Quantity and Quality Standards

2-B. Basic standards--all projects. All projects must meet the standards specified for "all projects" in Appendices (A), (B), and (C) of this chapter. These standards address erosion and sedimentation control, inspection and maintenance, and housekeeping.

3. Stormwater quantity standards.). This section applies to a project that includes one acre or more of impervious area or 5 acres or more of developed area.[1] ~~The applicant for a stormwater permit must meet the stormwater quantity standards described in this section, except as provided below, if a project includes 20,000 sq. ft. or more of impervious area or five acres or more of disturbed area in the direct watershed of a waterbody most at risk from new development (waterbody most at risk), or one acre or more of impervious area or five acres or more of disturbed area elsewhere. The applicant for a site location of development permit must meet the standards described in this section.~~

A. Peak flow from the site and peak flow of the receiving waters. [*deleted and replaced*]

A. Exceptions. The department may waive one or both of the standards specified in Sections 3(B) and 3(C) as provided below.

(1) Discharge to the ocean, great pond, or major-river segment**.** If the applicant demonstrates that the project or development conveys stormwater exclusively in sheet flow, in a manmade open channel, or in a piped system directly into the ocean, great pond, or major-river segment, then the project does not have to meet the flooding and channel protection standards. Prior to submitting the variance request to the department, the applicant must 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 must also demonstrate that any piped or open-channel system in which the runoff will flow has adequate capacity and acceptable stability for the project's runoff plus any off-site runoff also passing through the system.

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[1] "Developed area" means the total area of "disturbed area" and "impervious area" combined, except that it does not include areas that are returned to a condition with the same drainage patterns and vegetative cover type that existed prior to the disturbance. Both planting conducted to restore the previous cover type and restoration of any altered drainage patterns must occur within one year of disturbance. "Same cover type" may include hydrologically improved cover type. For example, an area that was previously pasture may be replanted as forest. [*excerpt from definitions section*]

The "disturbed area definition is amended as follows: "Disturbed area" means: All land areas that are stripped, graded, or grubbed at any time during the site preparation for, or construction of, a project. ~~unless the areas are returned to a condition with the same drainage patterns and vegetative cover type that existed prior to the disturbance. Both planting conducted to restore the previous cover type and restoration of any altered drainage patterns must occur within one year of disturbance.~~

~~"Same cover type" may include hydrologically improved cover type. For example, an area that was previously pasture may be replanted as forest.~~

"Disturbed area" does not include maintenance ~~or redevelopment~~ of an impervious area within the footprint of that impervious area, but does include new impervious areas. A natural ~~or man-made~~ waterbody is not considered a disturbed area.

(2) Insignificant increases. The department may waive the flooding standard to allow insignificant increases in peak flow rates from a project site. As part of variance request, the applicant must demonstrate that insignificant increases in peak flow rates cannot be avoided by reasonable changes in project layout, density, and stormwater management design. The applicant must 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 determined to be necessary by the department.

(3) Small amount of impervious area. Permit by rule standards may apply in lieu of standards in this section. See Section 7, Permit by Rule.

B. Flooding standard. If the project will include 3 acres or more of impervious area or 20 acres or more of developed area, then the project's stormwater management system 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. In those cases where a project must also meet the channel protection standard, the department will consider that stormwater systems designed to meet the channel protection standard also meet the flooding standard for a 24-hour storm with a 2-year frequency.

C. Channel protection standard – The stomwater management system must include measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms. This must be achieved using the following methods to control runoff from each of the project's subwatersheds having developed areas as part of the project. One system may be used to control runoff from multiple subwatersheds.

(1) Channel protection detention. A stormwater management system must detain a subwatershed's stormwater runoff from the one-year, 24-hour storm for at least 12 hours prior to discharge from the system. The detention time must be calculated using the plug-flow method. For this method, determining twelve-hour detention time requires the average of the storage times in the pond for equi-volume plugs of runoff comprising the pond's inflow hydrograph to be at least 12 hours on a first-plug-in-first-plug-out basis. In situations where the system outflow required to achieve 12-hour extended detention is 0.05 cfs or less per acre of subwatershed, the department will allow a reduction in the 12-hour detention to prevent the outflow rate from falling below this value.

(2) Channel protection filter. A stormwater management system must detain a runoff volume equal to 1.0 inches times the subwatershed's impervious area plus 0.4 inches times the subwatershed's non-impervious area and discharge it solely through an underdrained filter.

(1) Channel protection infiltration. A stormwater management system must retain a runoff volume equal to 1.0 inches times the subwatershed's impervious area plus 0.4 inches times the subwatershed's non-impervious area and infiltrate this volume into the ground.

(4) Channel protection buffer. [*Buffer standards for channel protection still under development*]

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

E~~B~~ Grading or other construction activity. Grading or other construction activity on the site may not impede or otherwise alter natural or man-made drainageways so as to:

(1) Have an unreasonable adverse impact on a protected natural resource;

(2) Flood an area of the parcel not specifically planned and designated for such flooding; or

(3) Flood an area of any other parcel unless an easement is obtained.

~~A "drainageway" is a 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.~~

F~~C~~. 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, except when the piped system is overloaded to provide detention or retention of the stormwater. In addition, the areas expected to be flooded by runoff of a 10-year or 25-year, 24-hour storm must be designated in the application and approved by the department, 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. Primary access roads to the project and public roads may not be flooded during or as a result of a 25-year, 24-hour storm ~~or, if required by the municipality, a 100-year, 24-hour storm~~.

G~~D~~. Detention basins [*Has been incorporated in detention basin/ponds appendix, which needs updating given the new extended detention standard.*]

E. Maintenance. [*Deleted -- this subject is now addressed in Appendix B*]

H~~F~~. Easements and covenants

(1) Areas not owned or controlled by the permittee. If a project changes the flow type (example--sheet to shallow concentrated), changes the flow channel, increases the stormwater discharge, or causes flooding in areas not owned or controlled by the applicant, the applicant must secure easements. These easements must include all areas of flow or areas to be flooded during the 2-, 10-, and 25-year, 24-hour storms on properties not owned or controlled by the permittee, must be secured from all affected property owners, and must be recorded at the appropriate county registry of deeds. Drainage easements must extend up to, but need not include, the channel of any river, stream or brook accepting flow from the project. Areas to be flooded include those to be flooded due to overloading of underground storm sewers and equivalent utilities.

(a) Suitable land-use restrictions must be included in the easements to prevent any activity that might affect drainage across the area.

(b) Drainage easements over private property must conform with the center line of watercourses, natural or manmade, and must have a minimum width of 30 feet, or 10 feet on each side of the channel required to accommodate the flow from a 25-year, 24-hour storm, whichever is greater. Drainage easements for piped drainageways must have a minimum width of 30 feet, or 10 feet on each side of the outer edge of the pipe, whichever is greater.

(c) The increase in flow may not cause erosion of soil or sediment or otherwise have an adverse impact on existing uses of the affected property.

(2) Areas transferred. When the permittee transfers land that contains areas of flow or areas to be flooded during the 2-, 10-, or 25-year, 24-hour storm, 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 so as to be enforceable by the department, and must reference the permit number.

For provisions on buffers, see Appendix E.

Approval of a transfer of the affected property is required pursuant to Section 9(A)(4), and may be accomplished by means of a permit by rule on a form provided by the department. ~~Such an application is deemed approved effective 14 calendar days after the department receives the notification form, unless the department approves or denies the application, or notifies the applicant that the application is ineligible for permit by rule, or requires additional information or further review, prior to that date. If the department does not otherwise notify the applicant within the 14 day period, the application is deemed approved by the department.~~ [*This subject of the removed text is addressed in Section 7 -- permit by rule.*]

I~~G~~. Buffers. Buffers must be protected from alteration through a conservation easement to which the department is a party, deed restrictions, or similar measures. See Appendix E.

J~~H~~. Discharge to freshwater or coastal wetlands. Freshwater and coastal 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~~, if needed~~ designed using the requirements in Appendix E. The department will consider alternate methods if those methods will not unreasonably adversely affect the wetland.

The discharge of runoff to a wetland may not increase the storage duration within the wetland more than 24 hours for runoff due to a 2-year storm, may not increase the storage depth within a wetland more than two inches for the runoff due to a 2-year storm, and may not degrade the habitat of a threatened or endangered species. Cumulative impacts due to runoff from other projects will be considered when applying this standard to any wetland. In some cases, increased discharge of stormwater to a wetland will require a permit under the Natural Resources Protection Act.

K~~I~~. Level spreaders for stormwater quantity control. The stormwater flow rate to each level spreader must be less than 0.25 cubic feet per second (0.25 cfs) per foot of length of level spreader to accommodate the flow from a 10-year, 24-hour storm. The maximum drainage area to a level spreader may not exceed 0.125 acre per foot length of level spreader. The minimum length of each level spreader must be 12 feet. The maximum length of each level spreader must be 25 feet, unless otherwise approved by the department.

L~~J~~. ~~Wellhead protection area (public water supply)~~ Groundwater protection (infiltration) standard. Any project proposing infiltration of stormwater ~~within the wellhead protection area of a public water supply~~ must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, if pre-treatment is recommended as part of applicable stormwater best management practices or required by the department. The infiltration area must minimize discharge of soluble pollutants to groundwater, and must be maintained in order to assure that its capacity for infiltration and pollutant removal is unimpaired. The project must either meet the license by rule standards in Appendix X, or obtain an individual waste discharge license.

4. Stormwater quality standards (other than those described in Section (2-A). This section applies to a project that includes 20,000 sq. ft. of impervious area in the direct watershed of a waterbody most at risk, or one acre or more of impervious area, or 5 acres or more of developed area. ~~The applicant for a stormwater permit must meet the stormwater quality standards described under Subsection (A) below if the project includes 20,000 sq. ft. or more of impervious area or five acres or more of disturbed area in the direct watershed of a waterbody most at risk from new development (waterbody most at risk), or one acre or more of impervious area or five acres or more of disturbed area in a sensitive or threatened region or watershed. The applicant for a site location of development permit must meet the standards described in Subsection (B) below. The applicant for a stormwater permit or a site location of development permit must also meet the standards in Subsection (C) below if infiltration is proposed within the wellhead protection area of a public water supply~~.

Standards listed in the stormwater quantity section concerning maintenance, easements, and buffers, also apply to maintenance, easements, and buffers associated with stormwater quality controls. See Section 3(E), (F) and (G).

Stormwater best management practices appropriate for the site and type of activity must be used to meet the standards specified in this section. The standards must be met at the property line or before the runoff enters a waterbody, whichever point is first reached by the runoff, unless an off-set is allowed under Section 5. Wetlands may not be used to treat stormwater unless approved by the department.

NOTE: Discharge of other waters to a stormwater management system may be prohibited or require additional treatment pursuant to 38 M.R.S.A § 413. A project licensed under the stormwater law, and having more than 3 acres of impervious area, may be required to directly address dissolved or hazardous materials. A project having 3 acres or less of impervious area cannot be required to directly address dissolved or hazardous materials, other than phosphorus, nitrate, and suspended solids, unless infiltration is proposed. See 38 M.R.S.A. § 420-D(1).

A. Phosphorus, total suspended solids (TSS), and basic stabilization standards. [*Deleted*]

A. Description of standards. These standards are applied independently to the subwatersheds of each receiving water. If a project drains to more than one lake, subwatersheds within the project site must be delineated for every lake to which the project drains. If all or a portion of the project does not drain to a lake, but drains to more than one perennial river, stream or brook, the subwatersheds within the project site must be delineated for each

(1) Phosphorus standard. [*Text has been moved, but is otherwise unchanged from existing chapter*] The project must incorporate appropriate stormwater best management practices so that the project will not exceed the allowable per-acre phosphorus allocation for the lake.

An allowable per-acre phosphorus allocation for each lake most at risk will be determined by the department, based upon (i) current water quality, (ii) potential for internal recycling of phosphorus, (iii) potential as a cold-water fishery, (iv) volume and flushing rate, and (v) projected growth in the watershed, and will be used to determine project phosphorus allocations unless the applicant proposes an alternative per-acre phosphorus allocation that is approved by the department. If the project is a new road in a subdivision, only 50% of the parcel's allocation may be applied to the new road unless phosphorus export from both the new road and the new lots is being addressed, 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 "Phosphorus Control in Lake Watersheds: A Technical Guide for Evaluating New Development", Maine Department of Environmental Protection (1992).

(2) Low, medium, and high standards. The project must include measures that, in the judgment of the Department and based on best available information, can be expected to remove and retain the percentage of the typical annual Total Suspended Solids and Phosphorus loads from a typical urban source area, as provided in the table below.

Stormwater Treatment Level	**Removal Level**	
	TSS	Phosphorus
Low Standard	60% - 70%	30% - 40%
Medium Standard	70% - 80%	40% - 60%
High Standard	80% - 90%	60% - 70%

B. Which standard must be met. Which standard must be met depends upon the watershed where the project is located. It may also depend upon the size of the project.

(1) Lakes

(i) Most at risk -- If a project is located in the direct watershed of a lake most at risk and includes 20,000 sq. ft. or more of impervious area or 5 acres or more of developed area, one of the following standards must be met.

a. If the lake is a severely blooming lake, the project must meet the phosphorus standard..

NOTE: "Severely blooming lakes" are a subgroup of "lakes most at risk" and are identified in Chapter 502.

b. If the lake is not a severely blooming lake and the project includes three acres or more of impervious area or five acres or more of developed area, then the project must meet the phosphorus standard.

If the lake is not a severely blooming lake and the project includes less than three acres of impervious area and less than five acres of developed area, then the project must meet either the the phosphorus standard or the high standard.

(ii) Sensitive or threatened (all other lake watersheds) -- If a project is located in the direct watershed of a lake other than a lake most at risk, and includes three acres or more of impervious area or five acres or more of developed area, one of the following requirements must be met, unless the department determines based upon lake sensitivity and the nature of the project that the requirements are not necessary to avoid an unreasonable impact on the lake. In considering whether an unreasonable impact may occur, the department shall consider factors such as the type and size of the development, the sensitivity of the lake, and cumulative impacts.

a. If the project includes three acres or more of impervious area, the project must either meet the phosphorus standard or the medium standard.

b. If the project includes five acres or more of developed area, and less than three acres of impervious area, the project must meet the phosphorus standard.

(2) Coastal wetlands. A project located in the direct watershed of a coastal wetland most at risk must meet the medium standard.

(2) Rivers, streams or brooks. A project located and of a size as indicated in the table below, must meet the standard indicated in the table below. For "Basic" standards, see Section 2-A.

Project Location	**20,000 square feet to 1 acre impervious**	**1 - 3 acres impervious or 5 – 20 acres developed**	**= 3 acres impervious or = 20 acres developed**
Impaired Watershed	Medium	High or Medium + Comp.	High + Comp.
Most at Risk Watershed	Low	Medium	High
Sensitive or Threatened	Basic (Sec. 2-A)	Low	Medium except High if includes = 10 acres impervious.
All Other*	Basic (Sec. 2-A)	Basic (Sec. 2-A)	Medium

Comp. = Compensation fee or equivalent credit/mitigation

(3) Coastal wetlands. A project located in the direct watershed of a coastal wetland most at risk must meet the medium standard.

(4) Freshwater wetlands. A project located in the direct watershed of a waterbody must meet the applicable stormwater quality standards for the waterbody, before the stormwater flows through a freshwater wetland, unless the department has approved use of the wetland for

treatment. If the department determines that more stringent stormwater quality controls are necessary to avoid degrading the habitat of a threatened or endangered species, the project must meet the medium standard.

C. Lesser standard. [*This text was moved unchanged from the previous Paragraph A*] If the applicant demonstrates that it is not technically feasible to meet the applicable standard through reasonable changes in project design or density, or appropriate off-site mitigation, and the department determines that an unreasonable risk to a lake, coastal wetland, or river, stream or brook will not result, the department may allow the applicant to meet a lesser standard approved by the department. The department may only consider a lesser standard if the applicant agrees, pursuant to 38 M.R.S.A. § 344-B(3)(B), that the review period may be extended as determined to be necessary by the department.

In making its determination concerning a lesser standard, the department considers factors such as the sensitivity of the affected resource, site characteristics, the amount and rate of development in the area, the availability and appropriateness of technology or other solutions, and the availability of mitigation.

D. Additional controls [*This text is in the extisting chapter*]**.** The department may require additional controls if it determines they are necessary in order to avoid an unreasonable impact on any wetland or waterbody due to pollutants that are not adequately addressed by the standards described above. This is a case-by-case determination based upon factors such as the size, nature and intensity of the development, characteristics of the resource affected, topography and soils.

For example, stormwater from a metallic mineral mining or advanced exploration activity regulated under 06-096 CMR 200 may contain contaminants, such as very low pH, high acidity, and high concentrations of dissolved metals, for which stormwater quality BMPs for other commercial or industrial developments do not provide adequate treatment.

NOTE: Storm water quality standards for projects with 3 acres or less of impervious surface may address phosphorus, nitrates and suspended solids but may not directly address other dissolved or hazardous materials unless infiltration is proposed. 38 MRSA 420-D(1)(in part).

B. Site Law development standards. [*Deleted*]

E~~C~~. ~~Wellhead protection area (public water supply)~~ Groundwater protection standard. Any project proposing infiltration of stormwater ~~within the wellhead protection area of a public water supply~~ must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, if pre-treatment is recommended as part of applicable stormwater best management practices or required by the department. The infiltration area must minimize discharge of soluble pollutants to groundwater, and must be maintained in order to assure that its capacity for infiltration and pollutant removal is unimpaired. The project must either meet the license by rule standards in Appendix D, or obtain an individual waste discharge license.