …larger burden on the system…
  - …larger user fee
- Therefore, even tax-exempt properties contribute (universities, hospitals, and religious institutions, etc.)
- Not a “Rain Tax” – Value of the Property is Not Considered
Key Advantages

- **It is Stable** because it is not as dependent on the vagaries of the annual budgetary process as taxes are.

- **It is Adequate** because a typical stormwater fee is based on a well thought out stormwater program to meet the needs and demands of the community, as well as other program drivers (e.g., water quality, regulations).

- **It is Flexible** because fees can be structured in multiple ways, and the program can be managed to fund activities based on changing priorities and needs.

- **It is more Equitable** than most other funding sources because the cost is borne by the user on the basis of demand placed on the drainage system.
National Trends for Stormwater Utilities

> 1,600 utilities / dedicated funds

Source: Stormwater Utility Survey 2016, Figure 1, Warren Campbell, Western Kentucky University

National Statistics*
Avg. Population = 70,765
Median Population = 18,390
Smallest = 88 (Indian Creek Village, FL)

*Source: Stormwater Utility Survey 2016, Warren Campbell, Western Kentucky University
Massachusetts
Sample Stormwater Utility Rates

Average Residential Stormwater Fees

- **Reading** (pop. 24,747)
  - $3.33/Month
  - $400,000 annual revenue

- **Newton** (pop. 85,146)
  - $6.25/Month
  - $1,750,000 annual revenue

- **Northampton** (pop. 28,540)
  - $7.50/Month
  - $1,940,000 annual revenue

- **Chicopee** (pop. 55,298)
  - $8.33/Month
  - $1M annual revenue

**Notes:**

- Programs, fees and revenue can vary widely.
- Revenue potential also varies based on rate structure and rate payers (e.g., residential versus non-residential make-up).
- Fees are for average residential properties – some rate structures include increasing fees for larger residential properties, such as Northampton.
Agawam Data Analysis

*Impervious Cover and Parcel Analysis*

- GIS data was updated and analyzed to determine parcel boundaries and impervious area (IA).
- Aerial photography and GIS tools were used to perform an initial identification of impervious area per parcel in Agawam.
  - The analysis identified 9,179 developed parcels (having at least 200 SF of IA) with a total of 78,678,230 SF of IA.
Agawam Data Analysis
Impervious Cover and Parcel Analysis

- GIS data was updated and analyzed to determine parcel boundaries and impervious area (IA).
- The GIS data was then linked to the Town Assessor’s files by parcel ID. Using the Assessor’s land use codes, properties where designated Single-Family Residential (SFR) or Non-Single-Family Residential (NSFR).
  - Of the 9,179 developed parcels: 84% or 7,710 are SFR and 16% or 1,469 are NSFR.
  - The SFR properties contained 30,464,260 SF of IA
  - The NSFR properties contained 48,213,970 SF of IA
The data analysis confirms that there is sufficient, quality data to support an impervious area rate methodology. To select the most appropriate rate method for Agawam, two impervious-based rate structure options were considered:

Option 1: Billing unit is based on an “equivalent residential unit” (ERU)

- Assumes residential parcels are generally similar in their impact on the public stormwater system and non-residential parcels are dissimilar - parcels are categorized into 2 categories: SFR and NSFR for billing purposes

Similar IA for most single-family residential properties
Option 1: Billing unit is based on an ERU (Continued)

► The IA on all SFR properties was estimated and the median value (or ERU) for Agawam is 3,250 SF of IA.

- For billing purposes, all SFR properties would be billed one (1) ERU. NSFR IA would be calculated by parcel and the total divided by the ERU to determine total billing units.
- Note that SFR properties could be placed in “Tiers” based on the number of ERUs, among other basic rate structure options

**Histogram of IA - SFR Properties**

![Histogram of IA - SFR Properties](image-url)
Agawam Data Analysis
Preliminary Stormwater Rate Structure Options

Option 2: Billing unit is based on a set Flat Billing Rate

► For Agawam, we selected a 1,000 SF billing unit. This is large enough to minimize minor issues in using aerial photography to determine IA but small enough to recognize differences in property runoff impacts.

► Eliminates the need to assign land use codes to property, as all properties are billed on the same basis.

► Requires more accurate IA calculation on all SFR properties, but billing will align more closely with actual IA on properties across Town
Agawam Data Analysis

**Preliminary Distribution of Costs**

Option 1: Billing unit is based on an “equivalent residential unit” (ERU)

- Total IA
  - SFR: 39%
  - NSFR: 61%

- Residential 1 ERU/NSFR ERU
  - SFR: 34%
  - NSFR: 66%

Option 2: Billing unit is based on a set **Flat Billing Rate**

- Total IA
  - SFR: 39%
  - NSFR: 61%

- 1000 Sq. Ft BU
  - SFR: 39%
  - NSFR: 61%
There are multiple iterations and approaches to the basic rate structure that will be reviewed during Task Force Meeting #4.

Popular Rate Methodologies*:
- Impervious Area (IA) (77%)
- Gross Area with Intensity of Development Factor (14%)
- Gross Area Only (8%)
- Others: water meter size, flat rates, zoning class

*Source: 2016 Stormwater Utility Survey, Black & Veatch (74 participants from 24 states)
Preliminary Funding Analysis:
Approach to Determining Stormwater Utility Revenue Needs

To estimate the rate that the utility would need to charge customers to support the Town’s stormwater program, we must complete the following steps:

1. Determine the Level of Service (LOS) & annual costs of the program
2. In addition to direct program costs, the additional costs of operating the utility need to be determined (billing, credits, delinquencies, operating reserves)
3. Once the total annual revenue needs are determined, compare options and select a preferred rate structure and rate per billing unit.
4. The preferred approach will continue to be refined as policy and technical issues are finalized on such issues as credits, billing process and timing of implementation.
Using the two rate structure billing options discussed above, the revenue potential of each approach was calculated:

- **Option 1**: 3,250 SF ERU. At $1.00 per month per billing unit, the fee would generate $22,725 a month or $272,700 a year.
- **Option 2**: flat, town-wide billing unit of 1,000 SF would result in 78,702 smaller billing units. For each $1.00 per month per billing unit, the fee would generate $78,702 a month or $944,424 a year.

Applied to the Moderate and Higher level of service options, the following rates per billing unit per month would be required:

<table>
<thead>
<tr>
<th>Program</th>
<th>ERU (3,250 SF IA)</th>
<th>Flat rate (1,000 SF IA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate LOS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>($2,052,519)</td>
<td>$7.53/month</td>
<td>$90.36/year</td>
</tr>
<tr>
<td>Higher LOS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>($2,297,790)</td>
<td>$8.42/month</td>
<td>$101.04/year</td>
</tr>
</tbody>
</table>
Preliminary Funding Analysis

*Tax Versus Fee*

Estimated Revenue from Real Property Tax (2017): $57,860,000

**Tax rates:** Residential $16.31/1000 and Commercial $31.12/1000

Tax increase to fund increased program entirely from property tax
*(note: tax exempt properties would not pay under this scenario)*

- **Moderate LOS ($1,926,209 - $892,571) = $1,033,638**  
  +1.8%
- **Higher LOS ($2,159,800 - $892,571) = $1,267,329**  
  +2.2%

Potential tax decrease if current program costs ($892,571) is funded by fee:  
-1.5%

This is a preliminary estimate and will change based on final funding policies (decisions) by the Town and fees assessed for public properties.
Upcoming examples do not include:

- Potential credits that properties may obtain
- Tax obligation for existing program (already paying for existing through taxes)
  - preliminary fees represent existing and future costs
- Fee versus tax comparisons are provided at the end
Single Family Home - Morningside Circle

Estimated Impervious Area
► 2,889 SF

Preliminary Annual Range of Rates:

Option 1 (ERU – 3,250 SF)
► Moderate LOS - $90.36
► Higher LOS - $101.04

Option 2 (1,000 SF BU)
► Moderate LOS - $26.04 x 3 = $78.12
► Higher LOS – $29.16 x 3 = $87.48
Preliminary Funding Analysis
Financial Impacts on Sample Properties

Tax-Exempt Property - Feeding Hills Church

Estimated Impervious Area
- 40,899 SF

Preliminary Annual Range of Rates:
Option 1 (ERU – 3,250 SF)
- Moderate LOS - $90.36 x 13 = $1,174.68
- Higher LOS - $101.04 x 13 = $1,313.52

Option 2 (1,000 SF BU)
- Moderate LOS - $26.04 x 41 = $1,067.64
- Higher LOS - $29.16 x 41 = $1,195.56
Commercial Property -
Allied Floor

Estimated Impervious Area
► 47,402 SF

Preliminary Annual Range of Rates:
Option 1 (ERU – 3,250 SF)
► Moderate LOS - $90.36 x 15 = $1,355.40
► Higher LOS - $101.04 x 15 = $1,515.60

Option 2 (1,000 SF BU)
► Moderate LOS - $26.04 x 47 = $1,223.88
► Higher LOS - $29.16 x 47 = $1,370.52
Preliminary Funding Analysis

Financial Impacts on Sample Properties

Commercial Property - KP Hood (2 parcels)

Estimated Impervious Area

- 509,385 SF

Preliminary Annual Range of Rates:

Option 1 (ERU – 3,250 SF)

- Moderate LOS - $90.36 x 157 = $14,186.52
- Higher LOS - $101.04 x 157 = $15,863.28

Option 2 (1,000 SF BU)

- Moderate LOS - $26.04 x 509 = $13,254.36
- Higher LOS - $29.16 x 509 = $14,842.44
Next Steps

► Refine Future Program, Costs, and Rate Structure
  ▪ Consider rate options and modifiers, including credits

► Data and Revenue Analysis
  ▪ Refine analysis
  ▪ Evaluate billing system options

► Public Engagement
  ▪ Start meeting with key stakeholder groups: non-profits, businesses, seniors

► Task Force Meeting #4 – early October 2017

► For additional materials and information: http://agawam.ma.us/sw-taskforce
Meeting Date: Monday September 25, 2017
Time: 7:00 to 8:00 p.m.
Location: Agawam Senior Center, 954 Main St, Agawam, MA
Prepared by: Rich Niles (Amec Foster Wheeler)
Patty Gambarini (Pioneer Valley Planning Commission)

Attached for reference are the attendee sign-in sheet and stakeholder invitation, followed by a summary of key discussion points and information related to the project.

Summary:

1. Presentation
   Rich Niles presented an overview of the project and work completed thus far with Town staff and the Task Force. This was an introductory meeting with stakeholders, however, it included a lot of material that the project team has developed. Questions were held until the end to allow for the material to be covered and Niles informed everyone that there would likely be questions that could not be fully answered at this time, but the project is ongoing and their concerns will be considered as future decisions are made. All stakeholders are welcome to attend the Task Force meetings, as well as future stakeholder meetings and other public engagements. Niles reiterated the key goals of the study, which are to:

   1. Obtain a local consensus on Agawam’s current and future stormwater management program needs, priorities and costs.
   2. Execute a robust public engagement process to promote a deeper understanding of stormwater issues and funding needs.
   3. Study the possibility of establishing a stormwater utility in Agawam.
   4. Develop recommendations and a consensus for next steps.

   The presentation focused on Agawam’s stormwater management needs/costs and the primary funding options of raising taxes or implementing a stormwater utility fee.
2. Questions and Comments

Following the presentation, the stakeholders had numerous questions and comments around the stormwater program and how it is funded. This information is summarized below.

Question: What would the fee look like at Sarat Ford or Six Flags?
- Response: As discussed during the presentation, final rates have not yet been determined, but we have the potential range of fees for those properties that we can share. Also, it is important to know that these sites, like others, could possibly qualify for a credit.

Question: For FY17, $892,000 is already taken out of the general fund so it's not clear when the five-year time frame starts.
- Response: We can update the budget to start with the FY18 general fund allocation.

Question: There is a catch basin that leads to a detention pond in my back yard at 10 Shelley Lane and the pond is sitting up. Am I going to be responsible for maintaining this?
- Response: Currently residential property owners are responsible for facilities on their property. The Town has discussed the possibility of the DPW taking over the maintenance of these facilities if funds are included in the future program costs. Michelle Chase noted that this would only be on residential properties.

Question: If we were caught up on everything we need to do, what would the annual budget look like?
- Response: Probably in the range of $2-3 million, which represents up to 2% of the Town’s storm drain assets. But there is a lot of catching up to do and the current budget projections provide a reasonable start.

Question: Are you open to other ways of funding this work? I have an idea for another source that could help to supplement.
- Response: Yes, we are looking for the best options for funding the stormwater program.

Question: Have you ever seen taxes lowered when raising a stormwater fee?
- Response: There have not been enough stormwater utilities in Massachusetts to give you a good answer on that. Reading, for example, implemented their stormwater fee to supplement what is coming from the general fund. It depends on how and what the Town decides to fund through the general fund versus a stormwater fee.

Comment: The idea of discharging more stormwater into streams really causes problems downstream.

Question: How do we take care of culverts that are plugged on private property? Under town bylaws, we cannot go on private property to improve the stormwater system.
- Response: This is something that needs to be addressed moving forward, but generally the Town intervenes in emergency situations when it begins affecting public property or the welfare of the community.

Comment: Detention basins should work as infiltration basins.
• **Response:** Ideally yes, but the Town’s stormwater program needs to provide a higher level of service to adequately manage existing systems before it can dedicate resources to retrofit detention basins to function as infiltration basins.

**Question:** My neighbor’s property floods because of the public storm system and his driveway is deteriorating. The road runs off onto his driveway. Is he going to have to pay the fee?

- **Response:** With adequate funding, the program could identify, prioritize, and fix problems like this that are associated with runoff from public roads. But the plan is that everyone pays since all town residents and companies benefit from a properly operating and maintained storm drain system.

**Question:** The presentation is geared towards a stormwater fee. Will this become a vote?

- **Response:** The City Council will get a report from the Task Force with recommendations for next steps. The goal is to understand the needs and costs for the program and then define how these costs will be covered. The stormwater utility is one viable option. If the Council supports the recommendations, they would conduct a public hearing and then take a vote.

**Question:** What is the approximate time frame to implement a stormwater utility fee?

- **Response:** The time frame to implement a stormwater utility ranges from community to community. For this current work, the plan is to finalize recommendations sometime early next year. To get to implementation, it typically takes up to a year or more to refine the data and prepare billing systems. Recently, the Town of Millis finished a stormwater utility feasibility study in June 2017 and decided to prepare a draft bylaw for their fall 2017 Town Meeting to approve implementation of a stormwater utility. Their goal is to fully implement the fee by July 2018, so this would be about one year from completing the study.

**Question:** Where does the mandate stop and the improvements to the storm system begin?

- **Response:** That is a gray area as the MS4 permit requires that the Town properly maintain their system to protect water quality. There are some clear compliance related issues to specific permit requirements that are driving costs, but there are also many issues related to properly maintaining the storm system and addressing existing problem areas.

**Comment:** We do have a backlog with a lot of areas in the stormwater system that are falling apart. We can now identify these issues with the DPW’s new camera system, which has revealed pipes in poor condition and filled with sediment. In many areas, the Town’s culvert crossings do not meet design standards, so we are going to see a lot more washouts and will need to add updating these crossings to our backlog.
Town of Agawam, MA
Stormwater System Assessment and Utility/Fee Planning Project

Town Council Workshop
April 30, 2018

Agawam Public Library
Community Room
750 Cooper Street
Agawam, MA 01001

Agenda:
5:45 p.m. ARRIVAL AND SIGN IN
6:00 - 6:05 p.m. WELCOME AND INTRODUCTIONS
6:05 - 6:10 p.m. PROJECT OVERVIEW
6:10 - 6:25 p.m. STORMWATER PROGRAM
• Municipal stormwater system
• Existing activities and costs
• Future needs, costs, and level of service
6:25 - 6:45 p.m. FUNDING OPTIONS
• Existing funding options
• Stormwater utility overview
• Data analysis
6:45 - 7:25 p.m. AGAWAM FUNDING ANALYSIS
• Funding analysis
• Sample properties
• Task force recommendations
7:25 - 7:30 p.m. NEXT STEPS
Town of Agawam
Stormwater System Assessment and Utility/Fee Planning Project

Town Council Workshop

April 30, 2018
Agenda

6:00 - 6:05p:  Welcome and Introductions

6:05 - 6:10p:  Project Overview

6:10 - 6:25p:  Stormwater Program
   ▶ Municipal stormwater system
   ▶ Existing activities and costs
   ▶ Future needs, costs, and level of service

6:25 - 6:45p:  Funding Options
   ▶ Existing funding options
   ▶ Stormwater utility overview
   ▶ Data analysis

6:45 - 7:25p:  Agawam Funding Analysis
   ▶ Funding analysis
   ▶ Sample properties
   ▶ Task Force recommendations

7:25 - 7:30p:  Next Steps
Why are we here?

► The Town has existing stormwater problems.
► Stormwater management needs are increasing
  ► New MS4 Permit is driving many needs
► The Town has limited resources and funding.
► We have the ability to solve these problems and manage stormwater better, but it will cost more.
► What’s the best approach to move forward?
MassDEP s319 Grant: Project 16-06/319

Goals:

1. Obtain a local consensus on Agawam’s current and future stormwater management program needs, priorities and costs.

2. Execute a robust public engagement process to promote a deep understanding of stormwater issues and funding needs.

3. Study the possibility of establishing a stormwater utility in Agawam.

4. Develop recommendations and a consensus for next steps.
Project Overview

Work Completed So Far

► Evaluation of Agawam’s existing and future costs, funding options and funding analysis by the Project Team
► Final report in June 2018
► Advisory Task Force participation:
  ► 6 meetings throughout the project (April 2017-February 2018
  ► Attendance at other public meetings
► Public Meetings:
  ► Public meetings on 9-25-17
  ► Senior citizens workshop on 10-30-17
  ► Clergy representatives workshop on 1-9-18
  ► Business workshop on 1-16-18
► Additional Meetings with Project Team
Agawam Funding Analysis

Review of Task Force Feedback

Needs, Tax versus Fee, and Level of Service (LOS)

► There is agreement that there are stormwater needs that are not met and the current level of funding is not adequate.

► Members generally felt that a stormwater fee was a better way to distribute costs and the costs for sample residential properties seemed reasonable for both LOS and rate scenarios.

► The annual fees for a stormwater utility appear to be reasonable and the increase for a higher LOS would advance the program for little added cost.

► Members preferred the following for a stormwater utility:
  ► A rate methodology based on impervious area
  ► A flat rate structure based on 1,000 sf of impervious area and potential modifiers
  ► Credits for water quantity and quality management, as well as small properties
  ► Offer up to 50% in credits
  ► Billing with existing utility bills (water and sewer)
Key Comments and Concerns

► The future costs are a significant increase overall (up to 1.8% tax increase), especially when considering tax increases do not exceed 2.5% annually.
► Additional fees may be a significant burden to some properties.
► People are looking for solutions to these problems and seem receptive to idea of a fee if it will help address flooding and drainage problems.
► Need transparency to ensure that funding will go to stormwater.
► Need to effectively engage the public and inform them of the needs and costs related to stormwater management.
Stormwater Program

Municipal Stormwater System

Storm Drain Infrastructure:
- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts

Estimated replacement value is approx. $150 million
<table>
<thead>
<tr>
<th>Year</th>
<th>Feet of Pipe</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre 1960</td>
<td>8,937</td>
<td>1.4%</td>
</tr>
<tr>
<td>1960-69</td>
<td>29,213</td>
<td>4.6%</td>
</tr>
<tr>
<td>1970-79</td>
<td>69,018</td>
<td>10.8%</td>
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<tr>
<td>1980-89</td>
<td>55,860</td>
<td>8.7%</td>
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<tr>
<td>1990-99</td>
<td>24,103</td>
<td>3.8%</td>
</tr>
<tr>
<td>2000-09</td>
<td>79,278</td>
<td>12.4%</td>
</tr>
<tr>
<td>2010+</td>
<td>6,267</td>
<td>1.0%</td>
</tr>
<tr>
<td>No Data</td>
<td>368,602</td>
<td>57.5%</td>
</tr>
<tr>
<td>Total</td>
<td>641,278</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note that Agawam’s population has nearly doubled since the 1960s.
Stormwater Program
Agawam DPW Activities

Existing Activities:
► Catch basin cleaning
► Street sweeping
► Drainage structure repair and replacement
► Culvert cleaning, repair and replacement
► Management of stormwater treatment facilities
► Road shoulder and ditch repair
► Flood response and related improvements
► Engineering and planning for upgrades
► Drainage mapping and assessments
► Stormwater permit compliance

Robinson Park School – infiltration system

$51,000

Carr Ave – culvert replacement

$3,472
Stormwater Program
Agawam DPW Activities

Arnold Street Improvements - $153,478
► Severe street flooding
► Failed underground infiltration system
► New infiltration system sized to handle all development
### Stormwater Program

*All Stormwater Related Expenditures*

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '17 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stormwater Program Administration</td>
<td>$37,676</td>
</tr>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$586,799</td>
</tr>
<tr>
<td>3. Drainage Engineering and Stormwater Management Planning</td>
<td>$135,725</td>
</tr>
<tr>
<td>4. Regulatory Compliance/Enforcement</td>
<td>$100,917</td>
</tr>
<tr>
<td>5. Stormwater Capital Improvement Projects and Equipment</td>
<td>$31,456</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$892,571</strong></td>
</tr>
</tbody>
</table>

► Preliminary costs are derived primarily from:
  ► Existing and estimated budget items
  ► Estimated personnel (labor) efforts – approx. 5 full time employees (FTEs)
  ► Contractors and expenses
Stormwater Program

Future Needs: Infrastructure

Additional Needs:

► Ongoing operation and maintenance (repairs & reconstruction) challenges
► Maintenance backlog of deteriorated storm drain infrastructure
► Detention pond maintenance: private maintenance is not performed, resulting in failure and burden upon the municipal system
► Undersized pipes to convey flow
► Sanitary sewer cross-connections
Stormwater Program

Future Needs: Infrastructure

Examples of Aging and Failing Infrastructure:

► Culvert failures: North Street culvert is severely deteriorated, resulting in bank erosion for White Brook

► Pipe failures: Westford Circle outfall pipe separation and erosion

► Outfall failures: Reed Street at Main Street is severely eroded and collapsing
Impaired Water Bodies:

- **Connecticut River**
  - E. coli, nutrients, total suspended solids (TSS), and PCBs in fish tissue
  - Long Island Sound TMDL (nitrogen) – applies to Agawam
  - Incorporated into EPA stormwater permit

- **Potential Causes of Impairments:**
  - Urban stormwater runoff
  - Illicit discharges
  - Sanitary sewer I/I and SSOs
  - Septic systems
  - Waterfowl
  - Pet waste

---

**Connecticut River at Pynchon Point Park**

River Road
Agawam, MA
Longitude/Latitude: -72.585449 / 41.08300

Pynchon Point Park is located at the mouth of the Westfield River where it joins the Connecticut River. Down a short path from the parking lot, is an unimproved ramp for can-top boats only.

**Is It Clean?**

Pynchon Point is sampled Thursdays from June to September by volunteers coordinated by the Pioneer Valley Planning Commission.

<table>
<thead>
<tr>
<th>Sample Date</th>
<th>Status</th>
<th>CFU/100ml</th>
<th>Wet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-09-28</td>
<td>Clean for Boating and Swimming</td>
<td>190</td>
<td>Y</td>
</tr>
<tr>
<td>2016-09-21</td>
<td>Clean for Boating</td>
<td>270</td>
<td>Y</td>
</tr>
<tr>
<td>2016-09-14</td>
<td>Clean for Boating and Swimming</td>
<td>18</td>
<td>N</td>
</tr>
<tr>
<td>2016-09-07</td>
<td>Clean for Boating and Swimming</td>
<td>116</td>
<td>N</td>
</tr>
<tr>
<td>2016-08-31</td>
<td>Clean for Boating and Swimming</td>
<td>54</td>
<td>N</td>
</tr>
</tbody>
</table>

Get more data | What do these numbers mean?
Stormwater Program

Future Needs: Flooding

Known Problem Areas:
► Ramah Circle – flooding during heavy storms, undersized system
► Meadow Street near Joseph Street – heavy storms overwhelm undersized pipes
► Fairview Street and Federal St. Ext. – flooding due to tree roots in pipes
► Basement flooding during extreme storms
► Increased intensity of storms and resulting flooding and erosion
Stormwater Program

**Future Needs: Regulatory Requirements**

► Small Municipal Separate Storm Sewer System (MS4) General Permit
  ► Re-issued by EPA on April 4, 2016
  ► Becomes effective July 1, 2018
  ► Replaces prior MS4 permit issued in 2003

► Who is regulated?
  ► 24 MS4s in Pioneer Valley
  ► 260 MS4s across MA

Note: Pelham, Russell, Ware, and Westhampton obtained waivers.
### Stormwater Program

**Summary of Current and Future Costs**

#### Preliminary Estimate (moderate level of service):

<table>
<thead>
<tr>
<th>Functional Category</th>
<th>FY '18</th>
<th>FY '19</th>
<th>FY '20</th>
<th>FY '21</th>
<th>FY '22</th>
<th>FY '23</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Stormwater Operations and Maintenance</td>
<td>$735,799</td>
<td>$1,027,446</td>
<td>$1,126,618</td>
<td>$1,179,723</td>
<td>$1,197,723</td>
<td>$1,215,723</td>
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<tr>
<td>4. Regulatory Compliance / Enforcement</td>
<td>$100,917</td>
<td>$175,950</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
<td>$179,269</td>
</tr>
</tbody>
</table>

**Total** | $1,046,071 | $1,630,481 | $1,953,593 | $1,973,628 | $2,040,778 | $2,032,568 |

#### Key Considerations:
- $880,138 – net average increase
- Increase of ~2.5 FTEs
- Increased contractor costs
- Includes $250K for minor and major capital projects
  - Budget needs to be refined over time based on new data from future assessments.

FY ’19-23 (5-yr avg.): $1,926,209
Stormwater Program

Level of Service

Future program considerations:
◆ Level of service options
◆ Setting expectations
◆ Solving problems
◆ Program growth over time

Source: [https://www.portlandoregon.gov/bes/52501](https://www.portlandoregon.gov/bes/52501)

Note: that this is an ongoing discussion...
The American Water Works Association is a trade group that prepares manuals and best practice guidance for public water utilities.

Based on life expectancy of pipes and related infrastructure, they recommend that utility operators invest 1-2% of the value of their assets in annual maintenance (older systems at the higher end) and 1-2% in capital replacement or capital reserves.

A rough estimate of the replacement value of Agawam’s existing stormwater infrastructure is **$150M**.

- For O&M at 1% - $1.5M/yr.
- For Capital at 1% - $1.5M/yr.

$3M is a reasonable LOS and a goal for program growth

### Agawam Storm Drain Infrastructure:
- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts

Something to keep in mind as we discuss the appropriate Level of Service (LOS) and annual program costs.
Stormwater Program

Moderate and Higher Level of Service

► $1,926,209 – moderate level of service
  ► $880,138 – net increase
  ► $250K for capital projects

► $2,149,800 – higher level of service
  ► $1,103,729 – net increase
  ► Additional $250K for capital projects starting in FY ‘21

Preliminary Estimate (higher level of service):

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Funding Options

Primary Options

User-Fee vs. Tax Revenue

► **Stormwater Utility (user fee): Task Force Recommendation**
  ► Based on impervious cover, not property value
  ► Dedicated funding, stormwater only
  ► Opportunities for credit
  ► City Council vote to establish

► **Other Options**
  ► **Tax Increase** – based on property value
  ► **Municipal Water Infrastructure Investment Fund** *(MGL Chapter 259, Section 39M)*
    ► Based on property value (surcharge up to 3%)
    ► Use of funds is not limited solely to stormwater
Stormwater Utility Overview

Rational Nexus

How Does it Work?

- Fees assigned to a parcel for services provided
- Fee is proportional to the stormwater burden on the stormwater system/program
- More impervious areas…
  - …more stormwater runoff…
  - …larger burden on the system…
  - …larger user fee
- Therefore, even tax-exempt properties contribute (universities, hospitals, and religious institutions, etc.)
- Not a “Rain Tax” – Value of the Property is Not Considered
Stormwater Utility Overview

Funding Approach

Key Components:

- Rate Methodology – the metric used to assess the impacts of stormwater runoff to the system (e.g., impervious area (IA)).
- Rate Structure – the metric used to distribute costs among users (e.g., flat rate, tiers, etc.).
- Billing Units – the size of the IA to which a fee is assigned based on the rate structure.

Analogy for water utility:

- Water consumption
- Cubic feet of water; increasing rates for water use over 4,000 cubic feet
- $1.90 per hundred cubic feet of water

Impervious Area = 3,250 square feet
(typical residential property in Agawam)
Key Advantages

- **It is Stable** because it is not as dependent on the vagaries of the annual budgetary process as taxes are.

- **It is Adequate** because a typical stormwater fee is based on a well thought out stormwater program to meet the needs and demands of the community, as well as other program drivers (e.g., water quality, regulations).

- **It is Flexible** because fees can be structured in multiple ways, and the program can be managed to fund activities based on changing priorities and needs.

- **It is more Equitable** than most other funding sources because the cost is borne by the user on the basis of demand placed on the drainage system.

  - **Credits** are available to reduce the fee for properties that meet stormwater management requirements — this is not available if funded through taxes.
Sample Stormwater Utility Rates in Massachusetts

Average Residential Stormwater Fees

- **Chicopee** (pop. 55,298)
  - $8.33/Month
  - $1M annual revenue

- **Longmeadow** (pop. 15,784)
  - $2.25/Month
  - $215,000 annual revenue (FY2019)

- **Northampton** (pop. 28,540)
  - $7.50/Month
  - $1,940,000 annual revenue

- **Westfield** (pop. 41,094)
  - $1.67/Month
  - $560,000 annual revenue

Notes:
- Programs, fees and revenue can vary widely.
- Revenue potential also varies based on rate structure and rate payers (e.g., residential versus non-residential make-up).
- Fees are for average residential properties – some rate structures include increasing fees for larger residential properties, such as Northampton.
GIS data was updated and analyzed to determine parcel boundaries and impervious area (IA).

Aerial photography and GIS tools were used to perform an initial identification of impervious area per parcel in Agawam.

- The analysis identified 9,179 developed parcels (having at least 200 SF of IA) with a total of 78,678,230 SF of IA.
Billing unit is based on a set Flat Billing Rate

- **For Agawam, a 1,000 SF billing unit was selected.** This is large enough to minimize minor issues in using aerial photography to determine IA but small enough to recognize differences in property runoff impacts.
- Eliminates the need to assign land use codes to property, as all properties are billed on the same basis.
- Requires more accurate IA calculation on all SFR properties, but billing will align more closely with actual IA on properties across Town

<table>
<thead>
<tr>
<th></th>
<th>Single Family Residential</th>
<th>Non-Single Family Residential</th>
<th>Total</th>
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<tbody>
<tr>
<td>Parcels</td>
<td>7,710</td>
<td>1,469</td>
<td>9,179</td>
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<tr>
<td>Total IA (SF)</td>
<td>30,464,260</td>
<td>48,213,970</td>
<td>78,678,230</td>
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<tr>
<td>Billing Units</td>
<td>30,499</td>
<td>48,253</td>
<td>78,702</td>
</tr>
</tbody>
</table>
Agawam Funding Analysis

Basic Approach for Calculating Fees

- Measured impervious surface for each parcel using aerial photos and GIS.
- Billing units are calculated based on 1,000 square foot increments
- Total program costs ÷ billing units = $/billing unit

Residential Property

Commercial Property

5 billing units

47 billing units
Divide the total annual revenue needed by the amount of available billing units (1,000 sf IA billing unit):

Calculation for moderate level of service:
$2,052,519 \div 78,702 \text{ billing units} = $26.08
or $26.08 per 1,000 sf of IA per year.

Note: this is a preliminary analysis and the rate is dependent on final policies, data, and revenue needs.

Assumptions: the above calculation assumes annual revenue needs for a moderate level of service including 3% revenue for the credit program, 2% revenue for bad debt, and $30,000 in costs for fee management activities (e.g., billing, collection, database management) = $126,310.
Agawam Funding Analysis

Tax Versus Fee

Revenue from Real Property Tax (2018): $60,032,566
Tax rates: Residential $16.61/$1,000 and Commercial $31.47/$1,000

Estimated tax increase to fund increased program entirely from property tax (note: tax exempt properties would not pay under this scenario)

► Moderate LOS ($1,926,209 - $1,046,071) = $880,138 +1.5%
► Higher LOS ($2,149,800 - $1,046,071) = $1,103,729 +1.8%

Potential tax decrease if current program costs ($1,046,071) is funded by fee: -1.7%

This is a preliminary estimate and will change based on final funding policies (decisions) by the Town and fees assessed for public properties.
Revenue is the same from both property classes under each funding approach, but the 1,000 sf basis (stormwater utility) does not consider property value and recognizes differences in properties and their runoff. Also, every property pays under a stormwater utility.
Typical single-family home in Agawam valued at approximately $250,000 and has 3,250 SF of IA

Stormwater Fee
Preliminary Estimate of fees
► Moderate LOS program - $78 per year
► Higher LOS program - $88 per year
► Plus potential tax savings of 1.7% or $72.36

Property Tax
Current property tax on $250,000 = $4,153 per year
   1.5% increase = +$60.88 (moderate LOS)
   1.8% increase = +$76.35 (higher LOS)
Agawam Funding Analysis

Tax Versus Fee - Commercial

Varies Widely - Depends on footprint, number of stories, and value

**Allied Floor**
Tax value = $552,500  
IA = 47,402 SF

**Stormwater Fee**
Preliminary estimate of fees
► Moderate LOS program = $1,225/yr
► Higher LOS program = $1,370/yr
► Plus potential tax savings of 1.7% or $303

**Property Tax**
Current property tax on $552,500 = $17,387 per year
  1.5% increase = +$255  
  1.8% increase = +$320

**Country Manor Apts.**
Tax value = $3,347,700  
IA = 51,612 SF

**Stormwater Fee**
Preliminary estimate of fees
► Moderate LOS program = $1,356/yr
► Higher LOS program = $1,516/yr
► Plus potential tax savings of 1.7% or $1,836

**Property Tax**
Current property tax on $3,347,700 = $105,352 per year
  1.5% increase = +$1,545  
  1.8% increase = +$1,937
Upcoming examples do not include:

- Potential credits that properties may obtain
- Tax obligation for existing program (already paying for existing through taxes)
  – preliminary fees represent **existing and future costs**

Note that this is a preliminary funding analysis and estimates of financial impacts will change based on final funding policies (decisions) by the Town.
Agawam Funding Analysis

Sample Properties

Single Family Home - Morningside Circle

Estimated Impervious Area
► 2,889 SF

Preliminary Annual Range of Rates:
1,000 SF Billing Unit
► Moderate LOS - $26.08 x 3 = $78.24
► Higher LOS – $29.16 x 3 = $87.48
Agawam Funding Analysis

Sample Properties

Single Family Home - Colemore St

Estimated Impervious Area

- 4,797 SF

Preliminary Annual Range of Rates:
1,000 SF Billing Unit

- Moderate LOS - $26.08 x 5 = $130.40
- Higher LOS - $29.16 x 5 = $145.80
Agawam Funding Analysis

Sample Properties

Tax-Exempt Property-
Feeding Hills Church

Estimated Impervious Area
► 40,899 SF

Preliminary Annual Range of Rates:
1,000 SF Billing Unit
► Moderate LOS - $26.08 x 41 = $1,069.28
► Higher LOS - $29.16 x 41 = $1,195.56
Agawam Funding Analysis

Sample Properties

Commercial Property - Allied Floor

Estimated Impervious Area

- 47,402 SF

Preliminary Annual Range of Rates:

1,000 SF Billing Unit

- Moderate LOS - $26.08 x 47 = $1,225.76
- Higher LOS - $29.16 x 47 = $1,370.52
Commercial Property - Sarat Ford

Estimated Impervious Area

► 142,996 SF

Preliminary Annual Range of Rates:

1,000 SF Billing Unit

► Moderate LOS - $26.08 x 143 = $3,729.44
► Higher LOS - $29.16 x 143 = $4,169.88
Agawam Funding Analysis

Sample Properties

Commercial Property -
HP Hood (2 parcels)

Estimated Impervious Area
► 509,385 SF

Preliminary Annual Range of Rates:

1,000 SF Billing Unit
► Moderate LOS - $26.08 x 509 = $13,274.72
► Higher LOS - $29.16 x 509 = $14,842.44
Commercial Property -
Six Flags
Estimated Impervious Area
► 2,414,275 SF

Preliminary Annual Range of Rates:
1,000 SF Billing Unit
► Moderate LOS - $26.08 x 2,414 = $62,957
► Higher LOS - $29.16 x 2,414 = $70,392
Next Steps

1. Finalize recommendations and report
2. Present at Council meeting to review and approve next steps

Assuming the Town proceeds towards a stormwater utility:

1. Continue public engagement process
2. Potential ordinance review and implementation
3. Continue with steps to build program and funding mechanism
4. Develop credit program
5. Potential schedule for full implementation - sometime in 2019
August 31, 2018

To Whom It May Concern,

The Agawam Department of Public Works (DPW) is reaching out to business owners, residents and property owners within areas of the Town that suffer from flooding due to stormwater runoff. It is the Town of Agawam’s ongoing mission to educate the public about the stormwater infrastructure and improve and upgrade the Town stormwater drainage system. The current stormwater budget is funded through the general fund (taxes). These funds are reserved mostly for stormwater activities related to routine maintenance and requirements associated with federal regulations including, but not limited to: street sweeping, catch basin cleaning, materials for public education and illicit discharge detection. The current stormwater budget does not include funding for large-scale capital projects necessary to correct the numerous flooding problems throughout Agawam.

The Town, in conjunction with the Pioneer Valley Planning Commission (PVPC) and Wood Group, formerly Amec Foster Wheeler (Wood), has spent the last year discussing various funding options to increase the DPW’s stormwater budget. In 2017, the Town formed a Citizen Stormwater Advisory Task Force comprised of Agawam residents, local small & large business owners, clergy members, elected Town officials and DPW employees. The purpose of the Task Force was to explore the stormwater management program for the Town of Agawam and identify its major needs, priorities, and costs as well as provide recommendations for possible funding sources. Additional funds would not only allow the DPW to begin correcting the flooding areas within Agawam, but would also enable the DPW to be proactive in preventing further flooding by systematically replacing the Town’s aging stormwater infrastructure and developing a more comprehensive stormwater management program.

Since its formation, the Stormwater Task Force has held six meetings to discuss various funding options researched and presented by Wood. In addition, the Task Force has participated in public workshops with local business owners, senior citizens and City Council candidates during the 2017 election period. These workshops allowed the Task Force to receive feedback from the community about the Town’s stormwater needs and available funding options. More information about these meetings and workshops can be found on the Town of Agawam website: http://www.agawam.ma.us/479/Citizen-Stormwater-Advisory-Task-Force.
The Town of Agawam is looking toward the community to help support the Task Force and the stormwater utility fee by asking residents and business owners to attend the City Council meeting on September 17th. Rich Niles from Wood will be presenting a summary of the Task Force’s research and recommendations. If you have any questions or would like to discuss the stormwater utility fee prior to the meeting, please feel free to contact the Town Engineer Michelle Chase or Assistant Town Engineer Michael Albro at (413) 821-0600.

Sincerely,

Christopher J. Golba
DPW Superintendent

Michelle C. Chase, P.E.
Town Engineer

Michael F. Albro, P.E.
Assistant Town Engineer
Agawam Stormwater Program Needs and Funding Options

Town Council Meeting
September 17, 2018
Agenda

Tonight’s Goal:
Present Agawam’s Stormwater Needs and Funding Options for Further Consideration

Stormwater Program
• Stormwater Infrastructure
• Existing and Future Needs/Costs

Funding Options
• Available Funding Mechanisms
• Stormwater Utility (fee) Approach

Study Results
• Work Completed
• Agawam Funding Analysis
• Task Force and Public Feedback

Closing
Stormwater Program

Stormwater Infrastructure

Storm Drain Infrastructure:
- 512 Outfalls
- 4,757 catch basins
- 2,352 manholes
- 121.5 miles drain pipe
- 3.2 miles culverts

Estimated replacement value is approx. $150 million
Stormwater Program
Existing and Future Needs/Costs

Existing Activities
► Catch basin cleaning
► Street sweeping
► Drainage structure repair and replacement
► Culvert cleaning, repair and replacement
► Management of stormwater treatment facilities
► Road shoulder and ditch repair
► Flood response and improvements
► Engineering and planning for upgrades
► Drainage mapping and assessments
► Stormwater permit compliance

Carr Ave – culvert replacement

New Street Sweeper
Stormwater Program
Existing and Future Needs/Costs

Future Needs

► Infrastructure:
  ► Failing infrastructure
  ► Flooding
  ► Backlog and aging infrastructure
  ► Additional assessment

► Small Municipal Separate Storm Sewer System (MS4) General Permit Compliance:
  ► Increased management
  ► Increased engineering
  ► Increased maintenance
  ► Water quality considerations
  ► Infrastructure upgrades
  ► Increased tracking and reporting
Stormwater Program
Existing and Future Needs/Costs

Significant Capital Projects

► Reed Street Outfall Failure:
  ► Discovered during drainage investigation
  ► Deteriorated infrastructure
  ► Land slope failure
  ► $489,000 *(plus engineering)*

► Other Estimated Costs:
  ► South Park Terrace - >$1,000,000
  ► Fairview Street - $164,000
  ► Federal Street Extension - $160,000
  ► Meadow Street - $TBD
Stormwater Program
Existing and Future Needs/Costs

Preliminary Estimates:
► $1,926,209 – moderate level of service (5-yr avg.)
  ► $880,138 – net increase, $250K for capital projects
► $2,149,800 – higher level of service (5-yr avg.)
  ► $1,103,729 – net increase, $500K for capital projects in FY ‘21
► $3M – potential cost as data is collected and program grows

Higher Level of Service:

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Funding Options
Available Funding Mechanisms

Primary Revenue Options
► **Tax Override**
  ► Based on property value
  ► Funds allocated to DPW or other account
  ► Town Meeting vote annually
► **Municipal Water Infrastructure Investment Fund**
  *(MGL Chapter 259 (Section 39M): An Act Improving Drinking Water and Wastewater Infrastructure)*
  ► Based on property value (surcharge up to 3%)
  ► Use of funds is not limited solely to stormwater
  ► Town Meeting vote to establish
► **Stormwater Utility (user-fee or enterprise fund)**
  *(MGL Chapter 83 (Section 16): Charge for Use of Sewers)*
  ► Based on impervious surface, not property value
  ► Includes tax-exempt properties
  ► Dedicated funding, stormwater only
  ► Town Meeting vote to establish
  ► Opportunities for credits
Funding Options

Stormwater Utility (fee) Approach

MGL Chapter 83, Section 16. Charge for use of sewers

“The aldermen of any city or the sewer commissioners, selectmen or road commissioners of a town, may from time to time establish just and equitable annual charges for the use of common sewers and main drains and related stormwater facilities, which shall be paid by every person who enters his particular sewer therein. The money so received may be applied to the payment of the cost of maintenance and repairs of such sewers or of any debt contracted for sewer purposes. In establishing quarterly or annual charges for the use of main drains and related stormwater facilities, the city, town, or district may either charge a uniform fee for residential properties and a separate uniform fee for commercial properties or establish an annual charge based upon a uniform unit method; but, the charge shall be assessed in a fair and equitable manner. . .”
Funding Options

Stormwater Utility (fee) Approach

How Does it Work?

► Fees assigned to a parcel for stormwater services
► Measure of the burden on the public stormwater system/program
► More impervious areas =
  ► …more stormwater runoff…
  ► …larger burden on the system…
  ► …larger user fee
► Property value is not considered (similar to water and sewer fees)
► Tax-exempt properties contribute

Impervious Area = 3,250 square feet  
(typical residential property in Agawam)
Funding Options
Stormwater Utility (fee) Approach

Nearby Examples
► 4 in Pioneer Valley
► 12 in MA and more pending

Compelling Reasons
► Cohesive and proactive program management
► Adequate and dedicated funding
► More equitable
► Credits for good stormwater management
► Best of alternatives
Funding Options

Stormwater Utility (fee) Approach

• Nearly 1,700 nationwide

Source: 2018 Western Kentucky University Stormwater Utility Survey
Study Results

Work Completed

► MassDEP s319 Grant - $75,000
► ~18-month Study of:
  ► Agawam’s existing and future costs
  ► Funding options and funding analysis
  ► Public engagement process
► 6 Advisory Task Force Meetings from April 2017-February 2018
► 5 Public Meetings with Targeted Audiences
► Final Report end of September 2018
Study Results
Agawam Funding Analysis

Basic Approach for Calculating Fees

► Measured impervious surface for each parcel using aerial photos and GIS
► Billing units calculated based on 1,000 square foot increments
► Total program costs ÷ billing units = $/billing unit

Residential Property

Commercial Property

3 billing units

47 billing units
Study Results

Agawam Funding Analysis

Example Costs (preliminary and for illustration purposes only, higher level of service)

► Typical Single Family Home
  ► $88/yr stormwater utility fee (3 billing units)
  ► $76/yr for 1.8% tax increase with $250,000 value
  ► 3,250 square feet of impervious area
  ► Smaller or larger properties pay more or less

► Non-Residential Property
  ► $1,370/yr stormwater utility fee (47 billing units)
  ► $320/yr for 1.8% tax increase with $553,000 value
  ► Fees vary widely and properties benefit under one scenario or the other
  ► More opportunities for credits
Study Results

Task Force Feedback

Needs, Tax versus Fee, and Level of Service (LOS)

► There is agreement that there are stormwater needs that are not met and the current level of funding is not adequate.

► Members generally felt that a stormwater fee was a better way to distribute costs and the costs for sample residential properties seemed reasonable for both LOS and rate scenarios.

► The annual fees for a stormwater utility appear to be reasonable and the increase for a higher LOS would advance the program for little added cost.

► Members preferred the following for a stormwater utility:
  ► A rate methodology based on impervious area
  ► A flat rate structure based on 1,000 sf of impervious area and potential modifiers
  ► Credits for water quantity and quality management, as well as small properties
  ► Offer up to 50% in credits
  ► Billing with existing utility bills (water and sewer)
Study Results

Task Force Feedback

Key Comments and Concerns
► The future costs are a significant increase overall (up to 1.8% tax increase), especially when considering tax increases do not exceed 2.5% annually (without an over-ride).
► Additional fees may be a significant burden to some properties.
► People are looking for solutions to these problems and seem receptive to idea of a fee if it will help address flooding and drainage problems.
► Need transparency and accountability to ensure that funding will go to stormwater.
► Need to effectively engage the public and inform them of the needs and costs related to stormwater management.
Study Results

Additional Public Feedback

Common Questions and Comments

► My property does not drain to the town’s storm drain system, so why should I pay?
► I don’t think it’s fair to pay on the basis of my driveway and house.
  ► The stormwater utility is a funding mechanism to pay for the entire public storm drain system.
  ► Everyone uses the roads and public storm drain system.
  ► A stormwater fee based on impervious surfaces is a way to measure the impact from each property based on the total program cost, but it’s not perfect.
  ► Consider a water utility: customers are charged based on water usage, regardless of how close they are to the treatment plant and water tower.
  ► Costs can be paid through the general fund, but there is no correlation between property value and the demand on the storm drain system.
► We have a detention basin that is maintained by the condominium association, so we are already managing stormwater.
  ► This property can receive a credit to reduce the stormwater fee. This is not an option when paid by taxes.
► This seems like a burden to many properties. So I’m looking at what I can rip up to reduce my fee.
  ► Raising taxes will also be a burden to many properties.
  ► The Town also wants to promote good stormwater management practices.
  ► A stormwater fee offers an alternative with additional benefits, including an improved ability to leverage outside funding sources.
Let’s consider the following:

- The Town has existing stormwater problems.
- Stormwater management needs are increasing.
  - Aging infrastructure and increased demand on the system
  - New MS4 Permit
- The Town has limited resources and funding.
- We can solve these problems and manage stormwater better.
- It will cost more.

What is the best way for Agawam to pay for adequate management of $150M worth of infrastructure?
Agawam Public Works is in your neighborhood, working to better manage storm flow, prevent flooding, and keep local waters clean.

Did you know? The DPW maintains 4,757 catchbasins, 121.5 miles of storm pipe, and 3.2 miles of culverts to keep stormflow from local properties and roads.

Right now, we are working on the following in your neighborhood:

- Catch basin cleaning
- Street sweeping
- Storm system upgrade
- Streetscape/stormflow upgrade

For more information, e-mail stormwater@agawam.ma.us
Task 5: Conduct parcel analysis and calculate equivalent residential unit

See deliverable 3-3 above, which includes items listed here.

5-1 Total impervious area and parcel count by classification

5-2 Estimated total billing unit and projected ERU charge

5-3 Evaluation of current billing system to interface with GIS information
Page left blank intentionally.
Task 6: Conduct parcel analysis and calculate equivalent residential unit

6-1 Draft rate ordinance: Draft template for ordinance establishing a stormwater utility (handout from Task Force meeting #5)

6-2 Written report describing the financial considerations of a stormwater utility: Stormwater Utility Credits: Background Information for Agawam, Massachusetts (handout from Task Force meeting #4)
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AN ORDINANCE OF THE TOWN OF AGAWAM,
MASSACHUSETTS ESTABLISHING A STORMWATER
UTILITY

WHEREAS, the Town of Agawam has constructed and maintains a system of sewers, drains, basins, inlets, outfalls and other infrastructure to collect and manage stormwater; and
WHEREAS, the existing Stormwater Management System requires maintenance, repair, enhancements and replacement to meet existing and future needs, including flooding concerns and water quality protection; and
WHEREAS, Agawam finds that excess stormwater runoff peak rate, volume and poor water quality in a watershed can threaten public health, safety and welfare; and
WHEREAS, the requirements of the United States Environmental Protection Agency Municipal Separate Storm Sewer System (MS4) permit demand a comprehensive approach to municipal Stormwater management; and
WHEREAS, an engineering and financial analysis of the Stormwater management needs for Agawam has been performed concluding that substantial Stormwater management needs exist; and
WHEREAS, the Massachusetts Constitution (the Home Rule Amendment), Section sixteen of Chapter 83 of the General Laws of the Commonwealth of Massachusetts allows for the establishing of stormwater fees by municipalities,
NOW, THEREFORE, be it ENACTED and ORDAINED by the Agawam City Council, as follows:

SECTION 1.0 GENERAL PROVISIONS

1.1. Title
This Ordinance shall be known as the Stormwater Utility Ordinance of the Town of Agawam, Massachusetts, hereinafter referred to as this “ordinance.”

1.2. Responsibility for Administration
The City Council (the “Council”) shall administer, implement, and enforce this ordinance. Any powers granted to or duties imposed upon the Council may be delegated in writing by the Council to its employees or agents.

1.3. Purpose
The Stormwater Utility shall administer the stormwater management program of the Town. It shall be funded by revenue collected through the Stormwater Utility fee and such other revenue as may, from time to time, be appropriated. The stormwater management program, described in part through Articles I and II of the Town’s Stormwater Management Regulations, is designed to promote the health and safety of the public, to protect property from flooding and the damage caused by stormwater runoff and to protect and manage water quality by controlling the level of pollutants in stormwater runoff and the flow of water as conveyed by manmade and by natural stormwater management systems and facilities.
SECTION 2.0 AUTHORITY

This ordinance is adopted in accordance with the authority granted, inter alia, by Amendment Article 89 to Article II of the Massachusetts Constitution (the Home Rule Amendment), Section sixteen of Chapter 83 of the General Laws of the Commonwealth of Massachusetts and such other powers as granted to cities in the said General Laws.

SECTION 3.0 DEFINITIONS

The following words, terms and phrases, when used in this ordinance, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

(1) Credit means a reduction in the amount of a Stormwater Utility fee charged to the owner of a particular property where that property owner owns, maintains and operates on-site or off-site stormwater management systems or facilities, or provides services or activities that reduce or mitigate the Town’s cost of providing stormwater management services, in accordance with the Town’s approved credit policy.

(2) Developable shall mean a parcel of land, as designated by the Assessor or other local jurisdictional authority, that can be altered from its natural state to include impervious surface area.

(3) Developed means property altered from its natural state by construction or installation of greater than or equal to two hundred (200) square feet of impervious surfaces.

(4) Drainage system shall mean natural and manmade channels, swales, ditches, swamps, rivers, streams, creeks, wetlands, branches, reservoirs, ponds, drainage ways, inlets, catch basins, gutters, pipes, culverts, bridges, head walls, storm sewers, lakes, and other physical works, properties, and improvements that transfer, control, convey or otherwise influence the movement of stormwater runoff.


(6) Impervious surface includes any material or structure on or above the ground that prevents water infiltrating the underlying soil. Impervious surfaces include, without limitation, roads, paved parking lots, rooftops, buildings or structures, sidewalks, driveways, and other surfaces which prevent or impede the natural infiltration of stormwater runoff which existed prior to development.

(7) Stormwater is surface water that results from precipitation and that travels over natural or developed land surfaces to discharge into a drainage system or surface water body. Stormwater includes stormwater runoff, snow melt runoff, and surface water runoff and drainage.

(8) Stormwater management services mean all services provided by the Town which relate to the:

(a) Transfer, control, conveyance or movement of stormwater runoff through the Town;

(b) Maintenance, repair and replacement of stormwater management systems and facilities owned, controlled, or maintained by the Town;
(c) Planning, development, design and construction of additional stormwater management systems and facilities to meet current and anticipated needs;

(d) Regulation, oversight, and enforcement of the use of stormwater management services, systems and facilities;

(e) Compliance with applicable State and Federal stormwater management regulations and permit requirements including, but not limited to, public education and outreach. Stormwater management services may address the quality of stormwater runoff as well as the quantity thereof.

(9) **Stormwater management systems and facilities** mean those natural and manmade channels, swales, ditches, rivers, streams, creeks, branches, reservoirs, ponds, drainage ways, inlets, catch basins, pipes, headwalls, storm sewers, outfalls and other physical works, properties and improvements which transfer, control, convey, detain, retain, treat or otherwise influence the movement of stormwater runoff.

(10) **Stormwater Utility fee** means the periodic user fee imposed pursuant to this ordinance by the Town of Agawam which will be dedicated to the provision of public stormwater management services.

(11) **Undevelopable land** is all land including crops, forest land, pasture, conservation or recreation as designated by the Assessor.

(12) **Undeveloped land** shall mean all land that is not altered from its natural state to an extent that results in greater than two hundred (200) square feet of impervious surface area.

**SECTION 4.0 STORMWATER UTILITY FEE AND ENTERPRISE FUND ESTABLISHED; BILLING; DEPOSIT TO STORMWATER ENTERPRISE FUND**

(a) Pursuant to Section 16 of Chapter 83 of the General Laws, the Town hereby establishes a charge for the use of the stormwater management services of the Town to be known as the Stormwater Utility fee. Stormwater charges shall be established such that they will provide sufficient funds, proportionately calculated and assessed, to construct, operate, maintain, and regulate the systems and facilities in the Town of Agawam.

(b) The Stormwater Utility fee is assessed to each developed parcel, whether occupied or not. The fee shall be calculated on an annual basis and billed to the record title owner of the property.

(c) The Town shall establish a dedicated **Stormwater Enterprise Fund** in the Town budget and an accounting system for the purpose of managing all funds collected for the purposes and responsibilities of the stormwater program. All revenues and receipts of the Stormwater Utility shall be placed in the Stormwater Enterprise Fund, which shall be separate from all other funds, and only expenses of the stormwater program shall be paid by the fund as provided in G.L. c.44, s. 53 F1/2.

(d) Expenditure of funds may consider both stormwater quality and quantity management needs, and can be used as described in Section 7.0.
SECTION 5.0 RATES

(a) The City Council shall establish reasonable rates to defray the cost of administering and implementing the stormwater management program of the Town. The initial rates, and any later modifications, shall be based upon recommendation of staff and shall be set by the adoption of a Stormwater Fee Schedule Resolution by vote of the City Council. The schedule of said rates shall be on file in the office of the Town Clerk of the Town of Agawam.

(b) The billing rate structure shall consist of a uniform flat rate based on billing units of 1,000 square feet of impervious area on a developed parcel.

(c) Impervious area per parcel is determined by the Town of Agawam by utilizing available GIS data layers to calculate the area of building footprints, building structures, driveways, pathways, pools, sport courts, and parking areas. Any impervious areas within the town-owned right-of-way will not be attributed to the parcel and will not be considered as part of the total impervious area of the parcel.

SECTION 6.0 SCOPE OF RESPONSIBILITY FOR STORMWATER MANAGEMENT SYSTEMS AND FACILITIES

(a) The Town owns or otherwise has rights which allow it to operate, maintain, improve and access those stormwater management systems and facilities which are located:

(1) Within public road rights-of-way;

(2) On private property but within easements granted to, and accepted by, the Town of Agawam, or are otherwise permitted to be located on such private property by written agreements for rights-of-entry, rights-of-access, rights-of-use or such other lawful means to allow for operation, maintenance, improvement and access to the stormwater management system facilities located thereon;

(3) On public land which is owned by the Town and/or land of another governmental entity upon which the Town has agreements providing for the operation, maintenance, improvement and access to the stormwater management systems and facilities located thereon.

(b) Operation, maintenance and/or improvement of stormwater management systems and facilities which are located on private or public property not owned by the Town, and for which the Town lacks a lawful right of entry, shall be and remain the legal responsibility of the property owner, except as otherwise provided for by state and federal laws and regulations.

SECTION 7.0 PURPOSES OF THE STORMWATER UTILITY FUND

Receipts from the Stormwater Utility fee, to the extent consistent with G.L. c. 44, s. 53 F1/2, shall be used for the following purposes:

(a) The acquisition by gift, purchase or condemnation of real and personal property, and interests therein, necessary to construct, operate, and maintain stormwater management systems and facilities;
(b) All costs of administration and implementation of the stormwater management program, including the cost of labor and equipment attributable to the stormwater management program and the establishment of reasonable operating and capital reserves to meet unanticipated or emergency stormwater management requirements;

(c) Payment on principal and interest on debt obligations;

(d) Engineering and design, debt service and related financing expenses, construction costs for new facilities (including costs for contracted services) and enlargement or improvement or existing facilities;

(e) Operation and maintenance of the stormwater system, including catch basin cleaning, ditch maintenance, street sweeping, pipe repairs, and stormwater facility repairs;

(f) Capital investments including stormwater best management practices (BMPs) and components (e.g., purchase of plants, soils, and other amenities to support stormwater management alternatives utilizing vegetation);

(g) Illicit discharge detection and elimination;

(h) Monitoring, surveillance, and inspection of stormwater control devices;

(i) Water quality monitoring and water quality programs;

(j) Retrofitting developed areas for pollution control;

(k) Inspection and enforcement activities;

(l) Billing and related administrative costs; and

(m) Other activities which are reasonably necessary, including costs related to regulatory compliance.

SECTION 8.0 STORMWATER UTILITY FEE EXEMPTIONS

(a) The Town of Agawam finds that all developed property in the Town contributes to runoff and either uses or benefits from the maintenance of the stormwater system. Therefore, except as provided in this section or otherwise provided by law, no developed public or private property located in the Town of Agawam shall be exempt from the Stormwater Utility fee charges.

(b) The Town establishes exemptions to the Stormwater Utility fee as follows:

(1) Undevelopable land.

(2) Railroad rights-of-way (tracks). However, railroad stations, maintenance buildings, and/or other developed property used for railroad purposes shall not be exempt from Stormwater Utility fee charges.

(3) Public streets, highways and rights-of-way. However, maintenance buildings and/or other developed property used for road maintenance purposes shall not be exempt from Stormwater Utility fee charges. All other State, Federal, and County properties are subject to the user fee charges on the same basis as private properties.

SECTION 9.0 STORMWATER UTILITY FEE CREDITS
(a) The Council (or their designee) is hereby authorized to grant credits to property owners to be applied against the Stormwater Utility fee based on the technical and procedural criteria set forth in the Stormwater Utility Credit Manual (Credit Manual) to be developed, maintained and, from time to time, amended by the Council. The Credit Manual shall be implemented during the first year of the Stormwater Utility and shall be available for inspection by the public at the Department of Public Works.

(b) The percentages for credits shall reflect the extent to which the subject properties reduce the peak rate of runoff from the property, or avoid other costs incurred by the stormwater management program in the delivery of services, and shall be approved by the Council (or their designee). The maximum possible credit for properties shall be detailed in the Credit Manual.

(c) Any credit allowed against the Stormwater Utility fee is conditioned on continuing compliance with the Town’s design and performance standards as stated in the Credit Manual and/or upon continuing provision of the controls, systems, facilities, services, and activities provided, operated, and maintained by the property owner or owners upon which the credit is based. The Town may revoke a credit at any time for noncompliance with applicable standards and criteria as established in the Credit Manual or this ordinance.

(d) To obtain a credit, the property owner must make application to the Town on forms provided by the Town for such purpose. The forms are to be fully completed in accordance with the procedures outlined in the Credit Manual.

(e) When an application for a credit is deemed complete by the Director of Public Works, the Town shall have adequate time, to be further detailed in accompanying regulations, from the date the complete application is accepted to either grant the credit in whole, grant the credit in part, or deny the credit. Credits applied for by the property owner and granted in whole or in part, shall apply to all Stormwater Utility fees in accordance with the terms defined in the Credit Manual.

SECTION 10.0 STORMWATER UTILITY FEE BILLING, DELINQUENCY, COLLECTIONS AND ABATEMENTS

(a) Failure to receive a Stormwater Utility bill is not justification for non-payment. The property owner, as identified from public land records of the Town of Agawam, shall be obligated to pay the appropriate Stormwater Utility fee for that property. If a property is unbilled, or if no bill is sent for a particular parcel of developed land, the Town may back bill for the fees as applicable for a period not to exceed two years of charges, but no late fees or delinquency charges of any kind shall be charged or recovered from any property owner so back billed.

(b) Stormwater Utility bills shall be committed to the Treasurer/Collector for collection. The Treasurer/Collector shall notify the Council (or their designee) quarterly of the amounts collected, and shall keep records of all paid and unpaid Stormwater Utility bills.

(c) In any case of nonpayment of a Stormwater Utility bill for sixty (60) days after the same is due, the Treasurer/Collector shall send a notice to the delinquent, and shall inform the Council (or their designee) in writing that such notice has been sent.

(d) In accordance with Sections 16A through 16F of Chapter 83 of the General Laws, charges for the Stormwater Utility fee, together with interest thereon and costs relative thereto, shall be a
lien upon the real estate for which the charge was billed. Such lien shall take effect by operation of law on the day immediately following the due date of such charge and, unless dissolved by payment or abatement, shall continue until such charge has been added to or committed as a tax in accordance with the requirements of Section 16C of Chapter 83 of the General Laws, and thereafter, unless so dissolved, shall continue as provided in Section 37 of Chapter 60 of the said General Laws.

(e) In addition to the method of collection specified in Sections 16A through 16F of the General Laws, the overdue charge may be collected through any other lawful means.

(f) In the event that a property owner believes the Stormwater Utility fee is improperly calculated or is otherwise incorrect, the property owner may, within thirty (60) days from the date of issuance of the Stormwater Utility bill, and after payment of the bill in full, apply to the Town for an abatement. The application for abatement shall be supported by such information as is necessary for a reasonable person to conclude that it is more likely than not that the billing is in error. The Town shall have sixty (60) days to consider the request for abatement and render a written decision which may deny the abatement, grant the abatement in full or grant the abatement in part.

SECTION 11.0 APPEALS AND HEARINGS

(a) If a property owner is aggrieved by a written decision from the Town denying an application for abatement in whole or in part, or denying an application for a credit, in whole or in part, the property owner shall have thirty (30) days from the date of the written decision to file an appeal to the City Council. The appeal shall be in writing and shall specify the grounds thereof. Upon the filing of the notice of appeal, the Council shall make available all documents constituting the record upon which the particular decision was made. The Council shall set a date for hearing which shall be within ninety (90) days of the date of the filing of the appeal and notice thereof setting forth the place, date and time of hearing shall be sent to the property owner no less than ten (10) days prior to the hearing date. The Council shall render a written decision within ten (10) days of the conclusion of the hearing affirming the action or reversing the action. If reversing the denial of an abatement, the decision shall specify the sum to be abated, which shall not exceed the amounts paid. If reversing the denial of a credit, the decision shall specify the credit to be applied prospectively against future charges unless the property owner has paid the full amount of the Stormwater Utility fee as charged and has also requested an abatement.

SECTION 12.0 SEVERABILITY

The invalidity of any section, provision, paragraph, sentence, or clause of this ordinance shall not invalidate any section, provision, paragraph, sentence, or clause thereof, nor shall it invalidate any permit or determination that previously has been issued.

SECTION 13.0 EFFECTIVE DATE

To be inserted upon ordinance approval
Stormwater Utility Credits: Background Information for Agawam, Massachusetts

October 2, 2017

Introduction

Properties can generate stormwater and have impacts on receiving waters and community infrastructure at different levels. These impacts are mostly related to the amount of impervious surface (e.g. roofs and parking areas) on the property and the effectiveness of any stormwater best management practices (BMPs) installed on the property to help control runoff. When establishing a stormwater management user fee, the fee structure may take into account these variations and the cost of service for stormwater management by allowing credits.

A stormwater credit can be defined as an ongoing reduction in a property's calculated user fee that is given for some rational and legal reason, typically related to private investment for a public good. Under the Massachusetts enabling legislation for stormwater utilities (Section 16 of Chapter 83 of the General Laws), the Town is allowed to "grant credits against the amount of the quarterly or annual charge to those property owners who maintain on-site functioning retention/detention basins or other filtration structures as approved by the stormwater utility, conservation commission, or other governmental entity with appropriate authority." Credit systems may be developed to encourage property owners to properly maintain their existing facilities or to undertake "retrofits" of uncontrolled stormwater runoff to help reduce the burden placed on the public system.

In establishing a stormwater management user fee, a rate methodology is developed and applied to each property, similar to other utilities. The fees support the revenue needs to maintain the stormwater management system and mitigate environmental impacts. Modification factors can be applied to a basic rate structure and used to distribute the cost of these services according to a town's historical development pattern, changes in building policies over time, and stormwater needs. A credit is a modification factor and is an ongoing reduction in a property’s calculated stormwater fee that is given for:

- On-going activities on the property that reduce the impacts on the stormwater system; and
- On-going activities on the property that reduce a town’s cost of service.

Generally, stormwater credits are granted both to increase equity and to provide incentives to implement an overall community stormwater management plan. Credits typically do not have significant total revenue reduction potential, but can make a significant difference to individual rate payers. For example, a typical total annual revenue reduction amount is three to five percent. However, credits can make a financial difference to property owners with large impervious areas as it provides an opportunity to mitigate a portion of their fee.

Stormwater programs vary considerably in the amount of the user fees that they make eligible for crediting. The amount of a fee that is eligible for credits might be seen as the relative "generosity" of the credit. There are rational reasons supporting a broad range of considerations. The extent or generosity of the credit should include consideration of which stormwater program costs can actually be reduced by the qualifying activities for which users can receive credits. For instance, while a business may reduce its impact on the stormwater system through installing and maintaining a detention pond,
the utility may not credit the business for its entire bill. Reasons for this might include the fact that a detention pond does not reduce all of the impacts of the property (i.e. runoff is still generated during significant storm events) and the reality that there are some fixed program costs that remain regardless of individual actions.

It is important to note the difference between the terms “credit” and “offset” or “incentive”. A credit is an annual reduction in the user fee as long as the recipient applies for and continues to properly maintain the stormwater management controls. Offsets and incentives are generally a one-time reduction in stormwater management costs (i.e. reimbursement for a rain barrel).

Types of Credits

The types of credits most often given by utilities can be grouped into the following categories, which have varying levels of complexity:

- **Retention or detention:**
  - Reduce peak flow and control the rate at which the runoff volume enters the drainage system.
  - Structures must meet a town’s design and performance criteria.
  - Graduated credits can be offered for those structures meeting standards.

- **Water Quality BMPs or “Green Infrastructure”:**
  - Reduce polluted runoff; supports a town’s NPDES permit requirements, and provide an incentive for being “good” or “green”.
  - Structures must meet a town’s design and performance criteria.
  - Graduated credits can be offered for different levels of treatment.

- **Non-structural BMPs Services or activities that help reduce the quantity and improve the quality of:**
  - Stormwater runoff in lieu of constructing stormwater management infrastructure; examples include maintaining a site-specific NPDES permit for stormwater; pollution prevention activities; and good housekeeping programs (i.e. parking lot sweeping).
  - Supports municipal compliance with NPDES permit requirements and reduces pollution.
  - Commonly used to reduce fees for school systems or non-profits that have limited funds and are not used to paying utility fees but can provide measureable program support.
  - Tracking, administration, and enforcement can be cumbersome and time-consuming and opportunities for cost savings are often limited.

- **LID or Green Subdivision Residential Credit**
  - Reduces pollution and meets NPDES permit requirements.
  - Rewards low impact design, smart growth, and smart home purchases.
  - Each property within a designated subdivision would get the same discount.

Where credits are offered to residential properties or properties with relatively small amounts of total impervious area (i.e., less than 3000 square feet), they tend to fall under one of the following categories:

- Credits offered to entire subdivisions to reward specific green building practices.
- Credits provided to entire subdivisions with onsite treatment and maintenance.
- Credits offered to individual properties under a program without onsite verification (i.e., information submitted by a property owner is the basis for the credit calculation without any on-site verification by the town to minimize administrative costs).
Extent of Credits

Stormwater management utility fees use a variety of approaches for setting user fee credits, not only varying the types of credits they offer, but also varying the amount or percentage of the user fee that is eligible for credits. There are no hard and fast rules on how much credit should be given. It is a balanced consideration of many factors, and is done differently from one utility to another. Just as in water and sewer rate making where there is no requirement that the rate be reduced to zero, there is no such requirement in stormwater management. And there may be good reasons not to reduce the charge to zero, having to do with:

1. The inability to reduce the discharge of stormwater, and thus "use" of the public stormwater system, to zero;
2. The multiple impacts of development including volume increase, peak increase, and water quality impacts;
3. The use of the stormwater program made by every downstream property protected by the imposition of controls on all upstream parcels; and
4. The shared runoff impacts realized through the construction of roadways and other public hard surfaces whose impact and benefit can be properly distributed across the rate base.

The extent of the credit should consider which stormwater program costs can or should be reduced by the qualifying activities. A property owner can reduce the impact on the stormwater system by installing a stormwater management practice (e.g., detention pond), but they should still pay for the stormwater program's fixed costs such as system maintenance, NPDES permit compliance, administration and public education. Most towns cap credits, but some choose to offer a 100% credit for designs that exceed the normal criteria and seek to reduce their stormwater runoff impact to zero. These are rare and are typically handled on a case by case basis.

Receiving Credits

Credits are usually granted only upon the approval of a credit application by the town. Requirements for applying for credits vary widely, but typically request that the property owner provide the following information:

1. Property parcel number and address;
2. Description of the facility or activity for which the credit is requested;
3. Confirmation that the qualifying infrastructure or service is operating as designed and is being properly maintained;
4. A map or sketch showing the location of the facility on-site and showing the drainage area being treated; and
5. An agreement that the owner will allow a right-of-entry for periodic inspection.

Many communities charge an application fee to cover the cost of the review and verification process typically range from $20-$100. A community could elect to return the application fee upon approval of the credit application, and perhaps encourage greater participation in the credit program.

Upon approval of a credit system, many stormwater management utilities develop a credit manual and application process that sets forth the criteria and process for obtaining credits. The credit manual details the procedure, policy, and process used to determine the fee reduction and how that is applied to the stormwater fee that a property owner pays.