Satisfying Regulatory Mechanism Requirements for Construction Site Stormwater Runoff Control in Municipal Stormwater Permits

This document is intended to clarify statements in the Minnesota Pollution Control Agency's (MPCA) NPDES permit for Municipal Separate Storm Sewer Systems (MS4). The MS4 permit requires permittees to develop a construction site stormwater runoff control program that reduces pollutants in stormwater from construction activity. The MS4 Permit (Part III.D.4.a) requires the permittee to develop a regulatory mechanism that is at least as stringent as the MPCA's current NPDES Construction General Permit (CGP). Only those parts of the CGP that are considered erosion and sediment controls or waste controls are required to be adopted into the permittee's regulatory mechanism (per 40 CFR § 122.34). The MS4 permit identifies the eight sections of the CGP that qualify as erosion and sediment controls or waste controls, as follows:

1. BMPs to minimize erosion (Part IV.B of the CGP)
2. BMPs to minimize the discharge of sediment and other pollutants (Part IV.C of the CGP)
3. BMPs for dewatering activities (Part IV.D of the CGP)
4. Site inspections and records of rainfall events (Part IV.E of the CGP)
5. BMP maintenance (Part IV.E of the CGP)
6. Management of solid and hazardous wastes on each project site (Part IV.F of the CGP)
7. Final stabilization upon the completion of construction activity, including the use of perennial vegetative cover on all exposed soils or other equivalent means (Part IV.G of the CGP)
8. Criteria for the use of temporary sediment basins (Part III.C of the CGP)

The table in the following pages repeats the language as found in the CGP for each of the eight parts listed above. The language has been adjusted slightly such that references to other parts of the CGP and references to "The MPCA" have been removed in order for the language to read more like a municipality's ordinance. Permittees are not required to adopt this language in its entirety although doing so would fulfill the MS4 Permit requirement. Permittees may choose to re-write these provisions in a manner that is more concise, as long as the concepts and requirements remain the same or more stringent. The CGP contains many recommendations and many sentences have been included as guidance. For example, the first paragraph of the temporary sediment basin requirement states:

> *Where ten (10) or more acres of disturbed soil drain to a common location, the Permittee(s) must provide a temporary sediment basin to provide treatment to the runoff before it leaves the construction site or enters surface waters. A temporary sediment basin may be converted to a permanent basin after construction is complete. The temporary basin is no longer required when permanent cover has reduced the acreage of disturbed soil to less than ten (10) acres draining to a common location. The Permittee(s) is/are encouraged, but not required, to install temporary sediment basins where appropriate in areas with steep slopes or highly erodible soils even if less than ten (10) acres drains to one area. The basins must be designed and constructed according to the following requirements:*

Only the first and last sentence of the temporary basin section of the CGP contains requirements. The rest of the paragraph is included as recommendations and guidance. This could be written in a number of different ways as long as the basic requirement (10 acres draining to one point) remains. Some permittees may choose to use different terminology that better fits their current ordinance or regulatory mechanism. This is acceptable as long as the basic tenant of the requirement remains

Another option is to simply reference the CGP in the regulatory mechanism. This has been done successfully in the past at both the city and county level. The CGP contains many sections that are not considered erosion and sediment control and waste control requirements and permittees may wish to provide a companion document to developers explaining which sections of the CGP they are expected to follow. The specific sections of the CGP are stated in the list above (1-8).

Interpreting the language found in the CGP can be subjective at times. Permittees may find it helpful to also adopt some of the definitions found in the CGP in order to provide clarity within the requirements. The words in bold in the table below all have a definition in the CGP and the definitions can be found at the end of this document.

1. Best Management Practices (BMPs) to minimize erosion.

EROSION PREVENTION PRACTICES [Part IV. B]

1. The Permittee(s) must plan for and implement appropriate **BMP**s such as construction phasing, vegetative buffer strips, horizontal slope grading, inspection and the required maintenance of **BMP**s and other construction practices that minimize erosion as necessary to comply with this permit and protect **waters of the state**. The location of areas not to be disturbed must be delineated (e.g., with flags, stakes, signs, silt fence etc.) on the **project** site before work begins. The Permittee(s) must minimize the need for disturbance of portions of the **project** that have **steep slopes**. For those sloped areas which must be disturbed, the Permittee(s) must use techniques such as phasing and **stabilization** practices designed for **steep slopes** (e.g., slope draining and terracing).
2. The Permittee(s) must stabilize all exposed soil areas (including stockpiles). **Stabilization** must be **initiated immediately** to limit soil erosion whenever any **construction activity** has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14[A] calendar days. **Stabilization** must be completed no later than 14[A] calendar days after the **construction activity** in that portion of the site has temporarily or permanently ceased. For **Public waters** that the Minnesota Department of Natural Resources has promulgated "work in water restrictions" during specified fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete the **stabilization** activities within 24 hours during the restriction period. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement but must be in compliance with the **sediment control** requirements for stockpiles.
3. If using **stormwater** conveyance channels ,the Permittee(s) must design the channels to route water around unstabilized areas on the site and to reduce erosion, unless **infeasible**. The Permittee(s) must use erosion controls and velocity dissipation devices such as check dams, sediment traps, riprap, or grouted riprap at outlets within and along the length of any constructed **stormwater** conveyance channel, and at any outlet, to provide a non-erosive flow velocity, to minimize erosion of channels and their embankments, outlets, adjacent stream banks, slopes, and downstream waters during discharge conditions.
4. The Permittee(s) must stabilize the **normal wetted perimeter** of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, within 200 lineal feet from the property edge, or from the point of discharge into any **surface water**. **Stabilization** of the last 200 lineal feet must be completed within 24 hours after connecting to a **surface water** or property edge.
   The Permittee(s) shall complete **stabilization** of the remaining portions of any temporary or permanent ditches or swales within 14[A] calendar days after connecting to a **surface water** or property edge and construction in that portion of the ditch has temporarily or permanently ceased.
   Temporary or permanent ditches or swales that are being used as a sediment containment system during construction (with properly designed rock-ditch checks, bio rolls, silt dikes, etc.) do not need to be stabilized during the temporary period of its use as a sediment containment system. These areas must be stabilized within 24 hours after no longer being used as a sediment containment system.
   Applying mulch, hydromulch, tackifier, polyacrylamide or similar **erosion prevention** practices is not acceptable **stabilization** in any part of a temporary or permanent drainage ditch or swale.
5. Pipe outlets must be provided with temporary or permanent **energy dissipation** within 24 hours after connection to a **surface water**.
6. Unless **infeasible** due to lack of pervious or vegetated areas, the Permittee(s) must direct discharges from **BMP**s to vegetated areas of the site (including any **natural buffer**s) in order to increase sediment removal and maximize **stormwater** infiltration. The Permittee(s) must use velocity dissipation devices if necessary to prevent erosion when directing **stormwater** to vegetated areas.

   [A] For areas of the **project** draining to a discharge point on the **project** that is within one mile of a special or impaired water as defined by the Minnesota NPDES Permit for **construction activity**, the time frame stated in this requirement shall be seven (7) days.

2. BMPs to minimize the discharge of sediments and other pollutants.

SEDIMENT CONTROL PRACTICES [Part IV. C]

1. The Permittee(s) must employ **Sediment control** practices as necessary to minimize sediment from entering **surface water**s, including curb and gutter systems and storm sewer inlets.
   a. Temporary or permanent drainage ditches and sediment basins that are designed as part of a sediment containment system (e.g., ditches with rock-check dams) require **sediment control** practices only as appropriate for site conditions.
   b. If the down gradient **sediment control**s are overloaded (based on frequent failure or excessive maintenance requirement), the Permittee(s) must install additional upgradient **sediment control** practices or redundant **BMP**s to eliminate the overloading, and the site plans must be amended to identify these additional practices.
2. **Sediment control** practices must be established on all down gradient perimeters and be located upgradient of any buffer zones. The perimeter **sediment control** practice must be in place before any upgradient land-disturbing activities begin. These practices shall remain in place until final **stabilization** has been established. A floating silt curtain placed in the water is not a **sediment control BMP** to satisfy perimeter control requirements in this part except when working on a shoreline and below the waterline. In those cases, a floating silt curtain can be used as a perimeter control practice if the floating silt curtain is installed as close to shore as possible. Immediately after the short term **construction activity** (e.g. installation of rip rap along the shoreline) in that area is complete, an upland perimeter control practice must be installed if exposed soils still drain to the **surface water**.
3. The Permittee(s) shall re-install all **sediment control** practices that have been adjusted or removed to accommodate short-term activities such as clearing or grubbing, or passage of vehicles, immediately after the short-term activity has been completed. The Permittee(s) shall complete any short-term activity that requires removal of **sediment control** practices as quickly as possible. The Permittee(s) must re-install **sediment control** practices before the next precipitation event even if the short-term activity is not complete.
4. All storm drain inlets must be protected by appropriate **BMP**s during construction until all sources with potential for discharging to the inlet have been stabilized. Inlet protection may be removed for a particular inlet if a specific safety concern (street flooding/freezing) has been identified by the Permittee(s) or the jurisdictional authority (e.g., city/county/township/MnDOT engineer).The Permittee(s) must document the need for removal in the site plans.
5. Temporary soil stockpiles must have silt fence or other effective **sediment control**s, and cannot be placed in any **natural buffer**s or **surface water**s, including **stormwater** conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the **stormwater**.
6. Where vehicle traffic leaves any part of the site (or onto paved roads within the site):
   a. The Permittee(s) must install a vehicle tracking **BMP** to minimize the track out of sediment from the construction site. Examples of vehicle tracking **BMP**s include (but are not limited to) rock pads, mud mats, slash mulch, concrete or steel wash racks, or equivalent systems.
   b. The Permittee(s) must use street sweeping if such vehicle tracking **BMP**s are not adequate to prevent sediment from being tracked onto the street.
7. The Permittee(s) must minimize soil compaction and, unless **infeasible**, preserve topsoil. Minimizing soil compaction is not required where the function of a specific area of the site dictates that it be compacted.
8. The Permittee(s) must preserve a 50 foot **natural buffer** or (if a buffer is **infeasible** on the site) provide redundant **sediment control**s when a **surface water** is located within 50 feet of the **project**'s earth disturbances and **stormwater** flows to the **surface water**. **Natural buffer**s are not required adjacent to road ditches, judicial ditches, county ditches, **stormwater** conveyance channels, storm drain inlets, and sediment basins. The Permittee(s) is/are not required to enhance the quality of the vegetation that already exists in the buffer or provide vegetation if none exist. However, Permittee(s) can improve the **natural buffer** with vegetation.
9. If the Permittee(s) intend to use polymers, flocculants, or other sedimentation treatment chemicals on the **project** site, the Permittee(s) must comply with the following minimum requirements:
   a. The Permittee(s) must use conventional erosion and **sediment control**s prior to chemical addition to ensure effective treatment. Chemicals may only be applied where treated **stormwater** is directed to a **sediment control** system which allows for filtration or settlement of the floc prior to discharge.
   b. Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed during construction, and to the expected turbidity, pH, and flow rate of **stormwater** flowing into the chemical treatment system or area.
   c. Chemicals must be used in accordance with accepted engineering practices, and with dosing specifications and sediment removal design specifications provided by the manufacturer or provider/supplier of the applicable chemicals.

3. BMPs for dewatering activities.

DEWATERING AND BASIN DRAINING [Part IV. D]

1. The Permittee(s) must discharge turbid or sediment-laden waters related to **dewatering** or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) to a temporary or permanent sedimentation basin on the **project** site unless **infeasible**. The Permittee(s) may discharge from the temporary or permanent sedimentation basins to **surface water**s if the basin water has been visually checked to ensure adequate treatment has been obtained in the basin and that nuisance conditions (see Minn. R. 7050.0210, subp. 2) will not result from the discharge. If the water cannot be discharged to a sedimentation basin prior to entering the **surface water**, it must be treated with the appropriate **BMP**s, such that the discharge does not adversely affect the receiving water or downstream properties. If the Permittee(s) must discharge water that contains oil or grease, the Permittee(s) must use an oil-water separator or suitable filtration device (e.g. cartridge filters, absorbents pads) prior to discharging the water. The Permittee(s) must ensure that discharge points are adequately protected from erosion and scour. The discharge must be dispersed over natural rock riprap, sand bags, plastic sheeting, or other accepted **energy dissipation** measures.
2. All water from **dewatering** or basin-draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in **wetland**s causing significant adverse impact to the **wetland**.
3. If the Permittee(s) is/are using filters with backwash water, the Permittee(s) must haul the backwash water away for disposal, return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not cause erosion. The Permittee(s) may discharge backwash water to the sanitary sewer if permission is granted by the sanitary sewer authority. The Permittee(s) must replace and clean the filter media used in **dewatering** devices when required to retain adequate function.

4. Site inspections and records of rainfall events.

INSPECTIONS AND MAINTENANCE [Part IV. E]

1. The Permittee(s) must ensure that a trained person will routinely inspect the entire construction site at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within seven (7) days after the rainfall event.
2. All inspections and maintenance conducted during construction must be recorded within 24 hours in writing and these records must be retained with the site plans. Records of each inspection and maintenance activity shall include:
   a. Date and time of inspections
   b. Name of person(s) conducting inspections
   c. Findings of inspections, including the specific location where corrective actions are needed
   d. Corrective actions taken (including dates, times, and party completing maintenance activities)
   e. Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of your location or a weather reporting system that provides site specific rainfall data from radar summaries.
   f. If any discharge is observed to be occurring during the inspection, a record of all points of the property from which there is a discharge must be made, and the discharge should be described (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of pollutants) and photographed.
   g. Any amendments to the site plans proposed as a result of the inspection must be documented within seven (7) calendar days.
3. Inspection frequency adjustment
   a. Where parts of the **project** site have permanent cover, but work remains on other parts of the site, the Permittee(s) may reduce inspections of the areas with permanent cover to once per month.
   b. Where construction sites have permanent cover on all exposed soil areas and no **construction activity** is occurring anywhere on the site, the site must be inspected during non-frozen ground conditions at least once per month for a period of twelve (12) months. Following the twelfth month of permanent cover and no **construction activity**, inspections may be terminated until **construction activity** is once again initiated unless the Permittee(s) is/are notified in writing by the MPCA that erosion issues have been detected at the site and inspections need to resume.
   c. Where work has been suspended due to frozen ground conditions, the inspections may be suspended. The required inspections and maintenance schedule must begin within 24 hours after runoff occurs at the site or 24 hours prior to resuming construction, whichever comes first.
4. The Permittee(s) must inspect all **erosion prevention** and **sediment control BMP**s and Pollution Prevention Management Measures to ensure integrity and effectiveness during all routine and post-rainfall event inspections. All nonfunctional **BMP**s must be repaired, replaced, or supplemented with functional **BMP**s by the end of the next business day after discovery, or as soon as field conditions allow access unless another time frame is specified below. The Permittee(s) must investigate and comply with the following inspection and maintenance requirements:
   a. All perimeter control devices must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches one-half (1/2) of the height of the device. These repairs must be made by the end of the next business day after discovery, or thereafter as soon as field conditions allow access.
   b. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches one-half (1/2) the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access.
   c. **Surface water**s, including drainage ditches and conveyance systems, must be inspected for evidence of erosion and sediment deposition during each inspection. The Permittee(s) must remove all deltas and sediment deposited in **surface water**s, including drainage ways, catch basins, and other drainage systems, and restabilize the areas where sediment removal results in exposed soil. The removal and **stabilization** must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The Permittee(s) shall use all reasonable efforts to obtain access. If precluded, removal and **stabilization** must take place within seven (7) calendar days of obtaining access. The Permittee(s) is/are responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work in **surface water**s.
   d. Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces both on and off site within 24 hours of discovery.
   e. Streets and other areas adjacent to the **project** must be inspected for evidence of off-site accumulations of sediment. If sediment is present, it must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a

safety hazard to users of public streets).

5. All infiltration areas must be inspected to ensure that no sediment from ongoing **construction activity** is reaching the infiltration area. All infiltration areas must be inspected to ensure that equipment is not being driven across the infiltration area.

5. BMP maintenance.

INSPECTIONS AND MAINTENANCE [Part IV. E (2,5)]

1. All inspections and maintenance conducted during construction must be recorded within 24 hours in writing and these records must be retained with the site plans. Records of each inspection and maintenance activity shall include:
   a. Date and time of inspections
   b. Name of person(s) conducting inspections
   c. Findings of inspections, including the specific location where corrective actions are needed
   d. Corrective actions taken (including dates, times, and party completing maintenance activities)
   e. Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of your location or a weather reporting system that provides site specific rainfall data from radar summaries.
   f. If any discharge is observed to be occurring during the inspection, a record of all points of the property from which there is a discharge must be made, and the discharge should be described (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of pollutants) and photographed.
   g. Any amendments to the site plans proposed as a result of the inspection must be documented within seven (7) calendar days.
2. The Permittee(s) must inspect all **erosion prevention** and **sediment control BMP**s and Pollution Prevention Management Measures to ensure integrity and effectiveness during all routine and post-rainfall event inspections. All nonfunctional **BMP**s must be repaired, replaced, or supplemented with functional **BMP**s by the end of the next business day after discovery, or as soon as field conditions allow access unless another time frame is specified below. The Permittee(s) must investigate and comply with the following inspection and maintenance requirements:
   a. All perimeter control devices must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches one-half (1/2) of the height of the device. These repairs must be made by the end of the next business day after discovery, or thereafter as soon as field conditions allow access.
   b. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches one-half (1/2) the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access (see Part IV.D.).
   c. **Surface water**s, including drainage ditches and conveyance systems, must be inspected for evidence of erosion and sediment deposition during each inspection. The Permittee(s) must remove all deltas and sediment deposited in **surface water**s, including drainage ways, catch basins, and other drainage systems, and restabilize the areas where sediment removal results in exposed soil. The removal and **stabilization** must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The Permittee(s) shall use all reasonable efforts to obtain access. If precluded, removal and **stabilization** must take place within seven (7) calendar days of obtaining access. The Permittee(s) is/are responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work in **surface water**s.
   d. Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces both on and off site within 24 hours of discovery.
      Streets and other areas adjacent to the **project** must be inspected for evidence of off-site accumulations of sediment. If sediment is present, it must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

6. Management of solid and hazardous wastes on each project site.

POLLUTION PREVENTION MANAGEMENT MEASURES [Part IV. F]

The Permittee(s) shall implement the following pollution prevention management measures on the site:

1. Storage, Handling, and Disposal of Construction Products, Materials, and Wastes: The Permittee(s) shall comply with the following to minimize the exposure to **stormwater** of any of the products, materials, or wastes. Products or wastes which are either not a source of contamination to **stormwater** or are designed to be exposed to **stormwater** are not held to this requirement:
    a. Building products that have the potential to leach pollutants must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by a similarly effective means designed to minimize contact with **stormwater**.
    b. Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to minimize contact with **stormwater**.
    c. Hazardous materials, toxic waste, (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials must be in compliance with Minn. R. ch. 7045 including secondary containment as applicable.
    d. Solid waste must be stored, collected and disposed of properly in compliance with Minnesota Rule Chapter 7035.
    e. Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.
2. Fueling and Maintenance of Equipment or Vehicles; Spill Prevention and Response: The Permittee(s) shall take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded including the use of drip pans or absorbents unless **infeasible**. The Permittee(s) must conduct fueling in a contained area unless **infeasible**. The Permittee(s) must ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials. The Permittee(s) must report and clean up spills immediately as required by Minn. Stat. § 115.061, using dry clean up measures where possible.
3. Vehicle and equipment washing: If the Permittee(s) wash the exterior of vehicles or equipment on the **project** site, washing must be limited to a defined area of the site. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls and waste from the washing activity must be properly disposed of. The Permittee(s) must properly use and store soaps, detergents, or solvents. No engine degreasing is allowed on site.
4. Concrete and other washouts waste: The Permittee(s) must provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the **construction activity**. The liquid and solid washout wastes must not contact the ground, and the containment must be designed so that it does not result in runoff from the washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with Minnesota Rule Chapter 7035. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

7. Final stabilization upon the completion of construction activity, including the use of perennial vegetative cover on all exposed soils or other equivalent means.

FINAL STABILIZATION [Part IV. G]

The Permittee(s) must ensure final **stabilization** of the site. final **stabilization** is not complete until all five requirements in this section are complete:

1. All soil disturbing activities at the site have been completed and all soils are stabilized by a uniform perennial vegetative cover with a density of 70 percent of its expected final growth density over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.
2. The permanent **stormwater** management system is constructed, meets all of the required design parameters and is operating as designed.
   Temporary or permanent sedimentation basins that are to be used as permanent water quality management basins have been cleaned of any accumulated sediment. All sediment has been removed from conveyance systems and ditches are stabilized with permanent cover.
3. All temporary synthetic and structural **erosion prevention** and **sediment control BMP**s (such as silt fence) have been removed on the portions of the site for which the Permittee(s) is/are responsible. **BMP**s designed to decompose on site (such as some compost logs) may be left in place.
4. For residential construction only, individual lots are considered finally stabilized if the structure(s) are finished and **temporary erosion protection** and down gradient perimeter control has been completed and the residence has been sold to the homeowner.
5. For construction **project**s on agricultural land (e.g., pipelines across crop, field pasture or range land) the disturbed land has been returned to its preconstruction agricultural use.

8. Criteria for the use of temporary sediment basins.

TEMPORARY SEDIMENT BASINS [Part III. C]

Where ten (10)[B] or more acres of disturbed soil drain to a common location, the Permittee(s) must provide a temporary sediment basin to provide treatment to the runoff before it leaves the construction site or enters **surface water**s. A temporary sediment basin may be converted to a permanent basin after construction is complete. The temporary basin is no longer required when permanent cover has reduced the acreage of disturbed soil to less than ten (10)[B] acres draining to a common location. The Permittee(s) is/are encouraged, but not required, to install temporary sediment basins where appropriate in areas with **steep slopes** or highly erodible soils even if less than ten (10) acres drains to one area. The basins must be designed and constructed according to the following requirements:

1. The basins must provide live storage for a calculated volume of runoff from a two (2)-year, 24-hour storm from each acre drained to the basin, except that in no case shall the basin provide less than 1,800 cubic feet of live storage from each acre drained to the basin.
2. Where the calculation above has not been performed, a temporary sediment basin providing 3,600 cubic feet of live storage per acre drained to the basin shall be provided for the entire drainage area of the temporary basin.
3. Temporary basin outlets must be designed to prevent short-circuiting and the discharge of floating debris. The basin must be designed with the ability to allow complete basin drawdown for maintenance activities, and must include a stabilized emergency overflow to prevent failure of pond integrity. The outlet structure must be designed to withdraw water from the surface in order to minimize the discharge of pollutants, except that the use of a surface withdrawal mechanism for discharge of the basin may be temporarily suspended during frozen conditions. **Energy dissipation** must be provided for the basin outlet.
4. Sediment Basins must be situated outside of surface and must be designed to avoid draining water from **wetland**s unless the impact to the **wetland** has been properly mitigated for.
5. The temporary basins must be constructed and made operational prior to ten (10)[B] or more acres of disturbed soil draining to a common location.
6. Where a temporary sediment basin meeting the requirements of this part is **infeasible**, equivalent **sediment control**s such as smaller sediment basins, and/or sediment traps, silt fences, vegetative buffer strips, or any appropriate combination of measures are required for all down-slope boundaries of the construction area and for side-slope boundaries as dictated by individual site conditions. In determining whether installing a sediment basin is **infeasible**, the Permittee(s) must consider public safety and may consider factors such as site soils, slope, and available area on site. This determination of infeasibility must be documented in the site plans.

[B] For areas of the **project** draining to a discharge point on the **project** that is within one mile of a special or impaired water as defined by the Minnesota NPDES Permit for **construction activity**, the disturbed area stated in this requirement shall be five (5) acres.

DEFINITIONS AND APPREVIATIONS

"Best Management Practices (BMPs)" means the most effective and practicable means of **erosion prevention** and **sediment control**, and water quality management practices that are the most effective and practicable means of to control, prevent, and minimize degradation of **surface water**, including avoidance of impacts, construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, pollution prevention through good housekeeping, and other management practices published by state or designated area-wide planning agencies.

Individual BMPs found in this permit are described in the current versions of Protecting Water Quality in Urban Areas, MPCA and The Minnesota Stormwater Manual, MPCA. BMPs must be adapted to the site and can be adopted from other sources. However, they must be similar in purpose and at least as effective and stringent as MPCA's BMPs. (Other sources include manufacturers specifications, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices, U.S. Environmental Protection Agency 1992, and Erosion Control Design Manual, Minnesota Department of Transportation, et al, 1993).

"Construction Activity" includes **construction activity** as defined in 40 CFR § 122.26(b)(14)(x) and small construction activity as defined in 40 CFR § 122.26(b)(15) and **construction activity** as defined by Minn.

R. 7090.0080, subp. 4. This includes a disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated **stormwater** runoff, leading to soil erosion and movement of sediment into **surface waters** or drainage systems. Examples of **construction activity** may include clearing, grading, filling, and excavating. **Construction activity** includes the disturbance of less than one acre of total land area that is a part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb one (1) acre or more. **Construction activity** does not include a disturbance to the land of less than five (5) acres for the purpose of routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

"Dewatering" means the removal of surface or ground water to dry and/or solidify a construction site to enable **construction activity**. Dewatering may require a Minnesota Department of Natural Recourses water appropriation permit and, if dewatering water is contaminated, discharge of such water may require an individual MPCA **NPDES**/SDS permit.

"Energy Dissipation" means methods employed at pipe outlets to prevent erosion caused by the rapid discharge of water scouring soils. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion.

"Erosion Prevention" means measures employed to prevent erosion. Examples include but not limited to: soil **stabilization** practices, limited grading, mulch, **temporary erosion protection** or **permanent cover**, and construction phasing.

"Infeasible" means not technologically possible or not economically practicable and achievable in light of the best industry practices.

"Initiated immediately" means taking an action to commence **stabilization** as soon as practicable, but no later than the end of the work day, following the day when the earth-disturbing activities have temporarily or permanently ceased, if the **Permittee(s)** know that construction work on that portion of the site will be temporarily ceased for 14 or more additional calendar days or 7 calendar days where Appendix A.C.1.a applies. The following activities can be taken to initiate **stabilization**:

1. prepping the soil for vegetative or non-vegetative **stabilization**
2. applying mulch or other non-vegetative product to the exposed soil area
3. seeding or planting the exposed area
4. starting any of the activities in # 1 – 3 on a portion of the area to be **stabilized**, but not on the entire area and
5. finalizing arrangements to have **stabilization** product fully installed in compliance with the applicable deadline for completing **stabilization**

"Permanent Cover" means surface types that will prevent soil failure under erosive conditions. Examples include: gravel, asphalt, concrete, rip rap, roof tops, perennial cover, or other landscaped material that will permanently arrest soil erosion. A uniform perennial vegetative cover (i.e. evenly distributed, without large bare areas) with a density of 70 percent of the native background vegetative cover for the area must be established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures. **Permanent cover** does not include the practices listed under **temporary erosion protection**.

"Project(s)" means all **construction activity** that is planned and/or conducted under a particular permit. The **project** will occur on the site or sites described in the permit application, and in the associated plans, specifications and contract documents.

"**Public Waters**" means all water basins and watercourses that are described in Minn. Stat. § 103G.005 subd. 15.

"Natural Buffer" means an area of undisturbed cover surrounding surface waters within which construction activities are restricted. Natural buffer includes the vegetation, exposed rock, or barren ground that exists prior to commencement of earth-disturbing activities.

"Normal Wetted Perimeter" means the area of a conveyance, such as a ditch, channel, or pipe that is in contact with water during flow events that are expected to occur from a two-year 24-hour storm event.

"Stabilize, Stabilized, Stabilization" means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, mats or other material that prevents erosion from occurring. Grass, agricultural crop or other seeding alone is not **stabilization**. Mulch materials must achieve approximately 90 percent ground coverage (typically 2 ton/acre).

"Sediment Control" means methods employed to prevent sediment from leaving the site. **Sediment control** practices include silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, bio rolls, rock logs, compost logs, storm drain inlet protection, and temporary or permanent sedimentation basins. A floating silt curtain placed in the water is not a **sediment control BMP** to satisfy perimeter control requirements, except as provided for in the sediment control part.

"Steep Slopes" means slopes that are 1:3 (V:H) (33.3 percent) or steeper in grade.

"Stormwater" is defined under Minn. R. 7077.0105, subp. 41(b), and includes precipitation runoff, **stormwater** runoff, snowmelt runoff, and any other surface runoff and drainage.

"Surface Water or Waters" means all streams, lakes, ponds, marshes, **wetlands**, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems whether natural or artificial, public or private, except that **surface waters** do not include treatment basins or ponds that were constructed from upland. Treatment basins or ponds that were constructed in **wetlands** and mitigated in accordance with Appendix A.D are also not considered surface waters for purposes of this permit.

"Temporary erosion protection" means methods employed to prevent erosion during construction activities. Examples of **temporary erosion protection** include, but are not limited to: straw, wood fiber blanket, wood chips, vegetation, mulch, and rolled erosion control products.

"Waters of the State" (as defined in Minn. Stat. § 115.01, subd. 22) means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.