MS4 NPDES Permit Compliance

March 29, 2007 Environmental Workshop

Beth Neuendorf, Metro District Water Resources Engineer
Barb Loida, Metro MS4 Engineer
What is MS4?

- Municipal Separate Storm Sewer System
What does it mean?

- Mn/DOT Metro operates under a NPDES General Permit from the MPCA to discharge stormwater from our right-of-way.
- Our stormwater is regulated.
- We need to do a number of things to meet permit requirements.
- The area that is controlled under the permit is based on “urbanized area” from 2000 Census.
Other Parts of Mn/DOT under MS4 NPDES Permit

- Duluth Area
- Rochester
- St. Cloud Area
- Moorhead
- East Grand Forks
- LaCrescent
Why MS4?

- Reduce pollution - sediment, debris, chemicals, nutrients that get into lakes, rivers and streams
- Improve lakes and rivers for fishing, swimming, recreation and quality of life
- In 2006, 284 rivers/streams and 1,013 lakes in Minnesota were impaired for one or more pollutants.
Components of MS4 Program
(Minimum Control Measures)

1. Education
2. Public Participation
3. Illicit Discharge Detection and Elimination
4. Construction Stormwater Runoff Controls
5. Post Construction Runoff Controls
6. Good Housekeeping
#1 - Public Education and Outreach

- Created two brochures
- Updated our display board
- Created informational cards
- Updated our website
  [www.dot.state.mn.us/metro/waterresources](http://www.dot.state.mn.us/metro/waterresources)
- Creating posters
Brochures:

- How can I keep Minnesota's waters clean?
- Mn/DOT Metro District's Stormwater Pollution Prevention Program (SWPPP)
  Meeting the NPDES Phase II Permit Requirements
Message - What can you do?

- Don’t Litter
- Don’t Dump
- Cover your load when hauling materials
- Pick up your pet’s waste
Places to get the message out

- Conferences and workshops
- Metro project open houses
- Annual Metro MS4 public meeting
- Metro employee events
- Watershed events
- State, city and county events
- Rest Areas
What’s in it for Mn/DOT?

- **Reduce 26,000 tons** of litter picked up each year on our R/W.
- **Reduce $5.4 million** we spend to dispose of this litter.
- **Reduce the 45%** of litter and material being blown off of uncovered loads.
#2 - Public Involvement

- Opportunities for the public to comment on our program.
- Required to host annual MS4 meeting.
- Feedback link on our website.
- This year we are hosting our annual meeting with Metro Maintenance at the Maryland Ave Truck Station as a Open House/MS4 Annual Meeting – April 18th.
What’s in it for Mn/DOT?

- Show the public what we are doing and that we do care about the environment.
- Show our latest maintenance equipment to the public so they see the investments we are making.
- Good press is a good thing.
#3 - Illicit Discharge Detection and Elimination

- Process to Find, Report and Correct Them
- Training
- Inventory and Map of Stormwater Drainage System
What is an Illicit Discharge?

- Per regulations an illicit discharge is any discharge not composed entirely of stormwater.
- Excludes spills and abandoned containers.
- There are exceptions - fire protection, springs, etc.
Examples of Illicit Discharges
Tracking Pipe to Source
Swimming Pool Water Discharge?
Petroleum Odor Discovered
Illicit Discharge Training

- Internal videos and posters - this spring rolling out training to Metro Maintenance, Water Resources Engineering, Safety, Design, R/W, Construction.

- Adopt a Highway Volunteers - Safety Video
Illicit Discharge Procedure

- First call to Dispatch - Metro 651-582-1550
- Report – Location and Description of Discharge - Color, Odor and if presence of a sheen
- Initial follow up will be - Safety or Water Resources Engineering MS4 staff
- If necessary, other support provided OES, Maintenance, MPCA and other upstream entities
- Tracking WRE database/dispatch
Stormwater Drainage System Inventory and Map

- Comprehensive Metro District Stormwater Drainage System Database and Map
- Due June 30, 2008
Components of Inventory

- Pipes and Culverts
- Catch Basins, Manholes and Aprons
- Structural Pollution Control Devices (SPCD’s)
- Ponds
- Wetlands
- Outfalls from our R/W
- Ditches
Places to look for stormwater system data:

- Old and new construction plans
- Control section files
- Field location and description (GPS)
- WRE staff interviews
- Maintenance staff interviews
- Storm Sewer video contracts
What We Have Found So Far?

- Pipes and Culverts: 15,809
- Manholes and Catch Basins: 16,743
- Aprons: 18,003
- Ponds: 470 (And Growing.... New Hwy 212 Adding 30 Ponds, 35E Unweave the Weave Adding 15 Ponds)
- SPCD's: 18 (Grit Chambers, proprietary devices, infiltration areas. Need to decide what to do with sump manholes.)

- 70% of infrastructure is in our Database - process is to connect information to create a map.
What we’re working on now

- Connecting pipe network & identifying outfalls
- For pipes:
  - 494/694 loop (inside the ring)
- For outfalls:
  - Protected, restricted and trout waters
Inventory Maps

MS4 Flow Network Map

Legend
- New catch basins
- Catch basins
- Aprons
- Flow network
- Mile post
- Metro Highways

Non-Mn / DOT Pond

Split Flow Network

New Structures Identified & GPS

Outfall to CNR Stream #221

Min / DOT Pond
What’s in it for Mn/DOT?

• Readily accessible computerized map of our drainage system tells us what drains where.
• Means of tracking and stopping pollution.
• Knowing condition of our drainage infrastructure, so we can proactively plan for repairs/replacements and clean outs rather than responding to emergencies.
Goal is to control erosion and contain waste materials and minimize sediment loss during construction activities.

Program focuses on projects one acre in size or larger.

Specifications in place for erosion and sediment control. Construction plans also incorporate sediment and erosion control methods.

Initial and refresher training is standard practice.
What’s in it for Mn/DOT?

- Reinforcement of construction NPDES permit program.
- Helps ensure Mn/DOT stays out of trouble and is not paying penalties.
#5 - Post Construction Runoff Controls

- Once we accept stormwater from someone else we are responsible for it while it is on our R/W.
- Updating our drainage permit applications for developments adjacent to our right-of-way to address stormwater treatment and post-construction maintenance. Currently just address rate control.
- Permit will include consequences for failing to comply with our drainage permit conditions.
What’s in it for Mn/DOT?

We need to know what we are getting. Why?

- TMDL’s (Total Maximum Daily Load’s) will require us to reduce our loading of pollutants to impaired waters.
#6 - Good Housekeeping

- Best Management Practices for our Maintenance Activities
- Routine inspection, cleaning and repair of stormwater pipes, ponds, SPCD’s and outfalls.
- Facility Stormwater Pollution Prevention Plans for our Truck Stations
BMPs for Maintenance Activities

- Street Sweeping Program
- Anti-Icing & De-Icing Program
- Vegetation Management Program
Routine Inspection and Maintenance

• Inspect annually:
  - 20% Outfalls and Ponds
  - 100% SPCDs
  - 10-20% Pipes/Culverts, Catch Basins, Aprons, Manholes

• Clean, repair or replace all stormwater features as needed (priority are those that pose a safety issue and those by special waters).
Facility Stormwater Pollution Prevention Plans

• Each Metro Truck Station has a Facility SWPPP which includes:
  - Spill containment procedures, drainage control and security measures.
  - Standard operating procedures for working with hazardous materials.
  - Annual comprehensive site compliance evaluation
  - Recordkeeping procedures for documentation.
Facility Stormwater Pollution Prevention Plans Continued

- Mandatory annual training of truck station personnel.
- Video for training in addition to review of the FSWPPP.
What’s in it for Mn/DOT?

• Not generating pollution from our Maintenance Activities.
• Doing our part to protect Minnesota waters.
• Setting a good example.
What Can You Do As A Project Manager?

- Think about where you are putting your roads and roadway additions
- Talk to your Water Resource Engineering folks about how to best handle stormwater runoff
- Watch out for Prohibited, Restricted, Trout and TMDL Waters (see maps)
2004 TMDL Classified Waters in Metro District

**Map current as of May 12, 2006**
What Can You Do As a Resident of Minnesota?

- Don’t Litter
- Don’t Dump Materials in Storm Drains
- Cover your load when hauling materials
- Pick up your pet’s waste
We all have the same goal

Questions?