TOWN OF KITTERY

Department of Public Works
200 Rogers Road, Kittery, ME 03904
Telephone: 207-439-0333 Fax: 207-439-6816

REPORT TO PLANNING BOARD

To:	Jason Garnham, Director of Planning & Development Kathy Connor, Project Planner
From:	Jessa Kellogg, Public Works Inspector
Subject:	MS4 Stormwater and Low Impact Development Ordinance Updates
Date:	January 5, 2023

The Town of Kittery is subject to the 2022-2027 General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4 General Permit), a federally mandated program under the Clean Water Act administered by the Maine Department of Environmental Protection. Kittery partners with four other Towns (York, Eliot, South Berwick and Berwick) to address the permit requirements, facilitated by Kristie Rabasca of Integrated Environmental Engineering through a regional contract with Southern Maine Planning and Development Commission (SMPDC).

The new permit that went into effect on 7/1/2022 includes specific updates required to be adopted in the Town's land use code related to stormwater management by 6/30/2023 and low impact development ordinances by 6/30/2024.

Attached for the Planning Board's review is a memo from Kristie Rabasca outlining the proposed ordinance updates and Powerpoint slides for more detail and explanation. This information was presented to the Kittery Land Issues Committee on 12/12/2022 with unanimous support received from the committee. The 1/12/2023 workshop is designed to provide the Planning Board with a first look at the proposed amendments, with further discussion anticipated at the 1/26/2023 regular Planning Board meeting.

Integrated Environmental
ENGINEERING

Ms. Jessa Kellogg
Public Works Inspector
200 Rogers Road Ext
Kittery, ME 03904

January 3, 2023

Subject: MS4 Stormwater Ordinance changes required to be implemented by 6/30/2023 and Low Impact Development Changes update – For Planning Board Consideration.

Dear Ms. Kellogg:

This letter provides materials for review by the Planning Board related to three ordinance changes required by the General Permit for Stormwater Discharges from the Municipal Separate Storm Sewer Systems (MS4s) as well as an update related to a fourth ordinance change for Low Impact Development.

Changes required by 6/30/2023: The changes listed below are required to be incorporated into the Kittery Code by 6/30/2023:

1. adoption of specific erosion and sedimentation control standards for proposed developments,
2. requiring timely maintenance of private stormwater infrastructure after construction and updating schedules for enforcement and
3. requiring timely removal of non-stormwater discharges from the Town's separated storm drain system.

The changes will be limited to several sections of Title 16 Land Use and Development Code.

We provided a brief overview of these requirements to the Town Council at their February 28, 2022 meeting, and a more detailed overview to the Planning Board at their May 26, 2022 meeting. We also reviewed these documents with the Kittery Land Issues Committee (KLIC) on 12/12/2022 and have incorporated changes based on their review and comment.

We have also updated the text of the non-stormwater discharge ordinance to better reflect the language in the MS4 General Permit.

The attachment to this letter provides an introductory overview of each of the three requirements and as well as proposed redline/strike out changes to the Code.

Because these changes must be codified by 6/30/2023, we understand the Planning Board intends to review them at their 1/12/2023 workshop to allow the Town Council to review the changes and hold public hearings in early 2023.

LID Ordinance Updates required by 6/30/2024: On 8/22/2022 we advised the Town Council about the above listed changes and reviewed the MS4 requirements to adopt Low Impact Development Standards. We provide a draft set of standards that the Town intended to adopt,

which were based on a Model Ordinance prepared under a Maine Coastal Program Grant. The draft set of LID standards were subsequently sent to the Maine DEP for Clean Water Act-based Public Comment. Maine DEP sent these out for Public Comment in September. Though there were comments from Friends of Casco Bay on the standards, the Maine DEP approved the Town's submittal without change, and the Town is clear to commence adoption of these standards.

The approval letter provided to the Town stated:

> *The Department has no objection to the proposal as written. However, the Department would like the Town to be aware that the Department is in the process of commencing rulemaking to revise 06-096 Chapter 500, Stormwater Management. The rulemaking process will include stakeholder meetings to receive input from regulated entities, consulting firms, non-governmental organizations and other interested parties. Kerem Gungor in the Bureau of Land Resources will be the Department contact for this rulemaking and he will be reaching out to stakeholders for their participation in early to mid-March 2023.*
>
> *The final rule is likely to contain clear, specific and measurable LID measures and techniques that the Town may want to incorporate into the final LID Ordinance to clarify expectations and the enforceability of the ordinance.*

As such, the Town may want to wait to adopt the LID changes until the Chapter 500 Rulemaking process has progressed so they can ensure there are no conflicts between the LID standards proposed by the Town and the LID standards that may be adopted statewide. We suggest postponing adoption of the LID standards until the Fall of 2023, when the Chapter 500 update schedule and content may be clearer.

Closing: I have held open the meeting dates you proposed to support review of these changes. If you have any questions about this information or need changes in advance of the meetings, please let me know. I can be reached at 207-415-5830 or via email krabasca@integratedenv.com.

Sincerely,

Integrated Environmental Engineering, Inc.

Kristie L. Rabasca

Kristie L. Rabasca, P.E., LEED AP BD + C

Attachments: Redline Strikeout proposed changes to Title 16 Land Use and Development Code to address MS4 General Permit requirements.

1/3/2023 Proposed Changes to Kittery Land Use and Development Code to address MS4 Requirements by 6/30/2023

EROSION AND SEDIMENTATION CONTROL CHANGES

Erosion and Sedimentation Control (ESC) standards must be incorporated into the Town's ordinances for any proposed development that disturbs one or more acres of land. The standards are listed in the MS4 General Permit, and are the same as the Maine DEP Chapter 500 standards for erosion and sedimentation control. Staff recommends incorporating the standards by reference to facilitate design and understanding by developers and reviewers.

One change we have made to the standards that is different than the State Chapter 500 regulations is to require that a Qualified Erosion and Sedimentation Control Professional prepare any Erosion and Sedimentation Control Plan. The proposed changes to the affected sections of the Land Use and Development Code are presented below (additions are shown in italics and underlined, deletions are shown as strikethrough):

§ 16.3.2 Definitions

QUALIFIED EROSION AND SEDIMENTATION CONTROL PROFESSIONAL – A person who is certified by Enviro-Cert International in erosion and sedimentation control practices or is certified by completing the Maine Department of Environmental Protection Erosion and Sedimentation Control Practices Workshop, or is a Maine Professional Engineer with at least two years' experience in designing Erosion and Sedimentation Control BMPs.

16.7 General Development Requirements

§ 16.7.10 Review process and submission requirements

C. Preliminary plan review.

(4) Plan requirements.

(o) Erosion and sedimentation control plan ~~endorsed by the York County Soil and Water Conservation District or the Town's engineering consultant~~ *prepared by a Qualified Erosion and Sedimentation Control Professional in accordance with the requirements of § 16.7.11.C;*

§ 16.7.11 Performance Standards and Approval Criteria

C. Stormwater and surface drainage.

(1) Adequate provision must be made for drainage of all stormwater generated with the development and any drained groundwater through a management system of natural and constructed features. Where possible, existing natural runoff control features,

such as berms, swales, terraces and wooded areas must be retained to reduce runoff and encourage infiltration of storm waters. Otherwise, drainage may be accomplished by a management system of constructed features such as swales, culverts, underdrains and storm drains.

(2) To ensure proper functioning, stormwater runoff control systems must be maintained in good working order per § 16.7.11D, Post-construction stormwater management.

(3) Where a development is traversed by a stream, river or surface water drainageway, or where the Planning Board or Director of Planning and Development determines that surface runoff should be controlled, easements and or drainage rights-of-way must be provided which conform substantially to the lines of existing natural drainage paths. The minimum width of the drainage easements or rights-of-way is 30 feet.

(a) The minimum pipe size for any storm drainage pipe must be 12 inches. Maximum trench width at the pipe crown must be the outside diameter of the pipe plus two feet. The pipe must be bedded in a fine granular material, containing no stones larger than three inches, lumps of clay, or organic matter, reaching a minimum of six inches below the bottom of the pipe extending to six inches above the top of the pipe.

(b) Except for normal thinning and landscaping, existing vegetation must be left intact to prevent soil erosion.

(4) When proposed development does not require Maine Department of Environmental (MDEP) approval under MDEP Chapters 500 and 502, the following applies:

(c) Downstream drainage requirements must be studied to determine the effect of the proposed development. The storm drainage must not overload existing or future planned storm drainage systems downstream from the development. The developer is responsible for financing any improvements to existing drainage systems required to handle the increased storm flows.

[2] All sediment and erosion control measures must be designed in accordance with MDEP's "Maine Erosion and Sediment Control BMPs," ~~March 2003~~ *October 2016 or latest revision*.

[5] Where the Board has required a stormwater management and erosion control plan and MDEP approval under Chapters 500 and 502 is not required, said plan must be *reviewed and approved by the Town's peer review engineer* ~~endorsed by the York County Soil and Water Conservation District~~.

(5) When proposed development does require Maine Department of Environmental (MDEP) approval under the latest revision of MDEP Chapters 500 and 502 or the Maine Construction General Permit, the Erosion and Sediment Control Standards of Maine DEP Stormwater Rule Chapter 500 Appendix A – Erosion and Sediment

Control, Appendix B – Inspections and Maintenance and Appendix C Housekeeping, shall apply.

§ 16.8 Subdivision Review

§ 16.8.9. Review process and submission requirements.

C. Preliminary plan review.

(6) Written submission requirements, preliminary plan.

(d) Erosion and sedimentation control plan ~~endorsed by the York County Soil and Water Conservation District or the Town's engineering consultant~~ *prepared by a Qualified Erosion and Sedimentation Control Professional in accordance with the requirements of § 16.8.10.E*;

§ 16.8.10 Performance standards and approval criteria.

E. Stormwater and surface drainage.

(4) When proposed development does not require Maine Department of Environmental (MDEP) approval under MDEP Chapters 500 and 502, the following applies:

(c) Downstream drainage requirements must be studied to determine the effect of the proposed development. The storm drainage must not overload existing or future planned storm drainage systems downstream from the development. The developer is responsible for financing any improvements to existing drainage systems required to handle the increased storm flows.

[1] Wherever the storm drainage system is not within the right-of-way of a public street, perpetual easements must be provided to the Town allowing maintenance and improvement to the system.

[2] All sediment and erosion control measures must be designed in accordance with MDEP's "Maine Erosion and Sediment Control BMPs," ~~March 2003~~ *October 2016 or latest revision*.

[3] Catch basins in streets and roads must be installed where necessary and located at the curbline. In parking lots and other areas, catch basins must be located where necessary to ensure proper drainage.

[4] Where soils require a subsurface drainage system, the drains must be installed and maintained separately from the stormwater drainage system.

[5] Where the Board has required a stormwater management and erosion control plan and MDEP approval under Chapters 500 and 502 is not required, said plan must be *reviewed and approved by the Town's peer review engineer* ~~endorsed by the York County Soil and Water Conservation Distric~~t.

[6] Drainage easements for existing or proposed drainageways located outside a public way must be maintained and/or improved in accordance § 16.8.10F, Post-construction stormwater management.

(5) When proposed development does require Maine Department of Environmental (MDEP) approval under most current revision of MDEP Chapters 500 and 502 or the Maine Construction General Permit, the Erosion and Sediment Control Standards of Maine DEP Stormwater Rule Chapter 500 Appendix A – Erosion and Sediment Control, Appendix B – Inspections and Maintenance and Appendix C Housekeeping, shall apply.

POST CONSTRUCTION STORMWATER MANAGEMENT CHANGES

Post-Construction Stormwater Management requirements have been part of the Town's code since 2009 to ensure that stormwater infrastructure that is owned by private developments is inspected and maintained. This portion of the Town's code requires maintenance in accordance with a Post Construction Stormwater Plan, annual inspections on the infrastructure and certification annually to the Town that the system has been maintained, inspected and is functioning as intended.

The 2022 MS4 General Permit requires that we update this ordinance to ensure any corrective measures identified by the owner or inspector are implemented within 60 days of identification or if that is not possible, in accordance with a schedule that is approved by the Code Enforcement Office. The 2022 MS4 General Permit also requires that any inspector (whether the Owner/Operator or a third-party) be a Qualified Inspector and that a copy of the inspection report be provided to the Town. We have updated the Definitions sections and General Development and Subdivision sections to incorporate the new requirements. The affected sections of the Land Use and Development Code are presented below:

§ 16.3.2 Definitions

QUALIFIED POST-CONSTRUCTION STORMWATER INSPECTOR — A person who conducts post-construction stormwater management facilities inspections for compensation and who has received *a Certification in Inspection and Maintenance of Stormwater BMPs* ~~the appropriate training for the same~~ from the Maine Department of Environmental Protection *or is a Professional Engineer in the State of Maine with an understanding of stormwater infrastructure and its required maintenance.* .

16.7 General Development Requirements

§ 16.7.11 Performance standards and approval criteria

D. Post-construction stormwater management.

(2) Authority. The Maine Department of Environmental Protection, through its dissemination of the general permit for the discharge of stormwater from small municipal separate storm sewer systems, has listed the Town of Kittery, Maine, as having a regulated small municipal separate storm sewer system (small MS4); under this general permit, listing as a regulated small MS4 requires enactment of this section as part of the Town's stormwater management program in order to satisfy the *Post Construction* minimum control measure~~s required by Part IV D 5 ("Post-construction stormwater management in new development and redevelopment")~~.

(3) Applicability.

(d) Post-construction stormwater management plan compliance.

[1] General requirements. Any person owning, operating, leasing or having control over stormwater management facilities required by a post-construction stormwater management plan approved under the Town's subdivision, site plan or other zoning, planning or other land use ordinances must *comply with that plan and* demonstrate compliance with that plan as follows:

[a] ~~That person or a~~ *A* qualified post-construction stormwater inspector ~~hired by that person~~ must, at least annually, inspect the stormwater management facilities in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan;

[b] If the stormwater management facilities require maintenance ~~to function as intended~~ by the approved post-construction stormwater management plan, that person must take corrective action(s) to address the deficiency or deficiencies *within 60 days of identification of the deficiency. If 60 days is not possible, then the person shall propose an alternate expeditious schedule to complete the maintenance, which if approved by the Code Enforcement Officer must be met*; and

[c] That person or a qualified post-construction stormwater inspector hired by that person must, on or by July 1 of each year, provide a *copy of the annual inspection and a* completed and signed certification to the Code Enforcement Officer in a form provided by the Town, certifying that the person has inspected the stormwater management facilities and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan or that they require maintenance or repair, describing any required maintenance and any deficiencies found during inspection of the stormwater management facilities, and if the stormwater management facilities require maintenance or repair of deficiencies in order to function as intended by the approved post-construction stormwater management plan, the person must provide a record of the required maintenance or deficiency and corrective action(s) taken. *If any deficiencies are still outstanding when the certification is submitted in accordance with paragraph [b] of this section, that person or a qualified post construction stormwater inspector shall provide documentation of completion of the maintenance within 30 days of completion.*

§ 16.8 Subdivision Review

§ 16.8.10 Performance standards and approval criteria.

F. Post-construction stormwater management.

(2) Authority. The Maine Department of Environmental Protection, through its dissemination of the general permit for the discharge of stormwater from small municipal separate storm sewer systems, has listed the Town of Kittery, Maine, as having a regulated small municipal separate

storm sewer system (small MS4); under this general permit, listing as a regulated small MS4 requires enactment of this section as part of the Town's stormwater management program in order to satisfy the *Post Construction* minimum control measure~~s required by Part IV D 5 ("Post-construction stormwater management in new development and redevelopment")~~.

(3) Applicability.

(d) Post-construction stormwater management plan compliance.

[1] General requirements. Any person owning, operating, leasing or having control over stormwater management facilities required by a post-construction stormwater management plan approved under the Town's subdivision, site plan or other zoning, planning or other land use ordinances must *comply with that plan and* demonstrate compliance with that plan as follows:

[a] ~~That person or a~~ *A* qualified post-construction stormwater inspector ~~hired by that person~~ must, at least annually, inspect the stormwater management facilities in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan;

[b] If the stormwater management facilities require maintenance ~~to function as intended~~ by the approved post-construction stormwater management plan, that person must take corrective action(s) to address the deficiency or deficiencies *within 60 days of identification of the deficiency. If 60 days is not possible, then the person shall propose an alternate expeditious schedule to complete the maintenance, which if approved by the Code Enforcement Officer must be met*; and

[c] That person or a qualified post-construction stormwater inspector hired by that person must, on or by July 1 of each year, provide a *copy of the annual inspection and a* completed and signed certification to the Code Enforcement Officer in a form provided by the Town, certifying that the person has inspected the stormwater management facilities and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan or that they require maintenance or repair, describing any required maintenance and any deficiencies found during inspection of the stormwater management facilities, and if the stormwater management facilities require maintenance or repair of deficiencies in order to function as intended by the approved post-construction stormwater management plan, the person must provide a record of the required maintenance or deficiency and corrective action(s) taken. *If any deficiencies are still outstanding when the certification is submitted in accordance with paragraph [b] of this section, that person or a qualified post construction stormwater inspector shall provide documentation of completion of the maintenance within 30 days of completion.*

NONSTORMWATER DISCHARGE CHANGES

Nonstormwater Discharge prohibitions have been part of the Town's code since 2004 to ensure that pollutants are not discharged into the storm drain system (either by dumping or by direct connection). The 2022 MS4 General Permit requires that we update this section of the Land Use and Development Code to ensure that the source of an illicit discharge into the storm drain system is eliminated within 60 days of discovery, or if that is not possible, in accordance with a schedule that is approved by the Code Enforcement Office. We have updated § 16.2.13. Violations and penalties. And § 16.5.19. Nonstormwater discharge to incorporate these changes including updating some definitions in §16.3.2.

§ 16.3.2 Definitions

URBANIZED AREA (UA) — The areas of the State of Maine so defined by the ~~latest~~ *inclusive sum of the 2000* decennial census *and the 2010 decennial census* by the U.S. Bureau of the Census.

REGULATED SMALL MS4 — Any small municipal separate storm sewer system (MS4) regulated by the State of Maine general permit for the discharge of stormwater from small municipal separate storm sewer systems, dated July 2013 ("general permit"), *renewed October 15, 2020, modified November 23, 2021 and any amendment or renewal thereof;* including all those located partially or entirely within an urbanized area (UA) and those additional small MS4s located outside an UA that as of the issuance of the general permit have been designated by the DEP as regulated small MS4s. The Town of Kittery is a regulated small MS4.

§ 16.2.13. Violations and penalties.

D. Notice of violation and order (notice).

(5) Additionally, if there is a violation of § 16.5.19, Nonstormwater Discharge, the enforcement authority will order compliance by written notice of violation to that person, indicating the nature of the violation and ordering the action necessary to correct it, including, without limitation:

(a) The elimination of nonstormwater discharges to the storm drainage system, including, but not limited to, disconnection of the premises from the MS-4;

(b) The *immediate* cessation of discharge practices or operations in violation of this section;

(c) At the person's expense, the abatement or remediation (in accordance with best management practices in DEP rules and regulations) of nonstormwater discharges to the storm drainage system and the restoration of any affected property; and/or

(d) The payment of fines, of the municipality's remediation costs, and of the municipality's reasonable administrative costs and attorneys' fees and costs. If abatement of a violation and/or restoration of affected property is required, the notice will set forth a deadline within which such abatement or restoration must be completed.

(e) If abatement of a violation and/or restoration of affected property is required, or if immediate cessation is not possible or if elimination of the Non-Stormwater Discharge is not possible within 60 days of identification of the source, the notice shall set forth a deadline within which such elimination, abatement, or restoration must be completed.

§ 16.5.19. Nonstormwater discharge.

A. Basis/purpose/objectives.

(1) The Maine Department of Environmental Protection, through its ~~promulgation of the "General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems" dated July 2013, has listed the Town of Kittery as having a regulated small municipal separate storm sewer system (small MS4); under this general permit, listing as~~ *listing of Kittery as* a regulated small MS4, necessitates enactment of this section as part of the municipality's stormwater management plan.

(2) The creation, initiation, origination and maintenance of the following nonstormwater discharges to the storm drainage system are allowed as long as they do not cause or contribute to a violation of the state's water quality standards:

(a) Flow. Landscape irrigation; diverted stream flows; rising groundwaters; uncontaminated groundwater infiltration [as defined at 40 CFR 35.2005(20)]; uncontaminated pumped groundwater; uncontaminated flows from foundation drains; air-conditioning and compressor condensate; irrigation water; flows from uncontaminated springs; uncontaminated water from crawl space pumps; uncontaminated flows from footing drains; lawn watering runoff; flows from riparian habitats and wetlands; residual street wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material has been removed and detergents are not used); hydrant flushing and firefighting activity runoff; water line flushing and discharges from potable water sources; individual residential car washing; and dechlorinated swimming pool discharges, as defined as having ~~0.5~~ *0.05* ppm or less. Pools may only be emptied a minimum of 48 hours after any chemical treatments were added.

Ordinance Change Overview

(Required by the Stormwater Permit)

Focus: Erosion/Sediment Control Standards, Post Construction changes and Non-Stormwater Discharge changes to be adopted by 6/30/2023

Presented to Kittery Planning Board 1/12/2023

Kristie Rabasca,
Integrated Environmental Engineering, Inc.
Environmental Engineer

Southern Maine STORMWATER Working Group

Stormwater Ordinance Changes

- Ordinance changes required by General Permit for Stormwater Discharges from the Municipal Separate Storm Sewer System (MS4 General permit)
- Town has been regulated by this since 2003.
- Previously presented to PB 5/26/2022 (if this looks familiar)

Stormwater Ordinance Changes

Maine DEP MS4 Permits

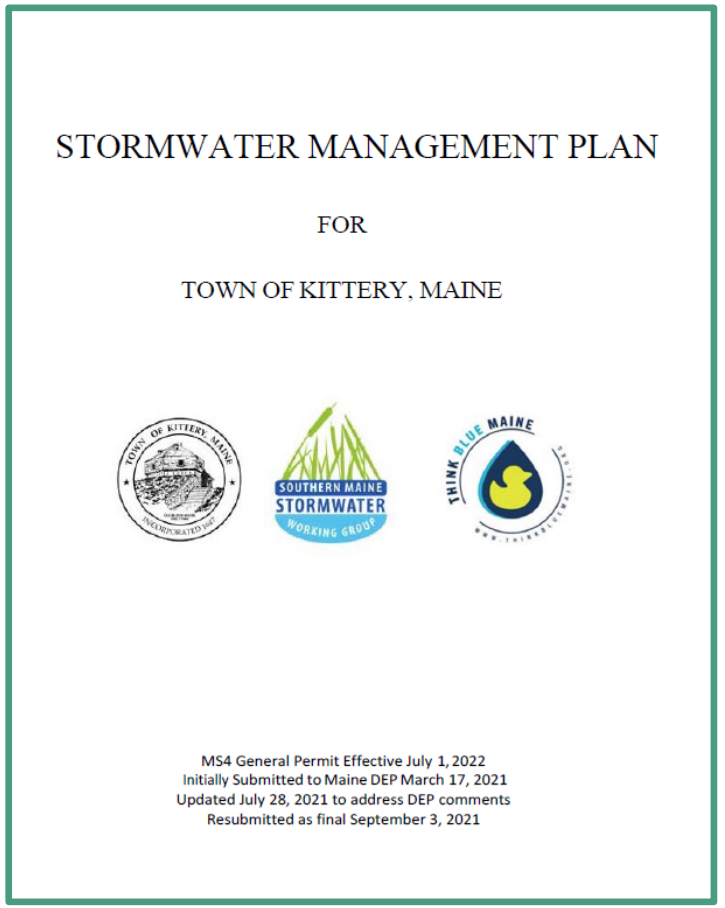
2003 – 2008

2008 – 2013

2013 – 2022

New Permit Began 7/1/2022

Stormwater Management Plan provides more detail. (Available on Public Works Stormwater Page)


STORMWATER MANAGEMENT PLAN

FOR

TOWN OF KITTERY, MAINE

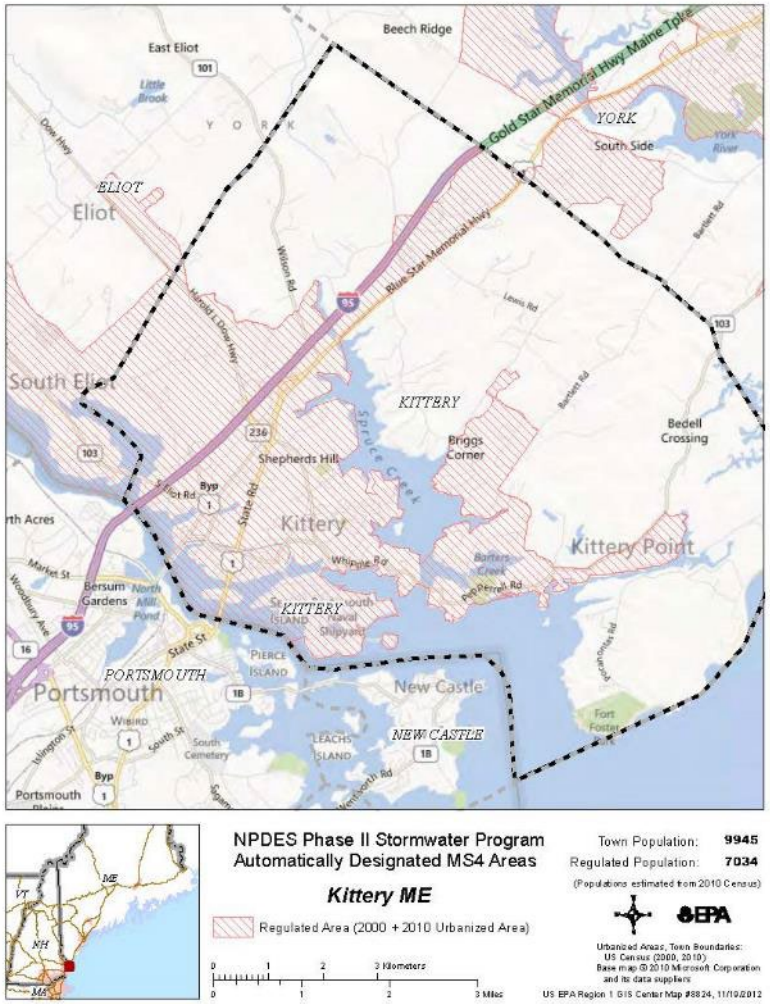
MS4 General Permit Effective July 1, 2022
Initially Submitted to Maine DEP March 17, 2021
Updated July 28, 2021 to address DEP comments
Resubmitted as final September 3, 2021

Stormwater Ordinance Changes

General Permit only required in Urbanized Area

- US census high density areas with lots of impervious surface
- Shown here in pink hashing (2000 and 2010 only, 2020 does not apply)

Regulated Area (2000 + 2010 Urbanized Area)

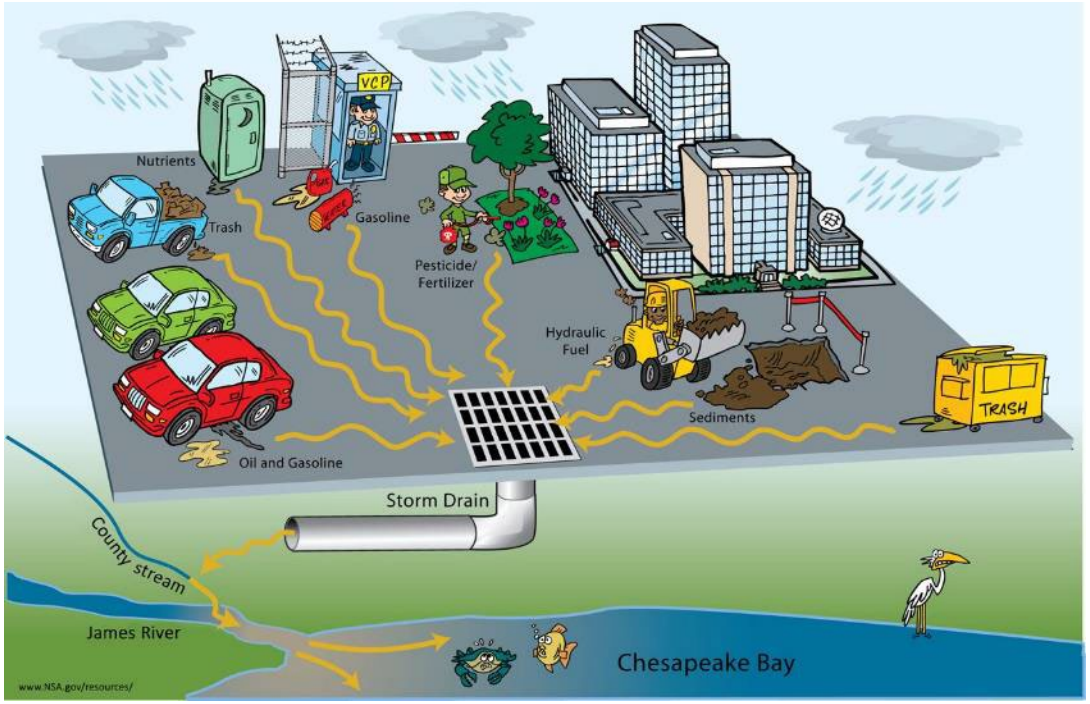


Stormwater Ordinance Changes

High impervious cover (paved and roofed areas)

Allows pollutants to build up

Which are released to waters when it rains.



Graphic credit: www.NSA.gov

Stormwater Ordinance Changes

Control Measures to Minimize Pollutants

1. Public Education/Outreach
2. Public Participation
3. Illicit Discharge Detection and Elimination
4. **Construction Runoff Control**
5. Post Construction Runoff Control
6. Pollution Prevention/Good Housekeeping

Erosion Sediment Control (ESC) Requirements

- "Create or Update an ordinance or other regulatory mechanism that requires the use of erosion and sediment control BMPs at construction sites consistent with the minimum standards outlined in Appendix C, *Erosion and Sedimentation Control*, *Inspections and Maintenance and Housekeeping* of this GP" by 6/30/2023.

MS4 Appendix C is same as Chapter 500 State Requirements in Appendices A, B, and C, including waste control for some additional items.

Sampling of ESC Requirements

Erosion Sediment Control (ESC) Requirements:

- ✓Threshold is one acre or more of disturbance, or smaller sites if they are part of a larger common plan of development or sale that would disturb one acre or more.
- ✓ ESC Measures in place before construction begins
- ✓Remain in place throughout construction
- ✓Adequate and timely maintenance required

Sampling of ESC Requirements

Inspections During Construction – By Contractor/Developer

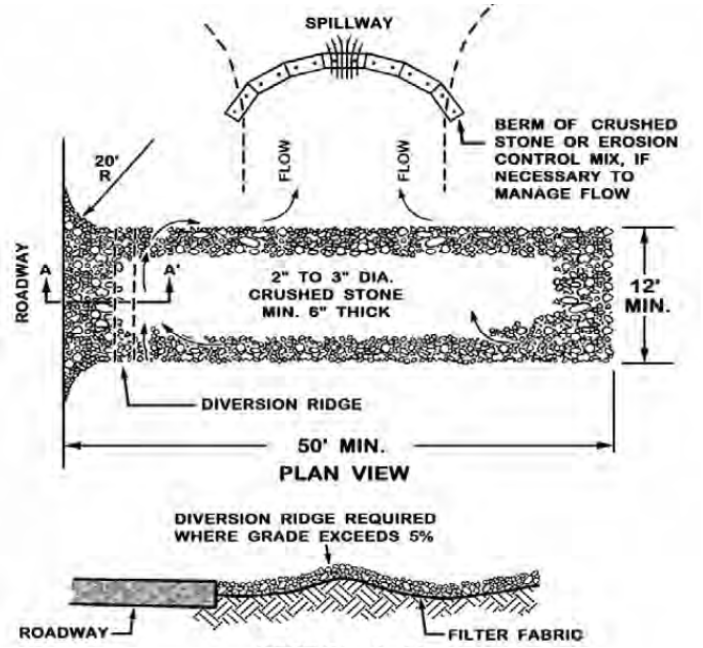
- ✓Weekly,
- ✓Before a rain event, and
- ✓After a rain event (w/in 24 hours).
- ✓Keep a log (for DEP and Town to inspect)

- ✓When needed repair ESC BMPs as follows:
  - Initiate upon discovery
  - Complete before end of next workday
  - Allows completion within 7 days if longer needed, and
  - Prior to any rain event.

Sampling of ESC Requirements

Stabilized Construction Entrances

- ✓ Aggregate and filter fabric
- ✓ Protects public right of way
- ✓ Maintenance required until all areas are stabilized.



MAINE EROSION AND SEDIMENT CONTROL BMPs – 10/2016

Sampling of ESC Requirements

Definitions and standards for Permanent Stabilization and Winter Construction

6. Permanent stabilization: If the area will not be worked for more than one year or has been brought to final grade, then permanently stabilize the area within 7 days by planting vegetation, seeding, sod, or through the use of permanent mulch, or riprap, or road sub-base. If using vegetation for stabilization, select the proper vegetation for the light, moisture, and soil conditions; amend areas of disturbed subsoils with topsoil, compost, or fertilizers; protect seeded areas with mulch or, if necessary, erosion control blankets; and schedule sodding, planting, and seeding so to avoid die-off from summer drought and fall frosts. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well-established with 90% cover by healthy vegetation. If necessary, areas must be reworked and restabilized if germination is sparse, plant coverage is spotty, or topsoil erosion is evident. Permanent Stabilization Definitions are as follows:

a. Seeded areas. For seeded areas, permanent stabilization means a 90% cover of the disturbed area with mature, healthy plants with no evidence of washing or rilling of the topsoil.

b. Sodded areas. For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off.

c. Permanent mulch. For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion Control Mix may be used as mulch for permanent stabilization according to the approved application rates and limitations.

d. Riprap. For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used.

e. Paved areas. For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed, provided it is free of fine materials that may runoff with a rain event

f. Ditches, channels, and swales. For open channels, permanent stabilization means the channel is stabilized with a 90% cover of healthy vegetation, with a well-graded riprap lining, turf reinforcement mat, or with another non-erosive lining such as concrete or asphalt pavement. There must be no evidence of slumping of the channel lining, undercutting of the channel banks, or down-cutting of the channel.

7. Winter construction: "Winter construction" is construction activity performed during the period from November 1 through April 15. If disturbed areas are not stabilized with permanent measures by November 1 or new soil disturbance occurs after November 1, but before April 15, then these areas must be protected and runoff from them must be controlled by additional measures and restrictions.

a. Site stabilization: For winter stabilization, hay mulch is applied at twice the standard temporary stabilization rate. At the end of each construction day, areas that have been brought to final grade must be stabilized. Mulch may not be spread on top of snow.

b. Sediment barriers: All areas within 75 feet of a protected natural resource must be protected with a double row of sediment barriers.

c. Ditch: All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period, must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the Department.

d. Slopes: Mulch netting must be used to anchor mulch on all slopes greater than 8% unless erosion control blankets or erosion control mix is being used on these slopes.

8. Stormwater channels: Each channel should be constructed in sections so that the section's grading, shaping, and installation of the permanent lining can be completed the same day. If a channel's final grading or lining installation must be delayed, then diversion berms must be used to divert stormwater away from the channel, properly-spaced check dams must be installed in the channel to slow the water velocity, and a temporary lining installed along the channel to prevent scouring.

Sampling of ESC Requirements

These are already state requirements under Chapter 500.

Nominal Impact to Developers or Staff (Time and $)

Post Construction Ordinance changes

Has been a Kittery requirement since 2009

Requires private developments to:

- Maintain stormwater systems
- Certify annual to Town they have inspected and maintained

Updates required:

- Use a "Qualified" inspector
- Provide a copy of the inspection report
- Correct any maintenance issues within 60 days

Non-Stormwater Discharge changes

This ordinance has been a Kittery requirement since 2004

Prohibits discharge of pollutants and illegal connections into storm drain system.

Updates required:

Definition and "authority" updates for new permit

Requires immediate cessation of discharge

Requires a formal schedule if a connection cannot be eliminated within 60 days of identification.

Low Impact Development update

- **Low Impact Development** (LID) - Means a broad approach to site planning that preserves natural resources, processes, and habitat, defines what portions of the site are suitable for development and then utilizes Stormwater Treatment Measures to manage runoff from the proposed developed impervious areas. In LID, Stormwater Treatment Measures using natural processes such as vegetated buffers are given preference over constructed treatment Stormwater Treatment Measures. The goals of LID are to minimize the environmental impacts of the development.

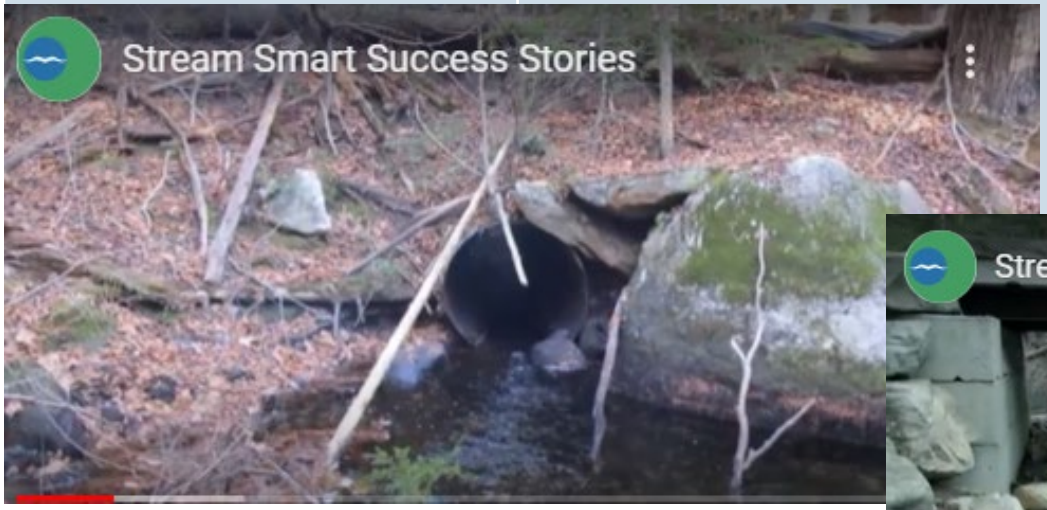
Low Impact Development update

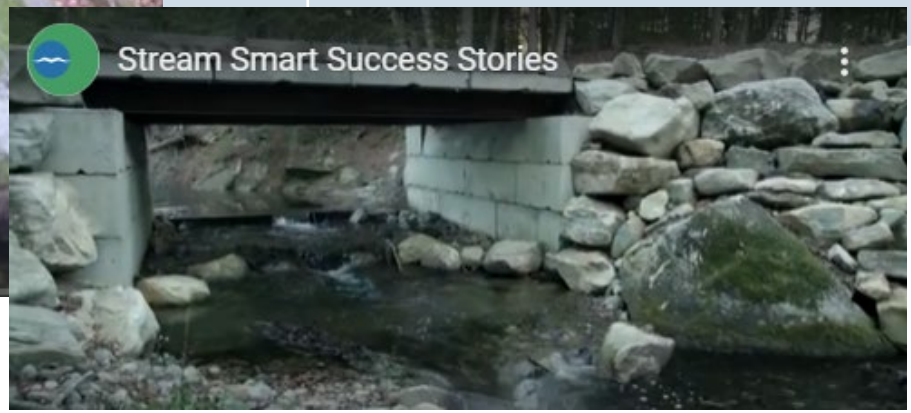
- **Town submitted an intent to adopt document to DEP in August 2022**
- **DEP sent out for Clean Water Act Public Comment**
- **Friends of Casco Bay commented**
- **DEP gave okay to adopt Kittery Submittal without changes.**

- **But DEP is also updating Chapter 500 and may incorporate LID, so we should HOLD. (changes not due until 6/30/2024, so okay to hold).**

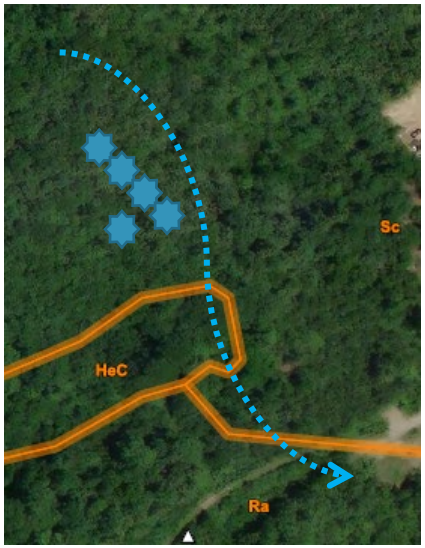
Low Impact Development update

Required LID Measure to address	Performance Standard	Model Ordinance Content
2. Protect the Natural Drainage System and others	Require the use of Maine Stream Smart Principles for crossings of Waters of the State	Submittals: Show Waters of the State on Project Plans Provide detailed plans Completed by Professional Engineer who has completed Audubon Stream Smart program



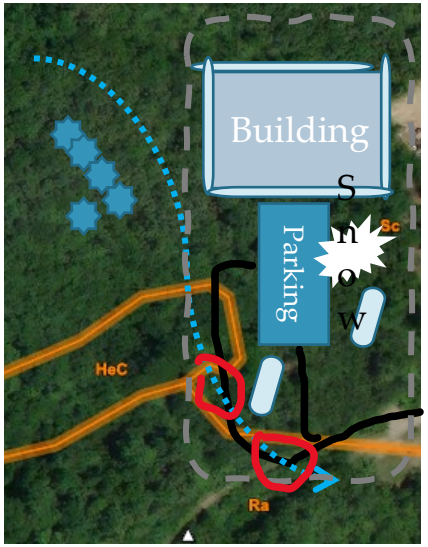


Model Ordinance for Low Impact Development (LID) Strategies



1. Protect sensitive areas from development
2. Limits of disturbance
3. Maine Stream Smart Crossings
4. Parking stall size
5. Requiring treatment of runoff
6. Snow storage
7. Tilling and soil testing if needed
8. Use Native/Climate Resil. vegetation

Any other optional items



Predevelopment – 2 acre wooded site, mostly type C and D soils (not well drained)
One drainage area with one Drainageway
Tc = 18 minutes, flow length = 600 feet

Post development – 3-4 drainage areas
Installation of Stream Smart crossings would preserve predevelopment Drainageway or could adjust roadways to avoid.

Overview – Staff recommendations

3 proposed changes before you now have nominal impact to staff or development

Though MS4 requirements are only for Urbanized Area, staff recommends Town wide (consistent with historical application)

Staff also recommends adopting ESC standards in Chapter 500 by reference to facilitate understanding by developers and reviewers.

Maine DEP will be updating Chapter 500, so adoption by reference will likely prevent us from having to update standards again.

Note that Staff also recommends holding on implementation of Low Impact Development standards (begin ~September 2023 for 6/30/2024 adoption)