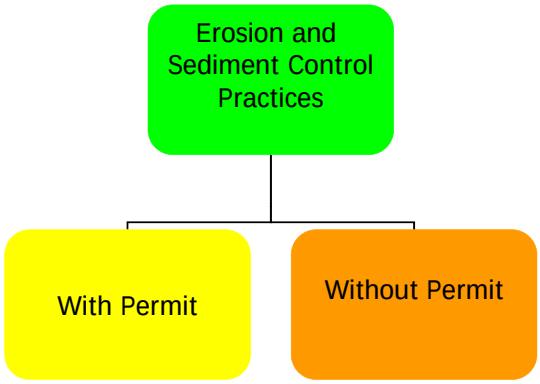
Stormwater Discharges on Construction Sites

- Sediment and erosion control measures should be included on EVERY project, regardless whether an NPDES permit is needed or not.

Definition of surface water

- All streams, lakes, ponds, marshes, wetlands, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems
- So…. Curb and gutter systems are considered a surface water.



Who needs permit?

- Any construction activity that disturbs more than 1 acre of total land area
- If project is part of a larger common plan that disturbs more than one acre
- Exemptions for routine maintenance
- Agricultural activity is exempt (conservation practices)

Special cases

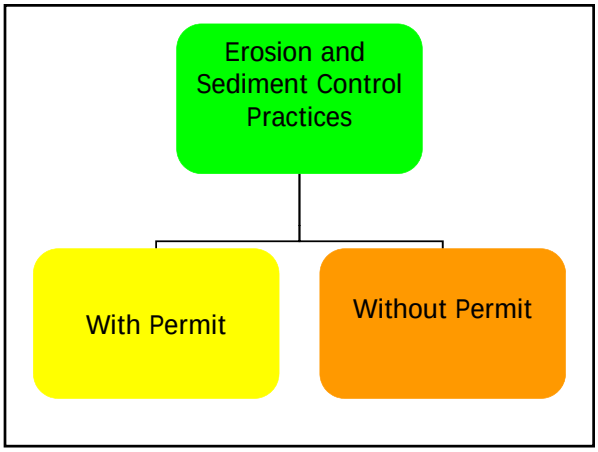
- Special waters
- Impaired waters
- Wetlands – adversely impacted
- National Register of Historic Places
- Threatened & Endangered species locations
- Trout waters
- Outstanding resource value waters (ORVW)
- Calcareous fens
- TMDL impaired waters

Special Waters

- Additional BMP and enhanced runoff controls are required for special waters:
- Wilderness, scientific & natural areas
- Scenic or recreational river segments
- Portions of Mississippi River
- Lake Superior
- Lake trout lakes, trout lakes, trout streams

No permit?

- Third party civil suits
- Enforcement action by MPCA
- Civil Penalties
- Criminal charges



Procedure

- ✓ 1. **Develop SWPPP**
- ❑ 2. Apply for permit
- ❑ 3. Construction and inspection – keep records
- ❑ 4. Submit Notice of Termination (NOT)

SWPPP

- Stormwater Pollution Prevention Plan
- Mandated by Clean Water Act
- NPDES permits require permittees to control polluted discharges
- MPCA administers this in MN
- Minnesota regulates disposal of stormwater with a State Disposal System (SDS) permit – usually N/A for our work

SWPPP

- Includes narrative describing timing for installation of all erosion and sediment control measures
- SWPPP requirements to be incorporated in plans and specifications
- Requires records retention
- Identifies person in charge of BMPs

SWPPP 2

- Location & type of all temporary and permanent erosion prevention and sediment control BMPs
- Site map with existing and final grades; identify impervious surfaces, soil types
- Location of areas not to be disturbed
- Location of areas where construction is to be phased to minimize exposed areas

SWPPP 3

- All surface waters and wetlands which will receive storm water runoff from the site during or after construction
- Methods to be used for final stabilization

Plan B may be needed

- If the SWPPP measures are not eliminating the discharge of pollutants, changes must be made so that erosion and sediment control are still achieved
- May involve judgment/opinion of inspector

Documents

- Already preparing drawings, specs, O&M, and inspection plan
- Separate SWPPP report can largely refer to these existing documents
- Use NRCS template adapted from MPCA template (State Office S Drive)

Procedure

- ☐ 1. Develop SWPPP
- ✓ **2. Apply for permit**
- ☐ 3. Construction and inspection – keep records
- ☐ 4. Submit Notice of Termination (NOT)

Facts in Brief

- Owners & operators of construction activity disturbing one or more acres must obtain an NPDES permit
- Develop SWPPP and submit application with $400 fee (SWPPP usually not submitted but required)
- Sites disturbing more than 50 acres must submit 30 days in advance

Submitting the Application

- Owner must develop SWPPP prior to application
- NRCS likely to assist owner
- SWPPP does not need to be sent to MPCA unless the project is larger than 50 acres and will discharge to an impaired water or "Special Water"

Permit Coverage

- Permit coverage becomes effective 7 days after postmarked date of completed application
- Permit letter and coverage certificate from MPCA usually within 30 days of postmarked date of completed application
- Apply on-line. Coverage effective in 2 days

Procedure

- 1. Develop SWPPP
- 2. Apply for permit
- ✓ **3. Construction and inspection – keep records**
- 4. Submit Notice of Termination (NOT)

- On permitted sites, contractor is required to have a designated person responsible for erosion & sediment control. That person should oversee or do the required inspections, and advocate changes as needed for effective sediment & erosion control.

Records

- Part III.D. Record Retention
- The SWPPP, all changes to it, inspections and maintenance records, must be kept at the site during construction by the Permittee; The SWPPP can be kept in either the field office or in an on-site vehicle.

Records 2

- All owners must keep the SWPPP, along with the following additional records, on file for 3 years after submittal of the NOT.
- Any other permits
- Inspection & maintenance records
- Permanent O&M agreements, covenants, contracts, binding requirements
- Design calculations for SW mgmt systems

Procedure

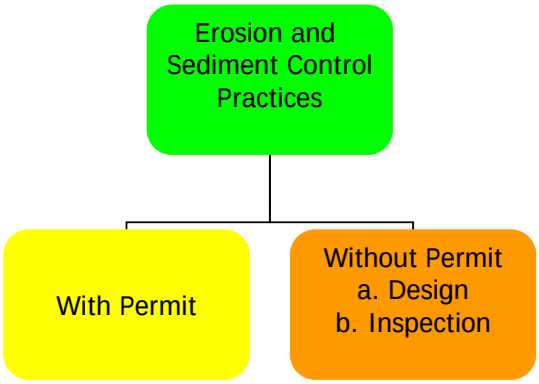
- 1. Develop SWPPP
- 2. Apply for permit
- 3. Construction and inspection – keep records
- ✓ **4. Submit Notice of Termination (NOT)**

Final Stabilization

- All soil disturbing activities are complete
- All areas stabilized by uniform perennial vegetative cover, at least 70% density
- Permanent storm water measures are cleaned of sediment such as sediment basins and ditches
- Prior to submission of NOT, remove all temporary measures

Termination of Coverage

- Must send in notice of termination (NOT) within 30 days of final stabilization
- Transfer to another owner/operator
- Permit terminates at midnight of the day the NOT is signed



Ag Exclusion

- Conservation practices on tilled cropland excluded
- Ag waste – part of feedlot permit
- For construction on land used for agricultural purposes, final stabilization is restoring the disturbed land to its preconstruction agricultural use

Excluded

- Non-point source agricultural and silvicultural discharges excluded from NPDES requirements under 40 CFR part 122.3(e)
- This covers many NRCS practices but not Snake River PL566, dams

DESIGN

BWSR/NRCS PLAN TO ADDRESS NPDES REQUIREMENTS

Components of Stormwater Pollution Prevention Plan	Construction Drawings	Construction Specification	Inspection Plan	Pre-Construction Meeting	Other
Describe the nature of the construction activity	P				
Address the potential for sediment and pollutant discharges from the site				P	
Identify someone to oversee BMP implementation			P		
Identify chain of responsibility for general contractor and owner				P	
Identify temporary sediment basins, if more than 10 acres are disturbed and drain to a single point of discharge	P				
		P			
Identify erosion prevention practices		P			
Identify sediment control practices		P			
Identify dewatering and basin draining practices		P			
Identify inspection and maintenance practices		P			
Identify pollution prevention management measures		P			
Retain records					
Describe the timing of BMP installation	P				
Location and type of temporary and permanent BMP's		P			
Include standard plates and specifications of BMP's		P			
Include a site map identifying:	P				
- Existing and final grades					
- Dividing lines and direction of pre and post-construction stormwater flow and drainage areas					
- Impervious surfaces and soil types					
- Location of areas not to be disturbed					
- Phased construction areas					
- Surface waters and wetlands within 1/2 mile that receive runoff from the site					
Describe methods of final stabilization of exposed soil		P			
Include any additional measures needed to protect special waters and for projects in Karst areas or in drinking water supply management areas		P			
Include any additional measures necessary to comply with any total maximum daily load (TMDL) established for the receiving waters		P			

P - Primary Action

Frequently Used BMPs

- Sequencing activities
- Silt fence
- Seeding & mulching
- Diversions
- Sediment trap

Construction Activity Requirements

- Part IV.B. 2. All exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

Requirements

- No unbroken slope lengths of greater than 75 feet for slopes 3:1 or steeper
- Pipe outlets must have temporary or permanent energy dissipation within 24 hours of connection to a surface water.
- Stabilize ditches within 24 hours of connection to surface water

Provisions

- Locate topsoil or other temporary stockpiles of soil in locations where they will not be subject to erosion from concentrated flow.
- When permanent vegetation must be disturbed, limit the area of disturbance to the minimum required for the project.
- Seed, or otherwise stabilize, disturbed areas in accordance with the planting and erosion control specifications for the project. Stabilization must be done within 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.
- If a grassed waterway or diversion will be completed after the fall seeding cutoff date, do not leave a loosened soil surface over winter. Track the finished grade to compact the soil surface for temporary erosion protection. Implement seeding and stabilization as soon as feasible in the spring.

Sediment Basins

- Where 10 acres or more of disturbed soil drain to a common location, a temporary or permanent sediment basin must be provided prior to runoff leaving the site or entering surface waters.

Permanent System

After final stabilization, all storm water must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in wetlands causing a significant adverse impact.

BWSR/NRCS PLAN TO ADDRESS NPDES REQUIREMENTS

Components of Stormwater Pollution Prevention Plan	Construction Operation	Construction Specifications	Inspection Plan	Pre-Construction Meeting	Other
Describe the nature of the construction activity	P				
Address the potential for sediment and pollutant discharges from the site				P	
Identify someone to oversee BMP implementation			P		
Identify chain of responsibility for general contractor and owner				P	
Identify temporary sediment basins, if more than 10 acres are disturbed and drain to a single point of discharge	P				
		P			
Identify erosion prevention practices		P			
Identify sediment control practices		P			
Identify dewatering and basin draining practices		P			
Identify inspection and maintenance practices		P			
Identify pollution prevention management measures		P			
Retain records					
Describe the timing of BMP installation	P				
Location and type of temporary and permanent BMP's		P			
Include standard plates and specifications of BMP's		P			
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- Existing and final grades					
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P - Primary Action

Inspection Plan

- Plan is not required on smaller projects but must know who will oversee efforts
- Who will do inspection(s)?
- What will be recorded?
- Where will records be kept?
- Who will get copies of inspections?

PreConstruction Conference

- May be informal on smaller projects
- Review E&SC features and stress importance
- Clarify agency expectations
- Establish who will do inspections and who will get copies of inspection reports

Inspection

- Permittee must routinely inspect ENTIRE site every 7 days during active construction and within 24 hrs after rainfall greater than 0.5" in 24 hours
- All inspections and maintenance during construction must be recorded in writing and records retained (with SWPPP if permitted)

Inspection Record

- Date & time of inspection
- Name of person(s) conducting inspection
- Findings including recommendations for corrective action
- Corrective action taken including dates, times, parties doing maintenance
- Date and amount of rainfall events greater than 0.5" in 24 hours

Inspection Record 2

- Documentation of changes made (to SWPPP if permitted project)
- Site map clearly marking which areas of the site are under active construction and have land disturbing activities taking place. Site map must also clearly show those areas where construction activity has temporarily or permanently ceased.

Inspections 3

- Where work is suspended due to frozen ground, inspections & maintenance must begin within 24 hours after runoff occurs or prior to resuming construction, whichever comes first.

Inspection Includes:

- All erosion prevention and sediment control BMPs for integrity & effectiveness
- All nonfunctional BMPs must be repaired, replaced, or supplemented with 24 hours after discovery or as soon as field conditions allow access.

Things to Inspect & Maintain

- Silt fences when sediment within 1/3 of the height of the fence or nonfunctional
- Sediment basins – drained and sediment removed when sediment is ½ of storage volume – within 72 hrs of discovery
- Surface water – remove deltas and sediment – within 7 days; restabilize exposed soil areas

Things to Inspect & Maintain

- Construction site vehicle exit locations – look for offsite sediment tracking onto paved surfaces; remove within 24 hrs
- Temporary and permanent water quality management BMPs on site
- Offsite sediment accumulations must be removed to minimize off-site impacts
- Infiltration areas – no compaction, no sediment reaches infiltration areas

Pollution Prevention Measures

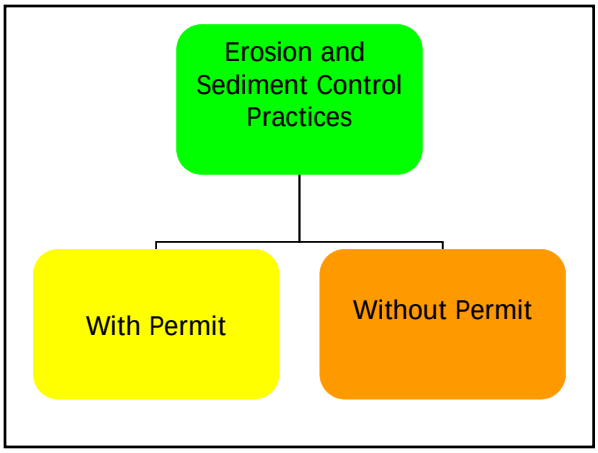
- Solid waste – collected and properly disposed of per MPCA requirements
- Hazardous materials – properly stored to prevent spills, leaks or other discharge; restricted access to avoid vandalism; storage and disposal in accordance with MPCA requirements

Pollution Prevention 2

- External washing of trucks and vehicles limited to defined area. Runoff contained and waste properly disposed of. No engine degreasing on site.
- Concrete washout site – contained by leak-proof facility or impermeable liner. Proper disposal of liquids and solids per MPCA. Signed to use proper facilities.

Cultural Resources

- Follow NRCS/BWSR/Agency policy for all sites



Levels of Inspection

- Job Diary
- General inspection report
- Site specific report
- Forms on NRCS S drive at State Office

Photos

- Take photos during construction, preferably digital
- Include photos with reports and documentation

Site Maps

- Required if permit needed
- Different Levels ---

a. Notations on plans
b. Aerial photos with markings
c. GIS background
d. GIS background with notes on same page

- Changes in plans must be approved by the person who designed the project

- Sediment and erosion control measures should be included on EVERY project, regardless whether an NPDES permit is needed or not.

- Thorough inspection and documentation is required regardless of whether a permit is required or not.

Summary

- For non-permitted project:
- Erosion and sediment control provisions must be in plans, specs, inspection plan
- Take photos and make notes as to effectiveness of practices such as sequencing, temporary seeding, site stabilization.