Program Summary and Projection

The objective of the Delaware Department of Transportation NPDES Program is to reduce stormwater pollutants from the MS4 (municipal separate storm sewer system) to the maximum extent practicable. This is accomplished through the implementation of a comprehensive stormwater pollution prevention and management program as contained in the NPDES Permit No. DE 0051144 effective July 1, 2003.

The purpose of this review and update is to summarize activities for 2009 and provide a projection of work for calendar year 2010. Table A summarizes the Minimum Control Measures, BMPs, Measurable Goals, and Status of Implementation for the entire permit term. Work projections for 2010 are provided at the end of this section in Table B.

2009 Program Summary

Public Education and Outreach

DelDOT's public education program includes the following accomplishments for calendar year 2009:

- Partnered with the Appoquinimink River Association for public education and outreach.
- DelDOT is continuing the "Door hanger campaign," begun in 2006, as an educational tool to neighborhoods where illicit disposal are reported.
- DelDOT staff participated in the following public outreach events and distributed educational materials including bookmarks, brochures, calendars and promotional giveaways that carry a water quality message:
    - Delaware Rural Water Association – we exhibited our display board and graphics and touch screen stormwater slide show;
    - Technology Students Association – served as judges on environmental and engineering projects.
    - Delaware State Fair – we exhibited our display board and graphics and touch screen stormwater quiz.

Public Involvement and Participation

DelDOT makes opportunities for members of the public to participate in program development and implementation through:

- Public participation in the DelDOT budget process.
- The Adopt-a-Highway program, a volunteer program to reduce litter along state roadways.
- DelDOT held its fifth annual "Imagine a Litter Free Delaware" cleanup day along roads, highways and community areas.

- DelDOT is continuing with its door hanger campaign to solicit public participation to report illegal dumping and "neighborhood watch."

Illicit Discharge Detection and Elimination (IDDE)

DelDOT completed inventory, inspection and dry-weather screening of all parts of the DelDOT owned stormwater conveyance system in the Phase II urbanized area in 2007. These data are incorporated into the existing comprehensive GIS database that enables users to view the entire stormwater system, corresponding inspection data and photographs. KCI Technologies and Century Engineering continue to expand the inventory and inspection program to the rest of Kent and Sussex Counties and to update new structures that are added to the system.

DelDOT also continued its door hanger campaign to residents in subdivisions where an illicit discharge or illegal dumping activity was discovered or reported. It solicits public participation to anonymously report illegal dumping and serves as a "neighborhood watch."

Construction Site Stormwater Runoff Control

The Department of Natural Resources and Environmental Control has delegated the authority to administer a sediment and stormwater program to DelDOT. Satisfactory performance of the delegated responsibilities will be considered compliance with this component of the SWMP. This delegation was renewed for another three years in 2009.

Post-Construction Stormwater Management in Newly Developed Areas and in Redeveloped Areas

The Department of Natural Resources and Environmental Control has delegated the authority to administer a sediment and stormwater program to DelDOT. Satisfactory performance of the delegated responsibilities will be considered compliance with this component of the SWMP. This delegation was renewed for another three years in 2009.

Pollution Prevention and Good Housekeeping

DelDOT has developed and implemented an operation and maintenance program with a goal or preventing and/or reducing discharges of pollutants associated with our operations through implementation of the following:

- Maintenance of the roadways and stormwater conveyance system.
- Maintaining a 4:2:1 street sweeping frequency.
- Continued to upgrade the existing snow removal fleet with ground speed spreader controls, plow balance valves and apply the techniques of anti-icing and pre-wetting in an effort to reduce overall salt usage during the winter season. New trucks will be fully equipped with ground speed spreader

controls and plow balance valves. To date, all DelDOT trucks are equipped with the latest snow fighting equipment.

- Litter pickup by Department maintenance staff, prison crews, and the Adopt-a-Highway Program, and an annual "Imagine a Litter Free Delaware" cleanup day.
- Monitoring of stormwater outfalls at our maintenance yards per Pollution Prevention Plans.
- Implemented a Stormwater Pollution Prevention Program (SWPPP) at all DelDOT maintenance facilities. Quarterly wet and dry weather inspections are conducted at each yard.
- Continue to implement Spill Prevention Control and Countermeasures (SPCC) plans for all maintenance yards.
- Implemented new programs to reduce use of pesticides and fertilizers during roadside vegetation management. These include completion of an IRVM Manual and completion of a guardrail inventory
- Continuation of a pilot study on alternative vegetation management strategies for guardrails, changes in pesticide contract language, and improvements in staff training and record keeping.
- Conducted employee training through:
    - Training videos on the SWPPP's
    - Training videos on SPCC Plans
    - Maintenance bulletins posted at each maintenance facility.

2010 Work Projection and Plan:

Work projections for 2010 are provided at the end of this section in Table B (page xi).

Table A. Minimum Control Measures , BMPs, Measurable Goals, and Status of Implementation for DelDOT Phase II NPDES.

MCM #1: Public Education and Outreach Program		
BMP	**Measurable Goal**	**Status of Implementation**
A. Citizen Outreach / Educational Materials	Conduct citizen outreach using media and materials:	
Educational bookmark	Distribute 11,000 to 7th graders in public and private schools	Completed 2005
Stormwater brochures	Distribute at public events	Annually since 2002
Kid's activity booklet	Distribute 9,000 booklets to 4th graders in public and private schools statewide	Annually since 2004, continuing through permit
Book cover	Distribute 4,000 at public events and per teacher request	Completed 2006
Restaurant placemat	Distribute 7,500 placemats to 11 restaurants statewide	Completed 2005
Public Service Announcement	Air twenty 60-second PSA spots in spring on WSTW, 93.7 FM	Completed Spring 2005
Bags-on-Board	Distribute 4,000 units, tipcard and follow-up survey to vet clinics, dog groomer, dog trainer, animal rescue	Completed 2006
B. Watershed Training Workshop	Present four 2 ½-hour watershed training course on basic watershed education and good-housekeeping measures to DelDOT and NCCo. employees	Completed 2002
C. Stormwater Web Page	Develop a website to educate the public on stormwater issues and good housekeeping measures; update as needed; track web-site visits	Completed 2003, continuing through permit
D. Storm Drain Marking	Install water quality message markers on the estimated 4,500 storm drains	Completed June 2007

Table A (cont.). Minimum Control Measures , BMPs, Measurable Goals, and Status of Implementation for DelDOT Phase II NPDES.

E. School Participation	Engage public and private schools statewide in stormwater education	
Statewide drawing contest	Coordinate "Clean Water Begins and Ends with You!" drawing contest for K-12 graders	Annually since 2004; 1,500 participants in 2008, continuing as budget permits
Technology Students Asso.	Judge TSA competition for middle and high school students statewide; students develop restaurant placemat and coloring book cover	Annually since 2003, continuing through permit
F. Public Event Participation/Display	Develop display and interactive stormwater game for use at public events	Completed 2002, continuing through permit
G. Promotional giveaways	Purchase items that display a water quality message for prizes and giveaways at public events	Annually since 2002, continuing through permit
H. Local Group Interaction	Partner with local non-profit groups in the development of education materials and outreach manuals, pet waste campaign and user surveys	Completed 2005, continuing through permit
I. Stormwater Video	Reprint "Protecing Our Water: Who's Got the Power" video. We will reprint the video into a DVD format and offer it as a teacher package at public events and watershed training for Tributary Action Team participants.	Completed September 2007
J. Newspaper Advertisements	Submit newspaper advertisements to increase public awareness on the importance water quality related to stormwater.	Completed October 2008
K. Storm System Inventory Brochure	Revise and distribute existing brochure for all residents in Phase II area	Completed February 2008

Table A (cont.). Minimum Control Measures , BMPs, Measurable Goals, and Status of Implementation for DelDOT Phase II NPDES.

MCM #2: Public Participation/Involvement		
BMP	**Measurable Goal**	**Status of Implementation**
A. Litter control programs		
Adopt-a-Highway	DelDOT will continue the Adopt-a-Highway program and document all participants and solicit new volunteers through newspaper ads and DelDOT website.	Continuous program since 2003
"Imagine a Litter Free Delaware" cleanup day.	Statewide public event for clean up along roads, highways and community areas.	Annually since 2005
Anti-litter education program	Education program for elementary students all across Delaware to educate kids about the harmful effects of littering and encourage participation in the Adopt-a-Highway program	2005-2006
B. Public workshop – maintenance organizations	Hold two public workshops for Kent and Sussex County maintenance organizations on stormwater pond maintenance and the NPDES program and solicit public comment through a survey and comment form.	Completed May 2007
C. Development of stormwater and watershed presentation/survey for community groups	Review and revise current watershed presentation.	Completed May 2008
D. Door hanger campaign	Distribute door hangers to all subdivision residents where illegal dumping was reported or discovered. Solicit public participation for future reporting.	Annually since 2005
E. Tributary Action Teams	Participate in TAT meetings of the Murderkill and St. Jones River watersheds to assist in the development of Pollution Control Strategies and to determine the effect of TMDL implementation on DelDOT projects.	2002-2007; participate as new TATs are formed
F. National Nonpoint Education for Municipal Officials (NEMO)	Serve on the Delaware NEMO steering committee and co-author a chapter on stormwater management.	2003-2006

Table A (cont.). Minimum Control Measures , BMPs, Measurable Goals, and Status of Implementation for DelDOT Phase II NPDES.

MCM #3: Illicit Discharge Detection and Elimination		
BMP	**Measurable Goal**	**Status of Implementation**
A. Storm Sewer System Map	Develop map showing location of all outfalls & names and location of all waters of the US receiving discharges from them	
Database and viewer application	Develop storm sewer system system inventory and inspection database application and GIS mapping viewer application for Kent County.	Completed 2003
Inventory and inspection	Complete initial inventory and inspection of all storm sewer system components in the permitted area, at a rate of 20% each year,	Completed 2007
Database update	Update database at least annually to include inventory and initial inspection of all new system components in the permitted area	Ongoing, annually
Expand to rest of Kent & Sussex Counties	Expand inspection database and mapping to include all of Kent and Sussex Counties - target date for completion, 2011	Ongoing, begun in 2007
B. Dry Weather Outfall Screening	Screen 20% of known DelDOT outfalls in the permitted area per year	Completed 2007
	Conduct screening on new outfalls added to the system since the original inventory.	Ongoing, annually
C. Public Reporting and Education	Publicize phone number for reporting illicit discharges or dumping into the storm sewer system through all education and outreach materials and in public workshops.	Ongoing
	Distribute educational door hangers to homes in all neighborhoods in which illicit dumping activities have been reported, found or suspected.	Completed 2006, and ongoing
D. MOA with DNREC	Develop a new Memorandum of Agreement with DNREC to provide for enforcement actions in Kent and Sussex Counties.	Not complete; Target completion 2009

Table A (cont.). Minimum Control Measures , BMPs, Measurable Goals, and Status of Implementation for DelDOT Phase II NPDES.

MCM #4 & #5: Construction Site Runoff Control/Post Construction Stormwater Management		
BMP	**Measurable Goal**	**Status of Implementation**
A. Delegated Agency	DelDOT is a delegated agency to administer its own Sediment and Storm Water Management Program per Delaware's Sediment and Stormwater Regulations. Review delegation every 3-years.	Annually since 1991
B. Operations and Maintenance of BMPs	Annually inspect stormwater BMPs statewide.	Annually since 2001
C. BMP maintenance contract	Maintain stormwater ponds in need of major repairs that are functioning below design standard for quantity and quality.	Annually as budget allows.

Table A (cont.). Minimum Control Measures , BMPs, Measurable Goals, and Status of Implementation for DelDOT Phase II NPDES.

MCM #6: Pollution Prevention/Good Housekeeping for Municipal Operations		
BMP	**Measurable Goal**	**Status of Implementation**
A. Litter Control Programs		
Adopt-a-Highway	DelDOT will continue the Adopt-a-Highway program and document all participants and solicit new volunteers through newspaper ads and DelDOT website.	Continuous program since 2003
"Imagine a Litter Free Delaware"	DelDOT will continue the program and solicit new volunteers through newspaper ads and DelDOT website	Annually since 2005
Inmate Crew	DelDOT will continue to utilize the inmate crew to assist current staff levels to reduce the floatables entering the storm sewer system.	Continuous program since 2002
B. Storm Water Pollution Prevention Plans	DelDOT developed SWPPPs at all maintenance facilities.	Completed 2004
Quarterly Inspections	DelDOT staff will complete a Dry and Wet Weather inspection each quarter.	Quarterly since 2004
Purchase spill kits	The NPDES Section purchased wall mount spill kits for placement in vehicle shop buildings.	Completed 2003
Security Fence	As part of the SWPPPs, DelDOT enclosed all maintenance facilities with security fences and gates.	Completed 2005
C. Statewide Vehicle Wash Water Practices for DelDOT Maintenance Yards	Treat all wash water through a treatment train prior to leaving the site.	Report completed July 2005
Central District Headquarters	Catch basin inserts were installed and water is treated through a oil/water separator.	Completed 2005
Magnolia Yard	A detention pond was designed and constructed, and catch basin inserts were installed.	Completed 2006
D. Statewide Salt Best Management Practices for DelDOT Maintenance Yards	DelDOT developed a report that documents operational practices and strategies for salt delivery, stockpiling, and mixing.	Completed 2004
Construct salt barns	DelDOT constructed 3 salt barns	Completed 2005
E. Spill Prevention and Response		
Spill Kits for Vehicles	DelDOT to purchase 450 vehicle spill kits for use on the roadway	Completed 2007

Table A (cont.). Minimum Control Measures , BMPs, Measurable Goals, and Status of Implementation for DelDOT Phase II NPDES.

Spill Prevention, Control and Countermeasures Plans (SPCC)	DelDOT developed a SPCC plan for each maintenance facility. These plans include proper procedures for spill response	Completed 2007
F. Retrofits		
St. Jones Watershed Assessment	Partner with DNREC and their consultant to complete a comprehensive watershed assessment of the St. Jones. This assessment will give the Department locations for retrofits of the stormwater system.	Completed 2008
BMP Analysis	DelDOT, through our consultant, will perform a detailed inspection of our BMPs to determine any that are in need of a retrofit.	Completed 2007, ongoing annual inpsections
G. Stormwater Conveyance System	DelDOT will manage a program to ensure the stormwater conveyance system is properly maintained and operating.	
Drainage Maintenance	DelDOT will maintain the system when notified of an issue.	Continuous Program since 2001
Storm System Inventory and Inspection	DelDOT will perform a detailed inventory and inspection of the MS4 system.	Completed 2007
Inspection and Preventative Maintenance Program	DelDOT will determine the appropriate re-inspection schedule for the stormwater system	Completed 2007
	DelDOT will begin the re-inspection program	Began 2009, ongoing
H. Sweeping Program	DelDOT upgraded the sweeping program to a full time operation with the addition of new sweepers.	Completed 2002, continuing through permit
I. Training	Develop a training program for DelDOT staff to educate staff on ways to prevent and reduce storm water pollution from their daily activities.	
PPP training videos	Develop 3 videos entitled (1) Facility and Vehicle Maintenance, (2) Stormwater Contamination and Spill Prevention, (3) Vegetative Control and Pollution Prevention on Public Roads.	Completed 2003, continuing training through permit
Maintenance Bulletins	Develop informative bulletins for District staff to educate them on stormwater management and pollution prevention BMPs	Continuous Program since 2003
Spill Prevention and Response Videos	DelDOT to develop and use three training videos on Spill Prevention and response.	Completed 2007, continuing training through permit

Table B. Projection of Work to be performed during Calendar Year 2010.

Public Education and Outreach

- Participate and distribute education materials at outreach events: Delaware Rural Water Association Conference, Dover Greenfest and the Delaware State Fair.
- Place storm drain markers, carrying a water quality message, on DelDOT owned inlets.
- Update web site as necessary and make available all outreach material and training presentations.
- Distribute pet waste dispensers to licensed dog owners, veterinary clinics and shelters.
- Network and coordinate educational efforts with other state and local organizations through participation in the newly formed Delaware Association for Environmental Education.

Public Involvement and Participation

- Recruit new volunteers for Adopt-a-Highway.
- Solicit public participation for reporting illegal dumping through DelDOT's door hanger campaign.
- "Imagine a Litter Free Delaware" cleanup day.
- Develop an educational/outreach campaign to reduce fertilizer application: Phase I, commercial lawn care companies; Phase II, home owners.

Illicit Discharge Detection and Elimination

- Continue inventory and inspection of outfalls and drainage structures in Kent and Sussex Counties.
- Inspect all stormwater ponds and BMPs in Kent and Sussex Counties; add collected data to the existing inventory database.
- Identify, track to source and eliminate any illicit connections/pollutants entering the MS4.
- Continue door hanger campaign to residents where illegal discharges/dumping has occurred.

Construction Site Stormwater Runoff Control

- Delegation of the sediment and stormwater program is granted through the year 2012. DelDOT will comply with all state requirements.
- Continue to seek improvements in contractor compliance.
- Plan for future implementation of effluent turbidity monitoring and other effluent limit guidelines that will be incorporated into the 2011 update of the NPDES General Permit.

Post-Construction Stormwater Management in Newly Developed Areas and in Redeveloped Areas

- Delegation of the sediment and stormwater program is granted through the year 2012. DelDOT will comply with all state requirements.

Pollution Prevention and Good Housekeeping

- Update the Pollution Prevention Plans for DelDOT maintenance facilities.
- Continue requiring maintenance staff to view pollution prevention and spill prevention training videos annually.
- Continue to develop and distribute Stormwater Pollution Prevention Bulletins to each maintenance yard statewide on a quarterly basis.
- Continue 4:2:1 sweeping frequency. Conduct a pilot test of GPS units on sweepers as a means of tracking and confirming coverage.
- Continue implementation of the "Statewide Vehicle Wash Water Practices for DelDOT Maintenance Yards" retrofits.
- Complete Harrington Maintenance Yard retrofit.
- Continue implementation of the Integrated Roadside Vegetation Management (IRVM) manual developed in 2009.
- Continue to update the statewide guardrail inventory, as needed.
- Begin to use data from the guardrail inventory to develop a strategy for continued reduction of pesticide use.
- Continue the guardrail vegetation management study initiated in 2008.