

Municipality/Organization: Town of Derry, NH

EPA NPDES Permit Number: NHR041005

MaDEP Transmittal Number: W-

Annual Report Number

& Reporting Period: No. 12: April 1, 2014-March 31, 2015

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

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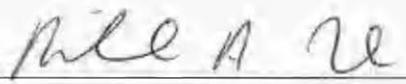
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Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Printed Name: Michael A Fowler P.E.

Title: Director of Public Works

Date: April 27, 2015

Part II. Self-Assessment

General

The Town of Derry (The Town), through the Department of Public Works (DPW), has made progress both in 1) improving the quality of storm water run-off within the Town under the NPDES Phase II MS4 Storm Water Program, and 2) improving the water quality of its surface water bodies. The Town continues to implement, encourage, and require the use of Best Management Practices established at the onset of the program, as well as new or revised BMPs throughout the term of the permit. The Town continues to receive support from the residents of Derry since the inception of the program as well as from prospective developers interested in incorporating recommendations from Derry's adopted Stormwater Ordinance. Its principles are being followed and incorporated into projects managed by town, commercial, and private entities. There remains sincere interest and enthusiasm by diverse groups of people in Derry including lake and watershed groups, academia, and residents, to maintain and improve the environmental health of the Town including the waterways and the quality of the storm water that enters them, and teaching others about the importance of eliminating non-point source pollution and the value of overall pollution prevention.

All goals identified in the last permit continue to be met and when feasible, improved upon as of this reporting period.

Due to the extension of the permit renewal by USEPA, all measurable goals and planned activities are subject to change based on the contents and requirements of the Final MS4GP. Over the last year the Town of Derry experienced level funding in its budgets across all departments due to the current state of the economy. The Town is currently in budget review for the next fiscal year and the Derry Town Council has set a goal of 20% reduction in budgets starting in July 2015 (FY16). If enacted, this will have a significant impact on DPW's ability to conduct all planned activities and continue to reach all measurable goals. In addition, the Town does not foresee being able to conduct the majority of the proposed requirements or meet any of the deadlines proposed in USEPA's Draft 2013 MS4 permit.

Catch Basin Cleaning and Street Sweeping

In the 2014 construction season, 750 catch basins were cleaned. The catch basin cleaning program is set up to schedule higher priority catch basins on a more frequent cleaning schedule. There are approximately 150 basins that are cleaned on an annual basis, while the remaining 600 are selected among the remaining basins that pick up little debris and require cleaning on a less frequent basis. The Town is currently budgeting to clean 750 catch basins during the next reporting period, pending budget constraints.

Street sweeping of the urban areas of town usually begins in March each year and continues through the fall. Due to the significant amount of snow remaining on and along roads, street sweeping for 2015 could not begin until the first week of April. Approximately 40 miles of roads within the urban compact and nearby roads with closed drainage systems are usually cleaned each spring through fall; approximately 6 miles of main roads (urban and/or higher traffic count) are cleaned on a weekly basis. However, due to budget cuts the total number of miles of roads swept and the frequency of street sweeping may be reduced in 2015.

Drain Stenciling

Catch basin stenciling program is still a popular activity for various groups. In prior years, the Town has provided stencils and paint to the Beaver Lake Improvement Association (BLIA), local Boy Scout and Girl Scout Troops, Church groups, and FEMA Corps division of AmeriCorps NCCC (National Civilian Community Corps). The Town's Public Works Department continued to provide the stencils for any group interested in participating in these activities. The Town's stencils have wording stating "No Dumping, Drains to Lake" or "No Dumping, Drains to Wetland".

Public Outreach and Participation

The Town continues to use events such as Town Council meetings, BLIA meetings and Town-wide Derry Fest, as a means of outreach to the public. Through partnership and open communication with organizations such as BLIA, Conservation Commission, Recreation Department, and the Regional Health Department the Town was able to distribute information on stormwater pollution prevention BMPs, household hazardous waste, pet waste management, and pharmaceutical disposal and take back initiatives.

The BLIA summer 2014 Stream Teams focused on several stream reaches that flow directly into Beaver Lake. The stream teams are made up of Pinkerton Academy Students working on service-learning projects. Stream Teams were out collecting data in the streams and tributaries leading into Beaver Lake. The Pinkerton Academy Students, many of whom hope to pursue secondary education in environmental science or biology, are using their free time this summer to learn about water ecology, by collecting data that tracks the quality of water that flows into Beaver Lake. However, all of the tributaries that are included in the Beaver Lake Watershed will affect the water quality of Beaver Lake, so it is important that all of the streams are in good condition in order to maintain a productive ecosystem in Beaver Lake. At the start of the season, the Town donated two pH meters to the BLIA to complement the stream teams' data gathering efforts. In 2014, the teams tested eight different reaches from previous years so as to build upon data collected in previous years as well as Adams Pond which is the headwaters to Manter Brook. The Stream Teams tested reaches in Manter Brook, Jenney-Dickey Brook, Partridge Brook, and Cat-O Brook. Overall, the stream reaches tested were fair or good and demonstrated good macro-invertebrate scores. Almost all of the reaches scored a 'Good' rating according to the NHRSAT ranking system. The NHRSAT ranking system incorporates many aspects of testing stream health including erosion indicators, biological indicators, and chemical and physical indicators such as temperature, stream flow, etc.

In 2014, the Town purchased additional surface monitoring equipment including pH meter, turbidity meter, conductivity meter, and dissolved oxygen meter. The equipment will be used for spot and regular routine monitoring. The Town will conduct some monitoring in coordination with the stream teams in order to provide educational experience for the students and to supplement the team's data collection efforts.

The Town continues to sponsor Derry Clean-Up Week during the week of Earth Day and has had broad participation from the public and various groups in this program including the BLIA and local Boy and Girl Scout troops. Derry Clean-up Week is scheduled for April 18 through April 25. The Beaver Lake Watershed Partnership (BLWP) continues to work diligently within Derry as well as Auburn and Chester to improve water quality within the Beaver Lake Watershed. Many of the Partnership's goals parallel the goals set for the Town of Derry in our MS4GP. The Town Environmental Coordinator has periodically assisted the BLIA president with related articles for the BLIA e-newsletter such as protecting water quality through the use of non-phosphorus fertilizer, hiring knowledgeable landscapers, and proper management of yard waste.

The town remains available for tours of the Town Hall for students and youth groups (cub scouts, girl scouts). When available or requested the Director of Public Works and/or Environmental Coordinator will give short presentations on the Town's environmental responsibility and provides age appropriate handouts to participants. Historically, these tours and presentations has resulted in groups contacting us in order to participate in storm drain stenciling, and to brain storm on other volunteer opportunities. In the past, town representatives also conduct outreach to children with presentations at area schools on recycling and water pollution. Over the last year, no groups have come forward for tours.

Derry remains active in the Manchester Regional Stormwater Coalition with participation in quarterly meetings and attendance by NHDES representatives. USEPA representatives have attended these meetings in previous years. Although EPA continues to be invited to these meetings, EPA has not attended a meeting in a few years. The meetings include discussion of ongoing stormwater issues, sharing of experiences, presentations by outside environmental and regulatory agency speakers, and site visits to tour stormwater projects. Attendance at these meetings has grown to include communities from the Nashua and Concord regions.

The Town is involved in two household hazardous waste (HHW) collection events per year co-sponsored with the Town of Londonderry. Derry conducts active outreach with public notice and stormwater handouts to Derry residents at our Transfer Station and other town venues. Aggressive outreach and advertising continues to generate a respectable participation by Derry residents and volume of HHW collected. The Town's next event is scheduled for May 2, 2015.

In 2014, the Department of Justice, through local law enforcement, continued with an annual pharmaceutical take-back day. The Town Departments, including the Derry Police Department, Public Works, Health Department, along with the Community Alliance for Teen Safety (CATS) conduct public outreach on the proper disposal of pharmaceuticals, not only in the interest of reducing the likelihood of prescription drug abuse, but in the interest of protecting groundwater and surface water by eliminating disposal practices such as the flushing of medications into septic systems or throwing out with household garbage. Additional outreach included posting of information on the Town's website, display of literature at the Town kiosks, and public notices in the local newspaper (Nutfield News). Pharmaceutical Take Back events took place on April 26, 2014 and September 29, 2014.

During this reporting period, the Town produced two new cable television segments called Improving our Environment: Green SnoPro Program (February 12, 2015) featuring NHDES Salt Reduction Coordinator and UNH Technology Transfer (T2) Center and Blizzard 2015: Keeping our Roads Clear (January 27, 2015) which included personnel from Derry Public Works and focused on how snow removal efforts with salt reduction efforts made by the Town. These programs air on Derry Local Cable Access stations C17 and D23.

Training and Environmental Organizational Team Meetings

One or more Public Works Employees (including the Environmental Coordinator, Superintendent of Operations, and Crew Chiefs) participate throughout the year in various conferences, training opportunities, or live streaming webcasts related to Stormwater, pollution prevention, and waste management including the following:

- Manchester Regional Stormwater Coalition Meetings (4/15/14, 5/28/14, 10/21/14, 2/17/15) – Held jointly with Manchester, Londonderry, Goffstown, Auburn, Bedford, Plaistow, Windham, Nashua, Merrimack, Pembroke, Hooksett, and Amherst with frequent attendance by NHDES,

- Southern NH Regional Planning Commission, and various consultants.
- NHDES Drinking Water Source Protection Workshop, Concord, NH (4/30/14), Derry's Superintendent of Operations was a panel member for Salt Reduction Initiative Track.
 - Household Hazardous Waste Coordinators meetings (6/9/14, 2/4/15)
 - Volunteer River Assessment Program (VRAP) training by NHDES (10/21/14) – Goffstown Town Hall
 - UNH T2 Training (Hosted by Derry) – Culvert Certification Training (5/20/14)
 - UNH T2 Training (Hosted by Derry) – Green SnoPro Certification Training (8/20/14)

SALT REDUCTION PROGRAM

The Town of Derry hosted the meeting location for and participated in the Salt Reduction Workgroup Meetings. These meetings are attended by representatives from Derry, Londonderry, Windham, Salem, NHDES, NHDOT, UNH T2 Center, USEPA, Rockingham Planning Commission, Jeffrey H. Taylor & Associates. The Conservation Law Foundation did not attend any meetings over the last year. During this reporting period, the Town has been involved in the following Salt Reduction Program activities or events:

Salt Reduction Work Group Meetings:

- Salt Reduction Workgroup Meetings – 7/17/14, 10/22/14, 1/26/15, 3/26/15

Salt Reduction Symposium – 10/22/14

This is the first annual symposium sponsored by NHDES and UNH-T2. Derry's Superintendent of Operations, Alan Cote, was awarded the *Salt-n-Peppa Award* (1 of 3 awards given that day). Senator Chuck Morse presented the *Salt-n-Peppa Award* which is given to:

"the salt professional exemplifying the best blending of stakeholders in a salt reduction stew. This award recognizes an individual who has provided outstanding leadership in addressing salt reduction. Addressing private sector salt reduction in a comprehensive way is relatively new to NHDES and UNH. When DES began working on this issue in 2006 in the I-93 corridor, including the area just outside our door here at Castleton, staff recognized early on that it would take a collaborative effort among state, municipal, and private salt applicators to make progress. Alan really stands out in this regard. In the early days, he frequently asked a lot of tough questions, keeping everyone on our toes and making sure that DES had good reasons to ask what they were asking him to do. Over time, he became one of the reasons the salt reduction program partners have had success so far. Alan reached out to private applicators in his town, to other towns, and to legislators – in fact, he found one of the sponsors of the salt applicator certification bill. He hosted many work group meetings in the I-93 corridor focused on salt reduction. Alan helped produce a half-hour cable access program on salt reduction that has been viewed by thousands of people. He is made substantial improvements in his own operations, resulting in significant decreases in salt use."

Training Hosted: The Town of Derry provided the training facility for the following training sessions.

New employees with Derry Highway Department and any new Derry plowing contractors are required to participate in the training.

- *Green SnowPro Certification: Salt Reduction for Parking Lots & Roads* by UNH-T2 – 8/20/14

Salt Reduction Equipment and BMPs

In 2014, the Town took possession of two new diesel F550 trucks equipped with front and wing plows, stainless steel dump spreader, groundspeed control, on-spot chains, and a 140-gallon brine tank and pre-wetting system. This brings the total to 5 new trucks over three years that are equipped with state-of-the-art snow and ice removal equipment.

Cable Television Shows (airing on Local Cable Access stations C17 and D23)

The shows are available for viewing on Derry's YouTube Channel.

- **Blizzard 2015: Keeping Our Roads Clear – 1/27/2015** – Filmed on the road with Derry DPW plow drivers with discussion of BMPs implemented in light of salt reduction efforts. The show was filmed in Derry by Derry's Cable Television Department.
- **Improving Our Environment: Green SnoPro Program – 02/12/2015** - A public service announcement (PSA) video has been collaboratively produced by Derry, the NHDES Salt Reduction Coordinator, and the UNH T² Center. The show was filmed in Derry by Derry's Cable Television Department.

Town Construction Projects

Rt. 28 Sewer Expansion Project

An additional phase of the Town's sewer expansion project was completed in 2014. The project included the installation of 400 feet of stormwater runoff treatment swale.

New Transfer Station Project

Construction of the new transfer station will begin in May 2015. The new facility will include discontinuous pavement with grass island separations, a 240' long by 15' wide infiltration basin (with vegetated filter strip and shredded bark/wood fiber), 130' of grass-lined treatment swales, and a 100' by 40' stormwater detention pond.

Illicit Discharges/Enforcement

Illicit Discharges and Stormwater Violations: Investigations and Response

Previously the Town reported that an enforcement action by NHDES is pending against a property owner in town due to a stormwater issue associated with extensive erosion from a private unpaved road. Since then, NHDES notified us they are not going to take action. Since then the Town initiated enforcement action against the alleged violator. Preliminary meetings and discussions were held between the Town, the violator, and respective legal counsel.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

| BMP ID # | BMP Description | Responsible Dept./Person | Measurable Goal(s) | Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Next Permit Year |
|----------|---------------------------------------|--------------------------|--|---|---|
| 1.1 | Document & Continue Existing Programs | Public Works | Review public education programs that are already in place that may be utilized as mechanisms to distribute storm water information. Prepare written documentation that summarizes existing programs in place that may be used in conjunction with the Phase II storm water program. | <p>Goals Met: The Town of Derry continued to distribute information through kiosks located at the Municipal Center, Transfer Station, and Derry public buildings throughout town. The Town website is updated as needed in regard to environmental protection, pollution prevention, recycling of universal wastes, and storm water programs.</p> <p>The Town in coordination with the regional health department distributed and posted information on proper disposal of pharmaceuticals and personal care products in conjunction with the sixth annual pharmaceutical take-back day and provided outreach material to Derry PD and EMS and the Community Alliance for Teen Safety.</p> | <p>The Town intends to continue distributing information through the venues that it has established.</p> <p>We will continue to improve and expand the Town's website to further highlight environmental programs including storm water management, household hazardous waste, recycling, and PPCP disposal.</p> <p>A next Pharmaceutical Take-Back Day is scheduled for Saturday April 25, 2015.</p> |
| Revised | | | | | |
| 1.2 | Coordinate Public Educators | Public Works | Organize Town employees, educators, volunteers, etc. to work together to develop materials to be distributed to the public and school systems regarding Phase II storm water. | <p>Goals Met: The Town has had the opportunity to reach many of the same students through existing volunteer organizations that have worked closely with the town on the stenciling program. As in previous years, Pinkerton Academy Biology Faculty are involved in the Beaver Lake Water Shed Partnership and had students in their biology courses conducting assessment of segments of streams that are tributaries to Beaver Lake. Students obtained real life experience in environmental science while performing a valuable service to the community. In addition, the Students for Environmental Action (SEA) at Pinkerton Academy participated in a clean-up day last April and cleaned up several miles of roadway throughout Derry. The Town provided the equipment and supplies and participated in meetings and field training.</p> <p>The Town donated two pH meters to the Stream Teams to supplement their data collection efforts during stream assessments.</p> | <p>The Town intends to continue to work closely with the School Department to incorporate storm water education as well as other environmental programs into the regular curriculum. We will also continue to support efforts by volunteers as well as paid interns to speak at local youth organizations and schools.</p> |
| Revised | | | | | |

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|---------|---|--------------|--|---|---|
| 1.3 | Coordinate information and Program Distribution within School Network | Public Works | Prepare brochures or fact sheets to be distributed to the public by direct mailings. Provide information on the Town's website. Begin developing curriculum to be used to educate students about storm water issues. Contact 50% of the schools located within the Town. | <p>Goals Met: Direct mailings of Notices of the Household Hazardous Waste Collection events and Stormwater Pollution Prevention are regularly included with "Drinking Water Consumer Confidence Reports".</p> | The Town will continue to work with the public schools and Pinkerton Academy to distribute information. |
| Revised | | | | The Public Works Department continues to distribute informational brochures and fact sheets at the annual "Town Fair" Derryfest and to participants at the Household Hazardous Waste Collection event. The Town contacts public schools including Pinkerton Academy through their biology department. | |

2. Public Involvement and Participation

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Next Permit Year |
|----------|--|------------------------------------|--|--|---|
| 2.1 | Create Task Committee | Public Works | Task committee is established. The task committee will be responsible for organizing volunteers, etc., to assist the Town with the implementation requirements for the Phase II Storm Water Program. Document meeting minutes. | Discontinued in previous years. See annual report for 2004-2005. Redundant due to other groups already established. | N/A |
| Revised | <i>The Town of Derry has determined that a task committee is not necessary to achieve the goals set forth in the Storm Water Management Plan. Therefore, this BMP has been eliminated from the plan.</i> | | | | |
| 2.2 | Conduct Public Meeting/Acquire Public Input | Public Works & Town Administration | Public Meeting. Phase II Storm Water Program information to be presented. Document meeting minutes. | Goals Met: All actions were completed in the previous reporting periods as follows: Public meeting held on the Storm Water Ordinance and Stormwater System Design Regulations. The Public Works Department continues to encourage public input into the Storm Water Program. The Town is in contact with the Beaver Lake Improvement Association (BLIA) on a routine basis and has provided input on newsletter articles. | The Public Works Department will continue to strive to educate the public in storm water. Specific public meetings are not scheduled. Instead public input is solicited through public event displays and working through non-government organizations. |
| Revised | | | | | |
| 2.3 | Establish Storm Water Information Display at Major Town Events | Public Works | Phase II Storm Water information display at one town event per year. | Goals Met: This task was completed with a display set up at Derryfest and public meetings. | Displays will again be set up at Derryfest events this year. Youth Groups have also expressed interest in helping with these events for public education as community service projects. |
| Revised | | | | | |

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|---------|---|--------------|--|---|---|
| 2.4 | Storm Drain Stenciling/Community Clean-up Day | Public Works | 50% of storm drains stenciled using volunteers or school students. Community clean-up day held once a year using volunteers and/or students. | Goals Met: Storm Drain stenciling is periodically conducted by various groups including Boy Scouts, Girl Scouts, church groups, and the Beaver Lake Improvement Association (BLIA). Numerous groups participate each year in Derry Cleanup Day. Additional interest in these activities is voiced regularly. No storm drain stenciling was conducted during the reporting period. Numerous groups and individuals participate in Derry Clean-Up Day. The Town continues to provide bags for interested parties. | The storm drain stenciling program will be an ongoing program as the paint will wear off and need to be touched up or as roads are repaved. Derry Cleanup Day is currently scheduled for the weekend of April 18, 2015. |
| Revised | | | | | |

3. Illicit Discharge Detection and Elimination

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Next Permit Year |
|----------|---|--------------------------------------|--|--|--|
| 3.1 | Map Outfalls and Receiving Waters | Public Works & IT Department | Produce a map showing outfalls and receiving waters. | Goals Met: The Town of Derry has completed mapping the outfalls and receiving waters. Follow-up inspection during dry weather conditions continued with remapping, repairs, and stream cleaning projects. | The Town of Derry will strive to keep the database up to date by adding any new storm water collection systems to the base map. Revisions and corrections to the data base will be made as errors or old infrastructure previously missed are discovered. Additional inspections will occur during the next reporting period as permitted and resources allow to confirm flow directions and construction. |
| Revised | | | | | |
| 3.2 | Evaluate Need for Storm Sewer Ordinance; Develop if Necessary | Public Works, (through a consultant. | Complete review of existing local regulations and ordinances to determine what mechanisms are already in place. Prepare a Storm Sewer Ordinance for adoption by the Town. | Goals Met: The Derry Town Council adopted the stand-alone Storm Water Ordinance and Stormwater System Design Regulations during a previous reporting period. | Continue to implement and enforce the Storm Water Ordinance and Stormwater System Design Regulations if required. Prepare revisions if necessary. |
| Revised | | | | | |
| 3.3 | Train Volunteers in Illicit Discharge Identification | Public Works | Complete a training document. Complete volunteer training for illicit discharge identification. This must include information related to the hazards associated with illegal discharges and improper waste disposal. | Goals Met: The Town uses the illicit discharge report form to be used by Town employees and volunteers if/when illicit discharges are suspected or identified. Any reports that are made to the Code Enforcement Office or Public Works Department are investigated. | The Town will continue to train and work with the BLIA stream and lake monitoring volunteers on illicit discharge detection. |
| Revised | | | | | |

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|---------|---|--------------|---|---|---|
| 3.4 | Dry Weather Screening of Outfalls | Public Works | Utilize trained volunteers and/or students to complete dry-weather screening of outfalls. Complete dry-weather screening forms for inspection. Document findings of screening. Identify outfalls requiring further follow-up. | Goals Met: Limited dry weather screening of outfall continued through 2014 as catch basins were cleaned or maintenance was performed. No specific illicit discharges were identified during the screening. | Limited dry weather screening of outfalls will continue, dependent upon availability of funding and other budget constraints. In addition, volunteers working with the Beaver Lake Watershed Partnership are encouraged to become involved in this process. |
| Revised | | | | | |
| 3.5 | Develop System of Identifying Illicit Discharges and Initiate Program to Eliminate Them | Public Works | Complete Plan outlining system for eliminating illicit discharges. Initiate elimination program. Eliminate the majority of identified illicit discharges. | Goals Met: The Town of Derry utilizes an illicit discharge form to note any potential illicit discharges discovered during catch basin cleaning. Any reports from the public are placed on work orders and investigated by the Environmental Coordinator, Supt. of Operations, or the Code Enforcement Officer. The Town also relies on the public as the eyes and ears for possible violations and to report them so that the Town can respond. | Continue with existing program and practices of identifying and investigating illicit discharges. Step up enforcement if necessary. |
| Revised | | | | | |
| 3.6 | Identify Magnitude of Effort to Continue Mapping Storm Sewer System. | Public Works | Complete a review of the storm sewer system mapping in Town. Prepare an assessment of the effort required to continue this mapping. | Goals Met: All new additions to the Public Storm Sewer system are added to the Town's Geographic Information System. Occasionally, data gaps were identified within catchments. | Continue updates as available. Due to continued budget constraints and reductions through the next year, plans to conduct catchment mapping and delineation over the next year may once again be postponed. Mapping will be conducted as time and budget allows. If feasible, the Town will begin more detailed mapping during the 2015 construction season. |
| Revised | | | | | |

4. Construction Site Stormwater Runoff Control

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Next Permit Year |
|----------|--|-------------------------------|---|--|--|
| 4.1 | Document Existing Programs and Expand Them as Required | Public Works | Complete Review of Existing Local regulations pertaining to construction site runoff control. Complete written summary of existing requirements. This may require additional assessment of potential water quality impacts. Complete necessary additions to existing documents/ordinances for establishing water quality benchmarks, site inspection procedures, etc. Ordinance revisions will be accompanied by appropriate public notice and comment opportunities. The regulations will ultimately address areas of concern noted above. | <p>Goals Met: The Town is routinely checking to verify that a) an NOI has been filed with EPA for all sites over one acre in disturbance, b) an Alteration of Terrain permit has been filed with NHDES. We continue to use a Construction Site Run-off Control Inspection form when inspecting sites through our Engineering Division to ensure the SWPPP for a construction site is being adhered to. During the reporting period, there were 6 reported ongoing construction projects requiring 7 CGPs.</p> | Continue to be vigilant in the enforcement of construction site erosion control, ensuring SWPPP are present on site and adhered to, continuing random cross-checking of CGP NOIs filed against projects in town. |
| Revised | | | | | |

5. Post-Construction Stormwater Management in New Development and Redevelopment

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Next Permit Year |
|----------|---|------------------------------------|---|--|--|
| 5.1 | Document and Enhance Procedures for MS4 Storm Sewer System | Public Works | Complete review of existing MS4 maintenance procedures. Complete formal procedures manual for conducting MS4 maintenance, including record keeping forms, BMPs related to development, etc. Regulations and ordinances will be expanded, as appropriate, to incorporate measures to address the areas of concern noted above. | <p>Goals Met: The Town continues to keep records of the locations and number of catch basins cleaned. The Town also crosschecks the EPA's eNOI database to ensure that NOIs and NOTs have been filed. Most site plan reviews include a review by the Environmental Coordinator which includes a focus on construction stormwater management and groundwater protection. The Town routinely encourages new development to consider BMPs that go beyond the minimum regulatory requirements.</p> | Continue keeping records on areas cleaned. The Town developed a schedule based on historical amounts of debris removed from specific catch basins. |
| Revised | | | | | |
| 5.2 | Incorporate Best Management Practices into Town Master Plan | Public Works & Planning Department | Complete update of Town's Master Plan to include Best Management Practices. | <p>Goals Met: State and nationally recognized BMPs are included by reference in the Town's storm water ordinance and Storm Water System Design Regulations. The Town developed and began implementing a Salt Reduction Plan which was approved by USEPA, FHWA, and NHDES. The Plan incorporates winter road maintenance and snow removal BMPs, including calibration of salt spreaders and conducting snow removal based on winter severity conditions and forecasts. The Town prepared and adopted a Source Water Protection Plan in January 2012 which was incorporated into the Master Plan.</p> | Follow BMPs in Town activities and projects. Make copies of BMPs available to public. Update BMPs as revisions occur. |
| Revised | <i>The updates to the Town's Master Plan were delayed until 2008-2009 time period. Instead, BMPs will be incorporated into the draft Storm Water Ordinance currently being revised.</i> | | Incorporate BMPs into Storm Water Ordinance and Storm water System Design Regulations. | | |

6. Pollution Prevention and Good Housekeeping in Municipal Operations

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Next Permit Year |
|----------------|---|-------------------------------|---|--|--|
| 6.1 Revised | Document and Enhance Employee Training Procedures | Public Works | Complete review of existing training programs. Complete formal employee training manual. | <p>Goals Met: DPW continues to have employees trained and provide employees with informational literature. Lessons learned and training received is transferred to other employees through on the job training and dialogue with employees. The Town continues to host salt reduction training sessions and GreenPro certification for winter snow removal and deicing operations. Training is given by UNH Technology Transfer Center for the public works plow truck operators and Town contracted plow truck drivers. In addition, numerous commercial and private plow truck operators have taken the training.</p> | Training and/or refreshers on SWPPPs, housekeeping, spill response, salt reduction, and erosion control will continue to be conducted periodically as needed. |
| 6.2 Revised | Evaluate the Use of Pesticides, Sand and Salt | Public Works | Complete review of existing procedures. Complete formal procedures manual for handling and use of pesticides, sand, and salt. | <p>Goals Met: Pesticides and herbicide are applied only by licensed applicators for any substantial projects. Fertilizer application on recreational fields is contracted to licensed commercial applicators that are required to use only low phosphorus, slow-release nitrogen fertilizer. The Town is involved in the regional Salt Reduction Workgroup with USEPA, NHDES, NHDOT, FHWA, and UNH-T2. Meetings include development of Salt Reduction Plans, sector allocation, and evaluation of BMPs. The Town developed an evolving Salt Reduction Plan which was approved by USEPA, FHWA, and NHDES.</p> | Continue with existing practices, participation in Salt Reduction Committee, and providing Town facilities for regional training initiatives. Conduct outreach to public. The Town will continue to look at better technology to reduce the salt and sand usage. |

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Next Permit Year |
|----------|--|-------------------------------|--|--|--|
| Revised | Implement BMPs for reduction of chloride and phosphorus input into impaired surface waters | Public Works | Develop Salt Reduction Plan and implement BMPs, collect useful data to complement state's data. Meet TMDL for chloride in the Beaver Brook Watershed | <p>The town has continued its involvement in Salt Reduction workgroup meetings with NHDES and other stakeholders, and hosted meetings and training sessions at the Derry Town Hall.</p> <p>The town is maintaining a net reduction in the 5-year and 10-year running average over the last 5 years through 2014 compared to historical averages. The allocation per year will be based on the reported Weather Severity Index (WSI). The severity of the 2014-2015 winter season resulted in a higher than anticipated quantity of salt used during the most recent season. Comparable increases were realized state-wide. The WSI for the 2014-2015 season is not available at this time.</p> <p>The Town took delivery of the two (2) additional trucks with relevant salt reduction accessories by the start of the winter season for FY15. Receipt of the new trucks brought the total up to five (5) new snow removal trucks equipped with groundspeed control, with pre-wetting brine systems.</p> | <p>The Town will continue to include chloride reduction education in its outreach efforts and evaluate the purchase of new technology for reduced volumes of deicing chemicals applied within the Town.</p> <p>The Town will continue to host Salt Reduction Workgroup meetings and Salt Applicator Certification Training workshops.</p> <p>The Town is working with the Salt Reduction Workgroup for a salt truck washing system to be shared with the other communities. Consideration is also considered for additional funding to set up our own brine storage equipment.</p> |
| | | | | The Town worked with NHDES Watershed Bureau to review historical data and water quality of Hood Pond relative to the phosphorus TMDL. The results of meetings and comprehensive review indicate that a phosphorus TMDL for Hood Pond was not necessary and that it is a low priority water body. | The Town hopes to begin random periodic phosphorus testing of Hood Pond and associated tributaries to ensure continued compliance and improved water quality. |

7a. Additions

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
| | | | | | |

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

| | | |
|--|-------|---------------|
| Stormwater management position created/staffed | (y/n) | Yes |
| Annual program budget/expenditures | (\$) | \$70,000 est. |
| | | |
| | | |

Education, Involvement, and Training

| | | |
|---|---------------|---------------|
| Estimated number of residents reached by education program(s) | (# or %) | 20,000 est. |
| Stormwater management committee established | (y/n) | No |
| Stream teams established or supported | (# or y/n) | Yes |
| Shoreline clean-up participation or quantity of shoreline miles cleaned | (y/n or mi.) | Y, ~2 miles |
| Household Hazardous Waste Collection Days | | |
| ▪ days sponsored <i>(Twice/year cosponsored with Town of Londonderry)</i> | (#) | 2 |
| ▪ community participation <i>(estimate 300 Derry households/yr represented)</i> | (%) | (see comment) |
| ▪ material collected | (tons or gal) | 14 Tons |
| School curricula implemented | (y/n) | Yes |
| | | |
| | | |

Legal/Regulatory

In Place
 Prior to Under
 Phase II Review Drafted Adopted

| Regulatory Mechanism Status (indicate with "X") | In Place Prior to Phase II | Under Review | Drafted | Adopted |
|--|----------------------------------|-----------------|---------|---------|
| ▪ Illicit Discharge Detection & Elimination | | | | X |
| ▪ Erosion & Sediment Control | X | | | X |
| ▪ Post-Development Stormwater Management | X | | | X |
| Accompanying Regulation Status (indicate with "X") | | | | |

Mapping and Illicit Discharges

| | | |
|--|-----------------------------------|-------|
| Outfall mapping complete | (%) | 100% |
| Estimated or actual number of outfalls | (*Includes road crossings) (#) | 1289* |
| System-Wide mapping complete | (%) | 100% |
| Mapping method(s) | | |
| ▪ Paper/Mylar | (%) | |
| ▪ CADD | (%) | 100% |
| ▪ GIS | (%) | 100% |
| Outfalls inspected/screened | (# or %) | 50% |
| Illicit discharges identified | (#) | 0 |
| Illicit connections removed | (#) (est. gpd) | |
| % of population on sewer | (%) | ~50% |
| % of population on septic systems | (%) | ~50% |
| | | |
| | | |

Construction

| | | |
|--|------------|------|
| Number of construction starts (>1-acre) | (#) | 6 |
| Estimated percentage of construction starts adequately regulated for erosion and sediment control | (%) | 100% |
| Site inspections completed | (# or %) | 100% |
| Tickets/Stop work orders issued | (# or %) | 0 |
| Fines collected | (# and \$) | 0 |
| Complaints/concerns received from public <i>(*Specific to stormwater, erosion, or sediment control on sites > 1-acre)</i> | (#) | 3 |
| | | |
| | | |

Post-Development Stormwater Management

| | | |
|--|----------|---------|
| Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control | (%) | 100% |
| Site inspections completed | (# or %) | 100% |
| Estimated volume of stormwater recharged | (gpy) | Unknown |
| | | |
| | | |

Operations and Maintenance

| | | |
|--|-------------|--------------------|
| Average frequency of catch basin cleaning (non-commercial/non-arterial streets) | (times/yr) | Once/4yrs |
| Average frequency of catch basin cleaning (commercial/arterial or other critical streets) | (times/yr) | Once/yr |
| Total number of structures cleaned | (#) | 750 (this period)* |
| Storm drain cleaned | (LF or mi.) | unknown |
| Qty. of screenings/debris removed from storm sewer infrastructure (*estimated) | (tons) | 500* |
| Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.) | | Beneficial use |
| Cost of screenings disposal | (\$) | Unknown |
| | | |
| | | |

| | | |
|--|------------|----------------|
| Average frequency of street sweeping (non-commercial/non-arterial streets) (Streets w/ closed drainage systems only) | (times/yr) | 1/year |
| Average frequency of street sweeping (commercial/arterial or other critical streets) (weekly April-Nov.) | (times/yr) | 35/year |
| Qty. of sand/debris collected by sweeping (*estimated) | (tons) | 750 |
| Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) | (location) | Beneficial use |
| Cost of sweepings disposal | (\$) | unknown |
| Vacuum street sweepers purchased/leased | (#) | 0 |
| Vacuum street sweepers specified in contracts | (y/n) | n |
| **Mechanical street sweepers contracted out** | | |

| | | |
|---|-------------|---------|
| Reduction in application on public land of: ("N/A" = never used; "100%" = elimination) | | |
| ▪ Fertilizers (Commercial application to recreational/athletic fields) | (lbs. or %) | Unknown |
| ▪ Herbicides (mandatory by NHDES-Commercial application on waste water lagoons embankment and drainage swales at closed landfill) | (lbs. or %) | Unknown |
| ▪ Pesticides | (lbs. or %) | Unknown |

| | | | |
|--|-------------|---------------------|---------|
| Anti-/De-Icing products and ratios (*Average for season based on total purchased. Actual ratios vary based on weather conditions. The 2014-2015 winter season was unusually severe compared to the typical historic winter weather conditions. These unusual conditions included several significant storms with record snowfall amounts and extended periods of extremely cold temperatures below which typical deicing (i.e., salt) are effective. (CaCl ₂ , CMA, Kac, and KCl were not used) | (4200 Tons) | % NaCl | 98%* |
| | (100 Tons) | % MgCl ₂ | |
| | | % Sand | 2%* |
| Pre-wetting techniques utilized – *Five (5) vehicles equipped for 2014-15 (Two were new acquisitions prior to the winter season) | (y/n) | | Yes |
| Manual control spreaders used | (y/n) | | Yes (7) |
| Automatic or Zero-velocity spreaders used | (y/n) | | Yes (7) |
| Estimated net reduction in typical year salt application * The agreed upon method of evaluating net reduction to comply with the TMDL is to compare salt usage by using the 5- and 10-year running averages. Due to severity of the past two winters there was a considerable increase in salt application this past season compared to the unusually mild winter two years before. However salt usage continues to show a decrease in the 5- and 10-year running averages. | (lbs. or %) | | NA %* |
| Salt pile(s) covered in storage shed(s) | (y/n) | | Yes |
| Storage shed(s) in design or under construction *New storage and loading facility completed in 2008 | (y/n) | | NA* |

Stream Condition of the Beaver Lake Watershed

By Wilfred Chinemerem Nnaji and the Stream Teams

Objectives of the Project

Our objective in the Stream Team project was to ascertain the quality of the streams and tributaries that feed into the Beaver Lake. These streams fall within the Beaver Lake catchment area. The biological and physical qualities of these will help us predict the state of the lake.

The Stream Team Projects also partners with Pinkerton Academy and incorporates volunteer students in its summer activities. These activities are very educational and the students learn a lot about the environment, the major biomes of interest and their level of sensitivity to pollution. The students also get to learn the methods of measuring the Bio-physical parameters that indicate the health level of the streams.



The Stream Team Project is also building a trend which culminates studies from 2006 to present. The trend will allow us understand the dynamics of the watershed area. We want to know if the health of the lake is improving or getting bad.

About the Beaver Lake Watershed

Beaver Lake is a relatively small lake with a wide catchment area. These include the towns of Derry, Chester, and Auburn in Rockingham County. The tributaries that end up in Beaver Lake are Manter Brook, Jenny Dickey Brook, Cat'O Brook and Partridge Brook. These streams are all within the catchment area. Also within the catchment area are Adams Pond, and Harantis Lake in the town of Chester. Beaver Lake also has an outlet, the Beaver Brook that cuts through Derry and Londonderry and ends up in the Merrimack River in Lowell. The lake serves the community as a recreational area as well as a place for fishing activities and boat riding. One the recreational area by the lake is Gallien's Beach which is a nice front for relaxation and kayaking activities.

Procedures for Testing

The New Hampshire Rapid Stream Assessment Technique (NHRSAT) was used to detect the macro-invertebrates and classify them according to their levels of sensitivity. We tested nine reaches during the course of the study. These include; JDB1, PRT1, PRT2, JDB3, MAB1, MAB2, MAB3, MAB4 and Adams Pond. The streams were measured for its wetted width, available width, percent occupied, pool depth and channel depth. Temperature and chemical indicators like alkalinity levels of the streams were measured. The velocity of the streams was measured. The rocks found in the streams were measured and classified according size and form.

Results

The Nine reaches tested showed that Adams Pond scored 2.49, which is Fair in the NHR SAT score, 29 on the Erosion score, 15.9 on the Biological score. MAB1 scored 3.08, which is Good in the NHR SAT score, 18 on the Erosion indication score, 25.8 on the Biological score and a PH value of 7.9. MAB2 scored 3.08, which is Good on the NHR SAT, 15 on the Erosion indication score, 7.5 on the Biological score and a PH of 7.3. MAB3 scored 3.1, which is Good on the NHR SAT score, 16 on the Erosion indication score, 13.8 on the Biological score and a PH of 7.7. MAB4 scored 2.2 on the NHR SAT score, 21 on the Erosion indication score, 22 on the Biological score and a PH of 6.9. PRT1 scored 2.17 on the NHR SAT, which is fair, 12 on the Erosion indication score, 6.6 on the Biological score and a PH of 7.3. PRT2 scored 2.8 on the NHR SAT score, which is Good, 8 on the Erosion indication score, 11.1 on the Biological score and a PH of 7.3. JDB1 scored 2.5 on the NHR SAT score, which is Good, 19 on the Erosion indication score and 14.4 on the Biological score. JDB3 scored 2.5 on the NHR SAT, which is Fair, 18 on the Erosion indication score, 10.6 on the Biological score and a PH of 7.2.

Significance

The average quality of the streams ranges from fair to good. We found turtles in some of the streams as well as a snake. Their presence shows that the streams are still conducive for the local aquatic biomes. We discovered various macro invertebrates sensitive to pollution such as Hellgrammites and stonefly, which indicates that the streams are still in a healthy condition. However, it will not require too much negligible acts, e.g. dumping or draining of agrochemicals or pollutants from automobiles to upset the current health of the streams.

Suggestions

The addition of the PH test by the Stream Team is a big plus to the other techniques used in the study. I suggest that it be permanently incorporated into the program for it is highly useful to know the trend in alkalinity levels of the streams. I also recommend the inclusion of the test for Biological Oxygen demand. This helps to determine the amount of dissolved oxygen in the streams which helps aerobic biological organisms digest food.

Submitted by: Wilfred Chinemerem Nnaji on August 16, 2014



2014 Pinkerton Academy Stream Teams

Beaver Lake Stream Teams Collective Data

| Year Tested | Date Sampled | Station I.D. | Temperature (°F) | NHRSAT Score | NHRSAT Rank | Erosion Score | Biological Score | Starting Coordinates | Ending Coordinates | PH Readings |
|-------------|--------------|--------------|------------------|--------------|-------------|---------------|------------------|---------------------------|--------------------|-------------|
| 2006 | Aug-09-2006 | COB-TRIB-1 | 62 | 2.5 | Good | 13.4 | 12.8 | 42°54'27"N, 71°18'17"W | Unknown | |
| 2006 | Aug-09-2006 | COB-TRIB-2 | 62 | 2.7 | Good | 17 | 25.7 | 42°54'26"N, 71°18'22"W | Unknown | |
| 2006 | Aug-17-2006 | COB-TRIB-3 | 60 | 2.5 | Good | 11 | 29 | 42°54'27"N, 71°18'26"W | Unknown | |
| 2006 | Aug-23-2006 | COB-TRIB-4 | 60 | 2.4 | Fair | 15.5 | 28.4 | 42°54'28"N, 71°18'28"W | Unknown | |
| 2006 | Aug-23-2006 | HLOUT-1 | 72 | 3.2 | Good | 13 | 48.8 | 42°55'59"N, 71°17'13"W | Unknown | |
| 2006 | Jul-25-2006 | JDB-1 | 74 | 2.5 | Good | 18 | 30.8 | 42°54'22"N, 71°17'18"W | Unknown | |
| 2006 | Jul-29-2006 | JDB-2 | 77 | 2.7 | Good | 8.5 | 35.8 | 42°54'21"N, 71°17'17"W | Unknown | |
| 2006 | Aug-01-2006 | JDB-3 | 77 | 2.5 | Good | 23.7 | 32 | 42°54'21"N, 71°17'15"W | Unknown | |
| 2006 | Aug-08-2006 | JDB-4 | 67 | 3 | Good | 21.5 | 22.2 | 42°54'20"N, 71°17'12"W | Unknown | |
| 2006 | Aug-16-2006 | JDB-5 | 65 | 2.6 | Good | 16 | 28.6 | 42°54'19"N, 71°17'11"W | Unknown | |
| 2006 | Jun-06-2006 | MAB-1 | 73 | 3.16 | Good | 15.5 | 40.2 | 42°54'25"N, 71°17'18"W | Unknown | |
| 2006 | Jul-13-2006 | MAB-2 | 69 | 3.2 | Good | 22 | 34.4 | 42°54'26"N, 71°17'18"W | Unknown | |
| 2006 | Aug-10-2006 | MAB-3 | 71 | 2.92 | Good | 20.5 | 43.5 | 42°54'42"N, 71°16'58"W | Unknown | |
| 2006 | Aug-10-2006 | MAB-4 | 73 | 3.25 | Good | 15 | 40 | 42°54'44"N, 71°16'56"W | Unknown | |
| 2006 | Aug-17-2006 | MAB-5 | 72 | 3.2 | Good | 13 | 38.2 | 42°54'45"N, 71°16'54"W | Unknown | |
| 2007 | May-31-2007 | MAB-6 | 69 | 3.25 | Good | 19.75 | 32 | 42°54'48"N, 71°16'53"W | Unknown | |
| 2007 | Jun-20-2007 | MAB-7 | 72 | 3.16 | Good | 20 | 36.8 | 42°54'50"N, 71°16'57"W | Unknown | |
| 2007 | Jun-20-2007 | MAB-8 | 73 | 3.41 | Good | 14 | 27.6 | 42°54'55"N, 71°16'49"W | Unknown | |
| 2007 | Jun-26-2007 | MAB-9 | 73 | 3.5 | Excellent | 14.5 | 46.4 | 42°54'58"N, 71°16'48"W | Unknown | |

Beaver Lake Stream Teams Collective Data

| | | | | | | | | | |
|------|-------------|------------|-----|------|-----------|-------|------|---------------------------|---------------------------|
| 2007 | Jul-02-2007 | MAB-TRIB-1 | 61 | 3.25 | Good | 16.5 | 30.7 | 42°55'37"N, 71°16'34"W | Unknown |
| 2007 | Jul-02-2007 | MAB-TRIB-2 | 62 | 3.5 | Excellent | 16.5 | 33.2 | 42°55'39"N, 71°16'35"W | Unknown |
| 2007 | Jul-03-2007 | MAB-TRIB-3 | 65 | 3.42 | Good | 17.25 | 44 | 42°55'40"N, 71°16'51"W | Unknown |
| 2007 | Jul-03-2007 | MAB-TRIB-4 | 64 | 2.92 | Good | 20.5 | 27 | 42°55'29"N, 71°16'55"W | Unknown |
| 2007 | Jul-02-2007 | MAB-TRIB-5 | 69 | 3.08 | Good | 21.75 | 31.1 | 42°55'49"N, 71°16'56"W | Unknown |
| 2007 | Jul-03-2007 | MAB-TRIB-6 | 67 | 3.25 | Good | 12.5 | 39.5 | 42°55'44"N, 71°16'49"W | Unknown |
| 2007 | Jul-07-2007 | MAB-TRIB-7 | 67 | 2.75 | Good | 13.5 | 36.9 | 42°55'42"N, 71°16'49"W | Unknown |
| 2007 | Jul-11-2007 | MAB-TRIB-8 | 68 | 2.75 | Good | 13 | 42 | 42°55'44"N, 71°16'49"W | Unknown |
| 2007 | Jul-11-2007 | MAB-TRIB-9 | 71 | 3.33 | Good | 15.5 | 32.4 | 42°55'38"N, 71°16'49"W | Unknown |
| 2007 | Jul-5-2007 | PRT-1 | 71 | 2.67 | Good | 15 | 26.8 | 42°54'30"N, 71°15'58"W | Unknown |
| 2007 | Jul-05-2007 | PRT-2 | 71 | 3 | Good | 12 | 28.8 | 42°54'31"N, 71°15'54"W | Unknown |
| 2010 | Jul-22-2010 | COB-TRIB-1 | n/a | 2.3 | Fair | 13 | 0 | 42°54'28"N, 71°17'17"W | 42°54'28"N, 71°17'17"W |
| 2010 | Jul-22-2010 | COB-TRIB-2 | n/a | 1.9 | Fair | 24 | 0 | 42°54'28"N, 71°17'17"W | 42°54'26"N, 71°18'25"W |
| 2010 | Jun-25-2010 | MAB-1 | 72 | 2.9 | Good | n/a | 36.1 | 42°54'22"N, 71°17'18"W | 42°54'25"N, 71°17'18"W |
| 2010 | Jul-09-2010 | MAB-2 | 81 | 2.9 | Good | 26 | 26.4 | 42°54'25"N, 71°17'18"W | 42°54'25"N, 71°17'19"W |
| 2010 | Jul-20-2010 | MAB-3 | 76 | 3 | Good | 20.5 | 20.3 | 42°54'25"N, 71°17'19"W | 42°54'25"N, 71°17'20"W |
| 2010 | Aug-04-2010 | MAB-4 | 70 | 2.83 | Good | 12.5 | 15.5 | Unknown | 42°54'54"N, 72°16'49"W |
| 2010 | Aug-04-2010 | MAB-5 | 70 | 2.5 | Good | 13 | 11.1 | 42°54'54"N, 71°16'49"W | 42°54'54"N, 71°16'49"W |
| 2010 | Jul-29-2010 | PTR-1 | 65 | 2.58 | Good | 18 | 9.5 | 42°54'26"N, 71°18'25"W | 42°54'26"N, 71°18'25"W |
| 2011 | Jul-19-2011 | JDB-1 | 69 | 2.9 | Good | 24 | 18.4 | 42°55'56"N, 71°16'28"W | Unknown |
| 2011 | Jul-20-2011 | JDB-2 | 75 | 2.4 | Fair | 16 | 10 | 42°55'56"N, 71°16'28"W | Unknown |

Beaver Lake Stream Teams Collective Data

| | | | | | | | | | |
|------|--------------|------------|----|------|------|------|------|---------------------------|---------------------------|
| 2011 | Jul-27-2011 | MAB-1 | 74 | 2.58 | Good | 19 | 26.9 | 42°55'56"N, 71°16'28"W | Unknown |
| 2011 | Jun-22-2011 | MAB-2 | 72 | 2.8 | Good | 19 | 16.8 | 42°55'56"N, 71°16'28"W | Unknown |
| 2011 | Jun-03-2011 | MAB-3 | 76 | 3.1 | Good | 9 | 16.6 | 42°54'56"N, 71°16'28"W | Unknown |
| 2011 | Jul-13-2011 | MAB-5 | 84 | 3.2 | Good | 23 | 19.8 | 42°55'56"N, 71°16'28"W | Unknown |
| 2011 | Aug-03-2011 | MAB-6 | 74 | 2.75 | Good | 12.5 | 30.8 | Unknown | Unknown |
| 2011 | Jun-29-2011 | PTR-1 | 75 | 3.25 | Good | 9.5 | 20.7 | 42°55'56"N, 71°16'28"W | Unknown |
| 2012 | July-22-2012 | CATO-IN | 69 | 2.08 | Fair | 14 | 5.4 | 42°54'26"N, 71°18'20"W | 42°54'26"N, 71°18'20"W |
| 2012 | Jun-28-2012 | COB-TRIB-1 | 60 | 2.25 | Fair | 13.5 | 14.6 | 42°54'26"N, 71°18'20"W | 42°54'26"N, 71°18'18"W |
| 2012 | Jul-08-2012 | COB-TRIB-2 | 64 | 2.17 | Fair | 14.5 | 10.4 | 42°54'26"N, 71°18'20"W | 42°54'26"N, 71°18'22"W |
| 2012 | Jun-20-2012 | JDB-1 | 67 | 2.9 | Good | 15 | 33.4 | 42°54'22"N, 71°17'18"W | 42°54'21"N, 71°17'14"W |
| 2012 | Jun-18-2012 | MAB-1 | 64 | 3.2 | Good | 23 | 32.8 | 42°54'22"N, 71°17'18"W | 42°54'24"N, 71°17'18"W |
| 2012 | Jun-21-2012 | MAB-2 | 72 | 3 | Good | 21 | 30.6 | 42°54'24"N, 71°17'18"W | 42°54'24"N, 71°17'17" |
| 2012 | Aug-04-2012 | MAB-3 | 73 | 2.5 | Good | 11.5 | 19.2 | 42°54'55"N, 71°16'48"W | 42°54'56"N, 71°16'46"W |
| 2012 | Aug-18-2012 | MAB-4 | 75 | 3 | Good | 14.5 | 22.6 | 42°54'55"N, 71°16'46"W | 42°54'56"N, 71°16'44"W |
| 2013 | July-3-2013 | JDB - 1 | 74 | 2 | Fair | 16 | 36.6 | Unknown | Unknown |
| 2013 | July-9-2013 | PBR -1 | 71 | 3 | Good | 24 | 22.2 | Unknown | Unknown |
| 2013 | July-10-2013 | PBR - 2 | 68 | 2.42 | Fair | 23 | 25.4 | Unknown | Unknown |
| 2013 | July-16-2013 | MAB - 1 | 81 | 2.6 | Good | 19 | 27.8 | Unknown | Unknown |
| 2013 | July-17-2013 | MAB - 2 | 84 | 2.7 | Good | 20 | 24.8 | Unknown | Unknown |
| 2013 | July-25-2013 | MAB - 3 | 72 | 3.24 | Good | 13 | 13.2 | Unknown | Unknown |
| 2013 | July-29-2013 | COB - 1 | 73 | 1.83 | Fair | 25 | 12.2 | Unknown | Unknown |

Beaver Lake Stream Teams Collective Data

| | | | | | | | | | | |
|-------------|---------------|--------------------|-------------|-------------|-------------|-----------|-------------|-----------------------------|------------|-----|
| 2013 | July-30-2013 | COB - 2 | 76 | 2.75 | Good | 20 | 28.2 | Unknown | Unknown | |
| 2013 | July-31-2013 | COB - 3 | 60 | 2.42 | Fair | 7 | 16.4 | Unknown | Unknown | |
| 2013 | Aug-6-2013 | COBTrib - 1 | 60 | 2.5 | Good | 20 | 7.8 | Unknown | Unknown | |
| 2013 | Aug-6-2013 | COBTrib - 2 | 60 | 2.6 | Good | 20 | 3.2 | Unknown | Unknown | |
| <u>2014</u> | June-23-2014 | <u>Adam's Pond</u> | <u>73°F</u> | <u>2.49</u> | <u>Fair</u> | <u>29</u> | <u>15.9</u> | 42°54'454"N 071°17'288"W | <u>N/A</u> | N/A |
| 2014 | July-02-2014 | MAB4 | 85°F | 2.49 | Fair | 22.2 | 21 | 42°54'997"N 071°16'733"W | N/A | 6.9 |
| 2014 | July-03-14 | JDB3 | 70°F | 2.49 | Fair | 18 | 10.6 | 42°54'213"N 071°17'029"W | N/A | 7.2 |
| 2014 | July-03-14 | JDB1 | 70° | 2.5 | Good | 19 | 14.4 | 42°54'143"N 071°17'231"W | N/A | N/A |
| 2014 | July-10-2014 | MAB1 | 76°F | 3.08 | Good | 18 | 25.8 | 42°54'85"N 017°16'84"W | N/A | 7.9 |
| 2014 | July-10-2014 | MAB2 | 78°F | 3.08 | Good | 15 | 7.5 | 42°54'87"N 071°16'82"W | N/A | 7.3 |
| 2014 | July-27-2014 | MAB3 | 66°F | 3.1 | Good | 16 | 13.8 | 42°54'871"N 071°16'819"W | N/A | 7.7 |
| 2014 | July-24-2014 | PRT2 | 66°F | 2.8 | Good | 8 | 11.1 | 42°54'514"N 071°15'942"W | N/A | 7.3 |
| 2014 | August-8-2014 | PRT1 | 63°F | 2.17 | Fair | 12 | 6.6 | 42°54'440"N 071°16'015"W | N/A | 7.3 |

1st Annual New Hampshire Salt Symposium

Windham, NH ~ October 22, 2014



Agenda

8:45 Introduction & Welcome

The New Road/Salt Dynamic in New Hampshire, *Ted Diers*

9:00 Track 1: Salt Reduction in NH

University of Waterloo Parking Lot Application Rate Study Results, *Raqib Omer*

Our neighbors to the north have done the first University Study involving parking lot application rates. Come hear the results of the groundbreaking study and learn how Canada is dealing with salt usage.

Prescriptions from the Salt Dr. (Lessons Learned in NH), *Patrick Santoso*

UNH T² created the Green SnowPro certification course for commercial salt applicators. After a few years of course offerings, the teacher has learned a few things from his pupils and is here to share them with you.

Trust But Certify, *Eric Williams*

NH DES certified the first group of Certified Salt Applicators in November 2013. Hear about what we've learned in this first season and our plans for the future.

10:30 Networking Break

11:00 Track 2: Marketing & Insurance

Marketing Your Certification, *Phill Sexton*

Learn how to make the most of your Certified Salt Applicator status from a marketing professional.

Insurance, Risk, and Green SnowPro Certification, *Thomas Brothers*

What are liability and risk and how can you and your company manage them? Hear from a New Hampshire Insurance professional with experience in winter maintenance contracts and liability.

12:30 Lunch & Salt Shaker Awards, *Senator Chuck Morse*

Salt of the Earth Award

For the winter property management professional who best exemplifies a workingman's approach to salt reduction.

Shaken Not Stirred Award

For the James Bond of the salt reducing, exemplifying a fearless, confident approach to salt reduction.

Salt-n-Peppa Award

For the winter property management professional exemplifying the best blend of stakeholders in the salt reduction stew.

1:30 Track 3: Liquid Uses & Demonstrations

Salt Symposium Industry Round Table, *Justin Gamester, Doug Knott, and Phill Sexton*

Discuss the issues relevant to improving operations for the 2014-2015 winter season with industry experts.

Indoor Calibration Demonstration, *Raqib Omer*

See a video demonstration of a spreader calibration just in time to perform it on your own equipment before the season starts!



1st Annual New Hampshire Salt Symposium

Windham, NH ~ October 22, 2014



Presenters

Thomas Brothers

Technical Consultant, Liberty Mutual Insurance

Thomas Brothers has been employed with the Commercial Insurance unit of Liberty Mutual Insurance for the past 19 years. Recent work includes the design and publishing of a comprehensive tool kit on New York Labor Law, another on General Liability Incident Response, and a Contracts Management Process Assessment device.

Ted Diers

Watershed Management Bureau Administrator, NH DES

Ted Diers previously served as manager of the NH Coastal Program, the state's coastal zone management program. Over the past 18 years, he has focused his work on state and federal ocean policy, salt marsh and river restoration projects, assisting in revisions of state regulations, and facilitating numerous planning efforts.

Justin Gamester

Vice President, Piscataqua Landscaping & Tree Service

Justin Gamester began working at Piscataqua Landscaping & Tree Service during the summer while attending UNH's Business School in 1999. After UNH, he has had a hand in most facets of the company, and today is the Vice President. He also serves on the SIMA Board of Directors.

Doug Knott

President, Knott Landcare

Doug Knott has more than a decade of snow and ice experience and is passionate about the land care and snow plowing industries. Doug holds an MBA from the University of New Haven and serves on the SIMA Board of Directors.

Senator Chuck Morse

NH Legislature

Senator Chuck Morse is a Republican from Salem serving his fourth term representing District 22. He was elected the 128th President of the state Senate in September of 2013. The Senate President also serves as "acting governor" whenever the governor is out of state or otherwise unable to perform the duties of the office. Senator Morse is also the President of Freshwater Farms & Garden Center in Atkinson and Granite State Creek Farms of Brentwood.

Raqib Omer

Founder and CEO, Viaesys

Raqib Omer founded Viaesys in 2010, a winter maintenance assistance system. He has lead multiple research projects in collaboration with municipalities and DOT's across North America, including automated road condition monitoring systems and optimization of winter maintenance of parking lots and sidewalks.

Patrick Santoso

Director of Operations, Technology Transfer Center

Patrick Santoso is responsible for business process optimization, software development, and supervising delivery of client solutions at the Technology Transfer Center. He has been involved in salt reduction for 5 years in New Hampshire, and currently manages the Road Salt Reduction and Green SnowPro Training certification projects.

Phill Sexton

Chief Knowledge Officer & Director of Outreach, SIMA

Phill Sexton has enjoyed an active career in the Green and Snow Industries for over 25 years. Currently, Phill serves as Chief Knowledge Officer and Director of Outreach for the Snow & Ice Management Association (SIMA), and is also the Founding Principle & Managing Director for WIT Companies. He is also a Professor (Adjunct) in the Center of Agriculture and Natural Resources for SUNY at Cobleskill.

Eric Williams

Water Pollution Division Assistant Administrator, NH DES

Eric Williams supervises the Watershed Assistance Section at the NH Department of Environmental Services, where for over 20 years he has provided technical and financial assistance to local watershed organizations working on clean water. He has also managed the Department's salt reduction program for the past 6 years.



2014 NH Salt Symposium Salt Shaker Awards

At the 1st Annual New Hampshire Salt Symposium
Windham, NH ~ October 22, 2014

At the first annual Salt Symposium, three professionals in the snow and ice removal business were presented with Salt Shaker Awards by the NH Department of Environmental Services in recognition of their contributions to salt reduction and the salt applicator industry. The awardees truly are “movers and shakers” in the salt business. Senate President Chuck Morse presented the awards and the recipients were:

1. **The Salt of the Earth Award** – for the salt professional who best exemplifies a workingman’s approach to salt reduction – **Eric Brand** of P&L Landscaping.

Recognizing that attention to detail and providing outstanding service are keys to successful winter maintenance, this award acknowledges that Eric understands the value of developing and sticking to standard practices, training staff on these practices, and keeping accurate records of their work. Eric manages a fleet of 16 trucks he operators during any given winter storm and was one of the first to complete the UNH T2 Green SnowPro training program. Recognizing the value of a certification program, he provided concise testimony to the NH Legislature as they debated the merits of a state certification program, which was a significant contribution to its passage.



Senator Chuck Morse presenting “Salt of the Earth” Award to Eric Brand

Eric has owned his business for 25 years, is an active member of the Nashua Area Home Builders and Remodelers Association and the Nashua and Merrimack Chambers of Commerce. He is the immediate past president of the Merrimack Chamber of Commerce. P&L Landscaping is ranked by Snow Magazine in the Top 100 Snow Plow Contractors nationally.

2. **The Shaken, not Stirred Award** – for the James Bond of the salt profession, exemplifying a fearless, confident approach to salt reduction – Director of Business Development for Piscataqua Landscaping, **Justin Gamester**.

This award recognizes that it’s not easy to try something new in a highly competitive industry where people’s safety is a direct result of your work. Named after one of James Bond’s catch phrases, this

award not only recognizes the fearlessness and confidence of Justin, but also his willingness to share his knowledge with others. Justin stays on the forefront of the industry as an active member of the Board of Directors of the Snow and Ice Management Association. A SIMA Certified Snow Professional since 2004, he has been active in mentoring other snow professionals and in speaking at educational programs – including today's Symposium.



Senator Chuck Morse presenting "Shaken, not Stirred" Award to Justin Gamester

Justin has been an active proponent of the use of liquids in winter maintenance and assisted the UNH Stormwater Center in understanding the winter maintenance challenges posed by porous pavement.

3. The Salt-n-Peppa Award – for the salt professional exemplifying the best blending of stakeholders in a salt reduction stew – **Alan Cote**, Town of Derry's Superintendent of Operations.

This award recognizes an individual who has provided outstanding leadership in addressing salt reduction. Addressing private sector salt reduction in a comprehensive way is relatively new to NHDES and UNH. When DES began working on this issue in 2006 in the I-93 corridor, including the area just outside our door here at Castleton, staff recognized early on that it would take a collaborative effort among state, municipal, and private salt applicators to make progress.



Senator Chuck Morse presenting "Salt-n-Peppa" Award to Allan Cote

Alan really stands out in this regard. In the early days, he frequently asked a lot of tough questions, keeping everyone on our toes and making sure that DES had good reasons to ask what they were asking him to do. Over time, he became one of the reasons the salt reduction program partners have had success so far. Alan reached out to private applicators in his town, to other towns, and to legislators – in fact, he found one of the sponsors of the salt applicator certification bill. He hosted many work group meetings in the I-93 corridor focused on salt reduction. Alan helped produce a half-hour cable access program on salt reduction that has been viewed by thousands of people. He is made substantial improvements in his own operations, resulting in significant decreases in salt use.

Manchester Area Regional Stormwater Coalition Meeting

Minutes of the 4/15/14 Meeting held at the City of Manchester, NH EPD at 1:30 PM

Present:

| | | |
|-----------------|-----------------|--|
| Robert Robinson | Manchester, NH | rrobinson@manchesternh.gov |
| Paul Indeglia | Normandeu | pindeglia@normandeu.com |
| Denise Royce | Auburn, NH | planning@townofauburnnh.com |
| Craig Durrett | Derry, NH | craigdurrett@derrynh.org |
| Mike McLaughlin | Bedford, NH | mmclaughlin@bedfordnh.org |
| Alex Canaan | Goffstown, NH | acanaan@goffstownnh.gov |
| John Trottier | Londonderry, NH | jrtrottier@londonderrynh.org |
| Bruce Berry | Amherst, NH | bberry@amherstnh.gov |
| V.J. Ranfos | Pembroke, NH | vranfos@pembroke-nh.com |
| Kyle Fox | Merrimack, NH | kfox@merrimacknh.gov |
| Rick Seymour | Merrimack, NH | rseymour@merrimacknh.gov |
| Jack Munn | SNHPC | jmunn@snhpc.org |

Introductions

The attendees introduced themselves.

Draft NH Small MS4 General Permit Discussion Comments

The comments on the Draft NH Small MS4 General Permit were due on August 15, 2013. Each community prepared and submitted comments before the due date.

The EPA is currently reviewing the comments and they will respond to them before a permit will be issued.

Alex informed the group that Thelma Murphy of the EPA said that they are using our comments to help shape the Massachusetts draft permit. The EPA expects to have the final permit to us this year.

Draft EPA 2013 Stormwater MSGP

The EPA released for comment the 2013 Stormwater MSGP. The comment period expired on November 26, 2013. Both Derry and Manchester reviewed the permit and saw no need to comment as the sections that dealt with their permits did not significantly change.

The EPA is scheduled to release the final permit this year.

Stormwater Utility

As a means to generate revenue and help relieve some of the burden on the general funds the proposed stormwater utility was discussed at a Board of Mayor and Alderman meeting.

An article was in the Union Leader on Sunday, March 23rd about the utility. To supplement the article that was in the paper an online version was also published. This version was condensed and it allowed the residents to be able to comment on the utility. The comments were negative as the general public does not support the formation of another utility.

The proposed stormwater utility will be discussed further and we will see what the outcome will be.

Stormwater Collaborative

The first action item for the collaborative was to develop a survey to find out what the communities are looking for in a collaborative. The survey was developed and a link was sent to the members of the three organizations. We received 409 responses to the survey. On March 4th a meeting was held to discuss the results of the survey. We analyzed the results to try and develop an outreach implementation plan. The survey results and the proposed outreach implementation plan will be shared with the members of the three organizations.

Nutt Pond Project Update

The City of Manchester, EPD working with CEI revised the plans to make a design that is acceptable to PSNH, NHDOT, and NHDES while still removing a substantial amount of Total Phosphorous and sediment from the West Inlet stream to the pond. We are trying to move forward with the project. We have had a lot of setbacks along the way.

McQuesten Brook Project Update

The NH Rivers Council in collaboration with project partners and working through consultants finalized the restoration plan for the McQuesten Brook watershed. The dam removal project is in the study and design phase to allow dam removal to commence in 2015.

Nonpoint Source Management Plan

The written comments on the Draft Nonpoint Source Management Plan should be sent to Jillian McCarthy of the NHDES by May 31st. Once comments are received and the plan revised accordingly it will be sent to the EPA for approval.

The plan is for the 2015-2019 timeframe and it is not a regulatory tool, but a guidance tool. It is the NHDES's responsibility to work with partners to implement.

Nonpoint Source Conference

The Annual Nonpoint Source Conference will be held this year on April 29th and 30th in Newport, RI at the Newport Harbor Hotel.

NHPWA Spring Meeting

The NHPWA Spring Meeting will be held this year on May 15th in Manchester, NH at the Derryfield Country Club. Stormwater topics will be discussed. Rob and Kevin Sheppard will be presenting on the Proposed Manchester Stormwater Utility

NEWEA Spring Meeting

The NEWEA Spring Meeting will be held this year June 1st – 4th in Rockport, ME at the Samoset Resort. Stormwater topics will be included in the program. Rob will be presenting on the CMOM Program.

NH Watershed Managers Roundtable

The NH Watershed Managers Roundtable will be held on October 9th up at the beautiful Newfound Lake. The format this year will not include a tour.

2014 NH Water and Watershed Conference

On March 21st the NH Water and Watershed Conference will be held at Plymouth State University from 8:00 AM to 4:00 PM.

Private Road Washout Problem – Derry

The NHDES is moving forward with enforcement actions against the property owner.

Piscataquog River Watershed Runoff Model

A Piscataquog River Watershed Runoff Model was created. The model will be available to towns within the watershed and the region. The model uses Cornell rainfall data. It will help communities prioritize culvert replacements.

American Water Resources Administration

The American Water Resources Administration is looking to create a chapter in New England or at least New Hampshire. Paul was approached to help coordinate the efforts as he was involved with this organization previously in Florida. He will keep us informed as this moves forward.

Future Meeting Topics & Date

The next meeting will be held in June depending on availability.

I-93 SALT REDUCTION WORK GROUP

- Minutes -

Monday, January 26, 2015

1:00 PM

Derry Municipal Center,
14 Manning Street
Derry, N.H.

ATTENDEES:

| | |
|-------------------|---------------------|
| Rick Russell, | DPW Town of Salem |
| John Trotter, | Town of Londonderry |
| Jack McCarthy, | Town of Windham |
| Alan Cote, | Town of Derry |
| Craig Durrett, | Town of Derry |
| Eric Williams, | N.H. DES |
| Patrick Woodbrey, | N.H. DES |
| Barbara McMillan, | N.H. DES |
| C.R. Willeke, | N.H. DOT |
| Caleb Dobbins, | N.H. DOT |

Introductions

Eric Williams welcomed everyone, and led the participants through introductions.

Review of 2013/14 Salt Loading Data

Eric Williams reviewed the data collected from the towns and from DOT on salt loading from the previous winter. The Weather Severity Index was -27.3, making it the 3rd most severe winter in the past 10 winters and the salt use figures were correspondingly high. Salem's total was the highest since tracking began in 2000/01 and Rick Russell asked to review the data to make sure that the totals were pro-rated for only the lane miles within the Policy Brook watershed rather than for the whole Town. Rick will also look into whether future salt use reports can be broken out for the specific trucks operating within the Policy Brook watershed. The current methodology is to calculate a tons/lane mile rate for the whole town and then multiply that rate by the number of lane miles within the Policy Brook watershed. [Note: The figures were subsequently reviewed and are correct; the total tonnage for the Town of Salem was 9,509, but the total tonnage for the Town of Salem within the Policy Brook watershed was 2,573.]

Review of 2013/14 Water Quality Data

Eric Williams handed out excerpts from the draft 2013/14 water quality monitoring report. Graphs showed chloride concentrations from datasondes and grab samples in each of the impaired watersheds. Tables showed the number of exceedences and the number of days in exceedence of the chronic water quality standard for chloride. Policy Brook exceeded the standard 43 times for a total of 175.9 days, while the North Tributary exceeded the standard 16 times for a total of 63.4 days. Policy Brook also exceeded the acute standard 4 times for a total of 14.6 days. Since 2010 the conductivity/chloride relationship has changed for Dinsmore Brook, therefore the datasonde readings are not valid. Further work is needed to determine a new conductivity/chloride

relationship in this watershed. Grab samples continue to indicate water quality standards violations in Dinsmore Brook. The report will be finalized and distributed later this month.

Review first winter of the certified applicator program

Eric Williams reviewed the history of the program and distributed handouts describing the practices implemented and distribution of certifications among the 229 applicators certified during the first winter (2013/14). There are now 358 certified applicators. The application rate reported by certified applicators in their annual reports averaged 8.7 tons/acre/year, which is 13% less than the weather severity adjusted rate reported in the TMDL documents. While this is from a relatively small sample size, the results are encouraging.

Patrick Woodbrey distributed a fact sheet and brochure marketing the program to commercial property owners and described his current efforts reaching out to chambers of commerce in the I-93 corridor.

Barbara McMillan described the successful 1st annual salt symposium, which was attended by over 100 salt applicators and included vendor booths. Sessions included liability from the insurance industry perspective, current research on parking lot application rates, the business of winter maintenance, and the Green SnowPro program. Based on positive feedback for the event, the plan is to continue holding annual or biennial symposia, including equipment demonstrations. **A Symposium Committee made up of Salt Shaker Awardees and private sector representatives will be formed to plan the next event.**

Alan Cote suggested doing another program on Derry TV to promote hiring certified applicators by commercial property owners and offered to introduce Patrick to Suzanne Robinson, the director of Derry TV. Alan also mentioned that Derry has two Rotary Clubs that would benefit from presentations on the commercial salt applicator program.

Municipal Grants

CR Willeke reviewed the status of the Municipal Grants program. There is about \$750,000 remaining for the final round (Round 4) or rounds of grants. The Steering Committee decided to ask for Proposals from the Towns this Summer. Bidding challenges were encountered during the Round 3 of the program. Federal highway was concerned that the bid specs favored one particular truck manufacturer, so the specs were revised to a more generic truck with a shorter warranty. Windham successfully bid a new truck under the revised specs, although with only one bidder, FHWA would like to poll the other companies to determine why they did not bid. John Trottier reported that Londonderry is holding off on bidding their Round 3 vehicle until Windham completes its purchase.

Alan Cote raised the possibility of a regional truck wash in Derry; they have a location available that has public water and sewer service. In response to a question about a regional brine facility, Alan reported that Derry is not using that much brine. Rick Russell said that Salem is not using brine, but is using calcium chloride, which is stored in two 2,500 gallon tanks. Rick mentioned that another benefit of a truck wash is that it results in gaining several more years of service from each truck, saving the Town money in the long run. He mentioned that Salem also has a site with a water supply and direct access to the northbound lane of I-93. The site would need a sewer connection. He has a cost estimate of \$750,000.

CR suggested using the remaining dollars for refurbishing existing trucks to modernize salt application equipment.

Caleb Dobbins suggested investing in GPS tracking equipment, which DOT has implemented with success. The equipment costs about \$1,000/unit plus about \$20/month for data fees. The Sensible Spreader company

may even provide units at no charge to help test the technology. Alan Cote added that Automated Vehicle Locator systems could help the towns with liability since it would give them proof of their storm treatments.

The discussion ended with the group agreeing to meet again to finalize the Round 4 grant criteria. Patrick Woodbrey will organize a meeting during the last week of March in Derry, inviting the four towns, CR Willeke, and Caleb Dobbins.

Other business

The Work Group would like electronic copies of the DES Fact Sheet and brochure on the Salt Applicator Program. [Note: the documents are attached to the email transmitting these minutes.] The group also suggested that these materials be sent to the NH Municipal Association for distribution to municipalities.

Rick Russell mentioned that Salem is willing to produce a community access TV program on salt reduction as well.

The meeting adjourned at 2:45.

SALT REDUCTION WORK SESSION

- Minutes -

Tuesday, June 17, 2014

10:00 AM

Derry Mnnicipal Center,
14 Manning Street
Derry, N.H.

ATTENDEES:

| | |
|-------------------|----------------------------|
| Rick Russell, | DPW Town of Salem |
| Dave Wholly, | DPW Town of Salem |
| John Trotter, | Town of Londonderry |
| Jack McCarthy, | Town of Windham |
| Alan Cote, | Town of Derry |
| Craig Durrett, | Town of Derry |
| Patrick Santoso, | UNH T2 Center |
| Eric Williams, | N.H. DES |
| Earle Chase, | N.H. DES |
| Barbara McMillan, | N.H. DES |
| Mark Hemmerlein, | N.H. DOT |
| C.R. Willeke, | N.H. DOT |
| Caleb Dobbins, | N.H. DOT |
| Nathan Margason, | EPA |
| Bill Arcieri, | VHB |
| Andrew Jaecoma, | Sensible Spreaders |
| Steve Whitman, | Jeffrey H. Taylor & Assoc. |

Introductions

Steve Whitman of Jeffrey H. Taylor and Associates welcomed everyone, and led the participants through introductions and a review of the agenda.

Updates on Round 3 and Future Funding

C.R. Willeke explained that Salem and Derry have awarded bids and are waiting for delivery of trucks. Londonderry and Windham are currently out to bid. Willeke provided a handout showing the expenditure of funds to date through Round three and the remaining funds. Funds are available in FY 15 and 16, but could be combined into one round of funds. Willeke also explained that approximately \$290k was used by NHDOT to cover indirect costs and consulting fees. Approximately \$600k in federal funds remain.

Alan Cote asked about the start of FY 15 and if he could participate if he does not have funds available until July of 2015. Willeke said he could. Dave Wholly asked if there is a plan moving forward beyond just buying trucks. This led to a longer conversation about the potential projects towns are considering from a shared truck wash facility, to monitoring, and further engagement with the private sector. The idea of truck washing infrastructure was popular and each Town explained their current practices. Bulk tanks for Brine were also discussed, and the biggest limitation was available heated inside space.

Chase also suggested that some funds should be focused on education and work with the private sector. Cote explained that Derry has helped educate over 500 people and will continue to do so, but not much money is needed for outreach to private lot owners and contractors. Williams stressed that further outreach to private sector contractors is critical to get property owners engaged. Cote added that Derry can do another letter to property owners and is happy to share their videos with other communities.

Pat Santoso explained that he will work with each of the towns to create proposals for the final round of funding. Willeke will then work with each town to get agreements and any required waivers in place by the fall. Wholly asked for clarification on the potential for construction of infrastructure like a truck wash facility. Willeke did not see any reason it could not qualify if it is approved by the Steering Committee.

Williams reminded the group that they also need to help get the word out on the recently approved legislation and limited liability. Rick Russell asked for a copy of the legislation. McMillan also added that there is a website and fact sheet promoting the new law and those will be sent to the Work Group. It was agreed that each of the Towns should do another mailing to announce the new legislation and to announce the Salt Symposium planned for the fall. Santoso offered to meet with the towns for a work session and brainstorm the best ways to spend the remaining funds on salt reduction activities. Santoso also asked if the town match is restricted to 20% or if more is possible. Willeke will check with Federal Highway.

Summary of Salt Usage Figures

Earle Chase presented the salt data for the Towns during the 2013/14 winter season. Caleb Dobbins then delivered a copy of NHDOT's data to Chase. The cold temperatures and winter conditions did result in increased use of salt. Salem reported 79 inches of snow/ice and 47 primary events. Cote explained that it was an unprecedented winter and that Derry had 27 plow events. Chase also requested that all the towns use the same format when submitting salt data in future years. Salem's submission was highlighted as a good example and Chase agreed to send the towns a format to use in future years. Chase then explained that the new legislation will help build momentum for reductions on private lots. 232 people have already been certified in 2014 and there is interest in the upcoming trainings.

Salt Reduction Trainings

Santoso explained that training events have been scheduled for August through November in Derry, Concord, and Plymouth. Two refresher courses are also being planned for the fall and a new online module will soon be available. John Trottier asked if reminders will be sent out and the answer was yes. Bill Arcieri asked how the data collection is coming in the private sector. Santoso reported that it is going well now and can be submitted online. Williams added that it is required to maintain certification.

McMillan asked about how they will deal with those that do not submit data. Santoso explained that he will follow up with them.

Fall Salt Reduction Symposium

Williams explained that a fall event is being planned to raise the profile of private applicators. This event will be hosted in the Watershed area on October 22nd at the Castleton facility. More details on the agenda and awards will be provided soon. Santoso added that new data from the University of Waterloo on parking lot application rates will be shared at the fall event. McMillan then asked that the towns assist with promotion and clarified that they can get CEUs for attending.

Sensible Spreader Technology

Andrew Jacoma then presented his businesses technology for reducing waste in salt applications. This presentation included examples from the pilot communities of Laconia and Manchester, New Hampshire.

The meeting adjourned at 11:55 am.