

Stormwater Management Plan 2012 Annual Report

Town of Belchertown
Belchertown, Massachusetts

May 2012



FUSS & O'NEILL

78 Interstate Drive
West Springfield, MA 01089

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General Information

Stormwater Management Plan 2012 Annual Report Town of Belchertown

Municipality/Organization: Town of Belchertown

EPA NPDES Permit Number: MA041002

Annual Report Number and Reporting Period: Report #9: May 1, 2011 through April 30, 2012

Contact Person: Steven J. Williams
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Self Assessment:

The Town of Belchertown has completed the required self-assessment and has determined that the municipality is in compliance with all permit conditions.

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Printed Name: STEVEN J. WILLIAMS

Title: PUBLIC WORKS DIRECTOR

Date: 4-20-12

1 Introduction

The Town of Belchertown developed a Stormwater Management Plan (SWMP) to comply with the *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4 General Permit)* issued jointly by the United States Environmental Protection Agency (USEPA) and the Massachusetts Department of Environmental Protection (MA DEP) (effective May 1, 2003, expiring this year). The Town was granted coverage under this permit (MAR041002) on September 12, 2003. The Phase II regulated area in Belchertown consists of an approximately 1.8-square mile area located in the southwest portion of the Town. The General Permit requires the Town to prepare an Annual Report. This document constitutes the Town's Annual Report and summarizes the activities conducted to satisfy the permit requirements, modifications to the plan, and activities scheduled for the upcoming year. A copy of the modified SWMP Summary is included as *Appendix A*.

2 Public Education and Outreach

2.1 School Programs

As described in the SWMP, the Belchertown public school system provides numerous environmental educational programs in its curriculum. These programs will continue to be an integral part of the science curriculum and foster an appreciation for and a sense of responsibility for the environment. All schools participate in recycling programs. During the Year 9 permit year the schools changed over to a single stream recycling program (see *Appendix B* for a copy of the notice distributed regarding the program). Overall, approximately 2,600 students received environmental-related education as a regular part of the school curriculum.

In Year 9 the Science Department continued to conduct classes and experiments at the Foley Field/Lake Wallace property. These events were a joint effort of the Belchertown High School and Swift River Elementary School.

The community also continues to develop the Lake Wallace Project, which would create a natural outdoor environment that: offers students a unique learning opportunity outside of the classroom; allows the incorporation of real-life teaching strategies into the curriculum, creates a safe haven that is accessible to the community for varied leisure and recreational uses; and maintains a natural resource which is aesthetically pleasing and that becomes a "jewel" of the community.

2.2 Educational Materials Distributed

Copies of the SWMP have been distributed to the public schools and the Town library as an educational resource. The SWMP also identified numerous educational resources for students and teachers. A stormwater link was created on the Town's website which includes links to a copy of the SWMP and annual reports (see *Appendix B* for a copy of the webpage showing the stormwater links). Additionally, a stormwater flyer was developed in 2007 to inform citizens and the development community about and

the Town's Stormwater Bylaw and low impact development (LID) practices. The flyer continued to be distributed in 2011 and is available on the DPW website (a copy was provided with the 2007 annual report).

The Conservation Commission distributed a flyer that describes wetlands protection in Belchertown. The flyer includes details regarding impacts of lawn chemicals on wetlands when conveyed by stormwater (a copy was included in the 2010 annual report). The Conservation Commission distributed a second brochure on wetland protection during year 9 (see *Appendix B* for a copy of the brochure)

As described in *Section 6*, the Town adopted a Stormwater and LID Bylaw and associated regulations in January 2008. A checklist and flowchart were prepared to assist citizens and developers in determining whether the new bylaw applies to their project. This flow chart has been available throughout permit year 8. Copies of these documents were included in the 2009 annual report.

The Town also worked with Pioneer Valley Planning Commission to complete a LID Guidance Document in June 2008 that is currently available to local land use boards, municipal staff, the development community, and the public. A copy of this document was included in the 2009 annual report. The documents are also available on the Town website (link provided to Pioneer Valley Planning Commission page)

A postcard promoting recycling was also disseminated to Belchertown residents with transfer station stickers (a copy was provided in the 2010 annual report).

2.3 Citizen Groups

The following local citizen groups and organizations have been identified in the SWMP that provide public education resources on stormwater quality issues or could provide a public outreach avenue in developing stormwater awareness and developing partnerships with the public:

- Connecticut River Watershed Council
- Pioneer Valley Planning Commission
- Tri-Lakes Association
- Belchertown Land Trust

These groups continue to provide and/or have the capacity to provide public education resources on stormwater quality issues and continue to exist as support for future stormwater education programs in Belchertown.

In Year 8 the Pioneer Valley Planning Commission began revising the regional land use plan, Valley Vision.

2.4 Modifications to Plan

No changes to the Public Education and Outreach Components of the SWMP are proposed at this time.

2.5 Activities Schedule for Next Year

The current MS4 General Permit expired at the end of Year 5. All MS4s in Massachusetts are now covered under an administratively extended version of the prior general permit (MAR041002) until a new permit is issued. Belchertown will implement requirements of the new permit, including modifications to this SWMP as necessary, when it is issued. Activities for the coming year include:

- Continue existing school educational programs.
- Continue to develop the Lake Wallace Project, which would create a natural outdoor environmental classroom

3 Public Participation

3.1 School Programs

Students in the Belchertown public schools are encouraged to volunteer in environmental activities over the summer vacation, in addition to after-school activities. Some of these ongoing programs include:

- An annual science fair open to the public
- Arbor Day ceremonies
- A trail cleanup event coordinated by the Science Department

3.2 Boy and Girl Scouts of America

Boys and girls may be involved in the Scout programs from ages 5 to 17. Scouts are involved in various community service programs and are available to assist with implementation of the Town's stormwater management program.

In Year 9, an Eagle Scout project sponsored by Troop #57, cleared, re-blazed, and placed a picnic table at the Wentworth Conservation Area. In year 10, an Eagle Scout plans to wrap larger trees around the Friends of Scarborough Brook Conservation Area pond with wire for their protection from beavers.

3.3 Community Activities

In Year 8, the Town of Belchertown Conservation Commission was responsible for clearing the existing hiking trail at Lake Wallace, re-blazing the hiking trail and repairing the roof on the Boy Scout hut at Jabish Brook Conservation Area, and re-blazing and clearing the trails at the Wentworth Conservation Area

The Town of Belchertown Conservation Commission has also been working to protect lands within the Town. In Year 9 the Commission protected an additional 640 acres of open space. The Town purchased 290 acres of the Holland Glen Forest with the assistance of a \$500,000.00 Executive Office of Energy and Environmental Affairs Land Acquisition Grant. This 290 acre property, located to the north of Route 9 in Belchertown, contains wildlife habitat and connectivity between the Mt. Holyoke Range State

Park and the Quabbin Reservoir, the upper waterfalls of Holland Glen and a portion of the New England National Trail. The conservation goal for this property is to protect a large tract of contiguous forestland as a Conservation Area. The Intermittent Streams located on this property flow directly into the Lawrence Swamp Aquifer, which supplies drinking water to Amherst and Belchertown. These communities are connected by water and this project is consistent with the goals of the Massachusetts Watershed Initiative by helping to protect a critical watershed, protecting forest-land for endangered species and sharing the responsibility for watershed protection and forest management. In addition, the 340 acres of the Ingate Farm property, located on Bay Road, has now become a part of the Massachusetts Mt. Holyoke State Forest. This property contains a major wildlife corridor connecting this state forest to the Quabbin Reservoir.

In Year 9, the Conservation Commission also hosted a nature hike at Holland Glen Forest and Wentworth Conservation Area in Belchertown (see *Appendix C* for a notice of the event).

The Conservation Commission also spearheaded the adoption of a conservation restriction for Lake Wallace and Foley Field in Year 9 (see *Appendix C* for a copy).

On April 21, 2011, the Department of Public Works (DPW) sponsored an Earth Day trash collection. The DPW provide anyone wishing to collect curbside trash with trash bags. The DPW then accepted the collected trash at the Town Transfer Station for disposal. Sixty-four, 13 gallon bags of trash were collected by residents during this event (see *Appendix C* for additional information and newspaper clippings).

3.4 Stormwater Management Committee

In 2003, the Town established a Stormwater Management Committee to develop and implement the SWMP. The Committee consists of the following Town employees, board members, and an interested citizen:

- Gary Brougham, Town Administrator
- Steven Williams, DPW Director
- LeeAnn Connolly, Conservation Commission Administrator
- Judy Metcalf, Direction of Public Health, Quabbin Health District
- Doug Albertson, Town Planner
- Paul Adzima, Building Inspector
- Ted Bock, Fire Chief
- Don Minney, citizen representative

Members of the committee met during Year 9 to discuss the implementation of the Stormwater Bylaw, associated regulations, and the Town's program on the whole. The Town received its first application under the bylaw in Year 5 and continued to receive applications (21 applications in Year 9). The Committee met once in Year 9 (April 14, 2012). Notes from these meetings can be found in *Appendix C*.

3.5 Public Meetings

The SWMP and Phase II Stormwater Program were presented at a Board of Selectmen's meeting on January 29, 2003. Notice of the meeting was published in a local newspaper approximately one week prior to the meeting. The presentation was taped and aired on the local public access television station. This and previous annual reports are made available to the public on the Town of Belchertown website.

The Stormwater Management Committee intends to continue to meet periodically in Year 10 to review implementation of the bylaw and related issues.

The Belchertown Conservation Commission held forty-six hearings under the Wetlands Protection Act; nineteen of these were Requests for Determination, seventeen were Notices of Intent, four were for permit extensions, two for amended Order of Conditions and one was withdrawn.

In Year 8, the Town of Belchertown was designated a "Green Community" under the Massachusetts Department of Energy Resources program. The goals of the program include maximize energy efficiency in public buildings, including schools, city halls, and public works and public safety buildings; generate clean energy from renewable sources; and manage rising energy costs.

3.6 Citizen Groups

In Year 7, the Board of Selectmen granted an official liaison, Kenneth Elstein, Selectman, to the Tri-Lakes Association.

3.7 Modifications to the SWMP

No changes to the Public Participation components of the SWMP are proposed at this time.

3.8 Activities Planned for Next Year

The current MS4 General Permit expired at the end of Year 5. All MS4s in Massachusetts are now covered under an administratively extended version of the prior general permit (MAR041002) until a new permit is issued. Belchertown will implement requirements of the new permit, including modifications to this SWMP as necessary, when it is issued. Activities for the coming year include:

- Periodic meetings of the Stormwater Committee

4 Illicit Discharge Detection and Elimination

4.1 Activities Conducted

A preliminary storm sewer outfall map showing stormwater outfalls within the Phase II regulated area has been prepared. The preliminary outfall map was prepared from the town's Geographic Information System (GIS) data, which includes storm drainage layers, as well as an initial outfall inventory performed

by DPW staff during March 2003. Dry weather screenings of twenty-five (25) outfalls for detection of illicit discharges were performed on February 9, 2012. Outfalls were inspected using an outfall reconnaissance inventory (ORI) field sheet. Five outfalls had small amount of flow at the time of inspection. However, there was no physical indication (e.g., odor, color, turbidity, etc) that the discharge was of an illicit nature. The outfalls with flow were reinspected on March 9, 2012 – flow continued at these locations; however, it had rained the night prior. Copies of the ORI field data sheets from these dry weather screening events and a summary of follow up actions from the screenings are included in *Appendix D*.

A regulatory review was completed relative to illicit discharge detection and elimination in Belchertown. Although a bylaw does not exist in Belchertown that specifically prohibits illicit discharges, regulatory mechanisms that address non-stormwater discharges are in place to meet this requirement. These include the revised Stormwater Management Standards that were incorporated into the Massachusetts Wetlands Protection Act. These standards, which are administered and enforced by the Conservation Commission, specifically prohibit all non-stormwater discharges (with limited exceptions) to wetlands and watercourses or to stormwater management systems which discharge to wetlands and watercourses. Additionally, the Belchertown Board of Health regulations also address non-stormwater discharges relative to protection of public health and the environment.

4.2 Modifications to the SWMP

No changes to the Illicit Discharge Detection and Elimination component of the SWMP are proposed at this time.

4.3 Activities Planned for Next Year

The current MS4 General Permit expired at the end of Year 5. All MS4s in Massachusetts are now covered under an administratively extended version of the prior general permit (MAR041002) until a new permit is issued. Belchertown will implement requirements of the new permit, including modifications to this SWMP as necessary, when it is issued. Activities for the coming year include:

- Continue to perform an additional round of dry weather screening of outfalls.

5 Construction Site Runoff Controls

5.1 Activities Conducted

Approximately eight new building lots were created along existing town roads through Subdivision Approval Not Required plans. The Planning Board did not review any preliminary subdivision or definitive subdivision plans during permit Year 9. One subdivision was completed during permit Year 9. The Planning Board granted five site plan approvals, of these town-wide projects, two were located within the Phase II regulated area.

The Belchertown Conservation Commission reviewed and commented on all septic system installation permits, site plan reviews and subdivision applications that occurred in the Town in Year 9. The

Commission also reviewed the applications for all forest cutting plans and the Yearly Operational Plans for the vegetation management for the Massachusetts Electric Company and the New England Central Railroad Company.

The Town of Belchertown has adopted a Stormwater Bylaw that regulates construction and post-construction stormwater runoff for new development and redevelopment projects. The bylaw provides a clear set of stormwater management goals, standards, and design criteria to minimize the adverse impacts of stormwater runoff from land development projects. The bylaw also promotes LID and sustainable design practices. Copies of the existing bylaw, associated regulations, and permit application materials were included with prior annual reports. In Year 8, the Town began the process of revising the Stormwater Management Regulations (a copy of the proposed amendments to the regulations was provided in the 2011 annual)

The Stormwater Bylaw addresses construction site runoff and erosion and sediment controls, including inspections and enforcement. Starting in July of 2009, the Conservation Commission administrator, under the guidance of the conservation commission, was assigned as the Stormwater Authority for the Town. Projects subject to the new bylaw will be documented by the Conservation Commission (the Stormwater Authority) and by Reviewing Boards. There were twenty-one stormwater permit applications in Year 9.

In Year 9, the Conservation Commission also conducted numerous site visits to monitor ongoing projects throughout the year including subdivisions currently under construction, ANR lots and Stormwater site visits. In addition, the Commission has dealt with several outstanding enforcement issues and has been concentrating their efforts to bring these projects back into compliance. The Commission has also been working with the new owners of the Cold Spring Golf Course to assist them with the project's resurrection. The anticipated opening is estimated around spring, 2012.

5.2 Modifications to the SWMP

At this time, no changes to the Construction Site Runoff components of the SWMP are proposed.

5.3 Activities Planned for Next Year

The current MS4 General Permit expired at the end of Year 5. All MS4s in Massachusetts are now covered under an administratively extended version of the prior general permit (MAR041002) until a new permit is issued. Belchertown will implement requirements of the new permit, including modifications to this SWMP as necessary, when it is issued. Activities for the coming year include:

- Provide training for Town staff (i.e., land use board members and staff) responsible for reviewing site plans to determine compliance with the proposed Stormwater Bylaw.

6 Post-Construction Stormwater Management

6.1 Activities Conducted

As described in *Section 5.1*, a number of the new development and redevelopment projects that were constructed in Belchertown during the previous year included post-construction stormwater management controls to satisfy the performance standards in the Wetlands Protection Act and 401 Water Quality regulations and the *Massachusetts Stormwater Handbook*.

Specific information on the number of projects and the types of post-construction stormwater management measures was not tracked this year. Activities conducted and their method of tracking will largely be determined as stormwater management permit applications are received.

The Stormwater Bylaw addresses post-construction stormwater management and erosion and sediment controls, including inspections and enforcement. Projects subject to the bylaw will be documented by the Conservation Commission (the Stormwater Authority) and by Reviewing Boards. See *Section 5.1* for more information on permit applications and approvals.

6.2 Modifications to the SWMP

At this time, no changes to the Post-Construction Stormwater Management component of the SWMP are proposed.

6.3 Activities Planned Next Year

The current MS4 General Permit expired at the end of Year 5. All MS4s in Massachusetts are now covered under an administratively extended version of the prior general permit (MAR041002) until a new permit is issued. Belchertown will implement requirements of the new permit, including modifications to this SWMP as necessary, when it is issued. Activities for the coming year include:

- Continue to implement the new Stormwater Bylaw and associated regulations.
- Provide training for Town staff (i.e., land use board members and staff) responsible for reviewing site plans to determine compliance with the proposed Stormwater Bylaw.

7 Pollution Prevention/Good Housekeeping

There are no municipal facilities located within Belchertown's Phase II regulated area. Therefore, the focus of this minimum control measure is to ensure that municipal operation and maintenance activities associated with the infrastructure (e.g., roads and storm drainage system) within the regulated area are performed in a manner to reduce and prevent the discharge of pollutants to stormwater. Activities at other municipally-owned facilities are also addressed in this annual report as they relate to the requirements of this minimum measure.

7.1 Employee Training

Over twenty-two Public Works staff (representing administrative, cemetery, highway, and water staff) received environmental-related training this year. The training included Environmental Compliance as well as other Public Works related training sessions. Stage II Vapor Recovery training requirements have changed and employees of the DPW attended a required Operator Certification Exams (A & B Operators) during Year 9 (see *Appendix E* for an exam notice).

Stormwater training for DPW and other Town employees was conducted on March 28, 2012. The training was conducted in conjunction with annual training required by the EPA industrial stormwater permit program for the highway garage and wastewater treatment plant. The training included education on goals/objectives of the Phase II program, pollution prevention for public works activities, waste management, and good housekeeping. A copy of the employee attendance log is included in *Appendix E*.

7.2 Street Sweeping

All of the streets within the regulated area were swept at least once during the previous year. A street sweeping log has been developed by the Town to record the names of the streets swept and the amount of street sweepings recovered. A copy of this log is included in *Appendix F*. All of the roads in Belchertown were swept by the Town using a Town-owned sweeper (2005 Elgin Pelican) and approximately 1,024 yards of material were recovered throughout the Town. A majority of the roads that were not swept by the Town are privately-owned or State-owned. The DPW continues to follow a program for managing and disposing of street sweepings consistent with the Massachusetts solid waste regulations and applicable DEP guidance.

7.3 Catch Basin Cleaning

Appendix G shows the roads within the Town where catch basins were cleaned in Year 9. The Belchertown DPW inspected a representative cross-section of the catch basins within the regulated area. Forty-seven tons of catch basin spoils were collected in Year 9.

7.4 Stormwater BMP Inspection and Maintenance

Brush and other vegetation within seventeen Town-owned detention basins were cut as needed (see cleaning log in *Appendix H*). All of the facilities were inspected in Year 9.

No stormwater management facilities were accepted by the Town in Year 9.

7.5 Deicer Material Storage

Salt is stored at the DPW maintenance garage inside a dedicated salt storage building, constructed in 2004. Approximately 1,740 tons of salt and 3,115 yards of sand were used in the winter of 2010-2011. No liquid deicers were used during the 2010-2011 winter season.

7.6 Preventative Maintenance

DPW staff conducts weekly inspections of the stage II vapor recovery system and waste oil collection area at the highway garage. Routine maintenance of the Town's fleet of equipment and vehicles is also performed at the highway garage.

7.7 Transfer Station

The Transfer Station and Recycling Center accepts household trash, recyclables, yard waste, waste motor oil, tires, appliances and bulky items such as furniture and mattresses. Approximately 429 tons of general recyclables, 56 tons of scrap metal, 13 tons of textiles/clothing, 13 tons of electronics/computers, 1,050 gallons of waste oil, and 399 tires were collected).

Belchertown sponsored a hazardous wastes collection day on September 17, 2011 – 64 residents participated in the event (see *Appendix I* for a copy of the Attendance List and notices of the event).

7.8 Modification to the SWMP

At this time, no changes to the Pollution Prevention / Good Housekeeping components of the SWMP are proposed.

7.9 Activities Planned Next Year

The current MS4 General Permit expired at the end of Year 5. All MS4s in Massachusetts are now covered under an administratively extended version of the prior general permit (MAR041002) until a new permit is issued. Belchertown will implement requirements of the new permit, including modifications to this SWMP as necessary, when it is issued. Activities for the coming year include:

- Conduct annual stormwater pollution prevention training for Town employees at the highway garage and wastewater treatment plant as a requirement of the EPA Water Multi-Sector General Permit. Incorporate awareness training on waste oil management.
- Continue to maintain record keeping procedures for street sweeping, catch basin cleaning, deicer application and usage, and stormwater BMP inspections and maintenance within the Phase II regulated area.
- Implement the inspection and maintenance schedule that has been developed for storm drainage structures and stormwater BMPs within the Phase II regulated area.
- Conduct street sweeping and catch basin cleaning in the Phase II regulated area.
- Dispose of street sweepings and catch basin cleanings in accordance with MA DEP guidance and regulations.

Appendix A

Revised Stormwater Management Plan Summary

STORMWATER MANAGEMENT PLAN SUMMARY TOWN OF BELCHERTOWN

BMP ID	Minimum Control Measure Best Management Practice (BMP) Description	Permit Year	Measurable Goal	Responsible Party
1	Public Education and Outreach			
1.1	Continue existing school educational programs.	1-10	The number of students receiving stormwater education as a regular part of the school curriculum. The number of programs offered.	Stormwater Committee, School Department
1.2	Provide schools with a copy of the education resources sections of the Plan. Make copies of the stormwater management plan available in the Town library.	1	Distributed plan copies to the schools. Distributed plan copies to the Town library.	Stormwater Committee
1.3	Create a stormwater link on the Town's website, including an electronic version of the stormwater management plan.	2	Created a stormwater link on the Town's website.	Stormwater Committee, MIS Department
1.4	Prepare a general stormwater overview and summary of the Phase II program for distribution as a newspaper flyer, or cable access television announcement. Continue to add materials to the Town's stormwater website.	3	The number of materials created and distributed or the number of stormwater-related articles published. Materials added to Town website.	Stormwater Committee, School Department
1.5	Distribute outreach materials on septic system maintenance, illicit discharges, proper lawn care, yard waste and pet waste disposal, or other issues identified by the Town within the regulated area.	10	The number of materials created and distributed to Town residents.	Stormwater Committee, Board of Health, DPW
1.6	Add a new link to the existing Board of Health website with guidance or recommendations on proper septic system maintenance.	10	Provided septic system maintenance guidance materials on Board of Health website.	Stormwater Committee, Board of Health, MIS Department
2	Public Participation/Involvement			
2.1	Form a Stormwater Committee to assist in developing the Phase II stormwater management plan and to coordinate implementation activities.	1	Formed a stormwater committee.	Stormwater Committee
2.2	Make the stormwater management plan available for public review and advertise/hold a public meeting.	1	Made plan available for public review and held public meeting in accordance with state public notice requirements.	Stormwater Committee
2.3	Continue existing school environmental outreach programs.	1-10	The number of students involved in environmental outreach programs. The number of programs offered.	Stormwater Committee, School Department
2.4	Expand Stormwater Committee to include interested citizens and other Town board members. The committee could assist the Town with recruiting and directing resources to implement recommended measures.	4	The number of additional stormwater committee members recruited.	Stormwater Committee
3	Illicit Discharge Detection and Elimination			
3.1	Create a storm sewer outfall map showing stormwater outfalls within the Phase II regulated area.	1	Created a storm sewer outfall map.	Stormwater Committee, DPW, MIS Department



3.2	Finalize storm outfall map and conduct dry weather outfall screening within regulated area.	3	Finalized outfall map and conducted dry weather screening of outfalls. Number of outfalls screened.	Stormwater Committee, DPW, Board of Health
3.3	Inspect outfalls with potential illicit discharges (as identified from initial dry weather screening), conduct outfall sampling, and track sources of illicit discharges.	3-10	Conducted source tracking of stormwater outfalls. Identified sources of illicit discharges.	Stormwater Committee, DPW, Board of Health
3.4	Eliminate a certain number or percentage of illicit discharges whose sources are identified.	3-10	Eliminated a certain number or percentage of illicit discharges whose sources were identified.	Stormwater Committee, DPW, Board of Health
3.5	Review model illicit discharge by-law to assess its applicability and feasibility for adoption in Belchertown. Modify existing by-laws to address the illicit discharge regulatory mechanism requirement.	4-5	Reviewed, drafted, and adopted illicit discharge by-law.	Stormwater Committee, DPW, Board of Health
3.6	Educational materials developed for minimum control measure 1 (Public Education and Outreach) to address illicit discharge detection and elimination.	3-10	Disseminated educational materials (e.g. newspaper flyer) on illicit discharge detection and elimination (see BMP 1.6) to the public.	Stormwater Committee, DPW, Board of Health
4	Construction Site Runoff Control			
4.1	Review existing MADEP or other similar model by-law to assess its applicability and feasibility for adoption in Belchertown.	4	Reviewed model by-law. Held public meeting.	Stormwater Committee, Building Inspector, Planning Board
4.2	Draft and adopt a by-law with public input (draft language and legal review, conduct informational meetings as necessary, submit to warrant, schedule for vote at Town Meeting).	4-5	Drafted and adopted by-law.	Stormwater Committee, Building Inspector, Planning Board
4.3	Provide training for Town staff responsible for reviewing site plans to determine compliance with the newly adopted by-law. NO LONGER APPLICABLE, THE TOWN HIRES CONSULTANTS TO COMPLETE REVIEWS.	N/A	Conducted training for Town staff. NO LONGER APPLICABLE.	Stormwater Committee, Building Inspector, Planning Board
4.4	Develop methods and materials to provide for public inquiry and comments for construction projects, and procedures to respond to public inquiry. Develop site inspection procedures.	5	Developed procedures for public inquiry and associated response. Developed site inspection procedures.	Stormwater Committee, Building Inspector, Planning Board
5	Post-Construction Runoff Control			
5.1	Review existing MADEP or other similar model by-law to assess its applicability and feasibility for adoption in Belchertown.	4	Reviewed model by-law. Held public meeting.	Stormwater Committee, Building Inspector, Planning Board, Conservation Commission
5.2	Draft and adopt a by-law with public input (draft language and legal review, conduct informational meetings as necessary, submit to warrant, schedule for vote at Town Meeting).	4-5	Drafted and adopted by-law.	Stormwater Committee, Building Inspector, Planning Board, Conservation Commission



5.3	Provide training for Town staff responsible for reviewing site plans to determine compliance with the newly adopted post-construction runoff control by-law. NO LONGER APPLICABLE, THE TOWN HIRES CONSULTANTS TO COMPLETE REVIEWS.	N/A	Conducted training for Town staff. NO LONGER APPLICABLE.	Stormwater Committee, Building Inspector, Planning Board, Conservation Commission
5.4	Develop procedures for public inquiry and comments for post-construction stormwater BMP's, and procedures to respond to public inquiries. Develop periodic inspection procedures.	5	Developed procedures for public inquiry and associated response. Developed inspection procedures.	Stormwater Committee, Building Inspector, Planning Board, Conservation Commission
6	Pollution Prevention/Good Housekeeping			
6.1	Expand annual stormwater training program for appropriate Town employees to include street sweeping, stormwater BMP and drainage system maintenance including catch basin cleaning, winter road and lot maintenance, and solid/hazardous waste management.	1	Developed expanded stormwater training program.	Stormwater Committee, DPW
6.2	Develop record keeping procedures for street sweeping, catch basin cleaning, deicer application and usage, and stormwater BMP inspections and maintenance within the regulated area.	2	Developed record keeping procedures.	Stormwater Committee, DPW
6.3	Conduct training for appropriate Town employees.	1-10	Conducted training. The number of employees trained.	Stormwater Committee, DPW
6.4	Sweep streets within the regulated area, as necessary, on a rotating basis.	1-10	Conducted street sweeping within regulated area. The quantity of debris collected from street sweeping.	DPW
6.5	Establish inspection and maintenance schedules for storm drainage structures and stormwater BMP's within the Phase II regulated area.	3	Established inspection and maintenance schedules.	Stormwater Committee, DPW

Appendix B

Stormwater Public Education and Outreach Materials

SINGLE STREAM RECYCLING IS COMING TO THE BELCHERTOWN PUBLIC SCHOOLS

Beginning with the new school year, Belchertown Public Schools and Waste Management, will begin providing the collection of single stream recyclables at ALL SCHOOLS. Previously we only collected and recycled cardboard and paper. This new service is designed to make recycling easier for everyone and we anticipate that this change will dramatically increase our recycling rate while reducing trash production.

What is Single Stream Recycling?

Single Stream Recycling is a technology that allows students, teachers and staff to place all their recyclables: glass, metal, plastic, paper and cardboard, into a single container for collection, and processing. SORTING RECYCLABLES IS NO LONGER NECESSARY!!

What are the Benefits of Single Stream Recycling?

- Single collection points, rather than separate container for different materials
- Increased recycling rates
- Extended landfill life
- Reduction of CO2 and methane emissions, gases linked directly to climate change
- Lower overall costs

What does this mean?

Recycling will be made easier and more efficient for everyone. You no longer have to spend time sorting your recyclable materials into separate bins. Now all recyclable items can be placed in the same container for easy collection. Single Stream materials are sorted at a special facility and then recycled in their individual streams.

How will the Program work?

Continue to use the recycling containers throughout the schools (classroom, halls, offices and common areas), but now you may place ALL MATERIALS in the same container. As the program advances we will be providing larger containers to help make this new program easier and more successful for everyone!

You can continue to recycle all materials previously collected in two streams.

Glass Bottles and Jars

- Plastic Bottles
- Aluminum and Tin Cans
- Cardboard boxes
- White and Colored Paper
- Newspapers and Magazines
- Junk Mail

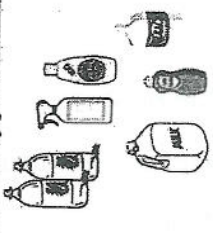
ALL IN THE SAME CONTAINER!

Recycling Chart

What to Recycle

Do Not Include

ANY items contaminated by food are not acceptable for recycling

Mixed paper 	Examples include: - Mail and envelopes (windows are OK) - Magazines and catalogs - Writing or ledger paper - Paperback books - Paper bags	Examples include: - Greeting cards - Wrapping paper - Shredded paper (Place in paper bag) - Fax paper - Computer paper	Mixed paper items not acceptable include: - Candy wrappers - Waxed or plastic-coated paper - Wrapping tissue paper - Foil wrapping paper - Cigarette packs
Thin cardboard 	Examples include: - Shoe boxes - Cereal boxes - Pasta boxes - Toilet paper rolls - Frozen food boxes - Gift boxes	- Cake mix boxes - Toothpaste boxes - Tissue boxes - Paper egg cartons - Soda or beer packaging - Soap or laundry detergent boxes	Thin cardboard items not acceptable include: - Boxes with silver or foil coatings - Anything dirty, greasy or plastic-coated
Corrugated cardboard 	- Boxes and other corrugated cardboard should be flattened and folded so they fit in the cart. - Pizza boxes (with greasy liner removed)		Corrugated cardboard items not acceptable include: Dirty or greasy cardboard
Tin/aluminum, scrap metal 	Examples include: - Aluminum and tin cans - Foil and pie plates	Empty steel aerosol cans	Tin/aluminum, scrap metal items not acceptable include: - Scrap metal - White clothes hangers - Hypodermic needles (Please contact the Health Department for proper disposal information) - Paint cans
Glass bottles and jars 	Examples include: - Mayonnaise jars - Wine bottles - Beer bottles - Applesauce jars	- Spaghetti sauce jars - Salsa jars - Vinegar bottles - Baby food jars	Glass bottles and jars not acceptable include: - Broken glass - Cups, dishes, glass windows, plates, Pyrex®, ceramics, mirrors, light bulbs, crystal
Plastic bottles, jugs and containers 	This includes all rigid plastic containers with symbols ♻️ through ♻️ on the bottom; examples include: - Soda and juice bottles - Salad dressing bottles - Milk jugs - Detergent bottles - Juice bottles	- Shampoo bottles - Window cleaner - Saline solution bottles - Fabric softener or bleach bottles	Plastic bottles, jugs not acceptable include: - Plastic shopping bags - Plastic food wrap, potato chip and sandwich bags - Styrofoam® - Automotive fluid bottles (oil, antifreeze, brake fluid)
Milk cartons, drink boxes 	Examples include: - Milk and juice cartons - Juice boxes	- Flavored milk boxes - Cream and creamer containers	Milk cartons, drink boxes items not acceptable include: - Ice cream boxes - Margarine boxes - TV dinner containers - Cream cheese boxes

Container preparation

- Remove all plastic bags.
- Remove any non-acceptable items.
- Corrugated cardboard should be broken down so it fits inside the container without jamming, so the cart will empty completely.
- All containers (jars, bottles, cartons, etc.) must be rinsed and free of all contaminants.
- Remove and discard all corks, tops, rings, metal bottleneck wraps, and unacceptable items.
- Flatten containers whenever possible.

Jennifer Cavanaugh

From: Steve Williams <SWilliams@belchertown.org>
Sent: Monday, April 02, 2012 8:35 AM
To: Jennifer Cavanaugh
Subject: FW: Wetlands Brochure

From: LEEANNE CONNOLLY
Sent: Thursday, March 29, 2012 3:37 PM
To: Steve Williams
Subject: Wetlands Brochure

I also did this wetlands brochure last year.

BEFORE Starting a Project Contact the Conservation Commission

A large percentage of Belchertown homeowners have wetland resource areas on or near their property. If you plan to do any work in a wetland, within 100 feet of a wetland, or within 200 feet of a stream or river, such as:

- Tree or vegetation removal or clearing
- Grading, excavation or paving
- Landscaping
- Construction, additions, etc.

or **any** other activity that might alter wetlands or their buffer zones, you must contact the Conservation Commission.

Do not assume your contractor will pull all necessary permits!

If you do need approval, our Conservation Commission staff is ready to answer your questions and help guide you through the application process for the particular project you have in mind or you can go to our town web site- www.belchertown.org

The Commission meets the 2nd and 4th Monday of each month and the public is welcome to attend to learn more.

The Commission wants to see Belchertown landowners proceed with their projects while simultaneously protecting the valuable wetland resources that benefit

→ EVERYONE ←

Wetland "Do's and Don'ts"

Some activities near wetlands are allowed and do not require Commission approval, including:

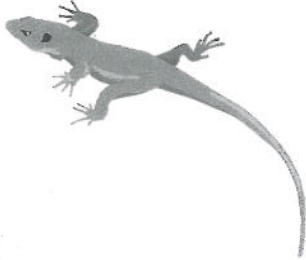
- Mowing an existing lawn
- Working in an existing garden
- Pruning and maintaining existing landscaping
- Planting native vegetation
- Hiking, horseback riding, and other passive recreation

Other activities are prohibited in wetland resource areas or buffer zones and are subject to fines.

- Dumping yard waste such as leaves, grass, etc, or other waste products, including manure

- Any work within 100 ft. of a Vernal Pool/Ephemeral Pool
- Dumping dirt or other fill
- Draining or pumping water to or from a wetland, pond or stream
- Building dams or removing beaver dams

Wetlands function best in a natural state. Do not clear them or “clean them up.” Wildlife often thrives in areas with brush piles, rotting logs, and other things some people might consider “untidy.”



What are Wetlands?

“Wetland resource areas” include the commonly known *cattail marsh*, *wet meadows*, *red maple swamps* and open water *pond*, also *rivers* that generally flow throughout the year, 200-foot *riverfront areas* which border rivers or streams on both sides, *intermittent streams* that dry up during part of the year, associated *banks*, low-lying *flood plains* and *vernal/ephemeral pools*. These areas (except riverfront areas) are surrounded by “*buffer zones*” – 100 ft. wide protective zones that protect wetlands from human impacts. **Technical definitions are found in the state law and its accompanying regulations.**

Why are They Important?

Wetland resource areas provide critical habitat to wildlife and help maintain the aesthetic beauty of our town. They also provide priceless yet “free” services including:

- Drinking water purification
- Groundwater recharge
- Flood control and storage
- Pollution prevention
- Wildlife Habitat

All Belchertown residents benefit from these services because of our reliance on natural settings for property values, wells for drinking water, and septic systems for waste disposal. The Conservation Commission is responsible for protecting these areas, by enforcing state and local wetlands protection laws and regulations.

Limiting Chemical Use and Conserving Water: A Few Words About Lawn Care

Do you know what comes out of your weed killer bottle or the lawn care spray truck? Chemicals – many of which can be harmful to humans, pets, wildlife and plants. They do a lot more than make your lawn green.

The Commission *strongly recommends* that you avoid using chemicals anywhere on your property due to the potential hazards that they pose to your drinking water, your children, and your pets. If you live next to a pond, fertilizers can cause excessive plant growth in the water, harming both the environment and aesthetics. Many natural lawn care alternatives are readily available – and they work.

The Commission also recommends you use water responsibly when maintaining your lawn or other landscaping. Excessive lawn watering contributes to severe low-flow conditions in streams and rivers in all but the wettest years.





The Wetlands Protection Act provides that: "No person shall remove, fill, dredge, or alter any area subject to protection under this section without the required authorization, or cause, suffer or allow such activity, or leave in place unauthorized fill, or otherwise fail to restore illegally altered land to its original condition, or fail to comply with an enforcement order issued pursuant to this section.

Each day such violation continues shall constitute a separate offense except that any person who, after giving written notification of said violation to the conservation commission and the department shall not be subject to additional penalties unless said person thereafter fails to comply with an enforcement order or order of conditions. Whoever violates any provision of this section, (a) shall be punished by a fine of not more than twenty-five thousand dollars or by imprisonment for not more than two years, or both such fine and imprisonment; or (b), shall be subject to a civil penalty not to exceed twenty-five thousand dollars for each violation."

WHAT TO KNOW ABOUT WETLANDS PROTECTION IN BELCHERTOWN

BELCHERTOWN CONSERVATION COMMISSION

Lawrence Memorial Town Hall
2 Jabish St., Room 101
P. O. Box 670
Belchertown, MA 01007
(413) 323-0405

Appendix C

Stormwater Public Participation/Involvement Materials



CELEBRATE EARTH DAY APRIL 22, 2011

TRASH COLLECTION

The Town of Belchertown, Department of Public Works will be providing town recyclable trash bags to anyone wishing to collect curbside trash on Earth Day, Friday, April 22, 2011. Trash bags may be obtained at the DPW, 290 Jackson Street, Highway Garage location. All trash collected must be brought to the Transfer Station for disposal. The Department wishes to thank participants for their efforts towards keeping our town clean!

Celebrate Earth Day with cleaning up

BELCHERTOWN - The Town of Belchertown, Department of Public Works will be providing town recyclable trash bags to anyone wishing to collect curbside trash on Earth Day, Friday, April 22. Trash bags may be obtained

at the DPW, 290 Jackson St., Highway Garage location. All trash collected must be brought to the Transfer Station for disposal. The department wishes to thank participants for their efforts towards keeping our town clean.

4/21



CELEBRATE EARTH DAY APRIL 22, 2011

TRASH COLLECTION

The Town of Belchertown, Department of Public Works will be providing town recyclable trash bags to anyone wishing to collect curbside trash on Earth Day, Friday, April 22, 2011. Trash bags may be obtained at the DPW, 290 Jackson Street, Highway Garage location. All trash collected must be brought to the Transfer Station for disposal. The Department wishes to thank participants for their efforts towards keeping our town clean!

	Name/Address	Collection Location/Route	# Bags
1.	Stella Hutchinson	N. Washington	14 ¹³⁹ ed
2.	Tom Aiken	Allen Rd	10
3.	Craig + Emma Bodamer	Common / Jackson St.	10
4.	Sarah Lubbeck	East St.	10
5.	Wayne Felton	So. Liberty	4
6.	CARA Lapinas	Sabin St.	10
7.	Marlene Barnett	Rt 9 - Tanker Rest area + side streets	6
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			



Department of Public Works
290 Jackson Street, P.O. Box 306
Belchertown, Massachusetts 01007-0306
(413) 323-0405

MEMORANDUM

Date: March 23, 2011
To: Board of Selectmen
From: Steven J. Williams, Director, Dept. of Public Works
RE: Earth Day, Friday, April 22, 2011- Trash Collection

The Department of Public Works is requesting the Boards approval to offer the following opportunity to our town residents in order to participate in the upcoming Earth Day Event, slated for Friday, April 22, 2011. Upon the Boards approval, the Department will place advertisement in The Sentinel newspaper, to read as follows:



CELEBRATE EARTH DAY- APRIL 22, 2011

BAGS for TRASH COLLECTION

The Town of Belchertown, Department of Public Works will be providing town recyclable trash bags to anyone wishing to collect curbside trash on Earth Day, Friday, April 22, 2011. Trash bags may be obtained at the DPW, 290 Jackson Street, Highway Garage location. All trash collected must be brought to the Transfer Station for disposal. The Department wishes to thank participants for their efforts towards keeping our town clean!

Should you have any questions regarding the above, please feel free to contact me at the Department of Public Works at (413) 323-0415 or email swilliams@belchertown.org.

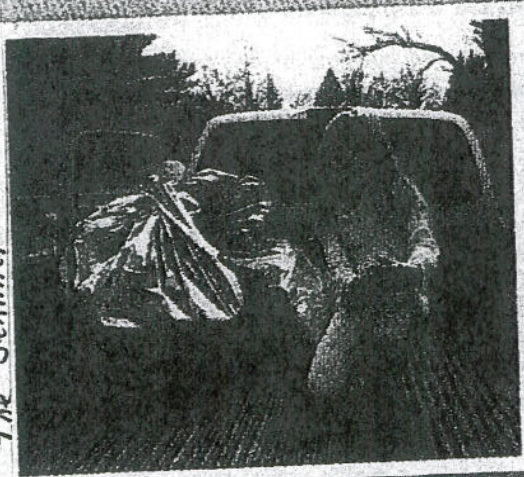
Sincerely Yours,

Steven J. Williams, Director
Department of Public Works

SJW/dl

cc: Conservation Commission

Volume 97 • Number 17
Thursday, April 28, 2011
The Sentinel



EARTH DAY CLEAN UP

Emma Bodamer, 8, shows off the four bags of trash she picked up from around town on Earth Day. She was very proud. Great job!

Explore the Holland Glen Forest!



Are you looking for that **perfect hike**—wandering beneath **towering trees**, hopping from rock to rock near a **cascading waterfall**, and climbing to a **scenic overlook** of the Valley?

Look no further: the 290-acre **Holland Glen Forest** is bound to become one of your favorite places to explore—especially after the community helps to **protect it**.

**Join the Belchertown Conservation Commission,
Kestrel Land Trust, and Charlie Eiseman of Northern
Naturalists for a nature hike at Holland Glen Forest and
Wentworth Conservation Area in Belchertown.**

Sunday, June 12, 10 a.m. - Noon



Group size is limited, so reservations are required. Call (413) 323-0405 or email info@kestreltrust.org to reserve your slot and get meeting location details.

*We only have to raise \$7,000 more
out of the \$750,000 total!
You can help make the difference!
Donate online at
www.kestreltrust.org.*





DEPARTMENT OF PUBLIC WORKS

290 Jackson Street • Post Office Box 306
Belchertown, Massachusetts 01007-0306
Telephone: (413) 323-0415 • Facsimile: (413) 323-0470

Steven J. Williams
Director

Donna Lusignan
Office Manager

Storm Water Committee Meeting April 14th, 2012
Minutes of Meeting
Lawrence Memorial Hall – Selectmen's Meeting Room
9:30AM -10:00AM

Present: Steve Williams, Director, DPW
Doug Albertson, Planning Board
Paul Adzima, Inspection Services
LeeAnne Connolly, Conservation Commission

From: Steve Williams, DPW Director

Date: April 14th, 2012

Re: Storm Water Meeting

Meeting Opened at 9:30AM:

- Discussion was held concerning MS4 permitting; the final permit has not been issued which is expected to bring significant changes including "regulated areas" based upon the 2010 Census received by Engineers, Fuss & O'Neill.

Regarding Storm Water Bylaw Regulations –

- The Conservation Commission is seeking no changes to date; Bylaw Regulations to remain status quo.

Permit Applications:

Two new Stormwater Permit Applications are currently under review:

- 80 Ware Road- Stormwater Review/Solar Installation
- 485 Ware Road- Stormwater Review/Storm Drain Improvements, Quabbin Reservoir.

Discussion Item:

- Director, Steve Williams informed all in attendance that he is currently working on the annual submittal permit for May, 2012.

Meeting Adjourned: 10:00AM

Appendix D

Field Screening Data Sheets

O.R.I. 2012 Feb. Report

Outfall Reconnaissance Inventory was completed on Feb. 9, 2012. Normally inventory is done in September but due to very rainy weather pattern and Highway Dept Foreman on vacation it was done late. Most outfalls are in good shape after the attention they received in fall of 2010 and spring of 2011. There are still some maintenance issues due to the Oct. 29 Storm. I found that brush and debris is causing water to dam or pond down stream of the outfall. This interferes with outfalls ability to disperse or dissipate water from the drains and basins.

List of maintenance items:

- a. Outfall 4 – pipe may need replacement in the next year or so (need to watch). Also tree tops and limbs in swamp are backing up the flow and raising the water level.
- b. Outfall 7 – small amount of brush to be cleared from outfall.
- c. Outfall 8 – small sand build up to be excavated from outfall.
- d. Outfall 19 – sand build up to be excavated from outfall.
- e. Outfall 20 – sand build up was excavated from outfall last year, now pipe is fully under water due to trees and debris down stream beyond the backhoe's reach.
- f. Outfall 22 – a small build of sand to be removed.

March 9, follow up from February Outfall Reconnaissance Inventory for No.# 1,10,11,13A,&17 all which had flow, still have a volume of flow. The present flow of water is most likely due to the rain received last night.

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>1</u>	
Today's date: <u>2/8/2012</u>		Time (Military): <u>13:35</u>	
Investigators: <u>E. BURTON</u>		Form completed by: <u>E. BURTON</u>	
Temperature (°F): <u>34°</u>	Rainfall (in.): Last 24 hours:	Last 48 hours: <u>0.0</u>	
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial		☐ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known): <u>Catch BASINS ON STATE ST. (Route 202)</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☒ Other: <u>CLAY</u>	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>12"</u> In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☒ Yes ☐ No <i>If No, Skip to Section 5</i>			
Flow Description (if present)	☐ Trickle ☒ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☒ Flow #1	Volume	<u>10 gal</u>	Liter	Bottle
	Time to fill	<u>1 min</u>	Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		°F	Thermometer
	pH		pH Units	Test strip/Probe
	Ammonia		mg/l	Test kit

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Paint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash if	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>2</u>	
Today's date: <u>2/8/2012</u>		Time (Military): <u>13:43</u>	
Investigators: <u>E. Burton</u>		Form completed by: <u>E. Burton</u>	
Temperature (°F): <u>34°</u>	Rainfall (in.):	Last 24 hours:	Last 48 hours: <u>0.0</u>
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:	Photo #s:		
Land Use in Drainage Area (Check all that apply):			
☐ Industrial ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial		☐ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known): <u>Catch basins on lower Barton Ave.</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ PVC ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>12"</u> In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>			
Flow Description (if present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test kit	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Mitig Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>3</u>	
Today's date: <u>2/8/2012</u>		Time (Military): <u>13:55</u>	
Investigators: <u>E. Burton</u>		Form completed by: <u>E. Burton</u>	
Temperature (°F): <u>34°</u>	Rainfall (in.): Last 24 hours: _____	Last 48 hours: <u>0.0</u>	
Latitude: _____	Longitude: _____	GPS Unit: _____	GPS LMK #: _____
Camera: _____		Photo #: _____	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial		☐ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known): <u>Catch basin AND ground water from Spruce View (Private Drive)</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	SIZE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>15"</u>	In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)				
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>				
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	____' ____"	Tape measure	
	Measured length	____' ____"	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 4	
Today's date: 2/8/2012		Time (Military): 14:10	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 35°	Rainfall (in.): Last 24 hours: Last 48 hours: 0.0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial		☐ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
Ground water Run off		water level backed up into pipe due to fallen trees in swamp - dam	

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: 15" In Water: ☐ No ☒ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream (applicable when collecting samples)				
Flow Present?	☐ Yes ☒ No If No, Skip to Section 5			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	ft, in	Tape measure	
	Measured length	ft, in	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	1 - Faint	2 - Easily detected	3 - Noticeable from a distance
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐	☐	☐
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐	☐	☐
Turbidity	☐	See severity	☐	☐	☐
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐	☐	☐

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed: <u>4</u>		Outfall ID: <u>5</u>	
Today's date: <u>2/8/2012</u>		Time (Military): <u>14:21</u>	
Investigators: <u>E. BURTON</u>		Form completed by: <u>E. BURTON</u>	
Temperature (°F): <u>36°</u>	Rainfall (in.): Last 24 hours: <u>0.0</u>	Last 48 hours: <u>0.0</u>	
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial		☐ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known): <u>Run off of ground water</u> <u>home owner added pipe to outfall side (120')</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☒ Other: <u>NP</u>	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>12"</u> In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☒ Other: <u>SEE NOTE</u>	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	ft, in	Tape measure	
	Measured length	ft, in	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illlicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>6</u>	
Today's date: <u>2/8/2012</u>		Time (Military): <u>14:29</u>	
Investigators: <u>E. Burton</u>		Form completed by: <u>E. Burton</u>	
Temperature (°F): <u>36°</u>	Rainfall (in.): Last 24 hours: _____ Last 48 hours: <u>0.0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
<u>Catch BASINS ON BURTON AVE.</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>12"</u>	In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	Ft, In	Tape measure	
	Measured length	Ft, In	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheet) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 7	
Today's date: 2/8/2012		Time (Military): 14:37	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 36°	Rainfall (in.): Last 24 hours: Last 48 hours: 0.0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	

Notes (e.g., origin of outfall, if known):

FOUR BASINS ON BARTON AVE.

SOME FALLEN BRUSH TO BE CLEARED FROM OUTFALL AREA

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ PVC ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: 18" In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	Ft, In	Tape measure	
	Measured length	Ft, In	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)			
			1 - Faint	2 - Easily detected	3 - Noticeable from a distance	
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐	☐	☐	
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐	☐	☐	
Turbidity	☐	See severity	☐	☐	☐	
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐	☐	☐	

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>8</u>	
Today's date: <u>2/8/2012</u>		Time (Military): <u>14:46</u>	
Investigators: <u>E. BURTON</u>		Form completed by: <u>E. BURTON</u>	
Temperature (°F): <u>36°</u>	Rainfall (in.): Last 24 hours: _____ Last 48 hours: <u>0.0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial		☐ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
<u>Four basins on Barton Ave.</u>		<u>Small amount of sand to be cleared from outfall</u>	

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>12"</u> In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☐ No ☒ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream (applicable when collecting samples)				
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	_____ "	Ft, In	Tape measure
	Measured length	_____ "	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent low trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 9	
Today's date: 2/8/2012		Time (Military): 14:53	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 36°	Rainfall (in.): Last 24 hours:	Last 48 hours: 0.0	
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial ☐ Urban-Urban Residential ☒ Suburban Residential ☐ Commercial		☐ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
CATCH BASINS ON BARTON AVE		WATER BACKED UP IN PIPE, NO WHERE TO FLOW, "Ground Frozen"	

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ PVC ☐ Steel ☐ Other: _____ ☒ CMP ☐ HDPE	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____ ☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: 12"	In Water: SEE NOTE ☐ No ☒ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream (applicable when collecting samples)				
Flow Present?	☐ Yes ☒ No If No, Skip to Section 5			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS					
PARAMETER	RESULT	UNIT	EQUIPMENT		
☐ Flow #1	Volume		Liter	Bottle	
	Time to fill		Sec		
☐ Flow #2	Flow depth		In	Tape measure	
	Flow width	_____'	_____"	Ft, In	Tape measure
	Measured length	_____'	_____"	Ft, In	Tape measure
	Time of travel		S	Stop watch	
Temperature		°F	Thermometer		
pH		pH Units	Test strip/Probe		
Ammonia		mg/L	Test strip		

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Paint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Mlicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 10	
Today's date: 2/8/2012		Time (Military): 15:00	
Investigators: E. BURTON		Form completed by: E. BURTON	
Temperature (°F): 36°	Rainfall (in.): Last 24 hours: Last 48 hours: 0.0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	

Notes (e.g., origin of outfall, if known):

Six BASINS ON BARTON AVE.

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: 18" In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☒ Yes ☐ No If No, Skip to Section 5			
Flow Description (if present)	☒ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☒ Flow #1	Volume	1 gal.	Liter	Bottle
	Time to fill	1 min.	Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width		Ft, In	Tape measure
	Measured length		Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Paint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>11</u>	
Today's date: <u>2/8/2012</u>		Time (Military): <u>15:02</u>	
Investigators: <u>E. Burton</u>		Form completed by: <u>E. Burton</u>	
Temperature (°F): <u>36°</u>	Rainfall (in.): Last 24 hours: _____ Last 48 hours: <u>0.0</u>		
Latitude: _____	Longitude: _____	GPS Unit: _____	GPS LMK #: _____
Camera: _____		Photo #s: _____	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
<u>Catch basins on Barton Ave. and Run off</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: <u>NP</u>	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>24"</u> In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☒ Yes ☐ No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	☒ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☒ Flow #1	Volume	<u>1 gal.</u>	Liter	Bottle
	Time to fill	<u>1 min.</u>	Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	ft, In	Tape measure
	Measured length	____' ____"	ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		°F	Thermometer
	pH		pH Units	Test strip/Probe
	Ammonia		mg/L	Test strin

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 12	
Today's date: 2/8/2012		Time (Military): 15:08	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 36°	Rainfall (in.):	Last 24 hours:	Last 48 hours: 0.0"
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
Six catch basins on Barton Ave.			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ PVC ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: 18" In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5.</i>			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	Ft, In	Tape measure	
	Measured length	Ft, In	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 13	
Today's date: 2/9/2012		Time (Military): 10:49	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 36°	Rainfall (in.): Last 24 hours:	Last 48 hours: 0.0	
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
Catch basins from Chesnut Dr, Oak Ridge Dr & Hemlock Hollow			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	SIZE	DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: No Outlet pipe found	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open drainage	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)				
Flow Present?	☐ Yes ☐ No If No, Skip to Section 5				
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	ft, in	Tape measure	
	Measured length	ft, in	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

Indicator	Check if Present	Description	1 - Faint	2 - Easily detected	3 - Noticeable from a distance
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐	☐	☐
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐	☐	☐
Turbidity	☐	See severity	☐	☐	☐
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐	☐	☐

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No (If No, Skip to Section 6)

Indicator	Check if Present	Description	1 - Few/slight, origin not obvious	2 - Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion			
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:			
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited			
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:			
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:			

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Mlicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 13A	
Today's date: 2/9/2012		Time (Military): 10:55	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 36°	Rainfall (in.): Last 24 hours: Last 48 hours: 0.0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
Catch basins from Oak Ridge DA		Basin drain tied into cross pipe w/ Ground Run off	

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: 24" In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☒ Yes ☐ No If No, Skip to Section 5			
Flow Description (If present)	☒ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☒ Flow #1	Volume	1 gal.	Liter	Bottle
	Time to fill	1 min	Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	_____ "	Ft, In	Tape measure
	Measured length	_____ "	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Mlicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>13 B</u>	
Today's date: <u>2/9/2012</u>		Time (Military): <u>10:59</u>	
Investigators: <u>E. BURTON</u>		Form completed by: <u>E. BURTON</u>	
Temperature (°F): <u>36°</u>	Rainfall (in.): Last 24 hours: _____ Last 48 hours: <u>0.0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known): <u>Catch basins from TERRY LANE DRAIN goes in man hole in HOME OWNER'S YARD @ 7 TERRY LANE AFTER THAT UNKNOWN</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____ <u>No Outlet Found</u> In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open drainage	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☐ No If No, Skip to Section 5			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	____' ____"	Tape measure	
	Measured length	____' ____"	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No (If No, Skip to Section 6)

INDICATOR	PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Mitig Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 14	
Today's date: 2/9/2012		Time (Military): 11:10	
Investigators: E. BURTON		Form completed by: E. BURTON	
Temperature (°F): 38°	Rainfall (in.): Last 24 hours: Last 48 hours:		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
Catch basins from Hemlock Hollow			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Elliptical ☒ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____ No Outlet Found In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open drainage	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: _____	☒ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☐ No If No, Skip to Section 5			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	____' ____"	Tape measure	
	Measured length	____' ____"	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are Physical Indicators that are not related to flow present? ☐ Yes ☐ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Mlicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 15	
Today's date: 2/9/2012		Time (Military): 11:12	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 38°	Rainfall (in.): Last 24 hours: Last 48 hours: 0.0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
Catch basins from Hemlock Hollow			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED	
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____ No Outlet Found	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open drainage	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____		
☐ In-Stream	(applicable when collecting samples)				
Flow Present?	☐ Yes ☐ No <i>If No, Skip to Section 5</i>				
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
TEST	PARAMETER	RESULT	UNIT	EQUIPMENT
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	_____ "	ft, In	Tape measure
	Measured length	_____ "	ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		°F	Thermometer
	pH		pH Units	Test strip/Probe
	Ammonia		mg/L	Test strip

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

Indicator	CHECK IF PRESENT	DESCRIPTION			RELATIVE SEVERITY INDEX (1-3)		
		☐ Sewage ☐ Sulfide ☐ Clear ☐ Green	☐ Rancid/sour ☐ Other: ☐ Brown ☐ Orange ☐ Gray ☐ Red ☐ Yellow ☐ Other:	☐ Petroleum/gas	☐ 1 - Faint ☐ 1 - Faint colors in sample bottle ☐ 1 - Slight cloudiness ☐ 1 - Few/slight; origin not obvious	☐ 2 - Easily detected ☐ 2 - Clearly visible in sample bottle ☐ 2 - Cloudy ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 - Noticeable from a distance ☐ 3 - Clearly visible in outfall flow ☐ 3 - Opaque ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)
Odor	☐						
Color	☐						
Turbidity	☐	See severity					
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Petroleum (oil sheen)	☐ Suds ☐ Other:				

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No (If No, Skip to Section 6)

Indicator	CHECK IF PRESENT	DESCRIPTION		COMMENTS
		☐ Spalling, Cracking or Chipping ☐ Corrosion	☐ Peeling Paint	
Outfall Damage	☐			
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited		
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Suds ☐ Excessive Algae	☐ Floatables ☐ Oil Sheen ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:		

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:	Outfall ID: 16
Today's date: 2/9/2012	Time (Military): 11:15
Investigators: E. Burton	Form completed by: E. Burton
Temperature (°F): 38°	Rainfall (in.): Last 24 hours: Last 48 hours: 0.0
Latitude:	Longitude:
GPS Unit:	GPS LMK#:
Camera:	Photo #s:

Land Use in Drainage Area (Check all that apply):

- ☐ Industrial
☐ Open Space
☐ Ultra-Urban Residential
☐ Institutional
☒ Suburban Residential
☐ Commercial
 Other: _____
 Known Industries: _____

Notes (e.g., origin of outfall, if known):

Catch basin from Hemlock Hollow Basin Drain goes to manhole in backyard of 19 Hemlock UNKNOWN after that.

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____ No outlet Found In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open drainage	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☐ No If No, Skip to Section 5			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
☐ Flow #2	Flow depth	In	Tape measure	
	Flow width	ft, in	Tape measure	
	Measured length	ft, in	Tape measure	
	Time of travel	S	Stop watch	
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Paint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight, origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 17	
Today's date: 2/9/2012		Time (Military): 11:18	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 38°	Rainfall (in.): Last 24 hours: Last 48 hours: 0.0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial ☐ Urban Residential ☒ Suburban Residential ☐ Commercial		☐ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known): BASINS FROM OAK RIDGE AND CHESNUT DRIVE			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: 36" In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☒ Yes ☐ No If No, Skip to Section 5			
Flow Description (If present)	☒ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☒ Flow #1	Volume	1 gal	Liter	Bottle
	Time to fill	1 min	Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width		ft, in	Tape measure
	Measured length		ft, in	Tape measure
	Time of travel		s	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables - Does Not Include Trash!!	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are Physical Indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	DESCRIPTION	COMMENTS
Outfall Damage	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐ Excessive ☐ Inhibited	
Poor pool quality	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	☐ Yes ☐ No
2. If yes, collected from:	☐ Flow ☐ Pool
3. Intermittent flow trap set?	☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed: <u>4</u>		Outfall ID: <u>18</u>	
Today's date: <u>2/9/2012</u>		Time (Military): <u>11:24</u>	
Investigators: <u>E. Burton</u>		Form completed by: <u>E. Burton</u>	
Temperature (°F): <u>38°</u>	Rainfall (in.): Last 24 hours: _____ Last 48 hours: <u>0.0</u>		
Latitude: _____	Longitude: _____	GPS Unit: _____	GPS LMK #: _____
Camera: _____		Photo #: _____	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known): <u>Catch basins from Mountain View</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ PVC ☐ Steel ☐ Other: _____	☒ CMP ☐ HDPE ☐ Box ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>15"</u> In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ Rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	_____ "	ft, In	Tape measure
	Measured length	_____ "	ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables -Does Not Include Trash!!	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight: origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	DESCRIPTION	COMMENTS
Outfall Damage	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐ Excessive ☐ Inhibited	
Poor pool quality	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed: _____		Outfall ID: <u>19</u>	
Today's date: <u>2/9/2012</u>		Time (Military): <u>11:28</u>	
Investigators: <u>E. BURTON</u>		Form completed by: <u>E. BURTON</u>	
Temperature (°F): <u>38°</u>	Rainfall (in.): Last 24 hours: _____ Last 48 hours: <u>0.0</u>		
Latitude: _____	Longitude: _____	GPS Unit: _____	GPS LMK #: _____
Camera: _____		Photo #s: _____	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
<u>Catch basins from Mountain View</u> <u>OUT FALL NEED to be dig out</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☐ PVC ☐ Steel ☐ Other: _____	☒ CMP ☐ HDPE ☐ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>15"</u> In Water: ☐ No ☒ Partially ☐ Fully With Sediment: ☐ No ☒ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	_____ "	Ft, In	Tape measure
	Measured length	_____ "	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECKED	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
			1 - Faint	2 - Easily detected	3 - Noticeable from a distance
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐	☐	☐
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐	☐	☐
Turbidity	☐	See severity	☐	☐	☐
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐	☐	☐

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECKED	DESCRIPTION	COMMENTS	
			1 - Faint	2 - Easily detected
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion		
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:		
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited		
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:		
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:		

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 20	
Today's date: 2/9/2012		Time (Military): 11:35	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 38°	Rainfall (in.): Last 24 hours: Last 48 hours: 0.0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known): Catch basins from Maple Crest Dr Down stream water is damming and backing up			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☒ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other: _____	Diameter/Dimensions: 18" Standing water outfall dug out last year	In Water: ☐ No ☐ Partially ☒ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☐ No If No, Skip to Section 5 UNKNOWN ?			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS					
PARAMETER	RESULT	UNIT	EQUIPMENT		
☐ Flow #1	Volume		Liter	Bottle	
	Time to fill		Sec		
☐ Flow #2	Flow depth		In	Tape measure	
	Flow width	_____'	_____"	Ft, In	Tape measure
	Measured length	_____'	_____"	Ft, In	Tape measure
	Time of travel		S	Stop watch	
Temperature		°F	Thermometer		
pH		pH Units	Test strip/Probe		
Ammonia		mg/L	Test strip		

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION			RELATIVE SEVERITY INDEX (1-3)		
		☐ Sewage ☐ Sulfide ☐ Rancid/sour ☐ Petroleum/gas ☐ Other:	☐ Brown ☐ Gray ☐ Yellow ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint ☐ 1 - Faint colors in sample bottle ☐ 1 - Slight cloudiness ☐ 1 - Few/slight; origin not obvious	☐ 2 - Easily detected ☐ 2 - Clearly visible in sample bottle ☐ 2 - Cloudy ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 - Noticeable from a distance ☐ 3 - Clearly visible in outfall flow ☐ 3 - Opaque ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)	
Odor	☐						
Color	☐						
Turbidity	☐						
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Petroleum (oil sheen) ☐ Other:	See severity				

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION			COMMENTS
		☐ Spalling, Cracking or Chipping ☐ Corrosion ☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Peeling Paint ☐ Inhibited ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Excessive Algae ☐ Other:	☐ Other:	
Outfall Damage	☐				
Deposits/Stains	☐				
Abnormal Vegetation	☐				
Poor pool quality	☐				
Pipe benthic growth	☐				

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illlicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 21	
Today's date: 2/9/2012		Time (Military): 11:41	
Investigators: E. Burton		Form completed by: E. Burton	
Temperature (°F): 39°	Rainfall (in.): Last 24 hours:	Last 48 hours: 0.0	
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Ultra-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			
Catch basins from Summit St.			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____ No Outlet Found In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open drainage	☐ Concrete ☐ Earthen ☐ Rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☐ No If No, Skip to Section 5			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	_____'	Ft, In	Tape measure
	Measured length	_____'	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>22</u>	
Today's date: <u>2/9/2012</u>		Time (Military): <u>12:41</u>	
Investigators: <u>E. BURTON</u>		Form completed by: <u>E. BURTON</u>	
Temperature (°F): <u>42°</u>	Rainfall (in.): Last 24 hours: _____ Last 48 hours: <u>0.0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial	☐ Open Space		
☐ Ultra-Urban Residential	☐ Institutional		
☒ Suburban Residential	Other: _____		
☐ Commercial	Known Industries: _____		

Notes (e.g., origin of outfall, if known):

Catch basin on Chauncey Walker St. (Route 21)

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	SIZE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☐ RCP ☒ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>12"</u> <u>SAND NEEDS TO BE CLEARED FROM OUTFALL</u>	In-Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☐ No ☒ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ Rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)				
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>				
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
	PARAMETER	RESULT	UNIT	EQUIPMENT
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		°F	Thermometer
	pH		pH Units	Test strip/Probe
	Ammonia		mg/L	Test strip

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint colors in sample bottle ☐ 2 - Clearly visible in sample bottle ☐ 3 - Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 - Slight cloudiness ☐ 2 - Cloudy ☐ 3 - Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 - Few/slight; origin not obvious ☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen) ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- Sample for the lab? ☐ Yes ☐ No
- If yes, collected from: ☐ Flow ☐ Pool
- Intermittent flow trap set? ☐ Yes ☐ No If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>23</u>	
Today's date: <u>2/9/2011</u>		Time (Military): <u>12:47</u>	
Investigators: <u>E. Burton</u>		Form completed by: <u>E. Burton</u>	
Temperature (°F): <u>42°</u>	Rainfall (in.): Last 24 hours: _____ Last 48 hours: <u>0.0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
☐ Industrial		☐ Open Space	
☐ Urban-Urban Residential		☐ Institutional	
☒ Suburban Residential		Other: _____	
☐ Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known): <u>Catch basins on Pendleton Rd.</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☒ Closed Pipe	☒ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>24"</u> In Water: ☒ No ☐ Partially ☐ Fully With Sediment: ☒ No ☐ Partially ☐ Fully
☒ Open drainage	☐ Concrete ☒ Earthen ☐ Rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)			
Flow Present?	☐ Yes ☒ No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	_____ "	Ft, In	Tape measure
	Measured length	_____ "	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Safety Training Sign In

Safety Training		Right to Know, PPE, Safety 101	
Print Name	Sign	Date	Division
Rollin Dewitt	Rollin Dewitt	1/10/12	WRF
Tam HATHAWAY	Tam Hathaway	1/11/12	BHD
Darin Braese	Darin Braese	1-11-12	BHD
RONALD RITTER	Ronald Ritter	1-11-2012	BHD
Dennis Daniels	Dennis Daniels	1/11/2012	BHD
Leo Pete	Leo Pete	1/11/2012	BHD
Chris Elias	Chris Elias	1/11/2012	BHD
Russell Anderson	Russell Anderson	1/11/2012	GHD
Michael Darnoch	Michael Darnoch	1/11/2012	B-W-D
Walter Henry	Walter Henry	1/11/2012	Transfer Station
STEVE WILLIAMS	Steve Williams	1-11-12	DPW
David Wanceyk	David Wanceyk	1/11/12	WRF
STEVEN COLE	Steven Cole	1/11/12	WRF
Kevin Williams	Kevin Williams	1/11/12	Belcher town Wye Dist.
Chris Benson	Chris Benson	1/11/12	DPW maint
Seavi Madden	Seavi Madden	1/11/12	Maintenance
Samuel Taylor	Samuel Taylor	1/11/12	DPW maint
Karl Jensen	Karl Jensen	1/11/12	DPW maint
JEFF PLANT	Jeff Plant	1-11-2012	DPW maint
Phos-Johnson	Phos-Johnson	1-11-12	DPW maint
Jon Grossman	Jon Grossman	1/11/12	DPW Grounds/maint
Edward Forcette	Edward Forcette	1/11/12	DPW Highway
Edwin Burton	Edwin Burton	1/10/12	DPW
Instructor Sign/Date:		Company:	

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Safety Training Sign In

Safety Training		Blood Born Pathogens	2/17/12
Print Name	Sign	Date	Division
* Michael Darmochewitz		2/17/12	Water Dept.
* Rollin Delwitt		2/17/12	WRF
* DAVID CLEGG		2/17/12	MAINT.
* David Wanczyk		2/17/12	WRF
Dennis Daniels		2/17/12	D.P.W. Highway
* MAX W. Beck		2/17/12	Maint.
* Kevin Williams		2/17/12	Water District
Leo Fleet		2-17-12	Hwy
Chris Johnson		2-17-12	Maintenance
RONALD BITHS		2-17-12	H to WAF
Denis Lessard		2-17-12	Hwy
* STEVEN COLE		2-17-12	WRF
* Walter Bosworth		2-17-12	Hwy
* Dylan Bachand		2-17-12	WRF
* Karl Jensen		2-17-12	D.P.W. Maint.
* Ed Burton		2/17/2012	Highway
* STEVEN WILLIAMS		2-17-12	DPW
Gregory Madden		2/17/12	Maintenance.
* James H. Clay		2/17/12	Maintenance
Chris Beringer		2/17/12	Maint.
JON GROSSMAN		2/17/12	Main.
ED FORGETTE		2/17/12	Highway
Instructor Sign/Date:		Company:	
		2/17/12	

* Those needing Training Hours (Certificates)

Safety Training Sign In

Safety Training

LOTO, CSE, Fall

3/14/2012

	Print Name	Sign	Date	Division
X	Rolla DeWitt	Rolla DeWitt	3/14/12	WRF
	Walter Henry	Walter Henry	3/14/12	DUMP
	Dennis Daniels	Dennis Daniels	3/14/12	Highway
	Ronald Ritten	Ronald Ritten	3-14-12	HIGHWAY
	EDWARD BERGETTE	Edward Bergette	3/14/12	Highway
DR.	Tom HATHAWAY	Tom Hathaway	3/14/12	Highway
	Chris Johnson	Chris Johnson	3-14-12	Maintenance
	Sean Madden	Sean Madden	3-14-12	Maintenance
	Chris Benson	Chris Benson	3-14-12	Maint
	Karl Jensen	Karl Jensen	3-14-12	Maint
	Samatha K Taylor	Samatha K Taylor	3/14/12	Maintenance
X	Kevin Williams	Kevin Williams	3/14/12	Water District
	Darin Braese	Darin Braese	3-14-12	Hwy
	Jon Grossman	Jon Grossman	3/14/12	Maint.
X	JEFF PLANT	Jeff Plant	3-14-12	MAINT.
X	PAUL WANCZYK	Paul Wanczyk	3/14/12	NRP
X	Ed Burton	Ed Burton	3/14/2012	Hwy Dept
X	Steve Cole	Steve Cole	3/14/12	WRF
X	Michael Darmachewitz	Michael Darmachewitz	3/14/12	Water
X	Walter Bosworth	Walter Bosworth	3-14-12	Hwy Dept.
	Leo Peet	Leo Peet	3-14-12	Hwy Dept
	DAVID CLEGG	David Clegg	3-14-12	Maint
X	MAX W. BOCK	Max W. Bock	3/14/12	Maint.
Instructor Sign/Date:			Company:	
Jennifer R Tetraault			Jennifer R Tetraault	

* Training contact hrs.

Safety Training Sign In

Safety Training

Respirator

3/14/2012

[illegible]

ANNUAL STORMWATER TRAINING
Phase I and Phase II
Conducted by J.Cavanaugh, Fuss & O'Neill
Town of Belchertown, MA
Attendance - March 28, 2012

Name	Department
Denis N. Lessard	HWY
STEVEN COLE	WRF
Rollin Dewitt	WRF
Will Platt	
DAVID CIEGG	MAINT
DAVID WANCZYK	WRF
Ronald P. Potter	HWY
Dennis Daniels	HWY
EDWARD FORGETTE	HWY
Chris Besancon	MAINT
Tom HATHAWAY	HIGHWAY
Sean Madden	MAINT
Chris Johnson	MAINT
Karl Jensen	MAINT
Jon D. Person	
JEFF PLANT	MAINT.

MAX W. Boek	Maint.
James K Taylor	maintenance
Darin Broese	Hwy
Geo Lee	HWY
Rob Rowan	WRF
Walter Bosworth	Hwy Dept.
STEVE Williams	Dpw

Steve Williams

From: Tighe & Bond, Inc. [info@tighebond.com]
Sent: Tuesday, February 21, 2012 12:58 PM
To: Steve Williams
Subject: Underground Storage Tank (UST) System Owner/Operator

If you're having trouble viewing this email, you may [see it online](#).

Share This: 

Massachusetts Class A, B & A/B UST Operator Certification Exams Now Available Online

By August 8, 2012, you are required to designate at least one MassDEP - certified Class A, B and C Operator for each underground storage tank (UST) system you own/operate.

UST Operator certification exams are available online that you, your employees and/or consultants must take to qualify as a Class A, B or A/B UST Operator. There is no exam required to qualify for Class C Operator certification.

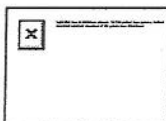
The MassDEP web site provides links to reference materials that you can study before starting an exam and consult while taking it. For details, please visit: <http://www.mass.gov/dep/toxics/ust/operator.htm>

Questions?

Contact the MassDEP UST Hotline, 617-556-1035, extension 2 or dep.ust@state.ma.us

David P. Horowitz, P.E., 413-572-3211 or dphorowitz@tighebond.com

Gary M. Roberts, 413-875-1316 or gmroberts@tighebond.com



53 Southampton Road, Westfield, MA 01085
www.tighebond.com

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Got this as a forward? [Sign up](#) to receive our future emails.



Appendix F

Street Sweeping Log

**TOWN OF BELCHERTOWN
2011 STREET SWEEPING**

STREET NAME	DATES	YARDS REMOVED
ALDEN ST.	-	-
ALDRICH ST.	6.22.2011	15
ALLEN ST.	5.9.2011	12.5
AMHERST RD.	6.8.2011	20
	5.11.2011	5
ATHERTON LN.-	3.17.2011	1
AUTUMN LN.	-	-
AZALEA WAY	5.18.2011	2.5
BARDWELL ST.	4.22.2011	1
BARRETT ST.	-	-
BARTON AVE.	5.17.2011	15
BAY PATH RD.	5.5.2011	2.5
BAY RD.	3.18.2011	6
	5.4.2011	1
	5.5.2011	19
	5.12.2011	2.5
	5.13.2011	2.5
BLACKSMITH RD.	4.22.2011	1
BLOSSOM LN.	-	-
BLUE MEADOW RD.	6.21.2011	17.5
BOARDMAN ST.	5.16.2011	5
BRANDYWINE DR.	5.9.2011	15
BRENDA LN.	5.10.2011	2
BRIDGE STREET	3.17.2011	1.5

**TOWN OF BELCHERTOWN
2011 STREET SWEEPING**

BUNKER WAY	-	-
CADWELL LN.	4.27.2011	1
CANAL DR.	-	-
CAROL ANN DR.	-	-
CATHERINE DR.	5.4.2011	1
CEDER GLEN DR.	-	-
CHADBOURNE RD	5.31.2011	1.5
CHARTIER DR.	5.13.2011	2.5
CHAUNCEY WALKER ST.	5.26.2011 6.1.2011	10 5
CHERYL CIR.	6.14.2011	2.5
CHESTNUT DR.	5.18.2011	1
CLARK ST.	3.17.2011	1.5
CLEARBROOK DR	5.12.2011	2.5
CLOVER HILL RD.	-	-
COBB LN.-(Prescott, Howe, Cadwell)	4.27.2011	2.5
COLD SPRING ST.	-	-
CORDNER RD.	-	-
COTTAGE ST.	3.15.2011 5.31.2011	1 1
COUNTRY LN.	4.28.2011	2.5
DANA HILL	3.17.2011	2.5
DANIEL SQ.	5.12.2011	7.5

**TOWN OF BELCHERTOWN
2011 STREET SWEEPING**

DANIEL SQ. EXT.	5.12.2011	1
DEER RUN	6.21.2011	2.5
DEPOT ST.	4.19.2011	4
	4.20.2011	4
DIANE DR.	-	-
DOE HOLLOW	6.21.2011	2.5
DRESSEL AVE.	6.3.2011	10
EAGLE HTS.	3.18.2011	2
EAST ST.	-	-
EAST WALNUT ST	3.15.2011 5.31.2011	1 1.5
EASTVIEW DR.	5.31.2011	5
EDEL CY DR.	6.20.2011	2.5
ENOCH SANFORD	-	-
ESKETT RD.	5.17.2011	5
EUGENE DR.	4.22.2011	2
EVERETT AVE.	3.16.2011 5.31.2011	1 1
FEDERAL ST.	6.14.2011	15
FLETCHER AVE.	5.11.2011	5
FORREST RD.	6.2.2011	10
FOX RUN DR.	4.22.2011	3
FRANKLIN ST.	4.19.2011 4.20.2011 4.21.2011	4 32 8
Front Street	3.17.2011	2.5

**TOWN OF BELCHERTOWN
2011 STREET SWEEPING**

FULLER ST.	4.11.2011	6
GEORGE HANNUM ST.	3.17.2011	6
	5.16.2011	20
GOLD ST.	6.16.2011 & 6.17.2011	32.5
GOODELL ST.	6.7.2011	7.5
GRANBY RD.	5.23.2011	10
GREEN AVE.	3.29.2011	18
GREENWICH HILL	3.17.2011	1
GULF RD	6.16 – 6.17.2011	20
GULF RD. (Lower/upper)	6.15.2011	20
HAMILTON ST.	5.13.2011-Transf.	17.5
HELEN LN.	3.18.2011	1.5
HEMLOCK HOLLOW	5.18.2011	2.5
HENRY DR.	6.3.2011	2.5
HERITAGE DR.	6.21.2011	2.5
HOWARD ST.	5.26.2011	2.5
HOWE ST.	3.17.2011	1
HARRIS WAY	4.27.2011	2.5
	5.13.2011	2
JABISH ST.	3.16.2011	10
	5.10.2011	2.5
JACKSON ST.	3.15.2011	2.5
JASONS WAY	4.11.2011	6
	6.22.2011	2.5

**TOWN OF BELCHERTOWN
2011 STREET SWEEPING**

JEFFERY LN.	6.6.2011	.5
JENSEN ST.	6.22.2011 6.23.2011	20 5
JOHNSON RD.	6.23.2011	5
JON DR.	6.3.2011	1.5
JUCKET HILL RD.	5.9.2011	3
KENNEDY RD.	6.20.2011	5
KEYES ST.	4.19.2011 4.20.2011	4 2
KIMBALL ST.	-	-
KNIGHT ST.	-	-
KOPIAC AVE.	6.20.2011	2.5
LAMSON AVE.	5.12.2011	5
LAUREL RIDGE.	5.18.2011	2.5
LAWRENCE RD.	6.3.2011	1
LEDGEWOOD CIR.	6.2.2011	7.5
LEDGEWOOD DR.	5.31.2011 6.2.2011	7.5 5
LEXINGTON DR.	5.11.2011	.50
LLOYD AVE.	5.31.2011	1
LUDLOW ST.	5.23.2011 5.26.2011	7 12
MAIN ST.	3.15.2011 4.7.2011	4 5
Mallard Estates-Incl.	4.21.2011	12

**TOWN OF BELCHERTOWN
2011 STREET SWEEPING**

MAPLE ST.	3.16.2011	2.5
MAPLECREST DR.	3.29.2011 5.20.2011	10 2.5
MARTIN CIR.	6.24.2011	2.5
MERCIER DR.	5.12.2011	2.5
MEADOW POND	6.22.2011	2.5
METACOMET CIR.	4.28.2011	8
METACOMET ST.	4.28.2011	2.5
MICHAEL SEARS RD. Upper+Lower	4.22.2011	8
MILL VALLEY RD.	4.21.2011 4.22.2011	8 1
MOSS LN.	-	-
MOUNTAIN VIEW DR.	5.17.2011 5.18.2011	5 2.5
MUNSELL ST.	6.17.2011	17.5
NATHANIEL WAY	-	-
NEWTON ST.	3.17.2011	1
NORTH GULF RD.	-	-
NO. LIBERTY ST.	-	-
NORTH MAIN ST.	3.15.2011 4.7.2011	4 5
NORTH ST.	6.8.2011 6.13.2011	10 20
NO. WASHINGTON ST.	4.11.2011	6
OAK RIDGE DR.	5.18.2011	4

**TOWN OF BELCHERTOWN
2011 STREET SWEEPING**

OAKWOOD DR.	4.22.2011	1
OLD AMHERST RD	5.10.2011	1
OLD BAY RD.	5.5.2011	2.5
OLD ENFIELD RD.	5.9.2011 5.10.2011	2.5 2.5
OLD FARM CIR.	4.28.2011	3
OLD FARM RD.	4.28.2011	5
OLD PELHAM RD.	5.11.2011 6.20.2011	2.5 5
OLD SAWMILL RD	6.20.2011	2.5
ORCHARD RD.	6.7.2011	20
OVERLOOK DR.	5.17.2011	2.5
OASIS DR.	6.17.2011	2.5
PARK ST.	4.7.2011	5
PEASE LN.	-	-
PELHAM RD.	6.20.2011	5
PENDLETON RD.	6.1.2011	1.5
PINE ST.	-	-
PINEBROOK DR.	5.12.2011	2.5
PLAZA AVE.	5.5.2011	1.5
PONDVIEW DR.	5.9.2011	2.5
POOLE RD.	4.28.2011	1.5
PEPPER RIDGE	6.1.2011	.5

**TOWN OF BELCHERTOWN
2011 STREET SWEEPING**

PHEASANT RUN	5.26.2011	.25
PRESCOTT HILL	3.17.2011	1.5
RAILROAD ST.	-	-
RAINBOW DR.	-	-
RAYMOND DR.	5.10.2011	2
RIMROCK DR.	5.20.2011	2.5
RITA LN.	3.18.2011	2
	4.28.2011	1
RIVER ST.		
ROBIN LN.	-	-
ROCKRIMMON ST.	5.19.2011	7.5
	5.20.2011	12.5
RURAL ST.	5.16.2011	5
SABIN ST.	-	-
SARAH LN.	5.4.2011	1
SEGUR LN.	6.20.2011	2.5
SHAW ST.	5.26.2011	5
SHEA AVE.	-	-
SHEFFIELD DR.	5.11.2011	7.5
SHERWOOD DR.	5.9.2011	2.5
SOUTH GULF RD.	-	-
SO. LIBERTY ST.	-	-
SOUTH MAIN ST.	3.15.2011	1.5
	4.7.2011	5

**TOWN OF BELCHERTOWN
2011 STREET SWEEPING**

South Main/Fork-Spfld	4.11.2011	6
SOUTH ST.	-	-
SO. WASHINGTON	-	-
SPRING HILL RD.	3.16.2011	1.5
	5.11.2011	1.5
SPRINGFIELD RD.	3.15.2011	3
	4.11.2011	6
	6.1.2011	8.5
STADLER ST.	-	-
STATE STREET- Checkers to Rte 21	3.17.2011	3
STEBBINS ST.	5.12.2011	12.5
	5.13.2011	2.5
SUMMIT ST.	3.18.2011	6
SYLVAN CIR.	-	-
TERRY LN.	5.19.2011	1
TOWN BEACH RD.	6.14.2011	2.5
TUCKER LN.	3.15.2011	1
	5.31.2011	.25
TURKEY HILL RD.	5.19.2011	2.5
TWO PONDS RD.	5.10.2011	1
UNDERWOOD ST.	6.3.2011	2.5
	6.6.2011	5
	6.21.2011	5
WARNER ST.	-	-
WARREN WRIGHT ST.	6.6.2011	10
	6.8.2011	15

TOWN OF BELCHERTOWN

2011 STREET SWEEPING

[illegible]

Appendix G

Catch Basin Cleaning Log

Catch Basin Cleaning 2011

Streets done

Bay Rd. – 59 of the 62 basins cleaned
Catherine Dr. – all 4 basins
Chartier Dr. – all 6 basins
Sarah Lane – all 5 basins
Lloyd Ave. – all 3 basins
Chadbourn Rd. – all 3 basins
Tucker Lane – all 6 basins
Cheryl Circle – all 8 basins
All of Mallard Estates: all 37 basins cleaned.
Kennedy Dr., Oakwood Dr., Pease Lane, Moss Lane,
Robin Lane, Black Smith Rd., and Rainbow Dr.
Daniel Square – one basin

The total number of basins/drop inlets cleaned for 2011 is 131. The basin material was dump in a contained area at the highway yard. After all the basin had been cleaned the material was then transported to Waste Management's land fill in Granby.



Waste Management of Massachusetts
26 Patriot Place STE 300
Foxboro, MA 02035-1375

(800) 262-5633
(800) 972-4545
(866) 840-3254 FAX

INVOICE

Customer:
Account Number:
Invoice Date:
Invoice Number:
Due Date:
WM ezPay Account ID:

Page 1 of 3
BELCHERTOWN DPW
445-0000319-0445-1
10/16/2011
0006173-0445-6
Due Upon Receipt
00010-03078-93001

Total Current Charges Total Amount Due

5,899.56

5,899.56

Account Summary

Description	
Previous Balance	0.00
Total Credits and Adjustments	0.00
Total Payments Received	0.00
Total Current Charges	5,899.56
Total Amount Due	5,899.56
Total Amount Past Due	0.00

Please pay total amount due. Thank you for your business.

Service Period: OCTOBER SERVICE

Description	Amount
Landfill	5,899.56
Total Current Charges	5,899.56

If full payment of the invoiced amount is not received within 30 days of the invoice date, you will be charged a monthly late fee of 1.5% of the unpaid amount, with a minimum monthly charge of \$5.00, or such lesser late fee allowed under applicable law, regulation or contract. For each returned check, a fee will be assessed on your next billing equal to the maximum amount permitted by applicable state law.

Want to pay this bill on-line? Visit www.wm.com and click on My Account to make a convenient, secure payment.

10-24-11
10429-52921

Current Due	Over 30	Over 60	Over 90	Over 120	Total Due
5,899.56	0.00	0.00	0.00	0.00	5,899.56



Waste Management of Massachusetts
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Please send all other correspondence to your local WM site.

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445-0000319-0445-1

Invoice Date

10/16/2011

Your Invoice Number:

0006173-0445-6

Due Date

Upon Receipt

Total Due

5,899.56

Amount Paid

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www.wm.com. To pay by
phone, call 866-964-2729.

04454450000319000061730000058995600000589956 1

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10439L33

BELCHERTOWN DPW
PO BOX 306
BELCHERTOWN MA 01007-0306

Waste Management of Massachusetts
Holyoke Landfill
P O Box 13648
Philadelphia PA 19101-3648

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Page 3 of 3
BELCHERTOWN DPW
445-0000319-0445-1
10/16/2011
0006173-0445-6
Due Upon Receipt
00010-03078-93001

Service Location: 445-319 Belchertown Dpw: PO Box 306: Belchertown, Ma 01007-0306

Date	Ticket	Description	Quantity	U/M	Rate	Amount
10/12/11	223151	Vehicle#: 1				
		Catch basin cleanings-msw	19.30	TON	90.00	1,737.00
		Environmental fee - large (landfill)	1.00	LOD	10.00	10.00
		Fuel surcharge - landfill	1.00	PCT	6.70	117.05
		Ticket Total				1,864.05
10/12/11	223152	Vehicle#: 2				
		Catch basin cleanings-msw	10.84	TON	90.00	975.60
		Environmental fee - large (landfill)	1.00	LOD	10.00	10.00
		Fuel surcharge - landfill	1.00	PCT	6.70	66.04
		Ticket Total				1,051.64
10/12/11	223162	Vehicle#: belchertown1				
		Catch basin cleanings-msw	18.94	TON	90.00	1,704.60
		Environmental fee - large (landfill)	1.00	LOD	10.00	10.00
		Fuel surcharge - landfill	1.00	PCT	6.70	114.88
		Ticket Total				1,829.48
10/12/11	223163	Vehicle#: belchertown2				
		Catch basin cleanings-msw	11.91	TON	90.00	1,071.90
		Environmental fee - large (landfill)	1.00	LOD	10.00	10.00
		Fuel surcharge - landfill	1.00	PCT	6.70	72.49
		Ticket Total				1,154.39
Total charges for service location						5,899.56
Total Current Charges						5,899.56

Detention Pond List

Street Location		Date Cleaned
Atherton Lane ✓		2/8/12
Barton Ave. #1(lower) ✓		3/9/12
Barton Ave. #2(upper) ✓		3/9/12
Cedar Glen Drive		
Cheryl Circle ✓		2/29/12
Clark St. ✓		2/9/12
Cobb Lane ✓		2/15/12
Crest View		
Emily Lane		
Eugene Drive		
George Hannum St.(Dana woods)		
Hemlock Hollow ✓		3/7/12
Henry Drive		
Hickory Ridge		
Martin Circle		
Meadow Pond Road		
Newton St. ✓		2/13/12
Oak Ridge Dr. ✓		2/28/12
Oasis Drive		
Pendleton Ave. ✓		3/6/12
Pepper Ridge Road ✓		3/6/12
Prescott Hill ✓		2/14/12
Rimrock Drive ✓		3/7/12
Segur Lane ✓		2/6/12 - 2/7/12
Sheffield Drive (lower) ✓		1/18/12
Sheffield Drive (upper) ✓		1/19/12 - 1/26/12
Springhill Road ✓		2/1/12 - 2/3/12
Trillium Way		
Two Ponds Road		
Willow Lane		
Sheffield Drive (middle)		

