



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: Stonington

Chief Elected Official or Principal Executive Officer: Robert R. Simmons

Title: First Selectman

Address: 152 Elm Street

City/Town: Stonington, CT Zip Code: 06378

Phone: (860) 535-5050 ext: _____ Fax: (860) 535-1046

Permit Number: GSM 000056

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) December 2, 2015

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.

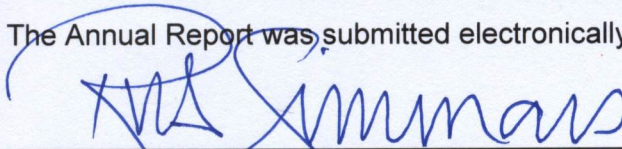
- ☐ The Stormwater Monitoring Report forms were submitted with our Annual Report.
- ☒ The Stormwater Monitoring Report forms are attached to this form.
- ☐ I submitted the Stormwater Monitoring Report forms on _____.

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 12/31/2015.



Signature of CEO/PEO or designee (as specified in
RCSA Section 22a-430-3(b)(2)(B))

Date

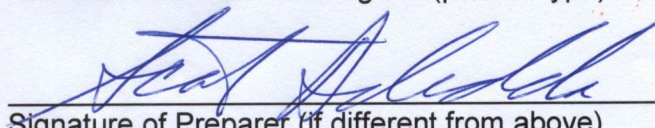
DEC 31 2015

Robert R. Simmons

Name of CEO/PEO or designee (print or type)

First Selectman

Title



Signature of Preparer (if different from above)

Date

12/31/15

Scot Deledda, PE

Name of Preparer (print or type)

Town Engineer

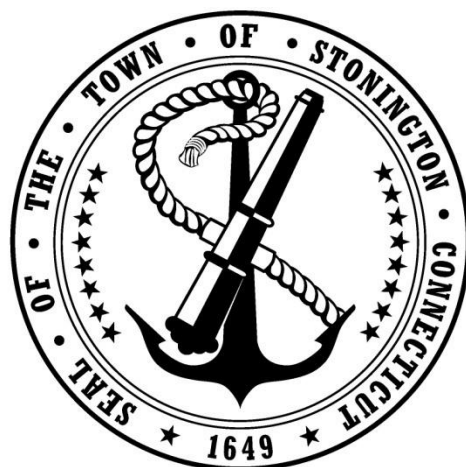
Title (if applicable)

- ☐ 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 STONINGTON 2015 PHASE 2 STORM WATER ANNUAL REPORT



**Prepared by
Scot Deledda, P.E.
Stonington Town Engineer**

December 2015

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Section A

Stormwater Program Permit Information

Permitting Authority:	CT DEP
Permit Number:	000056
Permit Type:	General
Permit Name:	Stonington Small MS4 Permit
Date Issue:	07/09/2004
Date Expire:	01/08/2016

General Information for MS4 Operator

Operator Name:	Mr. Robert Simmons
Operator Title:	First Selectman
Represented Entity:	Town of Stonington
Mailing Address:	152 Elm St
Mail City, State, Zip:	Stonington, CT 06378
Phone Number	(860) 535-5050
Population:	Approx. 18,000
Households:	Approx. 7,000
Area:	Approx 39 sq miles
Official Website:	www.townofstonington.com

General Information for Primary Contact Person

Name:	Scot Deledda, P.E.
Title:	Town Engineer
Phone Number:	(860) 535-5055
E-Mail Address:	sdeledda@stonington-ct.gov

General Information for Secondary Contact Person

Name:	Barbara McKrell, P.E.
Title:	Director of Public Works
Phone Number:	(860) 535-5055
E-Mail Address:	bmckrell@stonington-ct.gov

General Information for Receiving Waters

Receiving Water Lists: Listed below are all the identified receiving waterbodies to which identified outfalls discharge.

Receiving Streams

(Creek, stream, river, etc.)

Whitford Brook
Pequotsepos Brook
Copps Brook
Anguilla Brook
Stony Brook
Donahue Brook
Wheeler Brook

Receiving Waterbodies

(Lake, wetland, ocean, etc.)

Mystic River
Whitford Pond
Mystic Harbor
Stonington Harbor
Mystic Reservoir
Little Narragansett Bay
Fishers Island Sound
Wequetequock Pond
Wequetequock River
Pawcatuck River

Receiving Watersheds

Whitford Brook
Mystic River
Pequotsepos Brook
Copps Brook
Stonington Harbor
Wequetequock River
Little Narragansett Bay
Pawcatuck River

Section B

Plan Contents Summary

The Stormwater Management Plan consists of the following Minimum Control Measures (MCM's) and Best Management Practices (BMP's):

<u>MCM's and BMP's</u>	<u>Target Start Date</u>	<u>Target End Date</u>
<i>MCM #1 - Public Participation/Involvement</i>		
1.1 Establishing a Stormwater Mgt Study Group	07/01/2004	06/30/2005
1.2 Public Info Meeting	07/01/2004	06/30/2005
1.3 Finalize SMSG Recommendations	07/01/2004	06/30/2005
1.4 Continue to meet with Stormwater Group	07/01/2005	01/09/2009
1.5 Organize a Storm Drain Marking Program	07/01/2005	06/29/2006
1.6 Storm Drain Marking (Year 3)	07/01/2006	06/29/2007
1.7 Storm Drain Marking (Year 4)	07/01/2007	06/29/2008
1.8 Storm Drain Marking (Year 5)	07/01/2008	01/08/2009
1.9 Storm Drain Marking (Year 6)	07/01/2009	01/08/2010
1.10 Storm Drain Marking (Year 7)	07/01/2010	01/01/2011
1.11 Storm Drain Marking (Year 8)	07/01/2011	01/01/2012
1.12 Storm Drain Marking (Year 9)	07/01/2012	01/01/2013
1.13 Storm Drain Marking (Year 10)	07/01/2013	01/01/2014
<i>MCM #2 - Public Education and Outreach</i>		
2.1 Creating & Procuring Stormwater Literature (Year1)	07/01/2004	06/29/2005
2.2 Develop Info for Website (Year 1)	07/01/2004	06/29/2005
2.3 Teach Stormwater Issues to Schools (Year 1)	07/01/2004	06/29/2005
2.4 Inform the public on the hazards of Illicit Discharges	07/01/2005	06/29/2006
2.5 Distribute Literature (Year 2)	07/01/2005	06/29/2006
2.6 Update Info for Website (Year 2)	07/01/2005	06/30/2006
2.7 Distribute Literature (Year 3)	07/01/2006	06/29/2007
2.8 Storm Drain Marking (Year 3)	07/01/2006	06/29/2007
2.9 Update Info for Website (Year 3)	07/01/2006	06/29/2007
2.10 Distribute Literature (Year 4)	07/01/2007	06/29/2008
2.11 Storm Drain Marking (Year 4)	07/01/2007	06/29/2008
2.12 Update Info on Website (Year 4)	07/01/2007	06/29/2008
2.13 Distribute Literature (Year 5)	07/01/2008	01/08/2009
2.14 Storm Drain Marking (Year 5)	07/01/2008	01/07/2009
2.15 Update Info for Website (Year 5)	07/01/2008	01/08/2009
2.16 Storm Drain Marking (Year 6)	07/01/2009	01/08/2010
2.17 Update Info for Website (Year 6)	07/01/2009	01/08/2010
2.18 Storm Drain Marking (Year 7)	07/01/2010	01/01/2011
2.19 Update Info for Website (Year 7)	07/01/2010	01/01/2011
2.20 Storm Drain Marking (Year 8)	07/01/2011	01/01/2012
2.21 Update Info for Website (Year 8)	07/01/2011	01/01/2012
2.22 Storm Drain Marking (Year 9)	07/01/2012	01/01/2013

2.23 Update Info for Website (Year 9)	07/01/2012	01/01/2013
2.24 Storm Drain Marking (Year 10)	07/01/2013	01/01/2014
2.25 Update Info for Website (Year 10)	07/01/2013	01/01/2014
2.26 Update Info on new website (Year 11)	12/29/2014	07/31/2015

MCM #3 - Illicit Discharge Detection and Elimination

3.1 Initial Identification of Illicit Discharge Sources	07/01/2004	06/29/2005
3.2 Inform the public on non-stormwater discharges	07/01/2005	06/30/2006
3.3 Stormwater Ordinance	07/01/2004	06/29/2005
3.4 Develop and Implement an IDD&E Program	07/01/2005	06/30/2006
3.5 Drainage System Map - Year 2	07/01/2005	06/29/2006
3.6 Drainage System Map - Year 3	07/01/2006	06/29/2007
3.7 Drainage System Map - Year 4	07/01/2007	06/29/2008
3.8 Outlet Sampling - Year 1	07/01/2004	06/29/2005
3.9 Outlet Sampling - Year 2	07/01/2005	06/29/2008
3.10 Outlet Sampling - Year 3	07/01/2006	06/30/2007
3.11 Outlet Sampling - Year 4	07/01/2007	06/29/2008
3.12 Outlet Sampling - Year 5	07/01/2008	01/09/2009
3.13 Outlet Sampling - Year 6	07/01/2009	01/09/2010
3.14 Outlet Sampling - Year 7	07/01/2010	01/01/2011
3.15 Outlet Sampling - Year 8	07/01/2011	01/01/2012
3.16 Outlet Sampling - Year 9	07/01/2012	01/01/2013
3.17 Outlet Sampling - Year 10	07/01/2013	01/01/2014
3.18 Outlet Sampling - Year 11	07/01/2014	01/01/2015
3.19 Outlet Sampling - Year 12	07/01/2015	12/31/2015

MCM #4 - Construction Site Runoff Control

4.1 Modify & Enforce Town's Ex. E&S Control Program	07/01/2004	06/29/2005
4.2 Ordinance / Regulatory Mechanism	07/01/2004	06/29/2005
4.3 Implement Reg. Req. - projects exc. 1 ac. threshold	07/01/2004	06/30/2005
4.4 Continue to Improve on E&S Program	07/01/2005	12/31/2015
4.5 Continue Compliance with Reg. Requirements	07/01/2005	12/31/2015
4.6 Continue Req. for E&S Controls on all projects	07/01/2004	12/31/2015
4.7 Develop an IMS to Track E&S compliance	07/01/2004	06/29/2005
4.8 Perform Construction Site Inspections	07/01/2005	12/31/2015
4.9 Requirements for Controlling Waste	07/01/2004	06/29/2005

MCM #5 - Post-Construction Runoff Control

5.1 Develop a Town-Wide Tech Standards Document	07/01/2004	01/01/2015
5.2 Require BMP's	07/01/2005	12/31/2015
5.3 Continue to Improve Water Quality Standards	07/01/2005	12/31/2015
5.4 Drainage Maintenance Agreements	07/01/2005	12/31/2015

MCM #6 - Pollution Prevention/Good Housekeeping

6.1 Develop an O&M Program for Municipal Operations	07/01/2004	06/29/2005
6.2 Employee Training Materials	07/01/2004	06/29/2005

6.3	Train Employees	07/01/2005	01/08/2015
6.4	Develop and Implement Street Sweeping Program	07/01/2004	06/29/2005
6.5	Continue Street Sweeping Program	07/01/2005	12/31/2015
6.6	Develop & Impl. Catch Basin Cleaning Program	07/01/2004	06/29/2005
6.7	Continue Catch Basin Cleaning Program	07/01/2005	12/31/2015
6.8	Develop a Drainage System Improvement Program	07/01/2006	06/30/2007

Section C

Minimum Control Measure #1 - Public Participation/Involvement

EPA Requirements:

To satisfy this minimum control measure, the operator of a regulated small MS4 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.

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 provides 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.

Activities Performed in 2015

Stormwater Task Force (STF) - Restructuring

Due to a increase in the number of municipal public improvement projects (primarily planning phases), a rise in major private development projects, and further changes in town staff (hiring of a new Highway Supervisor & Director of Planning & First Selectman), we were unable to create a new STF in 2015.

The engineering department is in the process of reviewing past STF meeting minutes and programs in preparation of a complete restructuring of the STF in 2016. An entirely new STF is required as a result of the vast change in town personnel over the last couple of years. Previous members included town staff from Engineering, Public Works, and Planning Departments as well as members of various land-use commissions. A request for membership will be sent out in January 2016 with a goal of the first meeting in spring 2016.

The STF will discuss existing practices & policies as well as upcoming changes in the MS4 program.

Storm Drain Marker Project

Unfortunately due to the increase in both public improvement projects and oversight of major private development projects, we were unable to mark the final remaining catch basins. Stormdrain markers will be a topic of discussion of the STF in 2016. A program will be implemented to identify appropriate locations and seek personnel for installation of the remaining markers.

Minimum Control Measure #2 – Public Education and Outreach

EPA Requirements:

To satisfy this minimum control measure, the operator of a regulated small MS4 needs to:

1. Implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local waterbodies 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.

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 Performed in 2015

Provide Information on the Town's Website

The Town continues to provide information on its website regarding Phase 2 Stormwater Permitting. New contact information for the Town Engineer and Director of Public Works has been added to the website to reflect new town employees. Additionally, we have been talking with a local group (CUSH) that has been very active in stormwater education. They have their own website that provides a tremendous amount of information on this subject. The website can be viewed at <http://www.cushinc.org/>

Public Outreach - Stormwater Task Force (STF)

One immediate goal of the STF in 2016 will be to implement a public outreach program including flyers, mailings and training of students and teachers in various Stonington public schools.

Minimum Control Measure #3 - Illicit Discharge Detection and Elimination

EPA Requirements:

Recognizing the adverse effects illicit discharges can have on receiving waters, the final rule requires an operator of a regulated small MS4 to develop, implement and enforce illicit discharge detection and elimination program. This program must include the following:

1. A storm sewer system map, showing the location of all outfalls and the names and location of all waters of the Town that receive discharges from those outfalls.
2. Through an ordinance, or other regulatory mechanism, a prohibition (to the extent allowable under State, Tribal, or local law) on non-storm water discharges into the MS4, and appropriate enforcement procedures and actions.
3. A plan to detect and address non-storm water discharges, including illegal dumping, into the MS4.
4. The education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste.
5. The determination of appropriate best management practices (BMP's) and measurable goals for this minimum control measure.

Discharges from MS4s often include wastes and wastewater from non-storm water sources. A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff. A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4. Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Activities Performed in 2015

Identification of Illicit Discharges

No additional outfalls were detected in 2015. Previously 35 different outlets were earmarked in which to begin our illicit discharge and illegal connection investigations. We anticipate reviewing & screening these outlets in the summer of 2016 as part of our dry sampling program.

2015 Wet Sampling

The town continued to perform wet sampling in 8 different locations. These are the same locations that were sampled in 2004-2014. All of the sampling was performed on September 10, 2015 and results are included as an attachment to this report.

The Town also provided the sampling results from 2 additional locations inside the Stonington Borough and forwarded the data to the Borough Warden.

Minimum Control Measure #4 - Construction Site Runoff Control

EPA Requirements:

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

Polluted storm water runoff from construction sites often flows to MS4s and ultimately is discharged into local rivers and streams. Of the pollutants listed in Table 1, sediment is usually the main pollutant of concern. Sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites, can cause physical, chemical, and biological harm to our

nation's waters. For example, excess sediment can quickly fill rivers and lakes, requiring dredging and destroying aquatic habitats.

Pollutants Commonly Discharged from Construction Sites include the following; Sediment, Solid and sanitary wastes, Phosphorous (fertilizer), Nitrogen (fertilizer), Pesticides, Oil and grease, Concrete truck washout

Activities Performed in 2015

Continue to Inspect for E&S Controls

The town is continuing to inspect all development projects over 5 acres and smaller selected projects which are in sensitive locations for compliance with their approved stormwater pollution prevention plan (SWPPP). The town continues to request E&S bonds for all of these types of projects to help pay for these efforts.

Continue Compliance with Registration Requirements

We continue to make sure in our plan review process that development applications which propose over 5 acres of disturbance submit General Permit for Construction Activities to the CTDEP.

Minimum Control Measure # 5 - Post-Construction Runoff Control

EPA Requirements:

The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutants in post-construction runoff to their MS4 from new development and redevelopment projects that result in the land disturbance of greater than or equal to 1 acre. The small MS4 operator is required to:

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, Tribal 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.

Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly effect receiving waterbodies. 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 waterbody 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.

Activities Performed in 2015

Requiring BMP's

During our plan review process we require that all projects are designed to be in strict conformance with the 2002 CT E&S Guidelines as well as the 2004 Connecticut Stormwater Quality Manual.

Maintenance Agreements

We continue to require where necessary drainage maintenance agreements for homeowner's associations and/or commercial sites to insure that the owners fulfill their maintenance obligations.

If a developer proposes to install a new drainage system in which the Town will take ownership of upon completion, we have been requiring the developer to post a cash bond for future maintenance and outlet sampling as required by our MS4 permit.

Minimum Control Measure #6-Pollution Prevention/Good Housekeeping

EPA Requirements:

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.

The Pollution Prevention/Good Housekeeping for municipal operations minimum control measure is a key element of the small MS4 storm water management program. This measure requires the small MS4 operator to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems. While this measure is meant primarily to improve or protect receiving water quality by altering municipal or facility operations, it also can result in a cost savings for the small MS4 operator, since proper and timely maintenance of storm sewer systems can help avoid repair costs from damage caused by age and neglect.

Activities Performed in 2015

Operations and Maintenance Programs

The Town has in place Stormwater Pollution Prevention Plans for the Highway Garage and the Town Dock facilities. On top of these plans, the Town has Spill Prevention, Control and Countermeasure plans for these facilities as well as the Police Station. We will continue to inspect these sites and abide by these plans

Employee Training

The Town will be hiring an outside consultant early in 2016 to train town employees from the Highway Department, Solid Waste/Transfer Station, Town Dock and the Water Pollution Control Authority on Oil Pollution Prevention (SPCC) and Stormwater Pollution Prevention (SWPP).

Street Sweeping Program

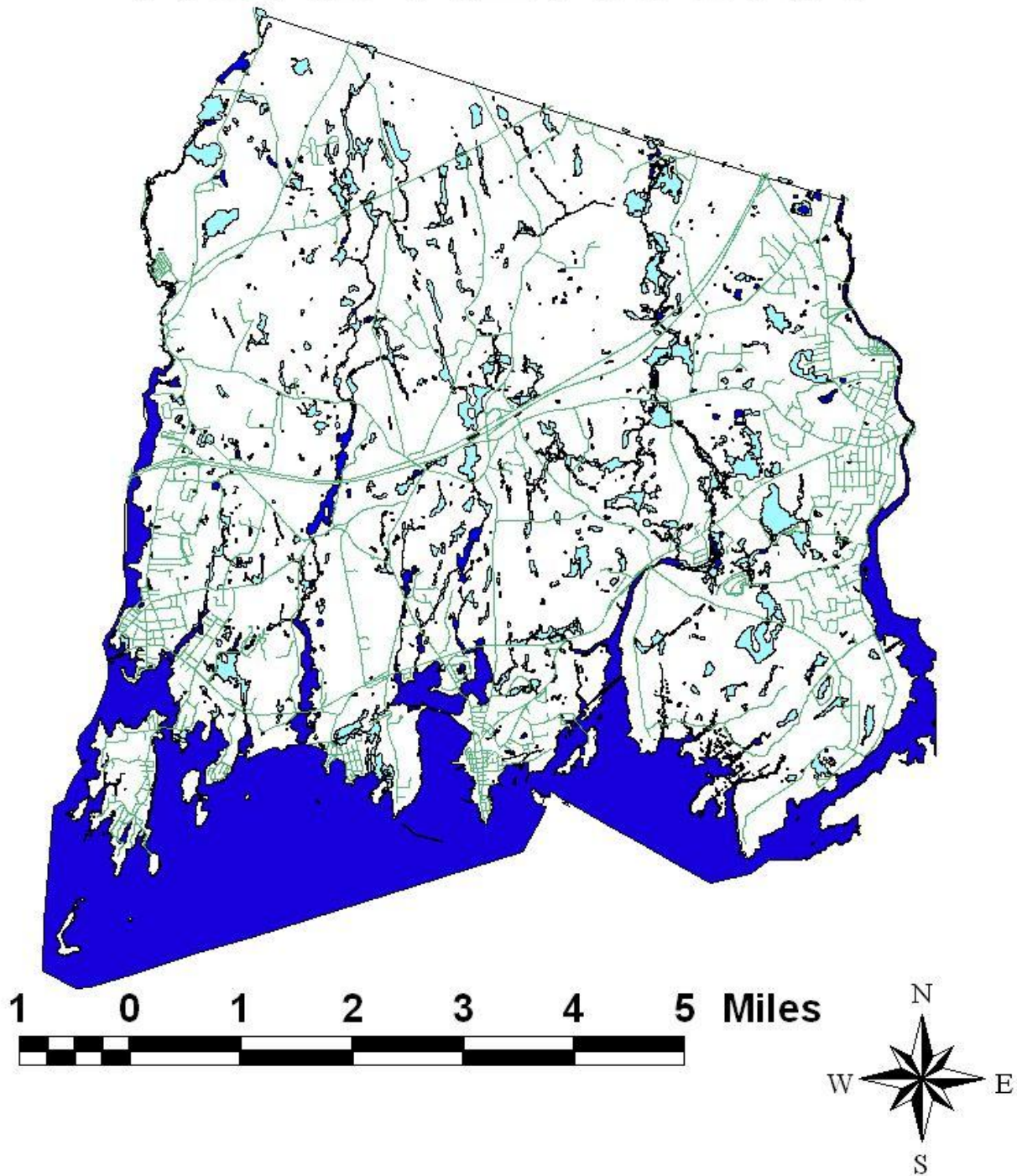
The Town's Public Works Department swept approximately 80 miles of roadway (160 lane miles) of road throughout the Town. Downtown areas are swept first including (Mystic & Pawcatuck) and rural roads second. The town has an older street sweeper which required multiple repairs this year. The town is planning to purchase a new street sweeper before the end of the fiscal year, July 2016, which will allow for increased productivity and less down time. The town has a budget of 25k for removal of byproduct from the town by January 2016.

Catch Basin Cleaning Program

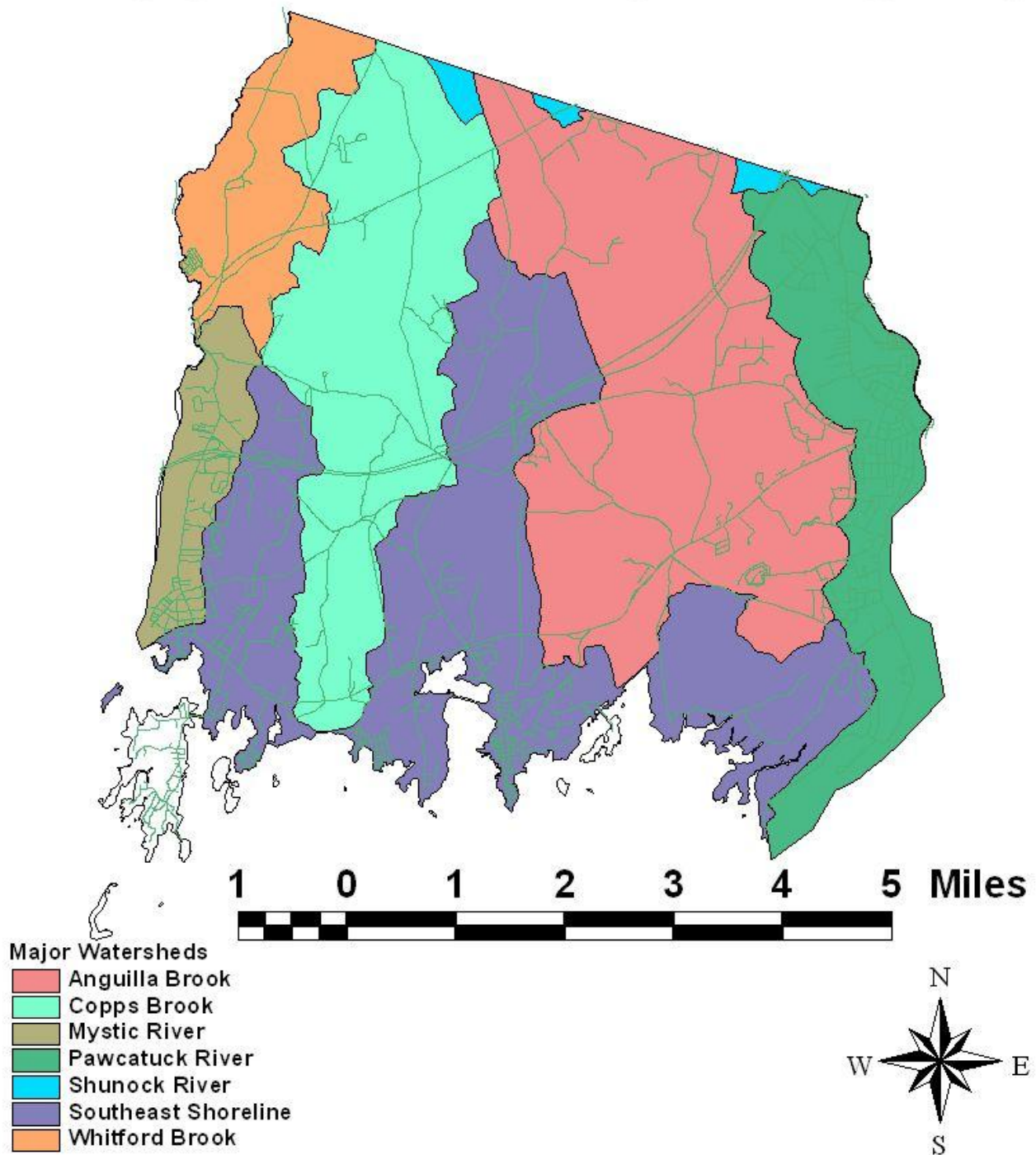
The Town hired a contractor in September of 2015 to vacuum out 1091 of our nearly 1,600 catch basins throughout Town. Due to budget constraints the remaining catch basins are scheduled to be cleaned out in 2016. The cost of the 2015 cleaning work totaled approximately \$20k. The Town will continue to budget money to have this type of work done on an annual basis.

APPENDICES

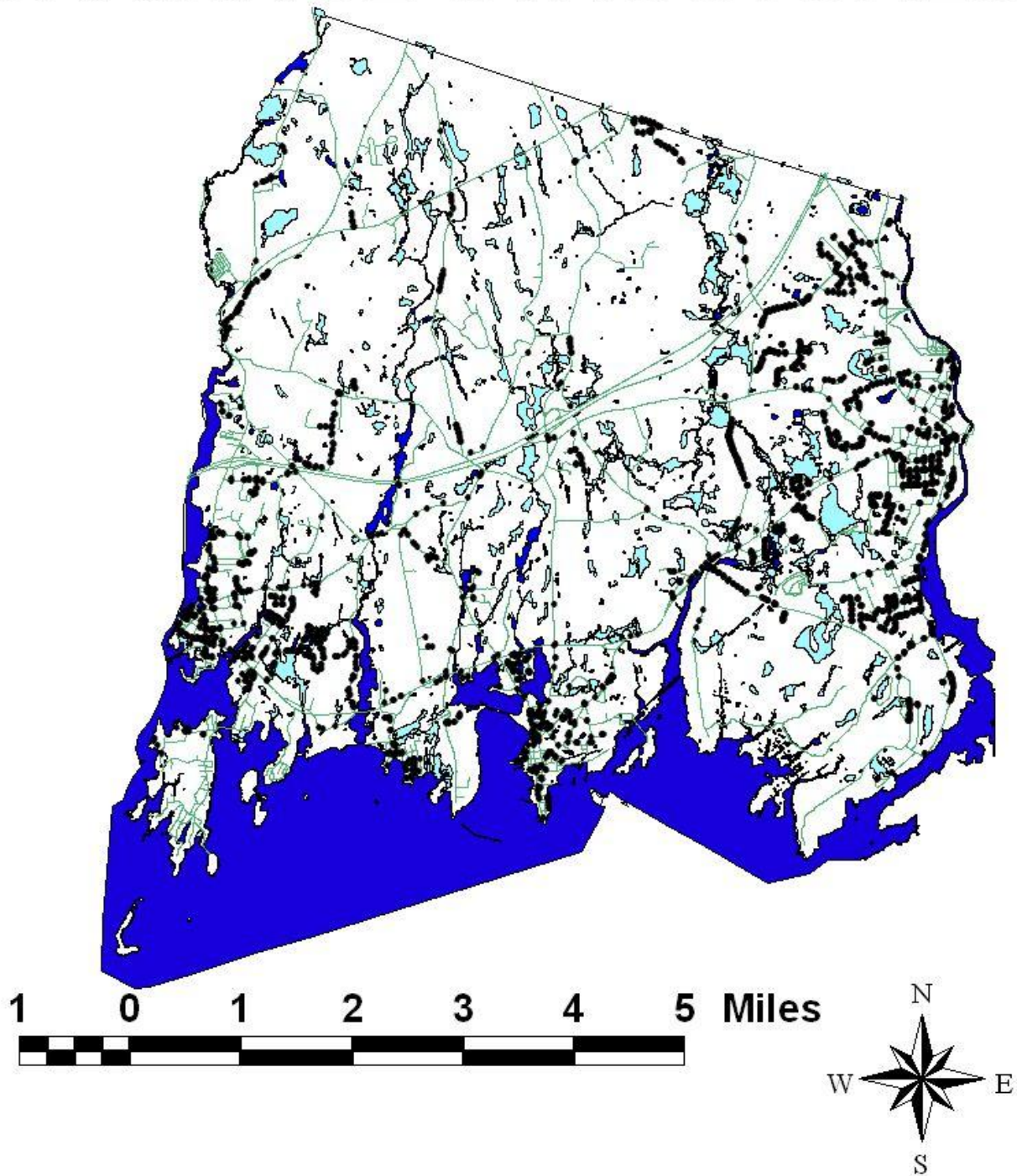
TOWN OF STONINGTON ROAD NETWORK



TOWN OF STONINGTON MAJOR DRAINAGE BASINS



TOWN OF STONINGTON DRAINAGE STRUCTURES





WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

33 Business Park Drive, Branford, CT 06405 tel 203.488.9481 fax 203.488.9564 www.ecsconsult.com

Town of Stonington
152 Elm Street
Stonington, CT 06378

November 23, 2015
Project No. 07-213703.15

Attn: Barbara McKrell, P.E.
Director of Public Works

Re: 2015 Stormwater Phase II General Permit Sampling Results

Dear Ms. McKrell:

Environmental Compliance Services, Inc. (ECS) is pleased to provide you with the 2015 Stormwater Phase II sampling results for the Town of Stonington. This letter report provides a summary of the work performed and the laboratory analytical results associated with stormwater sampling in the town.

Stormwater Sampling Procedures

Eight stormwater samples were collected in the Town of Stonington on September 10, 2015 in accordance with the requirements of the Connecticut Department of Energy & Environmental Protection (CT DEEP) General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (Stormwater Phase II General Permit). Specifically, two stormwater samples each were collected from separate stormwater systems serving commercial and industrial areas, and four stormwater samples were collected from separate stormwater systems serving residential areas. As you are aware, the Town previously determined the sampling points. Descriptions and locations of each sampling point, as well as rain event information are included on the attached Stormwater Sampling Data form.

Laboratory Analytical Procedures

The samples were submitted to Phoenix Environmental Laboratories, Inc., a State of Connecticut certified laboratory, and analyzed for pH, hardness, conductivity, oil and grease, chemical oxygen demand, turbidity, total suspended solids, total phosphorus, ammonia, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen and E. coli. Sampling and testing procedures were conducted in accordance with Title 40, CFR, Part 136.

Laboratory Analytical Results

The results of the laboratory analyses for the eight stormwater samples collected in the Town of Stonington are summarized in the attached table entitled 2015 Stormwater Phase II Sampling Results.

November 23, 2015
Page 2

We recommend that the Town continue to implement its Stormwater Management Plan and evaluate the effectiveness of the associated control measures.

In accordance with the Stormwater Phase II General Permit requirements, a Stormwater Monitoring Report (SMR) Form has been prepared for each outfall. The SMR Forms should be submitted to the CT DEEP at the following address:

A copy of the Stormwater Sampling Data form, 2015 Stormwater Phase II Sampling Results table, SMR Forms, laboratory report and chain of custody has been included with this letter report.

Please sign the attached SMR Forms and submit them with the Annual Report to the CT DEEP at the above address by January 1, 2016. Also, keep a copy of the Forms for the Town's records. A copy of this entire letter package should be kept with the Stormwater Management Plan for the Town.

If you have any questions or require additional information, please contact the undersigned at 203-488-9481.

[Signature]

father's name

Matthew Reiser, CHMM
Compliance Specialist

Attachments: Stormwater Sampling Data Form
2015 Stormwater Phase II Sampling Results Table
Stormwater Monitoring Reports
Laboratory Report and Chain of Custody

ATTACHMENTS

STORMWATER SAMPLING DATA FORM
2015 STORMWATER PHASE II SAMPLING RESULTS TABLE
STORMWATER MONITORING REPORTS
LABORATORY REPORT AND CHAIN OF CUSTODY

STORMWATER SAMPLING DATA FORM

STORMWATER SAMPLING DATA

Town of Stonington
Stonington, Connecticut

General Information		
Sampling Personnel: Josh Messina, ECS, Inc.		
Sampling Date: 9-10-15		
Rain Start Time: ~6:15 am	Rain Stop Time: ~11:45 pm	Runoff Start Time: variable
Rain Description (i.e., drizzle, steady, downpour, etc.): steady		
Outside Temperature: ~72° F		
Magnitude of Storm Event (in inches): ~2.74		
Date of Previous Storm Event of 0.1 Inches or More: 8-24-15		
Location of Rain Gauge or Gauging Station: Stonington, CT, as reported on www.weather.com		
Sampling Data		
Outfall No.	Location Description	Sampling Time
C1	Catch basin on east side of road just south of C.C. O'Brien's at 8 Mechanic Street in Pawcatuck	9:00 am
C2	Outfall through retention wall of river across street from Old Mystic General Store at 47 Main Street in Mystic	11:10 am
I1	Outfall on east side of road at intersection of Clark Street, River Road and Mechanic Street in Pawcatuck	9:10 am
I2	Catch basin on north side of road across from 5 Edgemont Street in Mystic	10:40 am
R1	Outfall at northeast end of Walnut Street in Pawcatuck	8:45 am
R2	Catch basin on northeast side of road between 19 and 21 Church Street in Mystic	10:50 am
R3	Catch basin on east side of road across from 9 Cove Road in Stonington	10:15 am
R4	Catch basin at southeast corner of Quanauduck Road in Stonington	10:00 am
Analysis Data		
Laboratory Performing Analyses: Phoenix Environmental Laboratories, Inc.		
Date Samples Dropped Off: 9-10-15		
<u>Note:</u> Attach laboratory report, including analytical results, techniques and methods used.		
Comments		
Sample from Outfall R-1 was taken from an upstream catch basin.		

2015 STORMWATER PHASE II SAMPLING RESULTS TABLE

2015 STORMWATER PHASE II SAMPLING RESULTS

**Town of Stonington
Stonington, Connecticut**

Laboratory Parameter ⁽²⁾	Commercial ⁽¹⁾		Industrial ⁽¹⁾		Residential ⁽¹⁾			
	Outfall 1	Outfall 2	Outfall 1	Outfall 2 ⁽³⁾	Outfall 1	Outfall 2	Outfall 3	Outfall 4
Uncontaminated Rainfall Sample (SU) ⁽⁴⁾	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Stormwater pH (SU)	6.90	6.41	5.94	6.69	5.76	6.88	7.32	6.72
Hardness (mg/L) ⁽⁵⁾	14.2	13.3	9.9	131	15.2	1,730	5,730	22.4
Conductivity (umhos/cm) ⁽⁶⁾	72	75	72	1,090	107	16,200	57,700	183
Oil and Grease (mg/L)	3.5	<1.4	<1.4	<1.4	<1.5	2.8	3.2	<1.4
Chemical Oxygen Demand (mg/L)	107	94	66	216	193	236	880	120
Turbidity (NTU) ⁽⁷⁾	30.9	11.0	10.7	146	8.81	40.2	143	6.92
Total Suspended Solids (mg/L)	34	38	13	1,100	14	51	1,600	12
Total Phosphorous (mg/L)	0.32	0.57	0.47	1.57	2.63	0.46	0.13	1.00
Ammonia (mg/L)	0.83	1.09	0.76	0.44	1.69	0.45	0.27	1.42
Total Kjeldahl Nitrogen (mg/L)	2.62	3.27	1.94	5.33	6.57	1.81	1.14	3.78
Nitrate plus Nitrite Nitrogen (mg/L)	0.55	0.64	0.50	0.92	1.41	0.54	0.08	0.53
E. coli (col/100 mL) ⁽⁸⁾	10,460	3,080	4,880	17,330	>24,200	>24,200	3,650	>24,200

Notes:

1. Refer to the Stormwater Sampling Data form for the locations of each stormwater outfall.
2. Laboratory parameters are taken from the CT DEEP General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems.
3. Residential Outfall 4 was formerly Commercial Outfall 3. It was determined that stormwater from this outfall is actually from a residential storm sewer system not a commercial storm sewer system.
4. SU = standard units
5. mg/L = milligrams per liter
6. umhos/cm = micromhos per centimeter
7. NTU = nephelometric turbidity units
8. col/100 mL = coliforms per 100 milliliters

STORMWATER MONITORING REPORTS



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

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Stonington
Mailing Address: 152 Elm Street, Stonington, CT 06378
Contact Person: Barbara McKrell, P.E. Title: DPW Director Phone: 860-535-5055
Permit Registration # GSM000056

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): C1 - Catch basin on east side of road just south of C.C. O'Brien's at 8 Mechanic Street in Pawcatuck
Please circle the appropriate area description: Industrial, Commercial or Residential
Receiving Water (name, basin): Pawcatuck River, Pawcatuck River Drainage Basin
Time of Start of Discharge: unknown
Date/Time Collected: 9-10-15 at 9:00 am Water Temperature: _____
Person Collecting Sample: Josh Messina of ECS, Inc.
Storm Magnitude (inches): approx. 2.74 Storm Duration (hours): approx. 17.5
Date of Previous Storm Event: 8-24-15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500-H B-00	6.90 SU	Phoenix Environmental Laboratories, Inc.
Rain pH	Litmus Paper	6.0 SU	ECS, Inc.
Hardness	E200.7	14.2 mg/L	Phoenix Environmental Laboratories, Inc.
Conductivity	SM2510B-97	72 umhos/cm	Phoenix Environmental Laboratories, Inc.
Oil & Grease	EPA 1664A	3.5 mg/L	Phoenix Environmental Laboratories, Inc.
COD	SM5220D-97	107 mg/L	Phoenix Environmental Laboratories, Inc.
Turbidity	SM2130B-01	30.9 NTU	Phoenix Environmental Laboratories, Inc.
TSS	SM2540D-97	34 mg/L	Phoenix Environmental Laboratories, Inc.
TP	SM4500PE-99	0.32 mg/L	Phoenix Environmental Laboratories, Inc.
Ammonia	E350.1	0.83mg/L	Phoenix Environmental Laboratories, Inc.
TKN	E351.1	2.62 mg/L	Phoenix Environmental Laboratories, Inc.
NO ₃ +NO ₂	E353.2	0.55 mg/L	Phoenix Environmental Laboratories, Inc.
E. coli	SM9223B-04	10,460 col/100 mL	Phoenix Environmental Laboratories, Inc.

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Barbara McKrell, P.E.

Signature: [Signature] Date: 12/27/15



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

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Stonington
Mailing Address: 152 Elm Street, Stonington, CT 06378
Contact Person: Barbara McKrell, P.E. Title: DPW Director Phone: 860-535-5055
Permit Registration # GSM000056

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): C2 - Outfall through retention wall of river across street from Old Mystic General Store at 47 Main Street in Mystic
Please circle the appropriate area description: Industrial, Commercial or Residential
Receiving Water (name, basin): Mystic River, Mystic River Drainage Basin
Time of Start of Discharge: unknown
Date/Time Collected: 9-10-15 at 11:10 am Water Temperature: _____
Person Collecting Sample: Josh Messina of ECS, Inc.
Storm Magnitude (inches): approx. 2.74 Storm Duration (hours): approx. 17.5
Date of Previous Storm Event: 8-24-15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500-H B-00	6.41 SU	Phoenix Environmental Laboratories, Inc.
Rain pH	Litmus Paper	6.0 SU	ECS, Inc.
Hardness	E200.7	13.3 mg/L	Phoenix Environmental Laboratories, Inc.
Conductivity	SM2510B-97	75 umhos/cm	Phoenix Environmental Laboratories, Inc.
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix Environmental Laboratories, Inc.
COD	SM5220D-97	94 mg/L	Phoenix Environmental Laboratories, Inc.
Turbidity	SM2130B-01	11.0 NTU	Phoenix Environmental Laboratories, Inc.
TSS	SM2540D-97	38 mg/L	Phoenix Environmental Laboratories, Inc.
TP	SM4500PE-99	0.57 mg/L	Phoenix Environmental Laboratories, Inc.
Ammonia	E350.1	1.09 mg/L	Phoenix Environmental Laboratories, Inc.
TKN	E351.1	3.27 mg/L	Phoenix Environmental Laboratories, Inc.
NO ₃ +NO ₂	E353.2	0.64 mg/L	Phoenix Environmental Laboratories, Inc.
E. coli	SM9223B-04	3,080 col/100 mL	Phoenix Environmental Laboratories, Inc.

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Barbara McKrell, P.E.

Signature: *Barbara McKrell*

Date: 12/27/15



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

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Stonington
Mailing Address: 152 Elm Street, Stonington, CT 06378
Contact Person: Barbara McKrell, P.E. Title: DPW Director Phone: 860-535-5055
Permit Registration # GSM000056

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): I1 - Outfall on east side of road at intersection of
Clark Street, River Road and Mechanic Street in Pawcatuck
Please circle the appropriate area description: Industrial Commercial or Residential
Receiving Water (name, basin): Pawcatuck River, Pawcatuck River Drainage Basin
Time of Start of Discharge: unknown
Date/Time Collected: 9-10-15 at 9:10 am Water Temperature: _____
Person Collecting Sample: Josh Messina of ECS, Inc.
Storm Magnitude (inches): approx. 2.74 Storm Duration (hours): approx. 17.5
Date of Previous Storm Event: 8-24-15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500-H B-00	5.94 SU	Phoenix Environmental Laboratories, Inc.
Rain pH	Litmus Paper	6.0 SU	ECS, Inc.
Hardness	E200.7	9.9 mg/L	Phoenix Environmental Laboratories, Inc.
Conductivity	SM2510B-97	72 umhos/cm	Phoenix Environmental Laboratories, Inc.
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix Environmental Laboratories, Inc.
COD	SM5220D-97	66 mg/L	Phoenix Environmental Laboratories, Inc.
Turbidity	SM2130B-01	10.7 NTU	Phoenix Environmental Laboratories, Inc.
TSS	SM2540D-97	13 mg/L	Phoenix Environmental Laboratories, Inc.
TP	SM4500PE-99	0.47 mg/L	Phoenix Environmental Laboratories, Inc.
Ammonia	E350.1	0.76 mg/L	Phoenix Environmental Laboratories, Inc.
TKN	E351.1	1.94 mg/L	Phoenix Environmental Laboratories, Inc.
NO ₃ +NO ₂	E353.2	0.50 mg/L	Phoenix Environmental Laboratories, Inc.
E. coli	SM9223B-04	4,880 col/100 mL	Phoenix Environmental Laboratories, Inc.

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Barbara McKrell, P.E.

Signature:  Date: 12/27/15



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

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Stonington

Mailing Address: 152 Elm Street, Stonington, CT 06378

Contact Person: Barbara McKrell, P.E. Title: DPW Director Phone: 860-535-5055

Permit Registration # GSM000056

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): I2 - Catch basin on north side of road across from
5 Edgemont Street in Mystic

Please circle the appropriate area description: Industrial Commercial or Residential

Receiving Water (name, basin): Mystic Harbor, Southeast Shoreline Drainage Basin

Time of Start of Discharge: unknown

Date/Time Collected: 9-10-15 at 10:40 am

Water Temperature: _____

Person Collecting Sample: Josh Messina of ECS, Inc.

Storm Magnitude (inches): approx. 2.74

Storm Duration (hours): approx. 17.5

Date of Previous Storm Event: 8-24-15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500-H B-00	6.69 SU	Phoenix Environmental Laboratories, Inc.
Rain pH	Litmus Paper	6.0 SU	ECS, Inc.
Hardness	E200.7	131 mg/L	Phoenix Environmental Laboratories, Inc.
Conductivity	SM2510B-97	1,090 umhos/cm	Phoenix Environmental Laboratories, Inc.
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix Environmental Laboratories, Inc.
COD	SM5220D-97	216 mg/L	Phoenix Environmental Laboratories, Inc.
Turbidity	SM2130B-01	146 NTU	Phoenix Environmental Laboratories, Inc.
TSS	SM2540D-97	1,100 mg/L	Phoenix Environmental Laboratories, Inc.
TP	SM4500PE-99	1.57 mg/L	Phoenix Environmental Laboratories, Inc.
Ammonia	E350.1	0.44 mg/L	Phoenix Environmental Laboratories, Inc.
TKN	E351.1	5.33 mg/L	Phoenix Environmental Laboratories, Inc.
NO ₃ +NO ₂	E353.2	0.92 mg/L	Phoenix Environmental Laboratories, Inc.
E. coli	SM9223B-04	17,330 col/100 mL	Phoenix Environmental Laboratories, Inc.

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Barbara McKrell, P.E.

Signature: *Barbara McKrell*

Date: 12/27/15



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

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Stonington
Mailing Address: 152 Elm Street, Stonington, CT 06378
Contact Person: Barbara McKrell, P.E. Title: DPW Director Phone: 860-535-5055
Permit Registration # GSM000056

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): R1 - Outfall at northeast end of Walnut Street in Pawcatuck
Please circle the appropriate area description: Industrial, Commercial or Residential
Receiving Water (name, basin): Pawcatuck River, Pawcatuck River Drainage Basin
Time of Start of Discharge: unknown
Date/Time Collected: 9-10-15 at 8:45 am Water Temperature: _____
Person Collecting Sample: Josh Messina of ECS, Inc.
Storm Magnitude (inches): approx. 2.74 Storm Duration (hours): approx. 17.5
Date of Previous Storm Event: 8-24-15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500-H B-00	5.76 SU	Phoenix Environmental Laboratories, Inc.
Rain pH	Litmus Paper	6.0 SU	ECS, Inc.
Hardness	E200.7	15.2 mg/L	Phoenix Environmental Laboratories, Inc.
Conductivity	SM2510B-97	107 umhos/cm	Phoenix Environmental Laboratories, Inc.
Oil & Grease	EPA 1664A	<1.5 mg/L	Phoenix Environmental Laboratories, Inc.
COD	SM5220D-97	193 mg/L	Phoenix Environmental Laboratories, Inc.
Turbidity	SM2130B-01	8.81 NTU	Phoenix Environmental Laboratories, Inc.
TSS	SM2540D-97	14 mg/L	Phoenix Environmental Laboratories, Inc.
TP	SM4500PE-99	2.63 mg/L	Phoenix Environmental Laboratories, Inc.
Ammonia	E350.1	1.69 mg/L	Phoenix Environmental Laboratories, Inc.
TKN	E351.1	6.57 mg/L	Phoenix Environmental Laboratories, Inc.
NO ₃ +NO ₂	E353.2	1.41 mg/L	Phoenix Environmental Laboratories, Inc.
E. coli	SM9223B-04	>24,200 col/100 mL	Phoenix Environmental Laboratories, Inc.

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Barbara McKrell, P.E.

Signature:  Date: 12/27/15



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

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Stonington
Mailing Address: 152 Elm Street, Stonington, CT 06378
Contact Person: Barbara McKrell, P.E. Title: DPW Director Phone: 860-535-5055
Permit Registration # GSM000056

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): R2 - Catch basin on northeast side of road
between 19 and 21 Church Street in Mystic

Please circle the appropriate area description: Industrial, Commercial or Residential

Receiving Water (name, basin): Mystic River, Mystic River Drainage Basin

Time of Start of Discharge: unknown

Date/Time Collected: 9-10-15 at 10:50 am Water Temperature: _____

Person Collecting Sample: Josh Messina of ECS, Inc.

Storm Magnitude (inches): approx. 2.74 Storm Duration (hours): approx. 17.5

Date of Previous Storm Event: 8-24-15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500-H B-00	6.88 SU	Phoenix Environmental Laboratories, Inc.
Rain pH	Litmus Paper	6.0 SU	ECS, Inc.
Hardness	E200.7	1,730 mg/L	Phoenix Environmental Laboratories, Inc.
Conductivity	SM2510B-97	16,200 umhos/cm	Phoenix Environmental Laboratories, Inc.
Oil & Grease	EPA 1664A	2.8 mg/L	Phoenix Environmental Laboratories, Inc.
COD	SM5220D-97	236 mg/L	Phoenix Environmental Laboratories, Inc.
Turbidity	SM2130B-01	40.2 NTU	Phoenix Environmental Laboratories, Inc.
TSS	SM2540D-97	51 mg/L	Phoenix Environmental Laboratories, Inc.
TP	SM4500PE-99	0.46 mg/L	Phoenix Environmental Laboratories, Inc.
Ammonia	E350.1	0.45 mg/L	Phoenix Environmental Laboratories, Inc.
TKN	E351.1	1.81 mg/L	Phoenix Environmental Laboratories, Inc.
NO ₃ +NO ₂	E353.2	0.54 mg/L	Phoenix Environmental Laboratories, Inc.
E. coli	SM9223B-04	>24,200 col/100 mL	Phoenix Environmental Laboratories, Inc.

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Barbara McKrell, P.E.

Signature: [Signature] Date: 12/27/15



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

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Stonington

Mailing Address: 152 Elm Street, Stonington, CT 06378

Contact Person: Barbara McKrell, P.E. Title: DPW Director Phone: 860-535-5055

Permit Registration # GSM000056

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): R3 - Catch basin on east side of road across from
9 Cove Road in Stonington

Please circle the appropriate area description: Industrial, Commercial or Residential

Receiving Water (name, basin): Quiambog Cove, Copps Brook Drainage Basin

Time of Start of Discharge: unknown

Date/Time Collected: 9-10-15 at 10:15 am

Water Temperature: _____

Person Collecting Sample: Josh Messina of ECS, Inc.

Storm Magnitude (inches): approx. 2.74

Storm Duration (hours): approx. 17.5

Date of Previous Storm Event: 8-24-15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500-H B-00	7.32 SU	Phoenix Environmental Laboratories, Inc.
Rain pH	Litmus Paper	6.0 SU	ECS, Inc.
Hardness	E200.7	5,730 mg/L	Phoenix Environmental Laboratories, Inc.
Conductivity	SM2510B-97	57,700 umhos/cm	Phoenix Environmental Laboratories, Inc.
Oil & Grease	EPA 1664A	3.2 mg/L	Phoenix Environmental Laboratories, Inc.
COD	SM5220D-97	880 mg/L	Phoenix Environmental Laboratories, Inc.
Turbidity	SM2130B-01	143 NTU	Phoenix Environmental Laboratories, Inc.
TSS	SM2540D-97	1,600 mg/L	Phoenix Environmental Laboratories, Inc.
TP	SM4500PE-99	0.13 mg/L	Phoenix Environmental Laboratories, Inc.
Ammonia	E350.1	0.27 mg/L	Phoenix Environmental Laboratories, Inc.
TKN	E351.1	1.14 mg/L	Phoenix Environmental Laboratories, Inc.
NO ₃ +NO ₂	E353.2	0.08 mg/L	Phoenix Environmental Laboratories, Inc.
E. coli	SM9223B-04	3,650 col/100 mL	Phoenix Environmental Laboratories, Inc.

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Barbara McKrell, P.E.

Signature: *Barbara McKrell*

Date: 12/27/15



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

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Stonington

Mailing Address: 152 Elm Street, Stonington, CT 06378

Contact Person: Barbara McKrell, P.E. Title: DPW Director Phone: 860-535-5055

Permit Registration # GSM000056

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): R4 - Catch basin at southeast corner of
Quanaduck Road in Stonington

Please circle the appropriate area description: Industrial, Commercial or Residential

Receiving Water (name, basin): Quanaduck Cove, Southeast Shoreline Drainage Basin

Time of Start of Discharge: unknown

Date/Time Collected: 9-10-15 at 10:00 pm Water Temperature: _____

Person Collecting Sample: Josh Messina of ECS, Inc.

Storm Magnitude (inches): approx. 2.74 Storm Duration (hours): approx. 17.5

Date of Previous Storm Event: 8-24-15

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500-H B-00	6.72 SU	Phoenix Environmental Laboratories, Inc.
Rain pH	Litmus Paper	6.0 SU	ECS, Inc.
Hardness	E200.7	22.4 mg/L	Phoenix Environmental Laboratories, Inc.
Conductivity	SM2510B-97	183 umhos/cm	Phoenix Environmental Laboratories, Inc.
Oil & Grease	EPA 1664A	<1.4 mg/L	Phoenix Environmental Laboratories, Inc.
COD	SM5220D-97	120 mg/L	Phoenix Environmental Laboratories, Inc.
Turbidity	SM2130B-01	6.92 NTU	Phoenix Environmental Laboratories, Inc.
TSS	SM2540D-97	12 mg/L	Phoenix Environmental Laboratories, Inc.
TP	SM4500PE-99	1.00 mg/L	Phoenix Environmental Laboratories, Inc.
Ammonia	E350.1	1.42 mg/L	Phoenix Environmental Laboratories, Inc.
TKN	E351.1	3.78 mg/L	Phoenix Environmental Laboratories, Inc.
NO ₃ +NO ₂	E353.2	0.53 mg/L	Phoenix Environmental Laboratories, Inc.
E. coli	SM9223B-04	>24,200 col/100 mL	Phoenix Environmental Laboratories, Inc.

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Barbara McKrell, P.E.

Signature: *Barbara McKrell* Date: 12/27/15

**LABORATORY REPORT
AND
CHAIN OF CUSTODY**



Friday, September 18, 2015

Attn: Mr Joshua Messina
Environmental Compliance Services
33 Business Park Drive
Branford, CT 06405

Project ID: 07-213703
Sample ID#s: BJ89730 - BJ89739

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 18, 2015

FOR: Attn: Mr Joshua Messina
Environmental Compliance Services
33 Business Park Drive
Branford, CT 06405

Sample Information

Matrix: STORM WATER
Location Code: ECS-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LK
Analyzed by: see "By" below

Date Time

09/10/15 9:00
09/10/15 13:36

Laboratory Data

SDG ID: GBJ89730
Phoenix ID: BJ89730

Project ID: 07-213703
Client ID: STON C-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO ₃)	14.2	0.1	mg/L	1	09/11/15		E200.7
Escherichia Coli	10460	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SM9223B-04
Total Coliforms	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SW9223B
C.O.D.	107	10	mg/L	1	09/11/15	MSF	SM5220D-97
Conductivity	72	5	umhos/cm	1	09/11/15	RR/EG	SM2510B-97
Ammonia as Nitrogen	0.83	0.25	mg/L	5	09/11/15	WHM	E350.1
Nitrite-N	0.04	0.01	mg/L	1	09/10/15 20:51	CAL	E353.2
Nitrate-N	0.51	0.02	mg/L	1	09/10/15 20:51	CAL	E353.2
Oil and Grease by EPA 1664	3.5	1.4	mg/L	1	09/16/15	MA	E1664A
pH	6.90	0.10	pH Units	1	09/11/15 00:52	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	2.62	0.50	mg/L	5	09/11/15	WHM	E351.1
Phosphorus, as P	0.32	0.01	mg/L	1	09/11/15	JR	SM4500PE-99
Total Suspended Solids	34	5.0	mg/L	1	09/11/15	CL/KH	SM2540D-97
Turbidity	30.9	0.20	NTU	1	09/10/15 17:03	RR/EG	SM2130B-01
Total Metals Digestion	Completed				09/10/15	AG	

Project ID: 07-213703

Client ID: STON C-1

Phoenix I.D.: BJ89730

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

September 18, 2015

Reviewed and Released by: Ethan Lee, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 18, 2015

FOR: Attn: Mr Joshua Messina
Environmental Compliance Services
33 Business Park Drive
Branford, CT 06405

Sample Information

Matrix: STORM WATER
Location Code: ECS-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LK
Analyzed by: see "By" below

Date Time

09/10/15 11:10
09/10/15 13:36

Laboratory Data

SDG ID: GBJ89730
Phoenix ID: BJ89731

Project ID: 07-213703
Client ID: STON C-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO ₃)	13.3	0.1	mg/L	1	09/11/15		E200.7
Escherichia Coli	3080	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SM9223B-04
Total Coliforms	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SW9223B
C.O.D.	94	10	mg/L	1	09/11/15	MSF	SM5220D-97
Conductivity	75	5	umhos/cm	1	09/11/15	RR/EG	SM2510B-97
Ammonia as Nitrogen	1.09	0.10	mg/L	2	09/11/15	WHM	E350.1
Nitrite-N	0.02	0.01	mg/L	1	09/10/15 20:52	CAL	E353.2
Nitrate-N	0.62	0.02	mg/L	1	09/10/15 20:52	CAL	E353.2
Oil and Grease by EPA 1664	< 1.4	1.4	mg/L	1	09/16/15	MA	E1664A
pH	6.41	0.10	pH Units	1	09/11/15 00:55	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	3.27	0.20	mg/L	2	09/11/15	WHM	E351.1
Phosphorus, as P	0.57	0.01	mg/L	1	09/11/15	JR	SM4500PE-99
Total Suspended Solids	38	5.0	mg/L	1	09/11/15	CL/KH	SM2540D-97
Turbidity	11.0	0.20	NTU	1	09/10/15 17:03	RR/EG	SM2130B-01
Total Metals Digestion	Completed				09/10/15	AG	

Project ID: 07-213703

Client ID: STON C-2

Phoenix I.D.: BJ89731

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director

September 18, 2015

Reviewed and Released by: Ethan Lee, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 18, 2015

FOR: Attn: Mr Joshua Messina
Environmental Compliance Services
33 Business Park Drive
Branford, CT 06405

Sample Information

Matrix: STORM WATER
Location Code: ECS-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LK
Analyzed by: see "By" below

Date Time

09/10/15 9:10
09/10/15 13:36

Laboratory Data

SDG ID: GBJ89730
Phoenix ID: BJ89732

Project ID: 07-213703

Client ID: STON I-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO ₃)	9.9	0.1	mg/L	1	09/11/15		E200.7
Escherichia Coli	4880	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SM9223B-04
Total Coliforms	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SW9223B
C.O.D.	66	10	mg/L	1	09/11/15	MSF	SM5220D-97
Conductivity	72	5	umhos/cm	1	09/11/15	RR/EG	SM2510B-97
Ammonia as Nitrogen	0.76	0.25	mg/L	5	09/14/15	WHM	E350.1
Nitrite-N	0.02	0.01	mg/L	1	09/10/15 20:53	CAL	E353.2
Nitrate-N	0.48	0.02	mg/L	1	09/10/15 20:53	CAL	E353.2
Oil and Grease by EPA 1664	< 1.4	1.4	mg/L	1	09/16/15	MA	E1664A
pH	5.94	0.10	pH Units	1	09/11/15 00:58	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	1.94	0.50	mg/L	5	09/14/15	WHM	E351.1
Phosphorus, as P	0.47	0.01	mg/L	1	09/11/15	JR	SM4500PE-99
Total Suspended Solids	13	5.0	mg/L	1	09/11/15	CL/KH	SM2540D-97
Turbidity	10.7	0.20	NTU	1	09/10/15 17:03	RR/EG	SM2130B-01
Total Metals Digestion	Completed				09/10/15	AG	

Project ID: 07-213703

Client ID: STON I-1

Phoenix I.D.: BJ89732

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

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Phyllis Shiller, Laboratory Director

September 18, 2015

Reviewed and Released by: Ethan Lee, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 18, 2015

FOR: Attn: Mr Joshua Messina
Environmental Compliance Services
33 Business Park Drive
Branford, CT 06405

Sample Information

Matrix: STORM WATER
Location Code: ECS-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LK
Analyzed by: see "By" below

Date Time

09/10/15 10:40
09/10/15 13:36

Laboratory Data

SDG ID: GBJ89730
Phoenix ID: BJ89733

Project ID: 07-213703
Client ID: STON I-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO ₃)	131	0.1	mg/L	1	09/11/15		E200.7
Escherichia Coli	17330	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SM9223B-04
Total Coliforms	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SW9223B
C.O.D.	216	10	mg/L	1	09/11/15	MSF	SM5220D-97
Conductivity	1090	5	umhos/cm	1	09/11/15	RR/EG	SM2510B-97
Ammonia as Nitrogen	0.44	0.25	mg/L	5	09/14/15	WHM	E350.1
Nitrite-N	0.02	0.01	mg/L	1	09/10/15 20:57	CAL	E353.2
Nitrate-N	0.90	0.02	mg/L	1	09/10/15 20:57	CAL	E353.2
Oil and Grease by EPA 1664	< 1.4	1.4	mg/L	1	09/16/15	MA	E1664A
pH	6.69	0.10	pH Units	1	09/11/15 01:00	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	5.33	0.50	mg/L	5	09/14/15	WHM	E351.1
Phosphorus, as P	1.57	0.02	mg/L	2	09/11/15	JR	SM4500PE-99
Total Suspended Solids	1100	10	mg/L	2	09/11/15	CL/KH	SM2540D-97
Turbidity	146	0.20	NTU	1	09/10/15 17:03	RR/EG	SM2130B-01
Total Metals Digestion	Completed				09/10/15	AG	

Project ID: 07-213703

Client ID: STON I-2

Phoenix I.D.: BJ89733

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director

September 18, 2015

Reviewed and Released by: Ethan Lee, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 18, 2015

FOR: Attn: Mr Joshua Messina
Environmental Compliance Services
33 Business Park Drive
Branford, CT 06405

Sample Information

Matrix: STORM WATER
Location Code: ECS-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LK
Analyzed by: see "By" below

Date Time

09/10/15 8:45
09/10/15 13:36

Laboratory Data

SDG ID: GBJ89730
Phoenix ID: BJ89734

Project ID: 07-213703
Client ID: STON R-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO ₃)	15.2	0.1	mg/L	1	09/11/15		E200.7
Escherichia Coli	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SM9223B-04
Total Coliforms	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SW9223B
C.O.D.	193	10	mg/L	1	09/11/15	MSF	SM5220D-97
Conductivity	107	5	umhos/cm	1	09/11/15	RR/EG	SM2510B-97
Ammonia as Nitrogen	1.69	0.25	mg/L	5	09/14/15	WHM	E350.1
Nitrite-N	0.04	0.01	mg/L	1	09/10/15 20:58	CAL	E353.2
Nitrate-N	1.37	0.02	mg/L	1	09/10/15 20:58	CAL	E353.2
Oil and Grease by EPA 1664	< 1.5	1.5	mg/L	1	09/16/15	MA	E1664A
pH	5.76	0.10	pH Units	1	09/11/15 01:03	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	6.57	0.50	mg/L	5	09/14/15	WHM	E351.1
Phosphorus, as P	2.63	0.05	mg/L	5	09/11/15	JR	SM4500PE-99
Total Suspended Solids	14	5.0	mg/L	1	09/11/15	CL/KH	SM2540D-97
Turbidity	8.81	0.20	NTU	1	09/10/15 17:03	RR/EG	SM2130B-01
Total Metals Digestion	Completed				09/10/15	AG	

Project ID: 07-213703

Client ID: STON R-1

Phoenix I.D.: BJ89734

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

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Phyllis Shiller, Laboratory Director

September 18, 2015

Reviewed and Released by: Ethan Lee, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 18, 2015

FOR: Attn: Mr Joshua Messina
Environmental Compliance Services
33 Business Park Drive
Branford, CT 06405

Sample Information

Matrix: STORM WATER
Location Code: ECS-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LK
Analyzed by: see "By" below

Date Time

09/10/15 10:50
09/10/15 13:36

Laboratory Data

SDG ID: GBJ89730
Phoenix ID: BJ89735

Project ID: 07-213703
Client ID: STON R-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO ₃)	1730	0.1	mg/L	1	09/15/15		E200.7
Escherichia Coli	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SM9223B-04
Total Coliforms	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SW9223B
C.O.D.	236	10	mg/L	1	09/11/15	MSF	SM5220D-97
Conductivity	16200	5	umhos/cm	1	09/11/15	BS/EG	SM2510B-97
Ammonia as Nitrogen	0.45	0.25	mg/L	5	09/14/15	WHM	E350.1
Nitrite-N	0.02	0.01	mg/L	1	09/10/15 20:59	CAL	E353.2
Nitrate-N	0.52	0.02	mg/L	1	09/10/15 20:59	CAL	E353.2
Oil and Grease by EPA 1664	2.8	1.4	mg/L	1	09/16/15	MA	E1664A
pH	6.88	0.10	pH Units	1	09/11/15 01:11	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	1.81	0.50	mg/L	5	09/14/15	WHM	E351.1
Phosphorus, as P	0.46	0.01	mg/L	1	09/11/15	JR	SM4500PE-99
Total Suspended Solids	51	5.0	mg/L	1	09/11/15	CL/KH	SM2540D-97
Turbidity	40.2	0.20	NTU	1	09/10/15 17:03	RR/EG	SM2130B-01
Total Metals Digestion	Completed				09/10/15	AG	

Project ID: 07-213703

Client ID: STON R-2

Phoenix I.D.: BJ89735

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

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Phyllis Shiller, Laboratory Director

September 18, 2015

Reviewed and Released by: Ethan Lee, Project Manager



Environmental Laboratories, Inc.

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 18, 2015

FOR: Attn: Mr Joshua Messina
Environmental Compliance Services
33 Business Park Drive
Branford, CT 06405

Sample Information

Matrix: STORM WATER
Location Code: ECS-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LK
Analyzed by: see "By" below

Date Time
09/10/15 10:15
09/10/15 13:36

Laboratory Data

SDG ID: GBJ89730
Phoenix ID: BJ89736

Project ID: 07-213703
Client ID: STON R-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO ₃)	5730	0.1	mg/L	1	09/15/15		E200.7
Escherichia Coli	3650	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SM9223B-04
Total Coliforms	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SW9223B
C.O.D.	880	20	mg/L	2	09/11/15	MSF	SM5220D-97
Conductivity	57700	5	umhos/cm	1	09/11/15	BS/EG	SM2510B-97
Ammonia as Nitrogen	0.27	0.10	mg/L	2	09/14/15	WHM	E350.1
Nitrite-N	< 0.01	0.01	mg/L	1	09/10/15 21:01	CAL	E353.2
Nitrate-N	0.08	0.02	mg/L	1	09/10/15 21:01	CAL	E353.2
Oil and Grease by EPA 1664	3.2	1.4	mg/L	1	09/16/15	MA	E1664A
pH	7.32	0.10	pH Units	1	09/11/15 01:15	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	1.14	0.20	mg/L	2	09/14/15	WHM	E351.1
Phosphorus, as P	0.13	0.01	mg/L	1	09/11/15	JR	SM4500PE-99
Total Suspended Solids	1600	10	mg/L	2	09/11/15	CL/KH	SM2540D-97
Turbidity	143	0.20	NTU	1	09/10/15 17:03	RR/EG	SM2130B-01
Total Metals Digestion	Completed				09/10/15	AG	

Project ID: 07-213703

Client ID: STON R-3

Phoenix I.D.: BJ89736

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director

September 18, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 18, 2015

FOR: Attn: Mr Joshua Messina
Environmental Compliance Services
33 Business Park Drive
Branford, CT 06405

Sample Information

Matrix: STORM WATER
Location Code: ECS-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: LK
Analyzed by: see "By" below

Date Time

09/10/15 10:00
09/10/15 13:36

Laboratory Data

SDG ID: GBJ89730
Phoenix ID: BJ89737

Project ID: 07-213703

Client ID: STON R-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Hardness (CaCO ₃)	22.4	0.1	mg/L	1	09/11/15		E200.7
Escherichia Coli	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SM9223B-04
Total Coliforms	>24200	10	MPN/100 mls	10	09/10/15 16:00	CB/RM	SW9223B
C.O.D.	120	10	mg/L	1	09/11/15	MSF	SM5220D-97
Conductivity	183	5	umhos/cm	1	09/11/15	RR/EG	SM2510B-97
Ammonia as Nitrogen	1.42	0.25	mg/L	5	09/14/15	WHM	E350.1
Nitrite-N	0.04	0.01	mg/L	1	09/10/15 21:02	CAL	E353.2
Nitrate-N	0.49	0.02	mg/L	1	09/10/15 21:02	CAL	E353.2
Oil and Grease by EPA 1664	< 1.4	1.4	mg/L	1	09/16/15	MA	E1664A
pH	6.72	0.10	pH Units	1	09/11/15 01:18	RR/EG	SM4500-H B-00
Nitrogen Tot Kjeldahl	3.78	0.50	mg/L	5	09/14/15	WHM	E351.1
Phosphorus, as P	1.00	0.05	mg/L	5	09/11/15	JR	SM4500PE-99
Total Suspended Solids	12	5.0	mg/L	1	09/11/15	CL/KH	SM2540D-97
Turbidity	6.92	0.20	NTU	1	09/10/15 17:03	RR/EG	SM2130B-01
Total Metals Digestion	Completed					AG/T	

Project ID: 07-213703

Client ID: STON R-4

Phoenix I.D.: BJ89737

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director

September 18, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 18, 2015

QA/QC Data

SDG I.D.: GBJ89730

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 319892 (mg/L), QC Sample No: BJ89277 (BJ89730, BJ89731)													
Ammonia as Nitrogen	BRL	0.05	0.30	0.29	3.40	105			106			85 - 115	20
Nitrogen Tot Kjeldahl	BRL	0.10	1.19	1.19	0	96.7			102			85 - 115	20
QA/QC Batch 320010 (umhos/cm), QC Sample No: BJ89630 (BJ89730, BJ89731, BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739)													
Conductivity	BRL	5.0		1190		98.3						85 - 115	20
QA/QC Batch 319992 (pH), QC Sample No: BJ89630 (BJ89730, BJ89731, BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739)													
pH				7.35		97.9						85 - 115	20
QA/QC Batch 319960 (mg/L), QC Sample No: BJ89632 (BJ89730, BJ89731, BJ89732)													
C.O.D.	BRL	10	12	12	NC	99.7			101			85 - 115	20
QA/QC Batch 319967 (mg/L), QC Sample No: BJ89682 (BJ89730, BJ89731, BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737)													
Phosphorus, as P	BRL	0.01	8.0	8.1	1.20	104			96.2			85 - 115	20
QA/QC Batch 320039 (mg/L), QC Sample No: BJ89694 (BJ89730, BJ89731, BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739)													
Total Suspended Solids	BRL	5.0	<5.0	<5.0	NC	85.0						85 - 115	20
QA/QC Batch 320117 (umhos/cm), QC Sample No: BJ89697 (BJ89735, BJ89736, BJ89738)													
Conductivity	BRL	5.0		231		99.2						85 - 115	20
QA/QC Batch 320406 (mg/L), QC Sample No: BJ89705 (BJ89730, BJ89731, BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739)													
Oil and Grease by EPA 1664	BRL	1.4				98.0						85 - 115	20
QA/QC Batch 320048 (mg/L), QC Sample No: BJ89792 (BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739)													
Ammonia as Nitrogen	BRL	0.05	0.08	0.08	NC	104			101			85 - 115	20
Nitrogen Tot Kjeldahl	BRL	0.10	0.80	0.82	2.50	98.1			97.7			85 - 115	20
QA/QC Batch 319968 (mg/L), QC Sample No: BJ89830 (BJ89738, BJ89739)													
Phosphorus, as P	BRL	0.01	0.07	0.06	15.4	103			100			85 - 115	20
QA/QC Batch 319938 (mg/L), QC Sample No: BJ89837 (BJ89730, BJ89731, BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	100			103			85 - 115	20
Nitrite-N	BRL	0.01	0.03	0.03	NC	114			95.7			85 - 115	20
QA/QC Batch 319961 (mg/L), QC Sample No: BJ89918 (BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739)													
C.O.D.	BRL	10	12	12	NC	99.7			103			85 - 115	20
QA/QC Batch 319980 (NTU), QC Sample No: BJ90376 (BJ89730, BJ89731, BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739)													
Turbidity	BRL	0.20	41.6	43.4	4.20	109						85 - 115	20

QA/QC Data

SDG I.D.: GBJ89730

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

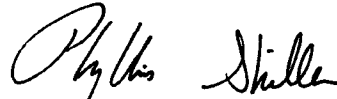
LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference



Phyllis Shiller, Laboratory Director
September 18, 2015

Sample Criteria Exceedences Report GBJ89730 - ECS-DAS

Criteria: None

State: CT

SampNo Acode Phoenix Analyte

Criteria

Result

RL

Criteria

RL

Analysis
Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Phoenix Environmental Labs, Inc. **Client:** Environmental Compliance Service

Project Location: 07-213703

Project Number:

Laboratory Sample ID(s): BJ89730, BJ89731, BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739

Sampling Date(s): 9/10/2015

RCP Methods Used:

☐ 1311/1312 ☐ 6010 ☐ 7000 ☐ 7196 ☐ 7470/7471 ☐ 8081 ☐ EPH ☐ TO15
☐ 8082 ☐ 8151 ☐ 8260 ☐ 8270 ☐ ETPH ☐ 9010/9012 ☐ VPH

1.	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1a.	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b.	EPH and VPH methods only: Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2.	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3.	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
4.	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5a.	Were reporting limits specified or referenced on the chain-of-custody?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5b.	Were these reporting limits met?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
6.	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
7.	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA

Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized
Signature:

Ethan Lee

Date: Friday, September 18, 2015

Printed Name: Ethan Lee

Position: Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

September 18, 2015

SDG I.D.: GBJ89730

ICP Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Blue 09/11/15-1 (BJ89730, BJ89731, BJ89732, BJ89733, BJ89734, BJ89735, BJ89736, BJ89737, BJ89738, BJ89739)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 9/11/2015

Instrument: Blue 09/14/15-1 (BJ89735, BJ89736, BJ89738)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 9/14/2015

Instrument: Blue 09/15/15-1 (BJ89735, BJ89736, BJ89738)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 9/15/2015

Temperature Narration

The samples in this delivery group were received at 3°C.



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RCP Certification Report

September 18, 2015

SDG I.D.: GBJ89730

(Note acceptance criteria is above freezing up to 6°C)



CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Cooler: Yes ☒ No ☐
Coolant: IPK ☐ ICE ☒
Temp 2 °C Pg 1 of 1

Contact Options:

Fax: 203-488-9481
Phone: 203-488-9481
Email: mesing@phoenixlabs.com

Customer: EC5 Project: 07-213703
Address: 33 Business Park Drive Report to: Josh Mesing
Branford, CT 06405 Invoice to: EC5

This section MUST be completed with Bottle Quantities.

Client Sample Information - Identification

Sampler's Signature: [Signature] Date: 9/10/15
Matrix Codes: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
OIL=Oil B=Bulk L=Liquid

Analysis Request

Oil + Grease Turbidity
Ammonia
Nitrate + Nitrite
EC

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
89730	Ston C-1	SW	9/10/15	9:00
89731	Ston C-2			11:10
89732	Ston I-1			9:10
89733	Ston I-2			10:40
89734	Ston R-1			8:45
89735	Ston R-2			10:50
89736	Ston R-3			10:15
89737	Ston R-4			10:00
89738	SB-1			9:30
89739	SB-2	SW	9/10/15	9:45

Relinquished by: [Signature] Accepted by: [Signature]

Date: 9/10/15 Time: 13:30

RI ☐ Direct Exposure (Residential)
☐ GW
☐ Other

CI ☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA ☐ MCP Certification
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQUIS
☐ Other
Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

Comments, Special Requirements or Regulations:

Please use CT DAS
notes

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

State where samples were collected: CT

* SURCHARGE APPLIES