



TOWN OF TEWKSBURY

DEPARTMENT OF PUBLIC WORKS
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TEWKSBURY, MASSACHUSETTS 01876

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- ENGINEERING
- HIGHWAY/TREE
- FLEET MAINTENANCE
- WATER & SEWER
- WATER TREATMENT PLANT

To: Glenda Velez
U. S. Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109

Fred Civian
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108

From: Michele Stein, P.E.
Town Engineer

Re: The Town of Tewksbury's 2013 Annual NPDES Stormwater Report

Date: April 30, 2013

Enclosed is The Town of Tewksbury's 10th Annual NPDES Phase 2 Small MS4 General Permit Report.

If there are any questions, please call the number above.

Copy to:

Richard Montuori, Town Manager

Municipality/Organization: Tewksbury, MA

EPA NPDES Permit Number: MA-041226

MaDEP Transmittal Number: W-035320

Annual Report Number

& Reporting Period:

No. 10: March 12-March 13

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2013)

Part I. General Information

Contact Person: Richard Montuori

Title: Town Manager

Telephone #: 978-640-4300

Email: rmontuori@tewksbury-ma.gov

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: Richard Montuori

Title: Town Manager

Date: 4/29/13

Part II. Self-Assessment

The Town of Tewksbury has continued to follow the guidelines for the NPDES Phase II Small MS4 General Permit as required for year ten. The Stormwater Committee consists of the Town Manager, Department of Public Works Superintendent, Community Development Director, Health Director, Town Engineer, Conservation Administrator and two engineering Project Managers. This committee has worked to comply with all requirements as given with the budgeting constraints. The Town of Tewksbury has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions for year ten of the permit.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

The standard format from the previous permit years will not be used in this minimum control measure section as it does not seem applicable for permit year 10. The Town of Tewksbury had completed all the BMP's that were required within the original permit period. The following identifies the various ways the Town has reached out to the public with education in stormwater this permit year;

- The Tewksbury Community Development and Department of Public Works have been actively conducting public education and outreach this permit year with the Long Pond 319 Non-Point Source Pollution Grant. Through grant funding received from the EPA, and a match from the Community Preservation Committee, the Town has been able to utilize this funding to aid an ongoing Town wide effort to prevent Long Pond, one of the Town's most important natural resources, from reaching a hyper-eutrophic state. This grant funding has been used to educate the residents on non-point source pollution and how it negatively impacts the Pond. Brochures were made and distributed. Educational brochures were also made on Best Management Practices that can be used to help prevent non-point source pollution.
- In addition, a stormwater article drafted by the Tewksbury Engineering Division was enclosed with the 2012 Consumer Confidence Report distributed by Tewksbury Water Treatment Department to all the residents in Town. This article emphasized on healthy household habits residents can achieve with lawn and garden maintenance.
- As a result of 3 enforcement orders given out by the Conservation Commission within a short period of time, the Conservation Commission decided to establish an Educational Subcommittee in hopes to better inform the public on the negative consequences that can result from their actions on the environment. A letter was sent to every residential home in Town informing the Owner to contact the Conservation Commission before conducting certain projects on their property. The letter emphasizes on protecting the Town's vital resources. In addition to the letter, the Subcommittee has planned some upcoming projects for this year includes visiting the High

- School science classes in Town to educate them on the importance of wetland resources and setting up a booth on Earth Day in the Town Center to pass out informational pamphlets on BMP's and answer questions residents may have concern with related to conservation matters.
- The Town of Tewksbury is part of the Northern Middlesex Council of Governments (NMCOG) which was recently awarded a Community Innovation Challenge (CIC) Grant to implement a Stormwater Collaborative throughout the Northern Middlesex Region. The primary goal is to establish and implement a regional stormwater collaborative to address stormwater issues using an innovative approach that reduces municipal costs and fosters regional cooperation and coordination. The total budget is \$98,000. The tasks will include developing and implementing a unified mapping system for the 9 communities, develop a website, Facebook page, and Twitter account, develop and print education and informational materials, conduct meetings and workshops with resident groups, business owners, civic organizations and non-profits, organize, schedule and conduct community-based programs and activities (e.g. stream cleanups, regional household hazardous waste collection days, rain barrel distributions, etc.), develop and conduct training session for municipal staff and officials, procurements, and assist communities with grant writing.
 - As a result of the outfall testing that was completed, it was determined certain neighborhoods in Town needed education on the effects of over-fertilization. 220 letters were sent to educate the residents and referred them to further educational resources.

2. Public Involvement and Participation

The standard format from the previous permit years will not be used in this minimum control measure section as it does not seem applicable for permit year 10. The Town of Tewksbury had completed all the BMP's that were required within the original permit period. The following identifies the various ways the Town has involved the public with education in stormwater this permit year;

- As part of the Long Pond 319 Non-Point Source Pollution Grant, a presentation was held for all Long Pond Abutters. Approximately 20 residents participated in this invitation. The presentation included the history of Long Pond, how the pond has become degraded, how BMP's can be used to help restore the pond, and also to see if any of the abutters would be interested in having a BMP on their property. Approximately 9 residential property owners are currently interested in the installation of these BMP's on their land. The Town is currently working on licensed agreements and this work is planned for construction later this year.
- The Conservation Commission was been working with the Eagle Boy Scouts to help remove trash from environmentally degraded areas.

3. Illicit Discharge Detection and Elimination

This minimum control measure section will stay the same as it has in the past permitted years.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
3A	Capital Planning/Budgeting	DPW	-Estimate costs for purchases and maintenance - Capital requests for future purchases	The DPW has continued to implement a Capital Improvement Plan (CIP) for fiscal planning to identify, fund and schedule implementation of various projects. During this permit period, the Town has made \$248,808 worth of expenditures and improvements. Details of this past year's improvements can be reviewed in the BMP section of this report for Good House Pollution Prevention and Good Housekeeping in Municipal Operations, Capital Planning and Budgeting. The DPW is requesting an additional \$50,000 of supplemental budget for FY14 to use in engineering services for assistance in mapping the entire drainage infrastructure. This request is for the anticipated upcoming task in the pending Interstate, Merrimack and South Coastal Watershed (IMS) Small MS4 NPDES Permit.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
3C & 3D	Mapping Known Stormwater Outfalls	Engineering and DPW Personnel	- Creation of a map with known outfalls. -Put data in an electronic format	In addition to the manually created outfall map, the Town was able to complete an electronic map by locating all 637 outfalls with a GPS unit and completing the GIS outfall layer for the Town. With the anticipation of the upcoming permit and utilizing summer intern staff, the Town Engineer discussed and received approval from Thelma Murphy of the US EPA, Region 01 in New England / Office of Ecosystem Protection for NPDES permitting, to move forward on dry weathering sampling. It was noted that this would be able to count towards the upcoming draft permit. The Town moved forward and completed dry weather sampling. The following is a time line of events: 1. 2010 - 637 outfalls were located throughout Town. 51 outfalls had flow during dry weather. 2. 2011- Dry weather testing was complete on 51 outfalls. From this, 24 out of the 31 residential outfalls samples had hits that need further investigation, and 3 out of the 11 industrial outfall samples had hits that need further investigation. 9 locations had no flow, were sand bagged multiple times and no flow was found. These 9 locations will be periodically observed but it is believed when flow was observed, there were higher groundwater conditions and may have been natural run-off. 3. 2012 – Further investigation was completed on 27 outfalls. Both camera investigation and water quality testing was done. See Attachment A for further details. In summary, some of the outfalls were eliminated based on the Fluoride level's the Town was using for indicators. Other sources were determined to be over fertilization of the neighborhood. From these test results, 220 letters were sent to educate the residents in these neighborhoods about the effects of over-fertilization and referred them to further educational resources. The Town plans on retesting these outfalls in the future to see if the letters were effective. Overall, the Town has been actively testing and investigating outfalls as needed.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
3E	Failing Septic Systems	Board of Health	- Review Title 5 Reports to identify problems - Use current reporting system to follow through with rectifying failed systems	Title 5 Inspection Reports are reviewed and tracked as submitted. When a failed septic system is identified, appropriate remediation action is taken to ensure repairs are performed in a timely manner and/or connection to municipal sewer system when available. Additionally, due to the completion of the Town's Master Sewer Program, fewer residents are on individual septic systems. The Town anticipates more residents tying into the municipal system in the future. A total of 138 properties connected into sewer in 2012.

4. Construction Site Stormwater Runoff Control

This minimum control measure section will stay the same as it has in the past permitted years.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
No ID # based on current permit.	SWPPPs and Land Disturbance Permits	DPW, Planning Board	- File with Site Plan Application	5 SWPPP have been filed and approved for development in Town. 7 Land Disturbance Permits have been filed and approved for development in Town.

5. Post-Construction Stormwater Management in New Development and Redevelopment

This minimum control measure section will stay the same as it has in the past permitted years.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
5E	Sub-Division Regulations	Planning Board	- Review Current by-laws - Draft and present; adjust until accepted - Directly connected impervious road surfaces in new development and redevelopment areas will be reduced by 20% (relative to the traditional scenario in which curbs and gutters are used) over the course of the 5 year permit.	This permit year, the DPW Engineering staff has completed a list and map of all the detention ponds on private developments and public properties in order to keep track of its maintenance efforts and good housekeeping operations. The Town's Conservation Agent has been reviewing the O&M's for these BMP's to determine the requirements are being met. The DPW has been implementing a Driveway Permit town-wide to those who are creating or repaving a driveway/impervious surface. There has been a strong focus on the stormwater run-off from the driveways with an evaluation of the first inch of water from a storm to be redirected into the ground for recharge. Approximately 87 permits were distributed during 2012 and 6 to date for year 2013. The Planning Board approved a large private townhouse development and one small commercial development with the installation of porous pavement to aid in groundwater recharge and low impact design.

6. Pollution Prevention and Good Housekeeping in Municipal Operations

This minimum control measure section will stay the same as it has in the past permitted years.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
6A	CB/Drain System/Parking Lot Cleaning	DPW	- Clean 50% of Catch Basins annually - Clean 100% of parking lots annually - Clean 50% of streets annually	35% of all CB were cleaned this year due to budget reductions. 100% of all parking lots were cleaned this year. 50% of the streets in Town were cleaned this year. Unfortunately, in the middle of the year, the Town's sweeper caught on fire and was not salvageable. The Town has since purchased a new Elgin Pelican Broom Sweeper (\$170,000) this spring. Currently, spring street sweeping has begun on a full time basis throughout the streets in Town.
6B	Training of All Municipal Employees	DPW, Board of Health	- 80% of employees trained - Housekeeping activities successfully implemented	Administration and Engineering staff has attended various trainings throughout the year.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
6C	Capital Planning and Budgeting	DPW	- Capital planning for funds to purchase a tight tank for vehicle washing in Winter 2006	The DPW has continued to implemented a Capital Improvement Plan (CIP) for fiscal planning for identification, funding and years for the implementation of various projects. During this permit period, the Town has made \$268,808 worth of expenditures and improvements. This includes the installation of additional drainage on Trull Road (approx. 650 ft. of drain pipe connected into existing drainage system) and River Road (infiltration chambers connected into existing drainage system), repairs on 14 catch basins throughout Town, the purchase of a new broom sweeper and miscellaneous drainage infrastructure supplies. As part of the Long Pond 319 Non-Point Source Pollution Grant, approximately 11BMP's are planned for various locations around the Long Pond Watershed within public property. These BMP's are planned for construction later this year. The DPW will be responsible for the maintenance of these BMP's. May 2012 Annual Town Meeting, the DPW received funding approval for \$46,000 to use in consulting services to generate Operation and Maintenance Manuals and Stormwater Pollution Prevention Plans for municipal buildings. This task is one of the upcoming requirements in the pending IMS Small MS4 NPDES Permit. Proposals were received this April 2013 and are currently being reviewed. Once the consultant is chosen, a contract will be executed for these tasks.
6D	Stormwater Pollution Prevention Plan (SWPPP)	DPW	- Compliance with Town's SWPPP	The Town abides by our SWPPP on an ongoing daily basis.
6E	Housekeeping Policies	DPW	-Publication of housekeeping document -Performance of items in document	Components of a housekeeping document have been completed and are being implemented.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
6F	Hazardous Material Storage	DPW	-Inspection Reports of Storage areas -Review of current storage procedures	All reports are kept in the DPW Superintendent's office and are in compliance with DEP regulations.
6G	Used Oil Recycling	DPW	-DPW will participate in Town recycling program -DPW will track amount of oil recycled	Due to budget restraints, the DPW can no longer offer this benefit. DPW's staff has made arrangements with local garages for residents to drop off their used oil.
6I	Road Salt Application and Storage	DPW	-Maintain Storage shed/area -Keep pile covered	Storage shed is maintained and utilized keeping the Town's road salt covered.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
6J	Spill Response and Prevention	DPW	-Develop plans describing spill prevention and control procedures by the end of year 1 -Conduct annual spill prevention and response training sessions for all municipal employees	The Town of Tewksbury contracted CEI to prepare a Spill Prevention Control and Countermeasure (SPCC) Plan. The DPW has and will continue to perform training with the employees on this plan as needed.
6K	Illegal Dumping and Storage	Board of Health	-Investigate as reported	The Town continues to investigate and track complaints. Complaints of illegal dumping are investigated and appropriate action is taken.
6M	Hazardous Waste Collection	Board of Health	-Annual Collection Day, as funded -Record and track amount collected	The Town Manager's office is currently working with a regional planning group to investigate and establish regional Household Hazardous Waste Days for the immediate future.

Part IV. Summary of Information Collected and Analyzed

- Table 1: Dry Weather Outfall Testing Data can be found in Attachment A.

Michele Stein, P.E.
Town of Tewksbury
Town Engineer

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Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures	(\$)	\$266,808 FY13

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	100%
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	N
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	?
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	
▪ community participation	(%)	
▪ material collected	(tons or gal)	?
School curricula implemented	(y/n)	Y

Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted	Adopted
Regulatory Mechanism Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				X
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				X
Accompanying Regulation Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination			X	
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				X

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	637
System-Wide mapping complete	(%)	100
Mapping method(s)		
▪ Paper/Mylar	(%)	100
▪ CADD	(%)	100
▪ GIS	(%)	100
Outfalls inspected/screened	(%)	100
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	~ 66
% of population on septic systems	(%)	~ 34

Construction

Number of construction starts (>1-acre)	(#)	5
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100
Site inspections completed	(%)	100
Tickets/Stop work orders issued	(# or %)	~ 4
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	5

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	20
Site inspections completed	(# or %)	10
Estimated volume of stormwater recharged	(gpy)	?

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	<1
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	<1
Total number of structures cleaned	(#)	1482
Storm drain cleaned	(LF or mi.)	300 LF
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	491 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	(\$)	57,798
Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	<1
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	<1
Qty. of sand/debris collected by sweeping	(lbs. or tons)	100 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Compost & road base
Cost of sweepings disposal	(\$)	NA
Vacuum street sweepers purchased/leased	(#)	0
Vacuum street sweepers specified in contracts	(y/n)	N
Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	10
▪ Herbicides	(lbs. or %)	100
▪ Pesticides	(lbs. or %)	100

Anti-/De-Icing products and ratios		
% NaCl		80 %
% CaCl ₂		
% MgCl ₂		
% CMA		
% Kac		
% KCl		
% Sand		20 %
Pre-wetting techniques utilized	(y/n)	N

Manual control spreaders used	(y/n)	Y in some trucks
Automatic or Zero-velocity spreaders used	(y/n)	Y
Estimated net reduction in typical year salt application	(lbs. or %)	NA
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	N

Michele Stein, P.E.
Town of Tewksbury
Town Engineer

Attachment A

2012 Dry Weather Outfall Testing

Table 1: 2012 Dry Weather Outfall Testing

Outfall ID	Original Test Date	Original Test Result	Test Date	Samples Collected	Test Result	Contamination Source	Next Step	Test Date	Samples Collected	Test Result	Contamination Source	Next Step	Test Date	Samples Collected	Test Result	Contamination Source	Comments
CO-0038	7/22/2011	Tap Water (Fluoride= 1.03; Chlorine= 0.13)	4/20/2012	1	Natural Water	Unknown	Continue investigation; determine how pipes actually connect (sewer maps show different than system looked in field)	4/25/2012	2	Tap Water (Fluoride= 0.25; Chlorine= 0.01)	Possible water-main leak or break on Farwood Rd; possible groundwater with high fluoride concentration	Investigate for water-main leak or break					Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. RMC 6/8/12
SH-0031	7/22/2011	Sanitary Wastewater (Detergents= 0.35; Ammonia= 7.5; Potassium= 6.5)	4/18/2012	1	Unknown	Unknown	Continue investigation; collect sample from pipe inlet across the street	4/20/2012	1	Natural Water	Possible sewer leak	Continue investigation; source is located directly between inlet of 2nd test and DMH of 1st test. Sewer Contract 33 (sheet no. 33) shows 18in R.C. drain below sewer line at this location. Consider dye testing or camera to check for leak in sewer line.	4/25/2012	0		Water and Sewer Division camera checked the sewer line for possible leaks. No leaks were discovered. Further investigation may be needed to locate source.	Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. RMC 6/8/12
SH-0032	7/22/2011	Tap Water (Fluoride= 0.37; Chlorine= 0.56)	4/18/2012	2	Tap Water (Fluoride= 1.72; Chlorine= 0.02)	Unknown	Continue investigation; sewer Contract 33 (sheet no. 33) shows water line crossing drain just upstream of DMH on Briarwood Rd at corner of Farwood Rd	4/25/2012	2	Tap Water (Fluoride= 0.19; Chlorine= 0.01)	Possible water-main leak or break on Farwood Rd; possible groundwater with high fluoride concentration	Investigate for water-main leak or break					Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. RMC 6/8/12
SH-0033	8/11/2011	Tap Water (Fluoride= 0.42; Chlorine= 0.15)	4/20/2012	2	High Ammonia (1.39), High Potassium (4.00)	Unknown	Continue investigation; possibly reset as high ammonia and potassium could be from fertilizer use. Sewer Contract 29 (sheet no. 33) shows water line crossing drain in several locations upstream of DMH	4/30/2012	1	Tap Water (Fluoride= 0.16; Chlorine= 0.01)	Unknown, low concentration of fluoride	Continue investigation					Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. MJS 5/23/12
SH-0035	7/22/2011	Wastewater (Detergents= 0.10)	4/18/2012	0	N/A	Bus washing at school bus parking area across street											School bus company parking lot. Buses being washed onsite and water flowing to drainage. Letter needs to go out to rectify situation. Goal for letter to go out in June 2012. MJS 5/23/12
SH-0036	4/30/2012	N/A	4/18/2012	1	Tap Water (Fluoride= 0.77; Chlorine= 0.08)	Unknown	Continue investigation; collect sample from another location upstream. May need CBS to be cleaned first (too much sediment to collect accurate sample).										Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/22/12
SH-0039	8/11/2011	Wastewater (Detergents= 0.15)	4/18/2012	1	High Ammonia (1.30), High Fluoride (1.45)	Unknown	Continue investigation; collect sample from another location or possibly reset this location and/or outfall.										Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. RMC 6/8/12

Table 1: 2012 Dry Weather Outfall Testing

Outfall ID	Original Test Date	Original Test Result	Test Date	Samples Collected	Test Result	Contamination Source	Next Step	Test Date	Samples Collected	Test Result	Contamination Source	Next Step	Test Result	Samples Collected	Test Result	Comments
SH-0166	7/20/2011	Sanitary Washwater/ Washwater (Detergents= 0.2; Ammonia >0.5; Potassium= 2)	4/30/2012	1	Natural Water	Unknown										Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/22/12
SH-0359	7/28/2011	Washwater (Detergents= 0.10)														Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. RMC 6/8/12
SH-0415	7/28/2011	Washwater (Detergents= 0.10)														Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/22/12
ME-0069	7/25/2011	Washwater (Detergents= 0.15)														Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/8/12
SH-0464	7/25/2011	Washwater (Detergents= 0.10)														Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/21/12
SH-0947	8/24/2011	Detergents= 0.25; Chlorine= 1.69														
CO-0027	8/12/2011	Gilly Shown														Tested 7/2/12 no contamination found. Did not test for hardness. Tried to test on 7/2/2012 but outfall was dry
SH-0096	7/20/2011	Hardness= 6.0														
ME-0056	7/28/2011	Tap Water (Fluoride= 0.16; Chlorine= 0.03)														Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/8/12
ME-0041	7/28/2011	Tap Water (Fluoride= 0.43; Chlorine= 0.03)														Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/8/12

Table 1: 2012 Dry Weather Outfall Testing

Outfall ID	Original Test Date	Original Test Result	Test Date	Samples Collected	Test Result	Contamination Source	Next Step	Test Date	Samples Collected	Test Result	Contamination Source	Next Step	Test Date	Samples Collected	Test Result	Contamination Source	Comments
SH-0392	7/28/2011	Tap Water (Fluoride= 0.43; Chlorine= 0.03)															Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. RMC 6/22/12
SH-0427	7/28/2011	Tap Water (Fluoride= 0.18; Chlorine= >2.0)															Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/21/12
SH-0366	7/28/2011	Tap Water (Fluoride= 0.30; Chlorine= 0.00)															Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/8/12
SH-0339	7/25/2011	Tap Water (Fluoride= 0.15; Chlorine= 0.01)															Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. RMC 6/8/12
SH-0306	7/25/2012	Tap Water (Fluoride= 0.59; Chlorine= 0.01)															Retested with Michelle RMC 6/22/12 looking to have drains cleaned out. Drains were cleaned out in August. Outfall was retested. At this time, there does not appear to be a illicit discharge. MIS 9/17/12.
SH-0084	7/21/2011	Tap Water (Fluoride= 0.54; Chlorine= 0.12)															Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/21/12
SH-0055	7/21/2011	Tap Water (Fluoride= 0.14; Chlorine= 0.02)															Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. RMC 6/8/12
SH-0085	7/21/2011	Tap Water (Fluoride= 0.20; Chlorine= 0.10)															Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/8/12
SH-0291	7/21/2011	Tap Water (Fluoride= 0.99; Chlorine= 0.02)															Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/21/12

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Outfall ID	Original Test Date	Original Test Result	Test Date	Samples Collected	Test Result	Contamination Source	Next Step	Test Date	Samples Collected	Test Result	Contamination Source	Next Step	Comments
SH-0287	7/20/2011	Tap Water (Fluoride= 0.27)											Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. RMC 6/8/12
SH-0161	7/15/2011	Tap Water (Fluoride= 0.16)											Based on further investigation and discussions with Thelma Murphy from EPA on May 11, 2012, it was determined the limits for fluoride (as an illicit indicator) that the DPW was originally using (0.25mg/l) was low. Possible sources for example of tap water source would be .94 mg/l and car washing 1.2 mg/l. Therefore, there are no illicit sources at this location at this time. This outfall should be investigated again in 5 yrs. See outfall folder for information. Fertilization education is targeted for this area. RMC 6/21/12