

MEMORANDUM

TO: Ms. Melissa Jette Provencher, Senior Planner, BRPC
FROM: Rebecca Balke, P.E., Principal, Project Manager, CEI
DATE: October 7, 2016, revised May 17, 2017, revised June 27, 2017
SUBJECT: Berkshire Regional MS4 Stormwater Phase II

The Berkshire Regional Planning Commission (BRPC) and Comprehensive Environmental Inc. (CEI) are currently working with the Towns of Adams, Cheshire, Dalton and Lanesborough and the City of Pittsfield to develop a plan to address the cost of compliance under the National Pollutant Discharge and Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) program. CEI performed the following tasks under this project:

- Developed a questionnaire to collect information on each community's stormwater program components;
- Estimated MS4 program costs for each community;
- Identified potential items that could be performed at a regional level; and
- Determined potential costs savings associated with a regional approach.

This memorandum summarizes the findings of these tasks for incorporation into the project report.

1.0 STORMWATER QUESTIONNAIRE RESULTS

CEI developed and distributed a questionnaire to the five communities within Berkshire County regulated under the 2016 MS4 permit to collect information on existing stormwater management practices and regulations within each community. The questionnaire was created to better understand current stormwater program status within each community, determine program components communities already comply with, and ultimately identify funding needs to comply with new permit requirements as outlined in Section 2.0. The following general observations were made:

- Two of the communities have a written plan in place, either a stormwater management program plan and/or an illicit discharge detection and elimination plan;
- All communities have at least some outfalls mapped, and some have other structures such as catch basins and manholes mapped; however, four of the communities could not/did not provide details on the number of outfalls or catch basins within their system;
- Four of the communities clean their catch basins once a year and one cleans basins only when there is a problem or every few years, thus the associated costs are already within existing budgets for these communities;
- All communities sweep streets at least once a year and two of the communities sweep twice a year, thus the associated costs are already within existing budgets;
- Public outreach materials vary between communities, however generally consist of mailed brochures or flyers, workshops, and a website;
- Four of the communities reported having regulations in place requiring the use of sediment and erosion controls and post-construction stormwater BMPs at construction sites; and
- Four of the communities have at least two facilities that will require preparation of a Stormwater Pollution Prevention Plan (SWPPP).



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Remaining items either vary extensively by community or insufficient information was provided. See **Attachment A** for a summary of questionnaire results.

2.0 MS4 PROGRAM ESTIMATES

MS4 program implementation costs will vary extensively by community, depending in part on physical size, extensiveness of the stormwater system, work performed to date, etc. EPA’s final 2016 Massachusetts MS4 NPDES Permit has over 150 Performance Action Items (PAIs) as identified in its “Technical Memorandum – Stormwater Program Cost Evaluation for Massachusetts” developed by WaterVision, LLC under contract with EPA. To estimate MS4 program costs, CEI used its previously developed proprietary M\$4CASTER™ model which is based on EPA’s Technical Memorandum – Stormwater Program Cost Evaluation for Massachusetts and associated Excel Workbooks. The model considers each of the 150+ PAIs in the new permit and combines them into approximately 25 individual implementation items to provide budget data for overall costs. The M\$4CASTER™ model also takes into consideration community-specific data, such as number of catch basins and outfalls, MS4 program configuration, and work performed to date.

To develop a customized cost estimate for each community within the study area, CEI incorporated the results of the questionnaire discussed in Section 1.0 into the M\$4CASTER™ cost model for each community. Where information was not available, CEI assigned values based on EPA’s default parameters used for small/rural, medium suburban, and large/urban communities. Table 1 provides an estimated base program cost for implementation requirements over the first five permit years, as well as an estimated cost for implementing Total Maximum Daily Load (TMDL) and impaired waters program requirements (refer to Section 3.6 for more information on impairments) above and beyond what is currently being performed under the community’s existing program and assuming no regionalized implementation approach. Note that these numbers do not reflect potential intermittent program costs such as removing illicit discharges.

Table 1 – Program Cost Over 5-Year Permit Term

Community	Base Program Cost		TMDL & Impaired Waters	
	Low	High	Low	High
Town of Adams	\$251,000	\$585,000	\$1,000	\$4,000
Town of Cheshire	\$129,000	\$310,000	\$0	\$4,000
Town of Dalton	\$154,000	\$373,000	\$48,000	\$78,000
Town of Lanesborough	\$156,000	\$361,000	\$29,000	\$47,000
City of Pittsfield	\$411,000	\$867,000	\$129,000	\$230,000
TOTAL COSTS	\$1,101,000	\$2,496,000	\$207,000	\$363,000

Notes:

1. Costs are provided for budgetary purposes and can be refined as more detailed information is obtained from each community.
2. Costs account for existing catch basin cleaning and street sweeping, and the frequency of each. These costs are only included where additional efforts may be necessary, such as street sweeping twice a year for areas discharging to nutrient impaired waterbodies.
3. Although some communities already have regulatory mechanisms in place for IDDE, construction and post construction site control, it was assumed that all will need updates. This may not be the case in some instances, which could result in slightly lower implementation costs.
4. TMDL and impaired waters requirements do not include construction of a structural BMP.
5. Minor differences in costs between the tables throughout this memorandum are associated with rounding.



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See **Attachment B** for program cost estimated for each town. Section 3.0 outlines potential areas where a regional approach may benefit towns through a cost sharing approach.

3.0 REGIONAL COST SAVINGS ITEMS

The 2016 Massachusetts MS4 NPDES Permit provides a number of opportunities for items to be prepared on a regional level rather than by an individual community. Items such as written plan templates, model bylaws, educational material preparation, and training can be performed in part by a regional entity and provided to communities for incorporation of facility or community-specific information to meet permit requirements. The following items were identified as having the potential for development on a regional basis. Some of these items are already available from other Stormwater Coalitions, MassDEP or EPA and can be used or modified for Berkshire communities as discussed in more detail in the following sections:

- Education and Outreach Materials
- Written Plan Templates, including:
 - Stormwater Management Program (SWMP) Plan;
 - Illicit Discharge, Detection, and Elimination Plan;
 - Pre-Construction Peer Review and Construction Site Inspection;
 - As-Built and Long-Term O&M;
 - Stormwater Pollution Prevention Plans (SWPPPs); and
 - Operation and Maintenance Procedures.
- Model Bylaws, including:
 - IDDE Regulatory Mechanism;
 - Construction Site Stormwater Runoff Control Regulatory Mechanism; and
 - Stormwater Management in New and Redevelopment Regulatory Mechanism.
- IDDE Training
- Regional Labor Sharing
- TMDL and Impaired Waters Requirements.

3.1 Education and Outreach Materials

Under the new permit, municipalities must develop and implement an education program that targets four specific audiences: residential, commercial, construction/developers, and industrial. At a minimum, the program must provide information on stormwater impacts to waterbodies, especially impaired ones, and identify activities that the public can take to reduce pollutants in stormwater runoff. Potential topics for each audience include:

- | | |
|--|---|
| <ul style="list-style-type: none">• <u>Residential</u><ul style="list-style-type: none">○ Proper lawn maintenance (pesticide, herbicide, and fertilizer application)○ Benefits of stormwater infiltration○ Auto work and car washing○ Disposal of swimming pool water○ Proper management of pet wastes○ Maintenance of septic systems | <ul style="list-style-type: none">• <u>Commercial / Institutions</u><ul style="list-style-type: none">○ Proper lawn maintenance○ Benefits of stormwater infiltration○ Building maintenance○ Winter salting and salt storage○ Pollution prevention & material storage○ Waste management and disposal○ Parking lot management (sweeping)○ Proper car washing and maintenance |
|--|---|



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- Industrial
 - Equipment inspection and maintenance
 - Storage of industrial materials
 - Pollution prevention & material storage
 - Waste management and disposal
 - Dumpster and solid waste management
 - Winter salting and salt storage
 - Benefits of stormwater infiltration
- Construction / Developers
 - Sedimentation Control Management
 - Erosion Control Management
 - Low Impact Development
 - EPA Construction General Permit (CGP)

MassDEP is continually developing stormwater outreach materials to help towns comply with the MS4 permit. These materials are developed such that a community can print and send materials as is and/or modify to include specific community information without having to worry about copyright issues. A regional planning commission or similar agency may help communities tailor the available materials to the area and add additional messages as appropriate specific to waterbody impairments or other concerns in the region to help promote a unified message.

Measurable goals and methods for measuring effectiveness of various public education measures could also be developed by a regional entity, providing a menu of items for communities to choose from.

3.2 Written Plan Templates

The new permit requires preparation of written plans and procedures documenting the implementation of a number of program requirements, including:

- Stormwater Management Program (SWMP) Plan;
- Illicit Discharge, Detection, and Elimination (IDDE) Plan;
- Procedures for pre-construction peer review and construction site inspections;
- Procedures requiring submission of as-built drawings and ensuring long-term operation and maintenance (O&M);
- Stormwater Pollution Prevention Plans (SWPPPs); and
- Operation and maintenance (O&M) procedures.

A regional entity may prepare plan templates to provide communities with a starting point. Templates for several of the above items have already been developed by other regional stormwater coalitions and could be used or modified for use in the Berkshire communities. The following sections provide a description of the items required within each written plan, as well as information on where existing templates may be found.

Stormwater Management Program Plan

Communities must prepare a written SWMP Plan that describes and details activities and measures to be implemented to meet permit terms and conditions by July 1, 2018. Although many items required in the SWMP are community-specific, a template can be prepared on a regional level that covers basic permit requirements and a structure for evaluating, documenting and reporting BMPs for completion by the community. This template can provide information on program implementation applicable to all communities.



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Illicit Discharge, Detection, and Elimination Plan

Communities must prepare a written IDDE Plan that at a minimum includes procedures for catchment investigations and outfall screening. Procedures should include the following:

- Establishing evaluation criteria of System Vulnerability Factors (SVFs), or areas with higher potential for illicit connections;
- Manhole inspection methodology, including evaluating key junction manholes representing discrete areas of the drainage system for dry weather flow;
- Procedures to isolate and confirm illicit discharges, such as through smoke testing, dye testing, video inspecting lines, etc.;
- Outfall inventory, catchment delineation methodology, and classification into Problem, High Priority, Low Priority, and Excluded outfalls based on potential for illicit discharges and proximity to sensitive environmental areas; and
- Dry and wet weather sampling procedures used for screening High Priority and Low Priority catchments, including sampling stormwater flows for ammonia, chlorine, conductivity, surfactants, salinity, temperatures, and bacteria.

Additional items, such as legal authority and program responsibilities can be added by a specific community.

The Central Massachusetts Regional Stormwater Coalition (CMRSWC) has developed an IDDE Template that addresses the requirements of the 2016 MS4 permit and can be customized to the specific needs of individual communities. The template may be obtained at <http://centralmastormwater.org>.

Pre-Construction Peer Review and Construction Site Inspection

Communities must prepare written procedures for site plan review, inspection, and enforcement of construction site controls by July 1, 2018. Procedures must include a pre-construction review of the site design, planned construction site operations, planned BMPs during construction, and planned BMPs used to manage runoff after development. Procedures must also consider potential water quality impacts, evaluation of opportunities for low impact design and green infrastructure, and receipt and consideration of information submitted by the public. Finally, procedures for tracking the number of site reviews, inspections, and enforcement actions must be developed.

The CMRSWC has developed procedures and forms for conducting construction inspections and erosion and sedimentation control inspections that can be used or customized for use within Berkshire communities. These can be obtained at <http://centralmastormwater.org>. Note that written procedures are still needed for site plan review and for tracking purposes.

As-Built and Long Term O&M

Communities must establish written procedures requiring submission of as-built drawings that show all structural and non-structural stormwater controls by July 1, 2019. Additionally, procedures must be in place to ensure adequate long-term operation and maintenance of stormwater controls, and may include the use of a dedicated funding source or acceptance of the BMPs by the community for ongoing maintenance. Procedures also may include development of maintenance contracts between the BMP owner and the permittee, or submission of an annual



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certification documenting that work has been done over the last year to properly operate and maintain the BMP.

A document outlining the various options available, advantages and disadvantages of each and language for incorporating these requirements into local bylaws would be helpful for communities to select and incorporate these requirements into their regulations.

Stormwater Pollution Prevention Plans (SWPPPs)

SWPPPs are facility specific plans that assess the potential for the facility to cause stormwater pollution and develop best management practices to reduce, eliminate and prevent the discharge of pollutants to stormwater. Communities must develop written SWPPPs for the following facilities by June 30, 2019:

- Maintenance Garages;
- Public Works Yards;
- Transfer Stations; and
- Other waste handling facilities (i.e., facilities that have bulk storage of oil or chemicals that may not be covered under the multi-sector general permit).

Although SWPPPs are facility-specific, a regional entity may prepare one or more templates for use by municipalities that covers the most common situations encountered at municipal facilities for which a SWPPP may be required. The municipality can then select those items that apply to it and fill in facility-specific information.

The CMRSWC has developed a template that allows users to tailor it towards its specific needs and can reduce the level of effort to develop such plans significantly. The template may be obtained at <http://centralmastormwater.org>. This can reduce the level of effort to develop such plans significantly.

Operation and Maintenance Procedures

Communities must develop written operation and maintenance procedures for municipal activities, including the following facilities:

- *Parks and Open Space*: use, storage, and disposal of pesticides, herbicides, fertilizers, and trash; landscaping and lawn/leaf litter disposal, pet waste handling; and erosion/vegetation protection.
- *Buildings and Facilities*: use, storage, disposal of petroleum products; solid waste management; parking lot sweeping; and employee training.
- *Vehicles and Equipment*: storage of vehicles and equipment, with leaking ones stored indoors or contained and ensuring vehicle wash waters don't enter drainage systems or surface waters.
- *Winter Maintenance*: winter road maintenance, including use and storage of sand and salt, liquid salts, and snow disposal/storage locations.
- *Best Management Practice Maintenance*: inspecting and maintaining structural BMPs, with inspections occurring at least once per year.
- *Stormwater Infrastructure*: procedures so that the drainage system is maintained in a timely manner, including catch basin and street sweeping. Note catch basin cleanings and street sweepings must be stored so that they do not discharge to waterbodies.



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O&M procedures can be developed as a “menu” of Standard Operating Procedures (SOPs) that a community can pull from based on its specific need and applicability. For example, SOPs for many types of structural BMPs can be prepared, allowing communities to incorporate only the SOPs for BMPs they currently have or expect in the future so as not to crowd the document unnecessarily with information that is not applicable. Written SOPs may also include various checklists, schedules, and forms for use during inventorying and inspecting applicable areas.

In 2012, the CMRSWC developed several SOPs for municipal operations that can be updated/modified where needed to meet the requirements of the 2016 MS4 permit. CMRSWC has also developed a Municipal Stormwater Infrastructure Operation and Maintenance Plan template that can be used or modified regionally to document the operation and maintenance of catch basins, streets and parking lots, catch basin cleanings and street sweepings, winter road maintenance and structural stormwater BMPs. These can be obtained at the CMRSWC website identified above.

A matrix template could also be developed regionally that outlines the types of municipal facilities, typical activities at each and which SOPs apply to which facilities, allowing municipal officials at each location to quickly reference which SOPs may apply to them.

3.3 Model Bylaws

The new permit requires communities to implement and/or update three regulatory mechanisms under the following minimum measures:

- Illicit Discharge, Detection and Elimination (IDDE);
- Construction Site Stormwater Runoff Control; and
- Stormwater Management in New and Redevelopment.

Regulatory mechanisms should include the following information:

- IDDE Regulatory Mechanism – Under the IDDE requirements, existing communities must implement a regulatory mechanism to prohibit illicit discharges, investigate suspected illicit discharges, eliminate illicit discharges, including discharges from properties not owned or controlled by the MS4 that discharges into the MS4 system, and implement appropriate enforcement procedures and action. Note this was required to be in place under the 2003 permit, and may already be in place in several communities. For newly regulated communities, the regulatory mechanism shall be in place by June 30, 2020.
- Construction Site Stormwater Runoff Control Regulatory Mechanism – Existing communities must develop a regulatory mechanism requiring sediment and erosion controls at construction sites and control of other wastes such as demolition debris, litter, and sanitary wastes. Note that this was required to be in place under the 2003 permit, and may already be in place in several communities. For newly regulated communities, the regulatory mechanism shall be in place by June 30, 2020.



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- Stormwater Management in New and Redevelopment Regulatory Mechanism – Existing communities must develop a regulatory mechanism by July 1, 2019 that addresses the use of Low Impact Development (LID) planning and design to the maximum extent feasible, incorporates various design standards of the Massachusetts Stormwater Handbook, and incorporate requirements for additional pollutant removals such as total suspended solids and phosphorus in new and redevelopment. However, the 2016 MS4 Permit requirements are significantly different from the 2003 permit’s requirements, thus it is likely that communities will have to substantially modify or rewrite this bylaw. For newly regulated communities, the regulatory mechanism shall be in place by June 30, 2020.

Model bylaws that comply with the 2003 MS4 permit are available through the Massachusetts Citizen Planner Training Collaborative (CPTC) at <https://masscptc.org/documents/bylaws/bylaw-docs/stormwater-DEPGuidance.pdf> and should serve as a good template to comply with the first two regulatory mechanism requirements outlined above. The Metropolitan Area Planning Council (MAPC) also has model bylaws that meet the first two regulatory mechanism requirements outlined above and also includes some regulatory language to address new requirements under the Stormwater Management in New and Redevelopment regulatory mechanism at <http://www.mapc.org/sites/default/files/2%20Model%20Stormwater%20Bylaw%20and%20Reg%2012-10-14.pdf>. However, the model is based on the 2014 draft permit, thus may require some further modification to comply with the final permit released in April 2016. These modifications can be prepared on a regional basis to provide an up to date model bylaw that complies with the requirements of the final permit. The model bylaw can then be modified by local departments and boards as needed to fit within each community’s regulatory framework.

3.4 IDDE Training Program

Permittees are required to provide annual training to employees involved in the IDDE Program. Topics must include information about the program, including how to recognize illicit discharges and sanitary sewer overflows. A regional approach could develop a standardized program in the form of a presentation, desktop exercise, and/or hands-on field training, or equivalent alternative that could be used by multiple communities. A training seminar could also be presented concurrently to employees from multiple towns in a central location.

3.5 Regional Labor Sharing

An additional cost savings item would be to share one or more regional level employees to perform some non-specialized tasks. Items such as mapping of outfalls, catch basins, manholes, BMP locations, etc. could be performed by an intern at a reduced rate with a provided GPS unit. Efforts could be distributed throughout the towns depending on hours worked.

Due to the variable nature of this item (labor rate, hours worked, tasks performed, duration of employment, efficiency, etc.) it is not possible to provide a detailed cost savings; however, it is possible that each community could easily save between \$10,000 and \$30,000 dollars based on an assumed hourly rate of \$20, compared to \$100/hour for a consultant. Note that these costs are not accounted for in the following tables, and actual savings will vary by community.



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3.6 TMDL and Impaired Waters

According to the 2016 MS4 Permit, each regulated community in Berkshire County is subject to at least one TMDL, the nitrogen TMDL for Long Island Sound with some communities also subject to phosphorus impairment and bacteria TMDL requirements. Upon further review, it was found that the Town of Adams is outside of the Long Island Sound watershed, thus is not subject to the TMDL. Adams will need to document that they are not in the Long Island Sound watershed when they prepare their NOI. EPA issues an authorization to discharge under the permit based on the NOI submittal, thus the authorization will serve as acceptance that they are not in the Long Island Sound watershed and do not need to comply with the associated permit requirements. Documentation should also be maintained in Adams' written SWMP Plan.

Similarly, Cheshire only has a very small portion of the Town in the Long Island Sound watershed (Housatonic River Watershed), however, this appears to fall outside of their urbanized area. Cheshire can use their NOI to provide documentation that their urbanized area does not fall within and that their MS4 does not discharge into the Long Island Sound watershed, and that those permit requirements do not apply to them. Documentation should also be maintained in Cheshire's written SWMP Plan.

Table 2 provides a brief list of TMDL and impairments applicable to each community:

Table 2 – TMDL and Impaired Waters Applicability by Community

Community	Nitrogen TMDL	Phosphorus Impairment	Bacteria TMDL
Town of Adams	-	-	X
Town of Cheshire	-	-	X
Town of Dalton	X	X	X
Town of Lanesborough	X	-	-
City of Pittsfield	X	X	X

Note:

1. Table reflects removal of the Long Island Sound nitrogen TMDL applicability from Adams and Cheshire as discussed above.

Bacteria Impairments

Communities subject to bacteria TMDL requirements must prepare the following items to meet new permit requirements:

- *Public education and outreach:* prepare additional messages for distribution to residential audiences that address pet waste and septic system maintenance; and
- *Illicit discharge:* designate catchments draining to bacteria-impaired waterbodies as either Problem or High Priority.

Nitrogen TMDL and Phosphorus Impairments

Communities subject to nitrogen and phosphorus requirements must perform the following items to meet new permit requirements for each pollutant of concern:

- *Public education and outreach:* prepare additional messages for distribution to residential and commercial/institutions audiences three times per year. Messages must address proper lawn care, pet waste, and leaf litter disposal;



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- *Post-construction runoff*: adopt or amend a regulatory mechanism to ensure new and redevelopment stormwater BMPs are optimized for nitrogen/phosphorus removal;
- *Good housekeeping*: establish requirements for use of slow release fertilizers, proper management of grass cuttings and leaf litter, and perform street sweeping at least twice per year;
- *Nitrogen/phosphorus source identification report*: a report that assesses urbanized and impervious area within the watershed, screening and monitoring results, identification and prioritization of catchments with high nitrogen/phosphorus loading potential, and identification of areas for BMP construction required by Year 4; and
- *BMP prioritization and construction*: evaluate and prioritize potential areas for structural BMP construction by Year 5, and build a BMP by Year 6 that targets an area with high nitrogen/phosphorus load potential.

As outlined in previous sections, a regional planning commission or similar agency may develop educational materials that could be adopted by multiple communities at a local level. Model bylaws may be prepared for review and eventual adoption by individual cities and towns. Additional SOPs may be developed to meet the requirements for good housekeeping requirements. Finally, a regional entity can prepare a general nitrogen or phosphorus source identification report template with information applicable to all communities.

3.7 Cost Summary

Table 3 provides a cost summary for the above items. As it is assumed the individual communities will use available templates, the savings associated with using the existing IDDE Plan and SWPPP Templates prepared by CMRSWC have been incorporated into each individual communities MS4 compliance cost estimate, with no further savings applied to regional entity costs.

Table 3 – Estimated Costs and Savings Over 5-Year Permit Term for Regional Approach

Item	Cost by Regional Entity	Community Savings	Total Savings (Difference)
Base Program			
Education / Outreach	\$4,000 - \$8,000	\$13,000 - \$91,000	\$9,000 - \$83,000
Written Plan Templates	\$13,000 - \$24,000	\$95,000 - \$218,000	\$82,000 - \$194,000
Model Bylaws	\$4,000 - \$8,000	\$25,000 - \$45,000	\$21,000 - \$37,000
SWPPPs	\$0 - \$0	\$0 - \$0	\$0 - \$0
IDDE Training Program	\$8,000 - \$10,000	\$41,000 - \$49,000	\$33,000 - \$39,000
Totals	\$29,000 - \$50,000	\$174,000 - \$403,000	\$145,000 - \$353,000
TMDL and Impaired Waters			
Nitrogen TMDL	\$8,000 - \$14,000	\$20,000 - \$32,000	\$12,000 - \$18,000
Phosphorus Impairment	\$8,000 - \$14,000	\$15,000 - \$23,000	\$7,000 - \$9,000
Bacteria TMDL	\$1,000 - \$2,000	\$1,000 - \$4,000	\$0 - \$2,000
Totals	\$17,000 - \$30,000	\$36,000 - \$59,000	\$19,000 - \$29,000
PROGRAM COST	\$46,000 - \$80,000	\$210,000 - \$462,000	\$164,000 - \$382,000

Notes:

1. Minor differences in costs between the tables throughout this memorandum are associated with rounding.



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4.0 COST SUMMARY

Table 4 provides program costs for implementation of base program items and TMDL and impaired waters requirements over the first five permit years, with and without the use of materials at a regional level, along with potential savings for each community. For all other templates, it was assumed that the regional entity would have some involvement in producing or modifying materials for use by the Berkshire communities.

Table 4 – Program Costs Over 5-Year Permit Term with Regional Implementation

Community	Program Cost, No Regional Savings	Program Cost with Regional Savings	Cost Reduction
Base Program			
Adams	\$251,000 - \$585,000	\$215,000 - \$504,000	\$36,000 - \$81,000
Cheshire	\$129,000 - \$310,000	\$98,000 - \$234,000	\$31,000 - \$76,000
Dalton	\$154,000 - \$373,000	\$123,000 - \$297,000	\$31,000 - \$76,000
Lanesborough	\$156,000 - \$361,000	\$125,000 - \$285,000	\$31,000 - \$76,000
Pittsfield	\$411,000 - \$867,000	\$366,000 - \$770,000	\$45,000 - \$97,000
Totals	\$1,101,000 - \$2,496,000	\$927,000 - \$2,090,000	\$174,000 - \$406,000
TMDL and Impaired Waters			
Adams	\$1,000 - \$4,000	\$1,000 - \$3,000	\$0 - \$1,000
Cheshire	\$0 - \$4,000	\$0 - \$3,000	\$0 - \$1,000
Dalton	\$48,000 - \$78,000	\$36,000 - \$58,000	\$12,000 - \$20,000
Lanesborough	\$29,000 - \$47,000	\$23,000 - \$37,000	\$6,000 - \$10,000
Pittsfield	\$129,000 - \$230,000	\$112,000 - \$202,000	\$17,000 - \$28,000
Totals	\$207,000 - \$363,000	\$172,000 - \$303,000	\$35,000 - \$60,000
PROG. COST	\$1,308,000 - \$2,859,000	\$1,099,000 - \$2,393,000	\$209,000 - \$466,000

Notes:

1. Costs are provided for budgetary purposes and can be refined as more detailed information is obtained from each community.
2. Costs account for existing catch basin cleaning and street sweeping, and the frequency of each. These costs are only included where additional efforts may be necessary, such as street sweeping twice a year for areas discharging to nutrient impaired waterbodies.
3. Although some communities already have regulatory mechanisms in place for IDDE, construction and post construction site control, it was assumed that all will need updates. This may not be the case in some instances, which could result in slightly lower implementation costs.
4. TMDL and impaired waters requirements do not include construction of a structural BMP.
5. Minor differences in costs between the tables throughout this memorandum are associated with rounding.

As noted in the above table and information presented in previous sections, Berkshire County communities can realize substantial cost savings by using tools and materials, as outlined in Section 3.0, developed at a regional level. However, the above table does not account for the cost of preparing the regional tools and materials, only for using them. The cost to prepare these materials must also be considered and factored into the total savings.

Based on CEI's estimate using the M\$4CASTER™ model, it is estimated that preparation of base program items in Section 3.0 at a regional level will be between \$29,000 and \$50,000 and preparation of TMDL and Impaired Waters items will be between \$17,000 and \$30,000. Communities may contribute funding to a regional entity, such as BRPC or a locally formed stormwater coalition, as the funding contributed will result in an overall cost savings.

Table 5 provides a cost summary for the base program using two regional program funding options:



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1. Option 1: even distribution of costs between the five communities; and
2. Option 2: savings-based approach where communities with higher potential savings contribute more funding.

Table 5 – Regional Base Program Funding

Community	Regional Cost to Prepare	Option 1: Even Distribution	Option 2: Savings-Based Funding
Adams	\$29,000 - \$50,000	\$5,800 - \$10,000	\$6,000 - \$10,000
Cheshire		\$5,800 - \$10,000	\$5,000 - \$9,000
Dalton		\$5,800 - \$10,000	\$5,000 - \$9,000
Lanesborough		\$5,800 - \$10,000	\$5,000 - \$9,000
Pittsfield		\$5,800 - \$10,000	\$8,000 - \$12,000
TOTALS	\$29,000 - \$50,000	\$29,000 - \$50,000	\$29,000 - \$49,000

Notes:

1. Minor differences in costs between the tables throughout this memorandum and between options are associated with rounding.

Table 6 provides a cost summary for the TMDL and Impaired Waters portion of the program by distributing the costs based on the components applicable to each community. Thus, each community is only contributing to the regional items that they will use based on their impairments.

Table 6 – Regional TMDL and Impaired Waters Program Funding

Community	Regional Cost to Prepare	Applicable TMDL/Impairment	Option 2: Even Distribution of Applicable Components
Adams	\$17,000 - \$30,000	Bacteria	\$300 - \$500
Cheshire		Bacteria	\$300 - \$500
Dalton		Nitrogen, Phosphorus, Bacteria	\$7,000 - \$12,000
Lanesborough		Nitrogen	\$3,000 - \$5,000
Pittsfield		Nitrogen, Phosphorus, Bacteria	\$6,000 - \$12,000
TOTALS	\$17,000 - \$30,000		\$16,600 - \$30,000

Notes:

2. Minor differences in costs between the tables throughout this memorandum and between options are associated with rounding.

Attachment C provides a detailed cost estimate by major program item for each community both with and without regional cost savings.

If you would like additional information, please feel free to contact me at 800.725.2550 x308 or rbalke@ceiengineers.com. Thank you.



Attachment A Summary of Questionnaire Results



Attachment A - NPDES MS4 Questionnaire Results

Community	Adams	Cheshire	Dalton	Lanesborough	Pittsfield
Year Regulated	2017	2017	2003	2003	2003
Contact Information	DPW: (413) 743-8300 Dept. #172 Dave Nuvallie: DPW Ext. 124	Highway Dept: (413) 743-3376 Water Dept: (413) 743-1690 ext. 16	Highway Dept: (413) 684-6115 Water Dept: (413) 684-6118	William Decelles, DPW Director (413) 443-1921 DPW.Director@Lanesborough-ma.gov	Bruce Collingwood, PE Commissioner of Public Utilities (413) 499-9330
Question					
1. Please identify which of the following written plans you have	SWMP Plan, IDDE Plan	---	SWMP Plan	IDDE Plan	Other: NOI for original permit includes these elements, but should be further
2. Do you have any sanitary sewer overflows (SSOs)?	No	No	No	---	Yes
3. Which components of your drainage system are mapped?	Outfalls / Catch basins, pipes and manholes	Outfalls (some) / Catch basins, pipes and manholes (some)	[Outfalls (map 20%/year)]	Outfalls	Outfalls / Catch basins, pipes and manholes [Entire municipal storm drain system]
4. How many stormwater outfalls do you have in the urbanized area?	---	---	Unknown	Unknown	388 (218)
5. Do any of your outfalls discharge to a public surface drinking water supply source or their tributaries?	No	No	No	No	No
6. How many catch basins do you have in the urbanized area?	---	---	Unknown	---	4712
7. How often do you clean your catch basins?	Only when there is a problem / Every few years	Varies by area: once a year on all main drains / twice a year on all others	Once a year	Once a year	[Once annually]
8. Do you perform catch basin cleaning with your own equipment and staff or do you use an outside vendor?	Performed in-house	Outside vendor: Maintenance Man	Performed in-house	Outside vendor: Maintenance Man (bid out annually)	Performed in-house / Outside vendor: varies
9. How often do you sweep your streets located within the urbanized area?	Twice a year	Once a year	Twice a year	Once a year	Once a year
10. Do you perform street sweeping with your own equipment and staff or do you use an outside vendor?	Performed in-house	Outside vendor: Maintenance Man	Performed in-house	Outside vendor: Maintenance Man (bid out annually)	Performed in-house / Outside vendor: varies
11. How many miles of municipal roadway with stormwater infrastructure do you have in the urbanized area?	---	25-30	---	55, not sure in UA	137
12. How many municipally-owned stormwater treatment structures/BMPs do you have?	0	---	0	4	Unknown
13. What forms of public outreach do you use to relay stormwater information to residents?	Mailed brochures / flyers / workshops	---	None, [mailed brochures / flyers, workshops]	Mailed brochures / flyers / website / workshops	Messages mailed with utility bills / website
14. Do you have regulations that require the use of sediment and erosion control practices and post-construction stormwater controls at construction sites that disturb one or more acres?	Yes, we have requirements within our existing regulations	Other: Dep. And Conservation Committee Planning Board	Yes, we have a separate Stormwater Bylaw	Yes, we have a separate Stormwater Bylaw	Yes, we have a separate Stormwater Bylaw
15. Do you have written procedures for inspections and enforcement of sediment and erosion control measures?	No	---	Yes	---	No
16. Do you have written procedures for site plan review and inspection and enforcement?	No	Yes	---	---	No
17. Do you perform pre-construction peer reviews for construction permits?	Yes, we perform peer reviews in-house. Yes, we hire an outside consultant to perform peer reviews, paid for by the developer	---	---	---	Yes, we perform peer reviews in-house. Yes, we hire an outside consultant to perform peer reviews, paid for by the developer

Note: information shown in [brackets] obtained from annual reports and added to survey results by CEI.

Attachment A - NPDES MS4 Questionnaire Results

Community	Adams	Cheshire	Dalton	Lanesborough	Pittsfield
Year Regulated	2017	2017	2003	2003	2003
Contact Information	DPW: (413) 743-8300 Dept. #172 Dave Nuvalle: DPW Ext. 124	Highway Dept: (413) 743-3376 Water Dept: (413) 743-1690 ext. 16	Highway Dept: (413) 684-6115 Water Dept: (413) 684-6118	William Decelles, DPW Director (413) 443-1921 DPW.Director@Lanesborough-ma.gov	Bruce Collingwood, PE Commissioner of Public Utilities (413) 499-9330
Question					
18. Do you perform site inspections of developer's construction projects?	Yes, we hire site inspections in-house. Yes, we hire an outside consultant to perform site inspections, paid for by the developer	---	Yes, we perform site inspections in-house	---	[Yes, we hire an outside consultant to perform site inspections, paid for by the developer]
19. If you perform site inspections (Question 18), how often?	---	---	---	---	---
20. Which of the following do you use to ensure long-term operation and maintenance (O&M) of stormwater management practices installed by developers?	---	---	Acceptance of ownership by Town/City	---	Acceptance of ownership by Town/City; development of maintenance contracts between owner and Town/City
21. Which of the following do you have written O&M procedures for?	---	Snow Disposal	---	Other: Continue CB maintenance as funding allows	---
22. How many municipal properties do you have including schools, town offices, police and fire stations, municipal pools, DPW garages/yards, solid waste facilities, parking garages, etc.?	---	---	8	13	296
23. Which of the following facilities do you have in your community?	Public Works Yard/Highway Garage / Transfer Station/Recycling Center	Public Works Yard/Highway Garage / Transfer Station/Recycling Center / Other: Water Dept.	Public Works Yard/Highway Garage / Transfer Station/Recycling Center	Public Works Yard/Highway Garage / Landfill (capped)	Public Works Yard/Highway Garage / Dedicated Maintenance Facility / Landfill
24. Which of the following facilities do you have Stormwater Pollution Prevention Plans for?	Public Works Yard/Highway Garage	Public Works Yard/Highway Garage / Transfer Station/Recycling Center	None	None	---
25. Which of the following regional approaches to MS4 compliance would you consider participating in?	Generation and distribution of public education materials	Generation and distribution of public education materials	Generation and distribution of public education materials	Generation and distribution of public education materials	Generation and distribution of public education materials
	Generation and use of report/plan templates (SWMP, IDDE, inspections and enforcement)	Generation and use of operation and maintenance procedure templates	Generation and use of report/plan templates (SWMP, IDDE, inspections and enforcement)	Generation and use of report/plan templates (SWMP, IDDE, inspections and enforcement)	Generation and use of report/plan templates (SWMP, IDDE, inspections and enforcement)
	Generation and use of operation and maintenance procedure templates	---	Generation and use of operation and maintenance procedure templates	Generation and use of operation and maintenance procedure templates	Generation and use of operation and maintenance procedure templates
	Generation and use of bylaws and regulations templates	---	Generation and use of bylaws and regulations templates	Generation and use of bylaws and regulations templates	Catch basin cleaning services from outside vendor
	Employee Training	---	Catch basin cleaning services from outside vendor	Catch basin cleaning services from outside vendor	Street sweeping services from outside vendor
	---	---	Street sweeping services from outside vendor	Street sweeping services from outside vendor	Stormwater treatment structure / BMP maintenance services from outside vendor
	---	---	Stormwater treatment structure / BMP maintenance services from outside vendor	Stormwater treatment structure / BMP maintenance services from outside vendor	Employee training
	---	---	Employee training	Employee training	---
26. Please provide any additional information you feel that we should be aware of	---	---	---	Protecting lake is important and a big topic. Pontoosuc Lake Committee.	---

Note: information shown in [brackets] obtained from annual reports and added to survey results by CEI.

Attachment A - NPDES MS4 Questionnaire Results					
Community	Adams	Cheshire	Dalton	Lanesborough	Pittsfield
Year Regulated	2017	2017	2003	2003	2003
Contact Information	DPW: (413) 743-8300 Dept. #172 Dave Nuvalle: DPW Ext. 124	Highway Dept: (413) 743-3376 Water Dept: (413) 743-1690 ext. 16	Highway Dept: (413) 684-6115 Water Dept: (413) 684-6118	William Decelles, DPW Director (413) 443-1921 DPW.Director@Lanesborough-ma.gov	Bruce Collingwood, PE Commissioner of Public Utilities (413) 499-9330
Question					
TMDL Waters					
Nitrogen TMDL (as identified in permit)	Long Island Sound - however, review shows Adams is not in Long Island Sound watershed	Long Island Sound - however, only very small portion in this watershed, but it is outside the UA	Long Island Sound	Long Island Sound	Long Island Sound
Phosphorus Impairment (as identified in permit)?	No	No	Yes - Waterbody Not Identified	No	Yes - Waterbody Not Identified
Fecal Coliform Impairment - No TMDL?	Hoosic River	Hoosic River	East Branch Housatonic River, Wahconah Falls Brook	---	Housatonic River, East Branch Housatonic River, Southwest & West Branch Housatonic River
Combined Biota/Habitat Bioassessments Impairment	---	---	---	---	West Branch Housatonic River
Aquatic Plants	---	Cheshire Reservoir, Middle Basin	---	Cheshire Reservoir, Middle Basin	---
Aquatic Plants, Nutrient/Eutrophication Biological Indicators	---	Cheshire Reservoir, North Basin	---	---	---
Excess Algal Growth	---	Cheshire Reservoir, South Basin	---	Cheshire Reservoir, South Basin	---
Ambient bioassays - Chronic Aquatic Toxicity	Hoosic River	Hoosic River	---	---	---
Turbidity	---	Cheshire Reservoir, North Basin	---	---	---

Attachment B
Cost Estimates for Berkshire County Communities



MS4 Community Assumptions		Adams MA
		Quantity
General		
Population		8,485
Assumed # of households		4,040
Population in Regulated Area		7,565
Consultant Rate per hour		\$100
3. Illicit Discharge, Detection, and Elimination		
# Outfalls		200
# Catch Basins (10 per outfall)		2,000
Assumed range in # Key Junction Manholes	400 600	
Option 1: # Key Junction Manholes (20% of CBs)		400
Option 2: # Key Junction Manholes (3 per outfall)		600
Assumed # of catchments w/ SVFs for wet sampling (25%)		50
Assumed # of catchments w/ SVFs for wet sampling (75%)		150
Maximum # of illicit discharge incidents		3
4. Construction Site Control		
# of construction projects/year with inspections paid by Town	0 0	
5. Post Construction Site Control		
# of permittee-owned facilities for evaluating BMP options		10
6. Good Housekeeping		
# of community-owned stormwater BMPs		0
# of facilities requiring SWPPPs	0 1	
% of structures requiring cleaning (50% full)		30%
Assumed # of CBs >50% full and requiring cleaning (25%)		600
Miles of roadway for sweeping		75
Assumed miles of roadway for sweeping (above x 2)		150
7. TMDL or Impaired Waterbodies		
# of phosphorus waterbodies with in-state TMDLs		0
# of phosphorus waterbodies with out-of-state TMDLs		0
# of phosphorus waterbodies, impaired		0
# of nitrogen waterbodies, impaired or with a TMDL		0
# of bacteria waterbodies, impaired or with a TMDL (max 1)		1
BOLD = Cells updated specific to a municipality		
Primary information required		
Supporting information, optional		
Calculated or not required information		

Municipality Notes:
 -have written stormwater management program plan
 -have written IDDE Plan
 -outfalls, catch basins, pipes and manholes mapped
 -catch basins cleaned every few years or when there's a problem, in-house staff
 -streets swept twice per year, in-house staff
 -have erosion/sediment and post-construction requirements in existing regs.
 -perform pre-construction peer reviews in-house and by outside consultant
 -perform site inspections in-house and by outside consultant paid for by developer
 -have DPW Yard and transfer station/recycling, only SWPPP for DPW

-number of outfalls and catch basins are default values
 -miles of roadway for sweeping is default value
 -MS4 permit shows Adams in Long Island Sound, but review of watershed shows they are not

Base Program Schedule		Work Performed By*		Year					
Major Program Component	% Complete	Consultant	Town	1	2	3	4	5	6+
Notice of Intent (NOI)									
Stormwater Management Program (SWMP) Plan	0%	100%	0%	*					
Minimum Measure 1 - Public Education									
Residents	Ongoing	0%	100%	*	*	*	*	*	*
Commercial Developers	target two audiences per year with two messages over the permit term spaced one year apart	Ongoing	0%	100%	*	*	*	*	*
Industrial		Ongoing	0%	100%	*	*	*	*	*
Minimum Measure 2 - Public Participation									
Provide public with an annual opportunity for participation	Ongoing	0%	100%	*	*	*	*	*	*
Minimum Measure 3 - IDDE									
Update bylaw or other regulatory mechanism	0%	50%	50%	*					
Update written IDDE Plan	75%	100%	0%	*					
Priority rank outfalls based on topography	0%	100%	0%	*					
Map all outfalls and open channel conveyances	75%	50%	50%	*					
Inspect High and Low priority outfalls during dry weather	0%	75%	25%		*				
Conduct wet weather sampling where SVFs identified	0%	75%	25%		*				*
Inspect key junction manholes	0%	75%	25%		*				*
Map remaining drainage system items	75%	50%	50%	*	*	*	*	*	*
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*
Minimum Measure 4 - Construction Site Control									
Update bylaw or other regulatory mechanism	0%	50%	50%	*					
Develop procedures for pre- and construction inspections	0%	75%	25%	*					
Perform pre-construction peer reviews	Ongoing	75%	25%	*	*	*	*	*	*
Perform construction inspections	Ongoing	50%	50%	*	*	*	*	*	*
Minimum Measure 5 - Post Construction Site Control									
Update bylaw or other regulatory mechanism	0%	50%	50%	*					
Assess regulations on street design and parking lot	0%	75%	25%		*				
Assess regulations for LID / Green Infrastructure	0%	75%	25%		*				
Identify MS4 properties for BMP retrofits	0%	75%	25%		*				
Minimum Measure 6 - Good Housekeeping									
Develop O&M procedures for facilities & infrastructure	0%	100%	0%	*					
Develop SWPPP for DPW Yards, garages & transfer station	50%	100%	0%	*					
Clean catch basins before sumps are 50% full	50%	0%	100%						As Needed
Perform annual street sweeping (50% for 1x/yr, 100% for 2x/yr)	100%	0%	100%	*	*	*	*	*	*
Inspect Municipal BMPs	Ongoing	50%	50%	*	*	*	*	*	*
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*
Annual Report									
	Ongoing	75%	25%	*	*	*	*	*	*

*Work Performed: Recommended breakdown, but could be any combination.
 Written IDDE Plan template available from CMRSWC - 75% complete
 Written SWPPP Template available from CMRSWC - 50% complete

Community-Specific Resources
 Population and Regulated Population: "Regulated Area Map":
 o <https://www3.epa.gov/region1/npdes/stormwater/ma.html>
 Outfalls, catch basins, and other infrastructure (if reported on by communities):
 o <https://www3.epa.gov/region1/npdes/stormwater/2003-permit-archives.html>
 Nitrogen or Phosphorus TMDL and/or Impaired Waters: applicable towns listed specifically within MS4 Permit
 o <https://www3.epa.gov/region1/npdes/stormwater/ma/2016fpd/final-2016-ma-sm4-gp.pdf>
 Bacteria Impairments: 303(d) list
 o <http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf>
 MassDOT roadway jurisdiction (applicable for roadways owned by MassDOT but maintained by municipality)
 o <http://services.massdot.state.ma.us/maptemplate/roadinventory>
 SWPPPs: required for maintenance garages, DPW yards, transfer stations, and other waste handling facilities

EPA NPDES General Permit for Stormwater Discharges from MS4s, Massachusetts Permit, Effective July 1, 2017

Spreadsheet Prepared By:
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Disclaimer:
 This spreadsheet has been developed by Comprehensive Environmental, Inc. using EPA's Excel Workbook for small/rural, medium/suburban, and large/urban and accompanying Technical Memorandum - Stormwater Program Cost Evaluation for Massachusetts, available for public download on EPA's website at:
https://www3.epa.gov/region1/npdes/stormwater/MS4_MA.html



Base Program Cost (over 5 years)	Adams MA													
	Estimated Hours		Low Cost Range			High Cost Range			Percent of Program Cost					
	Low	High	Total	Consultant	Town	Total	Consultant	Town						
Notice of Intent (NOI)	50	112	\$5,000	100%	\$5,000	0%	\$0	\$11,200	100%	\$11,200	0%	\$0	2%	- 2%
Stormwater Management Program (SWMP) Plan	128	204	\$12,800	100%	\$12,800	0%	\$0	\$20,400	100%	\$20,400	0%	\$0	4%	- 4%
Minimum Measure 1 - Public Education	112	730	\$11,200	0%	\$0	100%	\$11,200	\$73,800	0%	\$0	100%	\$73,800	10%	- 10%
Minimum Measure 2 - Public Participation	80	150	\$9,000	0%	\$0	100%	\$9,000	\$17,000	0%	\$0	100%	\$17,000	3%	- 3%
Minimum Measure 3 - IDDE	625	1213	\$68,744		\$48,420		\$20,323	\$134,068		\$92,751		\$41,317	24%	- 23%
Written IDDE Plan and Procedures	8	48	\$800	100%	\$800	0%	\$0	\$4,800	100%	\$4,800	0%	\$0	1%	- 1%
System Mapping and Catchment Delineation	53	385	\$5,250	50%	\$2,625	50%	\$2,625	\$39,500	50%	\$19,750	50%	\$19,750	5%	- 5%
Catchment Assessment and Ranking	24	160	\$2,400	100%	\$2,400	0%	\$0	\$16,000	100%	\$16,000	0%	\$0	2%	- 2%
Dry Weather Screening	320	400	\$33,604	75%	\$25,203	25%	\$8,401	\$41,604	75%	\$31,203	25%	\$10,401	9%	- 9%
Wet Weather Screening	40	120	\$5,419	75%	\$4,064	25%	\$1,355	\$16,257	75%	\$12,193	25%	\$4,064	3%	- 2%
Catchment Investigations	80	0	\$10,771	75%	\$8,078	25%	\$2,693	\$3,406	75%	\$2,554	25%	\$851	2%	- 2%
Training	100	100	\$10,500	50%	\$5,250	50%	\$5,250	\$12,500	50%	\$6,250	50%	\$6,250	3%	- 3%
Minimum Measure 4 - Construction Site Control	32	96	\$4,200		\$2,100		\$2,100	\$21,600		\$14,700		\$6,900	3%	- 3%
Regulatory Mechanism Update	32	40	\$4,200	50%	\$2,100	50%	\$2,100	\$6,000	50%	\$3,000	50%	\$3,000	1%	- 1%
Pre- and Construction Inspection Procedures	0	56	\$0	75%	\$0	25%	\$0	\$15,600	75%	\$11,700	25%	\$3,900	2%	- 2%
Minimum Measure 5 - Post Construction Site Control	182	324	\$21,200		\$14,400		\$6,800	\$38,400		\$25,800		\$12,600	7%	- 7%
Regulatory Mechanism Update	40	80	\$6,000	50%	\$3,000	50%	\$3,000	\$12,000	50%	\$6,000	50%	\$6,000	2%	- 2%
Regulation Assessment	62	116	\$7,200	75%	\$5,400	25%	\$1,800	\$13,600	75%	\$10,200	25%	\$3,400	2%	- 2%
Inventory Municipal Properties	80	128	\$8,000	75%	\$6,000	25%	\$2,000	\$12,800	75%	\$9,600	25%	\$3,200	2%	- 2%
Minimum Measure 6 - Good Housekeeping	192	547	\$94,200		\$18,600		\$75,600	\$214,650		\$36,450		\$178,200	37%	
Housekeeping			\$94,200		\$18,600		\$75,600	\$249,650		\$36,450		\$213,200	40%	
Operation and Maintenance Procedures	180	293	\$18,000	100%	\$18,000	0%	\$0	\$29,250	100%	\$29,250	0%	\$0	6%	- 5%
BMP Inspection and Maintenance	12	24	\$1,200	50%	\$600	50%	\$600	\$2,400	50%	\$1,200	50%	\$1,200	0%	- 0%
SWPPP Plans	0	0	\$0	100%	\$0	0%	\$0	\$2,500	100%	\$2,500	0%	\$0	0%	- 0%
SWPPP Implementation	0	160	\$0	0%	\$0	100%	\$0	\$23,500	0%	\$0	100%	\$23,500	3%	- 3%
Catch Basin Cleaning (purchased trucks)	0	0	\$75,000	0%	\$0	100%	\$75,000	\$185,000	0%	\$0	100%	\$185,000	31%	- 30%
Catch Basin Cleaning (rented trucks, \$50-\$100/cb)	0	0	\$75,000	0%	\$0	100%	\$75,000	\$150,000	0%	\$0	100%	\$150,000	27%	- 26%
Street Sweeping (purchased trucks)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%	- 0%
Street Sweeping (rented trucks, \$50-\$100/lane mi.)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%	- 0%
Training	0	70	\$0	50%	\$0	50%	\$0	\$7,000	50%	\$3,500	50%	\$3,500	1%	- 1%
Annual Report	213	436	\$25,300	75%	\$18,975	25%	\$6,325	\$51,600	75%	\$38,700	25%	\$12,900	9%	- 9%
Total	1,614	3,812	\$252,000		\$120,000		\$131,000	\$583,000		\$240,000		\$343,000	100%	
			\$252,000		\$120,000		\$131,000	\$618,000		\$240,000		\$378,000	100%	

Base Program, Yearly Costs	Adams MA							
	Percent	Total	Consultant	Town	Total	Consultant	Town	
Year 1	25%	\$57,600	\$31,100	\$26,600	\$148,900	\$83,000	\$65,800	
Year 2	23%	\$49,700	\$25,600	\$24,100	\$140,000	\$61,400	\$78,600	
Year 3	20%	\$60,000	\$30,200	\$29,900	\$110,300	\$41,100	\$69,200	
Year 4	16%	\$41,600	\$16,400	\$25,300	\$95,100	\$29,700	\$65,400	
Year 5	16%	\$42,600	\$17,100	\$25,500	\$88,400	\$24,700	\$63,700	
TOTAL	100%	\$252,000	\$120,000	\$131,000	\$583,000	\$240,000	\$343,000	

Intermittent Program Costs (over 5 years)	Adams MA													
	Estimated Hours		Low Cost Range			High Cost Range								
	Low	High	Total	Consultant	Town	Total	Consultant	Town						
Minimum Measure 3 - IDDE	0	20	\$0	0%	\$0	100%	\$0	\$2,000	0%	\$0	100%	\$2,000		
Notify EPA of SSO discharges	0	200	\$0	50%	\$0	50%	\$0	\$20,000	50%	\$10,000	50%	\$10,000		
Update mapping with new information	0	240	\$0	75%	\$0	25%	\$0	\$28,257	75%	\$21,193	25%	\$7,064		
Follow-up sampling if results are dirty	0	120	\$0	0%	\$0	100%	\$0	\$12,000	0%	\$0	100%	\$12,000		
Identify parties of an illicit discharge	0	240	\$0	75%	\$0	25%	\$0	\$24,851	75%	\$18,639	25%	\$6,213		
Confirmatory wet sampling for ID removal	0	0	\$0	75%	\$0	25%	\$0	\$0	75%	\$0	25%	\$0		
Resample outfalls within 5 years	0	0	\$0	75%	\$0	25%	\$0	\$0	75%	\$0	25%	\$0		
Minimum Measure 4 - Construction Site Control	0	0	\$0	75%	\$0	25%	\$0	\$0	75%	\$0	25%	\$0		
Preconstruction peer reviews	0	0	\$0	50%	\$0	50%	\$0	\$0	50%	\$0	50%	\$0		
Construction site inspections	0													

MS4 Community Assumptions	Cheshire MA	
	Quantity	
General		
Population	3,235	
Assumed # of households	1,407	
Population in Regulated Area	1,689	
Consultant Rate per hour	\$100	
3. Illicit Discharge, Detection, and Elimination		
# Outfalls	10	
# Catch Basins (10 per outfall)	100	
Assumed range in # Key Junction Manholes	20	30
Option 1: # Key Junction Manholes (20% of CBs)	20	
Option 2: # Key Junction Manholes (3 per outfall)	30	
Assumed # of catchments w/ SVFs for wet sampling (25%)	3	
Assumed # of catchments w/ SVFs for wet sampling (75%)	8	
Maximum # of illicit discharge incidents	1	
4. Construction Site Control		
# of construction projects/year with inspections paid by Town	1	3
5. Post Construction Site Control		
# of permittee-owned facilities for evaluating BMP options	5	
6. Good Housekeeping		
# of community-owned stormwater BMPs	5	
# of facilities requiring SWPPPs	0	0
% of structures requiring cleaning (50% full)	20%	
Assumed # of CBs >50% full and requiring cleaning (25%)	20	
Miles of roadway for sweeping	28	
Assumed miles of roadway for sweeping (above x 2)	56	
7. TMDL or Impaired Waterbodies		
# of phosphorus waterbodies with in-state TMDLs	0	
# of phosphorus waterbodies with out-of-state TMDLs	0	
# of phosphorus waterbodies, impaired	0	
# of nitrogen waterbodies, impaired or with a TMDL	0	
# of bacteria waterbodies, impaired or with a TMDL (max 1)	1	
BOLD = Cells updated specific to a municipality		
Primary information required		
Supporting information, optional		
Calculated or not required information		

- Municipality Notes:**
- partial outfalls mapped
 - partial catch basins, pipes, and manholes mapped
 - clean catch basins once or twice per year, outside vendor
 - sweep streets once per year, outside vendor
 - have written procedures for site plan review, inspection and enforcement
 - have O&M plans for snow disposal
 - have DPW Yard and transfer station, both with SWPPPs

- number of outfalls and catch basins are default values
- miles of roadway for sweeping is default value
- MS4 permit shows Cheshire in Long Island Sound, but review of watershed shows UA is not

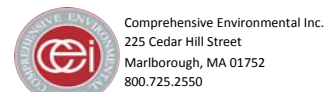
Major Program Component	Base Program Schedule		Work Performed By*						
	% Complete	Consultant	Town	Year					
				1	2	3	4	5	6+
Notice of Intent (NOI)	0%	100%	0%	*	*	*	*	*	*
Stormwater Management Program (SWMP) Plan	0%	100%	0%	*	*	*	*	*	*
Minimum Measure 1 - Public Education									
Residents	Ongoing	0%	100%	*	*	*	*	*	*
Commercial Developers	target two audiences per year with two messages over the permit term spaced one year apart	Ongoing	0%	100%	*	*	*	*	*
Industrial	Ongoing	0%	100%	*	*	*	*	*	*
Minimum Measure 2 - Public Participation									
Provide public with an annual opportunity for participation	Ongoing	0%	100%	*	*	*	*	*	*
Minimum Measure 3 - IDDE									
Update bylaw or other regulatory mechanism	0%	50%	50%	*	*	*	*	*	*
Update written IDDE Plan	75%	100%	0%	*	*	*	*	*	*
Priority rank outfalls based on topography	0%	100%	0%	*	*	*	*	*	*
Map all outfalls and open channel conveyances	50%	50%	50%	*	*	*	*	*	*
Inspect High and Low priority outfalls during dry weather	0%	75%	25%	*	*	*	*	*	*
Conduct wet weather sampling where SVFs identified	0%	75%	25%	*	*	*	*	*	*
Inspect key junction manholes	0%	75%	25%	*	*	*	*	*	*
Map remaining drainage system items	25%	50%	50%	*	*	*	*	*	*
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*
Minimum Measure 4 - Construction Site Control									
Update bylaw or other regulatory mechanism	0%	50%	50%	*	*	*	*	*	*
Develop procedures for pre- and construction inspections	25%	75%	25%	*	*	*	*	*	*
Perform pre- construction peer reviews	Ongoing	75%	25%	*	*	*	*	*	*
Perform construction inspections	Ongoing	50%	50%	*	*	*	*	*	*
Minimum Measure 5 - Post Construction Site Control									
Update bylaw or other regulatory mechanism	0%	50%	50%	*	*	*	*	*	*
Assess regulations on street design and parking lot	0%	75%	25%	*	*	*	*	*	*
Assess regulations for LID / Green Infrastructure	0%	75%	25%	*	*	*	*	*	*
Identify MS4 properties for BMP retrofits	0%	75%	25%	*	*	*	*	*	*
Minimum Measure 6 - Good Housekeeping									
Develop O&M procedures for facilities & infrastructure	0%	100%	0%	*	*	*	*	*	*
Develop SWPPP for DPW Yards, garages & transfer station	50%	100%	0%	*	*	*	*	*	*
Clean catch basins before sumps are 50% full	100%	0%	100%	*	*	*	*	*	*
Perform annual street sweeping (50% for 1x/yr, 100% for 2x/yr)	50%	0%	100%	*	*	*	*	*	*
Inspect Municipal BMPs	Ongoing	50%	50%	*	*	*	*	*	*
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*
Annual Report	Ongoing	75%	25%	*	*	*	*	*	*

*Work Performed: Recommended breakdown, but could be any combination.
 Written IDDE Plan template available from CMRSWC - 75% complete
 Written SWPPP Template available from CMRSWC - 50% complete

- Community-Specific Resources**
- Population and Regulated Population: "Regulated Area Map":
<https://www3.epa.gov/region1/npdes/stormwater/ma.html>
- Outfalls, catch basins, and other infrastructure (if reported on by communities):
<https://www3.epa.gov/region1/npdes/stormwater/2003-permit-archives.html>
- Nitrogen or Phosphorus TMDL and/or Impaired Waters: applicable towns listed specifically within MS4 Permit
<https://www3.epa.gov/region1/npdes/stormwater/ma/2016fpd/final-2016-ma-sm4-gp.pdf>
- Bacteria Impairments: 303(d) list
<http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf>
- MassDOT roadway jurisdiction (applicable for roadways owned by MassDOT but maintained by municipality)
<http://services.massdot.state.ma.us/maptemplate/roadinventory>
- SWPPPs: required for maintenance garages, DPW yards, transfer stations, and other waste handling facilities

EPA NPDES General Permit for Stormwater Discharges from MS4s, Massachusetts Permit, Effective July 1, 2017

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Disclaimer:
 This spreadsheet has been developed by Comprehensive Environmental, Inc. using EPA's Excel Workbook for small/rural, medium/suburban, and large/urban and accompanying Technical Memorandum - Stormwater Program Cost Evaluation for Massachusetts, available for public download on EPA's website at:
https://www3.epa.gov/region1/npdes/stormwater/MS4_MA.html



Base Program Cost (over 5 years)	Cheshire MA												
	Estimated Hours		Low Cost Range			High Cost Range			Program Cost %				
	Low	High	Total	Consultant	Town	Total	Consultant	Town					
Notice of Intent (NOI)	50	112	\$5,000	100%	\$5,000	0%	\$0	\$11,200	100%	\$11,200	0%	\$0	4%
Stormwater Management Program (SWMP) Plan	128	204	\$12,800	100%	\$12,800	0%	\$0	\$20,400	100%	\$20,400	0%	\$0	8%
Minimum Measure 1 - Public Education	94	700	\$9,400	0%	\$0	100%	\$9,400	\$70,800	0%	\$0	100%	\$70,800	18%
Minimum Measure 2 - Public Participation	80	150	\$9,000	0%	\$0	100%	\$9,000	\$17,000	0%	\$0	100%	\$17,000	6%
Minimum Measure 3 - IDDE	261	452	\$27,725	\$17,769	\$9,956	\$48,595	\$35,497	\$13,099	\$17,769	\$9,956	\$48,595	\$35,497	17%
Written IDDE Plan and Procedures	8	48	\$800	100%	\$800	0%	\$0	\$4,800	100%	\$4,800	0%	\$0	4%
System Mapping and Catchment Delineation	40	64	\$4,000	50%	\$2,000	50%	\$2,000	\$6,500	50%	\$3,250	50%	\$3,250	3%
Catchment Assessment and Ranking	16	104	\$1,600	100%	\$1,600	0%	\$0	\$10,400	100%	\$10,400	0%	\$0	2%
Dry Weather Screening	90	130	\$9,497	75%	\$7,123	25%	\$2,374	\$13,497	75%	\$10,123	25%	\$3,374	5%
Wet Weather Screening	2	6	\$271	75%	\$203	25%	\$68	\$813	75%	\$610	25%	\$203	0%
Catchment Investigations	5	0	\$1,057	75%	\$793	25%	\$264	\$85	75%	\$64	25%	\$21	0%
Training	100	100	\$10,500	50%	\$5,250	50%	\$5,250	\$12,500	50%	\$6,250	50%	\$6,250	5%
Minimum Measure 4 - Construction Site Control	32	82	\$4,200	\$2,100	\$2,100	\$21,600	\$14,700	\$6,900.00	\$2,100	\$2,100	\$14,700	\$6,900.00	6%
Regulatory Mechanism Update	32	40	\$4,200	50%	\$2,100	50%	\$2,100	\$6,000	50%	\$3,000	50%	\$3,000	2%
Pre- and Construction Inspection Procedures	0	42	\$0	75%	\$0	25%	\$0	\$15,600	75%	\$11,700	25%	\$3,900	4%
Minimum Measure 5 - Post Construction Site Control	142	284	\$17,200	\$11,400	\$5,800	\$34,400	\$22,800	\$11,600	\$11,400	\$5,800	\$22,800	\$11,600	12%
Regulatory Mechanism Update	40	80	\$6,000	50%	\$3,000	50%	\$3,000	\$12,000	50%	\$6,000	50%	\$6,000	4%
Regulation Assessment	62	116	\$7,200	75%	\$5,400	25%	\$1,800	\$13,600	75%	\$10,200	25%	\$3,400	5%
Inventory Municipal Properties	40	88	\$4,000	75%	\$3,000	25%	\$1,000	\$8,800	75%	\$6,600	25%	\$2,200	3%
Minimum Measure 6 - Good Housekeeping	190	334	\$19,000	\$15,650	\$3,350	\$33,350	\$28,150	\$5,200	\$15,650	\$3,350	\$28,150	\$5,200	12%
Operation and Maintenance Procedures	123	230	\$12,300	100%	\$12,300	0%	\$0	\$22,950	100%	\$22,950	0%	\$0	8%
BMP Inspection and Maintenance	67	104	\$6,700	50%	\$3,350	50%	\$3,350	\$10,400	50%	\$5,200	50%	\$5,200	4%
SWPPP Plans	0	0	\$0	100%	\$0	0%	\$0	\$0	100%	\$0	0%	\$0	0%
SWPPP Implementation	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%
Catch Basin Cleaning (purchased trucks)						N/A							
Catch Basin Cleaning (rented trucks, \$50-\$100/cb)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%
Street Sweeping (purchased trucks)						N/A							
Street Sweeping (rented trucks, \$50-\$100/lane mi.)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%
Training	0	0	\$0	50%	\$0	50%	\$0	\$0	50%	\$0	50%	\$0	0%
Annual Report	213	436	\$25,300	75%	\$18,975	25%	\$6,325	\$51,600	75%	\$38,700	25%	\$12,900	18%
Total	1,190	2,753	\$130,000	\$83,700	\$45,900	\$309,000	\$171,000	\$137,000	\$83,700	\$45,900	\$171,000	\$137,000	100%

Base Program, Yearly Costs	Cheshire MA						
	Percent	Total	Consultant	Town	Total	Consultant	Town
Year 1	35%	\$42,600	\$30,800	\$11,800	\$112,900	\$77,500	\$35,300
Year 2	21%	\$28,500	\$19,800	\$8,700	\$61,900	\$36,200	\$25,700
Year 3	15%	\$21,700	\$12,600	\$9,000	\$46,000	\$20,200	\$25,800
Year 4	18%	\$23,400	\$13,900	\$9,500	\$54,900	\$26,800	\$28,000
Year 5	11%	\$13,500	\$6,500	\$7,000	\$33,400	\$10,700	\$22,700
TOTAL	100%	\$130,000	\$84,000	\$46,000	\$309,000	\$171,000	\$138,000

Intermittent Program Costs (over 5 years)	Cheshire MA											
	Estimated Hours		Low Cost Range			High Cost Range			Program Cost %			
	Low	High	Total	Consultant	Town	Total	Consultant	Town				
Minimum Measure 3 - IDDE												
Notify EPA of SSO discharges	0	20	\$0	0%	\$0	100%	\$0	\$2,000	0%	\$0	100%	\$2,000
Update mapping with new information	0	100	\$0	50%	\$0	50%	\$0	\$10,000	50%	\$5,000	50%	\$5,000
Follow-up sampling if results are dirty	0	80	\$0	75%	\$0	25%	\$0	\$9,419	75%	\$7,064	25%	\$2,355
Identify parties of an illicit discharge	0	40	\$0	0%	\$0	100%	\$0	\$4,000	0%	\$0	100%	\$4,000
Confirmatory wet sampling for ID removal	0	80	\$0	75%	\$0	25%	\$0	\$8,284	75%	\$6,213	25%	\$2,071
Resample outfalls within 5 years	0	0	\$0	75%	\$0	25%	\$0	\$0	75%	\$0	25%	\$0
Minimum Measure 4 - Construction Site Control												
Preconstruction peer reviews	120	600	\$12,000	75%	\$9,000	25%	\$3,000	\$60,000	75%	\$45,000	25%	\$15,000
Construction site inspections	20	120	\$2,000	50%	\$1,000	50%	\$1,000	\$12,000	50%	\$6,000	50%	\$6,000
Minimum Measure 6 - Good Housekeeping												
Investigate excess sediment catchments	0	10	\$0	50%	\$0	50%	\$0	\$1,000	50%	\$500	50%	\$500
Describe actions for the above	0	40	\$0	50%	\$0	50%</						

MS4 Community Assumptions		Dalton MA	
		Quantity	
General			
Population		6,752	
Assumed # of households		2,813	
Population in Regulated Area		5,050	
Consultant Rate per hour		\$100	
3. Illicit Discharge, Detection, and Elimination			
# Outfalls		25	
# Catch Basins (10 per outfall)		250	
Assumed range in # Key Junction Manholes		50	75
Option 1: # Key Junction Manholes (20% of CBs)		50	
Option 2: # Key Junction Manholes (3 per outfall)		75	
Assumed # of catchments w/ SVFs for wet sampling (25%)		6	
Assumed # of catchments w/ SVFs for wet sampling (75%)		19	
Maximum # of illicit discharge incidents		1	
4. Construction Site Control			
# of construction projects/year with inspections paid by Town		1	3
5. Post Construction Site Control			
# of permittee-owned facilities for evaluating BMP options		8	
6. Good Housekeeping			
# of community-owned stormwater BMPs		0	
# of facilities requiring SWPPPs		1	2
% of structures requiring cleaning (50% full)		20%	
Assumed # of CBs >50% full and requiring cleaning (25%)		50	
Miles of roadway for sweeping		10	
Assumed miles of roadway for sweeping (above x 2)		20	
7. TMDL or Impaired Waterbodies			
# of phosphorus waterbodies with in-state TMDLs		0	
# of phosphorus waterbodies with out-of-state TMDLs		0	
# of phosphorus waterbodies, impaired		1	
# of nitrogen waterbodies, impaired or with a TMDL		1	
# of bacteria waterbodies, impaired or with a TMDL (max 1)		1	
BOLD = Cells updated specific to a municipality			
Primary information required			
Supporting information, optional			
Calculated or not required information			

Municipality Notes:
 -have written stormwater management program plan
 -nothing mapped to date, unknown number of outfalls and catch basins
 -catch basins cleaned once per year, in-house staff
 -streets swept twice per year, in-house staff
 -no municipally-owned BMPs
 -have separate stormwater bylaw for minimum measures 4 and 5
 -have written procedures for site plan review, inspection and enforcement
 -perform construction site inspections in-house
 -have DPW Yard and transfer station, no SWPPPs

-number of outfalls and catch basins are default values
 -miles of roadway for sweeping is default value

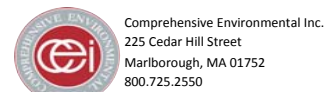
Base Program Schedule		Work Performed By*		Year					
Major Program Component	% Complete	Consultant	Town	1	2	3	4	5	6+
Notice of Intent (NOI)	0%	100%	0%	*	*	*	*	*	*
Stormwater Management Program (SWMP) Plan	0%	100%	0%	*	*	*	*	*	*
Minimum Measure 1 - Public Education									
Residents	Ongoing	0%	100%	*	*	*	*	*	*
Commercial Developers	target two audiences per year with two messages over the permit term spaced one year apart	Ongoing	0%	100%	*	*	*	*	*
Industrial	Ongoing	0%	100%	*	*	*	*	*	*
Minimum Measure 2 - Public Participation									
Provide public with an annual opportunity for participation	Ongoing	0%	100%	*	*	*	*	*	*
Minimum Measure 3 - IDDE									
Update bylaw or other regulatory mechanism	0%	50%	50%	*	*	*	*	*	*
Update written IDDE Plan	75%	100%	0%	*	*	*	*	*	*
Priority rank outfalls based on topography	0%	100%	0%	*	*	*	*	*	*
Map all outfalls and open channel conveyances	0%	50%	50%	*	*	*	*	*	*
Inspect High and Low priority outfalls during dry weather	0%	75%	25%	*	*	*	*	*	*
Conduct wet weather sampling where SVFs identified	0%	75%	25%	*	*	*	*	*	*
Inspect key junction manholes	0%	75%	25%	*	*	*	*	*	*
Map remaining drainage system items	0%	50%	50%	*	*	*	*	*	*
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*
Minimum Measure 4 - Construction Site Control									
Update bylaw or other regulatory mechanism	0%	50%	50%	*	*	*	*	*	*
Develop procedures for pre- and construction inspections	50%	75%	25%	*	*	*	*	*	*
Perform pre- construction peer reviews	Ongoing	75%	25%	*	*	*	*	*	*
Perform construction inspections	Ongoing	50%	50%	*	*	*	*	*	*
Minimum Measure 5 - Post Construction Site Control									
Update bylaw or other regulatory mechanism	0%	50%	50%	*	*	*	*	*	*
Assess regulations on street design and parking lot	0%	75%	25%	*	*	*	*	*	*
Assess regulations for LID / Green Infrastructure	0%	75%	25%	*	*	*	*	*	*
Identify MS4 properties for BMP retrofits	0%	75%	25%	*	*	*	*	*	*
Minimum Measure 6 - Good Housekeeping									
Develop O&M procedures for facilities & infrastructure	0%	100%	0%	*	*	*	*	*	*
Develop SWPPP for DPW Yards, garages & transfer station	50%	100%	0%	*	*	*	*	*	*
Clean catch basins before sumps are 50% full	100%	0%	100%						
Perform annual street sweeping (50% for 1x/yr, 100% for 2x/yr)	100%	0%	100%	*	*	*	*	*	*
Inspect Municipal BMPs	Ongoing	50%	50%	*	*	*	*	*	*
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*
Annual Report	Ongoing	75%	25%	*	*	*	*	*	*
Supporting information, optional									

*Work Performed: Recommended breakdown, but could be any combination.

Community-Specific Resources
 Population and Regulated Population: "Regulated Area Map":
 o <https://www3.epa.gov/region1/npdes/stormwater/ma.html>
 Outfalls, catch basins, and other infrastructure (If reported on by communities):
 o <https://www3.epa.gov/region1/npdes/stormwater/2003-permit-archives.html>
 Nitrogen or Phosphorus TMDL and/or Impaired Waters: applicable towns listed specifically within MS4 Permit
 o <https://www3.epa.gov/region1/npdes/stormwater/ma/2016fpd/final-2016-ma-sm4-gp.pdf>
 Bacteria Impairments: 303(d) list
 o <http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf>
 MassDOT roadway jurisdiction (applicable for roadways owned by MassDOT but maintained by municipality)
 o <http://services.massdot.state.ma.us/maptemplate/roadinventory>
 SWPPPs: required for maintenance garages, DPW yards, transfer stations, and other waste handling facilities

EPA NPDES General Permit for Stormwater Discharges from MS4s, Massachusetts Permit, Effective July 1, 2017

Spreadsheet Prepared By:
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https://www3.epa.gov/region1/npdes/stormwater/MS4_MA.html



Base Program Cost (over 5 years)	Dalton MA												
	Estimated Hours		Low Cost Range			High Cost Range			Program Cost %				
	Low	High	Total	Consultant	Town	Total	Consultant	Town					
Notice of Intent (NOI)	50	112	\$5,000	100%	\$5,000	0%	\$0	\$11,200	100%	\$11,200	0%	\$0	3%
Stormwater Management Program (SWMP) Plan	128	204	\$12,800	100%	\$12,800	0%	\$0	\$20,400	100%	\$20,400	0%	\$0	6%
Minimum Measure 1 - Public Education	94	700	\$9,400	0%	\$0	100%	\$9,400	\$70,800	0%	\$0	100%	\$70,800	15%
Minimum Measure 2 - Public Participation	80	150	\$9,000	0%	\$0	100%	\$9,000	\$17,000	0%	\$0	100%	\$17,000	5%
Minimum Measure 3 - IDDE	314	622	\$33,259		\$21,169		\$12,090	\$66,485		\$45,164		\$21,321	19%
Written IDDE Plan and Procedures	8	48	\$800	100%	\$800	0%	\$0	\$4,800	100%	\$4,800	0%	\$0	3%
System Mapping and Catchment Delineation	70	210	\$7,000	50%	\$3,500	50%	\$3,500	\$21,500	50%	\$10,750	50%	\$10,750	5%
Catchment Assessment and Ranking	16	104	\$1,600	100%	\$1,600	0%	\$0	\$10,400	100%	\$10,400	0%	\$0	2%
Dry Weather Screening	105	145	\$11,040	75%	\$8,280	25%	\$2,760	\$15,040	75%	\$11,280	25%	\$3,760	5%
Wet Weather Screening	5	15	\$677	75%	\$508	25%	\$169	\$2,032	75%	\$1,524	25%	\$508	1%
Catchment Investigations	10	0	\$1,642	75%	\$1,231	25%	\$410	\$213	75%	\$160	25%	\$53	0%
Training	100	100	\$10,500	50%	\$5,250	50%	\$5,250	\$12,500	50%	\$6,250	50%	\$6,250	4%
Minimum Measure 4 - Construction Site Control	32	68	\$4,200		\$2,100		\$2,100	\$21,600		\$14,700		\$6,900	5%
Regulatory Mechanism Update	32	40	\$4,200	50%	\$2,100	50%	\$2,100	\$6,000	50%	\$3,000	50%	\$3,000	2%
Pre- and Construction Inspection Procedures	0	28	\$0	75%	\$0	25%	\$0	\$15,600	75%	\$11,700	25%	\$3,900	3%
Minimum Measure 5 - Post Construction Site Control	166	308	\$19,600		\$13,200		\$6,400	\$36,800		\$24,600		\$12,200	11%
Regulatory Mechanism Update	40	80	\$6,000	50%	\$3,000	50%	\$3,000	\$12,000	50%	\$6,000	50%	\$6,000	3%
Regulation Assessment	62	116	\$7,200	75%	\$5,400	25%	\$1,800	\$13,600	75%	\$10,200	25%	\$3,400	4%
Inventory Municipal Properties	64	112	\$6,400	75%	\$4,800	25%	\$1,600	\$11,200	75%	\$8,400	25%	\$2,800	3%
Minimum Measure 6 - Good Housekeeping	275	564	\$35,000		\$18,400		\$16,600	\$76,350		\$32,650		\$43,700	21%
Operation and Maintenance Procedures	123	230	\$12,300	100%	\$12,300	0%	\$0	\$22,950	100%	\$22,950	0%	\$0	7%
BMP Inspection and Maintenance	12	24	\$1,200	50%	\$600	50%	\$600	\$2,400	50%	\$1,200	50%	\$1,200	1%
SWPPP Plans	0	0	\$2,500	100%	\$2,500	0%	\$0	\$5,000	100%	\$5,000	0%	\$0	1%
SWPPP Implementation	80	240	\$13,000	0%	\$0	100%	\$13,000	\$39,000	0%	\$0	100%	\$39,000	10%
Catch Basin Cleaning (purchased trucks)								N/A					
Catch Basin Cleaning (rented trucks, \$50-\$100/cb)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%
Street Sweeping (purchased trucks)								N/A					
Street Sweeping (rented trucks, \$50-\$100/lane mi.)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%
Training	60	70	\$6,000	50%	\$3,000	50%	\$3,000	\$7,000	50%	\$3,500	50%	\$3,500	2%
Annual Report	213	436	\$25,300	75%	\$18,975	25%	\$6,325	\$51,600	75%	\$38,700	25%	\$12,900	15%
Total	1,352	3,164	\$154,000		\$91,600		\$61,900	\$372,000		\$187,000		\$185,000	100%

Base Program, Yearly Costs	Dalton MA							
	Percent	Total	Consultant	Town	Total	Consultant	Town	
Year 1	30%	\$42,700	\$30,900	\$11,800	\$112,700	\$77,400	\$35,200	
Year 2	24%	\$37,300	\$23,900	\$13,500	\$91,500	\$48,600	\$42,800	
Year 3	16%	\$26,600	\$13,800	\$12,700	\$57,000	\$21,200	\$35,800	
Year 4	18%	\$29,100	\$15,800	\$13,400	\$66,800	\$28,500	\$38,300	
Year 5	12%	\$17,800	\$7,300	\$10,500	\$44,300	\$11,600	\$32,600	
TOTAL	100%	\$154,000	\$92,000	\$62,000	\$372,000	\$187,000	\$185,000	

Intermittent Program Costs (over 5 years)	Dalton MA												
	Estimated Hours		Low Cost Range			High Cost Range			Program Cost %				
	Low	High	Total	Consultant	Town	Total	Consultant	Town					
Minimum Measure 3 - IDDE	0	20	\$0	0%	\$0	100%	\$0	\$2,000	0%	\$0	100%	\$2,000	
Notify EPA of SSO discharges	0	100	\$0	50%	\$0	50%	\$0	\$10,000	50%	\$5,000	50%	\$5,000	
Update mapping with new information	0	80	\$0	75%	\$0	25%	\$0	\$9,419	75%	\$7,064	25%	\$2,355	
Identify parties of an illicit discharge	0	40	\$0	0%	\$0	100%	\$0	\$4,000	0%	\$0	100%	\$4,000	
Confirmatory wet sampling for ID removal	0	80	\$0	75%	\$0	25%	\$0	\$8,284	75%	\$6,213	25%	\$2,071	
Resample outfalls within 5 years	0	0	\$0	75%	\$0	25%	\$0	\$0	75%	\$0	25%	\$0	
Minimum Measure 4 - Construction Site Control	120	600	\$12,000	75%	\$9,000	25%	\$3,000	\$60,000	75%	\$45,000	25%	\$15,000	
Preconstruction peer reviews	20	120	\$2,000	50%	\$1,000	50%	\$1,000	\$12,000	50%	\$6,000	50%	\$6,000	
Minimum Measure 6 - Good Housekeeping	0	25	\$0	50%	\$0	50%	\$0	\$2,500	50%	\$1,250	50%	\$1,250	
Investigate excess sediment catchments	0	40	\$0	50%	\$0	50%	\$0	\$4,000	50%	\$2,000	50%	\$2,000	
Describe actions for the above	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	
Repair/replace SWPPP control measures	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	
Total	140	1,105	\$14,000		\$10,000		\$4,000	\$112,203		\$72,527		\$39,676	

TMD

MS4 Community Assumptions		Lanesborough MA	
		Quantity	
General			
Population		3,091	
Assumed # of households		1,288	
Population in Regulated Area		1,711	
Consultant Rate per hour		\$100	
3. Illicit Discharge, Detection, and Elimination			
# Outfalls		25	
# Catch Basins (10 per outfall)		250	
Assumed range in # Key Junction Manholes		50	75
Option 1: # Key Junction Manholes (20% of CBs)		50	
Option 2: # Key Junction Manholes (3 per outfall)		75	
Assumed # of catchments w/ SVFs for wet sampling (25%)		6	
Assumed # of catchments w/ SVFs for wet sampling (75%)		19	
Maximum # of illicit discharge incidents		1	
4. Construction Site Control			
# of construction projects/year with inspections paid by Town		1	3
5. Post Construction Site Control			
# of permittee-owned facilities for evaluating BMP options		13	
6. Good Housekeeping			
# of community-owned stormwater BMPs		4	
# of facilities requiring SWPPPs		1	1
% of structures requiring cleaning (50% full)		20%	
Assumed # of CBs >50% full and requiring cleaning (25%)		50	
Miles of roadway for sweeping		10	
Assumed miles of roadway for sweeping (above x 2)		20	
7. TMDL or Impaired Waterbodies			
# of phosphorus waterbodies with in-state TMDLs		0	
# of phosphorus waterbodies with out-of-state TMDLs		0	
# of phosphorus waterbodies, impaired		0	
# of nitrogen waterbodies, impaired or with a TMDL		1	
# of bacteria waterbodies, impaired or with a TMDL (max 1)		0	
BOLD = Cells updated specific to a municipality			
Primary information required			
Supporting information, optional			
Calculated or not required information			

Municipality Notes:
 -have written IDDE plan
 -outfalls mapped, but unknown how many
 -catch basins cleaned once per year, outside company
 -streets swept once per year, outside company
 -have separate stormwater bylaw for minimum measures 4 and 5
 -have DPW Yard and landfill, no SWPPPs

-number of outfalls and catch basins are default values
 -miles of roadway for sweeping is default value

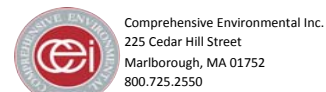
Base Program Schedule		Work Performed By*		Year						
Major Program Component	% Complete	Consultant	Town							
				1	2	3	4	5	6+	
Notice of Intent (NOI)	0%	100%	0%	*	*	*	*	*	*	
Stormwater Management Program (SWMP) Plan	0%	100%	0%	*	*	*	*	*	*	
Minimum Measure 1 - Public Education										
Residents	Ongoing	0%	100%	*	*	*	*	*	*	
Commercial Developers	target two audiences per year with two messages over the permit term spaced one year apart	Ongoing	0%	100%	*	*	*	*	*	
Industrial	Ongoing	0%	100%	*	*	*	*	*	*	
Minimum Measure 2 - Public Participation										
Provide public with an annual opportunity for participation	Ongoing	0%	100%	*	*	*	*	*	*	
Minimum Measure 3 - IDDE										
Update bylaw or other regulatory mechanism	0%	50%	50%	*	*	*	*	*	*	
Update written IDDE Plan	75%	100%	0%	*	*	*	*	*	*	
Priority rank outfalls based on topography	0%	100%	0%	*	*	*	*	*	*	
Map all outfalls and open channel conveyances	50%	50%	50%	*	*	*	*	*	*	
Inspect High and Low priority outfalls during dry weather	0%	75%	25%	*	*	*	*	*	*	
Conduct wet weather sampling where SVFs identified	0%	75%	25%	*	*	*	*	*	*	
Inspect key junction manholes	0%	75%	25%	*	*	*	*	*	*	
Map remaining drainage system items	0%	50%	50%	*	*	*	*	*	*	
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*	
Minimum Measure 4 - Construction Site Control										
Update bylaw or other regulatory mechanism	0%	50%	50%	*	*	*	*	*	*	
Develop procedures for pre- and construction inspections	0%	75%	25%	*	*	*	*	*	*	
Perform pre-construction peer reviews	Ongoing	75%	25%	*	*	*	*	*	*	
Perform construction inspections	Ongoing	50%	50%	*	*	*	*	*	*	
Minimum Measure 5 - Post Construction Site Control										
Update bylaw or other regulatory mechanism	0%	50%	50%	*	*	*	*	*	*	
Assess regulations on street design and parking lot	0%	75%	25%	*	*	*	*	*	*	
Assess regulations for LID / Green Infrastructure	0%	75%	25%	*	*	*	*	*	*	
Identify MS4 properties for BMP retrofits	0%	75%	25%	*	*	*	*	*	*	
Minimum Measure 6 - Good Housekeeping										
Develop O&M procedures for facilities & infrastructure	0%	100%	0%	*	*	*	*	*	*	
Develop SWPPP for DPW Yards, garages & transfer station	50%	100%	0%	*	*	*	*	*	*	
Clean catch basins before sumps are 50% full	100%	0%	100%	*	*	*	*	*	*	
Perform annual street sweeping (50% for 1x/yr, 100% for 2x/yr)	50%	0%	100%	*	*	*	*	*	*	
Inspect Municipal BMPs	Ongoing	50%	50%	*	*	*	*	*	*	
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*	
Annual Report	Ongoing	75%	25%	*	*	*	*	*	*	

*Work Performed: Recommended breakdown, but could be any combination.

Community-Specific Resources
 Population and Regulated Population: "Regulated Area Map":
 o <https://www3.epa.gov/region1/npdes/stormwater/ma.html>
 Outfalls, catch basins, and other infrastructure (If reported on by communities):
 o <https://www3.epa.gov/region1/npdes/stormwater/2003-permit-archives.html>
 Nitrogen or Phosphorus TMDL and/or Impaired Waters: applicable towns listed specifically within MS4 Permit
 o <https://www3.epa.gov/region1/npdes/stormwater/ma/2016fpd/final-2016-ma-sm4-gp.pdf>
 Bacteria Impairments: 303(d) list
 o <http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf>
 MassDOT roadway jurisdiction (applicable for roadways owned by MassDOT but maintained by municipality)
 o <http://services.massdot.state.ma.us/maptemplate/roadinventory>
 SWPPPs: required for maintenance garages, DPW yards, transfer stations, and other waste handling facilities

EPA NPDES General Permit for Stormwater Discharges from MS4s, Massachusetts Permit, Effective July 1, 2017

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Disclaimer:
 This spreadsheet has been developed by Comprehensive Environmental, Inc. using EPA's Excel Workbook for small/rural, medium/suburban, and large/urban and accompanying Technical Memorandum - Stormwater Program Cost Evaluation for Massachusetts, available for public download on EPA's website at:
https://www3.epa.gov/region1/npdes/stormwater/MS4_MA.html



Base Program Cost (over 5 years)	Lanesborough MA										Program Cost %		
	Estimated Hours		Low Cost Range			High Cost Range							
	Low	High	Total	Consultant	Town	Total	Consultant	Town					
Notice of Intent (NOI)	50	112	\$5,000	100%	\$5,000	0%	\$0	\$11,200	100%	\$11,200	0%	\$0	3%
Stormwater Management Program (SWMP) Plan	128	204	\$12,800	100%	\$12,800	0%	\$0	\$20,400	100%	\$20,400	0%	\$0	6%
Minimum Measure 1 - Public Education	94	700	\$9,400	0%	\$0	100%	\$9,400	\$70,800	0%	\$0	100%	\$70,800	16%
Minimum Measure 2 - Public Participation	80	150	\$9,000	0%	\$0	100%	\$9,000	\$17,000	0%	\$0	100%	\$17,000	5%
Minimum Measure 3 - IDDE	297	570	\$31,509		\$20,294		\$11,215	\$61,110		\$42,476		\$18,634	18%
Written IDDE Plan and Procedures	8	48	\$800	100%	\$800	0%	\$0	\$4,800	100%	\$4,800	0%	\$0	3%
System Mapping and Catchment Delineation	53	158	\$5,250	50%	\$2,625	50%	\$2,625	\$16,125	50%	\$8,063	50%	\$8,063	4%
Catchment Assessment and Ranking	16	104	\$1,600	100%	\$1,600	0%	\$0	\$10,400	100%	\$10,400	0%	\$0	2%
Dry Weather Screening	105	145	\$11,040	75%	\$8,280	25%	\$2,760	\$15,040	75%	\$11,280	25%	\$3,760	5%
Wet Weather Screening	5	15	\$677	75%	\$508	25%	\$169	\$2,032	75%	\$1,524	25%	\$508	1%
Catchment Investigations	10	0	\$1,642	75%	\$1,231	25%	\$410	\$213	75%	\$160	25%	\$53	0%
Training	100	100	\$10,500	50%	\$5,250	50%	\$5,250	\$12,500	50%	\$6,250	50%	\$6,250	4%
Minimum Measure 4 - Construction Site Control	32	96	\$4,200		\$2,100		\$2,100	\$21,600		\$14,700		\$6,900	5%
Regulatory Mechanism Update	32	40	\$4,200	50%	\$2,100	50%	\$2,100	\$6,000	50%	\$3,000	50%	\$3,000	2%
Pre- and Construction Inspection Procedures	0	56	\$0	75%	\$0	25%	\$0	\$15,600	75%	\$11,700	25%	\$3,900	3%
Minimum Measure 5 - Post Construction Site Control	206	348	\$23,600		\$16,200		\$7,400	\$40,800		\$27,600		\$13,200	12%
Regulatory Mechanism Update	40	80	\$6,000	50%	\$3,000	50%	\$3,000	\$12,000	50%	\$6,000	50%	\$6,000	3%
Regulation Assessment	62	116	\$7,200	75%	\$5,400	25%	\$1,800	\$13,600	75%	\$10,200	25%	\$3,400	4%
Inventory Municipal Properties	104	152	\$10,400	75%	\$7,800	25%	\$2,600	\$15,200	75%	\$11,400	25%	\$3,800	5%
Minimum Measure 6 - Good Housekeeping	325	554	\$35,000		\$20,900		\$14,100	\$65,350		\$33,650		\$31,700	19%
Housekeeping	rented trucks												
Operation and Maintenance Procedures	123	230	\$12,300	100%	\$12,300	0%	\$0	\$22,950	100%	\$22,950	0%	\$0	7%
BMP Inspection and Maintenance	62	94	\$6,200	50%	\$3,100	50%	\$3,100	\$9,400	50%	\$4,700	50%	\$4,700	3%
SWPPP Plans	0	0	\$2,500	100%	\$2,500	0%	\$0	\$2,500	100%	\$2,500	0%	\$0	1%
SWPPP Implementation	80	160	\$8,000	0%	\$0	100%	\$8,000	\$23,500	0%	\$0	100%	\$23,500	6%
Catch Basin Cleaning (rented trucks)	N/A												
Catch Basin Cleaning (rented trucks, \$50-\$100/cb)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%
Street Sweeping (rented trucks)	N/A												
Street Sweeping (rented trucks, \$50-\$100/lane mi.)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%
Training	60	70	\$6,000	50%	\$3,000	50%	\$3,000	\$7,000	50%	\$3,500	50%	\$3,500	3%
Annual Report	213	436	\$25,300	75%	\$18,975	25%	\$6,325	\$51,600	75%	\$38,700	25%	\$12,900	15%
Total	rented trucks		1,425	3,169	\$156,000	\$96,300	\$59,500	\$360,000	\$189,000	\$171,000	100%		
	purchased trucks												

Base Program, Yearly Costs	Lanesborough MA						
	Percent	Total	Consultant	Town	Total	Consultant	Town
Year 1	31%	\$43,700	\$31,400	\$12,300	\$114,100	\$78,100	\$35,900
Year 2	23%	\$35,300	\$23,500	\$11,800	\$81,100	\$44,100	\$37,000
Year 3	16%	\$26,300	\$14,300	\$12,000	\$54,600	\$21,900	\$32,700
Year 4	20%	\$32,900	\$19,300	\$13,600	\$68,300	\$32,200	\$36,100
Year 5	12%	\$17,600	\$7,800	\$9,800	\$41,800	\$12,300	\$29,500
TOTAL	100%	\$156,000	\$96,000	\$60,000	\$360,000	\$189,000	\$171,000

Intermittent Program Costs (over 5 years)	Lanesborough MA											
	Estimated Hours		Low Cost Range			High Cost Range						
	Low	High	Total	Consultant	Town	Total	Consultant	Town				
Minimum Measure 3 - IDDE	0	20	\$0	0%	\$0	100%	\$0	\$2,000	0%	\$0	100%	\$2,000
Notify EPA of SSO discharges	0	100	\$0	50%	\$0	50%	\$0	\$10,000	50%	\$5,000	50%	\$5,000
Update mapping with new information	0	80	\$0	75%	\$0	25%	\$0	\$9,419	75%	\$7,064	25%	\$2,355
Identify parties of an illicit discharge	0	40	\$0	0%	\$0	100%	\$0	\$4,000	0%	\$0	100%	\$4,000
Confirmatory wet sampling for ID removal	0	80	\$0	75%	\$0	25%	\$0	\$8,284	75%	\$6,213	25%	\$2,071
Resample outfalls within 5 years	0	0	\$0	75%	\$0	25%	\$0	\$0	75%	\$0	25%	\$0
Minimum Measure 4 - Construction Site Control	120	600	\$12,000	75%	\$9,000	25%	\$3,000	\$60,000	75%	\$45,000	25%	\$15,000
Preconstruction peer reviews	20	120	\$2,000	50%	\$1,000	50%	\$1,000	\$12,000	50%	\$6,000	50%	\$6,000
Minimum Measure 6 - Good Housekeeping	0	25	\$0	50%	\$0	50%	\$0	\$2,500	50%	\$1,250	50%	\$1,250
Investigate excess sediment catchments	0	40	\$0	50%	\$0	50%	\$0	\$4,000	50%	\$2,000	50%	\$2,000
Describe actions for the above	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0
Repair/replace SWPPP control measures	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0
Total	140	1,105	\$14,000	\$10,000	\$4,000	\$112,203	\$72,527	\$39,676				

TMDL or Impaired Waterbodies (first 5 years only)	Lanesborough MA						
	Low Cost Range			High Cost Range			

Pittsfield MA	
MS4 Community Assumptions	Quantity
General	
Population	44,741
Assumed # of households	20,337
Population in Regulated Area	43,397
Consultant Rate per hour	\$100
3. Illicit Discharge, Detection, and Elimination	
# Outfalls	388
# Catch Basins (10 per outfall)	4,712
Assumed range in # Key Junction Manholes	942 1164
Option 1: # Key Junction Manholes (20% of CBs)	942
Option 2: # Key Junction Manholes (3 per outfall)	1,164
Assumed # of catchments w/ SVFs for wet sampling (25%)	97
Assumed # of catchments w/ SVFs for wet sampling (75%)	291
Maximum # of illicit discharge incidents	6
4. Construction Site Control	
# of construction projects/year with inspections paid by Town	5 10
5. Post Construction Site Control	
# of permittee-owned facilities for evaluating BMP options	60
6. Good Housekeeping	
# of community-owned stormwater BMPs	30
# of facilities requiring SWPPPs	2 3
% of structures requiring cleaning (50% full)	40%
Assumed # of CBs >50% full and requiring cleaning (25%)	1,885
Miles of roadway for sweeping	137
Assumed miles of roadway for sweeping (above x 2)	274
7. TMDL or Impaired Waterbodies	
# of phosphorus waterbodies with in-state TMDLs	0
# of phosphorus waterbodies with out-of-state TMDLs	0
# of phosphorus waterbodies, impaired	1
# of nitrogen waterbodies, impaired or with a TMDL	1
# of bacteria waterbodies, impaired or with a TMDL (max 1)	1
BOLD = Cells updated specific to a municipality	
Primary information required	
Supporting information, optional	
Calculated or not required information	

Municipality Notes:
 -have sanitary sewer overflows
 -outfalls, catch basins, pipes and manholes mapped
 -perform catch basin cleaning in-house and with outside vendor, varies
 -streets swept once per year, in-house staff and with outside vendor, varies
 -unknown number of municipal BMPs
 -no procedures for sediment and erosion controls
 -no written procedures for site plan review
 -perform pre-construction peer reviews in-house and by outside consultant
 -have DPW Yard, maintenance facility, and landfill, no SWPPPs
 -have 296 municipal facilities, however assume that only 60 need evaluating (20%)

Base Program Schedule		Work Performed By*		Year					
Major Program Component	% Complete	Consultant	Town	1	2	3	4	5	6+
Notice of Intent (NOI)									
Stormwater Management Program (SWMP) Plan	0%	100%	0%	*					
Minimum Measure 1 - Public Education									
Residents	Ongoing	0%	100%	*	*	*	*	*	*
Commercial Developers	target two audiences per year with two messages over the permit term spaced one year apart	Ongoing	0%	100%	*	*	*	*	*
Industrial	Ongoing	0%	100%	*	*	*	*	*	*
Minimum Measure 2 - Public Participation									
Provide public with an annual opportunity for participation	Ongoing	0%	100%	*	*	*	*	*	*
Minimum Measure 3 - IDDE									
Update bylaw or other regulatory mechanism	0%	50%	50%	*					
Update written IDDE Plan	75%	100%	0%	*					
Priority rank outfalls based on topography	0%	100%	0%	*					
Map all outfalls and open channel conveyances	75%	50%	50%	*					
Inspect High and Low priority outfalls during dry weather	0%	75%	25%	*					
Conduct wet weather sampling where SVFs identified	0%	75%	25%	*					
Inspect key junction manholes	0%	75%	25%	*					
Map remaining drainage system items	75%	50%	50%	*	*	*	*	*	*
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*
Minimum Measure 4 - Construction Site Control									
Update bylaw or other regulatory mechanism	0%	50%	50%	*					
Develop procedures for pre- and construction inspections	0%	75%	25%	*					
Perform pre-construction peer reviews	Ongoing	75%	25%	*	*	*	*	*	*
Perform construction inspections	Ongoing	50%	50%	*	*	*	*	*	*
Minimum Measure 5 - Post Construction Site Control									
Update bylaw or other regulatory mechanism	0%	50%	50%	*					
Assess regulations on street design and parking lot	0%	75%	25%	*					
Assess regulations for LID / Green Infrastructure	0%	75%	25%	*					
Identify MS4 properties for BMP retrofits	0%	75%	25%	*					
Minimum Measure 6 - Good Housekeeping									
Develop O&M procedures for facilities & infrastructure	0%	100%	0%	*					
Develop SWPPP for DPW Yards, garages & transfer station	50%	100%	0%	*					
Clean catch basins before sumps are 50% full	50%	0%	100%					As Needed	
Perform annual street sweeping (50% for 1x/yr, 100% for 2x/yr)	50%	0%	100%	*	*	*	*	*	*
Inspect Municipal BMPs	Ongoing	50%	50%	*	*	*	*	*	*
Provide annual employee training	Ongoing	50%	50%	*	*	*	*	*	*
Annual Report									
Provide annual employee training	Ongoing	75%	25%	*	*	*	*	*	*

*Work Performed: Recommended breakdown, but could be any combination.

Community-Specific Resources
 Population and Regulated Population: "Regulated Area Map":
 o <https://www3.epa.gov/region1/npdes/stormwater/ma.html>
 Outfalls, catch basins, and other infrastructure (if reported on by communities):
 o <https://www3.epa.gov/region1/npdes/stormwater/2003-permit-archives.html>
 Nitrogen or Phosphorus TMDL and/or Impaired Waters: applicable towns listed specifically within MS4 Permit
 o <https://www3.epa.gov/region1/npdes/stormwater/ma/2016fpd/final-2016-ma-sm4-gp.pdf>
 Bacteria Impairments: 303(d) list
 o <http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf>
 MassDOT roadway jurisdiction (applicable for roadways owned by MassDOT but maintained by municipality)
 o <http://services.massdot.state.ma.us/maptemplate/roadinventory>
 SWPPPs: required for maintenance garages, DPW yards, transfer stations, and other waste handling facilities

EPA NPDES General Permit for Stormwater Discharges from MS4s, Massachusetts Permit, Effective July 1, 2017

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Disclaimer:
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https://www3.epa.gov/region1/npdes/stormwater/MS4_MA.html



Base Program Cost (over 5 years)	Pittsfield MA													
	Estimated Hours		Low Cost Range			High Cost Range			Percent of Program Cost					
	Low	High	Total	Consultant	Town	Total	Consultant	Town						
Notice of Intent (NOI)	50	112	\$5,000	100%	\$5,000	0%	\$0	\$11,200	100%	\$11,200	0%	\$0	1%	- 1%
Stormwater Management Program (SWMP) Plan	128	204	\$12,800	100%	\$12,800	0%	\$0	\$20,400	100%	\$20,400	0%	\$0	2%	- 3%
Minimum Measure 1 - Public Education	120	740	\$12,000	0%	\$0	100%	\$12,000	\$74,800	0%	\$0	100%	\$74,800	5%	- 7%
Minimum Measure 2 - Public Participation	80	150	\$9,000	0%	\$0	100%	\$9,000	\$17,000	0%	\$0	100%	\$17,000	2%	- 2%
Minimum Measure 3 - IDDE	1094	2237	\$124,910	0%	\$89,508	100%	\$35,403	\$250,495	100%	\$169,403	0%	\$81,092	22%	- 29%
Written IDDE Plan and Procedures	14	53	\$1,400	100%	\$1,400	0%	\$0	\$5,300	100%	\$5,300	0%	\$0	0%	- 1%
System Mapping and Catchment Delineation	100	903	\$10,000	50%	\$5,000	50%	\$5,000	\$92,672	50%	\$46,336	50%	\$46,336	6%	- 8%
Catchment Assessment and Ranking	24	260	\$2,400	100%	\$2,400	0%	\$0	\$26,000	100%	\$26,000	0%	\$0	2%	- 2%
Dry Weather Screening	588	688	\$62,573	75%	\$46,930	25%	\$15,643	\$72,573	75%	\$54,430	25%	\$18,143	8%	- 11%
Wet Weather Screening	78	233	\$10,513	75%	\$7,885	25%	\$2,628	\$31,539	75%	\$23,654	25%	\$7,885	2%	- 3%
Catchment Investigations	190	0	\$27,524	75%	\$20,643	25%	\$6,881	\$9,911	75%	\$7,433	25%	\$2,478	2%	- 3%
Training	100	100	\$10,500	50%	\$5,250	50%	\$5,250	\$12,500	50%	\$6,250	50%	\$6,250	1%	- 2%
Minimum Measure 4 - Construction Site Control	32	96	\$4,200	0%	\$2,100	100%	\$2,100	\$21,600	50%	\$14,700	50%	\$6,900	1%	- 1%
Regulatory Mechanism Update	32	40	\$4,200	50%	\$2,100	50%	\$2,100	\$6,000	50%	\$3,000	50%	\$3,000	1%	- 1%
Pre- and Construction Inspection Procedures	0	56	\$0	75%	\$0	25%	\$0	\$15,600	75%	\$11,700	25%	\$3,900	1%	- 1%
Minimum Measure 5 - Post Construction Site Control	582	724	\$61,200	0%	\$44,400	100%	\$16,800	\$78,400	50%	\$55,800	50%	\$22,600	8%	- 11%
Regulatory Mechanism Update	40	80	\$6,000	50%	\$3,000	50%	\$3,000	\$12,000	50%	\$6,000	50%	\$6,000	1%	- 1%
Regulation Assessment	62	116	\$7,200	75%	\$5,400	25%	\$1,800	\$13,600	75%	\$10,200	25%	\$3,400	1%	- 2%
Inventory Municipal Properties	480	528	\$48,000	75%	\$36,000	25%	\$12,000	\$52,800	75%	\$39,600	25%	\$13,200	6%	- 8%
Minimum Measure 6 - Good Housekeeping	666	1,235	\$317,200	0%	\$47,000	100%	\$270,200	\$624,650	0%	\$77,750	100%	\$546,900	55%	
Housekeeping			\$156,600	0%	\$47,000	100%	\$109,600	\$338,450	0%	\$77,750	100%	\$260,700	39%	
Operation and Maintenance Procedures	294	491	\$29,400	100%	\$29,400	0%	\$0	\$49,050	100%	\$49,050	0%	\$0	5%	- 6%
BMP Inspection and Maintenance	192	354	\$19,200	50%	\$9,600	50%	\$9,600	\$35,400	50%	\$17,700	50%	\$17,700	3%	- 4%
SWPPP Plans	0	0	\$5,000	100%	\$5,000	0%	\$0	\$7,500	100%	\$7,500	0%	\$0	1%	- 1%
SWPPP Implementation	120	320	\$22,000	0%	\$0	100%	\$22,000	\$54,500	0%	\$0	100%	\$54,500	4%	- 6%
Catch Basin Cleaning (purchased trucks)	0	0	\$75,000	0%	\$0	100%	\$75,000	\$185,000	0%	\$0	100%	\$185,000	15%	- 20%
Catch Basin Cleaning (rented trucks, \$50-\$100/cb)	0	0	\$235,600	0%	\$0	100%	\$235,600	\$471,200	0%	\$0	100%	\$471,200	41%	- 55%
Street Sweeping (purchased trucks)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%	- 0%
Street Sweeping (rented trucks, \$50-\$100/lane mi.)	0	0	\$0	0%	\$0	100%	\$0	\$0	0%	\$0	100%	\$0	0%	- 0%
Training	60	70	\$6,000	50%	\$3,000	50%	\$3,000	\$7,000	50%	\$3,500	50%	\$3,500	1%	- 1%
Annual Report	213	436	\$25,300	75%	\$18,975	25%	\$6,325	\$51,600	75%	\$38,700	25%	\$12,900	4%	- 6%
Total	2,965	5,933	\$572,000	0%	\$220,000	100%	\$352,000	\$1,150,000	0%	\$388,000	100%	\$762,000	100%	
			\$411,000	0%	\$220,000	100%	\$191,000	\$864,000	0%	\$388,000	100%	\$476,000	100%	

Base Program, Yearly Costs	Pittsfield MA						
	Percent	Total	Consultant	Town	Total	Consultant	Town
Year 1	19%	\$95,300	\$34,100	\$29,100	\$230,400	\$96,800	\$76,300
Year 2	24%	\$113,400	\$46,800	\$34,500	\$296,700	\$116,100	\$123,400
Year 3	20%	\$131,600	\$54,300	\$45,200	\$220,100	\$67,700	\$95,200
Year 4	20%	\$124,200	\$48,800	\$43,300	\$213,900	\$63,000	\$93,700
Year 5	17%	\$107,100	\$35,900	\$39,000	\$189,000	\$44,300	\$87,400
TOTAL	100%	\$572,000	\$220,000	\$191,000	\$1,150,000	\$388,000	\$476,000

Intermittent Program Costs (over 5 years)	Pittsfield MA													
	Estimated Hours		Low Cost Range			High Cost Range								
	Low	High	Total	Consultant	Town	Total	Consultant	Town						
Minimum Measure 3 - IDDE	0	20	\$0	0%	\$0	100%	\$0	\$2,000	0%	\$0	100%	\$2,000		
Notify EPA of SSO discharges	0	300	\$0	50%	\$0	50%	\$0	\$30,000	50%	\$15,000	50%	\$15,000		
Update mapping with new information	0	480	\$0	75%	\$0	25%	\$0	\$56,515	75%	\$42,386	25%	\$14,129		
Follow-up sampling if results are dirty	0	240	\$0	0%	\$0	100%	\$0	\$24,000	0%	\$0	100%	\$24,000		
Identify parties of an illicit discharge	0	480	\$0	75%	\$0	25%	\$0	\$49,703	75%	\$37,277	25%	\$12,426		
Confirmatory wet sampling for ID removal	0	0	\$0	75%	\$0	25%	\$0	\$0	75%	\$0	25%	\$0		
Resample outfalls within 5 years	0	0	\$0	75%	\$0	25%	\$0	\$0	75%	\$0	25%	\$0		
Minimum Measure 4 - Construction Site Control	600	2000	\$60,000	75%	\$45,000	25%	\$15,000	\$200,000	75%	\$150,000	25%	\$50,000		
Preconstruction peer reviews	100	400	\$10,000	50%	\$5,000	50%	\$5,000	\$40,000	50%	\$20,000	50%	\$20,000		
Construction site inspections	0													

Attachment C Cost Estimates with Regional Cost Savings



Regional Cost Savings Summary, Base Program	Cost for Preparation by a		% Done Regionally %	Adams				Cheshire				Dalton				Lanesborough				Pittsfield			
	Regional Agency			Base Cost		Cost w/ Regional Savings		Base Cost		Cost w/ Regional Savings		Base Cost		Cost w/ Regional Savings		Base Cost		Cost w/ Regional Savings		Base Cost		Cost w/ Regional Savings	
	Low	High		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Notice of Intent (NOI)	\$0	\$0	0%	\$5,000	\$11,000	\$5,000	\$11,000	\$5,000	\$11,000	\$5,000	\$11,000	\$5,000	\$11,000	\$5,000	\$11,000	\$5,000	\$11,000	\$5,000	\$11,000	\$5,000	\$11,000	\$5,000	\$11,000
Stormwater Management Program (SWMP) Plan	\$5,000	\$10,000	50%	\$13,000	\$20,000	\$6,500	\$10,000	\$13,000	\$20,000	\$6,500	\$10,000	\$13,000	\$20,000	\$6,500	\$10,000	\$13,000	\$20,000	\$6,500	\$10,000	\$13,000	\$20,000	\$6,500	\$10,000
Minimum Measure 1 - Public Education	\$4,000	\$8,000	25%	\$11,000	\$74,000	\$8,250	\$55,500	\$9,000	\$71,000	\$6,750	\$53,250	\$9,000	\$71,000	\$6,750	\$53,250	\$9,000	\$71,000	\$6,750	\$53,250	\$12,000	\$75,000	\$9,000	\$56,250
Minimum Measure 2 - Public Participation	\$0	\$0	0%	\$9,000	\$17,000	\$9,000	\$17,000	\$9,000	\$17,000	\$9,000	\$17,000	\$9,000	\$17,000	\$9,000	\$17,000	\$9,000	\$17,000	\$9,000	\$17,000	\$9,000	\$17,000	\$9,000	\$17,000
Minimum Measure 3 - IDDE	\$8,000	\$10,000		\$69,000	\$135,000	\$60,750	\$125,250	\$28,000	\$49,000	\$19,750	\$39,250	\$35,000	\$67,000	\$26,750	\$57,250	\$33,000	\$61,000	\$24,750	\$51,250	\$126,000	\$252,000	\$117,750	\$242,250
Written IDDE Plan and Procedures	\$0	\$0	0%	\$1,000	\$5,000	\$1,000	\$5,000	\$1,000	\$5,000	\$1,000	\$5,000	\$1,000	\$5,000	\$1,000	\$5,000	\$1,000	\$5,000	\$1,000	\$5,000	\$1,000	\$5,000	\$1,000	\$5,000
System Mapping and Catchment Delineation	\$0	\$0	0%	\$5,000	\$40,000	\$5,000	\$40,000	\$4,000	\$7,000	\$4,000	\$7,000	\$7,000	\$22,000	\$7,000	\$22,000	\$5,000	\$16,000	\$5,000	\$16,000	\$10,000	\$93,000	\$10,000	\$93,000
Catchment Assessment and Ranking	\$0	\$0	0%	\$2,000	\$16,000	\$2,000	\$16,000	\$2,000	\$10,000	\$2,000	\$10,000	\$2,000	\$10,000	\$2,000	\$10,000	\$2,000	\$10,000	\$2,000	\$10,000	\$2,000	\$26,000	\$2,000	\$26,000
Dry Weather Screening	\$0	\$0	0%	\$34,000	\$42,000	\$34,000	\$42,000	\$9,000	\$13,000	\$9,000	\$13,000	\$11,000	\$15,000	\$11,000	\$15,000	\$11,000	\$15,000	\$11,000	\$15,000	\$63,000	\$73,000	\$63,000	\$73,000
Wet Weather Screening	\$0	\$0	0%	\$5,000	\$16,000	\$5,000	\$16,000	\$0	\$1,000	\$0	\$1,000	\$1,000	\$2,000	\$1,000	\$2,000	\$1,000	\$2,000	\$1,000	\$2,000	\$11,000	\$32,000	\$11,000	\$32,000
Catchment Investigations	\$0	\$0	0%	\$11,000	\$3,000	\$11,000	\$3,000	\$1,000	\$0	\$1,000	\$0	\$0	\$2,000	\$0	\$0	\$2,000	\$0	\$0	\$2,000	\$28,000	\$10,000	\$28,000	\$10,000
Training (performed annually over 5 years)	\$8,000	\$10,000	75%	\$11,000	\$13,000	\$2,750	\$3,250	\$11,000	\$13,000	\$2,750	\$3,250	\$11,000	\$13,000	\$2,750	\$3,250	\$11,000	\$13,000	\$2,750	\$3,250	\$11,000	\$13,000	\$2,750	\$3,250
Minimum Measure 4 - Construction Site Control	\$5,000	\$10,000		\$4,000	\$22,000	\$2,000	\$7,000	\$4,000	\$22,000	\$2,000	\$7,000	\$4,000	\$22,000	\$2,000	\$7,000	\$4,000	\$22,000	\$2,000	\$7,000	\$4,000	\$22,000	\$2,000	\$7,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$4,000	\$6,000	\$2,000	\$3,000	\$4,000	\$6,000	\$2,000	\$3,000	\$4,000	\$6,000	\$2,000	\$3,000	\$4,000	\$6,000	\$2,000	\$3,000	\$4,000	\$6,000	\$2,000	\$3,000
Procedures for Pre- and Construction Inspections	\$3,000	\$6,000	75%	\$0	\$16,000	\$0	\$4,000	\$0	\$16,000	\$0	\$4,000	\$0	\$16,000	\$0	\$4,000	\$0	\$16,000	\$0	\$4,000	\$0	\$16,000	\$0	\$4,000
Minimum Measure 5 - Post Construction Runoff	\$2,000	\$4,000		\$21,000	\$39,000	\$18,000	\$33,000	\$17,000	\$35,000	\$14,000	\$29,000	\$19,000	\$37,000	\$16,000	\$31,000	\$23,000	\$41,000	\$20,000	\$35,000	\$61,000	\$79,000	\$58,000	\$73,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$6,000	\$12,000	\$6,000	\$6,000	\$6,000	\$12,000	\$3,000	\$6,000	\$6,000	\$12,000	\$3,000	\$6,000	\$6,000	\$12,000	\$3,000	\$6,000	\$6,000	\$12,000	\$3,000	\$6,000
Asses Regulations for Impervious Areas and LID	\$0	\$0	0%	\$7,000	\$14,000	\$7,000	\$14,000	\$7,000	\$14,000	\$7,000	\$14,000	\$7,000	\$14,000	\$7,000	\$14,000	\$7,000	\$14,000	\$7,000	\$14,000	\$7,000	\$14,000	\$7,000	\$14,000
Inventory Municipal Properties	\$0	\$0	0%	\$8,000	\$13,000	\$8,000	\$13,000	\$4,000	\$9,000	\$4,000	\$9,000	\$6,000	\$11,000	\$6,000	\$11,000	\$10,000	\$15,000	\$10,000	\$15,000	\$48,000	\$53,000	\$48,000	\$53,000
Minimum Measure 6 - Good Housekeeping	\$5,000	\$8,000		\$94,000	\$215,000	\$80,500	\$193,250	\$19,000	\$33,000	\$10,000	\$15,750	\$35,000	\$76,000	\$26,000	\$58,750	\$35,000	\$66,000	\$26,000	\$48,750	\$317,000	\$625,000	\$295,250	\$588,250
Operation and Maintenance Procedures	\$5,000	\$8,000	75%	\$18,000	\$29,000	\$4,500	\$7,250	\$12,000	\$23,000	\$3,000	\$5,750	\$12,000	\$23,000	\$3,000	\$5,750	\$12,000	\$23,000	\$3,000	\$5,750	\$29,000	\$49,000	\$7,250	\$12,250
BMP Inspection and Maintenance	\$0	\$0	0%	\$1,000	\$2,000	\$1,000	\$2,000	\$7,000	\$10,000	\$7,000	\$10,000	\$1,000	\$2,000	\$1,000	\$2,000	\$6,000	\$9,000	\$6,000	\$9,000	\$19,000	\$35,000	\$19,000	\$35,000
SWPPP Plans	\$0	\$0	0%	\$0	\$3,000	\$0	\$3,000	\$0	\$0	\$0	\$0	\$3,000	\$5,000	\$3,000	\$5,000	\$3,000	\$3,000	\$3,000	\$3,000	\$5,000	\$8,000	\$5,000	\$8,000
SWPPP Implementation	\$0	\$0	0%	\$0	\$24,000	\$0	\$24,000	\$0	\$0	\$0	\$0	\$13,000	\$39,000	\$13,000	\$39,000	\$8,000	\$24,000	\$8,000	\$24,000	\$22,000	\$55,000	\$22,000	\$55,000
Catch Basin Cleaning (purchased trucks)	\$0	\$0	0%	\$75,000	\$185,000	\$75,000	\$185,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$75,000	\$185,000	\$75,000	\$185,000
Catch Basin Cleaning (rented trucks)	\$0	\$0	0%	\$75,000	\$150,000	\$75,000	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$236,000	\$471,000	\$236,000	\$471,000	
Street Sweeping (purchased trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0	\$0	\$0	\$0	
Street Sweeping (rented trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SWPPP Training	\$0	\$0	0%	\$0	\$7,000	\$0	\$7,000	\$0	\$0	\$0	\$0	\$6,000	\$7,000	\$6,000	\$7,000	\$6,000	\$7,000	\$6,000	\$7,000	\$6,000	\$7,000	\$6,000	\$7,000
Annual Report	\$0	\$0		\$25,000	\$52,000	\$25,000	\$52,000	\$25,000	\$52,000	\$25,000	\$52,000	\$25,000	\$52,000	\$25,000	\$52,000	\$25,000	\$52,000	\$25,000	\$52,000	\$25,000	\$52,000	\$25,000	\$52,000
Cost for Regional Preparation	\$29,000	\$50,000	rented	\$251,000	\$585,000	\$215,000	\$504,000	\$129,000	\$310,000	\$98,000	\$234,250	\$154,000	\$373,000	\$123,000	\$297,250	\$156,000	\$361,000	\$125,000	\$285,250	\$572,000	\$1,153,000	\$527,500	\$1,056,750
Savings Realized by Regional Towns	\$174,000	\$405,000	purchased	\$251,000	\$620,000	\$215,000	\$539,000													\$411,000	\$867,000	\$366,500	\$770,750
TOTAL SAVINGS	\$145,000	\$355,000	trucks	Cost Savings:	\$36,000	\$81,000		Cost Savings:	\$31,000	\$75,750		Cost Savings:	\$31,000	\$75,750		Cost Savings:	\$31,000	\$75,750		Cost Savings:	\$44,500	\$96,250	

Regional Cost Savings Summary, TMDLs and Impaired Waters	Cost for Preparation by a		% Done Regionally %	Adams				Cheshire				Dalton				Lanesborough				Pittsfield			
	Regional Agency			Base Cost		Cost w/ Regional Savings		Base Cost		Cost w/ Regional Savings		Base Cost		Cost w/ Regional Savings		Base Cost		Cost w/ Regional Savings		Base Cost		Cost w/ Regional Savings	
	Low	High		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Nitrogen TMDL	\$8,000	\$14,000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$24,000	\$37,000	\$17,750	\$27,250	\$29,000	\$47,000	\$22,750	\$37,250	\$64,000	\$113,000	\$55,750	\$100,750
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000	\$7,000	\$750	\$5,250	\$1,000	\$7,000	\$750	\$5,250	\$1,000	\$7,000	\$750	\$5,250
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,000	\$4,000	\$1,500	\$3,000	\$2,000	\$4,000	\$1,500	\$3,000	\$6,000	\$8,000	\$4,500	\$6,000
Additional Operation and Maintenance Procedures	\$1,000	\$2,000	50%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000	\$2,000	\$500	\$1,000	\$1,000	\$2,000	\$500	\$1,000	\$3,000	\$5,000	\$1,500	\$2,500
Street Sweeping	\$0	\$0	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$10,000	\$5,000	\$10,000	\$34,000	\$69,000	\$34,000	\$69,000
Develop Nitrogen Source ID Template	\$4,000	\$6,000	25%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,000	\$24,000	\$15,000	\$18,000	\$20,000	\$24,000	\$15,000	\$18,000	\$20,000	\$24,000	\$15,000	\$18,000
Phosphorus Impairment	\$8,000	\$14,000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$24,000	\$37,000	\$17,750	\$27,250	\$0	\$0	\$0	\$0	\$64,000	\$113,000	\$55,750	\$100,750
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000	\$7,000	\$750	\$5,250	\$0	\$0	\$0	\$0	\$1,000	\$7,000	\$750	\$5,250
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,000	\$4,000	\$1,500	\$3,000	\$0	\$0	\$0	\$0	\$6,000	\$8,000	\$4,500	\$6,000
Additional Operation and Maintenance	\$1,000	\$2,000	50%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000	\$2,000	\$500	\$1,000	\$0	\$0	\$0	\$0	\$3,000	\$5,000	\$1,500	\$2,500
Street Sweeping	\$0	\$0	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,000	\$69,000	\$34,000	\$69,000
Develop Phosphorus Source ID Template	\$4,000	\$6,000	25%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,000	\$24,000	\$15,000	\$18,000	\$0	\$0	\$0	\$0	\$20,000	\$24,000	\$15,000	\$18,000
Bacteria TMDL	\$1,000	\$2,000		\$1,000	\$4,000	\$750	\$3,000	\$0	\$														

Regional Cost Savings Summary, Base Program	Cost for Preparation by a Regional Agency		% Done Regionally %	Adams			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Notice of Intent (NOI)	\$0	\$0	0%	\$5,000	\$11,000	\$5,000	\$11,000
Stormwater Management Program (SWMP) Plan	\$5,000	\$10,000	50%	\$13,000	\$20,000	\$6,500	\$10,000
Minimum Measure 1 - Public Education	\$4,000	\$8,000	25%	\$11,000	\$74,000	\$8,250	\$55,500
Minimum Measure 2 - Public Participation	\$0	\$0	0%	\$9,000	\$17,000	\$9,000	\$17,000
Minimum Measure 3 - IDDE	\$8,000	\$10,000		\$69,000	\$135,000	\$60,750	\$125,250
Written IDDE Plan and Procedures	\$0	\$0	0%	\$1,000	\$5,000	\$1,000	\$5,000
System Mapping and Catchment Delineation	\$0	\$0	0%	\$5,000	\$40,000	\$5,000	\$40,000
Catchment Assessment and Ranking	\$0	\$0	0%	\$2,000	\$16,000	\$2,000	\$16,000
Dry Weather Screening	\$0	\$0	0%	\$34,000	\$42,000	\$34,000	\$42,000
Wet Weather Screening	\$0	\$0	0%	\$5,000	\$16,000	\$5,000	\$16,000
Catchment Investigations	\$0	\$0	0%	\$11,000	\$3,000	\$11,000	\$3,000
Training (performed annually over 5 years)	\$8,000	\$10,000	75%	\$11,000	\$13,000	\$2,750	\$3,250
Minimum Measure 4 - Construction Site Control	\$5,000	\$10,000		\$4,000	\$22,000	\$2,000	\$7,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$4,000	\$6,000	\$2,000	\$3,000
Procedures for Pre- and Construction Inspections	\$3,000	\$6,000	75%	\$0	\$16,000	\$0	\$4,000
Minimum Measure 5 - Post Construction Runoff	\$2,000	\$4,000		\$21,000	\$39,000	\$18,000	\$33,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$6,000	\$12,000	\$3,000	\$6,000
Asses Regulations for Impervious Areas and LID	\$0	\$0	0%	\$7,000	\$14,000	\$7,000	\$14,000
Inventory Muncpal Properties	\$0	\$0	0%	\$8,000	\$13,000	\$8,000	\$13,000
Minimum Measure 6 - Good Housekeeping				\$94,000	\$215,000	\$80,500	\$193,250
<i>rented trucks</i>	\$5,000	\$8,000		\$94,000	\$250,000	\$80,500	\$228,250
<i>purchased trucks</i>							
Operation and Maintenance Procedures	\$5,000	\$8,000	75%	\$18,000	\$29,000	\$4,500	\$7,250
BMP Inspection and Maintenance	\$0	\$0	0%	\$1,000	\$2,000	\$1,000	\$2,000
SWPPP Plans	\$0	\$0	0%	\$0	\$3,000	\$0	\$3,000
SWPPP Implementation	\$0	\$0	0%	\$0	\$24,000	\$0	\$24,000
Catch Basin Cleaning (purchased trucks)	\$0	\$0	0%	\$75,000	\$185,000	\$75,000	\$185,000
Catch Basin Cleaning (rented trucks)	\$0	\$0	0%	\$75,000	\$150,000	\$75,000	\$150,000
Street Sweeping (purchased trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
Street Sweeping (rented trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
SWPPP Training	\$0	\$0	0%	\$0	\$7,000	\$0	\$7,000
Annual Report	\$0	\$0	0%	\$25,000	\$52,000	\$25,000	\$52,000
Cost for Regional Preparation	\$29,000	\$50,000	<i>rented</i>	\$251,000	\$585,000	\$215,000	\$504,000
Savings Realized by Regional Towns	\$174,000	\$405,000	<i>purchased</i>	\$251,000	\$620,000	\$215,000	\$539,000
TOTAL SAVINGS	\$145,000	\$355,000	<i>trucks</i>	Cost Savings:		\$36,000	\$81,000

Regional Cost Savings Summary, TMDLs and Impaired Waters	Cost for Preparation by a Regional Agency		% Done Regionally %	Adams			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Nitrogen TMDL	\$8,000	\$14,000		\$0	\$0	\$0	\$0
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$0	\$0	\$0
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$0	\$0	\$0	\$0
Additional Operation and Maintenance Procedures	\$1,000	\$2,000	50%	\$0	\$0	\$0	\$0
Street Sweeping	\$0	\$0	0%	\$0	\$0	\$0	\$0
Develop Nitrogen Source ID Template	\$4,000	\$6,000	25%	\$0	\$0	\$0	\$0
Phosphorus Impairment	\$8,000	\$14,000		\$0	\$0	\$0	\$0
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$0	\$0	\$0
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$0	\$0	\$0	\$0
Additional Operation and Maintenance	\$1,000	\$2,000	50%	\$0	\$0	\$0	\$0
Street Sweeping	\$0	\$0	0%	\$0	\$0	\$0	\$0
Develop Phosphorus Source ID Template	\$4,000	\$6,000	25%	\$0	\$0	\$0	\$0
Bacteria TMDL	\$1,000	\$2,000		\$1,000	\$4,000	\$750	\$3,000
Additional Public Education	\$1,000	\$2,000	25%	\$1,000	\$4,000	\$750	\$3,000
IDDE Catchment Classification Changes	\$0	\$0	0%	\$0	\$0	\$0	\$0
Cost for Regional Preparation	\$17,000	\$30,000	<i>total</i>	\$1,000	\$4,000	\$750	\$3,000
Savings Realized by Regional Towns	\$36,000	\$58,000					
TOTAL SAVINGS	\$19,000	\$28,000		Cost Savings:		\$250	\$1,000

Regional Cost Savings Summary, Base Program	Cost for Preparation by a Regional Agency		% Done Regionally %	Cheshire			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Notice of Intent (NOI)	\$0	\$0	0%	\$5,000	\$11,000	\$5,000	\$11,000
Stormwater Management Program (SWMP) Plan	\$5,000	\$10,000	50%	\$13,000	\$20,000	\$6,500	\$10,000
Minimum Measure 1 - Public Education	\$4,000	\$8,000	25%	\$9,000	\$71,000	\$6,750	\$53,250
Minimum Measure 2 - Public Participation	\$0	\$0	0%	\$9,000	\$17,000	\$9,000	\$17,000
Minimum Measure 3 - IDDE	\$8,000	\$10,000		\$28,000	\$49,000	\$19,750	\$39,250
Written IDDE Plan and Procedures	\$0	\$0	0%	\$1,000	\$5,000	\$1,000	\$5,000
System Mapping and Catchment Delineation	\$0	\$0	0%	\$4,000	\$7,000	\$4,000	\$7,000
Catchment Assessment and Ranking	\$0	\$0	0%	\$2,000	\$10,000	\$2,000	\$10,000
Dry Weather Screening	\$0	\$0	0%	\$9,000	\$13,000	\$9,000	\$13,000
Wet Weather Screening	\$0	\$0	0%	\$0	\$1,000	\$0	\$1,000
Catchment Investigations	\$0	\$0	0%	\$1,000	\$0	\$1,000	\$0
Training (performed annually over 5 years)	\$8,000	\$10,000	75%	\$11,000	\$13,000	\$2,750	\$3,250
Minimum Measure 4 - Construction Site Control	\$5,000	\$10,000		\$4,000	\$22,000	\$2,000	\$7,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$4,000	\$6,000	\$2,000	\$3,000
Procedures for Pre- and Construction Inspections	\$3,000	\$6,000	75%	\$0	\$16,000	\$0	\$4,000
Minimum Measure 5 - Post Construction Runoff	\$2,000	\$4,000		\$17,000	\$35,000	\$14,000	\$29,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$6,000	\$12,000	\$3,000	\$6,000
Asses Regulations for Impervious Areas and LID	\$0	\$0	0%	\$7,000	\$14,000	\$7,000	\$14,000
Inventory Municipal Properties	\$0	\$0	0%	\$4,000	\$9,000	\$4,000	\$9,000
Minimum Measure 6 - Good Housekeeping				\$19,000	\$33,000	\$10,000	\$15,750
<i>rented trucks</i>	\$5,000	\$8,000				\$10,000	\$15,750
<i>purchased trucks</i>							
Operation and Maintenance Procedures	\$5,000	\$8,000	75%	\$12,000	\$23,000	\$3,000	\$5,750
BMP Inspection and Maintenance	\$0	\$0	0%	\$7,000	\$10,000	\$7,000	\$10,000
SWPPP Plans	\$0	\$0	0%	\$0	\$0	\$0	\$0
SWPPP Implementation	\$0	\$0	0%	\$0	\$0	\$0	\$0
Catch Basin Cleaning (purchased trucks)	\$0	\$0	0%	N/A	N/A	N/A	N/A
Catch Basin Cleaning (rented trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
Street Sweeping (purchased trucks)	\$0	\$0	0%	N/A	N/A	N/A	N/A
Street Sweeping (rented trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
SWPPP Training	\$0	\$0	0%	\$0	\$0	\$0	\$0
Annual Report	\$0	\$0	0%	\$25,000	\$52,000	\$25,000	\$52,000
Cost for Regional Preparation	\$29,000	\$50,000	<i>rented</i>	\$129,000	\$310,000	\$98,000	\$234,250
Savings Realized by Regional Towns	\$174,000	\$405,000	<i>purchased</i>				
TOTAL SAVINGS	\$145,000	\$355,000	<i>trucks</i>	Cost Savings: \$31,000 - \$75,750			

Regional Cost Savings Summary, TMDLs and Impaired Waters	Cost for Preparation by a Regional Agency		% Done Regionally %	Cheshire			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Nitrogen TMDL	\$8,000	\$14,000		\$0	\$0	\$0	\$0
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$0	\$0	\$0
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$0	\$0	\$0	\$0
Additional Operation and Maintenance Procedures	\$1,000	\$2,000	50%	\$0	\$0	\$0	\$0
Street Sweeping	\$0	\$0	0%	\$0	\$0	\$0	\$0
Develop Nitrogen Source ID Template	\$4,000	\$6,000	25%	\$0	\$0	\$0	\$0
Phosphorus Impairment	\$8,000	\$14,000		\$0	\$0	\$0	\$0
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$0	\$0	\$0
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$0	\$0	\$0	\$0
Additional Operation and Maintenance	\$1,000	\$2,000	50%	\$0	\$0	\$0	\$0
Street Sweeping	\$0	\$0	0%	\$0	\$0	\$0	\$0
Develop Phosphorus Source ID Template	\$4,000	\$6,000	25%	\$0	\$0	\$0	\$0
Bacteria TMDL	\$1,000	\$2,000		\$0	\$4,000	\$0	\$3,000
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$4,000	\$0	\$3,000
IDDE Catchment Classification Changes	\$0	\$0	0%	\$0	\$0	\$0	\$0
Cost for Regional Preparation	\$17,000	\$30,000	<i>total</i>	\$0	\$4,000	\$0	\$3,000
Savings Realized by Regional Towns	\$36,000	\$58,000					
TOTAL SAVINGS	\$19,000	\$28,000		Cost Savings: \$0 - \$1,000			

Regional Cost Savings Summary, Base Program	Cost for Preparation by a Regional Agency		% Done Regionally %	Dalton			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Notice of Intent (NOI)	\$0	\$0	0%	\$5,000	\$11,000	\$5,000	\$11,000
Stormwater Management Program (SWMP) Plan	\$5,000	\$10,000	50%	\$13,000	\$20,000	\$6,500	\$10,000
Minimum Measure 1 - Public Education	\$4,000	\$8,000	25%	\$9,000	\$71,000	\$6,750	\$53,250
Minimum Measure 2 - Public Participation	\$0	\$0	0%	\$9,000	\$17,000	\$9,000	\$17,000
Minimum Measure 3 - IDDE	\$8,000	\$10,000		\$35,000	\$67,000	\$26,750	\$57,250
Written IDDE Plan and Procedures	\$0	\$0	0%	\$1,000	\$5,000	\$1,000	\$5,000
System Mapping and Catchment Delineation	\$0	\$0	0%	\$7,000	\$22,000	\$7,000	\$22,000
Catchment Assessment and Ranking	\$0	\$0	0%	\$2,000	\$10,000	\$2,000	\$10,000
Dry Weather Screening	\$0	\$0	0%	\$11,000	\$15,000	\$11,000	\$15,000
Wet Weather Screening	\$0	\$0	0%	\$1,000	\$2,000	\$1,000	\$2,000
Catchment Investigations	\$0	\$0	0%	\$2,000	\$0	\$2,000	\$0
Training (performed annually over 5 years)	\$8,000	\$10,000	75%	\$11,000	\$13,000	\$2,750	\$3,250
Minimum Measure 4 - Construction Site Control	\$5,000	\$10,000		\$4,000	\$22,000	\$2,000	\$7,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$4,000	\$6,000	\$2,000	\$3,000
Procedures for Pre- and Construction Inspections	\$3,000	\$6,000	75%	\$0	\$16,000	\$0	\$4,000
Minimum Measure 5 - Post Construction Runoff	\$2,000	\$4,000		\$19,000	\$37,000	\$16,000	\$31,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$6,000	\$12,000	\$3,000	\$6,000
Asses Regulations for Impervious Areas and LID	\$0	\$0	0%	\$7,000	\$14,000	\$7,000	\$14,000
Inventory Muncpal Properties	\$0	\$0	0%	\$6,000	\$11,000	\$6,000	\$11,000
Minimum Measure 6 - Good Housekeeping				\$35,000	\$76,000	\$26,000	\$58,750
<i>rented trucks</i>	\$5,000	\$8,000				\$26,000	\$58,750
<i>purchased trucks</i>							
Operation and Maintenance Procedures	\$5,000	\$8,000	75%	\$12,000	\$23,000	\$3,000	\$5,750
BMP Inspection and Maintenance	\$0	\$0	0%	\$1,000	\$2,000	\$1,000	\$2,000
SWPPP Plans	\$0	\$0	0%	\$3,000	\$5,000	\$3,000	\$5,000
SWPPP Implementation	\$0	\$0	0%	\$13,000	\$39,000	\$13,000	\$39,000
Catch Basin Cleaning (purchased trucks)	\$0	\$0	0%	N/A	N/A	N/A	N/A
Catch Basin Cleaning (rented trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
Street Sweeping (purchased trucks)	\$0	\$0	0%	N/A	N/A	N/A	N/A
Street Sweeping (rented trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
SWPPP Training	\$0	\$0	0%	\$6,000	\$7,000	\$6,000	\$7,000
Annual Report	\$0	\$0	0%	\$25,000	\$52,000	\$25,000	\$52,000
Cost for Regional Preparation	\$29,000	\$50,000	<i>rented</i>	\$154,000	\$373,000	\$123,000	\$297,250
Savings Realized by Regional Towns	\$174,000	\$405,000	<i>purchased</i>				
TOTAL SAVINGS	\$145,000	\$355,000	<i>trucks</i>	Cost Savings: \$31,000 - \$75,750			

Regional Cost Savings Summary, TMDLs and Impaired Waters	Cost for Preparation by a Regional Agency		% Done Regionally %	Dalton			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Nitrogen TMDL	\$8,000	\$14,000		\$24,000	\$37,000	\$17,750	\$27,250
Additional Public Education	\$1,000	\$2,000	25%	\$1,000	\$7,000	\$750	\$5,250
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$2,000	\$4,000	\$1,500	\$3,000
Additional Operation and Maintenance Procedures	\$1,000	\$2,000	50%	\$1,000	\$2,000	\$500	\$1,000
Street Sweeping	\$0	\$0	0%	\$0	\$0	\$0	\$0
Develop Nitrogen Source ID Template	\$4,000	\$6,000	25%	\$20,000	\$24,000	\$15,000	\$18,000
Phosphorus Impairment	\$8,000	\$14,000		\$24,000	\$37,000	\$17,750	\$27,250
Additional Public Education	\$1,000	\$2,000	25%	\$1,000	\$7,000	\$750	\$5,250
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$2,000	\$4,000	\$1,500	\$3,000
Additional Operation and Maintenance	\$1,000	\$2,000	50%	\$1,000	\$2,000	\$500	\$1,000
Street Sweeping	\$0	\$0	0%	\$0	\$0	\$0	\$0
Develop Phosphorus Source ID Template	\$4,000	\$6,000	25%	\$20,000	\$24,000	\$15,000	\$18,000
Bacteria TMDL	\$1,000	\$2,000		\$0	\$4,000	\$0	\$3,000
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$4,000	\$0	\$3,000
IDDE Catchment Classification Changes	\$0	\$0	0%	\$0	\$0	\$0	\$0
Cost for Regional Preparation	\$17,000	\$30,000	<i>total</i>	\$48,000	\$78,000	\$35,500	\$57,500
Savings Realized by Regional Towns	\$36,000	\$58,000					
TOTAL SAVINGS	\$19,000	\$28,000		Cost Savings: \$12,500 - \$20,500			

Regional Cost Savings Summary, Base Program	Cost for Preparation by a Regional Agency		% Done Regionally %	Lanesborough			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Notice of Intent (NOI)	\$0	\$0	0%	\$5,000	\$11,000	\$5,000	\$11,000
Stormwater Management Program (SWMP) Plan	\$5,000	\$10,000	50%	\$13,000	\$20,000	\$6,500	\$10,000
Minimum Measure 1 - Public Education	\$4,000	\$8,000	25%	\$9,000	\$71,000	\$6,750	\$53,250
Minimum Measure 2 - Public Participation	\$0	\$0	0%	\$9,000	\$17,000	\$9,000	\$17,000
Minimum Measure 3 - IDDE	\$8,000	\$10,000		\$33,000	\$61,000	\$24,750	\$51,250
Written IDDE Plan and Procedures	\$0	\$0	0%	\$1,000	\$5,000	\$1,000	\$5,000
System Mapping and Catchment Delineation	\$0	\$0	0%	\$5,000	\$16,000	\$5,000	\$16,000
Catchment Assessment and Ranking	\$0	\$0	0%	\$2,000	\$10,000	\$2,000	\$10,000
Dry Weather Screening	\$0	\$0	0%	\$11,000	\$15,000	\$11,000	\$15,000
Wet Weather Screening	\$0	\$0	0%	\$1,000	\$2,000	\$1,000	\$2,000
Catchment Investigations	\$0	\$0	0%	\$2,000	\$0	\$2,000	\$0
Training (performed annually over 5 years)	\$8,000	\$10,000	75%	\$11,000	\$13,000	\$2,750	\$3,250
Minimum Measure 4 - Construction Site Control	\$5,000	\$10,000		\$4,000	\$22,000	\$2,000	\$7,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$4,000	\$6,000	\$2,000	\$3,000
Procedures for Pre- and Construction Inspections	\$3,000	\$6,000	75%	\$0	\$16,000	\$0	\$4,000
Minimum Measure 5 - Post Construction Runoff	\$2,000	\$4,000		\$23,000	\$41,000	\$20,000	\$35,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$6,000	\$12,000	\$3,000	\$6,000
Asses Regulations for Impervious Areas and LID	\$0	\$0	0%	\$7,000	\$14,000	\$7,000	\$14,000
Inventory Muncpal Properties	\$0	\$0	0%	\$10,000	\$15,000	\$10,000	\$15,000
Minimum Measure 6 - Good Housekeeping				\$35,000	\$66,000	\$26,000	\$48,750
<i>rented trucks</i>	\$5,000	\$8,000				\$26,000	\$48,750
<i>purchased trucks</i>							
Operation and Maintenance Procedures	\$5,000	\$8,000	75%	\$12,000	\$23,000	\$3,000	\$5,750
BMP Inspection and Maintenance	\$0	\$0	0%	\$6,000	\$9,000	\$6,000	\$9,000
SWPPP Plans	\$0	\$0	0%	\$3,000	\$3,000	\$3,000	\$3,000
SWPPP Implementation	\$0	\$0	0%	\$8,000	\$24,000	\$8,000	\$24,000
Catch Basin Cleaning (purchased trucks)	\$0	\$0	0%	N/A	N/A	N/A	N/A
Catch Basin Cleaning (rented trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
Street Sweeping (purchased trucks)	\$0	\$0	0%	N/A	N/A	N/A	N/A
Street Sweeping (rented trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
SWPPP Training	\$0	\$0	0%	\$6,000	\$7,000	\$6,000	\$7,000
Annual Report	\$0	\$0	0%	\$25,000	\$52,000	\$25,000	\$52,000
Cost for Regional Preparation	\$29,000	\$50,000	<i>rented</i>	\$156,000	\$361,000	\$125,000	\$285,250
Savings Realized by Regional Towns	\$174,000	\$405,000	<i>purchased</i>				
TOTAL SAVINGS	\$145,000	\$355,000	<i>trucks</i>	Cost Savings:		\$31,000	\$75,750

Regional Cost Savings Summary, TMDLs and Impaired Waters	Cost for Preparation by a Regional Agency		% Done Regionally %	Lanesborough			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Nitrogen TMDL	\$8,000	\$14,000		\$29,000	\$47,000	\$22,750	\$37,250
Additional Public Education	\$1,000	\$2,000	25%	\$1,000	\$7,000	\$750	\$5,250
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$2,000	\$4,000	\$1,500	\$3,000
Additional Operation and Maintenance Procedures	\$1,000	\$2,000	50%	\$1,000	\$2,000	\$500	\$1,000
Street Sweeping	\$0	\$0	0%	\$5,000	\$10,000	\$5,000	\$10,000
Develop Nitrogen Source ID Template	\$4,000	\$6,000	25%	\$20,000	\$24,000	\$15,000	\$18,000
Phosphorus Impairment	\$8,000	\$14,000		\$0	\$0	\$0	\$0
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$0	\$0	\$0
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$0	\$0	\$0	\$0
Additional Operation and Maintenance	\$1,000	\$2,000	50%	\$0	\$0	\$0	\$0
Street Sweeping	\$0	\$0	0%	\$0	\$0	\$0	\$0
Develop Phosphorus Source ID Template	\$4,000	\$6,000	25%	\$0	\$0	\$0	\$0
Bacteria TMDL	\$1,000	\$2,000		\$0	\$0	\$0	\$0
Additional Public Education	\$1,000	\$2,000	25%	\$0	\$0	\$0	\$0
IDDE Catchment Classification Changes	\$0	\$0	0%	\$0	\$0	\$0	\$0
Cost for Regional Preparation	\$17,000	\$30,000	<i>total</i>	\$29,000	\$47,000	\$22,750	\$37,250
Savings Realized by Regional Towns	\$36,000	\$58,000					
TOTAL SAVINGS	\$19,000	\$28,000		Cost Savings:		\$6,250	\$9,750

Regional Cost Savings Summary, Base Program	Cost for Preparation by a Regional Agency		% Done Regionally %	Pittsfield			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Notice of Intent (NOI)	\$0	\$0	0%	\$5,000	\$11,000	\$5,000	\$11,000
Stormwater Management Program (SWMP) Plan	\$5,000	\$10,000	50%	\$13,000	\$20,000	\$6,500	\$10,000
Minimum Measure 1 - Public Education	\$4,000	\$8,000	25%	\$12,000	\$75,000	\$9,000	\$56,250
Minimum Measure 2 - Public Participation	\$0	\$0	0%	\$9,000	\$17,000	\$9,000	\$17,000
Minimum Measure 3 - IDDE	\$8,000	\$10,000		\$126,000	\$252,000	\$117,750	\$242,250
Written IDDE Plan and Procedures	\$0	\$0	0%	\$1,000	\$5,000	\$1,000	\$5,000
System Mapping and Catchment Delineation	\$0	\$0	0%	\$10,000	\$93,000	\$10,000	\$93,000
Catchment Assessment and Ranking	\$0	\$0	0%	\$2,000	\$26,000	\$2,000	\$26,000
Dry Weather Screening	\$0	\$0	0%	\$63,000	\$73,000	\$63,000	\$73,000
Wet Weather Screening	\$0	\$0	0%	\$11,000	\$32,000	\$11,000	\$32,000
Catchment Investigations	\$0	\$0	0%	\$28,000	\$10,000	\$28,000	\$10,000
Training (performed annually over 5 years)	\$8,000	\$10,000	75%	\$11,000	\$13,000	\$2,750	\$3,250
Minimum Measure 4 - Construction Site Control	\$5,000	\$10,000		\$4,000	\$22,000	\$2,000	\$7,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$4,000	\$6,000	\$2,000	\$3,000
Procedures for Pre- and Construction Inspections	\$3,000	\$6,000	75%	\$0	\$16,000	\$0	\$4,000
Minimum Measure 5 - Post Construction Runoff	\$2,000	\$4,000		\$61,000	\$79,000	\$58,000	\$73,000
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	50%	\$6,000	\$12,000	\$3,000	\$6,000
Asses Regulations for Impervious Areas and LID	\$0	\$0	0%	\$7,000	\$14,000	\$7,000	\$14,000
Inventory Muncpal Properties	\$0	\$0	0%	\$48,000	\$53,000	\$48,000	\$53,000
Minimum Measure 6 - Good Housekeeping							
<i>rented trucks</i>	\$5,000	\$8,000		\$317,000	\$625,000	\$295,250	\$588,250
<i>purchased trucks</i>				\$156,000	\$339,000	\$134,250	\$302,250
Operation and Maintenance Procedures	\$5,000	\$8,000	75%	\$29,000	\$49,000	\$7,250	\$12,250
BMP Inspection and Maintenance	\$0	\$0	0%	\$19,000	\$35,000	\$19,000	\$35,000
SWPPP Plans	\$0	\$0	0%	\$5,000	\$8,000	\$5,000	\$8,000
SWPPP Implementation	\$0	\$0	0%	\$22,000	\$55,000	\$22,000	\$55,000
Catch Basin Cleaning (purchased trucks)	\$0	\$0	0%	\$75,000	\$185,000	\$75,000	\$185,000
Catch Basin Cleaning (rented trucks)	\$0	\$0	0%	\$236,000	\$471,000	\$236,000	\$471,000
Street Sweeping (purchased trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
Street Sweeping (rented trucks)	\$0	\$0	0%	\$0	\$0	\$0	\$0
SWPPP Training	\$0	\$0	0%	\$6,000	\$7,000	\$6,000	\$7,000
Annual Report	\$0	\$0	0%	\$25,000	\$52,000	\$25,000	\$52,000
Cost for Regional Preparation	\$29,000	\$50,000	<i>rented</i>	\$572,000	\$1,153,000	\$527,500	\$1,056,750
Savings Realized by Regional Towns	\$174,000	\$405,000	<i>purchased</i>	\$411,000	\$867,000	\$366,500	\$770,750
TOTAL SAVINGS	\$145,000	\$355,000	<i>trucks</i>	Cost Savings:		\$44,500	\$96,250

Regional Cost Savings Summary, TMDLs and Impaired Waters	Cost for Preparation by a Regional Agency		% Done Regionally %	Pittsfield			
	Low	High		Base Cost		Cost w/ Regional Savings	
				Low	High	Low	High
Nitrogen TMDL	\$8,000	\$14,000		\$64,000	\$113,000	\$55,750	\$100,750
Additional Public Education	\$1,000	\$2,000	25%	\$1,000	\$7,000	\$750	\$5,250
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$6,000	\$8,000	\$4,500	\$6,000
Additional Operation and Maintenance Procedures	\$1,000	\$2,000	50%	\$3,000	\$5,000	\$1,500	\$2,500
Street Sweeping	\$0	\$0	0%	\$34,000	\$69,000	\$34,000	\$69,000
Develop Nitrogen Source ID Template	\$4,000	\$6,000	25%	\$20,000	\$24,000	\$15,000	\$18,000
Phosphorus Impairment	\$8,000	\$14,000		\$64,000	\$113,000	\$55,750	\$100,750
Additional Public Education	\$1,000	\$2,000	25%	\$1,000	\$7,000	\$750	\$5,250
Update Bylaw or Other Regulatory Mechanism	\$2,000	\$4,000	25%	\$6,000	\$8,000	\$4,500	\$6,000
Additional Operation and Maintenance	\$1,000	\$2,000	50%	\$3,000	\$5,000	\$1,500	\$2,500
Street Sweeping	\$0	\$0	0%	\$34,000	\$69,000	\$34,000	\$69,000
Develop Phosphorus Source ID Template	\$4,000	\$6,000	25%	\$20,000	\$24,000	\$15,000	\$18,000
Bacteria TMDL	\$1,000	\$2,000		\$1,000	\$4,000	\$750	\$3,000
Additional Public Education	\$1,000	\$2,000	25%	\$1,000	\$4,000	\$750	\$3,000
IDDE Catchment Classification Changes	\$0	\$0	0%	\$0	\$0	\$0	\$0
Cost for Regional Preparation	\$17,000	\$30,000	<i>total</i>	\$129,000	\$230,000	\$112,250	\$204,500
Savings Realized by Regional Towns	\$36,000	\$58,000		Cost Savings:		\$16,750	\$25,500
TOTAL SAVINGS	\$19,000	\$28,000					