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MAY - 1

April 25, 2006

U.S. Environmental Protection Agency
Water Technical Unit
P.O. Box 8127
Boston, MA 02114

RE: NPDES Phase II Small MS4 General Permit
Year 3 Annual Report
Belchertown, Massachusetts

Dear Coordinator:

Enclosed please find an Annual Report for the Town of Belchertown in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (Permit Number MA014002). A copy of the Annual Report is also being submitted to the Massachusetts Department of Environmental Protection.

Please contact me at (413) 452-0445 ext. 4433 with any questions regarding this submittal.

Sincerely,

Erik V. Mas, P.E.
Senior Environmental Engineer

78 Interstate Drive
West Springfield, MA
01089

t (413) 452-0445
(800) 286-2469
f (413) 846-0497

www.FandO.com

Attachment

c: MA DEP, Division of Watershed Management
Steven Williams, Belchertown DPW Director

Massachusetts

Connecticut

New York

Rhode Island

North Carolina

South Carolina



FUSS & O'NEILL

Disciplines to Deliver

April 25, 2006

Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street
Worcester, Massachusetts 01608

RE: NPDES Phase II Small MS4 General Permit
Year 3 Annual Report
Belchertown, Massachusetts

Dear Coordinator:

Enclosed please find an Annual Report for the Town of Belchertown in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (Permit Number MA014002). A copy of the Annual Report is also being submitted to the United States Environmental Protection Agency.

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MAY - 1

Storm Water Management Plan 2006 Annual Report

**Town of Belchertown
Belchertown, Massachusetts**

April 2006



FUSS & O'NEILL
Disciplines to Deliver

**Fuss & O'Neill
78 Interstate Drive
West Springfield, MA 01089**

**STORM WATER MANAGEMENT PLAN
2006 ANNUAL REPORT
Town of Belchertown**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION.....	1
2.0 PERSONNEL	1
2.1 School Programs	1
2.2 Educational Materials Distributed.....	1
2.3 Citizen Groups	1
2.4 Modifications to Plan	2
2.5 Activities Schedule for Next Year	2
3.0 PUBLIC PARTICIPATION.....	2
3.1 School Programs	2
3.2 Boy and Girl Scouts of America	2
3.3 Storm Water Management Committee.....	2
3.4 Public Meetings	3
3.5 Modifications to the SWMP.....	3
3.6 Activities Planned for Next Year.....	3
4.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION	3
4.1 Activities Conducted	3
4.2 Modifications to the SWMP.....	4
4.3 Activities Planned for Next Year.....	4
5.0 CONSTRUCTION SITE RUNOFF CONTROLS.....	4
5.1 Activities Conducted	4
5.2 Modifications to the SWMP.....	4
5.3 Activities Planned for Next Year.....	4
6.0 POST-CONSTRUCTION STORM WATER MANAGEMENT	5
6.1 Activities Conducted	5
6.2 Modifications to the SWMP.....	5
6.3 Activities Planned Next Year	5
7.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING	5
7.1 Employee Training	5
7.2 Street Sweeping	6
7.3 Catch Basin Cleaning.....	6
7.4 Deicer Material Storage.....	6
7.5 Preventative Maintenance.....	6
7.6 Transfer Station.....	6
7.7 Modification to the SWMP.....	7
7.8 Activities Planned Next Year	7

**STORM WATER MANAGEMENT PLAN
2006 ANNUAL REPORT
Town of Belchertown**

TABLE OF CONTENTS
(continued)

APPENDICES

- A Modified Storm Water Management Plan Summary
- B Stormwater Flyer
- C Field Screening Data Sheets
- D Stormwater Training Materials
- E Street Sweeping Log
- F BUD Permit for the Beneficial Use of Catch Basin Cleanouts

END OF REPORT

GENERAL INFORMATION

STORM WATER MANAGEMENT PLAN
2006 ANNUAL REPORT
Town of Belchertown

Municipality/Organization: Town of Belchertown

EPA NPDES Permit Number: MA041002

Annual Report Number and
Reporting Period: Report #3: May 1, 2005 through April 30, 2006

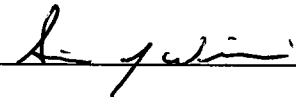
Contact Person: Steven J. Williams
Director, Department of Public Works
(413) 323-0415
swilliams@belchertown.org

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: APRIL 26, 2006



1.0 INTRODUCTION

The Town of Belchertown developed a Storm Water 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)* issued jointly by the United States Environmental Protection Agency (USEPA) and the Massachusetts Department of Environmental Protection (MA DEP) (effective May 1, 2003). 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.

2.0 PERSONNEL

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 mainly focusing on the recycling of white paper. Overall, approximately 2,500 students received environmental-related education as a regular part of the school curriculum.

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 storm water link was created on the Town's website which includes links to a copy of the SWMP and annual reports. Additionally, a storm water flyer from the EPA was distributed town-wide as a newspaper insert to educate citizens about stormwater and stormwater pollution solutions. A copy of the flyer is included as Appendix B.

2.3 Citizen Groups

The following local citizen groups and organizations have been identified in the SWMP that provide public education resources on storm water quality issues or could provide a public outreach avenue in developing storm water 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 storm water quality issues and continue to exist as support to future storm water education programs in Belchertown.

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

Activities for Year 4 include:

- Prepare and distribute flyers 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.
- Add a new link to the existing Board of Health website with guidance or recommendations on proper septic system maintenance.
- Continue existing school educational programs.

3.0 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 Arbor Day ceremony, maintenance of a nature trail near the school, and water quality studies of the Jabish Brook.
- An Earth Day celebration where a donated tree is planted and guest speakers discuss the importance of caring for the environment.
- Cleaning of the Chestnut Hill Middle School yard and surrounding areas in the spring.
- An annual science fair open to the public.
- An annual "Enviro-thon" as well as a community project caring for nearby vernal pools.

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 storm water management program.

3.3 Storm Water Management Committee

In 2003 the Town established a Storm Water Management Committee to develop and implement the SWMP. The Committee consists of the following Town employees and board members:



- 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

The committee reconvened in April 2006 and plans to meet periodically in 2006 and 2007.

3.4 Public Meetings

The SWMP and Phase II Storm Water 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 year's annual report and previous annual reports are made available to the public on the Town of Belchertown website.

3.5 Modifications to the SWMP

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

3.6 Activities Planned for Next Year

Activities planned for Year 4 include:

- Expand the Storm Water Committee to include interested citizens or other members of the community to assist in implementation of the SWMP.
- Periodic meetings of the Storm Water Committee
- Recruit student volunteers and/or interested citizens to assist in illicit discharge detection and elimination efforts within the Phase II regulated area.

4.0 **ILLICIT DISCHARGE DETECTION AND ELIMINATION**

4.1 Activities Conducted

A preliminary storm sewer outfall map showing storm water 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 outfalls for detection of illicit discharges were performed in April 2006. Outfalls were inspected using an outfall reconnaissance inventory field sheet. The 2006 initial screening was conducted on April 6, 2006. On April 12, 2006 a second round of dry weather screening was conducted at locations with flow present during the April 6th round. Five locations were identified with flow present during both rounds of dry weather screening. Copies of the ORI field data sheets from the April 2006 dry weather screening events are included in Appendix C.



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

Activities planned for Year 4 include:

- Investigate outfalls where flow was observed during the April 2006 dry weather screening events.
- Perform an additional round of dry weather screening of outfalls.
- Review model illicit discharge by-law to ensure compliance with existing laws and regulations.

5.0 CONSTRUCTION SITE RUNOFF CONTROLS

5.1 Activities Conducted

Approximately 12 applications for new development or redevelopment projects town-wide were reviewed by the Belchertown Planning Board and approved in 2005. A total of 107 projects town-wide were reviewed by the Belchertown Conservation Commission. Several of the larger projects were also reviewed by engineering consultants hired by the Town. The majority of these projects incorporated some form of erosion and sediment controls to satisfy existing local regulatory mechanisms.

To date, construction activities have not been tracked for purposes of the Phase II permits. Tracking procedures will largely be determined by the regulatory mechanism developed to address construction runoff controls.

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

Activities planned for Year 4 include:

- Review model storm water management and land disturbance by-law to assess its applicability and feasibility for adoption in Belchertown.
- Draft and adopt a by-law with public input.



6.0 POST-CONSTRUCTION STORM WATER 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 storm water management controls to satisfy the performance standards established in Massachusetts' *Stormwater Policy Handbook*.

Specific information on the number of projects and the types of post-construction storm water management measures was not tracked this year. Activities conducted and their method of tracking will largely be determined by the regulatory mechanisms developed to address post-construction runoff controls.

6.2 Modifications to the SWMP

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

6.3 Activities Planned Next Year

Activities planned for Year 4 include:

- Review model post-construction storm water by-law to assess its applicability and feasibility for adoption in Belchertown.

7.0 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 no municipal operation and maintenance activities associated with the infrastructure (e.g., roads and storm drainage system) within the regulated area. 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

Twenty Public Works staff, representing administrative, cemetery, highway, and water staff, received environmental-related training this year. The training included Environmental Compliance and Stage II Vapor Recovery training.

Stormwater training for DPW and other Town employees was conducted in April 2006. The training was conducted in conjunction with annual training required by the EPA industrial storm water 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 training handouts and employee attendance log is included in Appendix D.

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 E. Approximately 85% of the roads in Belchertown were swept by the Town using a Town-owned sweeper (2005 Elgin Pelican) and approximately 1,660 yards of material were recovered. 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

Due to budgetary constraints, catch basins were not cleaned in 2005. In April 2006, the Town obtained a Beneficial Use Determination (BUD) Permit from the MA DEP for the Beneficial Use of Catch Basin Cleanouts. The permit provides the Town with the following reuse options for catch basin cleanings:

- Use/disposal in accordance with the DEP Street Sweepings Policy
- Use in asphalt recycling at the Ondrick facility in Chicopee, MA
- Use as an alternative daily landfill cover.

The Town plans to clean catch basins and manage the cleanings under the BUD permit beginning in 2006. A schedule for the cleaning and maintenance of the Town catch basins has been developed for future use. A copy of the BUD permit is included as Appendix F.

7.4 Deicer Material Storage

Salt is stored at the DPW maintenance garage inside a dedicated salt storage building, constructed in 2004. Approximately 1,700 tons of salt and 4,900 yards of sand were used in the winter of 2005-2006. An estimated 200 tons of deicer material was used in the Phase II regulated area over the 2005-2006 winter seasons.

7.5 Preventative Maintenance

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

7.6 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. Over 1,000 tons of residential waste was collected at the Transfer Station in 2005. Approximately 520 tons of mixed paper were collected, 96 tons of white goods and scrap metal, and 110 tons of batteries, CRTs/Electronics, and fluorescent bulbs. Approximately 188 tons of leaves and brush were composted.

A contract with the City of Northampton has been established for residents of Belchertown to drop off certain hazardous wastes at Northampton collections areas.



7.7 Modification to the SWMP

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

7.8 Activities Planned Next Year

Activities planned for Year 4 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 storm water 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 storm water 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, including the BUD Permit for Beneficial Use of Catch Basin Cleanouts.



APPENDIX A

Revised Storm Water Management Plan Summary



STORM WATER 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.	1-5	The number of students receiving storm water education as a regular part of the school curriculum. The number of programs offered.	Storm Water Committee, School Department
1.2	Provide schools with a copy of the education resources sections of the Plan. Make copies of the storm water management plan available in the Town library.	1	Distributed plan copies to the schools. Distributed plan copies to the Town library.	Storm Water Committee
1.3	Create a storm water link on the Town's website, including an electronic version of the storm water management plan.	2	Created a storm water link on the Town's website.	Storm Water Committee, MIS Department
1.4	Prepare a general storm water 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 storm water website.	3	The number of materials created and distributed or the number of storm water-related articles published. Materials added to Town website.	Storm Water Committee, School Department
1.5	Distribute flyers 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.	4	The number of materials created and distributed to Town residents.	Storm Water 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.	4	Provided septic system maintenance guidance materials on Board of Health website.	Storm Water Committee, Board of Health, MIS Department
1.7	Publicize and hold a hazardous waste collection day.	5	Publicized and held a hazardous waste collection day.	Storm Water Committee, DPW
2	Public Participation/Involvement			
2.1	Form a Storm Water Committee to assist in developing the Phase II storm water management plan and to coordinate implementation activities.	1	Formed a storm water committee.	Storm Water Committee
2.2	Make the storm water 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.	Storm Water Committee
2.3	Continue existing school environmental outreach programs.	1-5	The number of students involved in environmental outreach programs. The number of programs offered.	Storm Water Committee, School Department
2.4	Expand Storm Water 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 storm water committee members recruited.	Storm Water Committee

STORM WATER MANAGEMENT PLAN SUMMARY TOWN OF BELCHERTOWN

BMP ID	Minimum Control Measure Best Management Practice (BMP) Description	Permit Year	Measurable Goal	Responsible Party
2.5	Recruit student volunteers and/or interested citizens to assist in illicit discharge detection and elimination efforts within the Phase II regulated area.	3-5	Recruited volunteers to assist with illicit discharge and detection field effort.	Storm Water Committee, School Department, DPW
3	Illicit Discharge Detection and Elimination			
3.1	Create a storm sewer outfall map showing storm water outfalls within the Phase II regulated area.	1	Created a storm sewer outfall map.	Storm Water 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.	Storm Water 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.	3-5	Conducted source tracking of storm water outfalls. Identified sources of illicit discharges.	Storm Water Committee, DPW, Board of Health
3.4	Eliminate a certain number or percentage of illicit discharges whose sources are identified.	3-5	Eliminated a certain number or percentage of illicit discharges whose sources were identified.	Storm Water Committee, DPW, Board of Health
3.5	Review model illicit discharge by-law to assess its applicability and feasibility for adoption in Belchertown. Draft and adopt an illicit discharge 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	Reviewed, drafted, and adopted illicit discharge by-law.	Storm Water 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.	3-5	Disseminated educational materials (e.g. newspaper flyer) on illicit discharge detection and elimination (see BMP 1.6) to the public.	Storm Water 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.	Storm Water 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.	Storm Water 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.	5	Conducted training for Town staff.	Storm Water 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.	Storm Water Committee, Building Inspector, Planning Board

STORM WATER MANAGEMENT PLAN SUMMARY TOWN OF BELCHERTOWN

BMP ID	Minimum Control Measure Best Management Practice (BMP) Description	Permit Year	Measurable Goal	Responsible Party
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.	Storm Water 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.	Storm Water 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.	5	Conducted training for Town staff.	Storm Water Committee, Building Inspector, Planning Board, Conservation Commission
5.4	Develop procedures for public inquiry and comments for post-construction storm water BMPs, and procedures to respond to public inquiries. Develop periodic inspection procedures.	5	Developed procedures for public inquiry and associated response. Developed inspection procedures.	Storm Water Committee, Building Inspector, Planning Board, Conservation Commission
6	Pollution Prevention/Good Housekeeping			
6.1	Expand annual storm water training program for appropriate Town employees to include street sweeping, storm water BMP and drainage system maintenance including catch basin cleaning, winter road and lot maintenance, and solid/hazardous waste management.	1	Developed expanded storm water training program.	Storm Water Committee, DPW
6.2	Develop record keeping procedures for street sweeping, catch basin cleaning, deicer application and usage, and storm water BMP inspections and maintenance within the regulated area.	2	Developed record keeping procedures.	Storm Water Committee, DPW
6.3	Conduct training for appropriate Town employees.	1-5	Conducted training. The number of employees trained.	Storm Water Committee, DPW
6.4	Sweep streets within the regulated area, as necessary, on a rotating basis.	1-5	Conducted street sweeping within regulated area.	DPW
6.5	Establish inspection and maintenance schedules for storm drainage structures and storm water BMPs within the Phase II regulated area.	3	The quantity of debris collected from street sweeping. Established inspection and maintenance schedules.	Storm Water Committee, DPW
6.6	Publicize and hold a hazardous waste collection day.	5	Publicized and held a hazardous waste collection day.	Storm Water Committee, DPW



APPENDIX B

Stormwater Flyer



A Citizen's Guide to Understanding Stormwater



EPA 833-B-03-002
January 2003



For more information, contact
www.epa.gov/nps/stormwater
or visit
www.epa.gov/nps

For more information, contact
www.epa.gov/nps/stormwater
or visit
www.epa.gov/nps



What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- ♦ Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- ♦ Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- ♦ Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- ♦ Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- ♦ Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.



- ♦ Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

Stormwater Pollution Solutions

Residential

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.



- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.



- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.



APPENDIX C

Field Screening Data Sheets

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>21</u>	
Today's date: <u>April 6, 2008</u>		Time (Military): <u>14:15</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>51°</u>	Rainfall (in.): Last 24 hours: <u>1</u>	Last 48 hours: <u>1.5</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>Summit St. C.B's</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>UNKNOWN</u> <u>Outlet Not Found</u> <u>AT Present</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)				
		☐ Sewage ☐ Sulfide ☐ Clear ☐ Green ☐ Sewage (Toilet Paper, etc.) ☐ Petroleum (oil sheen)	☐ Rancid/sour ☐ Other: ☐ Brown ☐ Orange See severity	☐ Petroleum/gas ☐ Gray ☐ Red ☐ Yellow ☐ Other: ☐ Suds ☐ 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!!	☐							

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 ☐ Excessive ☐ Odors ☐ Suds ☐ Brown	☐ Peeling Paint ☐ Other: ☐ Inhibited ☐ Colors ☐ Excessive Algae ☐ Orange ☐ Green ☐ 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

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-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>16</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>13:20</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>50°</u>	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 ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial ☐ Open Space ☐ Institutional Other: _____ Known Industries: _____			
Notes (e.g., origin of outfall, if known): <u>(4) C.B.'s Hemlock Hollow</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" @ C.B.'s</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)		
			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	Oil Fall Not Found
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:		Outfall ID: <u>13</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>12:40</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>50°</u>	Rainfall (in.): Last 24 hours: <u>1</u> Last 48 hours: <u>1.5</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>Out Fall unknown - M.H. Paved Over</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: _____ 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

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-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>8</u>	
Today's date: <u>April 6, 2008</u>		Time (Military): <u>11:08</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>44°</u>	Rainfall (in.): Last 24 hours:	Last 48 hours: <u>.5</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>(4) C.B.'s Barton Ave</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>18"</u> <u>w/ Flared End</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	Color	Turbidity	1 - Faint	2 - Easily detected
Odor	☐	☐ Sewage ☐ Sulfide ☐ Other:	☐ Rancid/sour ☐ Petroleum/gas	☐ 1 - Faint	☐ 2 - Easily detected	☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Yellow ☐ 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.) ☐ Petroleum (oil sheen) ☐ Other:	☐ Suds ☐ 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
		Odor	Color	
Outfall Damage	☒	☐ Spalling, Cracking or Chipping ☐ Corrosion	☐ Peeling Paint	Pipe - Flared End 75% full of Sediment + debris
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	☐ Oil Sheen ☐ Other:	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Excessive Algae ☐ Other:	☐ Green ☐ Orange ☐ 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-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>2</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>10:31</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>42°</u>	Rainfall (in.): Last 24 hours: <u>1</u>	Last 48 hours: <u>1.5</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>(2) C.B.S 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 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	☐	☐ Rancid/sour ☐ Petroleum/gas	☐ 1 - Faint	☐ 2 - Easily detected	☐ 3 - Noticeable from a distance	
Color	☐	☐ Sulfide ☐ Other:	☐ 1 - Faint colors in sample bottle	☐ 2 - Clearly visible in sample bottle	☐ 3 - Clearly visible in outfall flow	
		☐ Clear ☐ Brown ☐ Gray ☐ Yellow				
Turbidity	☐	☐ Green ☐ Red ☐ Other:	☐ 1 - Slight cloudiness	☐ 2 - Cloudy	☐ 3 - Opaque	
		☐ See severity				
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
		1 - Faint	2 - Easily detected	
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Corrosion	☐ Peeling Paint	
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>3</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>10:36</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>42°</u>	Rainfall (in.): Last 24 hours:	Last 48 hours: <u>.5</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>C.B.'s - Spruce View (Private Way)</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>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	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	End of Pipe Broken
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-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>6</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>10:55</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>44°</u>	Rainfall (in.): Last 24 hours: <u>1</u>	Last 48 hours: <u>1.5</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): ② C.B.'s 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: <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: _____	(Shaded area for submerged status)
☐ 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

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-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>7</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>11:02</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>44°</u>	Rainfall (in.): Last 24 hours: <u>1.5</u>	Last 48 hours: <u>1.5</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): ④ C.B.'s 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: <u>18"</u> <u>w/ Flanged End</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: _____	(Shaded area for submerged status)
☐ 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)		
		☐ Sewage ☐ Sulfide ☐ Clear ☐ Green ☐ Rancid/sour ☐ Other: ☐ Brown ☐ Orange ☐ Yellow ☐ Red ☐ See severity ☐ Sewage (Toilet Paper, etc.) ☐ Petroleum (oil sheen) ☐ 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!!	☐					

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 ☐ Peeling Paint	F/End Half Full w/ Sed.
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ 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-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>9</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>11:15</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>44°</u>	Rainfall (in.): Last 24 hours:	Last 48 hours: <u>1.5</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>(2) C.B's Barton Ave</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> <u>4/Flared End</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)		
			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	Pipe Damage @ Flared End
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:		Outfall ID: <u>11</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>11:25</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>44°</u>	Rainfall (in.): Last 24 hours: <u>1</u> Last 48 hours: <u>1.5</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): ④ C.B.'s 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: <u>18"</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: _____	(Shaded area for submerged status)
☐ 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)		
		☐ Rancid/sour ☐ Petroleum/gas	☐ Other:	☐ 1 - Faint	☐ 2 - Easily detected	☐ 3 - Noticeable from a distance
Odor	☐	☐ Sewage ☐ Sulfide	☐ Brown ☐ Gray ☐ Yellow	☐ 1 - Faint colors in sample bottle	☐ 2 - Clearly visible in sample bottle	☐ 3 - Clearly visible in outfall flow
Color	☐	☐ Clear ☐ Green	☐ Brown ☐ Orange ☐ Red ☐ Other:	☐ 1 - Slight cloudiness	☐ 2 - Cloudy	☐ 3 - Opaque
Turbidity	☐	See severity		☐ 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)
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
		☐ Spalling, Cracking or Chipping ☐ Corrosion	☐ Peeling Paint	
Outfall Damage	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Peeling Paint	
Deposits/Stains	☐	☐ Excessive ☐ Inhibited	☐ Other:	
Abnormal Vegetation	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Excessive Algae ☐ Other:		
Poor pool quality	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:		
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-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>14</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>13:10</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>50°</u>	Rainfall (in.): Last 24 hours:	Last 48 hours: <u>1.5</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>② C.B.'s Hombeck Hollow</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	____' ____"	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	Large Rip Rap Covering End of Pipe
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>15</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>13:15</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>50°</u>	Rainfall (in.): Last 24 hours: <u>1</u> Last 48 hours: <u>1.5</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):			

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	Large Pipe Cap Covering End of Pipe
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-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>18 + 19</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>13:45</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>50°</u>	Rainfall (in.): Last 24 hours: <u>1</u> Last 48 hours: <u>1.5</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>C.Bs Mountain View Dr.</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>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	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	② Outfalls @ X-pipe in Concrete Headwall
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-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>22</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>14:30</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>51°</u>	Rainfall (in.): Last 24 hours: <u>1</u>	Last 48 hours: <u>1.5</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>Drop inlet + C.B.'s RT#21 - Chauncey Walker St.</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☒ Other: <u>TRANSITE</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	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 ☐ Other:	☐ Petroleum/gas	☐ Faint	☐ 2 - Easily detected	☐ 3 - Noticeable from a distance	
Odor	☐	☐ Clear ☐ Green	☐ Brown ☐ Orange	☐ Gray ☐ Red	☐ 1 - Faint colors in sample bottle	☐ 2 - Clearly visible in sample bottle	☐ 3 - Clearly visible in outfall flow	
Color	☐	See severity			☐ 1 - Slight cloudiness	☐ 2 - Cloudy	☐ 3 - Opaque	
Turbidity	☐	See severity			☐ 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)	
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	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Excessive ☐ Inhibited	
Outfall Damage	☒					Outlet Dred Scale Cleaned in Jan 06
Deposits/Stains	☐					
Abnormal Vegetation	☐					
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

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-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>23</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>14:45</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>52°</u>	Rainfall (in.): Last 24 hours: <u>1</u>	Last 48 hours: <u>1.5</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>C.B.'s Pendeton Rd.</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>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	

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	Pine Growth Need Cutting (Spill way)
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-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>1</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>10:14</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>42°</u>	Rainfall (in.): Last 24 hours: <u>1</u> Last 48 hours: <u>1.5</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>State Hwy C.B.'s</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	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 ☐ Rancid/sour ☐ Sulfide ☐ Other:	☐ Petroleum/gas ☐ Gray ☐ Brown ☐ Orange ☐ Red ☐ Yellow ☐ 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	☒	☒ Clear ☐ Green				
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 ☐ Flow Line ☐ Paint ☐ Other:	
Outfall Damage	☐			
Deposits/Stains	☐	☐ Oily ☐ Excessive	☐ Inhibited ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Other:	
Abnormal Vegetation	☐		☐ Brown ☐ Orange ☐ Green ☐ Other:	
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-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>4</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>10:40</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>42°</u>	Rainfall (in.): Last 24 hours: <u>1</u>	Last 48 hours: <u>1.5</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>Run off - Wet Land - X-Pipe - Wet Land - Pond</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>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: _____	[Hatched Box]
☐ 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	Pipe w/Leads etc.
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-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>5</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>16:45</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>42°</u>	Rainfall (in.): Last 24 hours: <u>1</u>	Last 48 hours: <u>1.5</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>Surface Run off.</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ PVC ☐ Steel ☒ CMP ☐ HDPE ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>10"</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: _____	[Hatched Box]
☐ 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
		Spalling, Cracking or Chipping	Peeling Paint	Other	
Outfall Damage	☒	☐	☐	☐	Outfall Leaf Covered
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

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-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>10</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>11:20</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>44°</u>	Rainfall (in.): Last 24 hours:	Last 48 hours: <u>1.5</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): ② C.B's Brandon 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: <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: _____	(Shaded area for submerged status)
☐ 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)		
		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Other:	☐ Petroleum/gas	☐ 1 - Faint	☐ 2 - Easily detected	☐ 3 - Noticeable from a distance
Odor	☐	☒ Clear ☐ Green	☐ Brown ☐ Orange	☐ Gray ☐ Yellow ☐ Other:	☐ 1 - Faint colors in sample bottle	☐ 2 - Clearly visible in sample bottle	☐ 3 - Clearly visible in outfall flow
Color	☒	See severity			☐ 1 - Slight cloudiness	☐ 2 - Cloudy	☐ 3 - Opaque
Turbidity	☐	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
		☐ Spalling, Cracking or Chipping ☐ Corrosion	☐ Peeling Paint	☐ Other:	
Outfall Damage	☒	☐ Oily ☐ Excessive	☐ Flow Line ☐ Inhibited	☐ Other:	End of Pipe Full @ Outlet
Deposits/Stains	☐	☐ Odors ☐ Suds	☐ Colors ☐ Excessive Algae	☐ Oil Sheen ☐ Other:	
Abnormal Vegetation	☐	☐ Brown ☐ Orange	☐ Green	☐ Other:	
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-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>12</u>	
Today's date: <u>April 6, 2006</u>		Time (Military): <u>11:40</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>44°</u>	Rainfall (in.): Last 24 hours:	Last 48 hours: <u>1.5</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>⑥ C.B.'s. Barton Ave</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>18"</u> <u>w/ Flared End</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)		
		Sewage	Rancid/sour	Petroleum/gas	1 - Faint	2 - Easily detected
Odor	☐	☐ Sulfide	☐ Other:		☐ 2 - Clearly visible in sample bottle	☐ 3 - Clearly visible in outfall flow
Color	☐	☐ Clear	☐ Brown	☐ Gray	☐ Yellow	☐ 3 - Opaque
Turbidity	☐	☐ Green	☐ Orange	☐ Red	☐ Other:	☐ 2 - Cloudy
Floatables -Does Not Include Trash!!	☐	See severity		☐ 1 - Slight cloudiness	☐ 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
		Spalling, Cracking or Chipping	Peeling Paint	
Outfall Damage	☒	☐ Corrosion	☐ Other:	Sediment @ Flared end
Deposits/Stains	☐	☐ Oily	☐ Flow Line	
Abnormal Vegetation	☐	☐ Excessive	☐ Inhibited	
Poor pool quality	☐	☐ Odors	☐ Colors	
Pipe benthic growth	☐	☐ Brown	☐ Orange	

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

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

If Yes, type: ☐ OBM ☐ Caulk dam

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 17	
Today's date: April 6, 2006		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F): 50°	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 ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial		☐ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known): C.B.'s Oak Ridge + Chestnut			

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: 30" Weir @ Pond Outfall 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	
			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

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-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>20</u>	
Today's date: <u>April 6, 2008</u>		Time (Military): <u>13:55</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>50°</u>	Rainfall (in.): Last 24 hours: <u>1</u> Last 48 hours: <u>1.5</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>C.B.'s Maplecrest Dr.</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>18"</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: _____	(Shaded area for submerged status)
☐ 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)		
		DESCRIPTION	DESCRIPTION	1 - Faint	2 - Easily detected	3 - Noticeable from a distance
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Sulfide ☐ Other:	☐ Petroleum/gas ☐ Brown ☐ Gray ☐ Yellow ☐ Other:	☐ 1 - Faint	☐ 2 - Easily detected	☐ 3 - Noticeable from a distance
Color	☒	☒ Clear ☐ Green ☐ Brown ☐ Orange ☐ Red ☐ Other:	☐ Petroleum/gas ☐ Brown ☐ Gray ☐ Yellow ☐ 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
		DESCRIPTION	DESCRIPTION	
Outfall Damage	☒	☐ Spalling, Cracking or Chipping ☐ Corrosion	☐ Peeling Paint	Outfall Full w/ Sediment
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited		
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Excessive Algae ☐ Other:	☐ 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

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-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>20</u>	
Today's date: <u>April 12, 2006</u>		Time (Military): <u>11:15</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>59°</u>	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): <u>C.B's Maplecrest Dr.</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>18"</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 ☐ Corrosion	Old Fall Full w/ Sediment
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-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>17</u>	
Today's date: <u>April 12, 2006</u>		Time (Military): <u>11:00</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>58°</u>	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 ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial		☒ Open Space ☐ Institutional Other: _____ Known Industries: _____	
Notes (e.g., origin of outfall, if known): <u>C.B.'s Oak Ridge + Chestnut</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>30"</u> <u>Weir @ Pond</u> <u>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 3</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)		
		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Other:	☐ Petroleum/gas	☐ 1 - Faint	☐ 2 - Easily detected	☐ 3 - Noticeable from a distance
Odor	☐	☐ Clear ☐ Green	☐ Brown ☐ Orange	☐ Gray ☐ Yellow ☐ Other:	☐ 1 - Faint colors in sample bottle	☐ 2 - Clearly visible in sample bottle	☐ 3 - Clearly visible in outfall flow
Color	☒	See severity			☐ 1 - Slight cloudiness	☐ 2 - Cloudy	☐ 3 - Opaque
Turbidity	☐	Sewage (Toilet Paper, etc.) ☐ Petroleum (oil sheen)			☐ 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)
Floatables - Does Not Include Trash!!	☐						

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	☐ Other:	
Outfall Damage	☒	☐ Oily ☐ Flow Line ☐ Paint	☐ Other:	Outfall 75% silt filled NO Recent Beaver Activity	
Deposits/Stains	☐	☐ Excessive ☐ Inhibited			
Abnormal Vegetation	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Excessive Algae ☐ Oil Sheen ☐ Other:			
Poor pool quality	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:			
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

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:		Outfall ID: <u>12</u>	
Today's date: <u>April 12, 2006</u>		Time (Military): <u>10:50</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>57°</u>	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 ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial ☐ Open Space ☐ Institutional Other: _____ Known Industries: _____			
Notes (e.g., origin of outfall, if known): <u>6 C.B's Barton Ave</u>			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED	
☒ Closed Pipe	☐ RCP ☐ PVC ☐ Steel ☒ CMP ☐ HDPE ☐ Other: _____	☒ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☒ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: <u>18"</u> <u>w/ Flanged End</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)		
		☐ Sewage ☐ Rancid/sour ☐ Sulfide ☐ Other:	☐ Petroleum/gas ☐ Yellow ☐ 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	☐	☐ Clear ☐ Green	☐ Brown ☐ Orange	☐ 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)
Color	☐	☐ Clear ☐ Green	☐ Brown ☐ Orange	☐ 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)
Turbidity	☐	☐ Clear ☐ Green	☐ Brown ☐ Orange	☐ 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)
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Petroleum (oil sheen)	☐ Gray ☐ 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)

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 ☐ Other:	
Outfall Damage	☒	☐ Spalling, Cracking or Chipping ☐ Corrosion ☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Peeling Paint ☐ Other:	Sediment @ Flared End Detent Box
Deposits/Stains	☐	☐ Spalling, Cracking or Chipping ☐ Corrosion ☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Peeling Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Spalling, Cracking or Chipping ☐ Corrosion ☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Peeling Paint ☐ Other:	
Poor pool quality	☐	☐ Spalling, Cracking or Chipping ☐ Corrosion ☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Peeling Paint ☐ Other:	
Pipe benthic growth	☐	☐ Spalling, Cracking or Chipping ☐ Corrosion ☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	☐ Peeling Paint ☐ 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-Illlicit 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: April 12, 2006		Time (Military):	10:45
Investigators:		Form completed by:	
Temperature (°F): 56°	Rainfall (in.): Last 24 hours: 0 Last 48 hours: 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):			

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: 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: _____	(Shaded area for open drainage)
☐ 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)		
		☐ Sewage ☐ Sulfide ☐ Clear ☐ Green	☐ Rancid/sour ☐ Other: ☐ Brown ☐ Orange	☐ Petroleum/gas ☐ Gray ☐ Red ☐ Yellow ☐ 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	☐		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	☐ Flow Line ☐ Paint ☐ Other:	☐ Oil Sheen ☐ Floatables ☐ Excessive Algae ☐ Other:	
Outfall Damage	☒					End of Pipe Full @ out fall
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

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-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>5</u>	
Today's date: <u>April 12, 2006</u>		Time (Military): <u>10:37</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>56°</u>	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 ☐ Ultra-Urban Residential ☒ Suburban Residential ☐ Commercial ☐ Open Space ☐ Institutional Other: _____ Known Industries: _____			
Notes (e.g., origin of outfall, if known): <u>Surface Run off</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>10"</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	Color	Turbidity	1 - Faint	2 - Easily detected	3 - Noticeable from a distance
Odor	☐	☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Other:	☐ Petroleum/gas	☐ 1 - Faint	☐ 2 - Easily detected	☐ 3 - Noticeable from a distance
Color	☐	☐ Clear ☐ Green	☐ Brown ☐ Orange	☐ Gray ☐ Red ☐ Yellow ☐ 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.) ☐ Petroleum (oil sheen)	☐ Suds ☐ 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
		Spalling, Cracking or Chipping Corrosion	Peeling Paint	
Outfall Damage	☒	☐ Spalling, Cracking or Chipping ☐ Corrosion	☐ Peeling Paint	Outfall left covered
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint	☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited		
Poor pool quality	☐	☐ Odors ☐ Colors ☐ 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

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-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>4</u>	
Today's date: <u>April 12, 2006</u>		Time (Military): <u>10:30</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>55°</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>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>Run off - Wet Land - X-Pipe - Wet Land - Pond</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>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	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	Pipe w/Leak's etc. / Standing water
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-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>1</u>	
Today's date: <u>April 12, 2006</u>		Time (Military): <u>10:20</u>	
Investigators:		Form completed by:	
Temperature (°F): <u>55°</u>	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): <u>State Hwy C.B's</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: _____	[Hatched Box]
☐ 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

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-Illlicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?



APPENDIX D

Stormwater Training Materials

Presentation to

Bethelton Department of Public Works

ANNUAL STORMWATER TRAINING

Phase I and II

April 2003




ANNUAL STORMWATER TRAINING




Annual Stormwater Training

US Environmental Protection Agency

Phase I Stormwater Program (1990)

- Federal Clean Water Act (CWA) requires all municipalities with population over 100,000 to develop and implement a stormwater management program.
- Phase I program requires municipalities to develop and implement a stormwater management program by March 1, 2003.
- Phase I program requires municipalities to develop and implement a stormwater management program by March 1, 2003.

Phase II Stormwater Program (1990)

- Federal Clean Water Act (CWA) requires all municipalities with population over 100,000 to develop and implement a stormwater management program.
- Phase II program requires municipalities to develop and implement a stormwater management program by March 1, 2003.
- Phase II program requires municipalities to develop and implement a stormwater management program by March 1, 2003.



Phase I Stormwater Program

Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity

- Standard Industrial Classification code
- Outbody Material Storage

Bethelton

- Wastewater Treatment Plant
- Highway Maintenance Garage



Stormwater Pollution Prevention Plan

Pollution Prevention Team

- Designated personnel
- Contact information in SWPPP
- Responsible for:
 - Implementing
 - Maintaining
 - Revising the Plan




Stormwater Pollution Prevention Plan

Pollution Prevention Team

- Wastewater Treatment Plant
 - Steve Williams
 - Rollin DeWitt
- Highway Maintenance Garage
 - Steve Williams
 - Walker Bosworth




Stormwater Pollution Prevention Plan

Spill Response Procedures

- Hazardous Materials Incident Response Plan
- Spill Prevention, Control, and Countermeasure Plan
- Highway Maintenance Catches
- Spill Prevention Procedures
- Spill Response Procedures and Supplies
- Spill Notification Requirements
- Inspection and Storage Areas
- Vehicle Wash
- Oil Catcher



Stormwater Pollution Prevention Plan

Spills

DOCUMENT Spills in Spill Log

Includes, but is not limited to, releases of oil or hazardous materials in places or quantities that are reportable under Section 304 of the Resource Conservation and Recovery Act (RCRA).

Stormwater Pollution Prevention Plan

Spills and Prevention Controls

- Location of Spills
- Spill Response Plan
- Spill Prevention Controls
- Vegetative
- Stabilization Best Management Practices (BMPs)
- Highway Catches
- Potential sources include gravel and unpaved areas
- Oil tanks and fuel tanks should be installed and maintained along the Southern property line
- Outdoor sand and gravel storage should be covered with a waterproof canopy

Stormwater Pollution Prevention Plan

Management of Runoff

- Used to divert, infiltrate, reuse, contain, or otherwise reduce pollutants in all discharges
- Runoff management practices
- Structural controls
- Oil particle separators
- Infiltration/sedimentation basins
- Retention/detention basins
- Sumped catch basins
- Grass swales

Stormwater Pollution Prevention Plan

Plan Implementation

- Update/revise SWPPP as necessary
- Employee Training
- Benchmark Monitoring
- Quarterly Visual Monitoring
- Annual Comprehensive Site Compliance Evaluation

Stormwater Pollution Prevention Plan

Revisions to the SWPPP

- A change in the design, construction, operation, or maintenance at the facilities which has a significant effect on the potential for the discharge of stormwater pollutants from the facility
- The Plan is ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the facility as determined during inspections, visual monitoring, or other investigations
- The Director requests modifications of the Plan

Stormwater Pollution Prevention Plan

Employee Training

All employees whose activities could impact the quality of stormwater runoff from the site.

Avoidance Training

Include objectives of the MSQP and SWPPP.

On-site training for personnel.

Controlled activities.

Stormwater pollution prevention.

SWPPP inspection and monitoring procedures.



Stormwater Pollution Prevention Plan

Batchman Monitoring (Proposed Amendments)

Batchman Monitoring

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Stormwater Pollution Prevention Plan

How to Sample

Rainfall event > 0.1 inch

Rainfall event occurs at least 72 hours AFTER

previous rainfall event greater than 0.1 inch



Stormwater Pollution Prevention Plan

How to Sample (continued)

Wear latex gloves

Place an open container outside to collect rain water and measure rainfall

Collect stormwater runoff grab sample

Within 30 minutes of start of runoff

Completely fill containers

Holding underneath outfall or using a clean scoop

Collect sample free of sediment



Stormwater Pollution Prevention Plan

How to Sample (continued)

Write the sample name, sample number, sample location, date, and time on sample containers

PLACE SAMPLES IN COOLER with ice or ice packs such that the sample temperature remains between 32°F and 40°F

Complete a Chain of Custody for samples being submitted for laboratory analytical

Samples MUST be analyzed within 7 days



Stormwater Pollution Prevention Plan

Quarterly Visual Monitoring

Grab sample within first 30 minutes of runoff

Color, odor, clarity

Floating, settled, and suspended solids

Foam

Oil sheen

Other obvious indicators of stormwater pollution

Record inspection and include copy in SWPPP

Record inspection and include copy in SWPPP

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Fry's Food**A****F**
FUNN & O'NEIL
 REAL ESTATE

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This book is printed on acid-free paper.
ISBN 0-07-057600-0
MH 0070576000



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As much as possible, the following information should be available to help the implementation:

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Developing a comprehensive plan for the development of a community is a complex task. It requires a deep understanding of the community's needs and resources, and a willingness to engage in a process of continuous learning and adaptation. The plan should be based on a clear vision of the future, and should be flexible enough to respond to changing circumstances. It should also be grounded in the values and principles that guide the community's development. The plan should be developed in a collaborative manner, involving all members of the community in the process. It should be a living document, one that is constantly being revised and updated as the community grows and changes. The plan should be a source of inspiration and guidance, one that helps the community to realize its dreams and aspirations. It should be a testament to the community's strength and resilience, and a symbol of its commitment to a better future.



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[illegible]

- Existing regulations may need modifications to address:
 - Performance standards
 - Maintenance requirements
 - Enforcement
- Develop and implement a cumulative BMPs
- Ensure long-term operation and maintenance BMPs

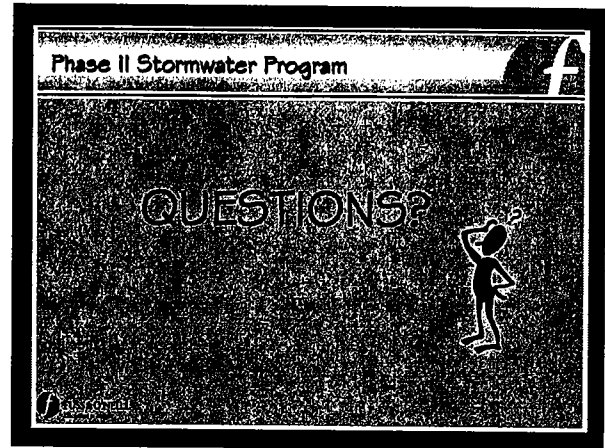
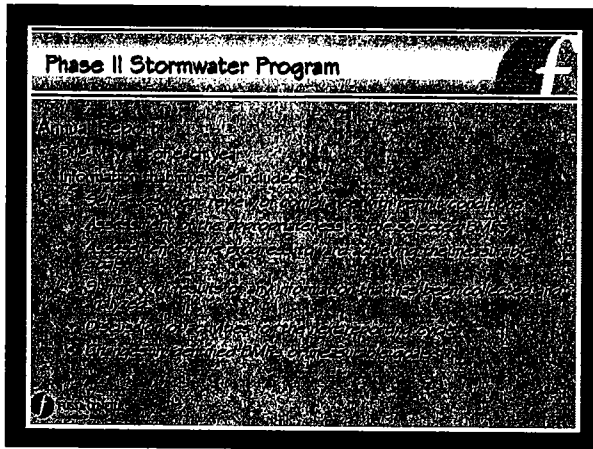


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Develop and implement a municipal operation and maintenance program for the storm sewer system and municipal facilities such as: DMV yards, schools, and recreation facilities.

- A significant amount of maintenance is already performed by the DPM
 - Programs developed or modified to address:
 - *Clean basic maintenance*
 - *Grass sweeping*
 - *Spill prevention and response guidelines*
 - *Recordkeeping*
 - Implement an employee training program
- 





April 17, 2006
ANNUAL STORMWATER TRAINING

STEVE WILLIAMS
JEFF PATNAUDE

Judy Metcalf
Rollin DeWitt

ROBERT COLE

Lee Anne Connolly

Pierre LaFleche

Cheryl Bishop

EDWARD FORGETTE

Dennis N. Lessard

TERRY CHEVALIER

Sean Madden

TERENCE SZCZYGAL

Scott Hennessey

Brian Gendron

THOMAS KIRLEY

CHRIS ELIAS

Darin Braese

Leo Peet

KEVIN BROWN

Walter Bosworth

MAX W. BOCK

Jeffrey F. Potvin
WRT

Judy Metcalf
Rollin DeWitt

Robert Cole

Con Com

Cheryl Bishop
Edward Forgette

Dennis N. Lessard

Terry Chevalier

Sean Madden

Terence Szczygala

Scott Hennessey

Brian Gendron

Thomas Kirley

Chris Elias

Darin Braese

Leo Peet

Kevin Brown

Walter Bosworth

Max W. Bock



APPENDIX E

Street Sweeping Log

BELCHERTOWN STREET INDEX

STREET NAME	PAGE	STREET NAME	PAGE
ALDEN AVE 5/12	1	GULF RD 11-4-5	20
ALDRICH ST 4/10 6/16-17	1	HAMILTON ST 7/13	20
ALLEN ST 7/19 7/28	1	HELEN LANE 7/5	21
AMHERST RD State	2	HEMLOCK HOLW 6/28	21
ATHERTON LN 3/28	2	HENRY DR 5/9	21
AUTUMN LN 5/13	2	HERITAGE DR 7/14	21
AZALEA WAY 6/22	3	HOWARD ST 11-29	21
BALLOU ST DIRT	3	HOWE ST 3/28	21
BARDWELL ST	3	JABISH ST 4/20 PARTIAL 11-30	21
BARRETT ST	3	JACKSON ST 4/22 11-29	22
BARTON AVE 6/17	3	JEFFREY LN 5/9	22
BAY PATH RD 6/9 6/28.9	4	JENSEN ST 4-20	22
BAY RD 6/28.9	4	JOHNSON RD 4-20	22
BLACKSMITH RD 5/3	5	JON DR 5/9	23
BLOSSOM LN 6/1	5	JUCKET RD 7/18 11-30	23
BLUE MEADOW RD 7/14	5	KEITH AVE DIRT	23
BOARDMAN ST 7-12	6	KENNEDY RD 5/5	23
BRANDYWINE DR 7/19	6	KEYES ST 5/3	23
BRENDA LN 4/29	6	KIMBALL ST 7/26	23
BUNKER WAY 6/1	6	KNIGHT ST	23
CADWELL LN	6	KOPIAC AVE 7/26	23
CANAL DR 6/1	6	LAKE DR DIRT	23
CAROL ANN DR 6/1	7	LAMSON AVE 6/9	23
CATHERINE DR 6/8	7	LAUREL RIDGE DR 6/22	23
CEDAR GLEN DR 6/1	7	LAWRENCE RD 5/9	23
CHADBOURNE RD	7	LEDGEWOOD CIR 7/29	24
CHANNEL DR DIRT	7	LEDGEWOOD DR 4/29	24
CHARTIER DR 6/7	7	LEXINGTON DR 7/26	24
CHAUNCEY WALKER ST 7/18, 7/11	7	LLOYD AVE 3/23	24
CHERYL CIR 5/6	11	LUDLOW ST 7/2	24
CHESTNUT DR 6/29	11	MAIN ST 4/23	24
CLARK ST 3/28	11	MAPLE ST 4/24 11-29	24
CLEARBROOK DR 6/14	11	MAPLECREST DR 6/23	25
CLOVER HILL RD 5/12	11	MARTIN CIR 6/16	25
COBB LN 3/28	12	MERCIER DR 6/15	25
COLD SPRING ST	12	METACOMET CIR 8-9	25
CORDNER RD	12	METACOMET ST 8-9	25
COTTAGE ST 4/6	12	MICHAEL SEARS RD (LOWELL) 5/4	26
COUNTRY LN 8-10	12	MILL VALLEY RD	27
DANA HILL 3/28	12	MOORE RD	28
DANIEL SHAYS HWY State	12	MOSS LN 5/5	28
DANIEL SQ 6/13	13	MOUNTAIN VIEW DR 6/20	28
DANIEL SQ EXT 6/13	13	MUNSELL ST 4/17 11-16	28
DEER RUN 7/15	13	NATHANIAL WAY 6/16	28
DEPOT ST 5/3	13	NEWTON ST 3/28	28
DIANE DR 7/28	13	NORTH GULF RD	28
DOE HOLW 7/15	13	NORTH LIBERTY ST	29
DRESSER AVE 8-2	13	NORTH MAIN ST 3/25	29
EAGLE HTS 6/6	14	NORTH ST	31
EARLEY ST DIRT	14	NORTH WASHINGTON ST 6-2	31
EAST ST 5/23-24	14	OAK RIDGE DR 6/28	32
EAST WALNUT ST 4/19	14	OAKWOOD DR 5/6	33
EASTVIEW DR 4/6	14	OLD AMHERST RD 4-29	33
EDELCOY DR 7/12	14	OLD BAY RD 6/9	33
ENOCH SANFORD RD 9-26	14	OLD ENFIELD RD 7/15, 7/18	34
ESKETT RD 8-4	14	OLD FARM CIR 8-10	34
EUGENE DR 5/5	14	OLD FARM RD 8-10	34
EVERETT AVE 3/25	15	OLD PELHAM RD 7/27	34
FEDERAL ST 7/28	15	OLD SAWMILL RD	34
FLETCHER AVE 7/20	17	OLIVER ST DIRT	35
FOREST RD 4/29	17	ORCHARD RD 8-10	35
FOX RUN DR 5-5	17	OVERLOOK DR 6/20	35
FRANKLIN ST 5-3	17	PARK ST 3/24	35
FULLER ST 4/20	18	PEASE LN 5/6	35
GEORGE HANNUM ST 3/31, 7/12	18	PELHAM RD 7-27	35
GOLD ST	19	PENDLETON RD 11-30	35
GOODELL ST	19	PINE ST	35
GRANBY RD 5/10	19	PINEBROOK DR 6/14	36
GREEN AVE 6/27-28	19	PLAZA AVE 6-13	36
GREENWICH HILL 3/28	20	PONDVIEW CIR 7/21	36
GRELA TER DIRT	20	POOLE RD 6/7	36

BELCHERTOWN STREET INDEX

STREET NAME	PAGE	STREET NAME	PAGE
PRESCOTT HILL	3/28		36
RAILROAD ST	5/17		36
RAINBOW DR	5/5		37
RAYMOND DR	4/27		37
RIMROCK DR	6/24		37
RITA LN	6/7		37
RIVER ST	5/18 5/23		37
ROBIN LANE	5/5		37
ROBIN LN	5/5		37
ROCKRIMMON ST	6/24		37
RURAL ST	8-4		38
SABIN ST	9-28, 29		38
SARAH LN	6/7		38
SARGENT ST	5+18		39
SEGUR LN	7/12		39
SHAW ST	7/6		39
SHEA AVE	11-3		39
SHEFFIELD DR	7/1		39
SHERWOOD DR	7/20		40
SOUTH GULF RD			40
SOUTH LIBERTY ST			40
SOUTH MAIN ST	4/29		41
SOUTH ST	6/3 PARTIAL		41
SOUTH WASHINGTON ST			41
SPRING HILL RD	7/1		42
SPRINGFIELD RD	11-30		42
STADLER ST	7/11		43
STATE ST	4/21		43
STEBBINS ST	6/13-14-15		44
SUMMIT ST	6/24-7/1		44
SYLVAN CIR	5/11		45
TERRY LN	6/28		45
TOWN BEACH RD	7/28		45
TUCKER LN	3/23		45
TURKEY HILL RD	7/11		45
TWO PONDS RD	4/28		46
UNDERWOOD ST	5/9		46
WARE RD	STATE		46
WARNER ST	7/15		46
WARREN WRIGHT ST	4/5 PARTIAL		47
WATERFORD DR	7/1		48
WEST ST	HILL 6/3 9-30 10-3		48
WESTVIEW DR	6/6		48
WESTWOOD DR	6/7 7/27		48
WHISPERING PINES AVE	6/7		48
WILSON ST	11-3-4		48
WOODHAVEN DR	3/23		49

HARRIS WAY 6/7

TRANSFER STATION 7/13

total

1,657.5 YDS

MATERIAL PICKED

UP



APPENDIX F

BUD Permit for the Beneficial Use of Catch Basin Cleanouts



2002 548 A 14

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

STEPHEN R. PRITCHARD
Secretary

ROBERT W. GOLLEDGE, Jr.
Commissioner

BENEFICIAL USE DETERMINATION (BWP SW 41)
Town of Belchertown
Beneficial Use of Catch Basin Cleanouts

Transmittal Number: W068203

Applicant Name: Town of Belchertown
Mailing Address: 290 Jackson Street
P.O. Box 670
Belchertown, MA 01007

Contact: Steve Williams
(413) 323-0415

Name of Facility: Department of Public Works

Operator: Town of Belchertown Department of Public Works

DEP Region: Department of Environmental Protection
("MassDEP")
Business Compliance Division
1 Winter Street
Boston, MA 02108

I. APPLICATION INFORMATION

Application Information for Beneficial Use Determination -- BWP SW 41

Application Prepared By: Fuss & O'Neill
78 Interstate Drive
West Springfield, MA 01089

Contact: Eric Mas, P.E.

Transmittal No.: W068203

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service - 1-800-298-2207.

DEP on the World Wide Web: <http://www.mass.gov/dep>

Printed on Recycled Paper

II. BENEFICIAL USE PROPOSAL

The Town of Belchertown (the "Town") proposes to use 250 cubic yards per year of Catch Basin Cleaning (CBC) material in road rights-of-way as is allowed for street sweeping material in the MassDEP policy BWP 94-09, Reuse and Disposal of Street Sweepings, as an aggregate in the manufacture of asphalt at the Ted Ondrick Company, LLC ("Ondrick"), a recycled asphalt producer (Class A Recycling Permit No. WR-96-07) and as an alternative daily cover material. No CBC material is currently stockpiled.

Results of sampling from five representative catch basins on March 18, 2005 indicate that the material is mostly sand with small quantities of gravel and organic matter. A composite sample was analyzed for organic contamination, pesticides, metals, total solids and chlorinated herbicides. Constituent concentrations were consistent with street sweeping data contained in the MassHighway report, "Development of Guidelines for Presampling Street Sweepings for Toxicity and Beneficial Reuse, Addendum", February 1997.

The Town proposes to collect CBC material and inspect it for evidence of atypical contamination resulting from spills (e.g., significant sheen, foam, scum, or other unexpected condition) or inadvertent/illicit discharges (i.e. significant dry weather flows, odors, discoloration). Based upon the inspection results, the Town would classify the material as either "Type 1" or "Type 2" CBC. If the CBC material is not adversely impacted, the Town proposes to stockpile the material as Type 1 CBC for reuse as fill in public ways consistent with the street sweeping policy or for reuse in asphalt manufacturing at the Ondrick facility. The proposal states that if there were evidence of potential contamination based upon specific criteria included in the application, then the Town would generate a Catch Basin Cleaning Log and segregate the material as "Type 2" CBC. The Town proposes to further test segregated Type 2 CBC for comparison with the beneficial use chemical specific risk criteria (i.e., BUD S-2 values) contained in the most current version of the BUD guidance available on the MassDEP website. The BUD chemical specific value list can be found on the MassDEP's Web site at www.mass.gov/dep. The Town requests that they be allowed to use Type 2 CBC material as described for Type 1 CBC uses when the concentrations of constituents are below the BUD S-2 values.

Material will be removed from catch basins by a vacuum truck and transported by truck to the Town's salt and sand storage facility at the highway garage. The material will be dewatered in a manner consistent with the MassDEP Management of Catch Basing Cleanings Fact Sheet. Material stockpiles will be covered on a paved area adjacent to the Highway Garage on Jackson Street in Belchertown.

III. BENEFICIAL USE DETERMINATION

This application complies with the requirements of 310 CMR 19.000, "Solid Waste Management Facility Regulations," and was reviewed in accordance with section 19.060, Beneficial Use of Solid Wastes. MassDEP determines that the CBC material generated by the Town may be used as allowed in the street sweeping policy (BWP 94-09, Reuse and Disposal of Street Sweepings)

and in asphalt subject to the conditions of this permit. A modification to the Ondrick Class A facility permit is *not* required for the use of this material.

IV. GENERAL PERMIT CONDITIONS

- A. As provided by 310 CMR 19.000, MassDEP may rescind, suspend or modify this permit when the MassDEP determines that the use of the material is not in compliance with this permit or 310 CMR 19.000 including, but not limited to, that the use of this material presents an actual, or threat of, adverse impacts to the public health, safety, or the environment.
- B. This determination of beneficial use means that the material (CBC) is NOT classified as a solid waste ONLY when it is used in accordance with the requirements set forth in this determination. The material shall not be handled or utilized in a manner that will result in the material becoming a solid waste.
- C. The beneficial use of this material shall be in compliance with other applicable state and federal laws and regulations.
- D. The Town shall provide the MassDEP, within seven (7) days or an alternative period prescribed by the MassDEP, any information which the MassDEP may request and which is deemed by the MassDEP to be relevant in determining whether a cause exists to modify, revoke, or suspend the permit, or to determine whether the Town is complying with the terms and conditions of the permit.
- E. Personnel Training. The Town shall instruct or give on-the-job training to all personnel involved in any activity authorized by the permit. Such instruction or on-the-job training shall teach personnel how to comply with the conditions of the permit and to carry out the authorized activity in a manner that is not hazardous to public health, safety, welfare, or the environment.
- F. Failure to comply with this determination shall be grounds for enforcement action including without limitation, permit suspension and revocation.
- G. The Town must notify the MassDEP in writing of any changes in its process that may modify the physical or chemical nature of the stockpiled material. Changes in process or use of the material from what is specified in the beneficial use determination application will require additional review and approval.
- H. Transfer of Permits. Pursuant to 310 CMR 19.044, for a transferred permit to remain effective, written proof that the transfer has been completed must be provided to the MassDEP within 30 days of the effective date of the transfer.

V. CATCH BASIN CLEANING CONDITIONS

- A. This permit is for the use of up to 250 cubic yards per year of CBC material generated by the Town.
- B. The Town shall manage the CBC material in accordance with best management practices and as described in the beneficial use application.
- C. The Town shall inspect CBC material for evidence of atypical contamination resulting from the release of a hazardous material or contamination with pathogenic bacteria. Based upon the inspection, material not adversely impacted will be classified as a Type I material. CBC not classified as Type I shall be classified as Type II material.

- D. Type 2 CBC material shall be characterized for the following parameters unless the Type 2 designation is for pathogenic contamination only:
 - Priority Pollutant 13 (PP-13) Metals;
 - Extractable Petroleum Hydrocarbons (EPHs);
 - 17 Target Polynuclear Aromatic Hydrocarbons (PAHs); and
 - Volatile Organic Compounds (VOCs) (EPA Method 8260).
- E. Type 2 CBC material that is suspect for pathogenic contamination shall be sampled and analyzed for fecal Coliform using accepted EPA test methods.
- F. CBC material shall not contain free liquids.
- G. The applicant shall use only CBC material that is generated in the Town under this permit.
- H. CBC material shall not cause nuisance conditions, including but not limited to odor or dust.
- I. CBC material shall consist primarily of sand and soil generated during the routine cleaning of catch basins, but may also contain some leaves and other organic mater. CBC shall contain no more than 5 % organic matter by weight.
- J. There shall be no speculative accumulation of CBC material. Speculative accumulation shall be presumed to occur if CBC material is stockpiled for a period greater than one hundred and twenty (120) days.
- K. The Applicant shall ensure that best management practices are utilized when stockpiling CBC material to prevent adverse impacts, significant risks, and nuisance conditions, including, but not limited to, runoff and dust.
- L. The CBC material shall not contain incidental waste, including leaf and yard waste or trash that may impact the performance of the material.
- M. CBC that cannot be used in accordance with one of the sections VI, VII or VIII below shall be disposed of as a solid waste at a permitted solid waste management facility.

VI. USE OF CATCH BASIN CLEANINGS IN ACCORDANCE WITH THE STREET SWEEPING POLICY

- A. Type 1 CBC material generated by the Town may be used in accordance with the street sweeping policy BWP 94-09, Reuse and Disposal of Street Sweepings.
- B. Type 2 CBC material that has been characterized in accordance with Section V, is within limits identified in the BUD chemical specific value list (S-2 values), and does not contain pathogenic contamination may be used in accordance with the street sweeping policy BWP 94-09, Reuse and Disposal of Street Sweepings.
- C. Type 2 CBC material that exceeds the S-2 values or contains pathogenic contamination shall not be used under this section.

VII. USE OF CATCH BASIN CLEANINGS IN ASPHALT

- A. Type 1 CBC material may be used in asphalt recycling at the Ondrick facility.
- B. Type 2 CBC material may be used in asphalt recycling at the Ondrick facility provided that the constituent concentrations meet the acceptance limits in the facility's Class A Recycling Permit.

VIII. USE AS ALTERNATIVE DAILY COVER

- A. Type 1 CBC material may be used as landfill daily cover subject to the conditions identified in this section, when applicable.
- B. Type 2 CBC material concentrations that are within limits listed in Table 1 of the MassDEP policy, Reuse and Disposal Of Contaminated Soil at Massachusetts Landfills, COMM-97-001 may be used as daily cover. If applicable, when the CBC material Coliform MPN exceeds 1000 then the material shall not be used as daily cover.
- C. The Applicant shall notify the appropriate Regional Office of the MassDEP at least two (2) weeks before the CBC Material is used as daily cover.
- D. The quantity of CBC Material that may be used at landfills for daily cover shall not exceed the quantity necessary to meet the performance standards for daily cover specified at 310 CMR 19.130(15). Any quantity of CBC material used above this amount is considered disposal.
- E. Use of the CBC material shall be limited to the active area of the landfill only.
- F. The landfill operator shall take immediate and appropriate steps to abate any nuisance condition(s) including, but not limited to, noise, dust and odor resulting from activities associated with the use of CBC material as ADCM.
- G. Landfills using CBC material as daily cover material shall report the amount of CBC material utilized in inspection reports submitted to the MassDEP as well as in the annual report required as part of the operating permit.
- H. Minimum quantities of daily cover material, other than CBC material, sufficient for seven (7) working days of operation shall be stockpiled at the landfill or shall be readily available.

IX. TRACKING AND REPORTING

- A. The Town shall track the use of all CBC material.
- B. The Town shall retain all records and copies of applications, reports, and other documents required by this determination, which shall be readily available for inspection by the MassDEP, for a period of three (3) years after use of the CBC material.
- C. Records retained shall include, but are not limited to, the following:
 - 1. The locations where the material is reused; and,
 - 2. The volume of material used at each location.

X. RIGHT OF APPEAL

Right to Appeal. Any person aggrieved by the issuance or denial of this permit decision except as provided for under 310 CMR 19.037 (4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of Massachusetts General Law (M.G.L.), Chapter 111, Section 150A not later than 30 days following the receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a

BWP SW 41
Statewide Permit

Beneficial Use of Catch Basin Cleaning Material
Transmittal # W068203

stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall remain effective or become effective at the conclusion of the 30 day period.

Notice of Appeal. Any aggrieved person intending to appeal a grant or denial of a permit to the Superior Court shall first provide notice of intention to commence such action. Said notice of intention shall include the MassDEP file number and shall identify with particularity the issues and reason why it is believed the permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the MassDEP and the Deputy Division Director for Regulatory Standards of the Business Compliance Division at least five days before the filing of an appeal.

- a) Office of General Counsel
Department of Environmental Protection
One Winter Street - Third Floor
Boston, MA 02108
- b) Deputy Division Director, Regulatory Standards
Department of Environmental Protection
Business Compliance Division
One Winter Street - Eighth Floor
Boston, MA 02108

No allegation shall be made in any judicial appeal of a permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in these regulations, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

If you have any questions regarding this matter, please contact Paul Emond of the Business Compliance Division at (617) 292-5974.

Sincerely,



Steven A. DeGabriele
Director
Business Compliance Division
Bureau of Waste Prevention

Date:

4/10/06

CC: Solid Waste Section Chiefs