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NPDES Phase II MS4 General Permit
Annual Report

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Concord, NH

I. General Information

Organization:	State of New Hampshire Department of Transportation
EPA NPDES Permit Number:	NHR043001
Annual Report Number and Reporting Period:	No. 4: May 1, 2006 to April 30, 2007
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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.

Charles P. O'Leary Jr.
Commissioner,
New Hampshire Department of Transportation

II. Self Assessment

The New Hampshire Department of Transportation (NHDOT) is committed to developing and implementing a program to reduce the discharge of pollutants from the Department's regulated Small MS4s, to the maximum extent practicable, with the goals of protecting water quality and satisfying the water quality requirements of the Clean Water Act and state water quality standards. The Department is also committed to providing a safe and efficient transportation system for the public.

During this fourth year of the permit, the Department focused its efforts in three principal areas, including (1) continuing to map and inventory the drainage infrastructure along state-maintained roadways in the MS4 communities (Min. Measure 3); (2) initiating Illicit Discharge Detection and Elimination (IDDE) efforts along mapped roadways particularly, within the Seacoast Region, and (3) continuing to enhance its erosion control project review and contractor oversight program (Min. Measure 4).

Relative to mapping, the Department has made substantial progress this past year by completing nearly 45 % or roughly 300 of the estimated 670 state-maintained miles in the urbanized areas. This represents nearly a 400% increase in the number of miles completed last year through April 2006. Drainage structures were mapped in the field with assistance from the District Maintenance and Survey personnel using GPS equipment. Basic structure attributes were recorded, including structure type (i.e., catch basin, outfall, etc.), size, material type and condition, and whether there are potential problem areas that require further review. With this rate of progress, the Department believes that the entire roadway drainage system in urbanized areas can be mapped by the end of 2008. The general priorities for mapping have been the Seacoast Region, the major Interstates and the roadway miles in watersheds targeted or identified as needing a TMDL to address use impairments associated with chloride. Most of the Seacoast region and roadway miles in TMDL watersheds have been completed. The Department has also developed a list of water bodies that receive runoff from state-maintained roadways in urbanized areas. This list is included in Appendix A of the Annual Report.

With respect to IDDE efforts, the Department visited and recorded observations at approximately eighty (80) different outfall locations throughout the Seacoast Region to identify and test discharges. Elevated *E. coli* bacteria levels were detected in an outfall adjacent to Hampton Beach. Additional source detection efforts were initiated in the field, including extensive smoke testing procedures, but no discernable source was identified. The Department has developed a plan to install an infiltration system at this outfall location to reduce the direct discharge and provide treatment for this important outfall near coastal waters and major recreational resources.

The Bureau of Environment has continued to strengthen its role in coordinating erosion control planning, review and inspections for all the Department's projects. For some of the larger projects, the Department has been coordinating with DES Wetland and Watershed Management personnel to insure consistency with the Stormwater Pollution Prevention Plan, contractor SWPPP development and monitoring efforts for all the Department's projects. The

Department has improved its review of construction SWPPPs prepared by contractors and has recently required turbidity monitoring in adjacent streams for larger construction sites.

Although separate, but very much related to the MS4 Program, the Department has investigated and is beginning to incorporate some innovative stormwater treatment BMPs into its major roadway design projects including the proposed I-93 and Route 125 Improvement Projects. In working with NHDES, and as part of the 401 Water Quality Certificates for each of these projects, the Department has committed to performing pollutant loading analyses for each roadway segment. Treatment measures are being incorporated to maintain no net increase in the post-construction pollutant loads attributed to highway runoff. As a result of this process, several innovative BMP designs, including gravel wetlands and infiltration trenches have been included in the roadway design. The Department has working with the UNH Stormwater Center to review and comment on BMP gravel wetland designs.

In addition, the Department has continued to improve its employee-training program as part of Minimum Measure 6 (formerly Min. Measure 1C). The Department feels that employee training provides the necessary "knowledge infrastructure" for pollution prevention as well as the other five measures (Minimum Measures 1-5). The Department hosted a ½-day workshop in October 2006 with Dr. Robert Roseen of the UNH Stormwater Center to allow its project design engineers and maintenance personnel, as well as consultant engineers, to become more familiar with the treatment benefits, design and maintenance requirements for various stormwater treatment BMP devices. The Department continues to provide internal Snow and Ice Control training workshops for Highway Maintenance personnel.

The Department has also strived to increase its public education and outreach efforts through press releases, public notices and additional posting of information on its web site. The Department has also increased its effort to get more public input in the planning phases of specific projects, as well as the regional transportation planning aspects, through public meetings (Min Measure #2).

The Department has completed this self-assessment and has determined that the agency is in general compliance with all permit conditions and continues to work toward completing measurable goals set out initially in the NOI. Starting with this Report, the Department has changed its annual reporting format and has abandoned the table style format and has gone with a bulleted listing of the BMP Description, Responsible Party, Measurable Goal, Progress Made on Goals and the Planned Activities for Next Year. The table format was abandoned because it created a lot more "white" space on the pages and was sometimes difficult to read due to the continuation of column text on multiple pages.

III. Summary of Minimum Control Measures

This section is formatted as follows:

X. NPDES Minimum Control Measure

BMP Name

BMP	BMP Description
TEAM	Responsible Team/ Bureau Name
GOAL	Measurable Goal
PROG	Progress on Goal(s) Permit Year 4 (May 2006- May 2007)
ACTION	Planned Activities Year 5 (2007-2008)

1. Public Education and Outreach

1A. Nonpoint Source Stormwater Display

BMP	Showcase the Department's Nonpoint Source Stormwater Table at 6 NH State Fairs annually, and other appropriate locations (e.g. schools)
TEAM	Bureau of Highway Maintenance and Bureau of Environment
GOAL	Note the approximate number of events the Department's stormwater table was viewed
PROG	In this 4th permit year, the new Stormwater / NPS presentation table was completed, which displays various Department activities related to bridges, roadways, sand and salt operations, patrol sheds, and active construction sites. The new Table was displayed at the major New Hampshire State Fairs, and brought to two schools for seminars on stormwater.
ACTION	The Department anticipates using the improved stormwater display table for presentations at local schools, and other appropriate audiences in addition to the state fairs.

1B. Nonpoint Source Stormwater Display Questionnaire

BMP	Review performance questionnaire distributed at State Fairs and update appropriately to solicit public opinion on stormwater issues.
TEAM	Bureau of Environment
GOAL	Summarize the responses and track the number of responses received.
PROG	A questionnaire has been intermittently distributed at the stormwater table displays to collect public feedback on areas for improvement.
ACTION	During the 5th year, the Department plans to eliminate the use of this BMP Measure as it has been found to generate minimal, if any, feedback.

1C. Meetings and Presentations with Professional, Private, and Public Organizations

BMP	Continue to attend and/or assist in organizing appropriate stormwater related presentations and workshops with both public and private organizations.
TEAM	Bureau of Environment
GOAL	In general, members of the Department's Bureau of Environment personnel try to attend two to three stormwater related workshops each year to remain up to date on stormwater issues and regulatory changes. The total number of presentations/meetings, its focus and the target audience for each workshop will be reported each year.
PROG	This past year, the Department coordinated with NHDES in hosting a stormwater workshop on May 1, 2006 to discuss stormwater issues and regulations within the state. The Department recently teamed with ACEC-NH to host a Technical Transfer Conference on April 17, 2007 in Concord, NH, with a ½ day session dedicated to

innovative Stormwater Treatment Designs. The Department also continues to sits on a committee revising the Site Specific Regulations of the DES Site Alteration Program.

ACTION Continue to provide or assist in hosting or supporting presentations to both public and private organizations.

1D. New England Transportation Compensatory Mitigation Conference

BMP Continue meeting with the surrounding New England states to coordinate programs and share information.

TEAM Bureau of Environment

GOAL Meet at least annually. The Department will prepare a conference report of the individual meetings summarizing the topics discussed, materials distributed and follow-up on action items noted.

PROG The Department's Environmental personnel met with other New England Transportation Agency environmental staff at the Northeast Transportation Mitigation Workshop hosted by the Department on May 9, 2006. This workshop provided an opportunity to collaborate on common issues regarding stormwater and other environmental matters.

ACTION Continue to meet and coordinate with other New England State Agencies to share information and efforts relative to stormwater issues. The next meeting is scheduled in Vermont in May 2007.

1E. Develop Appropriate Media Campaign

BMP Increase public education and outreach efforts through additional public announcements and information sharing using the available media options, including the Department's web site.

TEAM Commissioner's Office; Bureau of Environment

GOAL The Department will focus on informing the traveling public on DOT activities through press releases, media contacts and public meetings

PROG The Department's Public Information Officer continues to work with various NH media outlets, i.e. NHPR, WMUR (Channel 9) and state newspapers to distribute public information regarding the Department's activities. In the past year, releases were posted to highlight or provide notice on various activities, including transportation planning, and proposed roadway improvements. The Department has worked with WMUR (Channel 9) and the Union Leader newspaper to inform the traveling public about DOT's purchase and use of new road salt spreaders ("Schmitz" spreaders) that "pre-wet" the road salt prior to application. The incorporation of this technology follows the 2005 rollout of the use of salt brine for anti-icing applications.

ACTION The Department's Public Information Officer will continue to seek opportunities to inform and educate the public through local media outlets on Department activities related to pollution prevention actions.

1F. Coordinate/ Collaborate with Other MS4 Communities within the State

BMP Attend and participate in meetings with other regulated communities.

TEAM Bureau of Environment

GOAL Document the number of meetings held and/or organizations attending.

PROG Since the initiation of the MS4 Program, the Department continues to meet with three regional community-based Stormwater Groups on a quarterly basis or as meetings are held. This allows for various MS4 representatives to share ideas and coordinate on mutual efforts. Last year's meeting dates and groups included Sept. 12th and Nov. 14th for the Manchester-Area Stormwater Group; ,June 14th, Sept. 13th and Dec. 13th for the

Nashua-Area Stormwater Coalition; and June 21st, Oct. 19th, and Nov. 30th for the Seacoast Stormwater Coalition. In addition, as part of the TMDL study for chloride along the I93 corridor, the Department has helped to form a Salt Reduction Working Group with municipal officials to discuss ways that both DOT and municipal DPWs can reduce salt use in the watersheds identified as impaired for chloride. This Group intends to meet regularly through 2007 and 2008.

ACTION Continue meeting with the MS4 communities and the Salt Reduction Working Group to share information, discuss common issues of concern, and work toward mutually beneficial solutions

1G. Develop Partnerships

BMP Encourage and facilitate development of mutually beneficial partnerships.

TEAM Bureau of Environment

GOAL Document the partnerships that are formed.

PROG In addition to help formulate the Statewide NH Regional Stormwater Groups listed above, the Department has been actively pursuing and formulating other important partnerships with such groups as the NH Association of General Contractors, the UNH T2 group and the NH Chapter of the American Council of Engineering Companies (ACEC). For the past two years, the Department has teamed with ACEC-NH to host a Technical Transfer Conference in April in Concord, NH. This conference is geared toward increasing awareness of new technologies and techniques, including pollution prevention, stormwater management and other interests. This year's conference on April 17, 2007 included a whole section on stormwater management and will provide an update on BMP design and performance data in coordination with the UNH Stormwater Center. The UNH SWC also provided an informational workshop for our design engineers, to provide design guidance in the drainage design for the I-93 Improvement Project.

ACTION The Department will continue to support the efforts of the NH Stormwater Center, ACEC, AGC and others to distribute and exchange the latest information on stormwater treatment design.

1H. Project Opportunities

BMP Review opportunities and develop projects for purposes of meeting the requirements of this program.

TEAM Bureau of Environment

GOAL Note the project type, location, description report on the status.

PROG As part of the reauthorization of the Federal Transportation Program SAFETEA-LU 23 USC 101(a)(35), STP Funds are now available for projects that address existing water quality problems associated with highway runoff. In addition, the Department plans to use its own funds to help pay for the design and installation of the infiltration device planned for Hampton Beach. This outfall was found to have elevated bacteria levels and was discovered as part of the IDDE Program. Previously, District 6 received a NOAA Coastal Zone Restoration grant to assist in the storm drain mapping in the Seacoast area.

ACTION The Department will continue to work toward identifying suitable projects and available funding sources.

1I. Special Events

BMP Research the types of special events (ex. Earth Day, local fairs, Wild NH, etc) and determine appropriate involvement.

TEAM Bureau of Environment

GOAL Note the events and the type of involvement.

PROG The BOE personnel will occasionally participate in special events to display the new Stormwater Demonstration Table or discuss the Department's activities to minimize and prevent stormwater related impacts. Most recently, BOE personnel have made several visits and presentations to area schools, as well as at the Old Market Days event held in Concord, NH. The Department will also meet with watershed association groups when invited or as issues arise. In 2006, the Department met with the Beaver Lake Watershed Association in Derry and the Hooksett Lake/Pinnacle Pond group in Hooksett.

ACTION The Department will continue to look for appropriate events in which to participate and will contact other events groups such as the Department of Agriculture, NH Fair Association, NH DRED and others.

2. Public Participation and Involvement

2A. Sponsor A Highway Program

BMP Continue to engage local businesses and volunteer groups to adopt a roadway segment. Local Businesses or groups periodically clean up trash and debris in return for a free sign highlighting the business or group. District personnel help by collecting filled trash bags along the route.

TEAM Bureau of Highway Maintenance; Bureau of Turnpikes

GOAL Document quantity of roadside material collected on an annual basis.

PROG The Program continues to represent one of the most successful programs for public participation, with over 450 different volunteer groups participating in collecting trash on over 1,500 miles of roadway. This year, another 220 miles of roadway were added into the Program. Since the Program began in 1994, over 235,000 bags of trash have been collected. (See Appendix B for program data). The Department also supports the Annual Coastal Cleanup Event by picking up and disposing the trash bags that were filled by volunteers along the coastal beaches. The Department has over the years covered the cost of hauling and disposing of the collected trash.

ACTION The Department will continue supporting these programs and providing annual data.

2B. Continue to Cooperate/ Coordinate Efforts with Regulated Municipalities

BMP Continue to seek opportunities to coordinate with communities and municipal officials to develop long-term planning and adopt preventative measures to address stormwater issues related to known water quality problems.

TEAM Bureau of Environment

GOAL Develop new programs and build on existing programs to work cooperatively with communities on addressing water quality and other environmental issues that are in addition to the MS4 Program.

PROG In addition to the MS4 and Salt Advisory Work Groups, discussed in BMP #1F, the Department is working with and funding a Community Technical Assistance Program (CTAP) to assist communities in the I93 southern corridor to promote and improve local and regional planning in this rapidly developing area. This Program was initiated in earnest in 2006.

ACTION The Department will continue to work with and encourage coordination with municipalities on similar issues and develop solutions that benefit New Hampshire as a whole. *(This BMP is considered redundant wih BMP#1F and is proposed for elimination in future reports to simplify the Annual Report)*

2C. Department Public Meetings

BMP Continue to provide opportunities for public input and involvement on specific projects through Public Informational Meetings, as well as Public Hearings. These meetings engage the public in specific discussions of stormwater management issues.

TEAM Bureau of Environment, Bureau of Highway Design, Bureau of Bridge Design

GOAL Coordinate with the Environmental Project Managers and document the number of public meetings that occurred within the regulated communities. Document any water quality issues that were brought to the Department's attention.

PROG The Department continues to schedule and promote public meetings related to new projects. For these meetings the Department solicits public input about water quality and stormwater issues. Where proposed projects are located in a Small MS4 community, local stormwater coordinators are specifically invited to these meetings to discuss stormwater issues. The BOE and District personnel have worked with various Lake Associations across the state to respond to or address erosion control issues associated with new roadway work or maintenance of existing culverts that may pose a risk of increased turbidity in downstream lakes or streams. In 2006, the Department personnel met with the Beaver Lake Watershed Assoc. in Derry to discuss issues related to stormwater runoff, treatment of runoff and roadside maintenance. A similar meeting was held with the Pinnacle Pond Watershed Group in Hooksett. Meeting with watershed groups continues to be one of the more effective means to obtaining public input on stormwater issues.

ACTION BOE personnel and District staff will continue to solicit input at public meetings and work with Lake Associations and NHDES regarding water quality problems and addressing stormwater management aspects for all of its projects statewide.

2D. Seek Relevant Information from Public Officials

BMP Notify and request input on stormwater or other environmental issues from municipal officials, regional planning commissions and other State Agencies by sending out initial notification letters and environmental report documents during the project-planning phase.

TEAM Bureau of Environment

GOAL Incorporate any comments and concerns into the project design documents that were received through these letters during the project development phase. By way of the DEIS and FEIS Report distribution, municipal and regional officials are asked specifically to express and comment on water quality concerns and stormwater management issues related to proposed roadway projects. This provides a mechanism to discuss concerns at the local level and address existing as well as potential problems through the design and construction of new storm drain systems. A most recent example relates to the Newington/Dover Spaulding Turnpike DEIS released in Sept. 2006, where a number of comments were received from local and regional planning officials regarding existing and future treatment of roadway runoff, erosion control measures and future water quality monitoring as part of the project design.

PROG The BOE will continue to interact with local (including stormwater coordinator), state, and federal officials to identify water quality concerns.

ACTION BOE will continue to have follow-up discussions with design and construction staff.

2E. The Department's Websites

BMP Expanding the use of its web site to promote public involvement and participation with regard to stormwater issues.

TEAM Office of Information Technology; Bureau of Environment
GOAL Keep the existing website current.
PROG The Department has determined that adding materials and links to its current website would be just as, if not more effective than creating a separate website for stormwater. Adding another website would likely provide only redundant information to that already provided on the DES and EPA websites. For some of the larger, multi-year projects such as the I-93 project, separate project specific web sites have been created to host project related environmental documents and studies. These sites include stormwater related documents and NPDES Phase II resources, as appropriate.
ACTION Bureau of Environment staff will continue to add technical guidance, or project related stormwater related information into the main website.

3. Illicit Discharge Detection and Elimination

3A. Review/Incorporate Recent IDDE SOP Manual developed by Seacoast Coalition Group

BMP Review a Standard Operating Procedures Manual for IDDE investigations and Good Housekeeping/Pollution Prevention Measures manual, which was completed in Nov. 2006. As a participant to Seacoast Stormwater Coalition, the Department plans to review the Manual and identify/incorporate measures and tools relevant to the Department's storm drain system and existing procedures.
TEAM Bureaus of Environment and Highway Maintenance,
GOAL The BOE has coordinated with District Personnel to review recent guidance document and perhaps enlist District personnel into upcoming training sessions scheduled for Spring 2007.
PROG Although the Department has initiated efforts to perform IDDE inspections and testing in this past year, the added guidance included in the recent SOP manual may be used to modify/improve procedures going forward, following thorough review of the document. The Coalition has several training sessions scheduled for spring and summer of 2007 where DOT may look for training of District personnel.
ACTION The IDDE manual will be reviewed in the spring of 2007. The Department will add/modify existing IDDE procedures and increase employee training in the summer/fall 2007.

3B. Drainage Permits

BMP Review and update the drainage connection assessment and approval letters used by District Personnel to allow property owners to connect or contribute runoff to the Department's storm drain system. Additional language will be included to address concerns about non-stormwater and illicit discharges.
TEAM Bureau of Environment, Highway Maintenance, and Attorney General's Office
GOAL BOE will coordinate with District personnel to explain purpose and intent of changes. The revised, and review an approval letter for new drainage connections as necessary.
PROG The Bureaus of Environment and Highway Maintenance are reviewing our obligations to convey stormwater from other facilities through our systems and consulting with our personnel and Attorney's on appropriate actions.
ACTION The revised connection letters will be utilized to address non-stormwater discharges to the Department's drainage systems.

3C. Drainage Map

BMP Map the Department's maintained drainage system located within the regulated Small MS4 urbanized areas.

TEAM Bureau of Environment; Bureau of Highway Design

GOAL Maintain sufficient progress to complete mapping of entire MS4 drainage system by May 2008.

PROG The Department has continued to make substantial progress in mapping its drainage system (including inlets, storm drains and outfalls) within the urbanized areas and identifying all receiving waters. At the end of 2006, the Department estimates that it has mapped approximately 45 % of its stormwater system within Small MS4 communities. This compares to just 11 % of the system completed at end of 2005. The Seacoast Region is essentially complete and the Department is focusing its efforts on completing mapping of storm drains along major interstates. The Department has now identified and mapped the receiving water bodies associated with the Department's maintained roadways in the urbanized area. (See Appendix A). The list also indicates whether the water body has been mapped, has outfalls, is listed as impaired (base on the 2004 NHDES 303(d) list) and has been IDDE investigated. The Department expects to complete its drainage system mapping by the end of this permit term (May 2008). (See Appendix C for mapping examples).

ACTION The Department plans to continue its mapping effort in 2007 in order to achieve the goal.

3D. Illicit Detection and Elimination Program

BMP Detect and eliminate illicit discharges and/or connections from the Department storm drain system. The Department will prioritize future IDDE efforts with consideration to 303(d) impaired water bodies, public water supplies, and recreational areas.

TEAM Bureaus of Environment and Highway Maintenance

GOAL Review all outfalls associated with waters that are impaired with typical highway stormwater pollutants such as Bacteria (*E.coli, Enterococcus*), Nitrogen, Phosphorous, Total Suspended Solids and Biological Oxygen Demand substances.

PROG The Department investigated 80 mapped outfalls during the summer of 2006. Each outfall was investigated to detect illicit connections through photo-documentation and testing of discharges. Through this effort, the Department discovered elevated bacteria levels in the discharge from an outfall on Hampton Beach. Through a collaborative effort among DES, the Town and the Department, extensive smoke testing of the storm drain system was conducted to try to identify a contributing source or illicit connection. No source was found. We believe the bacteria levels are linked to the residual water; debris and trash contained within existing catch basin sumps draining to the outfall. The Department proposes to install an infiltration chamber to treat the discharge from this outfall and reduce the direct discharge to the beach.

ACTION The Department will continue to investigate mapped outfalls focusing on water bodies on the 303(d) list of impaired water bodies. The Department will consider the recently released IDDE manual prepared by the SCC Group to identify useful protocols and procedures that will assist in illicit connection detection. The Department and DES will continue to maintain records of all outfall investigations. The BOE will coordinate with the District Maintenance personnel to assist in the outfall investigations.

4. Construction Site Runoff Control

4A. Stormwater Pollution Prevention Plan Review

BMP Continue to review, comment and approve project-specific SWPPPs developed by contractors for the Department's projects.

TEAM Bureaus of Environment and Construction

GOAL Review, update and document the approval process for project-specific SWPPPs.

PROG The Department continues to strengthen its construction site erosion control and review requirements. The Department has developed a detailed checklist to insure contractors are including the minimum requirements of the CGP in their SWPPPs and to improve the process for Erosion and Sediment (E&S) control review. The Department has also developed a new database to track milestones of ongoing projects that have SWPPPs. The Department has been actively involved with the review and development process of the proposed Rule Revisions with the DES Site Alteration Program, which is setting new standards for erosion control.

ACTION The Department is reviewing EPA's recently released SWPPP model template to determine if the template can be altered to meet specifics for maintenance construction activities. These templates would help educate contractors and Department staff, and maintain consistency on the level of details required to comply with the Program requirements. The model template may also help to institute electronic submittals for both contractors and district maintenance personnel.

4B. Educate New Erosion Control Inspectors

BMP Educate new contractors on the expectations for inspections and erosion control maintenance.

TEAM Bureau of Environment

GOAL Identify new contractors and erosion control inspectors that have not worked with the Department, as SWPPPs are submitted and inspectors are listed, to insure typical protocols and BMPs are implemented.

PROG The Department has sent a "Letter of Expectations and Goals "to SWPPP site monitors to make them aware of the need to evaluate the effectiveness of SWPPP BMPs in the field, to document ineffective practices, and to educate designers on potential problems with BMPs. On some of the larger projects, the Department has recently requested contractors to conduct turbidity monitoring to insure BMP effectiveness.

ACTION The Department will continue to review SWPPPs and work with contractors and inspectors in the field and evaluate their success or failure. The Department is reviewing DES's recent general guidance for conducting turbidity monitoring, BMP inspection and BMP maintenance plans. When finalized, these procedures will be provided to contractors and erosion control inspectors as needed on a project-by-project basis.

4C. Roadway Maintenance Activities

BMP Coordinate with the Division of Operations and others as appropriate, with regard to erosion control issues as part of maintenance activities.

TEAM Bureau of Environment; Bureau of Highway Maintenance

GOAL Coordinate with Highway Maintenance personnel for planning and field reviews of erosion control BMPs.

PROG The BOE has expanded its review of erosion control BMPS to other units outside of the Construction Bureau. Through this expanded coordination, BOE believes that the Department's roadway maintenance is becoming more consistent across the various Districts in the State.

ACTION The Department is looking to implement EPA's model SWPPP template for use by DOT maintenance personnel in developing SWPPPs for their projects.

4D. Stormwater Management Erosion and Sedimentation Control Reference Manuals

BMP Continue utilizing the stormwater management erosion and sedimentation control manuals.

TEAM Bureau of Environment

GOAL Review manuals and reference materials to ensure that they remain in compliance with all Federal and State regulations.

PROG The Department has updated its "Construction Manual", to be the general guidebook for all Department activities related to construction projects, including erosion and sediment control. The Department has also completed the update to the manual "NHDOT Guidelines for Temporary Erosion and Sediment Control and Stormwater Management". Future updates will be conducted as necessary as new information or BMPs become available or adopted. As an example, the Department has recently begun to experiment with the use of compost socks as a sediment control barrier instead of silt fences. When adopted, new specs for compost socks will be added to the Manual.

ACTION The Department will review EPA's model SWPPP template and DES' recent Interim Guidance for Constructing Stormwater BMPs and update erosion control design guidance accordingly. The Department will continue to monitor and become familiar with the proposed NHDES Site Alteration Rule changes, which are expected in late 2007.

4E. Meetings with EPA Region 1 and NHDES

BMP Meet with EPA Region 1 and NHDES on an as needed basis to discuss water quality issues associated with construction-related activities.

TEAM Bureau of Environment;

GOAL Prepare/file a conference report of any meetings noting agenda, attendees, points of interest and any action items.

PROG There is no update or change to this BMP.

ACTION The Department will continue to keep open communication with NHDES and EPA Region 1 relative to construction-related issues.

4F. Project Design

BMP Include appropriate drainage and erosion control measures in project planning, phasing and sequencing.

TEAM Bureau of Environment; Bureau of Highway Design; Bureau of Bridge Design

GOAL Meet regularly with the BOE Environmental Managers and the Project Managers to discuss and document proposed projects with respect to stormwater runoff and water quality BMPs that are needed.

PROG As mentioned above, the Department has been involved in NHDES' proposed rule change process for the Site Alteration Program, which began in Oct. 2005. The proposed rule changes are not expected to be finalized until early 2007, but are intended to upgrade and strengthen the erosion control requirements and stormwater BMP design criteria. The Department has also been coordinating with DES Wetlands and Water Quality personnel on SWPPP review on major projects such as the I-93 project.

ACTION The BOE will continue to coordinate with erosion control equipment suppliers to provide updates and workshops to help educate design and maintenance personnel on the latest available products for erosion and sedimentation control measures.

4G. Specifications

BMP Review the current specifications and compare to the 2003-2008 Construction General Permit (CGP). Make revisions as appropriate.

TEAM Bureau of Environment; Bureau of Highway Design

GOAL Continue to review and maintain up-to-date construction specifications regarding stormwater Best Management Practices.

PROG The Construction specifications were recently updated in April 2005 and have been fully implemented. From time to time, new individual specifications are developed as needed for new erosion control or stormwater management BMPs.

ACTION The Department plans to develop new construction specifications for gravel wetland design procedures, use of compost for sediment and erosion control barriers and to address the recent 401 water quality requirements for turbidity monitoring. The Department plans to conduct a more comprehensive review of the construction spec in 2008 following the anticipated revisions to DES' Alteration of Terrain Program.

4H. Construction School

BMP Provide the Bureau of Construction personnel with training or updates on stormwater issues and/or NPDES Phase II issues.

TEAM Bureau of Environment: Bureau of Construction

GOAL During this 4th year of the permit, the Department did not hold a Construction School session because it was felt that the Department's personnel were now very familiar with the requirements of the MS4 Program.

PROG In the early years of the Permit, the Construction School was an effective training tool to educate personnel on the basic elements of the MS4 Program. More recently, the Department has hosted more focused workshops on the design and tools for stormwater treatment, working with UNH Stormwater Center and local equipment suppliers.

ACTION The Department will continue to periodically assess the need for NPDES-related workshops for its employees, but the Construction School presentation in its original format will probably be eliminated. The Bureau of Environment will continue to revise and prioritize the education and outreach needs of the Department.

5. Post Construction Runoff Control

5A. Review Stormwater BMP Designs for Proposed Projects

BMP Develop a consistent internal review process to evaluate the designs and needs of proposed water quality BMPs that would be included in new construction projects.

TEAM Bureau of Environment; Bureau of Highway Maintenance; Bureau of Construction; Bureau of Bridge Design

GOAL Establish a review process to evaluate BMPs designs on proposed projects to insure consistency with recent guidance criteria.

PROG The review process for stormwater BMP design has been done on an as needed and project-by-project basis. DOT has been coordinating with NHDES on their Interim Guidance documents that were just released in last 6 to 12 month regarding pollutant loading analyses and BMP design. This Interim Guidance language is essentially the same as the pending requirements for the Alteration of Terrain Program regulations. DOT has begun to incorporate the Interim Guidance into the design process as new roadway designs are initiated. The I-93 project has become more or less a test case for developing a review and coordination process. Other projects such as the NH Route 125 project in Plastow-Kingston, others requiring Water Quality Certification and projects within the urbanized MS4 areas will be reviewed.

ACTION The Department will continue to coordinate with DES to better understand the intent of the new regulations, educate ourselves on newest BMP designs and implement them in our projects.

5B. Develop Data Base to Maintain Inventory of Stormwater BMPS and Manage Drainage Infrastructure Assets

BMP	Develop a database to allow tracking and scheduling of routine maintenance procedures (ex. culvert cleaning, street sweeping, etc) to enhance pollutant retention and source control and provide documentation of these activities to demonstrate compliance with MS4 BMP requirements.
TEAM	Bureau of Highway Maintenance; Bureau of Turnpikes; Bureau of Bridge Maintenance
GOAL	The Department plans to develop a central GIS database of each storm drain structure including dimension, material, conditions, age, observations, etc. based on the field mapping efforts of the storm drain system. The Department plans to research and find a software package that can track efforts used to maintain the system.
PROG	As mentioned earlier, the Department has mapped 45 % of its drainage system in the regulated MS4 area. In this past year, District 6 has purchased six GPS units to conduct more detailed inventory, track and map all drainage maintenance activities, such as catch basin cleaning, etc. This information will provide a test case or pilot study of the type of data and usefulness of the GPS/GIS system for monitoring and scheduling maintenance activities.
ACTION	Test systems of data collection and use of GPS for logging maintenance activities. The Department will also research available software packages to identify programs that can be used to schedule and track maintenance needs based on GIS attribute data.

5C. Standardize Routine Roadway and BMP Maintenance Procedures

BMP	Develop and implement Standard Operating Procedures (SOP) manual to be utilized as guidance for maintenance personnel.
TEAM	Bureau of Highway Maintenance; Bureau of Construction; Bureau of Environment
GOAL	Develop a SOP manual, preferably a durable pocket-sized field manual, to outline standard maintenance protocols for various BMPs.
PROG	A couple of years ago, the Department produced a manual entitled: BMPs for Routine Roadway and Railway Maintenance Activities, which has been used by maintenance personnel to conduct maintenance activities in an environmentally sound manner. The Department is currently reviewing the SOP Manual for IDDE and Good Housekeeping/Maintenance procedures developed by a consultant to the Seacoast Coalition Group. The Department will determine whether the maintenance related information should be included in the manual, referenced above, or provided as a separate document for District and Maintenance personnel.
ACTION	The Department will continue to review the recent SOP manual and seek input from District personnel on its relevancy and determine whether an update to the BMP Manual for Routine Roadway and Railway Maintenance Activities manual is warranted.

5D. Enhance/ Replace / Upgrade Roadway and Drainage Culverts to Rectify Observed Sediment and other Pollutant Source Areas

BMP	Coordinate with Watershed Groups, Lake Assoc., etc. to address erosion control issues related to existing roads and culvert washouts in environmental sensitive areas.
TEAM	Bureau of Highway Maintenance; Bureau of Environment
GOAL	To address complaint-based or other known pollutant source issues related to the Department's drainage in a timely manner to satisfy stakeholders and minimize water quality impacts.
PROG	The Department has responded and coordinated with various watershed groups in the state to address known problem areas. As discussed earlier, the Department is planning to

design/install a major infiltration system at Hampton Beach to reduce direct surface discharge with elevated bacteria levels from a culvert outfall on the beach. The Department also worked with the Pinnacle Pond Association in Hooksett to redirect runoff from Route 3 into a grass swale for pretreatment prior to discharge.

ACTION The Department will continue to coordinate with resource agencies and volunteer groups as water quality issues are brought to their attention.

6. Pollution Prevention / Good Housekeeping

6A. Managing Assets for Transportation Systems (MATS)

BMP Continue to inventory and incorporate the Department's drainage system in the MATS system to enable management and maintenance of the drainage related assets.

TEAM Bureau of Highway Maintenance; Office of Information Technology; Bureau of Finance and Contracts

GOAL Complete mapping inventory of drainage system and develop procedures to capture maintenance activities in the MATS system or MATS like system.

PROG The Department is using a GIS based system to maintain an inventory of the storm drain infrastructure. Currently, the MATS system is not as well suited for tracking "NPDES-related" assets. However, the Department is working with other datasets that are similar to the drainage data. We hope to apply the knowledge gained by integrating these assets datasets within MATS to the drainage dataset.

ACTION The Department will continue to work toward integrating drainage system components in the GIS system with the MATS system. The Department will research the available software to identify appropriate software packages that can integrate GIS attribute data to real-time work activities.

6B. Roadside Litter Removal Program

BMP Remove roadside litter along all the Department's maintained roadways.

TEAM Bureau of Highway Maintenance; Bureau of Turnpikes

GOAL Maintain a level of roadside cleanliness that is considered acceptable to the public based on the number of complaints received or lack thereof regarding litter.

PROG Roadside litter removal is part of the Department's maintenance program and is done throughout the year. Actual quantities of material are not typically calculated. There are no major changes to this BMP.

ACTION Continue removing roadside litter from all Department roadways.

6C. Coastal Cleanup

BMP Continue to support the annual Coastal Cleanup Program by collecting and disposing of the filled trash bags and other debris.

TEAM Bureau of Highway Maintenance

GOAL Coordinate with District personnel to pickup trash bags and collected debris following each event.

PROG In Fall 2006, District 6 collected the bags of litter left along the roadside along the NH Route 1 corridor.

ACTION Continue to pick up debris in support of this program.

6D. Employees Training

BMP Continue to providing appropriate presentations to Department staff relative to stormwater issues and the NPDES Phase II program.

TEAM Bureaus of Environment and Highway Maintenance; Commissioner's Office

GOAL A total number of presentations/meetings and the target audience within the reporting year will be documented. A follow-up on identified issues will be noted and required actions identified.

PROG The Department held a number of internal training sessions focused on pollution prevention. The Department held a meeting with UNH Stormwater Center to educate final design teams about the Best Available Technologies for treating stormwater. The Department met with maintenance personnel to implement the Maintenance Decision Support System (MDSS). MDSS ties the Department's winter maintenance activities to characteristics of the roadway and to assist on how to plow and treat New Hampshire highways to minimize salt, fuel and personnel use. The Department met with maintenance foremen within the Chloride TMDL watershed and discussed what they could expect at the conclusion of the TMDL study. The Department also briefed the State Police on activities in regard to salt reductions within the chloride impaired watersheds. Also approximately 12 people attended the UNH Stormwater Center's seminar, including District Engineers and other decision makers in the Department.

ACTION The Department will continue to update and modify training. The Bureau of Environment will note the training needs and prioritize those needs for subsequent training sessions.

6E. Guidance Materials

BMP Update guidance documents and evaluate the need for additional guidance.

TEAM Bureau of Environment

GOAL Update the guidance document and summarize the changes. Note any additional guidance materials that have been or will be developed.

PROG The Department has developed a new internal guidance document: BMPs for Routine Roadway and Railway Maintenance Activities for use by all Maintenance Districts and Operations bureaus as an educational reference tool and for performing roadside maintenance and being sensitive to environmental issues. The Bureau of Environment also prepared an internal guidance document entitled "NHDOT Guidelines for Temporary Erosion and Sedimentation control and Stormwater Management." As stated above, the BOE and District personnel are also reviewing the Seacoast Coalition Group's SOP Manual on IDDE and Pollution Prevention/ Good Housekeeping Measures.

ACTION The BOE will continue to refine and adopt procedures, and provide employee training to implement standardized procedures statewide.

6F. Winter Maintenance Activities

BMP Review current procedures and determine ways to reduce salt use through the use of more efficient application procedures and/or technologies.

TEAM Commissioner's Office, Bureaus of Highway Maintenance, Turnpikes and Environment

GOAL Document current practices and make recommendations relative to new technologies. Meet with appropriate Department personnel to review current deicing procedures.

PROG The Department has been working closely with NHDES to establish a Salt Reduction Working Group with municipalities as well to identify feasible measures to reduce salt use both at the state and municipal level. In this past year, the Department began using "Schmitz" spreaders, which pre-wet road salt just prior to application. The "pre-wet" process activates the salt, which improves its effectiveness. In addition, four roadway weather information stations (RWIS) were installed in MS4 areas and a total of 11 RWIS stations statewide. The RWIS data is being fed into the Maintenance Decision Support System (MDSS) to help reduce the unnecessary dispensing of salt.

ACTION The Department will continue to aggressively pursue and experiment with various

methods to reduce its salt usage, including annual training of its employees and broader implementation of new technologies. The Department will continue to participate in the Salt Reduction Working Group, which provides a means to exchange technical information with other users and stakeholders.