

Surface Water Quality Improvements Through MS4 Compliance



Town of Salem, NH
July 17, 2019

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2017 MS4 Permit

Review of Requirements & Progress to Date

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Permit Intent

- Improve Water Quality
- Restore Designated Uses
- Eliminate Beach Advisories



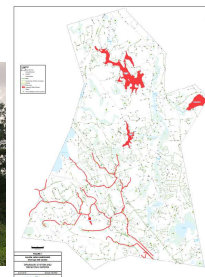
**Stormwater is
the #1 Cause
of Water
Quality
Impairments
in New
Hampshire**

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Salem's Impairments

- Bacteria
- Chloride
- Phosphorus
- Iron



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Background

- General Municipal Separate Storm Sewer System (MS4) Permit issued May 2003
- Five-year permit cycle expired May 2008
- 2003 Permit "administratively continued"
- 2017 Permit effective July 1, 2018
- Notice of Intent submitted October 1, 2018

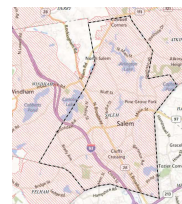


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Regulated Area in Salem

- "Urbanized Area" as defined by 2000 and 2010 Census
- MS4 Discharges to "Waters of the US"



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Salem's MS4

- 4,967 Catch Basins
- 741 Drain Manholes
- 1,101 Outfalls
- 465 Culverts
- 85 miles of Drainage Pipe

Number of
Regulated
Outfalls = 600+

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2017 vs. 2003 MS4 Permit

- Greater Accountability
- More detailed requirements & stricter timeframes for BMP implementation
- More Documentation
- Enhanced Reporting Requirements
- More Prescriptive Requirements for Impaired Waters



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6 Minimum Control Measures

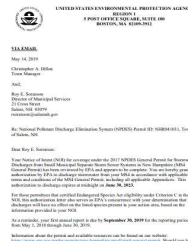
- Public Education and Outreach
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping

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Notice of Intent

- Submitted to EPA on 10/1/18
 - ✓ Status of 2003 MS4 Permit Requirements
 - ✓ Outlines BMPs & Implementation Timeframe
- Authorization to Discharge Granted by EPA on 5/4/19



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Stormwater Management Plan

- Includes:
 - ✓ Responsible parties
 - ✓ In depth review of minimum control measures outlined in NOI & compliance measures
- *Progress to Date:* Developed and Posted to Town Website



swmp

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Public Education & Outreach

- Eight targeted messages over five-year permit
 - Four audiences
- *Progress to Date:* Kiosks, Website updates, brochures, local cable access channel

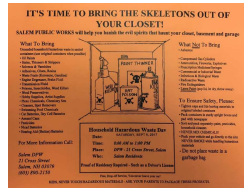


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Public Participation and Involvement

- **Continue:**
 - To provide for public review of the SWMP and annual reports
 - Roadside Litter Clean-Up
 - Household Hazardous Waste Collection Day (**October 19th**)
 - Recycling Program
 - Reporting Hotline



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Illicit Discharge Detection & Elimination (IDDE)

- MS4 mapping (GIS) - **Complete**
- Written IDDE Plan - **Complete**
- Catchment Delineation/Ranking - **Complete**
- Dry/wet weather outfall sampling - **Initiated but none conducted in 2018/2019**
- IDDE Investigations - **2016**
- In-House Training - **Complete**



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Construction and Post – Construction Site Runoff Control

- Update municipal code – **Draft Form (Subject to Future Meeting)**
- Assess / report on regs - street / lot design
- Assess / report on regs - barriers to green / LID - **Ongoing**
- Identify 5+ town properties for BMP retrofits

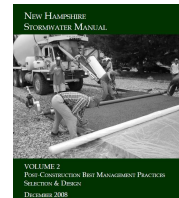


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Chapter 417 - Stormwater Management and Controls

- Illicit Discharges
- LID Site Planning and Design
- BMP Design Guidance
- Retention/Treatment Requirements
- As-Builts/Long-Term O&M
- Phosphorus/Chloride/Metals Impairments
- Drinking Water Supply Sources



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Pollution Prevention/Good Housekeeping

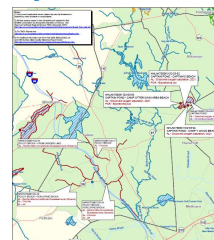
- Inventory/Written O&M procedures for municipal activities and facilities – **Draft Procedures Developed**
- Enhanced Catch basin cleaning - **Ongoing**
- Enhanced Sweeping of streets / municipal lots - **Ongoing**
- Inspection & maintenance of BMPs
- Stormwater Pollution Prevention Plans – **Draft Developed for DPW Facility**



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Impaired Waters – Approved TMDLs



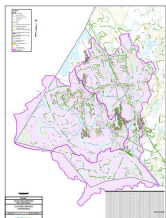
Impaired Waters Covered Under Bacteria TMDLs	
Captain's Beach, Captain Pond	
Camp Otter Swim Area Beach	
Arlington Mill Reservoir at Second Street Beach	
Millville Lake at Town Beach	
Arlington Mill Reservoir at Arlington Pond Improvement Association	
Hedgehog Pond at Salem Town Beach	
Camp Hadar Beach	
Policy-Porcupine Brook (Chloride TMDL)	

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Impaired Waters - Approved TMDLs

- **Bacteria**
 - ✓ Enhanced Street Sweeping
 - ✓ Additional Public Education and Outreach initiatives
 - ✓ Phosphorous Source Identification Report
- **Chloride** (Policy-Porcupine Brook)
 - ✓ Chloride Reduction Plan



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Water Quality Limited Waters – Without Approved TMDL

- Captain Pond is impaired for **Phosphorus**, which requires:
 - ✓ Enhanced Street Sweeping
 - ✓ Additional Public Education and Outreach initiatives
 - ✓ Phosphorous Source Identification Report
 - ✓ BMP Implementation – *One Project Completed at Captain Pond*

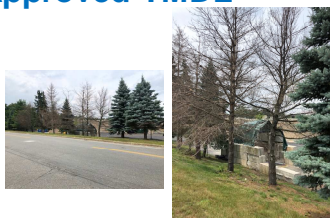


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Water Quality Limited Waters – Without Approved TMDL

- Policy Brook and an unnamed tributary to Harris Brook are impaired for **Chloride**, which requires:
 - ✓ Chloride Reduction Plan



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Water Quality Limited Waters – Without Approved TMDL

- Policy Brook is impaired for **Iron**, which requires:
 - ✓ Enhanced Street Sweeping/Catch Basin Cleaning
 - ✓ Regulatory Updates

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Records / Reporting

Many New Reporting Requirements

- More comprehensive annual reports
- Will need to
 - Document EVERYTHING
 - Keep comprehensive records
- We suggest
 - Understanding / taking credit for ALL that you do
 - Moving away from paper
- **Annual Reports Due September 30, 2019**



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Questions

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