Chapter 500: STORMWATER MANAGEMENT

SUMMARY This chapter describes stormwater standards for activities licensed under the Stormwater Management Law and the Site Location of Development Law It also describes license by rule standards for stormwater infiltration (Appendix D) adopted pursuant to the Waste Discharge Law

1. **Introduction.** Land use activities can cause changes in stormwater flows Many pollutants, such as nutrients and metals, attach to fine particles of soil from throughout the watershed Soil and attached pollutants are carried in the stormwater down to a waterbody or wetland A project is required to meet appropriate standards to prevent and control the release of pollutants to waterbodies, wetlands, and groundwater, and reduce impacts associated with increases and changes in flow

2. **Applicability.** This chapter applies to a project that requires a stormwater permit pursuant to 38 M R S A § 420-D, a development that may substantially affect the environment and requires a site location of development (Site Law) permit pursuant to 38 M R S A §§ 481 – 490, and certain projects that may be eligible for license by rule for the infiltration of stormwater pursuant to 38 M R.S A. § 413.

3. **Definitions.** The following terms have the following meanings as used in this chapter and chapter 502, unless the context otherwise indicates "Lakes most at risk from new development" (lakes most at risk) and "urban impaired streams" are listed in chapter 502

   A. **Certified erosion and sedimentation control professional.** A professional certified by the International Erosion Control Association (IECA)

   B. **Compensation fee utilization plan.** A plan that specifies how funds received as a compensation fee payment will be allocated to reduce the impact of stormwater pollution to an impaired water resource

   C. **Detention basin.** A basin designed and constructed to provide temporary storage of runoff to control stormwater outflow from the site and peak flow in receiving waters, and to provide gravity settling of pollutants

   D. **Developed area.** "Disturbed area" excluding area that within one calendar year of being disturbed is returned to a condition with the same drainage pattern that existed prior to the disturbance and is revegetated, provided the area is not mowed more than once per year

   E. **Direct watershed of a waterbody or wetland.** The land area that drains, via overland flow, natural or man-made drainage systems, or waterbodies or wetlands, to a given waterbody or wetland without first passing through an upstream waterbody classified as GPA

   F. **Disturbed area.** All land areas that are stripped, graded, grubbed, filled, or excavated at any time during the site preparation or removing vegetation for, or construction of, a project

   "Disturbed area" does not include routine maintenance, but does include re-development and new impervious areas "Routine maintenance" is maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility Paving impervious gravel surfaces while maintaining the original line and grade, hydraulic capacity and original purpose of

the facility is considered routine maintenance. Cutting of trees, without grubbing, stump removal, disturbance or exposure of soil is not considered "disturbed area"

A disturbed area continues to be considered as disturbed area if it meets the definition of "developed area" or "impervious area" following final stabilization

G. **Drainageway.** A natural or man-made channel or course within which surface discharge of water may occur Drainageways include, but are not limited to rivers, streams and brooks (whether intermittent or perennial), swales, ditches, pipes, culverts, and wetlands with localized discharge of water

H. **Erosion and sedimentation control best management practices (erosion control BMPs).** Methods, techniques, designs, practices, and other means to control erosion and sedimentation, as approved or required by the department

NOTE For guidance, see "Maine Erosion and Sediment Control BMPs Maine Department of Environmental Protection "

I. **Erosion control mix.** A type of mulch that consists primarily of organic material such as shredded bark, stump grindings, composted bark, or fragmented wood generated as a by-product from log handling at wood mills It includes a well-graded mixture of particle sizes with a mineral content that is less than 20% by weight, and is free from construction debris, refuse, and contaminants

J. **High use parking lot** A commercial or other parking lot with size and usage characteristics similar to a commercial lot, such as a fast-food restaurant, factory, convenience store, high-turnover restaurant, shopping center, office complex, school, or supermarket

K. **Impervious area.** The total area of a parcel that consists of buildings and associated constructed facilities or areas that will be covered with a low-permeability material, such as asphalt or concrete, and areas such as gravel roads and unpaved parking areas that will be compacted through design or use to reduce their permeability Common impervious areas include, but are not limited to, rooftops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and macadam or other surfaces which similarly impede the natural infiltration of stormwater A natural or man-made waterbody is not considered an impervious area, but is treated as an immediate runoff surface in curve number calculations.

L. **Infiltration.** Any process specifically used to meet all or part of the stormwater standards of this chapter by actively directing all or part of the stormwater into the soil Infiltration is the process by which runoff percolates through the unsaturated overburden and fractured bedrock to the water table For the purposes of this chapter, infiltration does not include

(1) Incidental wetting of soil in ditches, detention basins or the equivalent,

(2) Wetting of underdrained basins, dry swales, or similar filtration systems, or

(3) Wetting of buffers meeting department requirements for use as stormwater control

Discharge of runoff to areas of the site where the water will collect and percolate into the ground is considered infiltration if the volume, rate, or quality of the discharge exceeds the runoff capacity of the area Underdrained swales, underdrained ponds, and similar practices that discharge to surface waters or to buffer strips meeting department requirements for stormwater buffers are not considered infiltration systems, although these may be used to treat runoff prior to discharge to an infiltration area

M. **Lake or pond.** (1) A great pond, or (2) a lake or pond of any size used as a public water supply

N. **Landscaped area.** An area of land that has been disturbed and re-planted or covered with one or more of the following lawn or other herbaceous plants, shrubs, trees, or mulch, but not including area that has reverted to a natural, vegetated condition A field or meadow is considered landscaped if it is mowed more than twice per twelve month period

O. **Linear portion of a project.** The portion of a project consisting of a utility corridor, road, driveway, railroad track outside a yard or station, or similar transportation corridor, as determined by the department. Linear projects do not include golf courses

P. **Major river segment.** The rivers or portions of rivers identified as follows Saco River, Androscoggin River, Kennebec River, West Branch Penobscot River below Elbow Lake, East Branch Penobscot River below Wassataquiok Stream, Piscataquis River below Dover-Foxcroft, St Croix River below Grand Lake, Aroostook River below Ashland, and St John River below the Allagash River

Q. **Parcel.** "Parcel" is defined the same as "parcel of land" in 06-096 CMR 371(1)(L)

R. **Peak flow.** The greatest rate of flow in a drainageway, measured as volume per unit of time, resulting from a storm of specified frequency and duration.

S. **Person.** An individual, firm, corporation, municipality, quasi-municipal corporation, state agency, federal agency or other legal entity For purposes of an activity requiring review pursuant to the Site Law or Stormwater Management Law, "person" is further defined at 06-096 CMR 371(1)(M)

T. **Practicable.** Available and feasible considering cost, existing technology and logistics based on the overall purpose of the project

U. **Pre-development area.** An impervious or developed area created prior to the effective date of the Stormwater Management Law for a stormwater project, or the effective date of the jurisdictional threshold under which a development is licensed for a Site Law development

V. **Protected natural resource.** As defined in the Natural Resources Protection Act at 38 M R S A § 480-B. These resources are referred to as "wetlands and waterbodies"

W. **Stormwater.** The part of precipitation, including runoff from rain or melting ice and snow, that flows across the surface as sheet flow, shallow concentrated flow, or in drainageways

X. **Stream.** A river, stream, or brook as defined in the Natural Resources Protection Act at 38 M R S A § 480-B

Y. **Subcatchment.** An area of a project site with a unique flow path to a specific point

Z. **Two (ten, twenty-five)-year, 24-hour storm.** A precipitation event with a 50% (for two-year), 10% (for ten-year), or 4% (for 25-year) probability of being equaled or exceeded during any twenty-four hour period during any given year.

AA. **Watershed.** The land area that drains, via overland flow, drainageways, waterbodies, or wetlands to a given waterbody or wetland

BB. **Wetlands.** Coastal and freshwater wetlands as defined in the Natural Resources Protection Act, 38 M.R.S A § 480-B

4. **Stormwater standards.** This section describes the stormwater standards that apply to a project disturbing one acre or more, or to a modification of any size as described in Section 16 of this chapter. There are six categories of stormwater standards· basic, general, phosphorus, flooding, urban impaired stream, and other More than one standard may apply to a project In this situation, the stricter standard is applied as determined by the department For example, a project may be located in a stream watershed, and the stream may drain to a lake The standards for the particular stream and lake are compared, and the stricter standard is applied as determined by the department

A. **Basic standards**

(1) When the basic standards must be met A project disturbing one acre or more must meet the basic standards Basic standards are specified in Appendices A, B, and C of this chapter and address erosion and sedimentation control, inspection and maintenance, and housekeeping, respectively

A project qualifies for a stormwater permit by rule (PBR) described in Section 7, and therefore need only meet basic standards, if it results in one or more acres of disturbed area and the following

(a) Lakes most at risk and urban impaired streams Less than 20,000 square feet of impervious area and 5 acres of developed area in the direct watershed of a lake most at risk or urban impaired stream, and
(b) All other watersheds Less than one acre of impervious area and five acres of developed area in any other watershed

(2) Grading or other construction activity Grading or other construction activity on any site disturbing one acre or more may not impede or otherwise alter drainageways to have an unreasonable adverse impact on a protected natural resource

B. **General standards.** General standards apply as described below in addition to the basic standards described in Section 4(A)

(1) When general standards must be met A project disturbing one acre or more and resulting in any of the following must meet the general standards described below in Section (4)(B)(2)

(a) Urban impaired streams 20,000 square feet or more of impervious area, or 5 acres or more of developed area, in the direct watershed of an urban impaired stream, or
(b) Other stream, coastal and freshwater wetland watersheds One acre or more of impervious area, or 5 acres or more of developed area, in any other stream, coastal, or wetland watershed

Some projects in lake watersheds have the option to meet general standards in lieu of the phosphorus standards as described in Section 4(C) below

(2) Description of general standards To meet the general standards, a project's stormwater management system must include treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts This must be achieved by using one or more of the following methods to control runoff from no less than 95% of the impervious area and no less than 80% of the developed area that is impervious or landscaped. Where treatment of 95% of the impervious area is not practicable, the department may allow treatment on as low as 90% of the impervious area if the applicant is able to demonstrate that treatment of a greater depth of runoff than specified in the standards will result in at least an equivalent amount of overall treatment for the impervious area

The department may, on a case-by-case basis, consider alternate treatment measures to those described in this section An alternate treatment measure must provide at least as much pollutant removal as the treatment measures listed below and, unless otherwise approved by the department, as much channel protection and temperature control

If a project is not in an urban impaired stream watershed, the department may allow the portion of a project's impervious or developed acreage that must be treated to be reduced through mitigation by eliminating or reducing an off-site or on-site impervious stormwater source (see Section 6(B)

NOTE The department strongly encourages applicants to incorporate low-impact development (LID) measures where practicable LID addresses avoidance of stormwater impacts by minimizing developed and impervious areas on the project site LID project design considers the location of any protected natural resources, and maintaining natural drainage patterns and pre-construction time of concentration If practicable, LID incorporates runoff storage measures dispersed uniformly throughout a site rather than single point collection of stormwater through conventional end-of-pipe structures

(a) Wetpond with detention above the permanent pool A stormwater management system using detention to control runoff must detain, above a wetpond's permanent pool, a runoff volume equal to 1 0 inch times the subcatchment's impervious area plus 0 4 inch times the subcatchment's landscaped area If located within a stream watershed, a pond needs to discharge through an underdrained gravel outlet A wetpond must have a storage volume below the permanent pool elevation at least equal to 1 5 inches times the subcatchment's impervious area plus 0 6 inch times the subcatchment's non-impervious developed area, a mean depth of at least three feet, and a length to width ratio of 2 1 or greater.

(b) Filter A detention structure using filters to control runoff must detain a runoff volume equal to 1 0 inch times the subcatchment's impervious area plus 0 4 inch times the subcatchment's developed area that is landscaped and discharge it solely through an underdrained vegetated soil filter having a single outlet with a diameter no greater than eight inches, or through a proprietary filter system approved by the department

(c) Infiltration. A stormwater management system using infiltration to control runoff must retain a runoff volume equal to 1 0 inch times the subcatchment's impervious area plus 0 4 inch times the subcatchment's developed area that is landscaped and infiltrate this volume into the ground Pre-treatment of stormwater must occur prior to discharge to the infiltration area The infiltration area must minimize discharge of soluble pollutants to groundwater, and must be maintained to assure that its capacity for infiltration and pollutant removal is unimpaired An infiltration system serving a development regulated under the Site Location of Development Act may be required to meet additional standards

Infiltration from a stormwater infiltration system is considered *de minimus* and does not require an individual waste discharge license if the standards in Appendix D are met For definitions and provisions associated with the Waste Discharge program, see 38 M R S A §§ 413 *et seq* , and chapter 520 *et seq* for waste discharge licensing concerns

All drywells and subsurface fluid distribution systems must be registered with and meet all other requirements of the Department's Underground Injection Control Program

(d) Buffers A stormwater management system using buffers to control runoff must meet the design and sizing requirements described in Appendix F.

(3) Exceptions from the general standards A project is eligible for an exception from the general standards as follows

(a) Pretreatment measures A project that includes measures to pretreat runoff to a filter or infiltration system in a department-approved, flow-through sedimentation device may reduce the runoff volume to each treatment measure described in Section 4(B)(2)(b) and (c) by 25%

(b) Discharge to the ocean, great pond or a major river segment A project discharging to the ocean, great pond or a major river segment and using a wetpond to meet the general standards is not required to incorporate treatment storage above the wetpond's permanent pool or to install an underdrain The underdrain may also be omitted from a wetpond when discharging to a wetland if the department determines that filtering and temperature reduction, normally provided by an underdrain, are not necessary for maintaining the functions of the wetland

(c) A linear portion of a project For a linear portion of a project, runoff volume control may be reduced to no less than 75% of the volume from the impervious area and no less than 50% of the developed area that is impervious or landscaped, or the runoff volume to each treatment measure described in Section 4(B)(2) above may be reduced by 25%

(d) A utility corridor or portion of a utility corridor A utility corridor or portion of a utility corridor that meets the following criteria is not required to meet General standards

(i) The project or portion of the project does not include impervious area,
(ii) Disturbed areas are restored to pre-construction contours and revegetated following construction;
(iii) Mowing of the revegetated right–of-way occurs no more than once during any twelve month period; and
(iv) A vegetation management plan for the project has been reviewed and approved by the department

(e) Stormwater Management Law project including redevelopment For a project requiring a Stormwater Management Law permit that includes redevelopment of impervious area that was in existence as of November 16, 2005 (the effective date of Chapter 500 revisions), the redevelopment of that impervious area is not required to meet General standards provided the department determines that the new use of the existing impervious area is not likely to increase stormwater impacts resulting from the proposed project's stormwater runoff beyond the level of impact already caused by the runoff from the existing impervious area The requirements of Appendix D must still be met, if applicable.

(f) Site Location of Development Law project including redevelopment For a project requiring a Site Location of Development Law permit that includes redevelopment of existing impervious area that was in existence as of November 16, 2005 (the effective date of Chapter 500 revisions), redevelopment of that impervious area is required to meet the general standards to the extent practicable as determined by the department If the department determines that it is not practicable to make significant progress towards meeting the general standards for the redeveloped impervious area, the department may require off-site mitigation within the same watershed as an alternative for stormwater treatment The requirements of Appendix D must still be met, if applicable

C. Phosphorus standards.

(1) When the phosphorus standards must be met The phosphorus standards apply only in lake watersheds A project disturbing one acre or more and resulting in any of the following is required to meet the phosphorus standards described in Section 4(C)(2) below

(a) Lake most at risk watersheds 20,000 square feet or more of impervious area, or 5 acres or more of developed area, in the direct watershed of a lake most at risk, except that an applicant with a project that includes less than three acres of impervious area and less than 5 acres of developed area may choose to meet the general standards rather than the phosphorus standards if the lake is not severely blooming Severely blooming lakes are a subset of lakes most at risk as listed in Chapter 502

(b) Any other lake watershed One acre or more of impervious area, or 5 acres or more of developed area, in any other lake watershed, except that an applicant with a project that includes less than three acres of impervious area and less than 5 acres of developed area may choose to meet the general standards rather than the phosphorus standards

(2) Description of phosphorus standards An allowable per-acre phosphorus allocation for each lake most at risk will be determined by the department The department's determination is based upon current water quality, potential for internal recycling of phosphorus, potential as a cold-water fishery, volume and flushing rate, and projected growth in the watershed This allocation will be used to determine phosphorus allocations for a project unless the applicant proposes an alternative per-acre phosphorus allocation that is approved by the department If the project is a road in a subdivision, only 50% of the parcel's allocation may be applied to the road unless phosphorus export from both the road and the lots is subject to this chapter, in which case the entire allocation for the parcel may be applied

NOTE For guidance in calculating per-acre phosphorus allocations and in determining if stormwater phosphorus export from a project meets or exceeds the parcel's allocation, see Volume II of the Maine Stormwater Management BMP Manual

D. Urban impaired stream standard. If required, the urban impaired stream standard applies in addition to the basic standards, general standards and phosphorus standards described in Sections 4(A), (B) and (C)

(1) When the urban impaired stream standard must be met If a project located within the direct watershed of urban impaired stream or stream segment listed in chapter 502 results in three acres or more of impervious area or 20 acres or more of developed area, requires review pursuant to the Site Law, or is a Site Law modification of any size as described in Section 16 of this chapter, the urban impaired stream standard must be met

(2) Description of the urban impaired stream standard A project in the direct watershed of an urban impaired stream must pay a compensation fee or mitigate project impacts by treating, reducing or eliminating an off-site or on-site pre-development impervious stormwater source as described in Section 6(A) Compensation fees must be paid to the department's compensation fund or to an organization authorized by the department pursuant to the Stormwater Management Law, 38 M R S A § 420-D(11)

(3) Exception for a project including redevelopment Redevelopment of an existing impervious area is not required to meet the urban impaired stream standard provided the department determines that the new use of the existing impervious area is not likely to increase stormwater impacts in the proposed project's stormwater runoff beyond the levels already present in the runoff from the existing impervious area

E. Flooding standard. If required, the flooding standard applies in addition to the basic standards, general standards, phosphorus standards and urban impaired stream standards described in Sections 4(A), (B), and (C)

(1) When the flooding standard must be met If a project results in three acres or more of impervious area or 20 acres or more of developed area, requires review pursuant to the Site Law, or is a modification of any size as described in Section 16 of this chapter, the flooding standard must be met. Stormwater management systems for these projects must detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2-year, 10-year, and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project

(2) Waiver of the flooding standard A project is eligible for a waiver from the flooding standard as follows

(a) Discharge to the ocean, a great pond, or a major river segment A waiver is available for a project in the watershed of the ocean, a great pond, or a major river segment provided the applicant demonstrates that the project conveys stormwater exclusively in sheet flow, in a manmade open channel, or in a piped system directly into one of these resources In addition, the department may allow a variance for other rivers, if the department determines that the increase in peak flow from the site will not significantly affect the peak flow of the receiving waters or result in unreasonable adverse impact on a wetland or waterbody

Prior to requesting a waiver as part of an application, the applicant shall secure drainage easements from any downstream property owners across whose property the runoff must flow to reach the ocean, great pond, or river The applicant shall also demonstrate that any piped or open-channel system in which the runoff will flow has adequate capacity and stability to receive the project's runoff plus any off-site runoff also passing through the system

(b) Insignificant increases in peak flow rates from a project site When requesting a waiver for a project resulting in an insignificant increase in peak flow rates from a project site, the applicant shall demonstrate that insignificant increases in peak flow rates cannot be avoided by reasonable changes in project layout, density, and stormwater management design The applicant shall also demonstrate that the proposed increases will not unreasonably increase the extent, frequency, or duration of flooding at downstream flow controls and conveyance structures or have an unreasonable adverse effect on protected natural resources In making its determination to allow insignificant increases in peak flow rates, the department shall consider cumulative impacts If additional information is required to make a determination concerning increased flow, the department may only consider an increase after the applicant agrees, pursuant to 38 M R S A § 344-B(3)(B), that the review period may be extended as necessary by the department

(3) Channel limits and runoff areas The design of piped or open channel systems must be based on a 10-year, 24-hour storm without overloading or flooding beyond channel limits In addition, the areas expected to be flooded by runoff from a 10-year or 25-year, 24-hour storm must be designated in the application, and no buildings or other similar facilities may be planned within such areas This does not preclude the use of parking areas, recreation areas, or similar areas from use for detention of storms greater than the 10-year, 24-hour storm Runoff from the project may not flood the primary access road to the project and public roads as a result of a 25-year, 24-hour storm

NOTE The municipality, the Maine Department of Transportation, or the Maine Turnpike Authority may require a project to meet additional design standards based on the 50-year or 100-year storm The department recommends that any applicant proposing a project that may cause flooding of a primary access road or public road contact the appropriate entity

F. Easements and covenants. If a project will require specific off-site areas for the control, disposal, or treatment of stormwater runoff, then these areas must be protected from alteration through easements or covenants according to the following standards

(1) When an easement is required. The applicant must secure easements from affected property owners when any of the following occur on property not owned by the applicant A project changes the flow type (for example, converting from sheet flow to channelized flow), the flow channel changes, the flow qualifies for a waiver based on an insignificant increase in peak flow rates pursuant to Section 4(E)(2)(b), or the flow causes or increases flooding

The department may determine that the expected change in flow, channel or impact is so insignificant as to not require an easement under this chapter The department may require the applicant to provide evidence that such impacts will not occur or, if they will occur, provide evidence of the extent of the impact and evidence that suitable easements have been obtained

NOTE: The department's decision to issue a stormwater permit, to require or not require an easement, or to specify the location or width of an easement is not intended to affect other federal, state or local requirements for easements or the availability of legal or equitable remedies for impacts due to stormwater runoff

(2) Easement specifications and restrictions The following specifications and restrictions apply to all easements established under this standard

(a) Land use restrictions Suitable land-use restrictions must be included in the easements to prevent any activity that might affect drainage to, across, or from the area affected by the easement

(b) Drainage easements Drainage easements must include all off-site channels constructed to receive flows from the project and any off-site channels receiving increased peak flow rates from the project Drainage easements must extend up to, but not include, the channel of any river, stream, or brook accepting flow from the project Drainage easements must conform with the center line of the drainageway or pipe and must have a minimum width of 30 feet, or 10 feet on each side of the channel or pipe required to accommodate the flow from a 25-year, 24-hour storm, whichever is greater A reduction in the minimum width may be approved by the department if the full width is not available because of unavoidable physical limitations of the site However, the minimum width allowed must still be sufficient to avoid an adverse impact on existing uses and to allow access for maintenance and repair

(c) Flooding easements Flooding easements must include all off-site areas flooded due to the project's development These areas include, but are not limited to, those flooded due to the project overloading storm sewers, culverts, stormwater basins, and equivalent utilities with increased runoff, filling existing areas of runoff storage, diverting flows onto off-site properties, and impeding runoff from the project parcel or off-site areas Flooding easements must conform to the greatest extent of inundation due to the increased runoff from a 25-year, 24-hour storm

(d) Erosive flows The flow through the easement or flooding within the easement may not cause erosion of soil or sediment

(3) Areas conveyed When the permittee transfers land that contains areas of flow or areas to be flooded as described in (2)(a), (b) and (c), restrictive covenants protecting these areas must be included in any deeds or leases, and recorded at the appropriate county registry of deeds Also, in all conveyances of such areas and areas containing parts of the stormwater management system, the permittee shall include deed restrictions making the conveyance subject to all applicable terms and conditions of the permit These terms and conditions must be incorporated by specific and prominent reference to the permit in the deed All conveyances must include in the restrictions the requirement that any subsequent conveyance must specifically include the same restrictions unless their removal or modification is approved by the department These restrictions must be written to be enforceable by the department, and must reference the permit number

(4) Buffers Buffers must be protected from alteration through deed restrictions or conservation easement to which the department is a party

NOTE Suggested templates for deed restrictions and conservation easements for use under the Stormwater Management Law can be found in Appendix G of this chapter

5. **Other applicable standards.** The following standards apply to a project as described in this section in addition to the basic, general, urban impaired stream, and flooding standards

A. **Management of stormwater discharges.** A project discharging concentrated stormwater runoff through an open-channel or pipe to any point that is not an open channel, an inlet to a storm drain system, or a natural or man-made impoundment must convert the concentrated flow to sheet flow to prevent erosion of the downstream receiving area The conversion of concentrated flow to sheet flow must be done using properly designed level spreaders meeting the criteria below

(1) Discharge to a level spreader The peak stormwater flow rate to a level spreader due to runoff from a 10-year, 24-hour storm must be less than 0 25 cubic feet per second (0 25 cfs) per foot length of level spreader lip

(2) Drainage area The maximum drainage area to the spreader may not exceed 0 10 acre per foot length of level spreader lip

(3) Length of level spreader The level spreader length may not be more than 25 feet unless approved by the department

(4) Siting of level spreader The level spreader must be sited so that flow from the level spreader will remain in sheet flow until entering a natural or man-made receiving channel

This standard is not applicable for level spreaders discharging runoff to vegetated buffers used to meet the general standards Requirements for these level spreaders can be found in Appendix F

B. **Discharge to freshwater or coastal wetlands.** Stormwater standards for the waterbody must be met before the stormwater enters a wetland, unless otherwise approved by the department or unless the affected area of wetland qualifies for an exemption pursuant to the Natural Resources

Protection Act, 38 M R S A § 480-Q(17) Wetlands must receive stormwater in the same manner as before the project unless otherwise approved or required by the department In general, new or increased stormwater discharges into wetlands must be put into sheet flow using level spreaders designed to meet the requirements in Section 5(A) The department may allow alternate stormwater treatment measures if those measures will not unreasonably adversely affect the wetland.

The discharge of runoff to a wetland due to a 2-year storm may not increase the mean storage depth within a wetland more than two inches above pre-development levels for more than 24 hours from the end of the storm event, unless otherwise approved by the department The department may consider cumulative impacts due to runoff from other projects when applying this standard to any wetland

C. **Threatened or endangered species.** Additional stormwater standards may apply on a case-by-case basis if the department determines that such standards are necessary to avoid significantly altering the habitat of a threatened or endangered plant or animal species or violating protection guidelines

NOTE Title 12 M R S A § 7755-A prohibits state agencies from issuing a permit that will significantly alter the habitat of any species designated as threatened or endangered species or violate protection guidelines

D. **Additional controls.** If the department determines that additional controls are necessary to avoid an unreasonable impact on any wetland or waterbody due to pollutants that are not adequately addressed by the standards described in Sections 4 and 5, a stormwater project that results in three acres or more of impervious area or 20 acres or more of developed area, requires review pursuant to the Site Law, or is a modification of any size as described in Section 16 of this chapter may be required to use additional controls This is a case-by-case determination based upon factors such as the size, nature and intensity of the development, characteristics of the affected natural resource, topography and soils

For example, stormwater from a metallic mineral mining or advanced exploration activity regulated under the department's regulations, Metallic Mineral Exploration, Advanced Exploration and Mining regulations (06-096 CMR 200), may contain contaminants, such as high concentrations of dissolved metals, or be very acidic or alkaline, for which stormwater best management practices (BMPs) for other commercial or industrial developments do not provide adequate treatment

E. **Authorization for discharges to public storm sewer systems.** If runoff from a project site will flow to a publicly-owned storm sewer system, then the applicant must obtain authorization from the system's owner to discharge into the system At its discretion, the department may require the applicant to demonstrate that the system has adequate capacity for any increases in peak flow rates and volumes to the system

6. **Compensation fees and mitigation credit.** The following applies to projects required to provide mitigation, pursuant to Section 4(D), or where the Department has allowed the applicant to reduce the acreage treated or lower the phosphorus export reduction required to meet the phosphorus standards in Section 4(C) through mitigation Mitigation eliminates or reduces other off-site sources or pre-development on-site sources, in accordance with the requirements of Sections 6(A) through

(F) below The project must still meet the basic standards, general standards, phosphorus standards and the flooding standard described in Sections 4(A), (B), (C) and (D), respectively, if applicable

A. A project required to meet the urban impaired stream standard.

(1) Determining compensation fees or mitigation credits If a project is required to meet the urban impaired stream standard described in Section 4(D), compensation fees or mitigation credits are determined as follows

Type of surface with or without required treatment	Required compensation fee (per acre*)	Required mitigation credit (per acre*)
Non-roof impervious area	$5,000 00	0 5 credits
Roof	$2,000 00	0 2 credits
Landscaped area	$1,000 00	0 1 credits

*per acre fees are based on whole acreages of impervious or disturbed area. Fees for partial acreages are prorated.

Compensation fees may only be used in watersheds where a compensation fee utilization plan has been approved by the department If a compensation fee utilization plan is proposed by an applicant who is not a municipality, the applicant must demonstrate that the plan has been submitted to the municipality in which the project is located for review prior to submittal of an application to the department.

NOTE If a project is located in the watershed of a public drinking water supply, the municipality is required by 30-A M R S A § 4358-A(5) to notify the water district of the application as an abutter

(2) Amount of credit The following table indicates the amount of credit earned for a variety of allowed off-site mitigation activities

Mitigation activity	Source type	Credit earned (per acre* treated)
Retrofit with general standards at 1/3 required sizing or with approved flow through sedimentation device	Road or high-use parking lot	0 5 credit
	Low-use parking lot	0 3 credit
	Roof or other impervious area	0 2 credit
	Lawn	0 1 credit
Retrofit with general standards at 2/3 required sizing	Road or high use parking lot	1 0 credit
	Low use parking lot	0 6 credit
	Roof or other impervious area	0 4 credit
	Lawn	0 2 credit
	Road or high use parking lot	1 5 credits

Retrofit with general standards at required sizing	Low use parking lot	0 9 credit
	Roof or other impervious area	0 6 credit
	Lawn	0 3 credit
Eliminate impervious source area, replace with lawn.	Road or high use parking lot	1 0 credit
	Low use parking lot	0 5 credit
Eliminate impervious source area, replace with forest	Road or high use parking lot	2 0 credits
	Low use parking lot	1 0 credit
Retrofit detention with vegetated gravel under-drains	Impervious areas only	0 5 credit

*credits earned are based on whole acreages of impervious or disturbed area Fees for partial acreages are prorated.

In addition to the use of off-site mitigation or compensation fees, the department may approve other mitigation measures on a case-by-case basis Other measures proposed by an applicant must provide at least equivalent protection as measures described in the table above, as determined by the department

(3) Reduction of compensation fee or mitigation requirements for projects in watersheds with an approved watershed management plan The department may waive or reduce requirements for compensation fees or mitigation credit if a municipality, or quasi-municipal entity having jurisdiction over the area in which the project is located has developed and is implementing a watershed management plan for the watershed in which the project is located The watershed management plan must be approved by the department as meeting the purpose of restoring water quality Within a designated growth area of a municipality with an adopted comprehensive plan that the Maine State Planning Office has found to be consistent with the Planning and Land Use Regulation Act, or within a watershed located in a Service Center Community identified pursuant to 30-A MRSA § 4301(14-A), implementation of the watershed management plan may be deferred for up to five years from the date of department approval, or until state or federal financial assistance is available, whichever comes first

B. A project required to meet general standards that is not in an urban impaired stream watershed.

(1) Reducing acreage that must be treated by eliminating or reducing an off-site or on-site pre-development impervious stormwater source. If a project is required to meet the general standards described in Section 4(B) and it is not in an urban impaired stream watershed, the department may allow the portion of a project's impervious or developed acreage that must be treated to be reduced through mitigation by eliminating or reducing an off-site or on-site pre-development impervious stormwater source

(a). Source reduction or elimination A source is considered to be eliminated if impervious area is removed, the underlying soil is aerated, and the area revegetated and returned to a wooded condition. A source is considered to be reduced if the impervious area is

removed, the underlying soil is aerated and the area revegetated and maintained as a lawn or other non-forested area. The amount of reduction in treated acreage allowed will be determined on a case-by-case basis by the department, based on the existing and future uses of the project site, the existing and future use of the eliminated or reduced off-site or pre-development on-site impervious area, and the equivalency of these uses In determining whether to approve a mitigation proposal, the department will determine whether the expected reduction in stormwater pollutant export and stormwater flows can reasonably be expected to exceed the stormwater pollutant export and stormwater flow resulting from the untreated acreage at the project site

(b) When the amount of roof or non-impervious developed acreage that must be treated may be reduced The department may reduce the portion of a project's roof or non-impervious developed acreage that must be treated by an equivalent area of on-site roof, pre-development parking or road surfaces for which the applicant agrees to incorporate and maintain stormwater treatment structures

C. **A project in a lake watershed that is required to meet the phosphorus standards.** If a project is required to meet the phosphorus standards described in Section 4(C), an off-site mitigation credit may be allowed, but only to eliminate or reduce off-site sources of phosphorus A source is considered to be eliminated if impervious area is removed, and the area is revegetated and returned to a wooded condition A source is considered to be reduced if the impervious area is removed, and the area is revegetated and maintained as lawn or other non-forested area For every two pounds of estimated off-site phosphorus export that is eliminated or reduced, estimated on-site phosphorus export may be reduced by one pound If the applicant can demonstrate, based on type of impervious area and intensity of use, that the level of phosphorus export from the eliminated or reduced off-site area is equivalent to or greater than that expected from the proposed impervious area, then a credit may be allowed at a ratio of 1 to 1 As an alternative, a compensation fee may be paid to off-set no more than 50% of the required reduction in export at a rate of $10,000 per pound of phosphorus export, as described in 38 M R S A § 420(D)(11)(A)

NOTE For guidance in determining phosphorus export see "Phosphorus Control in Lake Watersheds", Maine Department of Environmental Protection

D. **Location.** The mitigation activity must be located in the same watershed as the project to off-set the impact of the pollutant export from the project More than one mitigation activity may be applied to a project

E. **Protection from alteration.** Areas in which an off-site or on-site pre-development stormwater source has been reduced or eliminated as described in Section 6(A), (B), and (C) must be protected from alteration through deed restrictions, a conservation easement to which the department is a party, or similar measures. These covenants must specify that they may only be modified with department approval See Appendix G

F. **Maintenance and transfer** Areas revegetated to off-set project impacts must be maintained as required by the permit, and any transfer of these areas must be made subject to deed restrictions that require such maintenance and are enforceable by the department These covenants must specify that they may only be modified with department approval

7. Stormwater permit by rule (PBR)

A. When a project qualifies for a stormwater PBR. A project needing a Stormwater Law permit qualifies for a stormwater PBR if it results the following

(1) Less than 20,000 square feet of impervious area and 5 acres of developed area in the direct watershed of a lake most at risk or urban impaired stream, and
(2) Less than one acre of impervious area and five acres of developed area in any other watershed

B. Notification. An applicant must file notice of the project with the department prior to beginning work on the project The applicant shall use the notification form provided by the department and must include the required submissions The applicant must keep a copy to serve as the permit The notification information must be sent to the department by certified mail (return receipt requested), or hand delivered to the department and date stamped by the department

C. Effective period. The stormwater PBR becomes effective 14 calendar days after the department receives the notification form, unless the department approves or finds the notification deficient prior to that date Within this 14 day period, the department may notify the applicant in writing or through verbal communication that the project is ineligible for stormwater PBR, or that additional information or further review is needed If the department does not inform the applicant that the notification is unacceptable within the 14-day period, the notification is deemed accepted by the department and is valid for two years from the date of approval

By signing the notification form, the applicant is representing that the activity will meet the applicability requirements and standards of the rule In addition, by signing the notification form the applicant represents that the applicant has sufficient title, right, or interest in the property where the proposed activity is to take place

D. Standards. Projects eligible for permit by rule must meet the erosion and sedimentation control standards found in Appendix A and inspection and maintenance requirements found in Section 1 of Appendix B of this chapter

NOTE A project qualifying for a stormwater PBR is not required to meet the general standards in Section 4(B) or the Phosphorus Standards in Section 4(C) However, if a PBR project proposes to use infiltration to control runoff, it must either meet the license by rule standards in Appendix D, or obtain a waste discharge license under the Waste Discharge Law

E. Submissions. An applicant for a stormwater PBR must submit the notification form, fee and other information for the Department's review and approval This information includes a location map, site plan, erosion and sedimentation control plan, and photographs of the area to be developed Also, if the project is located in Essential Habitat, approval from the Maine Department of Inland Fisheries and Wildlife will need to be submitted Specific submission requirements are described below

(1) Plan preparation An erosion and sedimentation control plan accompanying a stormwater PBR must be designed by a professional who is registered, licensed, or certified in a related land-use field, or by education, training, or experience is knowledgeable in erosion and

sedimentation control, or has received specific training in erosion and sedimentation control at a department-sponsored erosion and sedimentation control workshop

NOTE: An applicant may use erosion and sedimentation control BMPs described in the "Citizen's Guide to Best Management Practices for Use with Maine Construction General Permit" or in "Maine Erosion and Sediment Control BMPs," Maine Department of Environmental Protection

(2) Location map The notification form must be accompanied by a photocopy of a portion of a 7 5 minute USGS topographic map or other atlas showing the site's location and approximate property boundaries, if the size of the parcel and scale of the map allows it A USGS topographic map can be useful for showing the general contour and topography of the project site

(3) Site plan Submit a scaled plan showing, at a minimum, the locations of structures and roads, the extent of disturbed land, pre-construction site topography, post-construction site topography, on-site and adjacent surface waterbodies, and all erosion and sedimentation control measures to be used on the site Such measures include, but are not limited to, sedimentation barriers, ditch lining, rip rap, and culvert inlet and outlet designs

An applicant may substitute the following information for surveyed pre-development and post-development site topography on the location plans:

(a) the locations of high points on the site,

(b) the locations of any ponds or other runoff storage depressions on the site,

(c) the locations and flow direction of any drainage ditches, brooks, or streams,

(d) the locations of any catch basin inlets or culvert inlets, and

(e) arrows showing the general direction(s) of overland drainage for the site

(4) Erosion and sedimentation control plan In addition to a site plan, an erosion and sedimentation control plan must be included that contains, at a minimum, permanent stabilization measures to be taken (e g , paving or planting vegetation), installation details of the erosion control measures proposed, seeding and mulching rates, and a construction schedule with the proposed construction dates and timeframe for major earth moving and construction events This plan and its details may be included on the site plan instead of being a separate submission

NOTE A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in 38 M R S A § 480-B Sediment control measures must be in place before the activity begins Measures must remain in place and functional until the site is permanently stabilized Adequate and timely temporary and permanent stabilization measures must be taken The site must be maintained to prevent unreasonable erosion and sedimentation See 38 M R S A § 420-C (in part) Other or additional standards may apply,

under the Natural Resources Protection Act, to a project located in or adjacent to a protected natural resource

(5) Photos Provide photographs of the project site that show the existing character and topography of the area proposed for development

F. **Approval of variations from plans.** The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation Any variation undertaken without approval of the department is in violation of 38 M R S A § 420-D(8) and is subject to penalties under 38 M.R S A § 349

G. **Permit extensions.** An individual permit issued under the Stormwater Management Law may be extended one time using a Stormwater PBR, provided that the approved project has not begun and the permit has not expired If a Stormwater PBR needs to be extended, the applicant may file a new Stormwater PBR notification form for a one-time extension

H. **Discretionary authority.** Notwithstanding compliance with the PBR requirements and standards set forth in this chapter, the department may require an individual stormwater permit application to be obtained in any case where the department determines that the activity

(1) May violate the standards of the Stormwater Management Law,

(2) Could lead to significant environmental impacts, including cumulative impacts,

(3) Could have an unreasonable adverse impact on a protected natural resource, or

(4) Could degrade the habitat of a threatened or endangered species (see Section 5(C))

8. **Submissions and pre-application meetings.** The applicant shall use the application form provided by the department and include evidence that affirmatively demonstrates that the standards will be met, including information such as described in this section A pre-application meeting between the applicant and the department is an opportunity for the applicant to determine the statutory and regulatory requirements that apply to a specific project, and to identify the department staff person who will serve as project manager for the application

A. **Pre-application meetings for Stormwater Management Law projects.** A pre-application meeting is required for a project that does not qualify for a stormwater PBR, unless the requirement for such a meeting is waived by the department based on an initial review of project plans and scope A written request for a stormwater pre-application meeting must include two copies of a preliminary site plan, brief project description, and a regional map with the site marked Note A Site Law application for a new development project requires a pre-application meeting pursuant to Chapter 2, Section 10(B)

B. **Design requirements.** A design for a stormwater management system that includes any form of conveyance structure must be prepared under the supervision of, and dated, signed and sealed by, a professional engineer registered in the State of Maine, who by education, training, or experience is knowledgeable in stormwater management

C. **Basic standards submissions.** These submissions are required for all sites except those that qualify for stormwater PBR described in Section 7 above An erosion and sedimentation control plan or an inspection and maintenance plan for a project that does not qualify for a stormwater PBR must be prepared by a professional engineer registered in the State of Maine, or a certified erosion and sedimentation control professional

(1) Erosion and sedimentation control plan Submit a plan showing designs for temporary and permanent stabilization measures for all disturbed areas within the project site and for all proposed stormwater management structures Erosion and sedimentation control plan requirements are described in Appendix A of this chapter At a minimum, the erosion and sedimentation control plan must include the following

(a) Location plan Submit a plan sheet or set of plans showing, at a minimum, the location of structures, disturbed land, pre-construction site topography, post-construction site topography, on-site or adjacent water resources, and all erosion and sediment control measures

(b) Site details Submit a plan sheet showing the following

(i) Erosion and sedimentation control notes Erosion and sedimentation control notes, must include, but not limited to, permanent stabilization measures, seeding and mulching rates, and a construction schedule with the proposed construction dates and timeframe for major earth moving and construction events.

(ii) Construction and installation details Construction and installation details for erosion and sedimentation control measure must include, but are not limited to, sedimentation barriers, ditch lining, rip rap, and culvert inlet and outlet designs

NOTE For guidance, see the Maine Erosion and Sediment Control BMP Manual

(2) Inspection and maintenance plan Submit a plan for the inspection and maintenance of the temporary and permanent erosion and sedimentation controls for the project site as described in Appendices A and B of this chapter At a minimum, the inspection and maintenance plan must include the following

(a) List of measures Submit a list of the erosion control measure and stormwater management measures to be inspected and maintained (e g , "parking lot catch basins")

(b) Inspection and maintenance tasks Submit a list of inspection and maintenance tasks specific to each erosion control measure or stormwater management measure (e g , "remove accumulated sediment s in basin sumps") Submit the specific qualifications of the person performing each task (e g , "a professional engineer registered in the State of Maine will inspect the retention pond embankment")

(c) Task frequency Indicate the required frequency of each inspection and maintenance task (e g , "accumulated sediments will be removed from all catch basins annually in early spring").

(d) Responsible parties Submit the name, job title, employer, employer address, phone number, and current email contact information for the person responsible for ensuring that inspection and maintenance tasks are completed Submit the names, job titles, employer addresses, phone number, and any current email contact information of the engineers or other design professionals who designed the erosion control measures and stormwater management measures for the site Include suppliers of proprietary erosion control measures or proprietary stormwater management measures used on the site

(e) Maintenance plan for detention basins or retention ponds For each stormwater management pond or basin submit, at a minimum, an inspection and maintenance plan for the pond's embankments, outlet structure, and emergency spillway Include as part of this plan provisions for the removal and disposal of accumulated sediments in the pond and the control of woody vegetation on the pond's embankments

(f) Maintenance plan for infiltration structures For each infiltration structure, submit, at a minimum, an inspection and maintenance plan for the structure's pretreatment measures, embankments, surface lining, and overflow spillway Include as part of this plan provisions for the removal and disposal of accumulated sediments in the structure and for the rehabilitation of clogged surface linings

(g) Maintenance plan for underdrained filters For each underdrained filter, submit, at a minimum, an inspection and maintenance plan for the filter embankments, vegetation, underdrain piping, and overflow spillway Include as part of this plan provisions for the removal and disposal of accumulated sediments in the structure, the rehabilitation of clogged surface linings, and the flushing of underdrain piping

(h) Maintenance plan for stormwater buffers At a minimum, submit a plan for inspecting and maintaining the integrity and function of the project's stormwater buffers As part of this plan, include provisions for the inspection, maintenance, and, if necessary, reconstruction of any level spreaders or ditch turnouts used to spread runoff into the buffers Include as part of this plan provisions for the frequent removal and disposal of accumulated sediments and debris in the level spreader and turnout bays, provisions for the inspection and repair of any eroded areas within the buffer, and provisions for the reestablishment of buffer vegetation destroyed by post-construction activities

(i) Maintenance plan for manufactured stormwater treatment systems For each manufactured system installed on the site, submit an inspection and maintenance plan for the system's inlet, treatment chamber(s), and outlet The plan shall conform to the inspection and maintenance guidelines recommended by the manufacturer based on the estimated runoff and pollutant load expected to the system from the project As part of this plan, include provisions for the frequent removal of accumulated sediments, debris, and contaminated waters from the system and, if applicable, provisions for the removal, disposal, and replacement of any clogged or spent filter media

(j) Maintenance plan for ditches, culverts, and storm drains Provide an inspection and maintenance plan for all stormwater conveyances to be built or installed on the site – including, but not limited to, ditches, swales, culverts, catch basins, and storm drain piping As part of this plan, include provisions for the repair of eroded areas at the inlet, within, and at the outlet of each conveyance and include provisions for the frequent

removal and disposal of accumulated sediments and debris at the inlet, within, and at the outlet of each conveyance

(3) Housekeeping Submit a plan to address spill prevention, groundwater protection, fugitive sediment and dust, debris and other materials, trench or foundation de-watering, or non-stormwater charges, as applicable to the specific site Housekeeping requirements are described in Appendix C of this chapter

D. General standards submissions. A project required to meet general standards must provide the following information and design specifications

(1) Narrative A narrative describing site layout, and on-site and off-site watershed hydrology, including all new and existing buildings and facilities, which may be affected by the site runoff Provide the total amount of impervious area, disturbed area, and developed area created by the project

(2) Drainage Plans. All topographic features, such as buildings and other facilities, drainageways, cover type, roads, drainage easements and subcatchment boundaries for pre-construction and post-construction conditions must be shown on a plan Show all hydrologic flow lines and hydrologic soil groups boundaries on a plan and identify each subcatchment, reach, and pond For post-construction conditions, show all new stormwater management structures and changes to the hydrologic drainage patterns

(3) Calculations The stormwater runoff calculations for measures designed to meet general standards must be in accordance with acceptable engineering practice, including the following

(a) Water volume Calculations used to determine the water volume needed to be filtered, infiltrated, or detained based on the proposed site development must be provided

(b) Buffer sizing Buffers used for runoff control must be sized according to requirements described in Appendix F

(4) Details, designs, and specifications Submit designs, construction details, and technical specifications for each stormwater management measure that will be constructed, installed, or managed on the site.

(a) Ponds Submit a plan sheet having the following details and specifications for each stormwater management pond a topographic plan view of the pond, a cross section of the pond embankment, a cross section and profile of the overflow spillway, test pit information, and specifications for constructing and stabilizing the pond's embankment The peak storage depth required to meet the general standards must be shown on a cross section for each pond embankment Submit a cross section of the gravel underdrain used to meet the standards This cross section must specify the width and elevation of the pond bench, the thickness and gradation for the gravel drainage fill, and the diameter and material for the perforated underdrain pipe

(b) Underdrained soil filters Submit a plan sheet having the following details and specifications for each underdrained vegetated filter bed a plan view of the filter area, a

cross section of the embankment for the filter area at the overflow spillway, a cross section and profile of the overflow spillway, a cross section of the underdrain filter, the thickness and composition of the soil filter media, the thickness and gradation of the gravel drainage fill, thelayout for the perforated underdrain pipe and the stabilization of the filter bed

(c) Infiltration Submit a plan sheet showing the following details and specifications for each infiltration measure a plan view of the infiltration structure, a cross section of the infiltration measure's runoff storage area, a cross section and profile of the structure's overflow spillway, and details and specifications for permanently stabilizing the infiltration area The following information must be included, if required, as determined by the department and described below.

(i) Locations of any monitoring wells necessary for assessing the infiltration measure's performance or stormwater infiltration impacts on groundwater, surface irrigation sites, or subsurface wastewater disposal systems must be shown on the site plan

(ii) Location of an existing or proposed surface irrigation site, waste disposal site, subsurface wastewater disposal system, or other facility that could be impacted by operation of the infiltration system must be shown on the site plan

(iii) Location of any soil borings, test pits, or other explorations used to determine depth to groundwater, separation from bedrock, or other design information must be shown on the site plan

(iv) Location of any water supply wells on-site or within 300 feet of the infiltration areas, zones of contribution for public water supply wells must be shown on the plan sheet

(v) Location of storage for any petroleum products, pesticides, fertilizers, road salt, hazardous materials, or other materials with the potential to contaminate groundwater must be shown on the site plan

(vi) Plans for management of any potential contaminants and soil sample analyses, such as a spill prevention, control, and countermeasure plan, must be submitted with appropriate supporting information

(vii) Depth to the seasonal high groundwater table, depth to bedrock, and the thickness and composition of any liner used for restricting infiltration rates must be shown on the cross section view of the infiltration structure

(d) Buffers Submit a topographic site plan showing the location of each buffer on the site, showing the layout of any berm level spreaders used to spread flows into each buffer, identifying the soil type and cover type within each buffer, and showing the land use and impervious and developed area draining to each buffer area Provide a typical cross section for the berm level spreaders showing the geometry of the berm, the geometry of the upstream storage area, and the specifications for the berm material Submit information demonstrating that the inslope fill material will have slopes no steeper than 3 1 Submit documentation, in the form of draft convenants and restrictions, demonstrating that buffer area(s) will be maintained as buffer

(5) Phosphorus export calculations An application for a project using the phosphorus standards must include phosphorus export calculations

NOTE For guidance in determining phosphorus export see "Phosphorus Control in Lake Watersheds", Maine Department of Environmental Protection

(6) Maintenance contract Submit an executable contract with a third-party for the removal of accumulated sediments, oils, and debris within any proprietary devices and the replacement of any absorptive filters if these measures are part of a project's proposed stormwater management system An applicant that has the personnel and equipment necessary to perform maintenance on any proprietary devices may submit a demonstration of capability in lieu of an executable contract with a third party The frequency of sediment clean-out and filter replacements must be consistent with the unit's storage capacity and the estimated pollutant load from the contributing drainage area This clean-out frequency is usually established by the manufacturer of the proprietary system when sizing the device for the project The contract must state that a qualified professional will perform maintenance on stormwater management systems to maintain pollutant removal levels

E. Flooding standard submissions

(1) Control of peak flows If a project must meet the flooding standard, the project must be designed to control the peak flows from the 2-, 10- and 25-year, 24-hour storms This is in addition to the submittal requirements listed in Section 8(C) and (D) above

(2) Details, designs, and specifications Provide runoff curve number computations and time of concentration calculations for each subcatchment Areas may qualify as subcatchments based on the characteristics of the site or the model used The department will review all methods of determining subcatchments on a case-by-case basis Provide a reach description and reach routing analysis for each drainage structure and provide pond descriptions and storage routing calculation for any stormwater management structure, detention pond and culvert backwater areas

Acceptable stormwater methodologies and models include, but are not limited to, "TR-20 - Computer Program for Project Formulation - Hydrology," Second Edition, U S Department of Agriculture, Soil Conservation Service (March 1986), and "TR-55 - Urban Hydrology for Small Watersheds," Second Edition, U S Department of Agriculture, Soil Conservation Service (June 1986), "WIN TR-55 2003 00 24 Microcomputer Program," (January 12, 2003), and "HEC-HMS Flood Hydrology Package," U S Army Corps of Engineers (January 2001) Any methodology or model other than those listed must have prior approval from the department

F. Transfer. An applicant may apply for a transfer of an individual Stormwater Management Law project pursuant to Section 10(A)(4) If the project was approved under stormwater PBR, the transferee of the property shall file a new stormwater PBR notification

G. Modification. An applicant may apply for a modification of an individual Stormwater Management Law permit If a stormwater PBR needs to be modified, the applicant shall file a new stormwater PBR notification

9. Municipal stormwater management programs. The department may allow a municipality or a quasi-municipal organization, such as a watershed management district, to substitute a management system for stormwater for the stormwater permit requirement pursuant to 38 M R S A § 420-D(2) The management system may apply to an entire watershed, or a subcatchment, of a receiving water, and may include multiple watersheds within the jurisdiction of the municipality or quasi-municipal

organization A project located within the area served by a management system approved by the department is exempt from the stormwater permit requirements contained in this chapter

The municipality or quasi-municipality may elect to have the substitution take effect at the time the system is approved by the department, or at the time the system is completed as provided in the implementation schedule provided by the department

A management system may not substitute for an aspect of a project that is required to meet the infiltration standards described in Appendix D or required to obtain a waste discharge permit

A. Program approval criteria. The department may review and approve a stormwater management program submitted by a municipality or a quasi-municipal organization, such as a watershed management district to meet this exemption, provided that the municipality or quasi-municipal organization demonstrates that the following criteria are met

(1) Relationship to water quality The municipality or quasi-municipal organization shall have a stormwater treatment system that, upon implementation, will result in the collective treatment of stormwater from new and existing sources within the watershed and will result in water quality in the receiving water that is as good, or better, than would be achieved with stormwater permits issued by the department for individual projects The stormwater system may apply to an entire watershed, or a subcatchment, of a receiving water, and may include multiple watersheds within the jurisdiction of the municipality or quasi-municipal organization

(2) Funding and implementation The program must include funding provisions and an implementation schedule that provides that the treatment system for new and existing sources will be in place and functioning within five years unless a longer time period, not to exceed 10 years, is approved by the department

(3) Annual reporting The program must also include a provision for annual reporting by the municipality to the department on progress toward implementation and a listing of the new development within the jurisdiction of the management system

B. Reinstatement of permit requirement. The department may reinstate the stormwater permit requirement if it finds that the implementation schedule is not being met, or that the management program and associated stormwater treatment system is not achieving the plan's objectives

10. Conditions of approval The following conditions of approval apply to an individual permit required pursuant to the Stormwater Management Law, 38 M R S A § 420-D For standard conditions of approval for a Site Law project, see 38 M R S A § 372 (12) and Section 10-A below

A. Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions

(1) Approval of variations from plans The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to

implementation Any variation undertaken without approval of the department is in violation of 38 M R S A § 420-D(8) and is subject to penalties under 38 M R S A § 349

(2) Compliance with all terms and conditions of approval The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval All preconstruction terms and conditions must be met before construction begins

(3) Advertising Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained

(4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license

(5) Initiation of project within two years If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the department for a new approval The applicant may not begin construction or operation of the project until a new approval is granted A reapplication for approval may include information submitted in the initial application by reference

(6) Reexamination after five years If the project is not completed within five years from the date of the granting of approval, the department may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances or requirements which may have occurred during the five-year period

(7) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit " Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the developer, and the owner and each contractor and subcontractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance with the approval and conditions Completed certification forms must be forwarded to the department

(8) Maintenance The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the department

(9) Recertification requirement Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department

(a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
(b) All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the facilities
(c) The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained

(10) Severability The invalidity or unenforceability of any provision, or part thereof, of this permit shall not affect the remainder of the provision or any other provisions This permit shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted

B. Special conditions. The department may, as a term or condition of approval, establish any reasonable requirement to ensure that the proposed project will proceed in accordance with the Stormwater Management Law and rules However, terms and conditions relating to compliance with the Stormwater Management Law may not substitute for or reduce the burden of proof of the developer to affirmatively demonstrate to the department that each of the standards of the Stormwater Management Law has been met

10-A. Conditions of approval The following standard condition of approval applies to a Site Law permit required pursuant to the Site Location of Development Law, 38 M R S A §§ 481 *et seq*, in addition to those specified in 06-096 CMR 372

Recertification requirement Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department

A. All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas
B. All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the facilities
C. The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained

11. Recording of order. The department shall record each order approving or modifying a permit pursuant to chapters 500 and 502 in the appropriate registry of deeds

12. Severability Should any provision of this chapter be declared invalid or ineffective by court decision, the decision shall not invalidate any other provision of this chapter

13. Transition. For purposes of the Stormwater Management Law only, Laws 1995, c 704, § B-4 provides that impervious areas and disturbed areas created prior to July 1, 1997 are not counted when determining the amount of such areas on a parcel, although such areas may be reviewed to the extent necessary to ensure that controls intended to address new areas function adequately New

construction on an impervious area created prior to July 1, 1997 is not counted when determining the amount of impervious area on a parcel An area is considered "created" for purposes of this provision when local approval has been received, and construction has begun

If the definition for "impervious area" is met, examples of "new construction on an impervious area created prior to July 1, 1997," which is not counted toward total impervious area for purposes of determining jurisdiction under the Stormwater Management Law, include the following

A. A building demolished and a parking lot created within the footprint of the building,
B. A building constructed on a parking lot, and
C. A gravel parking lot paved over

NOTE The examples in Section 13 (A) and (B) above would be counted toward the higher threshold for "structure area" under the Site Law The Site Law addresses larger developments under several types of standards, and does not include an exemption for new construction on impervious area created prior to a specific date

14. Permit shield If a stormwater best management practice is approved by the department and, although adequately and appropriately constructed and maintained by the permittee, as determined by the department, it fails to meet an applicable standard provided in Section 4 or 5, the permittee is not in violation for failing to comply with that standard

This section does not apply if an experimental measure is approved See Section 15 This section does not apply to the requirements of Appendix D This section does not create an exemption or exception from Site Location standards for projects that obtain a Stormwater Management Law permit

NOTE This section does not apply to license by rule approvals granted, or the need for a license pursuant to 38 M R S A. § 413, the Waste Discharge Law A wastewater discharge license is required for any stormwater discharge that the department determines will contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the State See 06-096 CMR 521(9)(a)(1)(v) For the permit shield provision applicable to the Waste Discharge Law, see 38 M R S A 414(8) "Effect of license"

Nothing in this section alters or affects the liability of the permittee if a violation has occurred prior to permit issuance

15. Experimental measure. The department may, on a case-by-case basis, approve a best management practice that is experimental, as determined by the department, when requested by an applicant However, in this case, the "permit shield" provision in Section 14 will not apply, and the department may require the applicant to collect and submit sufficient information on the performance on the best management practice to allow evaluation If the best management practice does not perform at least as well as would have been expected from otherwise available best management practices, the department may require the permittee to replace or otherwise redesign the system

The department may only approve an experimental practice on a site where it would be possible to replace or redesign the experimental system if necessary

16. **Modification.** If a project has required a permit pursuant to the Stormwater Management Law or Site Law, all subsequent modifications of any size are also required to meet standards, except as allowed for redevelopment in Section 4(D) When the applicable standard depends upon an area threshold, the area of the entire licensed project, including the modification, is included The area may be limited if the project covers more than one direct watershed, and the standards so provide

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APPENDIX A. Erosion and sedimentation control

This appendix applies to all projects

A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in 38 M R S A § 480-B Sediment control measures must be in place before the activity begins Measures must remain in place and functional until the site is permanently stabilized Adequate and timely temporary and permanent stabilization measures must be taken

NOTE The site must be maintained to prevent unreasonable erosion and sedimentation See 38 M R S A § 420-C (in part) Other or additional standards than those provided in Appendix A may apply, under the Natural Resources Protection Act, to a project located in or adjacent to a protected natural resource

NOTE For guidance on erosion and sedimentation controls, consult "Maine Erosion and Sediment Control BMPs", Maine Department of Environmental Protection

1. **Pollution prevention.** Minimize disturbed areas and protect natural downgradient buffer areas to the extent practicable

   The discharge may not result in erosion of any open drainage channels, swales, upland, or coastal or freshwater wetlands

   NOTE Buffers improve water quality by helping to filter pollutants in run-off both during and after construction Minimizing disturbed areas through phasing limits the amount of exposed soil on the site through retention of natural cover and by retiring areas as permanently stabilized Less exposed soil results in fewer erosion controls to install and maintain If work within an area is not anticipated to begin within two weeks time, consider leaving the area in its naturally existing cover.

2. **Sediment barriers.** Prior to construction, properly install sediment barriers at the edge of any downgradient disturbed area and adjacent to any drainage channels within the disturbed area Maintain the sediment barriers until the disturbed area is permanently stabilized

3. **Temporary stabilization.** Stabilize with mulch or other non-erodable cover any exposed soils that will not be worked for more than 7 days 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

4. **Removal of temporary sediment control measures.** Remove any temporary sediment control measures, such as silt fence, within 30 days after permanent stabilization is attained Remove any accumulated sediments and stabilize

   NOTE It is recommended that silt fence be removed by cutting the fence materials at ground level to avoid additional soil disturbance

5. **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, soil and moisture 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 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 If necessary, areas must be seeded and mulched again if germination is sparse, plant coverage is spotty, or topsoil erosion is evident One or more of the following may apply to a particular site

   (a) Seeded areas For seeded areas, permanent stabilization means a 90% cover of 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) Agricultural use For construction projects on land used for agricultural purposes (e g , pipelines across crop land), permanent stabilization may be accomplished by returning the disturbed land to agricultural use

   (f) Paved areas For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed

   (g) 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, 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

6. **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

NOTE For guidance on winter construction standards, see the "Maine Erosion and Sediment Control BMPs", Maine Department of Environmental Protection

7. **Stormwater channels.** Ditches, swales, and other open stormwater channels must be designed, constructed, and stabilized using measures that achieve long-term erosion control Ditches, swales,

and other open stormwater channels must be designed to handle, at a minimum, the expected volume of run-off. 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 Permanent stabilization of channels is addressed under Appendix A(5)(g) above

8. **Roads.** Gravel and paved roads must be designed and constructed with crowns or other measures, such as water bars, to ensure that stormwater is delivered immediately to adjacent stable ditches, vegetated buffer areas, catch basin inlets, or street gutters

9. **Culverts.** Culverts must be sized to avoid unintended flooding of upstream areas or frequent overtopping of roadways Culvert inlets must be protected with appropriate materials for the expected entrance velocity, and protection must extend at least as high as the expected maximum elevation of storage behind the culvert Culvert outlet design must incorporate measures, such as aprons or plunge pools, to prevent scour of the stream channel The design must take account of tailwater depth

10. **Parking areas** Parking areas must be constructed to ensure runoff is delivered to adjacent swales, catch basins, curb gutters, or buffer areas without eroding areas downslope The parking area's subbase compaction and grading must be done to ensure runoff is evenly distributed to adjacent buffers or side slopes Catch basins must be located and set to provide enough storage depth at the inlet to allow inflow of peak runoff rates without by-pass of runoff to other areas

11. **Additional requirements.** Additional requirements may be applied on a site-specific basis

APPENDIX B. Inspection and maintenance

This appendix applies to all projects A project that is only required to meet basic standards (stormwater PBR) must meet the standards in Section 1 All other projects must meet standards in Sections 1 through 5

See Appendix D(5) for additional maintenance requirements related to infiltration of stormwater

1. **During construction.** The following standards must be met during construction

   (a) Inspection and 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 after a storm event, 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

   (b) Maintenance Maintain all measures in effective operating condition until areas are permanently stabilized. If best management practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within 7 calendar days and prior to any storm event (rainfall)

   (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

   The log must be made accessible to department staff and a copy must be provided upon request The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization

2. **Post-construction.** The following standards must be met after construction

   (a) Plan Carry out an approved inspection and maintenance plan that is consistent with the minimum requirements of this section The plan must address inspection and maintenance of the project's permanent erosion control measures and stormwater management system This plan may be combined with the plan listed in Section 2(a) of this appendix See Section 8(C)(2) for submission requirements

   (b) Inspection and corrective action All measures must be maintained in effective operating condition A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections The following areas, facilities, and measures must be inspected and identified deficiencies must be corrected. Areas, facilities, and

measures other than those listed below may also require inspection on a specific site Inspection or maintenance tasks other than those discussed below must be included in the maintenance plan developed for a specific site.

NOTE: Expanded and more-detailed descriptions for specific maintenance tasks may be found in the Maine DEP's "Stormwater Management for Maine Best Management Practices"

(i) Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems Replant bare areas or areas with sparse growth Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows See permanent stabilization standards in Appendix A(5)

(ii) Inspect ditches, swales and other open stormwater channels in the spring, in late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, to control vegetated growth that could obstruct flow, and to repair any erosion of the ditch lining Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity Any woody vegetation growing through riprap linings must also be removed Repair any slumping side slopes as soon as practicable If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or sideslopes

(iii) Inspect culverts in the spring, in late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit, and to repair any erosion damage at the culvert's inlet and outlet

(iv) Inspect and, if required, clean-out catch basins at least once a year, preferably in early spring Clean-out must include the removal and legal disposal of any accumulated sediments and debris at the bottom of the basin, at inlet any grates, at any inflow channels to the basin, and at any pipes between basins If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads)

(v) Inspect resource and treatment buffers at least once a year for evidence of erosion, concentrating flow, and encroachment by development If flows are concentrating within a buffer, site grading, level spreaders, or ditch turn-outs must be used to ensure a more even distribution of flow into a buffer Check down slope of all spreaders and turn-outs for erosion If erosion is present, adjust or modify the spreader's or turnout's lip to ensure a better distribution of flow into a buffer Clean-out any accumulation of sediment within the spreader bays or turn-out pools

(c) Regular maintenance

(i) Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring Accumulations on pavement may be removed by pavement sweeping Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader Grading of gravel roads, or grading of the gravel shoulders of gravel or paved roads, must be routinely

performed to ensure that stormwater drains immediately off the road surface to adjacent buffer areas or stable ditches, and is not impeded by accumulations of graded material on the road shoulder or by excavation of false ditches in the shoulder If water bars or open-top culverts are used to divert runoff from road surfaces, clean-out any sediments within or at the outlet of these structures to restore their function

(ii) Manage each buffer's vegetation consistently with the requirements in any deed restrictions for the buffer. Wooded buffers must remain fully wooded and have no disturbance to the duff layer Vegetation in non-wooded buffers may not be cut more than three times per year, and may not be cut shorter than six inches.

NOTE Contact the department's Division of Watershed Management (Maine DEP) for assistance developing inspection and maintenance requirements for other drainage control and runoff treatment measures installed on the site The maintenance needs for most measures may be found in the Maine DEP's "Stormwater Management for Maine Best Management Practices"

(d) Documentation Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal

The log must be made accessible to department staff and a copy provided to the department upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization

3. **Maintenance contract.** Contract with a third-party or other qualified professional, as approved by the department, for the removal of accumulated sediments, oils, and debris within any proprietary devices and the replacement of any absorptive filters The frequency of sediment clean-out and filter replacements must be consistent with the unit's storage capacity and the estimated pollutant load from the contributing drainage area This clean-out frequency is usually established by the manufacturer of the proprietary system when sizing the device for the project

4. **Re-certification.** Submit a certification of the following to the department within three months of the expiration of each five-year interval from the date of issuance of the permit

(a) Identification and repair of erosion problems All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas
(b) Inspection and repair of stormwater control system All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system
(c) Maintenance The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained

Municipalities with separate storm sewer systems regulated under the Maine Pollutant Discharge Elimination System (MPDES) Program may report on all regulated systems under their control as

part of their required annual reporting in lieu of separate certification of each system Municipalities not regulated by MPDES, but that are responsible for maintenance of permitted stormwater systems, may report on multiple stormwater systems in one report

5. **Duration of maintenance.** Perform maintenance as described and required in the permit unless and until the system is formally accepted by the municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system If a municipality or quasi-municipal district chooses to accept a stormwater management system, or a component of a stormwater system, it must provide a letter to the department stating that it assumes responsibility for the system The letter must specify the components of the system for which the municipality or district will assume responsibility, and that the municipality or district agrees to maintain those components of the system in compliance with department standards Upon such assumption of responsibility, and approval by the department, the municipality, quasi-municipal district, or association becomes a co-permittee for this purpose only and must comply with all terms and conditions of the permit

6. **Additional requirements.** Additional requirements may be applied on a site-specific basis

APPENDIX C. Housekeeping

These performance standards apply to all projects

1. **Spill prevention.** Controls must be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

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

   See Appendix D for license by rule standards for infiltration

   NOTE. Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M R S A §465-C(1)

3. **Fugitive sediment and 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

   NOTE An example of the use of BMPs to control fugitive sediment and dust is as follows Operations during wet months that experience tracking of mud off the site onto public roads should provide for sweeping of road areas at least once a week and prior to significant storm events Where chronic mud tracking occurs, a stabilized construction entrance should be provided Operations during dry months, that experience fugitive dust problems, should wet down the access roads once a week or more frequently as needed

   NOTE Dewatering a stream without a permit from the department violates state water quality standards and the Natural Resources Protection Act

4. **Debris and other materials.** Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source

   NOTE To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules, Maine hazardous waste management rules, Maine oil conveyance and storage rules; and Maine pesticide requirements

5. **Trench or foundation de-watering.** Trench 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 must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin Avoid allowing the water to flow over disturbed areas of the site Equivalent measures may be taken if approved by the department

NOTE For guidance on de-watering controls, consult the Maine Erosion and Sediment Control BMPs", Maine Department of Environmental Protection "

6. **Non-stormwater discharges.** Identify and prevent contamination by non-stormwater discharges

7. **Additional requirements.** Additional requirements may be applied on a site-specific basis

APPENDIX D. Infiltration basins, dry wells, and subsurface fluid distribution systems (Section 413 License by Rule Standards)

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 Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M R S A §465-C(1) Many pollutants found in stormwater accumulate in the soils in infiltration areas and are released due to chemical changes that occur in the infiltration area over time. Consequently, runoff quality often underestimates the long-term adverse effects on groundwater quality due to these contaminants, and cannot be used as a direct indicator of anticipated adverse effects Maintenance of the infiltration area may be required to prevent clogging, development of anaerobic conditions, or other conditions that could impair the functioning of the area or increase the risk of pollutant discharge from the infiltration area

Provided that the standards in this appendix are met, a discharge to groundwater from a stormwater infiltration system is considered a *de minimus* discharge for the purposes of the Waste Discharge Licensing Program, and does not require a waste discharge license However, nothing in this chapter may be construed to limit the department's licensing or enforcement authority under 38 M R S A Articles 4-A or 6

NOTE Stormwater infiltration systems not meeting the standards described in Appendix D may require a waste discharge permit. An infiltration system serving a development regulated under the Site Location of Development Act may be required to meet additional standards For definitions and provisions associated with the Waste Discharge program, see 38 M R S A §§ 413 *et seq*, and department Rules chapters 520 *et seq* All drywells and subsurface fluid distribution systems must be registered with and meet all other requirements of the department's Underground Injection Control Program

1. **Definitions.** As used in this appendix, the following terms have the following meanings

(a) Dry-weather discharges Any discharge to a stormwater management system that is not composed entirely of stormwater, other than discharges directly resulting from fire-fighting at the facility Dry-weather discharges can originate from direct connections to industrial, commercial, or residential facilities, or indirectly as surface or subsurface discharges to the stormwater collection system

(b) Drywell A well or other facility deeper than it is wide, completed above the water table so that its bottom and sides are typically dry except when receiving fluids

(c) Infiltration Any process specifically used to meet the stormwater standards of this chapter by actively directing all or part of the stormwater into the soil For the purposes of this chapter, infiltration is the process by which runoff percolates through the unsaturated overburden and fractured bedrock to the water table For the purposes of this chapter, infiltration does not include

(1) Incidental wetting of soil in ditches, detention basins or the equivalent,

(2) Wetting of underdrained basins, dry swales, or similar filtration systems, provided that they discharge to surface waters or to a buffer strip, or

(3) Wetting of buffers meeting department requirements for use as stormwater control Discharge of runoff to areas of the site where the water will collect and percolate into the ground is considered infiltration if the volume, rate, or quality of the discharge exceeds the runoff treatment capacity of the area, such as a stormwater buffer, as determined by the department Underdrained swales, underdrained ponds, and similar practices that discharge to surface waters or to buffer strips meeting department requirements for stormwater buffers are not considered infiltration systems, although these may be used to treat runoff prior to discharge to an infiltration area

(d) Infiltration basin A structure wider than it is deep and designed to hold runoff without any means of discharge other than evapotranspiration, infiltration, or emergency bypass

(e) Public water supply Any publicly or privately-owned water-supply system that serves at least 25 people or 15 service connections for at least 60 days per year

(f) Subsurface fluid distribution system Any system designed to dispose of stormwater beneath the surface of the earth, including, but not limited to, wells, settling tanks, disposal fields, pretreatment filters, pipes, or any other fixture, mechanism, or apparatus used for this purpose

(g) Zone of contribution or delineated contributing area The area that contributes water to a water supply well, generally represented as the projection of the three-dimensional volume of water flowing to a discharging well onto a two-dimensional map view

2. Limitations on the use of infiltration for stormwater treatment

(a) Storage or handling of petroleum products, pesticides, fertilizers, and hazardous substances Infiltration of runoff from subwatersheds of a project in which petroleum products, pesticides, fertilizers, hazardous substances, or other materials with the potential to contaminate groundwater are stored or handled, is not allowed unless containment structures are used This does not apply to storage of heating oil in a tank or tanks with a total volume of 550 gallons or less and serving a single consumptive residential or commercial user

(b) Storage or handling of road salt or similar materials Infiltration of runoff from subwatersheds of an activity in which road salt or similar materials are stored or handled in bulk is not allowed

(c) Containment structures Storage and handling areas for petroleum products, road salt, and other potential groundwater contaminants may be isolated within containment structures, buildings, or other enclosures to effectively remove those areas from subwatersheds, so that infiltration structures may be constructed to serve the remaining areas of the subwatershed, provided that the facility is operated in accordance with a spill prevention, control, and countermeasures plan, operation and maintenance plan, or equivalent document as required by Section (8)(D)(4)(c)(vi) approved by the department

(d) Infiltration of runoff from asphalt or concrete paving or equivalent material Infiltration of runoff from a total of one acre or more of asphalt or concrete paving or equivalent material at a given

project is not allowed except by means of infiltration basins located, designed, operated, and maintained in accordance with this appendix This limitation does not apply to roads entirely within subdivisions consisting of lots for single-family detached residential housing or to use of pavement alternatives approved by the department Use of pavement alternatives is limited by subsections 2(a) and 2(b), and other requirements of this chapter

(e) Infiltration of runoff from lawn areas, vegetated areas, and roofs Infiltration of runoff from lawn areas and other vegetated areas, playing fields, and roofs of residential and commercial structures where no manufacturing or processing occurs, other than for home-based industries, is allowed, provided that any application of fertilizers, pesticides, and similar turf-management chemicals, is in accordance with a department approved management plan and no part of the areas used for infiltration is in the delineated contributing area of a well that is part of a public water supply system Lawn areas on individual lots that are sold or developed as part of a residential subdivision consisting of lots for single-family detached residential housing are exempt from this requirement

(f) Dry-weather discharges, and stormwater from outside drainage systems Dry-weather discharges and stormwater from drainage systems outside the area of the activity may not be discharged to an infiltration system, unless approved by the department

3. Location

(a) Water supply wells. Unless specifically approved by the department and the Department of Human Services' Drinking Water Program, if applicable, infiltration systems must be located no less than 300 feet from any private water supply well, must not be located within the delineated contributing area of a public water supply well, and must be located as far downgradient of any water supply well as practical Department approval of a reduced setback will be subsequent to review and approval of a study by a Maine Certified Geologist demonstrating that discharges from the infiltration system will not be within the zone of contribution of the well or wells This limitation does not apply to on-site wells that are not used to provide drinking water

(b) Subsurface wastewater disposal systems An infiltration system is considered a major watercourse for the purposes of Table 700 2 of the Maine Subsurface Wastewater Disposal Rules, 144A CMR 241, for determining applicable setbacks from the relevant components of an offsite subsurface wastewater disposal system Additional setback distances may be required by the local plumbing inspector or the Department of Human Services' Division of Health Engineering Allowance for lesser setbacks for onsite disposal systems or other disposal systems owned or controlled by the developer may be requested from the department, the Department of Human Services, and the local plumbing inspector Infiltration systems must be located as far downgradient of any component of a subsurface wastewater disposal system as practical

(c) Protected natural resources Infiltration systems must be located no less than 25 feet from any protected natural resources as defined at 38 M R S A §480-B, other than fragile mountain areas, and must be located as far upgradient of any such resources as practical.

(d) Surface grade The pre-construction surface grade must be 20% or less at the location of the proposed infiltration system

(e) Separation from bedrock Infiltration systems serving one acre or more of impervious area must be located in areas with more than five feet of saturated overburden above the bedrock surface, as measured during the seasonal low water table This restriction does not apply to runoff from areas of non-asphalt roofing on structures in which no manufacturing or processing occurs, other than for home-based industries Separation from bedrock and depth to the water table may be demonstrated by means of test pits, borings, or similar invasive explorations, or by non-invasive geophysical methods such as seismic surveys. Thickness of blast rock or similar material is not counted toward the required thickness of overburden, blast rock or similar material is not considered as bedrock Demonstration of a continuous in-situ layer, at least five feet in thickness, of unfractured basal till or marine, estuarine, or lacustrine clay between bedrock and the infiltration structure may substitute for this requirement, at the discretion of the department

4. Design and operation

(a) Soil permeability The permeability of the soil at the depth of the base of the proposed infiltration system must be no greater than 2 41 inches per hour Permeability must be shown to be reasonably consistent across the proposed infiltration area and may be determined by in-place well or permeameter testing, by analyses of soil gradation, or other means acceptable to the department Imported or manufactured soils or other materials (such as compost), as specifically approved by the department, may be installed at the base and sides of the proposed infiltration system to obtain this range of permeability and provide additional treatment This layer must be at least six inches in thickness, of which the bottom three inches are to be tilled into the native soil

(b) Vegetation of infiltration basins All areas of the basin not covered by stone or other non-vegetative covers must be maintained as grass

(c) Separation from seasonal high water table The bottom of the infiltration system, including any stone layer or other material below the depth of any manufactured components of the system, must be at least three feet above the elevation of the seasonal high water table

(d) Time for drainage The infiltration system must be designed to drain completely within 72 hours following the runoff event

(e) Impact on depth to groundwater Infiltration of stormwater may not increase the elevation to the seasonal high water table beneath a surface-irrigation site, land-disposal area for septage or other waste, or other waste management or wastewater management facility, without specific approval by the department and, if applicable, the Department of Human Services

(f) Impact on groundwater flow Stormwater infiltration may not affect the direction of groundwater flows so as to impair any groundwater monitoring programs or cause the migration of existing contaminated groundwater that would result in unreasonable adverse impact on the quality of surface water, groundwater, or drinking water supplies

(g) Mounding and seepage Groundwater mounding due to stormwater infiltration, especially on clay, bedrock, or other low-permeability surfaces, or stormwater discharges to highly permeable materials such as gravel or blast rock, may not cause seepage, high pore-pressures, or other effects that will adversely affect the stability of slopes in the vicinity of the activity A qualified professional shall assess the potential for seepage and reduction in slope stability, and submit a

report of findings, including logs of test borings or other subsurface explorations, modeling, or other means of analysis as determined to be necessary and applicable

(h) Conveyance of overflow Infiltration systems must include measures to convey overflow to a stable discharge location

(i) Control of access. Access to any infiltration area must be controlled during and after construction to prevent compaction of the soil

(j) Geotextile A geotextile fabric with suitable characteristics must be placed between any stone layer and adjacent soil

(k) Sediment discharge to infiltration structures Grassed swales, underdrained swales, sediment traps, or similar practices must be incorporated in the design to minimize discharge of sediment to the infiltration system.

(l) Devices to trap petroleum products Dry wells or subsurface fluid distribution systems receiving runoff from areas of asphalt or concrete paving not prohibited from using infiltration under Section 2 must include sump skimmers, sorbent booms, or similar devices to remove petroleum products from runoff These devices must provide enough sorptive capacity to trap petroleum products for at least six months after construction and after any repaving or reconstruction

5. Maintenance

(a) Snow storage prohibited Snow removed from any on-site or off-site areas may not be stored over an infiltration area, with the exception of storage on pavement alternatives approved by the department

(b) Groundwater monitoring Groundwater quality monitoring may be required by the department if necessary to demonstrate that the infiltration system will operate in compliance with the Water Classification Program Groundwater quality monitoring will generally be required for activities infiltrating water from areas of heavy turf-chemical use, such as golf courses and certain athletic fields, and large connected impervious areas, such as parking lots and runways Groundwater quality monitoring will generally not be required for activities infiltrating water from lawn areas and other vegetated areas, residential developments except for those with large parking areas, playing fields, low-use roads such as residential subdivision roads, and roofs of residential and commercial structures

(c) Pollution-control devices Pollution-control devices such as oil – water separators, skimmers, and booms must be inspected regularly to determine if they need to be cleaned or replaced

(d) Observation wells, measure of sediment accumulation, and points of access for sediment removal Observation wells to determine the system's performance and access points to allow for the removal of accumulated sediment must be included in the design of subsurface fluid distribution systems Dry wells and infiltration basins must have staff gauges, marked rods, or similar instrumentation to measure the accumulation of sediment and determine how quickly the system drains after a storm The maintenance plan for the infiltration system prepared in

accordance with Section 8(C)(2)(f) must indicate the expected rate of drainage of the infiltration system and provide for removal of sediment from the infiltration system

(e) Sediment removal and maintenance of system performance Sediment must be removed from the system to prevent deterioration of system performance The system must be rehabilitated or replaced if its performance is degraded to the point that applicable stormwater standards are not met.

6. **Additional requirements.** Additional requirements may be applied on a site-specific basis