



Electronic Annual Report Certification Form

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Please submit this form in accordance with Section 7(e) of the general permit (DEP-PERD-GP-021) in order to certify your Annual Report *only after the report has been submitted electronically*. This form should *not* be used for any Annual Report not submitted electronically. If your Annual Report was not submitted electronically, the certification should be included with the report mailed to the DEP.

Part I: Registrant Information

Name of Town/City: Old Lyme

Chief Elected Official or Principal Executive Officer: Bonnie A. Reemsnyder

Title: First Selectwoman

Address: 52 Lyme Street

City/Town: Old Lyme Zip Code: CT 06371

Phone: (860) 434-1605 ext: 211 Fax: (860) 434-1400

Permit Number: GSM000032

Part II: Fee Information

A review fee of \$187.50 must be submitted with the Annual Report. Please check one box below.

- The Annual Report review fee is attached.
- I submitted the Annual Report review fee on (date) 11/30/15.

Part III: Sampling Data

Stormwater sampling must be conducted annually. The results must be recorded on the Stormwater Monitoring Report forms and included in the Annual Report. Please check one box below.

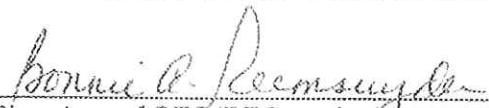
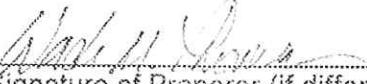
- The Stormwater Monitoring Report forms were submitted with our Annual Report.
- The Stormwater Monitoring Report forms are attached to this form.
- I submitted the Stormwater Monitoring Report forms on (date) 12/09/15. *for 2013*

Part IV: Annual Report Certification

The Chief Elected Official or Principal Executive Officer and the individual(s) responsible for actually preparing the Annual Report must sign this part.

"I have personally examined and am familiar with the information submitted in the Annual Report and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute.

The Annual Report was submitted electronically on 04/26/16 (date)."

 Signature of CEO/PEO or designee (as specified in RCSA Section 22a-430-3(b)(2)(B))	<u>08/02/16</u> Date
<u>Bonnie A. Reemsnyder</u> Name of CEO/PEO or designee (print or type)	<u>First Selectwoman</u> Title
 Signature of Preparer (if different from above)	<u>08/02/16</u> Date
<u>Wade M. Thomas</u> Name of Preparer (print or type)	<u>Associate</u> Title (if applicable)
<input type="checkbox"/> Please enter a check mark if additional signatures are necessary. If so, please reproduce this sheet and attach signed copies to this sheet.	

Note: Please submit this Certification Form and Fee (if not already paid) to:

STORMWATER PERMIT COORDINATOR
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127



Town of Old Lyme, Connecticut

2015 Annual Report

**General Permit for the Discharge of Stormwater from Small
Municipal Separate Storm Sewer Systems**

Permit Number GSM000032

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Management Plan

2015 Annual Report

Town of Old Lyme, Connecticut

Permit Number GSM000032

Chief Elected Official:

First Selectwoman:	Bonnie A. Reemsnyder
Office:	860.434.1605 X211
E-mail:	breemsnyder@oldlymect.gov

MCM No. 5 and MCM No. 6 BMP Implementation:

Public Works Superintendent:	Ed Adanti	2009 - Present
Office		860.434.2461
E-mail:		publicworks@oldlyme-ct.gov

MS4 Stormwater Compliance:

Nathan L. Jacobson & Associates, Inc.	Wade M. Thomas, Associate
Office:	860.526.9591
Fax:	860.526.5416
Mobile:	860.884.0226
E-mail:	wthomas@nlja.com

2015 Minimum Control Measure Summary

The Town of Old Lyme has several Qualifying Local Programs in most of the six Minimum Control Measures.

Minimum Control Measure No. 1 - Public Education and Outreach

Since 2012 the Town of Old Lyme has been a member of River Cog. River CoG is comprised of seventeen towns including Chester, Cromwell, Clinton, Deep River, Durham, East Haddam, East Hampton, Essex, Haddam, Killingworth, Lyme, Middlefield, Middletown, Old Lyme, Old Saybrook, Portland and Westbrook. Twelve of the seventeen River CoG member towns are designated MS4s.

A stormwater tab may be established on the River CoG website www.rivercog.org where all of

the seventeen members may share the expense and benefits of a stormwater public education and outreach tab on the River CoG website.

The following information is available to the public on the RiverCOG website:

2015 Household Hazardous Waste Collection Schedule, Information and Dates

- Waste Management and Recycling
- Recycling List of Accepted Materials
- Consumer Electronics
- Transfer Stations

The following information is available to the public on the Town of Old Lyme website at
<http://www.oldlyme-ct.gov>

Conservation Commission page links:

- Connecticut River Gateway Commission
- Organic Lawn Care
- Landscape Suggestions for Inland Wetlands Properties
- Environ Health and Pesticide
- CTDEEP Pollution Prevention Newsletter

First Selectman & Board of Selectmen page links:

- Trash Pick-Up Schedule
- 2015 Household Hazardous Waste Collections
- Town Ordinances
- Recycle Schedule
- Lower Connecticut River Valley Council of Governments (aka RiverCOG)
- Old Lyme Snow Plowing Policy

Health Department page links:

- Household Products Database
- Town Ordinances

Land Use page links:

- Subdivision Regulations
- Inland Wetlands
- Town Ordinances
- Zoning Regulations
- GIS Website

Old Lyme Land Trust page links:

Local Area Links:

Connecticut River Estuary Regional Planning Agency (CRERPA)

Old Lyme Land Trust page links (continued)

Connecticut Environmental Organizations:

CT River Watershed Council

Long Island Sound Study

Rivers Alliance of CT

The Nature Conservancy - Connecticut

UConn Center for Land Use Education & Research (CLEAR)

UConn Nonpoint Education for Municipal Officials (NEMO)

Open Space Commission page links:

Nature Conservancy

Land Steward Job Description

Town Ordinances

CT River Gateway

Public Works page links:

2015 Transfer Station Schedule

Town Ordinances

Household Hazardous Waste Facility

2015 Household Hazardous Waste Collection Schedule

Recycle Pickup Schedule

Reducing Greenhouse Gas Emissions

New Automated Single Stream Recycling and Holiday Trash Pickup Schedule

Trash Pick Up Schedules

Old Lyme Snow Plowing Policy

Trash and Recycling page links:

Old Lyme Sanitation

2015 Household Hazardous Waste Collection Schedule

Recycle Schedule

Recycling Incentive Grant Committee

Trash Pick Up Schedule

Curbside Single Stream Recycling

Water Pollution Control Authority page links:

Town Ordinances
Local vs. Regional Wastewater Treatment
Wastewater Facilities Plan
Wastewater Project Process

Zoning page links

Old Lyme Zoning Regulations
Town Ordinances

Minimum Control Measure No. 2 - Public Participation/Involvement

Continued to involve Town residents in the Household Hazardous Waste, Electronics Collection, Recycling Program and the Bulky Waste Programs.

Continued to involve Town Residents in the Leaf Disposal Program.

Continued to recommend that grass clippings be composted on each property as grass clippings are not accepted at the Transfer Station Facility and cannot be deposited in the automated trash or recycling containers.

The Old Lyme Land Trust holds monthly volunteer work parties to maintain trails in the nature preserves and manage invasive plants on the third Sunday of every month.

Minimum Control Measure No. 3 - Illicit Discharge Detection and Elimination

An IDDE Ordinance was adopted at the Annual Town Meeting of the Town of Old Lyme on January 22, 2007 and is included as Chapter 142 - Stormwater Management of the Town of Old Lyme Ordinances.

An illicit discharge is defined as either of the following:

Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system, including but not limited to any conveyances which allow any non-stormwater discharge, including sewage, process wastewater, and wash water, to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency; or

Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

IDDE measures implemented included repairs to failing subsurface sewage disposal systems by the Old Lyme Health Department.

Continued to enforce the Littering Ordinance.

Continued to maintain the WPCA seven year septic tank pumpout program.

MS4 stormwater outfall mapping and attribute recording was completed by Nathan L. Jacobson & Associates, Inc. The outfall mapping will be field checked for quality control and the MS4 outfall locations will be imported into the Town of Old Lyme GIS database in 2016.

Minimum Control Measure No. 4 - Construction Site Runoff Control

Section 4.13 of the Zoning Regulations of the Town of Old Lyme encourages the use of Best Management Practices in the design, construction and maintenance of stormwater management systems to minimize, treat and prevent and/or reduce degradation of water quality and flooding potential, due to stormwater runoff from development and includes specific references to the following documents:

Connecticut Department of Transportation Drainage Manual, October 2000, as amended

2004 Connecticut Stormwater Quality Manual, as amended

2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended

Design and Construction Standards of the Town of Old Lyme, Connecticut, incorporating Policies, Rules and Procedures for the Administration of "An Ordinance Concerning the Construction and Acceptance of Roads in the Town of Old Lyme", Adopted December 14, 1998, Effective January 12, 1999, as amended.

Continued with the Qualifying Local Program with respect to Construction Site Runoff Control as contained in the land use regulations.

Minimum Control Measure No. 5 - Post-Construction Site Runoff Control

Continued to make Design Engineers and Developers aware of stormwater quality management by referencing the CTDEP publication *2004 Connecticut Stormwater Quality Manual* as well as other low impact development best management practices.

Continued to encourage Design Engineers and Developers to utilize water quality basins, primary and secondary stormwater treatment practices and/or infiltration facilities for stormwater quantity and quality management, where appropriate.

Minimum Control Measure No. 6 - Pollution Prevention/Good Housekeeping

Road sweeping of all municipal roads was completed with a town owned road sweeper. Road sweeping began in the middle of April and was completed in the middle of June. The late start of road sweeping was due to the harsh winter snow accumulation. Roads that were more prone to sediment or debris accumulations were swept at least twice. The road sweepings are taken to the Department of Public Works Facility on Machnik Drive and stockpiled.

Ed Adanti, Public Works Director estimated the total number of drainage structures (catch basins and storm manholes) to be approximately 650.

360 municipal catch basins and storm manholes located on the north section of town were vactored in 2015. As a general rule, the dividing line between the northerly portion of town and the southerly portion of town is I-95. The town subcontracted Wethersfield Sweeping Services to vactor drainage structures. An employee of the Public Works Department witnesses all vactoring operations on a full time basis and the vactored materials are stockpiled at the DPW Facility on Machnik Drive. Vactoring of the drainage structures began in early August and was completed by the end of September.

Road deicing mix for the 2014-2015 winter consists of a mixture of three parts sand to one part of salt (sodium chloride). Mixing is done with a front end loader and the deicing mixture is stored in a storage shed with a bituminous concrete floor.

The road deicing mixture is spread with five snow plow/spreaders. Four of the snow plow/spreaders have a computerized deicing mixture application program which is ground speed controlled. The road deicing mixture is typically applied at a rate ranging from a minimum of 150 pounds per lane mile to a maximum of 200 pounds per lane mile. The other snow plow/spreaders has a manually controlled deicing mixture application rate settings.

Dr. Jerry Silbert of the Watershed Partnership volunteered to develop and guide an organic based IPM method at the Town Woods Park Athletic Fields. The Town of Old Lyme and Town of Lyme continued to maintain organic Integrated Pest Management program on all of the fields at Town Woods Park and all school grounds. The organic based IPM program was continued in 2015 by the Board of Selectmen, Director of Parks & Recreation and a subcontracted landscaping.

Stormwater Sampling

Two rounds of six MS4 stormwater outfall samples were obtained in 2015 by Nathan L. Jacobson & Associates, Inc. The sampling locations consisted of five outfalls located in Residential Zones and one outfall located in a Light Industrial Zone as follows.

One round of six MS4 stormwater outfall samples was obtained on August 11, 2015. Five MS4 stormwater outfall samples were obtained from residential zone MS4 stormwater outfalls and one MS4 stormwater sample was obtained from a light industrial zone stormwater outfall. The MS4 outfall sampling locations are described as follows:

Outfall No. 1 - R1 N 41.34853 W -72.34188
RU-80 Residential Zone
15-Inch Diameter Reinforced Concrete Pipe
Southerly Cross Culvert Headwall (East) on Coult Lane

Outfall No. 2 - R2 N 41.34840 W -72.34180
RU-80 Residential Zone
15-Inch Diameter Reinforced Concrete Pipe
Southerly Cross Culvert Headwall (West) on Coult Lane

Outfall No. 3 - R3 N 41.30722 W -72.32500
RU-40 Residential Zone
15-Inch Diameter High Density Polyethylene Pipe
Headwall to Golf Course Pond South of Johnnycake Lane

Outfall No. 4 - R4 N 41.31283 W -72.31208
R-20 Residential Zone
15-Inch Diameter Corrugated Metal Pipe
Concrete Block Headwall on Pine Road at Cul-de-Sac

Outfall No. 5 - R5 N 41.34635 W -72.32853
RU-80 Residential Zone
15-Inch Diameter Corrugated Aluminum Metal Pipe
Concrete Block Headwall on the northerly side of Saunders Hollow Road

Outfall No. 6 - LI-80SN 41.32127 W -72.26247
Light Industrial Zone
15-Inch Diameter Reinforced Concrete Pipe
Flared End Section on the southerly side of Hatchetts Hill Road at Easterly Sag Curve

Rainfall from the August 11th rainfall event was measured as 2.01 inches at the Bradley International Airport National Weather Service NOAA weather station. The duration of the storm was approximately 6 hours. The previous rainfall event of at least 0.10" occurred on July 30, 2015.

The six MS4 Stormwater Monitoring Report Forms for the August 11, 2015 sampling event were hand delivered to Bonnie Reemsnyder, First Selectwoman, on October 20, 2015, for her signature as Authorized Official.

The pdfs of the original signed and dated Stormwater Monitoring Report Forms were electronically submitted to Chris Stone MS4 Permit Coordinator of the CTDEEP on October 22, 2015.

One additional round of six MS4 stormwater outfall samples was also obtained on October 28, 2015 from the same outfalls as referenced above.

Rainfall from the October 28, 2015th rainfall event was measured as 1.09 inches at the Bradley International Airport National Weather Service NOAA weather station. The duration of the storm was approximately 18 hours. The previous rainfall event of at least 0.10" occurred on October 09, 2015.

The six MS4 Stormwater Monitoring Report Forms for the October 28, 2015 stormwater sampling event were hand delivered to Bonnie Reemsnyder, First Selectwoman, on November 24, 2015, for her signature as Authorized Official.

The pdfs of the original signed and dated Stormwater Monitoring Report Forms were electronically submitted to Chris Stone, MS4 Permit Coordinator of the CTDEEP on December 4, 2015.

It is anticipated that three additional rounds of MS4 stormwater outfall sampling will be conducted in calendar year 2016 to fulfill the outfall sampling requirements to the end of the 2016 calendar year.

Electronic Annual Report Certification Form

A pdf of the 2015 Electronic Annual Report Certification Form will be forwarded to Chris Stone, MS4 Permit Coordinator of the CTDEEP via e-mail in May 2016.



Town of Old Lyme, Connecticut

Municipal Separate Storm Sewer Systems (MS4) Stormwater Management Plan (SMP)

Permittee Information

Registrant: **Town of Old Lyme, CT**

Permit Number: **GSM 000032**

Name of Chief Elected Official: Timothy C. Griswold, First Selectman

Mailing Address: 52 Lyme St., Old Lyme, CT 06371

Business phone: 860.434.1605 ext. 210, 211, 212

Name of preparer: Frederick T. Crosby

Website: www.oldlyme-ct.gov

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Executive Summary

In accordance with the State of Connecticut's Department of Environmental Protection (CTDEP), Bureau of Water Management, Permitting and Enforcement Division, under the Annual Reporting requirement of Section 6(i)(2) of the General Permit for Discharge of Stormwater from Small Separate Storm Sewer Systems, the following Stormwater Management Plan is submitted.

The Town of Old Lyme's standing water quality management practices, instituted by the Inland Wetlands Commission, established in 1972, the Planning Commission, established in 1954, the Water Pollution Control Authority, established in 1995, the Town Sanitarian, and the Board of Health have long established the requirements for water quality in Old Lyme. The Rogers Lake Authority, established in 1975, coordinates matters of water quality in Rogers Lake.

This Stormwater Management Plan (SMP) prepared under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4), seeks to innumerate the water quality measures already in place in Old Lyme under present regulations and to demonstrate the success of newer standards issued under the present permit.

Where possible, at this early state of compliance with the new standards, results of testing and observation will be included. Old Lyme's WPCA, and Health Department have been making progress in water quality monitoring since water testing started in 1995 through the services of the Nathan L. Jacobson and Associates, Inc., of Chester, Connecticut. Water is tested yearly at over 10 sites within the Urban Designated Area in Old Lyme.

The WPCA instituted mandatory pumping and inspection of all septic systems in town every seven years. Water quality is also monitored at the Town Garage and Landfill under the DEP permits issued to the Town of Old Lyme' Public Works Department with monitoring supplied by the Anchor Engineering Services, Inc. of Glastonbury, CT.

At this writing, the Best Management Practices, BMP's, now being instituted will cover the areas heretofore unmonitored as well as those mandated in other areas of Old Lyme. As population density grows, the popularity of fertilizers, cleaning chemicals, combined with the increases of particulates and photo chemicals in air pollution from upwind urban centers near and far will only increase the measures needed to maintain the present stormwater quality in Old Lyme.

Stormwater Management Plan (SMP) Minimum Control Measures

Minimum Control Measure No. 1 - Public Education and Outreach

1-1 Direct coordination efforts with neighboring Regional Planning Agencies (RPA's) through Gateway Commission

Responsible Department or Person: Connecticut River Estuary Regional Planning Authority-Gateway Commission

Measurable Goal: Unification of sources of information

Narrative: An informed and knowledgeable community is crucial to the success of a storm water management program since it helps to ensure the following:

1. Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. Public support is particularly beneficial when operators of small MS4s attempt to institute new funding initiatives for the program or seek volunteers to help implement the program; and
2. Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

Activities planned in 2004

- Air the radio PSA aired promoting storm water program participation.
- Community Clean-ups
- Develop educational resources
- Create Volunteer organizations
- Establish Citizen Watch Groups
- Distribute copies of "Clean Water" bookmark produced by the Old Lyme Conservation Commission.

Activities, and changes, planned in 2005: Create and publish information on Illicit Discharge Detection and Elimination (IDDE) and Better Housekeeping methods

1-2 Sound View Beach Community Center "Meet and Greet"

Responsible Department or Person: Conservation Committee

Measurable goal: Information distribution

Narrative: The beach community will be informed of efforts being implemented and enforced by the town to identify illicit discharges and other forms of stormwater or groundwater pollution.

Old Lyme is a beach community. Materials for distribution will be assembled along with a Public Service Announcement for broadcast by local radio stations and the town's website, www.oldlyme-ct.gov.

Activities planned for 2004:

- Create a Volunteer Organization
- Establish Citizen Watch Groups

Activities, and changes, planned for 2005: as needed, continue to monitor neighborhoods.

1-3 Homeowner Associations

Responsible Department or Person: Health Department

Measurable goal: Information distribution

Narrative: Materials are being readied for distribution to summer beach community inhabitants on their return. Materials include those distributed by the CTDEP on an EPA CD-Rom, Stormwater Outreach Materials.

Activities planned for this year: Neighborhood organizations in our town need to have a specific plan brought to them outlining what stormwater quality standards are to be met under the permit. There are private associations and beach associations where the properties back up on streams and rivers that drain into Long Island Sound or the Connecticut River.

Activities, and changes, planned for next year: First, to meet with, and distribute information to as many neighborhoods as there are in the Urbanized Area (UA) and, second, to continue distributing information to those outside the UA.

1-4 Park and Recreation Program, Town of Old Lyme

Responsible Department or Person: Park and Rec. Department, Town of Old Lyme

Measurable goal: Information distribution

Narrative: Information to be brought home will be ready for distribution to all High School students.

Programs at other school venues will be made available as the materials are developed

Old Lyme's Conservation Commission made a recommendation to the Old Lyme Park and Recreation Committee to adopt a "no chemicals" approach to maintaining the new public playing fields at Town Woods Road as well as all of the schools athletic fields in Lyme and Old Lyme.

As a result of this recommendation a Pesticide Awareness Committee has been formed. The group will bring to the public recommendations not to apply or distribute pesticides for use on public property. A prominent epidemiologist from Yale University, New Haven, Connecticut, has been asked to speak to the PAC. and to those concerned with turf management for the local school district.

1-5 Park and Recreation Program, Town of Old Lyme

Activities planned for this year: Continue to:

1. Implement public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce storm water pollution; and
2. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Activities, and changes, planned for next year: Have the newly formed Town of Old Lyme Pesticides Awareness Committee meet with and distribute their information to schools, associations, and other town organizations.

1-6 School Programs led by PTA and School Principals

Responsible Department or Person: PTA and Regional School District 18 School Principals

Measurable goal: Information distribution. Curriculums for "at home" and "in school" programs to be developed.

Narrative: As the town develops an approach to BMP's to be used at home, i.e. fertilizer alternatives, alternatives to large lawns, watering routines, types of rodent and pest inhibitors in use, the programs will be seeking classroom time. The Regional School District 18, Old Lyme, has an extra curricular program called "Green Crew." These young volunteers work on various conservation projects with the local conservation group, the Old Lyme Conservation Trust, Inc., www.old-lymeconservtrust.org, to clear and maintain open spaces. The "Green Crew" has been active for four years and was the brainchild of then sophomore Ben Conniff who chose conservation as his community project. Since then, a total of almost twenty students have come out to work. Together the group has performed Connecticut River cleanups in coordination with the Connecticut River Watershed Council, blue bird house construction, trail building and open space clearing.

1-7 School Programs led by PTA and School Principals

Activities planned for 2004: Bring learning from the classroom to the home environment.

Activities, and changes, planned for 2005: Attempt to integrate the Green Crew and High School students taking environmental science for Credit. This program will seek to employ the methods outlined in course materials included in the following course description:

NL - ENVIRONMENTAL SCIENCE
Grades 10-12 - Either Semester - 1/2 Credit

An interdisciplinary course integrating the sciences and social studies. The course will address global environmental concerns as well as local issues. Students will explore how scientific data is used to generate public policy and environmental law. Topics will include environmental degradation, natural resource management, pollution, population, global warming, and nuclear power as well as student-generated concerns. Students will explore conflicts between ethical concerns about the environment and economic needs of a community through debate, research, and communication with local officials and lawmakers. Research and communication over the Internet will play an important part of this course. A prior course in Biology is recommended.

Minimum Control Measure No. 2 - Public Participation/Involvement

2-1 Develop Public Participation/Involvement Program

Responsible Department or Person: Regional School District 18 in conjunction with Old Lyme Conservation Commission, Pesticide Awareness Committee, and the Old Lyme Conservation Trust, Inc.

Measurable goal: EPA believes that the public can provide valuable input and assistance to a regulated small MS4's municipal storm water management program and, therefore, suggests that the public be given opportunities to play an active role in both the development and implementation of the program. An active and involved community is crucial to the success of a storm water management program because it allows for:

1. Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation;
2. Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers;
3. A broader base of expertise and economic benefits since the community can be a valuable and free intellectual resource; and
4. A conduit to other programs as citizens involved in the storm water program development process will provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by EPA.

Narrative: To accomplish this minimum control measure the Town of Old Lyme must:

1. Comply with applicable State, Tribal, and local public notice requirements; and
2. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

The town website has been established. The town has also recently contracted to establish a GIS which, upon completion, will be web based and available to all with a connection to the internet. The web site will

be used for displaying and printing information on wetlands, conservation areas, aquifer protection areas, water companies, zoning, and other data as it becomes available.

Activities planned for 2004: to produce a video/PowerPoint presentation to bring community in touch with its environment. Viewing of the material over the local cable TV outlet, Channel 26, will be considered.

Activities, and changes, planned for 2005: a continuation of successful programs instituted during the year.

2-2 Comply with State, and Local Public Notice, and FOI Requirements

Responsible Department or Person: IT Services and Office of the First Selectman.

Measurable goal: Comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program.

Narrative: The Town of Old Lyme must meet and comply with all regulations under the MS4 permit. This is to be accomplished through:

- Public meetings
- Community Clean-ups
- Development of educational resources
- Storm Drain stenciling
- Citizen Watch groups

Activities planned for 2004: create the required resources.

Activities, and changes, planned for 2005: Continue to implement those incomplete programs started this year.

2-3 Set Measurable Goals for Neighborhoods.

Responsible Department or Person: IT Services, Chamber of Commerce, scouts.

Measurable goal: leadership designation.

Narrative: As the MS4 programs, with reference to local ordinances and recommended practices, become known in town, public participation will need to be kept track of and kept up to date the regulatory measures outlined in the permit.

Activities planned for 2004: Meet and greet to introduce Stormwater management techniques and to distribute program materials to local beach groups and neighborhood associations.

Activities, and changes, planned for 2005: Continue programs started in 2004.

2-4 News and Civic Organization Programs.

Responsible Department or Person: IT Services, beach associations, and country club.

Measurable goal: Leadership designation

Narrative: With the help of the local beach associations, local civic organizations, country and beach club boards the stormwater programs will receive needed notice.

Activities planned for 2004: From the EPA Stormwater Outreach Materials CD-ROM print and distribute all applicable materials to newspapers, civic organizations, libraries, public forums and institutions.

Activities, and changes, planned for 2005: continue posting materials.

2-5 Storm Drainage Structure Stenciling

Responsible Department or Person: IT Services, Department of Public Works, along with enlisted volunteer groups such as Boy and Girl Scouts, local PTO groups, and beach associations.

Measurable goal: Improve public awareness of the hazards of illicit connections to storm drains and to the hazards of continued pollution, and subsequent effects it has on our local streams and rivers and on Long Island Sound.

Narrative: The EPA distributed kits for stenciling and marking town wide storm drains will be made available and installed by the town DPW and other groups as needed.

Activities planned for 2004: stencil storm drains.

Activities, and changes, planned for 2005: maintain the stenciled storm drains.

Minimum Control Measure No. 3 - Illicit Discharge Detection and Elimination (IDDE)

3-1 Map MS4 Stormwater Outfalls with a Diameter of 15" or Larger in the Urbanized Area (Year 2 – 2005)

Responsible Department or Person: IT Services, DPW

Measurable goal: Mapping of the storm water drain facility.

Narrative: Mapping the outfalls has already started with catch basins and outfalls mapping. The mandated location map for those outfall pipes with a diameter of 15" or larger will be completed in 2005. IT Services has set about to develop the map based on GPS coordinates with descriptions entered into a data base and displayed using Microsoft MapPoint software, Expert GPS and ESRI Arcmap programs.

Activities planned for 2004: The newly contracted GIS for the town will be a web based mapping system available at any internet connection.

Activities, and changes, planned for 2005: Continue to implement MS4 programs.

3-2 Map MS4 Stormwater Outfalls with a Diameter of 15" or Larger Town-Wide (Year 3 – 2006)

Responsible Department or Person: IT Services

Measurable goal: Comply with the mapping prerequisite for year 3 (2006) of the CTDEP MS4 Permit.

Narrative: The mapping of the storm water sewer outfalls in those areas outside of the urban designated area will be completed by the end of year three. Progress towards that goal has already been made.

Activities planned for 2004: As time permits, mapping will proceed along the same lines as in the Urbanized Area using MapPoint software and GIS when it becomes available.

Activities and changes planned for 2005: Continue mapping outfalls.

3-3 Map MS4 Stormwater Outfalls with a Diameter of 12" or Larger in the Urbanized Area (UA) (Year 4 - 2007))

Responsible Department or Person: IT Services

Measurable goal: Identify locations

Narrative: The mapping of the storm water sewer outfalls in those areas inside of the urban designated area will be completed. Progress towards that goal has already been made.

Activities planned for 2004: This phase of the MS4 stormwater outfall mapping is not scheduled to start until 2007.

Activities, and changes, planned for 2005: This phase of the MS4 stormwater outfall mapping is not scheduled to start until 2007.

3-4 Develop and Implement a Program to Detect and Eliminate Illicit Discharges

Responsible Department or Person: IT Services, DPW, Health Department and the Board of Selectmen.

Measurable goal: Develop a program to identify and eliminate all illicit discharges town wide.

Narrative: An information Management System will be developed to document all important information gathered concerning illicit discharge detection, elimination and actions taken. This information will be included in annual reports and will detail the following:

1. The number of Outfalls Screened
2. The number of illicit discharges discovered during outfall screening.
3. The number of illicit discharges discovered as a result of citizen complaints.
4. The number of illicit discharges that were resolved.
5. The number of Dye or Smoke tests conducted.

Activities planned for 2004: Determine where potential illicit discharges and conduct testing.

Activities, and changes, planned for 2005: Continue identifying and monitoring all illicit discharge sites.

3-5 Develop Illicit Discharge Detection and Elimination Ordinance

Responsible Department or Person: Board Selectmen, WPCA and Town Legal Counsel.

Measurable goal: Develop an ordinance or other regulatory mechanism that will prohibit (to the extent allowable under State, Tribal, or local law) all illicit discharges. This ordinance will include appropriate enforcement procedures and actions such as:

1. Fines
2. Civil Penalties

Narrative: The WPCA will determine from Old Lymes' regulations and ordinances already in effect what improvements to those ordinances to make in order to comply with the MS4 permit using examples provided on the EPA CD-ROM, Stormwater Outreach Materials, 833-C-03-001 February 2003, or

[http://www.stormwatercenter.net/Model_Ordinances/Final
Illicit_Connection_Ordinances/illicit_discharge_model_ordinanc.htm](http://www.stormwatercenter.net/Model_Ordinances/Final_Illicit_Connection_Ordinances/illicit_discharge_model_ordinanc.htm)

Activities planned for 2004: Preparation is due to start in the fall of 2005 to meet the requirements establishing an ordinance as outlined in the MS4 permit.

Activities, and changes, planned for 2005: Finalize and submit an ordinance for approval.

Minimum Control Measure No. 4 - Construction Site Runoff Control

4-1 Review Land Use Regulations to Meet the Requirements of the MS4 Permit and Soil Erosion and Sediment Control Guidelines.

Responsible Department or Person: Zoning Enforcement Officer, Inland Wetlands Commission, Building, Zoning Department, and Conservation Commission.

Measurable goal: The enforcement of Illicit Discharge Ordinance

Narrative: The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutants in storm water runoff to their MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.

The small MS4 operator is required to:

1. Have an ordinance or other regulatory mechanism requiring the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites;
2. Have procedures for site plan review of construction plans that consider potential water quality impacts;
3. Have procedures for site inspection and enforcement of control measures;
4. Have sanctions to ensure compliance (established in the ordinance or other regulatory mechanism);
5. Establish procedures for the receipt and consideration of information submitted by the public; and
6. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Activities planned for 2004: Review and recommend regulatory statutes to the Board of Selectmen.

Activities, and changes, planned for 2005: Enact a suitable ordinance or regulation.

Minimum Control Measure No. 5 - Post Construction Runoff Control

5-1 Review Land Use Regulations to Meet the Requirements of the MS4 Permit and 2002 Soil Erosion and Sediment Control Guidelines.

Responsible Department or Person: Old Lyme Erosion Control Board, Zoning Enforcement Office, and Inland Wetlands Commission.

Measurable goal:

1. Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMP's);
2. Have an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls to the extent allowable under State, or local law,
3. Ensure adequate long-term operation and maintenance of controls,
4. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Narrative: Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to effect receiving water bodies significantly. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost-effective approach to storm water quality management.

There are generally two forms of substantial impacts of post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, streams, (and rivers). Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans. The second kind of post-construction runoff impact occurs by increasing the quantity of water delivered to the water body during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water. The effects of this process include stream bank scouring and downstream flooding, which often lead to a loss of aquatic life and damage to property.

Reference: EPA: www.epa.gov/region8/water/stormwater

Activities planned for 2004: Review regulations in effect at this time.

Activities, and changes, planned for 2005: Continue to review regulations in effect at this time.

5-2 Develop a Post-Construction Stormwater Management Ordinance or Regulation

Responsible Department or Person: Zoning Enforcement Officer, Building Department

Measurable goal: Ordinance or Regulation to:

1. Preserve existing vegetation
2. Divert upland runoff around exposed soil
3. Seed/mulch bare soil
4. Use sediment barriers
5. Protect slopes/channels from gullyling
6. Install sediment traps/basins
7. Preserve vegetation near all waterways

Reference:<http://www.epa.gov/region08/water/stormwater/presentations/Best%20Management%20Practices%20for%20Construction.pdf>.

Narrative: Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to effect receiving water bodies significantly. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost-effective approach to storm water quality management.

There are generally two forms of substantial impacts of post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans. The second kind of post-construction runoff impact occurs by increasing the

quantity of water delivered to the water body during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water. The effects of this process include stream bank scouring and downstream flooding, which often lead to a loss of aquatic life and damage to property.

Reference: *EPA: www.epa.gov/region8/water/stormwater*

Activities planned for 2004: Develop the necessary post-construction ordinance.

Activities, and changes, planned for 2005: Enact the post-construction ordinance.

5-3 Develop and Implement Post-Construction Stormwater Management BMP strategy

Responsible Department or Person: Inland Wetlands Commission, ZEO.

Measurable goal:

1. Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMP's);
2. Implement an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls to the extent allowable under State or local law;
3. Ensure adequate long-term operation and maintenance of controls;
4. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Narrative: Implementation of the BMP's outlined in 5-2, Develop post-construction ordinance or regulation that will insure that future construction will be conducted according to a standard required in the permit.

Activities planned for 2004: Review, create, if necessary, and implement the BMP's for post-construction.

Activities, and changes, planned for 2005: Continue development of BMP's.

5-4 Develop Program to Ensure Long-Term Operation and Maintenance of Stormwater BMP's

Responsible Department or Person: Inland Wetlands Commission, ZEO, Board of Selectmen, and Building Department.

Measurable goal: Sustainable growth with protections for the environment.

Narrative: Using experience gained from years of monitoring development and adverse impact from under-managed development, the Town of Old Lyme will be able to preserve the character of the town while accommodating future development.

Recognizing the benefits of pollution prevention practices, the rule requires an operator of a regulated small MS4 to:

1. Develop and implement an operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system;
2. Include employee training on how to incorporate pollution prevention/good housekeeping techniques into municipal operations such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. To minimize duplication of effort and conserve resources, the MS4 operator can use training materials that are available from EPA, their State or Tribe, or relevant organizations;
3. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Reference: www.epa.gov/region8/water/stormwater

Activities planned for 2004:

- Continue evaluating the progress made from monitoring in-place and of regulation enforcement to determine if the mandates of the permit are being met.
- An information management system will be put in place that can be used to track the inventory of stormwater facilities and outfalls. This system will be used by staff to schedule and perform inspections, maintenance activities and document any other actions taken on these inventory items.

Activities, and changes, planned for 2005: N/A

Minimum Control Measure No. 6 – Pollution Prevention/Good Housekeeping

6-1 Develop a Training Program for Municipal Employees

Responsible Department or Person: Department of Public Works, IT Services

Measurable goal: Training of Department members will provide better implementation of required BMP's.

Narrative: The permit defines specific BMP's to be carried out within the Urbanized Area that includes additional street sweeping and outfall monitoring. Without having trained the personnel involved the elimination of illicit discharges and storm water system facilities will not meet standards.

Activities planned for 2004: Develop a collection of training materials that will be used to educate staff about pollution prevention and good housekeeping. These resources will come from applicable external sources, such as the EPA, and may be supplemented with materials developed by our own organization.

Activities, and changes, planned for 2005: Continue implementation of the good housekeeping methods.

6-2 Sweep Streets at Least Once per Year as Soon as Possible after Snowmelt

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: Training of Department members will provide better implementation of required BMP's.

Narrative: The town has in place a rigorous street sweeping and maintenance program. Sweep residual sand as soon as possible in the spring of each year or as needed.

Activities planned for 2004: Continue to develop a collection of training materials that will be used to educate municipal employees.

Activities, and changes, planned for 2005: Continue implementation of the good housekeeping methods.

6-2 Evaluate Urbanized Area for Possible Street Sweeping More than One Time a Year.

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: A proper evaluation of performance will continue the programs' success.

Narrative: As the success of the street sweeping program is evaluated further scheduling of sweeping activities, storm drain cleaning, and maintenance of the stormwater sewer will be evaluated

Activities planned for 2004: Finalize the maintenance plan and schedule that will be put in place for management of BMP's. Integrate this plan into the information management system.

Activities, and changes, planned for 2005: Continue, as needed, expanding the sweeping program.

6-3 Develop Program to Evaluate and Clean Stormwater Structures at Least One Time a Year.

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: To monitor and maintain the stormwater structures.

Narrative: As the plan of stormwater outfalls becomes established, the maintenance of the facility will require a program for cleaning and maintenance.

Activities planned for 2004: Create the outfall map within the Urbanized Area.

Activities, and changes, planned for 2005: Continue, as needed, expanding the sweeping and facility maintenance program.

6-4 Develop a Program to Evaluate and to Prioritize Stormwater Systems for Upgrade and Repair.

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: On a yearly basis, study the prior BMP's (6-4) progress and to schedule, and budget maintenance to the stormwater structures.

Narrative: Repairs, when needed, usually involve development of plans. Budgeting requires a program for year-to-year maintenance.

Activities planned for 2004: Develop a program for stormwater facility evaluation, budgeting, and prioritizing.

Activities, and changes, planned for 2005: Continue evaluating system maintenance efficiency.

MS4 Stormwater Outfall Monitoring

Annual Sampling of MS4 Stormwater Outfalls

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: Establish a yearly maintained record of water quality results taken at six MS4 stormwater sampling points within the town.

Narrative: Six MS4 stormwater outfalls were selected within the designated Urban Designated Area, two outfalls within a commercial zone, two within a residential zone, and two within an industrial zone.

Activities planned for 2004: as required by Section 6, 6(h) of the General Permit, the prescribed monitoring will be carried out.

Activities, and changes, planned for 2005: Sampling locations may be changed due to poor accessibility, lack of free discharging conditions in tidal areas due to tidal backwatering, and dangerous sampling conditions.



Town of Old Lyme, Connecticut

Annual Report – Municipal Separate Storm Sewer Systems.

Permittee Information

Registrant: **Town of Old Lyme, CT**

Permit Number: **GSM 000-032**

Name of Chief Elected Official: Timothy C. Griswold, First Selectman

Mailing Address: 52 Lyme St., Old Lyme, CT 06371

Business phone: 860.434.1605 ext. 210, 211, 212

Name of preparer: Frederick T. Crosby

Website: www.oldlyme-ct.gov

Reporting period: **2004**

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Executive Summary

In accordance with the State of Connecticut's Department of Environmental Protection (CTDEP), Bureau of Water Management, Permitting and Enforcement Division, under the Annual Reporting requirement of Section 6(i)(2) of the General Permit for Discharge of Stormwater from Small Separate Storm Sewer Systems, the following Annual Report is submitted covering the year 2004.

The Town of Old Lyme's standing water quality management practices, instituted by the Inland Wetlands Commission, established in 1972, the Planning Commission, established in 1954, the Water Pollution Control Authority, established in 1995, the Town Sanitarian, and the Board of Health have long established the requirements for water quality in Old Lyme. The Rogers Lake Authority, established in 1975, coordinates matters of water quality in Rogers Lake.

This Annual Report, the first of such reports prepared under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, seeks to innumerate the water quality measures already in place in Old Lyme under present regulations and to demonstrate the success of newer standards issued under the present permit. Where possible, at this early state of compliance with the new standards, results of testing and observation will be included. Old Lyme's WPCA, and Health Department have been making progress in water quality monitoring since water testing started in 1995 through the services of the Nathan L. Jacobson and Associates Company of Chester, CT. Water is tested yearly at over 10 sites within the Urban Designated Area in Old Lyme. The WPCA instituted mandatory pumping and inspection of all septic systems in town every seven years. Water quality is also monitored at the Town Garage and Landfill under the DEP permits issued to the Town of Old Lyme' Public Works Department with monitoring supplied by the Anchor Engineering Services, Inc. of Glastonbury, CT.

At this writing, the Best Management Practices, BMP's, now being instituted will cover the areas heretofore unmonitored as well as those mandated in other areas of Old Lyme. As population density grows, the popularity of fertilizers, cleaning chemicals, combined with the increases of particulates and photo chemicals in air pollution from upwind urban centers near and far will only increase the measures needed to maintain the present stormwater quality in Old Lyme.

Best Management Practices

I. Minimum Control Measure #1

Public Education

1-1 Direct coordination efforts with neighboring Regional Planning Agencies (RPA's) through Gateway Commission

Responsible Department or Person: Connecticut River Estuary Regional Planning Authority-Gateway Commission

Measurable Goal: Unification of sources of information

Narrative: Quote EPA “An informed and knowledgeable community is crucial to the success of a storm water management program since it helps to ensure the following:

1. Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. Public support is particularly beneficial when operators of small MS4s attempt to institute new funding initiatives for the program or seek volunteers to help implement the program; and
2. Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

Activities planned for this year:

- Re-air the radio PSA aired promoting storm water program participation.
- Community Clean-ups
- Develop educational resources
- Create a Volunteer organization
- Establish Citizen Watch Groups
- Distribute copies of “Clean Water” bookmark produced by the Old Lyme Conservation Commission. (Attachment C.)

Activities, and changes, planned for next year: Create and publish information on Illicit Discharge Detection and Elimination and better Housekeeping methods

1-2 Sound View Beach Community Center “Meet and Greet”

Responsible Department or Person: Conservation Committee

Measurable goal: Information distribution

Narrative: Although the Community Center failed to open this year due to lack of funding, the beach community will be informed of efforts being implemented and enforced by the town to identify illicit discharges and other forms of pollution.

This is a summer community which becomes active during the early spring. Materials for distribution are being assembled along with a Public Service Announcement (a PSA included with this report) for broadcast by local radio stations and the town's website, www.oldlyme-ct.gov. Although our Best Management Practices Timeline, BMPT, called for distribution of materials in the fall only the PSA aired in WNLC.

Activities planned for this year:

- Create a Volunteer organization
- Establish Citizen Watch Groups

Activities, and changes, planned for next year: as needed, continue to monitor neighborhoods.

1-3 Home Owner Associations

Responsible Department or Person: Health Department

Measurable goal: Information distribution

Narrative: These are seasonal communities, and materials are being readied for distribution to summer inhabitants on their return. Materials include those distributed by the EPA on CD-Rom, Stormwater Outreach Materials

Activities planned for this year: neighborhood organizations in our town need to have a specific plan brought to them outlining what stormwater quality standards are to be met under the permit. There are private associations and beach associations where the properties back up on streams and rivers that drain into Long Island Sound or the Connecticut River.

Activities, and changes, planned for next year: First, to meet with, and distribute information to as many neighborhoods as there are in the Urban Designated Area and, second, to continue distributing information to those outside the UDA.

1-4 Park and Recreation Program, Town of Old Lyme

Responsible Department or Person: Park and Rec. Department, Town of Old Lyme

Measurable goal: Information distribution

Narrative: Information to be brought home is being readied for distribution to all High School students.

Programs at other school venues will be made available as the materials are developed (BMP MCM#1, 1-5).

Old Lyme's Conservation Commission made a recommendation to the Old Lyme Park and Recreation Committee to adopt a "no chemicals" approach to maintaining the new public playing fields at Town Woods Road as well as all of the schools athletic fields in Lyme and Old Lyme. As a result of this recommendation a Pesticide Awareness Committee has been formed. The group will bring to the public recommendations not to apply or distribute pesticides for use on public property. A prominent epidemiologist from Yale University, New Haven, Connecticut, has been asked to speak to the PAC. as well as to those concerned with turf management for the local school district.

1-4 Park and Recreation Program, Town of Old Lyme

Activities planned for this year: Continue to:

1. Implement public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce storm water pollution; and
2. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Activities, and changes, planned for next year: Have the newly formed Town of Old Lyme Pesticides Awareness Committee meet with and distribute their information to schools, associations, and other town organizations.

1-5 School Programs led by PTA and school principals

Responsible Department or Person: PTA and District 18 school principals

Measurable goal: Information distribution. Curriculums for “at home” and “in school” programs to be developed.

Narrative: As the town develops an approach to BMP’s to be used at home, i.e. fertilizer alternatives, alternatives to large lawns, watering routines, types of rodent and pest inhibitors in use, the programs will be seeking classroom time. The High School of Region District 18, Old Lyme, has an extra curricular program called “Green Crew.” These young volunteers work on various conservation projects with the local conservation group, the Old Lyme Conservation Trust, Inc., www.old-lymeconservtrust.org, to clear and maintain open spaces. The “Green Crew” has been active for four years and was the brainchild of then sophomore Ben Conniff who chose conservation as his community project. Since then, a total of almost twenty students have come out to work. Together the group has performed Connecticut River cleanups in coordination with the Connecticut River Watershed Council, blue bird house construction, trail building and open space clearing.

1-6 School Programs led by PTA and school principals

Activities planned for this year: Bring learning from the classroom to the home environment.

Activities, and changes, planned for next year: Attempt to integrate the Green Crew and High School students taking environmental science for Credit. This program will seek to employ the methods outlined in course materials included in the following course description:

NL - ENVIRONMENTAL SCIENCE - Grades 10-12 - Either Semester - 1/2 Credit

An interdisciplinary course integrating the sciences and social studies. The course will address global environmental concerns as well as local issues. Students will explore how scientific data is used to generate public policy and environmental law. Topics will include environmental degradation, natural resource management, pollution, population, global warming, and nuclear power as well as student-generated concerns. Students will explore conflicts between ethical concerns about the environment and economic needs of a community through debate, research, and communication with local officials and lawmakers. Research and communication over the Internet will play an important part of this course. A prior course in Biology is recommended.

II. Minimum Control Measure #2

Public Participation

2-1 Develop public involvement/participation program

Responsible Department or Person: Regional District 18 in conjunction with Old Lyme Conservation Commission, Pesticide Awareness Committee, and the Old Lyme Conservation Trust, Inc.

Measurable goal: EPA believes that the public can provide valuable input and assistance to a regulated small MS4's municipal storm water management program and, therefore, suggests that the public be given opportunities to play an active role in both the development and implementation of the program. An active and involved community is crucial to the success of a storm water management program because it allows for:

1. Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation;
2. Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers;
3. A broader base of expertise and economic benefits since the community can be a valuable and free intellectual resource; and
4. A conduit to other programs as citizens involved in the storm water program development process provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by EPA.

Narrative: To accomplish this minimum control measure The Town of Old Lyme must:

1. Comply with applicable State, Tribal, and local public notice requirements; and

2. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

The town website has been established. The town has also recently contracted to establish a GIS which, upon completion, will be web based and available to all with a connection to the internet. The web site will provide tools for displaying and printing information on wetlands, conservation areas, aquifer

protection areas, water companies, zoning, and other data as it becomes available.

Activities planned for this year: to produce a video/PowerPoint presentation to bring community in touch with its environment. Viewing of the material over the local cable TV outlet, Channel 26, will be considered.

Activities, and changes, planned for next year: a continuation of successful programs instituted during the year.

2-2 Comply with State, local public notice, and FOI requirements

Responsible Department or Person: IT Services and Selectman.

Measurable goal: Comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program.

Narrative: The Town of Old Lyme must meet and comply with all regulations under the MS4 permit. This is to be accomplished through:

- Public meetings
- Community Clean-ups
- Development of educational resources
- Storm Drain stenciling
- Citizen Watch groups

Activities planned for this year: create the required resources.

Activities, and changes, planned for next year: Continue to implement those incomplete programs started this year.

2-3 Set measurable goals for neighborhoods.

Responsible Department or Person: IT Services, Chamber of Commerce, scouts.

Measurable goal: leadership designation.

Narrative: As the MS4 programs, with reference to local ordinances and recommended practices, become known in town, public participation will need to be kept track of and kept up to date the regulatory measures outlined in the permit.

Activities planned for this year: Meet and greet to introduce Stormwater management techniques and to distribute program materials to local beach groups and neighborhood associations.

Activities, and changes, planned for next year: continue programs started this year.

2-4 News and Civic organization programs.

Responsible Department or Person: IT Services, beach associations, and country club.

Measurable goal: leadership designation

Narrative: With the help of the local beach associations, local civic organizations, country and beach club boards the stormwater programs will receive needed notice.

Activities planned for this year: From the EPA Stormwater Outreach Materials CD-ROM print and distribute all applicable materials to newspapers, civic organizations, libraries, public forums and institutions.

Activities, and changes, planned for next year: continue posting materials.

2-5 Storm drain stenciling

Responsible Department or Person: IT Services, Department of Public Works, along with enlisted volunteer groups such as Boy and Girl Scouts, local PTO groups, and beach associations.

Measurable goal: Improve public awareness of the hazards of illicit connections to storm drains and to the hazards of continued pollution, and subsequent effects it has on our local streams and rivers and on Long Island Sound.

Narrative: The EPA distributed kits for stenciling and marking town wide storm drains will be made available and installed by the town DPW and other groups as needed.

Activities planned for this year: stencil storm drains.

Activities, and changes, planned for next year: maintain the stenciled storm drains.

III. Minimum Control Measure #3

Illicit Discharge Detection and Elimination

3-1 Map outfalls greater than 15" in Urbanized Area (Year 2)

Responsible Department or Person: IT Services, DPW

Measurable goal: Mapping of the storm water drain facility.

Narrative: Mapping the outfalls within this BMP has already started with catch basins and outfalls mapped. The mandated location map for those outfall pipes measuring over 15" will be completed this year (year two). At present IT Services has set about to develop the map based on GPS coordinates with descriptions entered into a data base and displayed using Microsoft MapPoint software, Expert GPS and ESRI Arcmap programs.

Activities planned for this year: The newly contracted GIS for the town will be a web based mapping system available at any internet connection.

Activities, and changes, planned for next year: Continue to implement MS4 programs.

3-2 Map outfalls greater than 15" town-wide (Year 3)

Responsible Department or Person: IT Services

Measurable goal: comply with the mapping prerequisite for year 3, MS4 Permit.

Narrative: The mapping of the storm water sewer outfalls in those areas outside of the urban designated area will be completed by the end of year three. Progress towards that goal has already been made.

Activities planned for this year: As time permits, mapping will proceed along the same lines as in the Urbanized Area using MapPoint software and GIS when it becomes available.

Activities, and changes, planned for next year: Continue mapping outfalls.

3-3 Map Outfalls greater than 12" in Urbanized Area (year 4)

Responsible Department or Person: IT Services

Measurable goal: Identify locations

Narrative: The mapping of the storm water sewer outfalls in those areas inside of the urban designated area will be completed. Progress towards that goal has already been made.

Activities planned for this year: mapping not scheduled to start until year 4

Activities, and changes, planned for next year: n/a

3-4 Develop and Implement a Program to Detect and Eliminate Illicit Discharges

Responsible Department or Person: IT Services, DPW, and Health Department.

Measurable goal: Develop a program and a map identifying all illicit discharges.

Narrative: An information Management System will be developed to document all important information gathered concerning illicit discharge detection, elimination and actions taken. This information will be included in annual reports and will detail the following:

1. The number of Outfalls Screened
2. The number of illicit discharges discovered during outfall screening.
3. The number of illicit discharges discovered as a result of citizen complaints.
4. The number of illicit discharges that were resolved.
5. The number of Dye or Smoke tests conducted.

Activities planned for this year: Determine where the potential illicit discharges are, submit to test all samples taken.

Activities, and changes, planned for next year: Continue identifying and monitoring all illicit discharge sites.

3-5 Develop Illicit Discharge Ordinance

Responsible Department or Person: Selectmen, and WPCA in conjunction with Town's Legal services

Measurable goal: Develop an ordinance or other regulatory mechanism that will prohibit (to the extent allowable under State, Tribal, or local law) all illicit discharges. This ordinance will include appropriate enforcement procedures and actions such as:

1. Fines
2. Civil penalties

Narrative: The WPCA will determine from Old Lymes' regulations and ordinances already in effect what improvements to those ordinances to make in order to comply with the MS4 permit using examples provided on the EPA CD-ROM, Stormwater Outreach Materials, 833-C-03-001 February 2003, or http://www.stormwatercenter.net/Model_Ordinances/Final_Illicit_Connection_Ordinances/illicit_discharge_model_ordinanc.htm.

Activities planned for this year: Preparation is due to start in the fall of 2005 to meet the requirements establishing an ordinance as outlined in the MS4 permit.

Activities, and changes, planned for next year: Finalize and submit an ordinance for approval.

IV. Minimum Control Measure #4

Construction Site Runoff Control

4-1 Review Land Use Regulations to meet the requirements of the MS4 Permit and erosion and sediment control Guidelines.

Responsible Department or Person: Zoning Enforcement Officer, Inland Wetlands Commission, Building, Zoning Department, and Conservation Commission.

Measurable goal: The enforcement of Illicit Discharge Ordinance

Narrative: The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutants in storm water runoff to their MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.

The small MS4 operator is required to:

1. Have an ordinance or other regulatory mechanism requiring the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites;
2. Have procedures for site plan review of construction plans that consider potential water quality impacts;
3. Have procedures for site inspection and enforcement of control measures;
4. Have sanctions to ensure compliance (established in the ordinance or other regulatory mechanism);
5. Establish procedures for the receipt and consideration of information submitted by the public; and
6. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Activities planned for this year: Review and recommend regulatory statutes to the Board of Selectmen.

Activities, and changes, planned for next year: Enact a suitable ordinance or regulation.

V. Minimum Control Measure #5

Post Construction Runoff Control

5-1 Review Land Use Regulations to meet the requirements of the MS4 Permit and erosion and sediment control Guidelines.

Responsible Department or Person: Old Lyme Erosion Control Board, Zoning Enforcement Office, and Inland Wetlands Commission.

Measurable goal: 1. Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMP's);

2. Have an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls to the extent allowable under State, or local law,

3. Ensure adequate long-term operation and maintenance of controls,
4. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Annual Report – Old Lyme Municipal Separate Storm Sewer Systems. **Page 14**
5-2 Review Land Use Regulations to meet the requirements of the MS4 Permit and erosion and sediment control Guidelines.

Narrative: “Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to effect receiving water bodies significantly. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost-effective approach to storm water quality management.

There are generally two forms of substantial impacts of post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, streams, (and rivers). Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans. The second kind of post-construction runoff impact occurs by increasing the quantity of water delivered to the water body during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water. The effects of this process include stream bank scouring and downstream flooding, which often lead to a loss of aquatic life and damage to property.”

EPA: www.epa.gov/region8/water/stormwater

Activities planned for this year: Review regulations in effect at this time.

Activities, and changes, planned for next year: Continue to review regulations in effect at this time.

5-3 Develop post-construction ordinance or regulation

Responsible Department or Person: Zoning Enforcement Officer, Building Department

Measurable goal: Ordinance to:

1. Preserve existing vegetation
2. Divert upland runoff around exposed soil
3. Seed/mulch bare soil
4. Use sediment barriers
5. Protect slopes/channels from gullyling
6. Install sediment traps/basins
7. Preserve vegetation near all waterways

(<http://www.epa.gov/region08/water/stormwater/presentations/Best%20Management%20Practices%20for%20Construction.pdf>).

Narrative: (Repeat of previous BMP, 5-2) “Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to effect receiving water bodies significantly. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost-effective approach to storm water quality management.

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— **Activities planned for this year:** Develop the necessary post-construction ordinance.

Activities, and changes, planned for next year: Enact the post-construction ordinance.

5-3 Develop and implement post-construction BMP strategy

Responsible Department or Person: Inland Wetlands Commission, ZEO

Measurable goal:

1. Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMP's);
2. Implement an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls to the extent allowable under State or local law;
3. Ensure adequate long-term operation and maintenance of controls;

4. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Narrative: Implementation of the BMP's outlined in 5-2, Develop post-construction ordinance or regulation that will insure that future construction will be conducted according to a standard required in the permit.

Activities planned for this year: Review, create, if necessary, and implement the BMP's for post-construction.

Activities, and changes, planned for next year: continue development of BMP's.

5-4 Develop program to ensure long-term operation and maintenance of BMP's

Responsible Department or Person: Inland Wetlands Commission, ZEO, Board of Selectmen, and Building Department.

Measurable goal: Sustainable growth with protections for the environment.

Narrative: Using experience gained from years of monitoring development and adverse impact from under-managed development, the Town of Old Lyme will be able to preserve the character of the town while accommodating future development.

“Recognizing the benefits of pollution prevention practices, the rule requires an operator of a regulated small MS4 to:

1. Develop and implement an operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system;

2. Include employee training on how to incorporate pollution prevention/good housekeeping techniques into municipal operations such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. To minimize duplication of effort and conserve resources, the MS4 operator can use training materials that are available from EPA, their State or Tribe, or relevant organizations;

3. Determine the appropriate best management practices (BMP's) and measurable goals for this minimum control measure.” *EPA:*
www.epa.gov/region8/water/stormwater

Activities planned for this year:

- Continue evaluating the progress made from monitoring in-place and of regulation enforcement to determine if the mandates of the permit are being met.
- An information management system will be put in place that can be used to track the inventory of stormwater facilities and outfalls. This system will be used by staff to schedule and perform inspections, maintenance activities and document any other actions taken on these inventory items.

Activities, and changes, planned for next year: N/A

VI. Minimum Control Measure #6

Good Housekeeping

6-1 Develop training program for municipal employees

Responsible Department or Person: Department of Public Works, IT Services

Measurable goal: Training of Department members will provide better implementation of required BMP's.

Narrative: The permit defines specific BMP's to be carried out within the Urbanized Area that includes additional street sweeping and outfall monitoring. Without having trained the personnel involved the elimination of illicit discharges and storm water system facilities will not meet standards.

Activities planned for this year: Develop a collection of training materials that will be used to educate staff about pollution prevention and good housekeeping. These resources will come from applicable external sources, such as the EPA, and may be supplemented with materials developed by our own organization.

Activities, and changes, planned for next year: Continue implementation of the good housekeeping methods.

6-2 Sweep Streets at least once a year as soon as possible after snowmelt

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: Training of Department members will provide better implementation of required BMP's.

Narrative: The town has in place a rigorous street sweeping and maintenance program. Sweep residual sand as soon as possible in the spring of each year or as needed.

Activities planned for this year: Continue to develop a collection of training materials that will be used to educate municipal employees.

Activities, and changes, planned for next year: Continue implementation of the good housekeeping methods.

6-3 Evaluate Urbanized Area for possible street sweeping more than once a year.

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: A proper evaluation of performance will continue the programs' success.

Narrative: As the success of the street sweeping program is evaluated further scheduling of sweeping activities, storm drain cleaning, and maintenance of the stormwater sewer will be evaluated

Activities planned for this year: Finalize the maintenance plan and schedule that will be put in place for management of BMP's. Integrate this plan into the information management system.

Activities, and changes, planned for next year: Continue, as needed, expanding the sweeping program.

6-4 Develop program to evaluate and clean stormwater structures at least once a year.

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: To monitor and maintain the stormwater structures.

Narrative: As the plan of stormwater outfalls becomes established, the maintenance of the facility will require a program for cleaning and maintenance.

Activities planned for this year: Create the outfall map within the Urbanized Area.

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6-4 Develop program to evaluate and clean stormwater structures at least once a year (cont.)

Activities, and changes, planned for next year: Continue, as needed, expanding the sweeping and facility maintenance program.

6-5 Develop a program to evaluate and to prioritize system for upgrade and repair.

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: On a yearly basis, study the prior BMP's (6-4) progress and to schedule, and budget maintenance to the stormwater structures.

Narrative: Repairs, when needed, usually involve development of plans. Budgeting requires a program for year-to-year maintenance.

Activities planned for this year: Develop a program for stormwater facility evaluation, budgeting, and prioritizing.

Activities, and changes, planned for next year: Continue evaluating system maintenance efficiency.

VII Minimum Control Measure #7

Monitoring

S-1 Sample 6 outfalls on an annual basis

Responsible Department or Person: Department of Public Works, IT Services (mapping).

Measurable goal: Establish a yearly maintained record of water quality results taken at 6 sampling points within the town.

Narrative: We have, to date, sampled, for the first time under the permit, drainage from six outfalls distributed throughout the town. All were selected within the designated Urban Designated Area, two outfalls within a commercial zone, two within a residential zone, and two within an industrial zone.

The samples taken for 2004 (see map, attachment A) conform to the MS4 permit requirement under section 6, 6(h)(3) and were submitted for approval directly to CT-DEP on December 22, 2004, by Anchor Engineering, 75 Nutmeg Lane, Glastonbury, CT 06033. A copy of the applicable data is attached herein. (See attachment B.)

Activities planned for this year: as required by Section 6, 6(h) of the General Permit, a continuation of the prescribed monitoring will be carried out.

Activities, and changes, planned for next year: Changes will be made as they become necessary. Although sampling location changes are not anticipated at this time, it may become necessary to meet the recommendations of the Commissioner.

- End Part One -

Part Two of the Annual Report contains all Stormwater Monitoring Report Forms, monitoring site map and copy of the bookmark.

