2022-27 MS4 General Permit Ordinance Change Checklist - **Option 1 embed standards in your ordinance**		**Date of Checklist: 4/21/2022**		
Purpose of Checklist: This checklist was developed by the Southern Maine Stormwater Working Group and the Interlocal Stormwater Working Group to assist Planners and Planning Boards in updating ordinances to reflect the requirements of the 2022 General Permit (GP) for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) dated 10/15/2020, and to consider related optional recommendations from the 2020 Maine Climate Council (MCC) and the 2017 Maine Municipal Climate Adaptation Series (MCAS).				
2022-27 MS4 General Permit - MCM 4 - Construction Site Stormwater Runoff Control Requirements for *"ordinance or other regulatory mechanism"*		**Existing Municipal Ordinance or Policy Requirements (provide citation either summary or quote of existing requirement)**		**Recommended Changes or additions**
MS4 Permittee must implement: "An ordinance or other regulatory mechanism that requires the use of erosion and sediment control best management practices (BMPs) at construction sites consistent with the minimum standards outlined in Appendix C, Erosion and Sedimentation Control, Inspections and Maintenance and Housekeeping of this GP. Also see the Department's website for a guidance document entitled Maine Erosion and Sediment Control Practices Field Guide For Contractors to assist contractors and municipalities in developing BMPs for the ordinance or other regulatory mechanism. Permittees who have an existing ordinance must evaluate the ordinance and update it as needed within one (1) year of the effective date of this GP (7/1/2023) to provide the permittee with the necessary enforcement authority. Those permittee's without an existing ordinance must develop an ordinance within one (1) year (7/1/2023) of the effective date of this GP and have an approved ordinance in place with the necessary enforcement authority within two (2) years (7/1/2024) of the effective date of this GP."				
Threshold: Erosion and Sediment Control BMPs must be used at construction sites which disturb one or more acres of land, and at smaller sites that are part of a larger common plan of development or sale that would disturb one acre or more.				
MCAS (Site Plan Review) Recommendation: Include a smaller threshold: any site which results in ____ square feet of new impervious cover. (MCAS recommends using 2,000 square feet within a 3-year period).				
MCAS (Site Plan Review) Recommendation: Require that the Erosion and Sediment Control Plan be prepared by a Maine-licensed professional engineer or CPESC and implemented in accordance with Maine Erosion and Sediment Control BMPs, Maine Department of Environmental Protection, (October 2016 or most current version), that describes and shows the locations, elevations, installation schedule and construction or planting details of all proposed pre- and post-construction erosion and sediment control measures. (Note municipalities may want to replace requirement to use a PE or CPESC with some standard BMPs for small sites). Design all BMPs in accordance with precipitation data from the Northeast Regional Climate Center website (http://precip.eas.cornell.edu), Extreme Precipitation Tables. Maine DEP Chapter 500 requires use of these data tables. OR Design all BMPs in accordance with precipitation data from the NOAA Atlas 14 tables (https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html). MCAS recommends use of NOAA Atlas 14 precipitation data.				

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MS4 REQUIRED APPENDIX C: EROSION & SEDIMENT CONTROL				
Erosion and sediment control measures must be in place before construction activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely maintenance and temporary and permanent stabilization measures must be taken. Applicant shall request a pre-construction meeting 10 days before construction activity begins. (added 10/26/2021) Applicant shall provide notice of permanent stabilization to allow for final municipal inspection. (added 10/26/2021)				
1. Pollution Prevention: Minimize disturbed areas and protect natural downgradient buffer areas, and any areas where stormwater may flow off-site to the extent practicable. Control stormwater volume and velocity within the site to minimize soil erosion. Minimize the disturbance of steep slopes. Control stormwater discharges, including both peak flow rates and volume, to minimize erosion at outlets. The discharge may not result in erosion of any open drainage channels, swales, stream channels or stream banks, upland, or coastal or freshwater wetlands off the project site. Whenever practicable, no disturbance activities should take place within 50 feet of any protected natural resource. ~~If disturbance activities take place between 30 feet and 50 feet of any protected natural resource, and stormwater discharges through the disturbed areas toward the protected natural resource, perimeter erosion controls must be doubled. If disturbance activities take place less than 30 feet from any protected natural resource, and stormwater discharges through the disturbed areas toward the protected natural resource, perimeter erosion controls must be doubled and disturbed areas must be temporarily or permanently stabilized within 7 days, or before the next rain event, whichever comes sooner.~~ If it is not practicable to maintain the 50-foot buffer of no disturbance, the ESC Plan must include redundant (at least two) perimeter control measures that are appropriate for the soil and slope.				
2. Sediment barriers: Prior to construction, properly install sediment barriers at the downgradient edge of any area to be disturbed and adjacent to any drainage channels within the disturbed area. Sediment barriers should be installed downgradient of soil or sediment stockpiles and stormwater must be prevented from running onto the stockpile. Maintain the sediment barriers by removing accumulated sediment, or removing and replacing the barrier, until the disturbed area is permanently stabilized. Where a discharge to a storm drain inlet occurs, you must install and maintain protection measures that remove sediment from the discharge. Storm drain inlet protection must include effective curb inlet or "back throat" protection, where applicable.				
3. Stabilized construction entrance: Prior to construction, properly install a stabilized construction entrance (SCE) at all points of egress from the site. The SCE is typically a stabilized pad of aggregate, underlain by a geotextile filter fabric, or an engineered track out control mat which has been approved by Maine DEP; which is used to prevent traffic from tracking material away from the site onto public ROWs. Maintain the SCE until all disturbed areas are stabilized. If an engineered track out control mat has been approved by Maine DEP, provide proof of this with the Plan or application. (added 10/26/2021)				
4. Temporary stabilization: Within 7 days of the cessation of construction activities in an area that will not be worked for more than 7 days, stabilize any exposed soil with mulch, or other non-erodible cover. Stabilize areas within 75 feet of a wetland or waterbody within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first.				

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5. Removal of temporary measures: Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize.				
6. Permanent stabilization: If the area will not be worked for more than one year or has been brought to final grade, then permanently stabilize the area within 7 days by planting vegetation, seeding, sod, or through the use of permanent mulch, or riprap, or road sub-base. If using vegetation for stabilization, select the proper vegetation for the light, moisture, and soil conditions; amend areas of disturbed subsoils with topsoil, compost, or fertilizers; protect seeded areas with mulch or, if necessary, erosion control blankets; and schedule sodding, planting, and seeding so to avoid die-off from summer drought and fall frosts. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established with 90% cover by healthy vegetation. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident. Permanent Stabilization Definitions are as follows: a. Seeded areas. For seeded areas, permanent stabilization means a 90% cover of the disturbed area with mature, healthy plants with no evidence of washing or rilling of the topsoil. b. Sodded areas. For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off. c. Permanent mulch. For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion Control Mix may be used as mulch for permanent stabilization according to the approved application rates and limitations. d. Riprap. For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used. e. Paved areas. For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed, provided it is free of fine materials that may runoff with a rain event f. Ditches, channels, and swales. For open channels, permanent stabilization means the channel is stabilized with a 90% cover of healthy vegetation, with a well-graded riprap lining, turf reinforcement mat, or with another non-erosive lining such as concrete or asphalt pavement. There must be no evidence of slumping of the channel lining, undercutting of the channel banks, or down-cutting of the channel.				
7. Winter construction: "Winter construction" is construction activity performed during the period from November 1 through April 15. If disturbed areas are not stabilized with permanent measures by November 1 or new soil disturbance occurs after November 1, but before April 15, then these areas must be protected and runoff from them must be controlled by additional measures and restrictions. a. Site stabilization: For winter stabilization, hay mulch is applied at twice the standard temporary stabilization rate. At the end of each construction day, areas that have been brought to final grade must be stabilized. Mulch may not be spread on top of snow. b. Sediment barriers: All areas within 75 feet of a protected natural resource must be protected with a double row of sediment barriers. c. Ditch: All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period, must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the Department. If release from Maine DEP has been granted, provide proof of this with the Plan or application. d. Slopes: Mulch netting must be used to anchor mulch on all slopes greater than 8% unless erosion control blankets or erosion control mix is being used on these slopes.				

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8. Stormwater channels: Each channel should be constructed in sections so that the section's grading, shaping, and installation of the permanent lining can be completed the same day. If a channel's final grading or lining installation must be delayed, then diversion berms must be used to divert stormwater away from the channel, properly-spaced check dams must be installed in the channel to slow the water velocity, and a temporary lining installed along the channel to prevent scouring.				
9. Sediment basins: Sediment basins that will be used to control sediment during construction activities must be designed to provide storage for either the calculated runoff from a 2-year, 24-hour storm or provide for 3,600 cubic feet of capacity per acre draining to the basin. Outlet structures must discharge water from the surface of the basin whenever possible. Erosion controls and velocity dissipation devices must be used if the discharging waters are likely to create erosion. Accumulated sediment must be removed as needed from the basin to maintain at least ½ of the design capacity of the basin. Clearly visible staking must be installed with marks showing the elevation of 1/2 design capacity for easier inspection. The use of cationic treatment chemicals, such as polymers, flocculants, or other chemicals that contain an overall positive charge designed to reduce turbidity in stormwater may only be used if proof of approval by Maine Department of Environmental Protection is provided.				
10. Phasing Plan requirements: No phasing plan is required if contractor will limit disturbance to a maximum of 5 acres of disturbance across the entire project at any time. If the site will result in more than 5 acres of disturbance at any one time, the contractor will provide a phasing plan showing: a. the initial 5 acre area to be disturbed b. which portions of the initial disturbance will be stabilized, and what temporary or permanent stabilization methods will be used c. which areas will be subsequently disturbed and what temporary or permanent stabilization methods will be used. d. each phase of disturbance and stabilization will clearly show the total areas in square feet or acres such that the 5-acre disturbance limit at any one time is met throughout the entire project.				
MS4 REQUIRED APPENDIX C: INSPECTION & MAINTENANCE				

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1. During construction a. Inspection & corrective action: Inspect disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and within 24 hours after a storm event (rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections. (Submittal requirements shall include example inspection form to be used by applicant - added 10/26/2021). b. Maintenance: If best management practices (BMPs) need to be repaired or enhanced, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If additional BMPs or significant repair of BMPs are necessary, implementation must be completed within 7 calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized. c. Documentation: Keep a log (report) summarizing the inspections and any corrective action taken. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicles access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. Maintain records for at least three years from the completion of permanent stabilization.				
MS4 REQUIRED APPENDIX C: HOUSEKEEPING				
1. Spill prevention: Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures. **NOTE: any spill of toxics/HazMat's must be reported to DEP.**				
2. Groundwater protection: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.				
3. Fugitive sediment & dust: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.				

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4. Debris & other materials: Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source. Sediment generated by concrete or mortar mixing, brick cutting & saw cutting activities must be contained (e.g.: Sausage boom, straw bales, etc.) and cleaned up using dry methods (i.e.: Sweeping or vacuuming) to prevent it from entering drainage structures or water resources. These activities should be done on vegetated areas whenever possible and away from drainage structures and water resources. **NOTE: may require compliance with other DEP provisions (hazmat, solid waste, oil conveyance, etc.)**				
5. Excavation dewatering: Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or otherwise treated to collect the maximum amount of sediment possible, like a cofferdam sedimentatin basin. Avoid allowing the water to flow over disturbed areas of the site. If the Maine DEP has approved equivalent measures, provide proof of approval. Note that discharge of excavation de-water fluids from the site must be visually clear (no visible suspended or settleable solids). **NOTE: refer to dewatering controls in DEP ESC BMP guidance documents**				
6. Authorized Non-SW discharges: Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are: a. Discharges from firefighting activity; b. Hydrant flushing if dechlorinated to 0.05 mg/l or less c. Vehicle wash water if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited); d. Dust control runoff if it does not cause erosion e. Routine external building washdown, not including surface paint removal, that does not involve detergents; f. Pavement wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used; g. Uncontaminated air conditioning or compressor condensate h. Uncontaminated groundwater or spring water i. Foundation or footer drain-water where flows are not contaminated j. Uncontaminated excavation dewatering per item 5 Excavation Dewatering k. Potable water including waterline flushings l. Landscape irrigation				There is some overlap with the Non-Stormwater Discharge Ordinance here, but that list needs to be updated to include the following missing items: c. Vehicle wash water w/out detergents and no engine/undercarriage d. Dust control per (C)(3) e. External building washdown w/out detergents j. Uncontaminated excavation dewatering per (C)(5) or the full list should be repeated for the construction standards with a reference to the Non-Stormwater Discharge Ordinance.
7. Unauthorized non-SW discharges: following discharges are prohibited a. Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials b. Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance; c. Soaps, solvents, or detergents used in vehicle and equipment washing; and d. Toxic or hazardous substances from a spill or other release.				These items are covered by the NSDO, but may want to explicitly list these out as prohibited by construction operations.

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9. Washout from concrete, stucco, paint, curing compounds or other construction materials: If washout/cleanout is to be completed on Site, a designated area(s) shall be established and marked on the Erosion and Sediment Control Plan. This area shall be a minimum of 50 feet from all drainage structures, ditches, waterbodies, and resource areas, as well as property boundaries. The area shall not have an outlet to discharge wastes or flows. No detergents shall be used or vehicles washed in this location. A leak-proof pit or container shall be established in the washout area(s), to which washings shall be directed. This area shall be used for washout containment and dewatering by evaporation only. The pit shall not allow infiltration to occur. To prevent clean water from entering the pit, the washout area shall be covered during precipitation events. Inspections of the pit shall be conducted daily to ensure no leaks are present and no discharge is occurring. (added 2/8/2022)				
9. Additional requirements: may be required on site-specific basis				
Additional Ordinance related Requirements				
MS4 - MCM 4 4.a.iv: Sediment and Erosion Control Plan must include waste control procedures for: discarded building materials, concrete washout, chemicals, litter & sanitary waste				These items are already listed in items 1 and 7 above.
MS4 - MCM 5 Post Construction Stormwater Ordinance must require that the owner or operator of a post construction BMP provide the permittee with an annual report completed by a qualified inspector documenting that all BMPs are adequately maintained and functioning as intended.				
MS4 - MCM 5 Post Construction Stormwater Ordinance - must require that if a post construction BMP needs maintenance, the owner or operator must document the deficiency and either correct it within 60 days of discovery or establish an expeditious schedule to correct it.				
MS4 Common audit finding: Urbanized Area Definition should reference the cumulative Urbanized Area defined by the 2000 and 2010 Census.				
Additional non-ordinance related MCM4 Requirements				
4.a.ii: site plan review procedures incorporating WQ impacts, EC, waste storage and ability for public comment				
4.a.iii: site developer/operator notification procedures for MCGP & Ch500 registration				
4.a.v: construction activity documentation for 1ac or more disturbance a. Written site inspection & enforcement procedures of ESC BMPs with clearly defined responsibilities for inspection & enforcement which must include imposition of sanctions to ensure compliance. b. Inspections: i. Min 3 inspections during active earth-moving construction phase ii. Min 1 inspection annually until project completion iii. 1 of 3 inspections must be at project completion to verify permanent stabilization & removal of all temporary ESC BMPs iv. Documentation of inspections, enforcement actions & corrective actions				
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