

Educational Strategy

Dakota County Storm Water Pollution Prevention Plan v 2.1

2005-2006 Program Years

Audiences addressed in this strategy:

- General public
- Engaged public
- County government staff
- Developers and design professionals
- Construction trades
- Industrial operators

Coordination with other units of government:

In addition to sharing this draft document with other Dakota County MS4s for review and comment, an annual meeting will be initiated by the county to discuss stormwater educational strategies and potential areas of collaboration.

Strategy approach:

The objective of the educational strategy is to protect and improve water resources by enabling those who live and work in Dakota County to accept and incorporate new clean water practices into their operations.

Educational goals for this strategy are listed starting on Page 8. These are the changes in awareness, knowledge, skills, and behavior that are required for stormwater management goals to be met. It is against these educational goals that annual educational activities are designed and evaluated.

The educational strategy will be reviewed and revised annually, or more often when necessary. It is anticipated that the educational goals will remain for the most part static, where the annual educational activities with change based on lessons learned, new resources, and new opportunities to partner with others.

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Planned education activities, 2005-2006

Activity	Target Audience	MCM	Evaluation	Schedule	Assignment	Cost
<p>Press releases to Dakota County media:</p> <ol style="list-style-type: none"> 1. Spring, summer and fall seasonal press releases on clean water practices. 2. Topical press releases as newsworthy story lines occur. 	<p>General public</p> <p>Engaged public</p>	<p>Public education</p> <p>Public involvement</p>	<p>Results on questions placed in 2007 Dakota County Citizen Survey.</p>	<p>March June September</p>	<p>SWCD, Co. Com. Office, UM Ext.</p>	<p>No direct costs</p>
<p>County communications:</p> <p>Include stories in Dakota County's "Update" newsletter (published three times per year). Combine with information from other watershed efforts.</p>	<p>General public</p> <p>Engaged public</p>	<p>Public education</p> <p>Public involvement</p>	<p>Results on questions placed in 2007 Dakota County Citizen Survey.</p>	<p>May August December</p>	<p>SWCD, Co. Com. Office, UM Ext.</p>	<p>No direct costs</p>
<p>Educational kiosks:</p> <p>Rotate three educational "Street to Stream" educational kiosks from Center for Environmental Education between Dakota County public gathering places including libraries, parks, and schools.</p>	<p>General public</p> <p>Engaged public</p>	<p>Public education</p> <p>Public involvement</p>	<p>Clipboard surveys of users</p>	<p>April – Oct, rotating on three week schedule</p>	<p>SWCD, County Libraries, Schools, Hamline U.</p>	<p>\$12,000 annual lease for 3 units per year</p>
<p>Watershed quilt:</p> <p>Create and display in public places quilts featuring watersheds and clean water practices. Created by 4-H Clubs or similar organizations.</p>	<p>General public</p> <p>Engaged public</p>	<p>Public education</p> <p>Public involvement</p>	<p>Evaluation comments made by project participants and quilt viewers.</p>	<p>Winter 2006</p>	<p>Dakota 4-H, SWCD, UM Ext.</p>	<p>\$300</p>

Activity	Target Audience	MCM	Evaluation	Schedule	Assignment	Cost
<p>Coordination with metro outreach campaign: Communicate with Dakota County MS4s the availability and benefits of Metro WaterShed Partners “Minnesota Water – Let’s Keep it Clean” public education program.</p>	<p>General public Engaged public</p>	<p>Public education Public involvement</p>	<p>Results on questions placed in 2007 Dakota County Citizen Survey.</p>	<p>March 2005 March 2006</p>	<p>SWCD, UM Ext.</p>	<p>No direct costs</p>
<p>Volunteer Stream Monitoring: Coordinate with Vermillion River Watch with five county high schools. Provide urban stormwater education resources to program. (Note: River Water budget covered by Vermillion River JPA.)</p>	<p>Engaged public</p>	<p>Public education Public involvement</p>	<p>Interview with program participants.</p>	<p>2005 2006</p>	<p>SWCD, High Schools</p>	<p>No direct costs</p>
<p>Stream clean up events: Engage youth and community groups with county streams through annual cleanup events coordinated with MN DNR’s “Adopt a Stream Program.”</p>	<p>Engaged public</p>	<p>Public involvement</p>	<p>Interview with program participants.</p>	<p>April 2006</p>	<p>SWCD, Co. Parks, MDNR</p>	<p>1,000</p>
<p>Storm drain stenciling: Provide storm drain stenciling kits (tools, paint, stencils), training and coordination to assist youth and community groups in stenciling in the county.</p>	<p>Engaged public</p>	<p>Public involvement</p>	<p>Interview with program participants.</p>	<p>September 2005</p>	<p>SWCD, Co. Parks, UM Ext.</p>	<p>1,500 (for 12 events)</p>

Activity	Target Audience	MCM	Evaluation	Schedule	Assignment	Cost
Septic system education: Provide “Septic System Owners Guide” and educational program meetings to owners of Individual Septic Treatment Systems.	General public	Public education Public involvement Illicit discharge				
Wetland Health Evaluation program: Support adult volunteers in collecting wetland health assessment data for participating cities.	Engaged public	Public involvement	Use same evaluation used by WHEP program.	2005 2006	Friends of Miss. River, MPCA	\$30,000 year
Hazardous waste generator education: Website and four annual training on reduction and proper handling of hazardous waste.	Industrial operators	Illicit discharge Stormwater management	Reduction in improperly disposed of hazardous waste.	2005 2006	Co. Envir. Management	?
Nitrate testing clinics Provide homeowners with information on well head protection, well maintenance, and water testing and interpretation.	General public Engaged public	Public education Public involvement	Interviews with participants on actions taken following clinics.	2005 2006	Co. Envir. Management., SWCD	\$400
Erosion and sedimentation control workshops: Workshops on design, placement, and maintenance of construction site water quality practices.	Construction trades Developers and design profess.	Con. site storm water management	Improvement in site completion reports.	Twice annual in 2005 & 2006	SWCD	No direct costs

Activity	Target Audience	MCM	Evaluation	Schedule	Assignment	Cost
<p>County Urban Erosion and Sedimentation Control website: Continue to develop and promote the Dakota County SWCD urban erosion and sedimentation control website as a ready resource. http://www.dakotacountyswcd.org/urero_fs.htm</p>	<p>Construction Trades Developers and Design Profess.</p>	<p>Con. site storm water management</p>	<p>Records of website traffic and downloads.</p>	<p>On-going</p>	<p>SWCD</p>	<p>No direct costs</p>
<p>County stormwater demonstrations: 1. Develop and distribute fact sheets based on stormwater demos constructed at county facilities. 2. Field tours of stormwater demos constructed at county facilities.</p>	<p>Developers and Design Profess. County Staff Engaged Public</p>	<p>Post-con. storm water management</p>	<p>Tour evaluations. Numbers of stormwater practices installed as result of demos.</p>	<p>Annual summer tours, 2005 – 2009</p>	<p>SWCD, Co Property Mgt.</p>	<p>\$25,000 annual</p>
<p>Low Impact Design workshop: Provide guidance to design professionals and local land use managers on approaches to urban development that protect water resources.</p>	<p>Developers and Design Profess. County Staff Engaged Public</p>	<p>Post-con. storm water management</p>	<p>Workshop evaluation. Numbers of stormwater practices installed as result of workshop attendance.</p>	<p>Winter 2006</p>	<p>SWCD</p>	<p>No direct costs</p>
<p>Dakota County Parks workshop: Provide “Earth Friendly Home Landscaping” in County Park’s “Connections” workshop program.</p>	<p>General Public Engaged Public</p>	<p>Post-con. storm water management</p>	<p>Workshop evaluation. Numbers of stormwater practices installed as result of workshop attendance.</p>	<p>March 10, 2005</p>	<p>SWCD, Co. Parks</p>	<p>No direct costs</p>

Activity	Target Audience	MCM	Evaluation	Schedule	Assignment	Cost
<p>County Low Impact Design website: Continue to develop and promote the Dakota County SWCD stormwater management website as a ready resource. http://www.dakotacountyswcd.org/lid_fs.htm</p>	<p>Developers and Design Profess. County Staff Engaged Public</p>	<p>Post-con. storm water management</p>	<p>Website traffic.</p>	<p>On-going</p>	<p>SWCD</p>	<p>No direct costs</p>
<p>One-on-one consultations: Share information on construction site and post construction stormwater management via individual consultations made by Dakota County SWCD staff.</p>	<p>Construction Trades Developers and Design Profess. Engaged Public</p>	<p>Construction site erosion. Storm water management</p>	<p>Change in construction site and post construction storm water management as a result of consultation.</p>	<p>On-going</p>	<p>SWCD</p>	<p>No direct costs</p>
<p>Operations and maintenance workshops for county staff: Host workshop utilizing Metro WaterShed Partners' training module for city and county public works staff.</p>	<p>County Staff</p>	<p>Municipal pollution prevention Illicit discharge</p>	<p>End of workshop test results. Changes in stormwater risk assessments of county operations.</p>	<p>Winter 2006</p>	<p>SWCD, UM Ext.</p>	<p>\$300 annually</p>

Strategy Assessment

As each educational activity is implemented, a listing of those educational goals addressed by the activity will be made. Educational goals for this strategy are given on pages 8 through 14.

Evaluation methods will be developed to assess how well each educational activity meets its educational goals. As comprehensive evaluation can be costly, evaluation used in this strategy will likely be a compromise between what is comprehensive and what is cost effective.

In the end, the strategy will be assessed by what it accomplished in meeting educational goals; in terms of awareness raised, understanding increased, skills learned, and behaviors changed.

Educational Goals by Audience

Audience: General public	
Minimum Control Measure	Educational Goals
Public education and outreach on storm water impacts	<p>Aware: Storm drains lead to water bodies.</p> <p>Aware: Sources of runoff pollution.</p> <p>Aware: What is hazardous waste and why it is especially harmful.</p> <p>Aware: Impacts of polluted runoff on water bodies and the life within them.</p> <p>Aware: Impacts of paved and roofed areas on storm water runoff.</p> <p>Understand: Proper disposal methods for materials commonly disposed down storm drains, including hazardous wastes.</p> <p>Action: Cease using storm drains for disposing anything besides storm water runoff.</p> <p>Action: Dispose hazardous waste only at authorized facilities.</p>
Public participation and involvement	<p>Aware: Dakota County has a Storm Water Pollution Prevention Program.</p> <p>Aware: Annual public input into the program is encouraged.</p> <p>Aware: There is a role for the public in preventing storm water pollution.</p> <p>Understand: How the Storm Water Pollution Prevention Program impacts their lives and the life of their community.</p> <p>Understand: Process for providing input into the NPDES Plan.</p> <p>Understand: How the public can be engaged in pollution prevention activities.</p> <p>Action: Public take personal positive actions to prevent water pollution.</p>
Construction site storm water runoff control	<p>Aware: Eroded soil is source of water pollution.</p> <p>Aware: The impacts of sediment loading on water bodies and the life within them.</p> <p>Aware: Construction sites need to minimize potential for erosion and keep eroded soil on site.</p>
Post-construction storm water management	<p>Aware: There are innovative site designs and BMPs that can reduce the impact of developments on storm water runoff.</p> <p>Aware: There are practices that homeowners can do to increase storm water infiltration, e.g., rain gardens.</p>

Audience: Engaged public	
Minimum Control Measure	Educational Goals
Public education and outreach on storm water impacts	<p>All the educational goals of “General public” plus:</p> <p>Action: Wash cars on turf or at enclosed car washes.</p> <p>Action: Report substantial sources of runoff pollution to the MS4.</p>
Public participation and involvement	<p>All the educational goals of “General public” plus:</p> <p>Action: Interested and impacted members of the public provide input into the Storm Water Pollution Prevention Plan.</p>
Illicit discharge detection and elimination	<p>Aware: Only rainwater should go down storm drains.</p> <p>Aware: Outfalls to water bodies should be dry during dry weather periods.</p> <p>Understand: Liquid discharging from outfalls during dry weather or discolored discharges may be indications of illicit discharges.</p> <p>Action: Report the locations of suspected illicit discharges to the proper authorities.</p>
Construction site storm water runoff control	<p>All the educational goals of “General public” plus:</p> <p>Understand: How to contact the MS4 when uncontrolled construction site soil erosion is observed.</p> <p>Action: Report erosion control problems to proper authorities.</p>
Post-construction storm water management	<p>All the educational goals of “General public” plus:</p> <p>Understand: How to influence plan review process to encourage use of innovative storm water management practices.</p> <p>Understand: Who to contact for assistance on installing BMPs on their property.</p> <p>Action: Encourage developers to include innovative storm water management tools on new development and redevelopment.</p> <p>Action: Install innovative storm water management practices on their property.</p>

Audience: County government staff	
Minimum Control Measure	Educational Goals
Illicit discharge detection and elimination	<p>Aware: Only rainwater should go down storm drains.</p> <p>Aware: Outfalls to water bodies should be dry during dry weather periods.</p> <p>Understand: Liquid discharging from outfalls during dry weather or discolored discharges may be indications of illicit discharges.</p> <p>Action: Report the locations of suspected illicit discharges to the proper authorities.</p> <p>Action: When responding to complaints of suspected illicit discharges, educate the business or home owner about the problems associated with improper storm sewer connections and/or illegal dumping.</p>
Construction site storm water runoff control	<p>Aware: Eroded soil is source of water pollution.</p> <p>Aware: The impacts of sediment loading on water bodies and the life within them.</p> <p>Aware: Construction sites need to minimize potential for erosion and keep eroded soil on site.</p> <p>Understand: Erosion control requirements of Storm Water Pollution Prevention Program.</p> <p>Understand: Effective selection, placement, installation, and maintenance of erosion control BMPs.</p> <p>Understand: Dynamics of construction sites and how erosion control fits into the complex of activities on site.</p> <p>Action: Effective implementation of construction site erosion control program.</p>
Post-construction storm water management	<p>Aware: Urban development increases storm water runoff volumes and rates, impacting receiving waters.</p> <p>Aware: Site design and maintenance can reduce storm water impacts.</p> <p>Understand: BMPs can be selected or designed to reduce storm water volume, flow, and pollutant load.</p> <p>Understand: Site design options exist that reduce storm water volume, flow, and pollutant load.</p> <p>Action: Make post-construction storm water management a criteria for approval of General Development Plans, grading plans and erosion control plans.</p> <p>Action: Promote construction management techniques that reduce soil compaction on developed sites.</p> <p>Action: Encourage architects, engineers, and developers to include innovative storm water BMPs in site designs.</p> <p>Action: Note conditions that will lead to poor storm water infiltration when making site inspections.</p>

Audience: County government staff

Minimum Control Measure	Educational Goals
Municipal pollution prevention – grounds keeping	<p>Aware: Soil, tree leaves, grass clippings, fertilizer, pesticides, and pet waste are all sources of runoff pollution.</p> <p>Understand: Proper erosion control and management of tree leaves, grass clippings, fertilizer, pesticides, and pet waste will avoid pollution.</p> <p>Understand: Landscaping options exist that reduce the need for fertilizer and pesticides and increase storm water infiltration.</p> <p>Understand: Proper management of runoff from roofs and paved areas will minimize the volume of storm water runoff.</p> <p>Action: Stabilize sources of eroding soil.</p> <p>Action: Collect and properly dispose of pet waste.</p> <p>Action: Keep leaves and grass clippings off paved surfaces.</p> <p>Action: Follow Minnesota’s Phosphorous Lawn Fertilizer Law when fertilizing lawns.</p> <p>Action: Use pesticides according to manufacturers’ directions.</p> <p>Action: Direct runoff to vegetative areas, rain barrels or rain gardens.</p> <p>Action: Establish landscapes that require low amounts of fertilizer and pesticides.</p>
Municipal pollution prevention - vehicle and equipment maintenance	<p>Aware: Dirt, salt, and oil from washed vehicles are harmful to water bodies.</p> <p>Aware: Wastewater from vehicles washed outside goes to water bodies via storm sewers systems.</p> <p>Understand: Proper locations for washing vehicles and equipment that avoid polluted storm water runoff.</p> <p>Action: Adopt a system of vehicle and equipment washing that prevents wastewater from entering storm sewer systems.</p>
Municipal pollution prevention - building maintenance	<p>Aware: Runoff from roofs, drives and parking areas can increase storm water volume, rate, and pollutant load.</p> <p>Aware: Waste and wastewater should never be placed in storm sewers. Hazardous waste has special handling requirements.</p> <p>Aware: Trash bins and materials stored outdoors can produce polluted runoff if not properly managed.</p> <p>Aware: Eroding soil is a source of water pollution.</p> <p>Understand: Methods for managing roof, drive, and parking area runoff that increase stormwater infiltration and filtering.</p> <p>Understand: Proper disposal of waste and wastewater; especially hazardous waste.</p> <p>Understand: Proper placing of waste bins and stored materials outside. Soil erosion control methods.</p> <p>Understand: Runoff from new and existing MS4 facilities is routed to maximize stormwater infiltration and filtering.</p> <p>Action: Cease using storm sewers for disposing of waste and wastewater.</p> <p>Action: Store trash and materials so not to produce polluted runoff.</p> <p>Action: Control soil erosion and keep eroded soil on-site.</p>

Audience: County government staff

Minimum Control Measure	Educational Goals
Municipal pollution prevention - street, storm sewer, and water supply maintenance	<p>Aware: Road salt and sand is a source of water pollution.</p> <p>Aware: Eroded soil is a source of water pollution.</p> <p>Aware: Effectiveness of street sweeping depends on schedule and equipment.</p> <p>Aware: Pool water needs to be free of chlorine before disposing.</p> <p>Understand: Methods of reducing winter road salt and sand use.</p> <p>Understand: Methods of controlling soil erosion on project sites.</p> <p>Understand: Methods for effective street sweeping.</p> <p>Understand: Methods for removing chlorine from pool water.</p> <p>Action: Reduction in road sand and salt use and safe salt storage.</p> <p>Action: Control soil erosion and keep eroded soil on site.</p> <p>Action: Increase efficiency of street sweeping operations.</p> <p>Action: Assure pool water is chlorine free before draining.</p>
Municipal pollution prevention - fire protection and emergency response	<p>Aware: Storm sewers lead to bodies of water.</p> <p>Understand: Effective spill control methods.</p> <p>Understand: Methods for hydrant flushing that minimize water quality impacts.</p> <p>Understand: Methods for managing fire scene runoff that minimizes water quality impacts.</p> <p>Action: Effective spill control.</p> <p>Action: Hydrant flushing that minimizes water quality impacts.</p> <p>Action: Fire scene runoff control that minimizes water quality impacts.</p>

Audience: Developers and design professionals

Minimum Control Measure	Educational Goals
Construction site storm water runoff control	<p>Aware: Eroded soil is source of water pollution.</p> <p>Aware: The impacts of sediment loading on water bodies and the life within them.</p> <p>Aware: Construction sites need to minimize potential for erosion and keep eroded soil on site.</p> <p>Understand: Erosion control requirements of Storm Water Pollution Prevention Program.</p> <p>Understand: Effective selection, placement, installation, and maintenance of erosion control BMPs.</p> <p>Understand: Dynamics of construction sites and how erosion control fits into the complex of activities on site.</p> <p>Action: Develop erosion control plans that are effective and practical.</p> <p>Action: Provide oversight of construction activity to assure erosion control plans are followed and modified when needed.</p>
Post-construction storm water management	<p>Aware: Urban development increases storm water runoff volumes and rates, impacting receiving waters.</p> <p>Aware: Site design and maintenance can reduce storm water impacts.</p> <p>Understand: BMPs can be selected or designed to reduce storm water volume, flow, and pollutant load.</p> <p>Understand: Site design options exist that reduce storm water volume, flow, and pollutant load.</p> <p>Action: Make post-construction storm water management a criteria for approval of General Development Plans, grading plans and erosion control plans.</p> <p>Action: Encourage inclusion of innovative storm water BMPs in site designs.</p> <p>Action: Promote construction management techniques that reduce soil compaction on developed sites.</p> <p>Action: Provide oversight of construction activity to assure stormwater practices are installed as planned.</p> <p>Action: Note conditions that will lead to poor storm water infiltration when making site inspections.</p>

Audience: Construction trades	
Minimum Control Measure	Educational Goals
Construction site storm water runoff control	<p>Aware: Eroded soil is source of water pollution.</p> <p>Aware: The impacts of sediment loading on water bodies and the life within them.</p> <p>Aware: Construction sites need to minimize potential for erosion and keep eroded soil on site.</p> <p>Understand: Erosion control requirements of Storm Water Pollution Prevention Program.</p> <p>Understand: Effective selection, placement, installation, and maintenance of erosion control BMPs.</p> <p>Understand: Dynamics of construction sites and how erosion control fits into the complex of activities on site.</p> <p>Action: Effective installation of erosion control BMPs on the construction sites.</p> <p>Action: Creative problem solving based on understanding of erosion control principles.</p> <p>Action: Routine and post-storm event site inspection to insure that BMPs are maintained.</p>
Post-construction storm water management	<p>Aware: Urban development increases storm water runoff volumes and rates; impacting receiving waters.</p> <p>Aware: Site design and maintenance can reduce storm water impacts.</p> <p>Understand: Proper BMP installation is essential.</p> <p>Understand: Construction management techniques exist that reduce soil compaction on developed sites.</p> <p>Action: Properly install BMPs</p> <p>Action: Avoid and correct conditions that lead to poor storm water infiltration or inadequate lot drainage.</p> <p>Action: Make suggestions to improve storm water management on-site when opportunities are observed.</p>