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“Model” MCM 4 and MCM 5 Regulatory Mechanism Guidance

The goal of the MPCA is to provide the MS4 regulated community with options to meet the requirements of the Minnesota Pollution Control Agency’s NPDES/SDS Small Municipal Separate Storm Sewer Systems General Permit MNR040000 (MS4 Permit), issued November 16, 2020.

The following guidance offers multiple options for meeting the MCM 4 and MCM 5 Requirements of the MS4 Permit.

**Option #1\***: Blanket incorporation of the entire Minnesota Pollution Control Agency’s NPDES/SDS Construction Stormwater General Permit MNR100001 (CSW Permit) by reference.

“[NAME OF MS4] hereby adopts and incorporates by reference the standards established by the Minnesota Pollution Control Agency’s NPDES/SDS Construction Stormwater General Permit MNR100001 (CSW Permit) as amended in its entirety as now constituted and from time to time amended.” ***[Item 19.3]***

Option #1 allows the MS4 to quickly incorporate all of the requirements of the CSW Permit into their Regulatory Mechanism. This option also is designed, if the MS4 uses the language proposed above, so that if the MPCA makes any amendments/changes/alterations to the CSW permit, the MS4’s Regulatory Mechanism automatically reflects the most current version of the permit. One thing to keep in mind though, this option incorporates ALL of the CSW permit requirements into the MS4’s Regulatory Mechanism; because of that, this option may not be the best option for the MS4. Please consult with your legal representative prior to implementing this option to discuss how this affects your local program.

**Option #2\***: Blanket incorporation of sections of the Minnesota Pollution Control Agency’s NPDES/SDS Construction Stormwater General Permit MNR100001 (CSW Permit) by reference.

*“[NAME OF MS4]* hereby adopts and incorporates by reference the erosion, sediment, and waste control standards established by the Minnesota Pollution Control Agency’s NPDES/SDS Construction Stormwater General Permit MNR100001 (CSW Permit) as now constituted and from time to time amended.” ***[Item 19.3]***

As with Option #1, Option #2 allows the MS4 to quickly incorporate only those erosion, sediment, and waste control standard requirements of the CSW Permit that the MS4 permit requires the MS4 to implement into their Regulatory Mechanism. This option, if the MS4 uses the language proposed above, is also designed so that if the MPCA makes any amendments/changes/alterations to the CSW permit, the MS4’s Regulatory Mechanism automatically reflects the most current version of the permit.

\*Please note, if either Option 1 or Option 2 are adopted, the MS4 would be required to also incorporate, into their regulatory mechanism, MCM 4 site plan review requirements as identified in item 19.5 and the requirements of MCM 5 (Section 20) of the MS4 permit to be compliant with all MCM 4 and MCM 5 requirements of the MS4 permit. One option to meet this requirement would be to incorporate requirements in Section 2.a. (Site Plan Review), 2.b. (Site Plan Requirements), and Section 3 (Post-Construction Stormwater Management) of the “Model” MCM 4 and MCM 5 Regulatory Mechanism into your regulatory mechanism(s).

**Option #3**: Adoption of the “Model” MCM 4 and MCM 5 Regulatory Mechanism

The following “Model” Regulatory Mechanism may be adopted in its entirety by an MS4 permittee in an effort to obtain compliance with the MCM 4 and MCM 5 requirements of the Minnesota Pollution Control Agency’s NPDES/SDS Small Municipal Separate Storm Sewer Systems General Permit MNR040000 (MS4 Permit), issued November 16, 2020. The model regulatory mechanism has been written so that it meets all of the MCM 4 and MCM 5 requirements of the MS4 permit and will apply within every jurisdiction within the State of Minnesota.

Having said that, there are “*Italic Notes*” throughout the document identifying language that may not apply to all areas of the state or within your MS4 jurisdiction. Please be aware of these notes and adjust the model regulatory mechanism accordingly. If you would happen to leave the information in your regulatory mechanism it will not affect the enforceability of the document. An example of this would be language related to “Impaired Waters”, “Other Special Waters”, “Prohibited Waters” and “Restricted Waters”. Not all MS4s have one or all of these water bodies within their MS4 jurisdiction.

Here are a few other notes to consider when utilizing the “Model” MCM 4 and MCM 5 Regulatory Mechanism: Throughout the model regulatory mechanism there are many items that are in are written in Red text and are

*italic*. These items will need to be replaced with the appropriate name/term/party/etc. appropriate for the MS4 that has adopted the model language. The items that you will need to address are listed below.

*[NAME OF MS4]* The MS4 would be replaced with the appropriate title for their entity.

*[Term determined by the MS4]* The MS4 would replace this with a term that reflects the persons, firm, governmental agency, or other entity on the application submitted and are responsible for compliance with the terms and conditions of this ordinance.

*[permit or other term used by MS4]* The MS4 would replace this with a term that describes the mechanism that the MS4 is using to grant approval for the proposed project.

*[permit application or other term used by MS4]* The MS4 would replace this with a term

that describes the mechanism that the person/entity is using to request approval for a proposed project.

Throughout the model regulatory mechanism there are numbers/values written in *Blue italic* text. These numbers represent the MS4 Permit requirements that are being met by the model language. These numbers should be removed after the MS4 adopts the model language.

\*DISCLAIMER: This model ordinance meets all MCM 4 and MCM 5 requirements of the MS4 permit. If this model ordinance language is altered in any way, it may no longer meet the MS4 Permit requirements for MCMs 4 and

5. If you choose to alter the model ordinance you may want to consider reaching out to your MPCA contact to determine if the altered ordinance still meets the applicable requirements.

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# Statutory Authorization and Purpose

## Statutory Authorization

**Statutory authority.** Minn. Stat. ch. (citation to either county enabling stat. 394 or municipal enabling stat. 462 and 467) authorizes *[NAME OF MS4]* to adopt land use regulations.

**Most restrictive law applies.** In the event of any conflict between provisions of this chapter or other regulations adopted by *[NAME OF MS4]*, the State of Minnesota, or Federal authorities, watershed district or watershed management organization, the more restrictive standard shall prevail.

## Purpose/Scope/Applicability

**Purpose.** The purpose of this chapter is established to promote, preserve and enhance natural resources and human health and safety within *[NAME OF MS4]* by protecting them from the adverse impacts of uncontrolled stormwater runoff during and after construction projects.

**Scope.** This chapter sets requirements for stormwater conveyance systems and management practices within *[NAME OF MS4]*. This chapter also regulates land disturbing or development activities that would have a negative and potentially irreversible impact on water quality.

**Applicability.** The requirements of this chapter apply to all construction activity as defined below.

# Definitions

**“Active karst”** means a terrain having distinctive landforms and hydrology created primarily from the dissolution of soluble rocks within 50 feet of the land surface.

**“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.

**"Common Plan of Development or Sale"** means one proposed plan for a contiguous area where multiple separate and distinct land-disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.

**"Construction Activity"** means activities including clearing, grading, and excavating, that result in land disturbance of equal to or greater than one acre, including the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one acre. This includes a disturbance to the land that results in a change in the topography, existing soil cover, both vegetative and nonvegetative, or the existing soil topography that may result in accelerated stormwater runoff that may lead to soil erosion and movement of sediment. Construction activity does not include a disturbance to the land of less than five acres for the purpose of routine maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Routine maintenance does not include activities such as repairs, replacement and other types of non-routine maintenance. Pavement rehabilitation that does not disturb the underlying soils (e.g., mill and overlay projects) is not construction activity.

**"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 Resources (DNR) water appropriation permit and, if dewatering water is contaminated, discharge of such water may require an individual MPCA NPDES/SDS permit.

**“DNR Catchment Area”** means the Hydrologic Unit 08 areas delineated and digitized by the Minnesota DNR. The catchment areas are available for download at the Minnesota DNR Geospatial Commons website. DNR catchment areas may be locally corrected, in which case the local corrections may be used.

**"Energy Dissipation"** means methods employed at pipe outlets to prevent erosion caused by the rapid discharge of water scouring soils.

**"Erosion Prevention"** means measures employed to prevent erosion such as soil stabilization practices, permanent cover or construction phasing.

**"Fully reconstructed"** means areas where impervious surfaces have been removed down to the underlying soils. Activities such as structure renovation, mill and overlay projects, and other pavement rehabilitation projects that do not expose the underlying soils beneath the structure, pavement, or activity are not considered fully reconstructed. Maintenance activities such as catch basin repair/replacement, utility repair/replacement, pipe repair/replacement, lighting, and pedestrian ramp improvements are not considered fully reconstructed.

**“General permit”** means a permit issued under Minn. R. 7001.0210 to a category of owners/operators whose operations, emissions, activities, discharges, or facilities are the same or substantially similar.

**"Groundwater"** means the water contained below the surface of the earth in the saturated zone including, without limitation, all waters whether under confined, unconfined, or perched conditions, in near surface unconsolidated sediment or regolith, or in rock formations deeper underground.

**"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 soil stabilization as soon as practicable, but no later than the end of the workday, following the day when the land- disturbing activities temporarily or permanently ceased. If construction work on the site will be cease for 14 or more additional calendar days, or seven (7) calendar days on a project that is within one mile (aerial radius measurement) of, and flows to, one or more of the following: “impaired waters”, “other special waters”, “prohibited waters”, and/or “restricted waters” as defined), stabilization can be immediately initiated by:

1. Prepping the soil for vegetative or non-vegetative stabilization; or
2. Applying mulch or other non-vegetative product to the exposed soil area; or
3. Seeding or planting the exposed area; or
4. Starting any of the activities in a - c on a portion of the area to be stabilized, but not on the entire area; or
5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization

**“Impaired Waters”** means a water with an USEPA approved TMDL for any of the impairments listed in this item, and waters identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus (nutrient eutrophication biological indicators), turbidity, TSS, dissolved oxygen or aquatic biota (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment).

**"Impervious Surface"** means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, driveways, parking lots, and concrete, asphalt, or gravel roads. Bridges over surface waters are considered impervious surfaces. Recreational trails that are distinctly set apart from a roadway (i.e. not parallel) and intended for non-motorized recreational uses, are not considered impervious surfaces. Sidewalks that are parallel to a roadway (or generally following alongside a roadway) must still be included as impervious surfaces.

**“Linear project”** means construction of new or fully reconstructed roads, trails, sidewalks, or rail lines that are not part of a common plan of development or sale. For example, roads being constructed concurrently with a new residential development are not considered linear projects because they are part of a common plan of development or sale.

**“Municipal separate storm sewer system” or “MS4”** means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches,

man-made channels, or storm drains:

1. Owned or operated by a state, city, town, county, district, association, or other public body, created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district, or drainage district or similar entity, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management Agency under section 208 of the federal Clean Water Act, United States Code, title 33, section 1288, that discharges into waters of the state;
2. Designed or used for collecting or conveying stormwater;
3. That is not a combined sewer; and
4. That is not part of a publicly owned treatment works as defined in 40 CFR 122.2.

Municipal separate storm sewer systems do not include separate storm sewers in very discrete areas, such as individual buildings.

**"National Pollutant Discharge Elimination System (NPDES)"** means the program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits under the Clean Water Act, as amended (33 U.S.C. 1251 et seq. Section 1342 and 40 CFR parts 122, 123, 124 and

450).

"**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 or channel, that is in contact with water during flow events that are expected to occur from a two-year, 24-hour storm event.

**“Other Special Waters”** means Trout Lakes identified in Minn. R. 6264.0050, subp. 2. and Trout Streams listed in Minn. R. 6264.0050, subp. 4.

*“[Term determined by the MS4]”* means the persons, firm, governmental agency, or other entity on the application submitted and are responsible for compliance with the terms and conditions of this ordinance.

**"Permanent Cover"** means surface types that will prevent soil failure under erosive conditions. Examples include: gravel, concrete, perennial cover, or other landscaped material that will permanently arrest soil erosion. Permanent cover consists of a uniform perennial vegetative cover (i.e., evenly distributed, without larger bare areas) with a density of 70 percent of the vegetative cover native to local undisturbed areas on all areas not covered by permanent structures, or equivalent permanent stabilization measures. Permanent cover does not include temporary BMPs such as wood fiber blanket, mulch, and rolled erosion control products.

**"Project(s)"** means all construction activity planned and/or conducted under this ordinance. The project occurs on the site or sites as described in the site plan.

**"Public Waters"** means all water basins and watercourses described in Minn. Stat. Sect. 103G.005 subp. 15.

**“Prohibited Waters”** means Boundary Waters Canoe Area Wilderness; Voyageurs National Park; Kettle River from the site of the former dam at Sandstone to its confluence with the Saint Croix River; Rum River from Ogechie Lake spillway to the northernmost confluence with Lake Onamia; Lake Superior North of latitude 47 degrees, 57 minutes, 13 seconds; Lake Superior East of Hat Point; Lake Superior South of the Minnesota-Ontario boundary; Lake Superior West of the Minnesota- Michigan boundary; Boot Lake, Anoka County; Kettle River in sections 15, 22, 23, T 41 N, R 20, Pine County; Pennington Bog, Beltrami County; Purvis Lake-Ober Foundation, Saint Louis County; waters within the borders of Itasca Wilderness Sanctuary, Clearwater County; Iron Springs Bog, Clearwater County; Wolsfeld Woods, Hennepin County; Green Water Lake, Becker County; Blackdog Preserve, Dakota County; Prairie Bush Clover, Jackson County; Black Lake Bog, Pine County; Pembina Trail Preserve, Polk County; and Falls Creek, Washington County.

**“Restricted Waters”** means Lake Superior, except those portions identified as prohibited special waters in Section 7.2.1. above; the Mississippi River in those portions from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi Headwaters Board comprehensive plan dated February 12, 1981; Saint Croix River, entire length; Cannon River from northern city limits of Faribault to its confluence with the Mississippi River; North Fork of the Crow River from Lake Koronis outlet to the Meeker-Wright county line; Kettle River from north Pine County line to the site of the former dam at Sandstone; Minnesota River from Lac que Parle dam to Redwood County State Aid Highway 11; Mississippi River from County State Aid Highway 7 bridge in Saint Cloud to northwestern city limits of Anoka; Rum River from State Highway 27 bridge in Onamia to Madison and Rice streets in Anoka; the Lake Trout Lakes identified in Minn. R. 7050.0335 including those inside the boundaries of the Boundary Waters Canoe Area Wilderness and Voyageurs National Park; and Calcareous Fens listed in Minn. R 7050.0335, subp. 1.

**"Sediment Control"** means methods employed to prevent suspended sediment in stormwater from leaving the site (e.g. silt fences, compost logs and storm drain inlet protection).

**"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 seeding, agricultural crop seeding or other seeding alone is not stabilization. Mulch materials must achieve approximately 90 percent ground coverage (typically 2 ton/acre).

**"Stormwater"** means precipitation runoff, stormwater runoff, snowmelt runoff, and any other surface runoff and drainage.

**“Structural Stormwater BMP”** means a stationary and permanent BMP that is designed, constructed, and operated to prevent or reduce the discharge of pollutants in stormwater.

**"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 stormwater treatment systems.

**"Wetlands"** (as defined in Minn. R. 7050.0186, subp. 1a.B.) means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes:

1. A predominance of hydric soils; and
2. Inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and
3. Under normal circumstances support a prevalence of such vegetation.

## When a National Pollutant Discharge Eliminations System/State Disposal System (NPDES/SDS) Permit is required and proof of coverage

* 1. **Must obtain a state permit.** The *[Term determined by the MS4]* of construction activity must apply for coverage under the Minnesota Pollution Control Agency’s (MPCA’s) Construction Stormwater Permit (Permit No: MNR100001). A *[NAME OF MS4] [permit or other term used by MS4]* will not be issued until coverage under the MPCA’s Construction Stormwater Permit has been obtained by the applicant.
  2. **Other required permits.** For certain construction activity, various other permits may also be required. The *[Term determined by the MS4]* of construction activity is responsible for obtaining any other required permits from *[NAME OF MS4]* and other State, Federal, or local governmental agencies having any authority over the work to be performed. Typically, such agencies may include, but are not limited to, the U.S. Army Corps of Engineers, the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, the Minnesota Department of Transportation, and the State Historical Preservation Office.

*Note: Items 1. a. and b. are discretionary and not required to meet the MS4 permit and it is up to the MS4 if they would like to include them in their ordinance.*

## Construction Site Stormwater Runoff Control

* 1. **Site Plan Review *[Item 19.5]***
     1. The *[Term determined by the MS4]* of construction activity shall submit a copy of the site plan as part of the *[permit application or other term used by MS4]* for review and confirmation that ordinance requirements have been met.
     2. If the *[permit application or other term used by MS4]* is denied, and the *[Term determined by the MS4]* would like to proceed with the project, the *[Term determined by the MS4]* must revise the *[permit application or other term used by MS4]*, including the site plan, and resubmit.
     3. Once a *[permit, permit application, or other term used by MS4]* has been issued/approved, the site plan becomes an enforceable document and the *[Term determined by the MS4]* must comply with all requirements identified in the site plan. The *[Term determined by the MS4]* is also responsible for keeping the stormwater runoff control requirements identified in the site plan up to date.
  2. **Site Plan Requirements *[Item 19.5 and 19.13]***
     1. The site plan must include the following project information.
        1. Project name
        2. Location of the project
        3. Total acreage to be disturbed
        4. Names of the *[Term determined by the MS4]* responsible for the proposed construction activity
        5. [The MS4 may insert any additional information that they would require as part of their application, i.e. checklists]
     2. The site plan must include the location, type, and narrative of the following best management practices (BMPs) consistent with standards identified in Part 2.c. (Best Management Practices (BMPs) Requirements)
        1. Down gradient sediment controls;
        2. Soil stabilization (temporary and permanent);
        3. Vehicle tracking;
        4. Inspection and maintenance schedules; and
        5. Other BMPs as applicable:
           1. Areas that are not to be disturbed;
           2. Phasing and stabilization BMPs for steep slopes;
           3. Temporary or permanent ditches or swales being used as sediment containment systems;
           4. Pipe outlet energy dissipation
           5. Buffer Zones including but not limited to:

A minimum of a 50-foot natural buffer;

A minimum of a 100-foot buffer zone from “other special waters”, “prohibited waters”, and “restricted waters” as defined;

* + - * 1. Inlet protection BMPs;
        2. Stockpile BMPs;
        3. Dewatering and basin draining;
        4. Temporary Sedimentation Basins consistent with standards identified in Part

2.d. (Design Criteria for Temporary Sediment Basins)

* + - * 1. Pollution Prevention Management BMPs
        2. Permanent Stormwater Management BMPs
  1. **Best Management Practices (BMPs) Requirements *[Item 19.3 and 19.5]***
     1. Erosion Prevention Practices
        1. All areas not to be disturbed must be delineated before work begins;
        2. All steep slopes must be identified in the site plan and disturbance of those steep slopes should be minimized. If steep slopes must be disturbed, techniques such as phasing and stabilization practices designed for steep slopes (e.g., slope draining and terracing) must be implemented;
        3. All exposed soil areas, including stockpiles must be stabilized;
           1. Stabilization must be initiated immediately to limit soil erosion when construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days (or seven

(7) calendar days on a project that is within one mile (aerial radius measurement) of, and flows to, one or more of the following: “impaired waters”, “other special waters”, “prohibited waters”, and/or “restricted waters” as defined);

* + - * 1. Stabilization must be completed no later than 14 calendar days after the construction activity has ceased (or seven (7) calendar days on a project that is within one mile (aerial radius measurement) of, and flows to, one or more of the following: “impaired waters”, “other special waters”, “prohibited waters”, and/or “restricted waters” as defined);
        2. Stabilization is not required on constructed base components of roads, parking lots and similar surfaces;
        3. Stabilization is not required on temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) but permittees must provide sediment controls at the base of the stockpile.
      1. All exposed soil areas within 200 feet of the water's edge, and that drain to Public Waters that the Minnesota DNR has promulgated "work in water restrictions" during specified fish spawning time frames, must be stabilized within 24 hours during the restriction period;
      2. The normal wetted perimeter of the last 200 linear feet of temporary or permanent drainage ditches or swales that drain water from the site must be stabilized within 24 hours after connecting to a surface water or property edge;
      3. Stabilization of remaining portions of temporary or permanent ditches or swales must be completed within 14 calendar days (or seven (7) calendar days on a project that is within one mile (aerial radius measurement) of, and flows to, one or more of the following: “impaired waters”, “other special waters”, “prohibited waters”, and/or “restricted waters” as defined) after connecting to a surface water or property edge and after construction in that portion of the ditch temporarily or permanently ceases;
      4. Temporary or permanent ditches or swales 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. Stabilization of these areas must be completed within 24 hours after their use as a sediment containment system ceases;
      5. Mulch, hydro mulch, tackifier, polyacrylamide or similar erosion prevention practices must not be used within any portion of the normal wetted perimeter of a temporary or permanent drainage ditch or swale section with a continuous slope of greater than 2 percent. Examples of acceptable erosion prevention practices include blankets, poly, riprap, etc.;
      6. Temporary or permanent energy dissipation must be provided at all pipe outlets within 24 hours after connection to a surface water or permanent stormwater treatment system; and
      7. No more land can be disturbed (i.e., phasing) than can be effectively inspected and maintained in accordance with inspection and maintenance requirements.
    1. Sediment Control Practices
       1. Sediment control BMPs must be established on all downgradient perimeters of the site and downgradient areas of the site that drain to any surface water, including curb and gutter systems;
       2. Sediment control practices must be located upgradient of any buffer zones;
       3. Sediment control practices must be installed before any upgradient land-disturbing activities begin and must be kept in place until permanent cover is established. Any sediment control made of soil must be temporarily or permanently stabilized within 24 hrs.
       4. If downgradient sediment controls are overloaded, based on frequent failure or excessive maintenance requirements, additional upgradient sediment control practices or redundant BMPs must be installed to eliminate the overloading. The site plan must be amended to identify these additional practices;
       5. Temporary or permanent drainage ditches and sediment basins 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;
       6. A floating silt curtain placed in the water is not a sediment control BMP to satisfy perimeter control in this part except when working on a shoreline or below the waterline. When applicable, after the construction activity (e.g., installation of rip rap along the shoreline) in that area is complete, upland perimeter control practices must immediately be installed if exposed soils still drain to a surface water;
       7. All sediment control practices adjusted or removed to accommodate short-term activities such as clearing or grubbing, or passage of vehicles, must be re-installed immediately after the short-term activity is completed. All sediment control practices must be re-installed before the next precipitation event even if the short- term activity is not complete;
       8. All storm drain inlets must be protected using appropriate BMPs during construction until permanent cover has been established on all areas with potential for discharging to the inlet;
       9. Inlet protection for a particular inlet may be removed if a specific safety concern (e.g. street flooding/freezing) is identified. The need for removal must be documented in the site plan;
       10. Silt fence or other effective sediment controls must be provided at the base of stockpiles on the downgradient perimeter prior to the initiation of stockpiling;
       11. All stockpiles must be located outside of natural buffers or surface waters, including stormwater conveyances such as curb and gutter systems unless there is a bypass in place for the stormwater;
       12. Vehicle tracking BMPs must be located to minimize the track out of sediment from the construction site or onto paved roads within the site;
       13. Street sweeping must be used in addition to vehicle tracking BMPs if vehicle tracking BMPs are not adequate to prevent sediment tracking onto the street;
       14. Temporary sediment basins must be installed consistent with standards identified in Part 2.d. (Design Criteria for Temporary Sediment Basins);
       15. In any areas of the site where final vegetative stabilization will occur, vehicle and equipment use must be restricted to minimize soil compaction;
       16. Topsoil must be preserved on the site;
       17. Discharges from BMPs must be directed to vegetated areas unless infeasible;
       18. A 50-foot natural buffer must be preserved or, if a buffer is infeasible on the site, redundant (double) perimeter sediment controls must be provided when a surface water is located within 50 feet of the project's earth disturbances and stormwater flows to the surface water;
           1. Permittees must install perimeter sediment controls at least 5 feet apart unless limited by lack of available space;
           2. Natural buffers are not required adjacent to road ditches, judicial ditches, county ditches, stormwater conveyance channels, storm drain inlets, and sediment basins;
           3. If preserving the buffer is infeasible, the reasons must be documented in the site plan;
           4. Sheet piling and other impermeable barriers installed in a manner that retains all Stormwater are considered redundant perimeter control.
       19. An undisturbed buffer zone of not less than 100 linear feet must be included on a project that is within one mile (aerial radius measurement) of, and flows to “other special waters”, “prohibited waters”, and/or “restricted waters” as defined;
           1. The buffer zone must be maintained at all times, both during construction and as a permanent feature post construction, except where a water crossing or other encroachment is necessary to complete the project;
           2. If buffer encroachment is necessary, the circumstance, reasons, and restoration activities must be fully documented in the site plan;
           3. All potential water quality, scenic and other environmental impacts of the encroachments must be minimized by the use of additional or redundant (double) BMPs. Additional or redundant BMPs must be documented in the site plan.
       20. Polymers, flocculants, or other sedimentation treatment chemicals must be used in accordance with accepted engineering practices, dosing specifications and sediment removal design specifications provided by the manufacturer or supplier.
       21. Conventional erosion and sediment controls must be used prior to chemical addition and must direct treated stormwater to a sediment control system for filtration or settlement of the floc prior to discharge.
    2. Dewatering and Basin Draining
       1. Turbid or sediment-laden waters related to dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) must be discharged to a sediment control (e.g. sediment trap or basin, filter bag) designed to prevent discharges with visual turbidity. To the extent feasible, use well-vegetated (e.g. grassy or wooded) upland area of the site to infiltrate dewatering water before discharge;
       2. Receiving waters cannot be used as part of a treatment area;
       3. Discharges from dewatering activities must be visually checked and photographed at the beginning and at least once every 24 hours of operation to ensure treatment has been obtained and nuisance conditions will not result from the discharge. Dewatering activities that only last for minutes, as opposed to hours and do not reach a surface water, do not require photographs or documentation;
       4. If nuisance conditions result from the discharge, dewatering activities must immediately cease and corrective actions must occur before dewatering is resumed. Nuisance conditions include, but is not limited to, a sediment plume in the receiving water or the discharge appears cloudy, or opaque, or has a visible contrast, or has a visible oil film, or causes aquatic habitat degradation that can be identified by an observer;
       5. An oil-water separator or suitable filtration device (e.g., cartridge filters, absorbents pads) must be used prior to discharge of water containing oil or grease;
       6. Water from dewatering or basin-draining activities must be discharged in a manner that does not cause erosion or scour in the immediate vicinity of discharge points;
       7. Dewatering or basin-draining activities cannot cause inundation of wetlands that causes significant adverse impact to the wetland in the immediate vicinity of discharge points.
       8. If filters with backwash water are used, all backwash must be hauled away for disposal, returned to the beginning of the treatment process, or incorporated into the site in a manner that does not cause erosion.
    3. Inspection and Maintenance
       1. A trained person must inspect the entire construction site and areas adjacent to the site at least once every seven (7) days during active construction, or every three (3) calendar days on a project that is within one mile (aerial radius measurement) of, and flows to a “prohibited waters” as defined, and within 24 hours after a rainfall event greater than ½ inch in 24 hours;
       2. All permanent stormwater treatment BMPs must be inspected and maintained;
       3. All erosion prevention and sediment control BMPs and Pollution Prevention Management Measures must be inspected to ensure integrity and effectiveness.
       4. All nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs by the end of the next business day after discovery unless another time frame is specified below. Additional time, if field conditions prevent access to the area, may be taken;
       5. Surface waters, including drainage ditches and conveyance systems, but not curb and gutter systems, must be inspected for evidence of erosion and sediment deposition.
          1. All deltas and sediment deposited in areas adjacent to the site and in surface waters, including drainage ways, catch basins, and other drainage systems must be removed;
          2. All areas where sediment removal resulted in exposed soils must be restabilized. Removal and stabilization must be completed within seven (7) calendar days of discovery unless precluded by legal, regulatory, or physical access constraints;
          3. All reasonable efforts to obtain access must be used;
          4. If precluded, removal and stabilization must take place within seven (7) days of obtaining access; and
          5. Contact all local, regional, state and federal authorities and receive any applicable permits, prior to conducting any work in surface waters;
       6. Construction site vehicle exit locations, streets and curb and gutter systems within and adjacent to the project must be inspected for sedimentation from erosion or tracked sediment from vehicles.
          1. Sediment must be removed from all paved surfaces within one (1) calendar day of discovery or, if applicable, within a shorter time to avoid a safety hazard to users of public streets;
       7. Perimeter control devices must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches ½ of the height of the device;
       8. When the depth of sediment collected in temporary and permanent sedimentation basins reaches ½ the storage volume, the basins must be drained and sediment removed. This must occur within 72 hours of discovery;
       9. At least one individual present on the site (or available to the project site in three

(3) calendar days) must be trained in the job duties of overseeing the implementation of, revising and/or amending the site plans and performing inspections for the project;

* + - 1. Inspection schedules may be adjusted as follows:
         1. Inspections of areas with permanent cover can be reduced to once per month, even if construction activity continues on other portions of the site; or
         2. Where sites have permanent cover on all exposed soil and no construction activity is occurring anywhere on the site, inspections can be reduced to once per month and, after 12 months, may be suspended completely until construction activity resumes. The *[NAME OF MS4]* may require inspections to resume if conditions warrant;
         3. here construction activity has been suspended due to frozen ground conditions, inspections may be suspended. Inspections must resume within 24 hours of runoff occurring, or upon resuming construction, whichever comes first; or
         4. projects where a pollinator habitat or native prairie type vegetative cover are being established, inspections may be reduced to once per month if the site has temporary vegetation with a density of 70% uniform cover. If after 24 months no significant erosion problems are observed, inspections may be suspended completely until the termination requirements identified in 2.c.vi below are met.
      2. Inspections and maintenance activities must be recorded within 24 hours of being conducted and these records must be retained with the site plan. These records must include:
         1. Date and time of inspections;
         2. Name of person(s) conducting inspections;
         3. Accurate findings of inspections, including the specific location where corrective actions are needed;
         4. Corrective actions taken (including dates, times, and party completing maintenance activities);
         5. Date of all rainfall events greater than ½ inches in 24 hours, and the amount of rainfall for each event. Rainfall amounts must be obtained by either a properly maintained rain gauge installed onsite, a weather station that is within one (1) mile of the site’s location, or a weather reporting system that provides site specific rainfall data from radar summaries;
         6. Photographs of dewatering activities;
         7. Observed discharges must be recorded, discharges should be photographed and the location of the discharge described (i.e., color, odor, settled or suspended solids, oil sheen, and other obvious indicators of pollutants); and
         8. Any amendments to the site plan proposed as a result of the inspection must be documented within seven (7) calendar days.
    1. Pollution Prevention Management Measures
       1. Construction and landscape materials must be placed under cover (e.g., plastic sheeting or temporary roofs) or protected by similarly effective means as designed to minimize contact with Stormwater;
       2. Products which are either not a source of contamination to Stormwater or designed to be exposed to Stormwater are not required to be covered or protected;
       3. Pesticides, herbicides, fertilizers and treatment chemicals must be placed under cover (e.g., plastic sheeting or temporary roofs) or protected by similarly effective means designed to minimize contact with Stormwater;
       4. Hazardous materials and toxic waste (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) must be stored in sealed containers to prevent spills, leaks or other discharge;
       5. Hazardous materials must be stored and disposed of in accordance with Minn. R. ch. 7045;
       6. Solid waste must be stored, collected, and disposed of in accordance with Minn. R. ch. 7035;
       7. Portable toilets must be positioned so that they are secure and will not tip or be knocked over.
       8. Sanitary waste from the portable toilets must be properly disposed in accordance with Minn. R. ch. 7041;
       9. Reasonable steps must be taken 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;
          1. Adequate supplies must be available at all times to clean up discharged materials and an appropriate disposal method must be available for recovered spilled materials;
          2. Spills must be immediately reported and cleaned up as required by Minn. Stat. Sect. 115.061, using dry clean up measures where possible.
       10. Limit vehicle exterior washing and equipment to a defined area of the site.
           1. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls;
           2. Waste from the washing activity must be disposed of properly;
           3. Soaps, detergents, and solvents must be properly used and stored.
       11. Liquid and solid wastes generated by washout operations (e.g. concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the construction activity must be contained and not contact the ground. A sign, indicating the location of a washout facility, must be installed.
    2. Termination Conditions
       1. All construction activity must be completed and permanent cover must be installed over all areas;
          1. Permanent cover must consist of a uniform perennial vegetation with a density of 70 percent of its expected final growth;
          2. Vegetation is not required where the function of a specific area dictates no vegetation, such as impervious surfaces or the base of a sand filter.
       2. Permanent stormwater treatment system must be cleaned of any accumulated sediment;
          1. The system must meet all applicable requirements and operate as designed.
       3. Sediment must be removed from conveyance system(s);
       4. Temporary synthetic erosion prevention and sediment control BMPs must be removed. BMPs designed to decompose on-site may be left in place;
       5. For residential construction only, permit coverage may be terminated on individual lots if:
          1. The structure(s) are finished, permanent cover has been established, and the lot is sold to the homeowner; or
          2. The structure(s) are finished, the lot is sold to the homeowner, temporary erosion prevention perimeter controls are properly installed downgradient of any soils where permanent cover has not been established, and the homeowner is provided the MPCA’s “Homeowner Fact Sheet”.
       6. For construction projects on agricultural land (e.g., pipelines

across cropland), the disturbed land must be returned to its preconstruction agricultural use.

* 1. **Design Criteria for Temporary Sediment Basins *[Items 19.3 and 19.5]***
     1. Where 10 or more acres of disturbed soil drain to a common location or where 5 or more acres of undisturbed soil drain to a common location on the project that is within one mile (aerial radius measurement) of an “impaired waters”, “other special waters”, “prohibited waters”, and/or “restricted waters” as defined, the applicant must provide a basin to provide treatment of the runoff before it leaves the construction site or enters surface waters.
     2. Temporary sediment basins may be converted to a permanent basin after construction is complete.
     3. Temporary basins may be removed when permanent cover has reduced the acreage of disturbed soils to less than 10 (or 5 when applicable) acres draining to a common location.
     4. 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 per acre drained to the basin.
     5. Where the two (2)-year, 24-hour storm runoff amount is not calculated, the temporary sediment basin must provide 3,600 cubic feet of live storage per acre of the basins’ drainage area.
     6. Outlets must be designed to prevent short-circuiting and the discharge of floating debris.
     7. The outlet structure must be designed to withdraw water from the surface to minimize the discharge of pollutants. The use of a surface withdrawal mechanism may be temporarily suspended during frozen conditions. The basin must include a stabilized emergency overflow to prevent failure of pond integrity.
     8. Energy dissipation must be provided for the basin outlet within 24 hours after connection to a surface water.
     9. Temporary sediment basins must be situated outside of surface waters and include a buffer zone not less than 100 linear feet from special waters.
     10. The temporary basins must be constructed and made operational prior to disturbing 10 or more acres of soil draining to a common location.
     11. Where a temporary sediment basin meeting the above requirements is infeasible, effective sediment controls such as smaller sediment basins, and/or sediment traps, silt fences, vegetative buffer strips, or any appropriate combination of measures must be installed as dictated by individual site conditions, including all down-slope boundaries and side-slope boundaries. In determining whether installing a sediment basin is infeasible, the owner/operator(s) must consider public safety and may consider factors such as site, soils, slope, and available area on site. The determination of infeasibility must be documented in the site plan.

# Post-Construction Stormwater Management

* 1. **Submittal of Site Plans consisting of Post-Construction Plans *[Items 20.4, 20.17, and 20.20]***
     1. Site plans must be submitted for review and confirmation that ordinance requirements have been met, prior to start of construction activity. ***[Item 20.4]***
     2. Site plans must consist of, at a minimum, the following items: ***[Item 20.20]***
        1. All calculations for the permanent stormwater treatment system;
        2. The water quality volume that will be treated through volume reduction practices;
        3. Rationale and documentation supporting the location of any off-site permanent stormwater treatment projects;
        4. If applicable, the amount paid to the *[NAME OF MS4]* for in lieu of off-site treatment under Part 3.b.viiI.4.; and
        5. All legal mechanisms related to Part 3.c. (Long-term Maintenance).

## Post-Construction Stormwater Management BMPs must meet the following criteria:

* + 1. Designed with accepted engineering practices and in accordance with part 3.d. (Permanent Stormwater Management System Design Criteria). ***[Item 20.4]***
    2. Designed so that discharges from the project during and after construction activities do not cause a violation of state water quality standards, including nuisance conditions, erosion in receiving channels or on downslope properties, or a significant adverse impact to wetlands caused by inundation or decrease of flow.
    3. Treat the water quality volume on any project where the sum of the new impervious surface and the fully reconstructed impervious surface equals one or more acres. ***[Item 20.5]***
    4. For construction activity (excluding linear projects), water quality volume must be calculated as one (1) inch times the sum of the new and the fully reconstructed impervious surface. ***[Item 20.6]***
    5. For linear projects, water quality volume must be calculated as the larger of one (1) inch times the new impervious surface or one-half (0.5) inch times the sum of the new and the fully reconstructed impervious surface. Where the entire water quality volume cannot be treated within the existing right-of-way, a reasonable attempt to obtain additional right-of-way, easement, or other permission to treat the stormwater during the project planning process must be made. Volume reduction practices must be considered first, as described in Section 3.b.vi. Volume reduction practices are not required if the practices cannot be provided cost effectively. If additional right-of-way, easements, or other permission cannot be obtained, the owner/operator of construction activity must maximize the treatment of the water quality volume prior to discharge from *[NAME OF MS4]*’s MS4. ***[Item 20.7]***
    6. Volume reduction practices (e.g., infiltration or other) to retain the water quality volume on-site must be considered first when designing the permanent stormwater treatment system. Wet sedimentation basins and filtration systems are not considered volume reduction practices. If infiltration is prohibited, as described in Part 3.d.i.14. (Infiltration System), other volume reduction practices, a wet sedimentation basin, or a filtration basin may be considered. ***[Item 20.8]***
    7. For discharges to a trout stream, the system must be designed so the discharge from the project minimizes any increase in the temperature of trout streams resulting from the one

(1) or two (2) year 24-hour precipitation events. This includes all tributaries of designated trout streams located within the same Public Land Survey System (PLSS) Section. The design must incorporate one or more of the following measures, in order of preference:

* + - 1. Provide stormwater infiltration or other volume reduction practices as described in Part 3.b.iii., 3.b.iv., and 3.b.v. above, to reduce runoff. Infiltration systems must discharge all stormwater routed to the system within 24 hours;
      2. Provide stormwater filtration as described in Part 3.d.ii. (Filtration System). Filtration systems must discharge all stormwater routed to the system within 24 hours;
      3. Minimize the discharge from connected impervious surfaces by discharging to vegetated areas, or grass swales, and through the use of other non-structural controls;
      4. If ponding is used, the design must include an appropriate combination of measures such as shading, vegetated swale discharges or constructed wetland treatment cells that limit temperature increases. The pond must be designed as a dry pond and should draw down in 24 hours or less; and
      5. Other methods that minimize any increase in the temperature of the trout stream.

*Note: Items vi. 1-5 are only required if you have discharges to a trout stream within your jurisdiction.*

* + 1. Off-site Treatment ***[Items 20.10-20.14]***
       1. For non-linear projects, where the water quality volume cannot cost effectively be treated on the site of the original construction activity, the remaining water quality volume must be addressed through off-site treatment and meet the following requirements (must be selected in the following order of preference):
          1. Locations that yield benefits to the same receiving water that receives runoff from the original construction activity.
          2. Locations within the same DNR catchment area as the original construction activity.
          3. Locations in the next adjacent DNR catchment area up-stream.
          4. Locations anywhere within the *[NAME OF MS4]*’s jurisdiction.
       2. Off-site treatment projects must involve the creation of new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP. Routine maintenance of structural stormwater BMPs owned or operated by *[NAME OF MS4]* cannot be used to meet this requirement.
       3. Off-site treatment projects must be completed no later than 24 months after the start of the original construction activity.
       4. The applicant may provide payment to the *[NAME OF MS4]* in lieu of off-site treatment.

Note: Items viii. 1-4 are discretionary and it is up to the MS4 if they would like to allow these off-site treatment options within their jurisdictions and include them in their ordinance. However, if the MS4 does not adopt these items, the expectation is that the water quality volume will be treated onsite.

* 1. **Long-term Maintenance *[Item 20.15]***
     1. The *[Term determined by the MS4]* must enter into a long-term maintenance agreement with *[NAME OF MS4]* that documents all responsibilities for long-term operation and maintenance of stormwater treatment practices that are not owned or operated by *[NAME OF MS4]*. At a minimum, the long-term maintenance agreement must include provisions that:
        1. Allow *[NAME OF MS4]* to conduct inspections of structural stormwater BMPs not owned or operated by *[NAME OF MS4]*, perform necessary maintenance, and assess costs for those structural stormwater BMPs when *[NAME OF MS4]* determines the owner of that structural stormwater BMP has not ensured proper function;
        2. Are designed to preserve *[NAME OF MS4]*’s right to ensure maintenance responsibility, for structural stormwater BMPs not owned or operated by *[NAME OF MS4]*, when those responsibilities are legally transferred to another party; and
        3. Are designed to protect/preserve structural stormwater BMPs. If structural stormwater BMPs change, causing decreased effectiveness, new, repaired, or improved structural stormwater BMPs must be implemented to provide equivalent treatment to the original BMP.

## Permanent Stormwater Management System Design Criteria

* + 1. Infiltration System
       1. Infiltration options include, but are not limited to: infiltration basins, infiltration trenches, rainwater gardens, bioretention areas without underdrains, swales with impermeable check dams, and natural depressions;
       2. To determine if an infiltration system is suitable, either the MPCA's contamination screening checklist must be completed or an assessment must be conducted. The checklist or assessment must be documented in the site plan. For more information and to access the MPCA's "contamination screening checklist" see the Minnesota Stormwater Manual;
       3. Must be designed such that pre-existing hydrologic conditions of wetlands in the vicinity are not impacted (e.g., inundation or breaching a perched water table supporting a wetland);
       4. Must not be excavated to final grade, or within three (3) feet of final grade, until the contributing drainage area has been constructed and fully stabilized unless they provide rigorous erosion prevention and sediment controls (e.g., diversion berms) to keep sediment and runoff completely away from the infiltration area.
       5. When excavating to within three (3) feet of final grade, the *[Term determined by the MS4]* must stake off and mark the area so heavy construction vehicles or equipment do not compact the soil in the infiltration area;
       6. A pretreatment device such as a vegetated filter strip, forebay, or water quality inlet (e.g., grit chamber) to remove solids, floating materials, and oil and grease from the runoff, to the maximum extent practicable, must be used before the system routes stormwater to the infiltration system;
       7. Designed to provide a water quality volume as described in Section 3.b.iii, 3.b.iv, and 3.b.v;
       8. Designed to discharge all stormwater (including stormwater in excess of the water quality volume) routed to the system through the uppermost soil surface or engineered media surface within 48 hours. Additional flows that cannot infiltrate within 48 hours must bypass the system through a stabilized discharge point;
       9. Must provide a means to visually verify the infiltration system is discharging through the soil surface or filter media surface within 48 hours or less;
       10. Must provide at least one soil boring, test pit or infiltrometer test in the location of the infiltration practice for determining infiltration rates;
       11. For design purposes, divide field measured infiltration rates by 2 as a safety factor or use soil-boring results with the infiltration rate chart in the Minnesota Stormwater Manual to determine design infiltration rates. When soil borings indicate type A soils, field measurements should be performed to verify the rate is not above 8.3 inches per hour.
       12. Must employ appropriate on-site testing to ensure a minimum of three (3) feet of separation from the seasonally saturated soils (or from bedrock) and the bottom of the proposed infiltration system;
       13. Must design a maintenance access, typically eight (8) feet wide;
       14. Infiltration Systems are prohibited in the following areas (See "higher level of engineering review" in the Minnesota Stormwater Manual for more information): ***[Item 20.9]***
           1. Areas that that receive runoff from vehicle fueling and maintenance areas;
           2. Areas where infiltrating stormwater may mobilize high levels of contaminants in soil or groundwater;
           3. Areas where soil infiltration rates are field measured at more than 8.3 inches per hour unless the soils are amended to slow the infiltration rate below 8.3 inches per hour;
           4. Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock;
           5. Areas of predominately Hydrologic Soil Group type D soils (clay);
           6. The following areas within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13:

1. In an Emergency Response Area (ERA) within a DWSMA classified as having high or very high vulnerability as defined by the Minnesota Department of Health; or
2. In an ERA within a DWSMA classified as moderate vulnerability unless a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater has been approved by the *[NAME OF MS4]*; or
3. Outside of an ERA within a DWSMA classified as having high or very high vulnerability unless a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater has been approved by the *[NAME OF MS4]*.
   * + - 1. Areas within 1,000 feet upgradient or 100 feet downgradient of active karst features; and
         2. Areas that receive runoff from the following industrial facilities not authorized to infiltrate stormwater under the NPDES stormwater permit for industrial activities:

Automobile salvage yards;

Scrap recycling and waste recycling facilities;

Hazardous waste treatment, storage, or disposal facilities;

Wood preserving facilities; or

Air transportation facilities that conduct deicing activities.

* + 1. Filtration System
       1. Filtration options include, but are not limited to: sand filters with underdrains, biofiltration areas, swales using underdrains with impermeable check dams and underground sand filters;
       2. Must not install filter media until the contributing drainage area is constructed and fully stabilized unless they provide rigorous erosion prevention and sediment controls (e.g., diversion berms) to keep sediment and runoff completely away from the filtration area;
       3. Designed to remove at least 80 percent of TSS;
       4. Must use a pretreatment device such as a vegetated filter strip, small sedimentation basin, water quality inlet, forebay or hydrodynamic separator to remove settleable solids, floating materials, and oils and grease from the runoff to the maximum extent practicable, before runoff enters the filtration system;
       5. Designed to provide a water quality volume as described in Section 3.b.iii, 3.b.iv, and 3.b.v;
       6. Designed to discharge all stormwater (including stormwater in excess of the water quality volume) routed to the system through the uppermost soil surface or engineered media surface within 48 hours. Additional flows that the system cannot filter within 48 hours must bypass the system or discharge through an emergency overflow;
       7. Designed to provide a means to visually verify the system is discharging through the soil surface or filter media within 48 hours;
       8. Employ appropriate on-site testing to ensure a minimum of three (3) feet of separation between the seasonally saturated soils (or from bedrock) and the bottom of the proposed filtration system;
       9. Construct with an impermeable liner when the system has less than three (3) feet of separation between seasonally saturated soils or bedrock;
       10. Designed with a maintenance access, typically eight (8) feet wide.
    2. Wet Sedimentation Basin
       1. Permanent volume of 1,800 cubic feet of storage below the outlet pipe for each acre that drains to the basin;
       2. Permanent volume must reach a minimum depth of at least three (3) feet and must have no depth greater than 10 feet;
       3. Must be configured to minimize scour or resuspension of solids;
       4. In addition to the permanent volume, the basin must provide the water quality volume as live storage. Water quality volume is described in Section 3.b.iii, 3.b.iv, and 3.b.v;
       5. Water quality volume discharges at no more than 5.66 cubic feet per second (cfs) per acre of surface area of the basin;
       6. Designed to prevent short-circuiting and the discharge of floating debris;
       7. Basin outlets must have energy dissipation;
       8. Must include a stabilized emergency overflow to accommodate storm events in excess of the basin's hydraulic design;
       9. Must have a maintenance access, typically eight (8) feet wide, for the basin;
       10. Must be located outside of surface waters and any buffer zones identified in part 2.c.ii. (Sediment Control Practices).
       11. Permittees must design basins using an impermeable liner if located within active karst terrain.
    3. Regional Wet Sedimentation Basins
       1. When the entire water quality volume cannot be treated by volume reduction practices onsite, regional wet sedimentation basins can be used or created, provided they are constructed basins, not a natural wetland or water body.
       2. The regional basin conforms to all requirements for a wet sedimentation basin as described in Part 3.d.iii. (Wet Sedimentation Basin)
       3. Must be large enough to account for the entire area that drains to the basin.
       4. Waterways between the project and the regional basin must not be significantly degraded.
       5. Written authorization from *[NAME OF MS4]* or private entity that owns and maintains the regional basin.

# Right of Entry

* 1. The *[Term determined by the MS4]* must allow *[NAME OF MS4]* and their authorized representatives to enter all properties at any reasonable time for the purposes of inspection, observation, measurement, sampling and testing pertinent to discharge to the MS4 as often as may be reasonably necessary to determine compliance. These activities include, but are not limited to, the following:
     1. Conducting investigations or surveys.
     2. Examining and copying any books, papers, records, or memoranda pertaining to activities or records required to be kept under the terms and conditions of the permitted activity.
     3. Inspecting the requirements of this ordinance.
     4. Sampling and monitoring any items or activities pertaining to this ordinance.

# Violations/Penalty/Enforcement

* 1. Enforcement powers: When a/an *[Term determined by the MS4]* fails to conform to any provision of this ordinance within the time stipulated, *[NAME OF MS4]* may take the following actions:
     1. Issue a stop work order, withhold the scheduling of inspections, and/or withhold the issuance of a Certificate of Occupancy.
     2. Suspend or revoke any permit issued by *[NAME OF MS4]* to the owner/operator for the site in question or any other of the owner/operator’ sites within the *[NAME OF MS4]*’s jurisdiction.
     3. If circumstances exist such that noncompliance with this ordinance poses an immediate danger to the public health, safety and welfare, as determined by *[NAME OF MS4]*, *[NAME OF MS4]* may take emergency preventative action to correct the deficiency or hire an independent contractor to correct the deficiency. The issuance of a permit constitutes a right-of-entry for *[NAME OF MS4]* to enter upon the site for the purpose of correcting deficiencies.
     4. Require reimbursement to *[NAME OF MS4]* for all costs incurred in correcting storm water pollution control deficiencies. If payment is not made within *[insert time frame]* days after costs are incurred by *[NAME OF MS4]*, then *[NAME OF MS4]* may assess the remaining amount against the property. As a condition of the permit, the *[Term determined by the MS4]* shall waive notice of any assessment hearing to be conducted by *[NAME OF MS4]*, agree that the benefit to the property exceeds the amount of the proposed assessment, and waive all rights by virtue of Minnesota Statute 429.081 to challenge the amount or validity of such assessment costs related to cleanup or corrective actions taken by *[NAME OF MS4]*.