



CONSERVATION LAW FOUNDATION

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By email

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Re: Draft General Permit for Small Municipal Storm Sewer System for Massachusetts North Coastal Watersheds

Dear Ms. Murphy:

The Conservation Law Foundation (“CLF”) appreciates the opportunity to comment on the Small Municipal Separate Storm Sewer System Draft General Permit for Massachusetts North Coastal Watersheds (“draft permit”).

Founded in 1966, the Conservation Law Foundation (“CLF”) is a member-supported environmental advocacy organization that works to solve the problems threatening our natural resources and communities in Massachusetts and throughout New England. Among those problems, CLF has worked, and continues to work, to promote effective regulations and strategies to reduce and minimize the significant impacts of stormwater pollution.

I. General Comments

“Stormwater runoff is one of the most significant sources of pollution in the nation, ‘at times comparable to, if not greater than, contamination from industrial and sewage sources.’¹ As the U.S. Environmental Protection Agency (EPA) acknowledged in 1999, “[s]torm water runoff from lands modified by human activity can harm surface water

¹ *Environmental Defense Center v. Browner*, 344 F.3d 832, 840 (9th Cir. 2003), *cert. denied*, 124 S.Ct. 2811 (2004) (citing Richard G. Cohn-Lee and Diane M. Cameron, *Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation*, THE ENVIRONMENTAL PROFESSIONAL, Vol. 14, p. 10, at 10 (1992) and *Natural Res. Def. Council v. EPA*, 966 F.2d 1292, 1295 (9th Cir. 1992)).

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resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loading.” 64 Fed. Reg. 68,724 (Dec. 8, 1999). This is no less true in Massachusetts. Stormwater has been cited as the primary cause of water quality impairment in the Commonwealth, and municipal small separate storm sewer systems (“MS4s”) are a significant contributor to those problems.²

An enhanced Small Municipal Storm Sewer (“MS4”) permit program for Massachusetts with meaningful standards, clear milestones, and strong enforcement is necessary as part of the overall effort to restore degraded rivers, streams, and ponds and maintain fishable, swimmable water quality in the state’s waterways. The North Coastal Draft Permit represents a substantial step forward in this direction, and we recognize the work EPA Region 1 (“EPA”) has undertaken to evaluate the effectiveness of the 2003 permit and to involve stakeholders in discussions about the permit reissuance. However, from CLF’s perspective there are a number of areas where the permit must be strengthened in order to fully reflect legal requirements and to accomplish the objectives of the MS4 program.

Compliance with the Massachusetts MS4 permit, and success at achieving water quality outcomes, has varied widely across the permittees under the 2000 permit.³ EPA’s own review of the MA MS4 program revealed that only 163 of 238 towns submitted their annual report for Year 6 (2008-09). Only 25% of Communities reported they were doing outfall inspection and monitoring. And 30% still had not completed outfall mapping. These are baseline requirements, that municipalities have been aware of since the 1999,⁴ and that form the building blocks of the program. These monitoring, planning and assessment steps are prerequisites to the full achievement of what this permit program requires, which is a systematic analysis of impervious area, the creation and implementation of a plan to retrofit existing infrastructure to meet water quality standards, and incorporation of LID into all new development.

Although achieving these objectives, and compliance with the Clean Water Act, will require a sustained commitment of resources, EPA and the entities regulated under the Phase II program must not lose sight of the fact that there are significant costs associated with

² MassDEP, *Moving Toward a Statewide Stormwater Policy*, Presentation to Stormwater Stakeholders Group, March 6, 2008 (citing pollutants associated with stormwater runoff as the cause of 60% of impairments statewide; see also Massachusetts Integrated List of Waters (2008), available at <http://www.mass.gov/dep/water/resources/tmdls.htm>; Lower Charles River Nutrient TMDL, available at <http://www.mass.gov/dep/water/resources/tmdls.htm>).

³ MassHighway, for example, failed to submit an NOI meeting even basic authorization requirements until CLF, the Charles River Watershed Association, and the Leominster Land Trust sued the Commonwealth in federal court in 2006. *CLF v. Patrick*, Case No. 06-11295wgy (U.S. District Court for the District of Massachusetts).

⁴ 64 Fed. Reg. 68722 (Dec. 8, 1999). Had these requirements been meaningfully considered by the permittees from the outset, there was ample time to incorporate infrastructure improvements into annual and multi-annual budgeting and capital planning processes, and to establish funding mechanisms to ensure the financial resources for management of stormwater. Newton, for example, has implemented a stormwater utility.

continued stormwater pollution – such as ongoing and increasing degradation of water quality, loss of recreational value, adverse impacts on water supplies, and declining property values – that can only be reduced and avoided by improved stormwater regulation and management.⁵ Low Impact Development (“LID”) and green infrastructure practices that restore the natural hydrological cycle and reduce the demand on piped infrastructure can be, in the long run, more cost-effective to implement and maintain than conventional stormwater infrastructure.⁶ Thus, in addition to improving and protecting water quality, the increased use of LID and green infrastructure has the potential to generate financial benefits and more livable communities.

II. Water Quality-Based Requirements

A central tenet of the Clean Water Act (CWA) as well as the small MS4 program is the principle that NPDES permits ensure compliance with water quality standards.⁷ This concept is reiterated in the CWA, its regulations, case law, and the Small-MS4 General Permit. In enacting the CWA, one of Congress’ principal goals was to “recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, [and] to plan the development and use (including restoration, preservation, and enhancement) of land and water resources.”⁸ In accordance with this goal, the CWA is clear that all provisions in a NPDES permit must comply with state water quality standards.⁹ Federal case law has also underscored EPA’s authority to include in stormwater permits all conditions and limitations necessary to assure the attainment water quality standards are met.¹⁰

⁵ See, e.g., “How Much Value Does the City of Philadelphia Receive from its Park and Recreation System? A Report by The Trust for Public Land’s Center for City Park Excellence for the Philadelphia Parks Alliance,” June 2008 at 3-4 (estimating that Philadelphia’s 10,000 acres of parks save \$5.9 million annually in stormwater management costs).

⁶ Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices, U.S. EPA, Nonpoint Source Control Branch (4503T), Washington, D.C., Dec. 2007 (EPA 841-F-07-006). This EPA report on seventeen LID case studies found that in the majority of the LID projects “significant savings were realized due to reduced costs for site grading and preparation, stormwater infrastructure, site paving, and landscaping.” LID projects resulted in up to 80% total capital cost savings. Furthermore, additional benefits, such as improved aesthetics and faster sales, were not factored into these savings figures. The case studies included redevelopment projects (for example, green roofs in Toronto) as well as new development.

⁷ CWA §301(b)(1)(C), 33 U.S.C. § 1331(b)(1)(C), and 40 C.F.R. § 122.4(d).

⁸ See 33 U.S.C. § 1251(b).

⁹ See 33 U.S.C. § 1370 (allowing state water quality standards to be more stringent than federal technology-based standards); 33 U.S.C. § 1341(a) (requiring compliance with water quality standards of both the state where the discharge originates and of any state affected by the discharge). The requirement that permits comply with state water quality standards allows no exceptions for cost or technological feasibility. *In re City of Fayetteville, Ark.*, 2 E.A.D. 594, 600-01 (CJO 1988) (interpreting the language of section 301(b)(1)(C) to require “unequivocal compliance with applicable water quality standards,” and prohibit “exceptions for cost or technological feasibility”), *aff’d sub nom.* *Arkansas v. Oklahoma*, 503 U.S. 91 (1992).

¹⁰ *Defenders of Wildlife v Browner* affirmed EPA’s authority to include in small and medium MS4 permits controls and limitations necessary to ensure water quality standards are met. 191 F.3d 1159, 1166-67, (9th Cir. 1999) See also 33 U.S.C. 1312(p)(3)(b)(iii) (as cited in Fact Sheet, at 4).

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The implementation of the MS4 program to date, and analysis done in connection with the Charles River Watershed phosphorus TMDLs, indicates that retrofits of existing infrastructure will be needed to ensure water quality standards are met in urban and suburban waterways. CLF encourages EPA to more clearly state where stormwater retrofits and new structural BMPs are expected as the result of the minimum control measures and Section 2. As described more fully below, LID-based performance standards are warranted in this permit, as it is not clear the permit's objectives can be met without them.

Section 1.3(k), providing that discharges that cause or contribute to instream exceedances of water quality standards are not authorized under the permit, should be retained in the final permit as an expression of EPA's responsibility and authority to ensure water quality standards are met.

CLF recognizes that EPA has taken steps to clarify the relationship between water quality-related requirements and the six minimum measures (and that both sets of requirements are applicable), which is generally a beneficial change. However, the language still raises some significant concerns and could be further clarified and strengthened.

a. Section 2.1.1, Requirement to Meet Water Quality Standards.

CLF objects to the "presumptive approach" set forth in the permit and fact sheet, in which discharges are presumed to satisfy water quality requirements if minimum measures are implemented. (*See* Fact Sheet, at 29).

Section 2.1.1 is problematic in that it attempts to create the presumption that water quality standards are met if permittee "fully satisfies" all other permit requirements,' and allows permittees a 60-day "grace period" to correct instream exceedances after they are brought to the permittee's attention. The presumption that "in the absence of information suggesting otherwise, discharges will be presumed to meet the applicable water quality standards . . ." is contrary to the permit itself (Section 1.3(b)) as well as the Clean Water Act and the Phase II regulatory scheme, which establish that the burden is on the discharger to demonstrate that water quality standards are met. This presumption should be removed in the final permit. The 60-day period could be construed to create a "safe harbor" for dischargers once an illegal discharge is discovered. EPA should remove this provision from the permit and use other means to communicate its expectations as to how a municipality should respond to the discovery instream exceedances, and would retain the ability to exercise its enforcement discretion on a case-by-case basis. Both the presumption and the grace period also appear to attempt to generate an illegal hurdle to citizen enforcement of the permit that contravenes the right of citizens under Section 505 of the Clean Water Act, 33 U.S.C. § 1605.

The Fact Sheet cites language in the 1999 Federal Register notice that announced the MS4 program as support for this presumption, but neglects to point out the text immediately following, which reiterates the ongoing obligation to modify the SWMP to meet water quality standards.

As discussed further below, however, small MS4 permittees should modify their programs if and when available information indicates that water

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quality considerations warrant greater attention or prescriptiveness in specific components of the municipal program. If the program is inadequate to protect water quality, including water quality standards, then the permit will need to be modified to include any more stringent limitations necessary to protect water quality.

64 Fed. Reg. 68722, 68753 (Dec. 8, 1999) (emphasis added).

CLF does not concede that the phrase “if and when available information indicates...” in the Phase II rule allows permittees to wait for citizens or regulatory agencies to notify them that a discharge is causing or contributing to water quality problems.¹¹ The burden is more properly on the discharger to actively assess and monitor their discharges, and to immediately correct problems, whether discovered through their own assessment or by others.

b. 2.2.1 – Discharges to Impaired Waterways With an Approved TMDL

- CLF objects to the draft permit language stating that approved TMDLs are those that have been approved as of the effective date. As new TMDLs are approved during the permit term, they ought to be considered approved TMDLs. This better reflects the reality that new TMDLs will be issued throughout the permit term. Incorporating new TMDLs would ensure that their implementation will not be held up by the MS4 permit reissuance.
- Section 2.2.1(b) refers to Appendix G, in which EPA has done some ‘translating’ of what the TMDLs mean in terms of requirements for MS4s. This chart is a helpful addition to the permit, as the prior permit term revealed that there was a gap in some permittees’ understanding of or acceptance of responsibility for loading reductions. There are additional TMDLs that identify stormwater-related pollutants as a source of impairment although their WLAs may not be as explicit in relation to MS4s. CLF encourages EPA to consider adding TMDLs to this appendix.
- The draft permit also reflects a helpful clarification in 2.2.1(c) that TMDL is not a license to pollute – that discharges to impaired waters must also comply with Section 2.1, the prohibition on causing or contributing to instream exceedance of water quality standards. CLF strongly recommends this be retained in the final permit.
- CLF disagrees with the approach to documenting compliance with TMDLs reflected in the fact sheet, that “the permittee’s demonstration of meeting the requirements of the WLA should focus on evidence that shows that the BMPs are implemented properly and adequately maintained.” A quantitative approach should be used where the permittee estimates or its overall pollutant loading and the expected reduction if BMPs are properly maintained, as well as the expected impacts on water quality. This estimation should then be verified by real world information.

¹¹ See 64 Fed. Reg. 68722, 68753 (Dec. 8, 1999) (“[p]ermittees should modify their programs if and when available information indicates that water quality considerations warrant greater attention or prescriptiveness in specific components of the municipal program.”)

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- **CLF strongly supports the provisions of Section 2.2.1(d) that municipalities develop a Phosphorous Control Plan describing measures necessary “to achieve consistency with the wasteload allocation (“WLA”) in the Lower Charles TMDL, and urges that these provisions be further strengthened to ensure the TMDL loading reductions are timely achieved.**
 - CLF supports the language specifically walking the permittee through the process of estimating its phosphorus (“P”) reduction over its 2000 P load. There appears to be an implicit trading provision - “In Lieu of Developing a 2010 MS4-only Phosphorus Load, the MS4 may decide in the PCP to plan and implement municipal-wide P reductions in areas tributary to the Charles, to achieve consistency with the WLA.” This provision needs clarification, because as drafted, it implies that the town can ‘describe’ some type of trading, but does not require objective measures to account for the reductions. If in fact a trading program is envisioned, metrics must be required to document and track the reductions.
 - CLF has major concerns about the implementation timeframes for the Phosphorus Control Plan. The draft permit states that permittees in the Charles must develop and “begin implementing” a Phosphorus Control Plan within 4 years. CLF objects to four years as the length of time for the development of the PCP. A much shorter timeframe should be feasible, given the extent to which supporting data and modeling is already available from EPA and MassDEP (as highlighted in the fact sheet). A strong starting point is already reflected on line as of today’s date in the impervious acreage estimates on the EPA Region 1 website for this permit,¹² and in the precise loading reduction targets calculated for each town in Appendix G to this permit.
 - The draft permit allows permittees ten years to complete implementation. The 10 year compliance timeframe is too long, from both a practical and legal standpoint. EPA does not have the authority under the Clean Water Act and NPDES regulations to include ten year compliance schedules. The term of any NPDES permit may not extend beyond five years.¹³ In addition, both the NPDES regulations and the MassDEP regulations specify that permits shall require compliance “at the earliest practicable time.”¹⁴ Ten years is well beyond the earliest practicable time for the installation of stormwater retrofits, and may actually make the process more challenging.¹⁵

¹² <http://www.epa.gov/ne/npdes/stormwater/ma.html>

¹³ 40 C.F.R. §§ 122.46(a)-(b). Furthermore, CLF does not concede that the limited conditions in which compliance schedules are allowable under the Massachusetts surface water regulations are met in this instance. Compliance schedules are not permissible for water quality-based effluent limitations unless based on “new, newly revised or interpreted water quality standards that became effective after both issuance of initial permit for discharge and 1977.” 314 Code Mass. Regs. 4.03(1)(b).

¹⁴ 314 Code Mass. Regs. 4.03(1)(b).

¹⁵ To extend this requirement over such a long period of time would likely make the implementation less practicable. The remote end date would make it difficult for local officials and town staff to

- EPA should to alter this provision in the final permit to reflect a compliance timeframe of no more than one to two years to complete the phosphorus control plan and the remaining permit term (for a total of no more than five years) to implement the plan. In addition, EPA should include enforceable interim milestones that will facilitate planning and budgeting at the town level. This would be consistent with 40 C.F.R. § 122.47(a)(3) (directing NPDES permitting authorities to require interim milestones no more than one year apart when a permit establishes a schedule of compliance beyond the effective date of the permit) and with MassDEP regulations.¹⁶

c. 2.3.1.1-2 – New or Increased Discharges to Impaired Waters

- The Draft Permit’s requirement that new or increased discharges to impaired waters are disclosed and offset are critical on both a legal and practical level. Over half of Massachusetts waterways are already impaired for stormwater-related pollutants. Preventing polluted stormwater discharges from new impervious area (which EPA finds is typically the source of new or increased discharge)¹⁷ represents the most straightforward opportunity to prevent further inputs of pollution into these degraded waterways. As EPA points out, MS4 permittees are already obligated to control their discharges to the point where they are not causing or contributing to instream exceedances of water quality standards.¹⁸ Therefore, where new outfalls , higher pollutant loadings, or increased stormwater volume are proposed, 40 C.F.R. § 122.4(i) requires no less.
- CLF agrees generally that any new or increased discharges to impaired waters must be evaluated by the permittee before they occur, in relation to TMDLs and water quality standards. CLF supports the requirement that permittees give prior notice and receive approval from EPA before a new discharge will commence into a water with a TMDL, and strongly encourage EPA to require this information is made available to the public in real time. The draft permit does not appear to provide for any notice to EPA or the public prior to increased discharges, or prior to new discharges in impaired waters without a TMDL. CLF recommends this provision be changed in the final permit. It is critical that citizens, as well as regulatory agencies, have the opportunity to be informed *before* any new or increased discharge is permitted, to ensure that full dialogue occurs in the municipality as to how stormwater will be managed, and so that EPA and the public can make sure that the offsets or promised infrastructure are, in fact implemented. Merely requiring a statement in the annual report is not enough -- for example if a development or infrastructure project has been completed nearly a year ago and no offsets actually occurred as part of the project, or the project was changed from the initial design, it

justify taking quick interim actions. In the meantime, land uses may change and phosphorus pollutants will accumulate in sediment and impoundments, unnecessarily adding to the challenges of achieving the applicable water quality standards for phosphorus.

¹⁶ Under Massachusetts regulations, where schedules of compliance are issued, they “shall include dates for specified tasks or activities leading to compliance and may include interim effluent limitations, as the Department deems appropriate.” 314 Code Mass. Regs. 4.03(1)(b).

¹⁷ Fact Sheet, at 39.

¹⁸ Fact Sheet, at 40.

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would be more difficult and costly to go back and mitigate the new or increased discharge after the fact. The spirit of this important permit provision would not be served by self-reporting on an annual basis.

- EPA should clarify who “new permittees” are. It is not immediately apparent why there needs to be a category of dischargers that were not subject to the 2003 permit but who are covered under the draft permit, and the fact sheet offers insufficient justification for why additional time for compliance is appropriate. Presumably, the entity (a town or nontraditional MS4) could have planned to be able to meet its requirements at the time it became covered under the permit. Allowing extra time would send the wrong message – that regulated entities need not prepare for environmental permit requirements triggered by their own development.
- The draft permit represents an improvement over the 2003 permit in that “increased discharge” is defined, and that this situation is addressed more explicitly.¹⁹ CLF agrees with EPA that no net increase in pollutant loading should be allowed from increased discharges to impaired waters, and that offsets need to be documented before construction begins. However, the application of the term “new discharger” is inappropriately proscribed due to EPA’s overly broad reading of the term “new discharge,” relying on an objectionable interpretation of the term “site”²⁰ to include an entire MS4 system. See 40 C.F.R. 122.2 (definitions). As a result, many discharges that should properly be treated as “new discharges” are considered to be “increased discharges.”
- Functionally, this accomplishes an end run around the requirements of 122.4(i), as interpreted in the *Pinto Creek* decision, that “no permit may be issued to a new discharger if the discharge will contribute to the violation of water quality standards.” A narrow exception to this prohibition is carved out for situations where a TMDL has been calculated, if the discharger can show, before the end of the comment period, that “there are sufficient remaining pollutant load allocations to allow for the discharge and that the existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards.”²¹ CLF does not agree that new impervious area or new stormwater outfalls created by a municipality are properly defined as “increased discharges” rather than “new discharges” or “new dischargers” for purposes of triggering the Pinto Creek analysis. Any new stormwater outfalls

¹⁹ “Increased discharge” is defined in the draft permit as a discharge “directly into the MS4 or from the MS4 that commences after the effective date of this permit and results from creation of one or more acres of new impervious surface.” Draft permit, § 2.3.1.

²⁰ The term “site” is defined to mean “the land or water area where any ‘facility or activity’ is physically located or conducted including adjacent land used in connection with the facility or activity.” 40 C.F.R. 122.2. EPA appears to have inserted the term “contiguous” into the discussion in the fact sheet as part of the broadening of the definition.

²¹ 40 C.F.R. 122.4(i); *Friends of Pinto Creek v. EPA*, Slip Op. No. 05-70785, 13505, 13515 (9th Cir., Oct. 4, 2007). The rationale for this section of the regulations is that it “corresponds to the stated objectives of the Clean Water Act ‘to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.’ 33 U.S.C. § 1251(a) (1987). And that ‘it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited.’ 33 U.S.C. § 1251(a)(3) (1987).” *Pinto Creek*, at 13515 (9th Cir. 2007).

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created by an MS4 discharger into an impaired waterbody would contribute to the violation of water quality standards, and should be subject to the Pinto Creek requirements. We recommend this provision be changed in the final permit.

- Under the draft permit, “increased discharges” must provide for a net decrease in pollutant loading through enhanced control or offsets.²² Without conceding that these discharges can be allowed under the permit, absent a TMDL and a demonstration that compliance schedules are in place for other point sources, CLF agrees that a net decrease in pollutant loading should be required for any increased discharges to impaired waters. More specificity is needed as to what kinds of measures are an appropriate offset (for example, structural BMPs installed and functioning, and verified by the permittee to accomplish a particular pollutant loading, mass or volume reduction). Quantitative analysis and verification should be required to document the pollutant reduction and that the discharge will not contribute to water quality standards exceedances.
- Regarding Section 2.3.1.2, the “increased discharge” analysis and verification for TMDL waterways is not sufficient to ensure consistency with TMDLs. Step “a” is appropriate, and permittees should be required to calculate their loading contribution in this circumstance. However, steps “b” and “c” are too vague and leave an impermissible degree of discretion to the permittee. A better defined quantitative approach should be required, and the permittee should be required to certify as to the measures that have been taken on the ground and that they are achieving the necessary pollution reductions.

2.3.3 - Antidegradation Requirements.

- In general, the draft permit contains more thorough descriptions of the elements the antidegradation analysis must include than did the prior permit. This is an improvement over the prior permit, but this section is still not sufficiently clear and prescriptive to ensure the state’s antidegradation policy is carried out.
- A second general concern is that the antidegradation provisions of the permit are too narrow in their application; antidegradation should be an ongoing and prospective analysis that applies to all permitted activities. This is because all NPDES permits must meet the non-degradation standard throughout the lifespan of the permit. *See* 40 C.F.R. 131.12.
- Section 2.3.3(b)(1) appears to create a de minimis exception, but this is not explained in the Fact Sheet. We do not agree that there is any de minimis threshold in the

²² The Draft Permit provides that increased discharges are only eligible for General Permit coverage if the permittee identifies and estimates a load for each pollutant of concern, implements structural BMPs, and identifies the BMPs it has implemented such that the MS4 will not cause or contribute to exceedances of water quality standards or, in the case of a TMDL waterbody, will be consistent with the TMDL. Draft Permit, Sections 2.3.1.1 – 2.3.1.2.

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state's anti-degradation regulations at 314 Code Mass. Regs. 4.04, and therefore this should be removed.²³

- The “Tier II” provisions in Section 2.3.3(b) are problematic, in that section 2.3.3(b) creates a subjective “out” on a number of grounds that are not consistent with 40 C.F.R. 131.12. The permittee can claim the discharge is “not significant because it is temporary in nature and that upon completion of the discharge period the existing water uses . . . will be equal to or better than . . . prior to commencing the discharge,” or that “the effluent will be of a better quality than the existing water quality of the receiving water.” These categories are too subjective to be enforceable, and at a minimum are susceptible to overly generous interpretation by permittees. This type of subjective self-regulation was struck down in *Environmental Defense Center v. Browner*.²⁴ In addition, allowing for a discharge that is “temporary in nature” implies that water quality standards during particular periods or events, which appears contrary to the water-quality based requirements of the MS4 program.²⁵
- Section 2.3.3(f) provides that new or increased discharges to Outstanding Resource Waters require an individual permit. EPA should meaningfully enforce this provision. Given the wide range of waterways receiving discharges from the Department of Transportation roads and infrastructure, including public water supply areas,²⁶ DOT should be required to obtain an individual permit on this basis alone.

III. Performance Standards Reflecting Low-Impact Development and Green Infrastructure

CLF strongly urges EPA to include in the permit performance standards that reflect Low-Impact Development or “green infrastructure” stormwater management practices. These practices are widely available, well proven, are generally more effective than conventional infrastructure at pollutant removal and volume reduction, and confer additional benefits to the community and environment. As detailed in attachments A,B,C, and D1-75 to this comment letter, **LID/green infrastructure is the current expression of controlling polluted stormwater runoff to the “maximum extent practicable” (“MEP”).** Furthermore, the attached documents demonstrate that the permit cannot effectively ensure that water quality standards will be met *without* inclusion of such LID/green infrastructure-based performance standards. Performance standards based on LID/green

²³ If this is a reference to 314 Code Mass. Regs. 4.04(5), it appears to be mischaracterized. That section requires a four part analysis to be performed by the applicant to demonstrate that a number of substantive criteria are met before “*limited degradation*” (i.e. a new or increased discharge) is allowed to a high quality water. 4.04(5) would not be properly characterized as a de minimis threshold.

²⁴ *Environmental Defense Center v. Browner*, 344 F.3d 832, 840 (9th Cir. 2003), *cert. denied*, 124 S.Ct. 2811 (2004).

²⁵ See 40 C.F.R. § 122.4.

²⁶ including the Hobbs Brook Reservoir, which is listed as a Class A, Outstanding Resource Water. See 314 Code Mass. Regs. 4.06, Figures, available at <http://www.mass.gov/dep/water/laws/tblfig.pdf>.

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infrastructure should be included in this permit.²⁷ In particular, performance standards for LID/ green infrastructure should be included in Section 2.4.5, the Post-Construction bylaw, and should be required as the means by which permittees fulfill water-quality based requirements under Section 2.

From the outset, EPA has made clear the expectations that technologies would evolve, and that the Maximum Extent Practicable standard in the second round of small MS4 permits would reflect what was learned about the effectiveness of the BMP implemented during the first round. The need to meet water quality standards was to drive the evolution of the MEP standard, itself, because the ultimate objective of all BMPs is to ensure the attainment of water quality standards. As EPA expressed in the MS4 Final Rule:

[The Maximum Extent Practicable standard] should continually adapt to current conditions and BMP effectiveness and should strive to attain water quality standards. Successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards. If, after implementing the six minimum control measures there is still water quality impairment associated with discharges from the MS4, after successive permit terms the permittee will need to expand or better tailor its BMPs within the scope of the six minimum control measures for each subsequent permit.

64 Fed. Reg. 68722, 68754 (Dec. 8, 1999) (EPA Stormwater Phase II Final Rule).

EPA anticipated that “the NPDES permitting authority may ask the permittee to revise their mix of BMPs, for example, to better reflect the MEP pollution reduction requirement.” 64 Fed. Reg. 68722, 68754 (Dec. 8, 1999) (EPA Stormwater Phase II Final Rule). **At this juncture, ten years after the Small MS4 program was first enacted, and given the wealth of data generated in the interim, it would be inappropriate for EPA Region 1 not to include LID-based performance standards and revise the scope of required BMPs to reflect LID/green infrastructure.**

Comments by Dr. Robert Roseen, Director of the University of New Hampshire Stormwater Center on the draft permit (Attachment A) and Dr. Stephanie Hurley’s Statement on Low-Impact Development (Attachment B) confirm that Low-Impact Development and green infrastructure is well tested, effective at stormwater volume reduction and pollutant removal, suitable for New England, and confers ancillary benefits.

Dr. Roseen’s professional opinion is that “LID stormwater management works effectively throughout multiple seasons including challenging winter conditions. Data shows that it works better for water quality than conventional stormwater management.”²⁸ He also confirms that studies have shown LID to be cost effective and in some cases to result in cost savings.²⁹ Furthermore, Dr. Roseen cautions that “with the raising of the standards for

²⁷ Whether an expression of technology-based effluent limitations, water-quality based effluent limitations, or both, such performance standards are timely and necessary for the reasons described above.

²⁸ Attachment A, at 1.

²⁹ *Id.* at 2.

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MEP . . . certain practices should be *disallowed* for usage. Practices that have been demonstrated to be contributing to the water quality failures should be eliminated”³⁰

Dr. Hurley’s professional opinion regarding LID is that it “offers a more ecological, flexible, and context-sensitive stormwater management approach—and more readily meets water quality and hydrologic performance standards—than conventional stormwater management.”³¹ Furthermore, Dr. Hurley has personally evaluated LID implementation sites at various locations throughout the U.S. and internationally, and confirms that “the principles of LID design can be successfully applied in various topographies, geographies, and climates” including New England, and at a variety of scales.³² Her conclusion is that LID represents the maximum extent practicable for stormwater treatment.³³

The direct testimony of Richard Horner, before the Pollution Control Hearings Board for the State of Washington in the matter of the Seattle Phase I stormwater permit (Attachment D3) affirmed that LID techniques are “unquestionably ‘known’ and ‘available’ techniques. In many cases, implementation of LID for new or redevelopment is less costly than conventional BMPs, and offers other economic benefits such as improved property values or reduced water use.”³⁴ Dr. Horner further asserted that the Seattle Phase I permit at issue did not “use all known available and reasonable methods” to control stormwater from new and redevelopment, and it was “highly unlikely” that compliance with water quality standards could be achieved using conventional techniques.³⁵ Further, he asserted that “LID approaches are far more protective of water quality than the conventional BMPs” and that the permit did not reflect the maximum extent practicable standard.³⁶

The direct testimony of Dr. Derek Booth in the same matter asserted that “the [Seattle Phase I] Permit . . . does not protect rivers and streams, beneficial uses, or aquatic life. Continued reliance on such a [flow-based] standard for new development in western Washington will not prevent serious and significant additional degradation to these resources,” and in his professional opinion, “a more protective performance standard that more closely matches natural hydrology . . . is readily achievable without sacrificing opportunities for future development. Achieving a more protective standard would rely on site- and basin-level LID BMPs that are in my opinion, sufficiently well known, understood, available and economically and technologically feasible that they can be implemented throughout western Washington.”³⁷

Thomas Holz, an experienced civil engineer, testified that

“LID approaches are generally more effective at protecting water quality and beneficial uses than the engineered, end-of-pipe standards embraced in the 2005 [Washington] Manual and Permit. They are known, available, and

³⁰ *Id.* at 1 (emphasis added).

³¹ Attachment B, at 2.

³² *Id.* at 2-3.

³³ *Id.* at 3.

³⁴ (Attachment D3, at ¶27).

³⁵ *Id.*

³⁶ *Id.*

³⁷ Attachment D2, at ¶ 33.

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reasonable (as well as “practicable”) in virtually all new and redevelopment situations.

(Attachment D1, at ¶ 33.)

In addition, a wealth of technical articles, case studies, litigation documents, and federal government guidance documents and fact sheets summarized in Attachment C and included as Attachments D4-75 all demonstrate these principles.

The greater adoption of LID, spurred by regulatory approaches including the MS4 permit, will benefit Massachusetts communities by keeping pollutants and concentrated pulses of stormwater out of our rivers, ponds and streams, generating increased green space, cooling urban areas, and relieving some of the cost and maintenance burden on aging municipal stormwater infrastructure.

IV. Six Minimum Measures

One theme that emerged from the implementation of the 2003 MA Small MS4 permit was the need for additional clarity, and greater enforceability of requirements under the six minimum measures. CLF recognizes that EPA has significantly clarified a number of these requirements in the draft permit, and generally supports these changes. The permittees’ inconsistent progress toward improved water quality also indicates that additional best management practices are needed, in addition to clarification of the requirements.

a. IDDE and System Mapping

The requirement at Section 2.4.4.3 that IDDE be continued is important, and CLF supports the continued inclusion of IDDE requirements in the MS4 permit. Illicit connections can contain extremely high levels of bacteria as well as substantial nutrient loads, and should continue to be a core element of compliance with the permit.

CLF strongly supports the requirement for enhanced mapping of the sewer infrastructure and affected waterways in Section 2.4.4.6. As referenced above, complete mapping of sewer infrastructure, outfalls, and adjacent waterways, is a prerequisite to the full engagement of all stakeholders in better stormwater management. It is also necessary for meaningful consideration by permittees as to where increased BMPs will be installed to meet water-quality based requirements of the permit.

b. Impervious area/ DCIA mapping

CLF supports the new requirements in the draft permit that towns track impervious cover³⁸ and “Directly Connected Impervious Area,” (“DCIA”), assess possible locations for LID retrofits (presumably so that trading can occur), and assess the possibility of requiring LID town-wide for new construction. . The link between impervious cover and stream degradation has been well established since before the issuance of the 2000 permit.³⁹

³⁸ (hard surfaces such as roadways, sidewalks, driveways, parking lots, and rooftops)

³⁹ 64 Fed. Reg. 68722, 68725 (Dec. 8, 1999); *see id.* at 68726-8.

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Tracking overall impervious cover as well as DCIA will allow communities to fully account for the causes of waterway impairment, and is an important step towards the deployment of Low-Impact Development on a broader scale

c. Post-Construction LID Ordinance

CLF strongly supports the requirement that permittees institute a post-construction ordinance, as one of the core minimum measures laid out in the initial Phase II rule. Permittees covered under the 2003 permit were required to pass an ordinance addressing post-construction stormwater discharges, and to “develop, implement and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than one acre and discharge into the municipal system.” The adjustment of the ordinance to reflect the use of LID should be mandatory, and should not require a great deal of additional time to be put into place.

Rather than merely requiring that municipalities “assess the possibility of” requiring LID town-wide for new construction, EPA should go one step farther and require that a LID-based performance standard is met. LID technologies are now well proven, widely available, demonstrated to be as effective or more effective as conventional technologies, while conferring additional benefits, and necessary to ensure the attainment of water quality standards.

As drafted, the Permit requires municipalities to enact an ordinance that tracks certain requirements of the Massachusetts Stormwater Standards. We support the requirement that permittees enact ordinances requiring stormwater controls from new and redevelopment. For the reasons detailed above and in the Attachments to CLF’s comments), the final permit should require that Low-Impact Development or “green infrastructure” stormwater management techniques are used, including on-site infiltration of stormwater. The Massachusetts Stormwater Standards may not equate to meeting water quality standards in all areas.

Therefore, we recommend that EPA implement a more protective standard. An alternative is the standard reflected in the EPA Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act (“EPA Federal Facilities Guidance”), The guidance was enacted pursuant to Executive Order 13514, and requires that facilities of a certain size either treat stormwater on-site sufficiently to infiltrate the 95th percentile storm event, or implement measures that will restore or maintain pre-development hydrology on a site-specific basis. This standard has been determined to be feasible and cost-effective in the context of federal facility building standards.⁴⁰ In issuing the Federal Facilities Guidance, EPA relied on the testimony of Derek Booth, Thomas Holtz and Richard Horner regarding LID in the Seattle MS4 litigation (Attachments D1-D3).⁴¹

In heavily urbanized areas including the Boston metropolitan area, the typical parcel size is smaller than one acre. Consequently, a one-acre threshold for post-construction

⁴⁰ Attachment D67, EPA Federal Facilities Guidance (Dec. 2009).

⁴¹ See Attachment D67, EPA Federal Facilities Guidance, at 55 (Dec. 2009).

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stormwater management is too high to capture a significant portion of development. For the reasons EPA has already identified, a post-construction stormwater bylaw is important to controlling inputs into the MS4 system, and the threshold should be lower than one acre. One half acre would be a more appropriate threshold in urban areas. Dr. Robert Roseen's comments on the draft permit have also identified this as a concern. (See Attachment A).

V. Monitoring and Assessment, and Public Participation

Monitoring and assessment are critical to assessing whether the measures municipalities have chosen to implement are, in fact, working to accomplish the objectives of the Permit, and to guide decisions about what additional measures can and should be taken in each community. That is why CLF supports strong provisions for outfall monitoring, GIS mapping, tracking of Directly Connected Impervious Area in the Final Permit, as well as requirements to report all of the above data and information.

a. Monitoring

- CLF strongly supports increased monitoring, in both wet and dry weather, as a critical component of this permit. The outfall monitoring requirements in the draft permit will yield important information about current water quality, sources of pollution, and over the span of the permit, will reveal long-term trends, and where strategies employed by municipalities are effective or ineffective. Outfall monitoring is important for numerous reasons beyond merely supporting the illicit detection and elimination program. It provides a baseline that can then be compared to discharges in future years. Monitoring data indicates whether the BMPs a permittee has chosen to use are sufficiently effective at reducing pollution. The data can also shed light on trends that are outside of the permittee's control, but that should inform choices made about stormwater BMPs.
- For these reasons, the Permit should require more than one wet and one dry sample of each outfall within the five-year term. Three samples at each outfall during the permit term would better characterize conditions in light of the variability of stormwater discharges. CLF's experience has been that outfalls near interconnections between permittees are an important place for attention to be focused, and we support the requirement that these areas be sampled.
- Given the importance of monitoring data, CLF is concerned about the scope of the exemptions, framed as a "permittee-specific monitoring plan" in Sections 3.1.4 and urges EPA to remove these exemptions so they do not undermine the rule.
- In particular, 3.3.1 is problematic because it is important that permittees continually assess the effectiveness of their BMPs at controlling pollutants. It is not clear under what circumstances a permittee would have completed outfall monitoring under the 2003 permit that would be equivalent to the outfall monitoring required under this permit. Section 3.1.4.2, which allows an opt-out if the outfall is associated with a Problem Catchment, seems counter-intuitive. It would seem even more important and relevant to have data on outfalls where high pollutant loadings are detected, whether or not the source is suspected to be known. Section 3.1.4.3

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allows an opt-out if the amount of impervious cover discharging through an outfall is less than 10 percent of the catchment area. Water quality impacts can occur from less than ten percent impervious cover, so EPA should consider lowering this threshold.

- Section 3.1.4.5 appears to allow the permittee to opt out of monitoring if “the permittee has conducted or will conduct in its permittee-specific monitoring plan wet and dry weather in-stream monitoring which is representative of one or more discharges to the same water body.” If this provision is kept, EPA should clarify that the permittee must affirmatively certify and describe why the outfalls are representative of others, and the use of this opt-out should be limited to a certain proportion of outfalls overall, to ensure that adequate monitoring is done throughout the MS4 system during the span of the permit.
- Instream monitoring of receiving waters is also an important component of evaluating the overall relationship between MS4 discharges and water quality, and can inform the appropriate level of stormwater controls – in some cases directly indicating impacts from particular MS4 drainage areas, and in some cases yielding a more general understanding of the types and levels of contaminants found under given conditions. CLF recommends that EPA consider including targeted instream monitoring requirements in the final permit. It is noteworthy that stormwater expert Derek Booth testified in the litigation over the sufficiency Seattle’s Phase I stormwater permit that monitoring was critical. (Attachment D1, at 97-99). Rather than relying on presumptions as to the effect of particular BMPs, he maintained that “if you want to know the condition of this water body, you have to go measure that condition in that water body.” (Attachment D#, at 99).

b. Transparency and Public Participation

The importance of public participation to the MS4 program was recognized at the outset of the program, when a federal appeals court found that EPA’s failure to make Notices of Intent for coverage under the MS4 permits available to the public for comment contravened the Clean Water Act.⁴² The experience to date under the Small MS4 permit in Massachusetts confirms that public participation is vital to successful implementation of this permit. Transparency and public participation are an effective means to augment EPA’s enforcement, and to foster stronger support for town decision-makers to dedicate resources to stormwater management. In instances where municipalities are falling short due to capacity or resource constraints, watershed groups can step forward to call needed attention to overlooked issues, help to secure resources, and supplement existing data and information about outfalls and the condition of waterways. However, this is only possible when information is publicly available about the municipality’s efforts, the location of infrastructure and outfalls, and the condition of local waterways. Residents and community- or watershed-based organizations are in a unique position to enhance the efforts of municipalities through the MS4 program, but without full access to information, citizens are less able to assist in these ways.

⁴² *Environmental Defense Center v. EPA*, 344 F.3d 832, 856-859 (9th Cir. 2003).

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CLF strongly supports the provision in the Draft permit requiring SWMPs to be made available to the public, and urges EPA to additionally require that all SWMPs, storm sewer infrastructure system maps, annual reports, Phosphorus Control Plans, monitoring plans, and monitoring data are placed on line in real time. Given modern technology, this need not be burdensome for the permittees, while it adds a great deal of value to the information collected by making it more accessible and usable to a wider range of stakeholders.

We support the provision in the draft permit that a comment period will occur for NOIs. This is legally required as per federal case law and will have the benefits described above.

VI. Enforceability

In some cases, the flexibility EPA afforded under the 2003 Massachusetts Small MS4 permit was abused. Our waterways are now exhibiting the effects of that neglect, and it is important going forward that all permit requirements are expressed in clear terms with enforceable parameters. The draft permit generally reflects clearer requirements and terminology, and this letter points out a number of instances where the requirements must be strengthened in order to be enforceable, or could be clarified for the benefit of permittees and the public.

VII. State Transportation Agencies

High pollutant loadings from roads and highways are well documented.⁴³ Highways are specifically referenced in a number of TMDLs in Massachusetts as a significant contributor and a source that must be controlled in order to achieve the needed pollutant loading reductions in that waterway.⁴⁴ MassDOT should be required to (1) identify and prioritize outfalls in water in TMDL, also identify where cross headwater streams, with low flows, (2) identify areas where highways cross sensitive habitat, (3) develop a prioritization for stormwater retrofits for those areas, and (4) develop a retrofit plan for its entire system as needed to comply with TMDLs and to correct its cause of and contribution to instream exceedances of water quality standards. "Storm water discharges from State DOTs in Phase 1 areas should already be regulated under Phase I. The preamble to Phase 1 clearly states that "all systems within a geographical area including highways and flood control districts will be covered."⁴⁵

⁴³ See e.g. National Academy of Sciences, *Urban Stormwater in the United States: Report in Brief*, at 4 (2009) ("[f]reeway, industrial, and commercial areas can be very significant sources of heavy metals, and their discharge significance is usually much greater than their land area indicates") (available at http://dels.nas.edu/dels/rpt_briefs/stormwater_discharge_final.pdf); 64 Fed. Reg. 68722, 68727 (Dec. 8, 2009) (Stormwater Phase II Final Rule); Expert Report of Vladimir Novotny, P.E., Docket No. 55-6, Feb. 7, 2008, *CLF v. Deval Patrick et. al.*, case no. 11295wgy, U.S. District Court for the District of Massachusetts.

⁴⁴ See e.g. TMDLs for Boston Harbor/Neponset River (bacteria), Buzzards' Bay watershed (bacteria), Blackstone Lakes (nutrients), Chicopee Basin Lakes (nutrients), Cape Cod (pathogens and nutrients), Charles River (phosphorus), French Basin (phosphorus), Shawsheen River (bacteria) available at MassDEP website, <http://www.mass.gov/dep/water/resources/tmdls.htm>.

⁴⁵ Phase II Final Rule, 64 Fed. Reg. 68722 (Dec. 8, 1999).

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MassDOT expressed the view in the public hearing for this permit that DOT should not be subject to the same requirements as municipalities in the MS4 permit as proposed.

The Commonwealth is no less accountable to the requirements of the Clean Water Act than other public entities, and in fact has a greater responsibility to demonstrate leadership in protecting the resources that support the state's economy and the health of its citizens. Other highway departments are implementing LID and system-wide retrofit plans, which demonstrates that compliance is feasible.

An individual permit would more appropriately reflect the high pollutant loads from highways, and would allow for a more transparent accounting of the BMPs currently used, and that are available and appropriate, and should be deployed, throughout the highway system.

For these reasons, we strongly urge EPA to issue an individual permit to state transportation agencies, including the Department of Transportation.

To the extent state agencies remain within the General Permit, CLF strongly objects to the language in Sections 6.0-6.3 and 7.0-7.3 of the draft permit appearing to weaken the permit's requirements as applicable to state agencies. CLF does not agree with the apparent assumption that it is not possible for state agencies to comply fully with the requirements of the permit. For example, state agencies appear to be excused from Section 2.4.6.7 of the permit, which requires an assessment of current street design and parking lot guidelines and other local requirements that affect the creation of impervious cover . . . to determine if changes to design standards...can be made." The essence of this requirement – evaluating codes and design standards that affect creation of impervious cover, and identifying changes that can be made, is entirely applicable and appropriate for the Department of Transportation or other state agencies. For example, in addition to being directed to assess "facilities," parking areas and walkways, the DOT should be directed to assess its entire highway system for opportunities to reduce impervious area. A specific timeframe should be provided for this analysis, and the results should be disclosed to EPA and the public.

The same is true for Section 2.4.6.8, requiring an assessment of existing local regulations to determine the feasibility of making LID and green infrastructure practices "at a minimum . . . allowable." Again, in its essence, this is exactly the type of action EPA should be requiring of all permittees – to analyze the internal policies, regulations, or design standards that are barriers to LID, and to take action to remove them. While a state agency may or may not have its own "regulations," there are doubtless statewide regulations, internal agency policies, design guides, or standards that can and should be evaluated and changed to allow for LID.⁴⁶ EPA does not appear to have offered any legitimate rationale in

⁴⁶ In particular, the Mass Department of Transportation, Highway Division's design guide is in need of updating to reflect LID.

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the fact sheet or otherwise for state agencies to be excused from these requirements.

VIII. Additional Requirements

A. State Water Quality Certification

It is notable that no draft state water quality certification (pursuant to Section 401 of the Clean Water Act) was noticed with the Draft Permit. The fact sheet indicates that a certification is being prepared. A draft Section 401 Water Quality Certification was made public along with the draft 2003 MS4 permit. It is important that the public have an opportunity to understand how MassDEP is viewing the draft permit conditions, and whether any additional requirements will be added through the certification to ensure state water quality standards are met. We request that EPA clarify the status of the state water quality certification.

B. Snow and Ice Removal and Chlorides

Research has indicated that, in the Northeast, chloride concentrations are increasing at a rate that threatens freshwater in the region.⁴⁷ Indeed, a 2001 article in *Stormwater* magazine ranked Massachusetts as having the highest annual road salt loadings in the United States. Chlorides TMDLs completed in New Hampshire confirm that stormwater runoff from roadways is a significant contributor to impairment, due to the high concentrations of chlorides, metals, and other additives in road salt that are washed into nearby waterways. Comments of Dr. Robert Roseen, Director of the NH Stormwater Center on the draft permit (Attachment A) highlight the potential of porous pavements to reduce salt application rates. Porous pavement and pervious concrete, both considered LID practices, require reduced de-icing application because water typically infiltrates rather than pooling on the surface.⁴⁸

EPA should include in the final permit more robust requirements to address this growing threat to our freshwater bodies and drinking water supplies, including through LID and green infrastructure.

CLF recommends EPA add a requirement that permittees' salt storage facilities be enclosed, not merely covered (as the draft permit requires). We also support the requirement that salt storage be located away from drinking water supplies. The final permit should be more specific as to what constitutes a safe distance between salt storage and water supplies.

CLF strongly supports the requirement in Section 3 of the draft permit that permittees conduct outfall monitoring for conductivity and chlorine, as this will help to identify locations where road salt is impacting water quality. Only after any impacts to water

⁴⁷ Susay S. Kaushal et al., *Increased salinization of fresh water in the northeastern United States*, 102 *ECOLOGY* 38, 13517-20 (2005), available at <http://www.pnas.org/cgi/content/abstract/102/38/13517>.

⁴⁸ See EPA Green Parking Lot Resource Guide, at 27, 55 n.97 (EPA, 2008)

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resources have been brought to light can the state, municipalities, and citizens can make fully informed decisions about how to approach winter road maintenance.

Thank you for the opportunity to comment. CLF looks forward to continued dialogue with EPA and MS4 permittees about strategies to improve the effectiveness of stormwater regulatory programs, with the goal of restoring and maintaining fishable, swimmable waterways throughout Massachusetts.

Sincerely,



Cynthia E. Liebman

Staff Attorney
Conservation Law Foundation

Attachments:

- A. Comment Letter and C.V. of Dr. Robert Roseen
- B. Statement and C.V. of Dr. Stephanie Hurley
- C. Chart Summarizing Attached Documents Regarding LID Approaches to Stormwater Management
- D. Attachments D1-D73 (by hand delivery)*

*Attachments D1-D65 were presented to the Pollution Control Hearings Board for the state of Washington by Earthjustice and co-counsel for Plaintiffs, in connection with the Seattle MS4 litigation.