

**Bridgewater, Massachusetts**

May 1, 2013

Glenda Velez  
US EPA - OEP06-1  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

**Re: Stormwater Annual Report for Permit Year 10**  
NPDES Permit Number: MAR041097

Dear Ms. Velez:

On behalf of the Town of Bridgewater, Massachusetts, Weston & Sampson is forwarding the enclosed annual report pursuant to the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems. Enclosed is the Annual Report for Permit Year 10 covering the period from April 1, 2012 to March 31, 2013.

Should you have any questions regarding the report, please feel free to contact me at (978) 532-1900 or [deguglit@wseinc.com](mailto:deguglit@wseinc.com).

Very truly yours,

WESTON & SAMPSON, INC.



Tim DeGuglielmo, P.E.  
Project Engineer

Enclosures

cc: Mr. Fred Civian, MADEP



## Part II. Self-Assessment

The Town of Bridgewater, Massachusetts has completed the required self-assessment and has determined that, based on available information, our municipality is generally in compliance with the conditions of the permit. Exceptions to this statement are detailed in Part III, below. The Town is currently completing a Comprehensive Wastewater Management Plan (CWMP) that includes planning related to stormwater and drinking water. The CWMP scope of work also includes a public participation component, which will be used to enhance the Town’s stormwater (and other water resource) public education and involvement efforts.

## Part III. Summary of Minimum Control Measures

### 1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1	Enlist residents as Stormwater educators	Stormwater Manager	Form public education task force	Outreach completed to departments, organizations, and taxpayers; a stormwater Committee formed with Town staff; however, creation of a public/resident group has been unsuccessful to date.	The Town will continue efforts to solicit volunteers from the community.
Revised					
2	Design & distribute brochures	Stormwater Manager	Raise public awareness	Stormwater education materials were posted/hung in Town offices, schools, library, and other municipal buildings.	Town will seek to post materials on the Town website, cable access television, and continue to have the information in Town offices, schools, library and other municipal buildings.
Revised					
3	Stencil storm drains	Highway Department	Identify MS4’s	Significant cuts to Highway Department Staffing made stenciling with in-house staff not feasible. Attempts to complete this BMP with local youth organizations have been unsuccessful to date.	The town will continue to seek local volunteer organizations (e.g., boy/girl scouts, watershed associations) to stencil catch basins in town. Town will also look into stenciling as part of the stormwater structure GPS effort.
Revised					
4	Educate students	Task force and teachers	Introduce in classrooms	The High School has a “Green Club” and some environmental education is included in school curriculum. No additional stormwater education was introduced.	The Town will continue efforts to work with teachers to include stormwater issues in the classroom.
Revised					

### 1a. Additions

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## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5 Revised	Form Technical Committee (T/C)	Stormwater Manager	Committee provides technical assistance	Measurable goal completed in prior permit years.	The T/C will begin meeting again upon reissuance of the MS4 permit.
6 Revised	T/C Reviews General Permit	Technical Committee	Goals identified	Measureable goal completed in prior permit years.	No further action required at this time.
7 Revised	T/C drafts by-laws	Technical Committee	Town meeting adopts by-laws	Measureable goal completed in prior permit years.	No further action required at this time.
8 Revised	Residents assist with adopt-a-drain program	Stormwater Manager	Residents monitor drains	Attempts to enlist residents to assist the Town with this BMP have been unsuccessful to date. However, illicit discharges/dumping have been reported by residents in the past.	New BMPs for public involvement will be developed in conjunction with reissuance of the MS4 permit.  Continue to seek public assistance on the Town's website

### 2a. Additions

8a	Promote participation in environmental stewardship/stormwater pollution prevention projects, including those of other local organizations	Stormwater Manager	Participation in Yearly Public Volunteer Opportunities	The following annual events were held in Bridgewater: Town Earth Day Park Cleanups (April), Town Catch Basin Leaf Cleanup (fall), Lions Club Recyclemania (spring); DPW booth at Autumnfest (October).	Continue to promote participation by the Town and resident in environmental education/stewardship opportunities.
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### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
9 Revised	Map outfalls and MS4	Highway Superintendent	Map of MS4	<p>100% of Town roadways, water bodies, and sub-watersheds have been mapped in GIS. An estimated 1,375 catch basins and 195 outfalls have been located, mapped, and inspected to date. Additional outfalls are mapped via as-built plans.</p> <p>Town has purchased GIS upgrades and has a Bridgewater State College intern assisting with work on the Town's GIS system.</p> <p>Town is proceeding with the CWMP planning tasks that include a stormwater management planning component.</p>	<p>The Town will continue efforts to expand its GIS and map known municipal outfalls in the urbanized area. This effort is being augmented with information obtained through the CWMP/stormwater process.</p> <p>Town staff/College Intern(s) are continuing to locate (by GPS) any known outfalls that have not been currently mapped.</p>
10 Revised	Train staff in outfall inspections	Highway Superintendent	Develop detection program	Staff completing outfall location effort to date was trained.	Any new staff inspecting outfalls going forward will be trained.
11 Revised	T/C drafts illicit discharge bylaw	Highway Superintendent	Town adopts bylaw	Measurable goal completed in prior permit years. IDDE by-law was adopted November 14, 2002.	No further action required at this time.
12 Revised	Enforcement of bylaw	Highway Superintendent, Town Counsel	Discourage violations	IDDE bylaw is enforced when illicit discharges are identified. Fines are in place for use as necessary.	<p>IDDE by-law will continue to be enforced when illicit discharges are identified. Records of enforcement actions will be kept.</p> <p>A stormwater connection fee will be brought before Town Council. This fee (if instituted) will provide funds for additional stormwater related activities.</p>

#### 3a. Additions

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#### 4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
13	Joint selection of erosion BMPS to be required for construction	Technical Committee	Co-committee Assist with drafting E&S By-Law	Measurable goal completed in prior permit years. Construction Site by-law was drafted by T/C and adopted by Town November 13, 2006.	No further action required at this time.
Revised					
14	Planning Bd includes E&S BMPs in subdivision review	Technical Committee, Planning Bd	BMP's required	Town Planner, Planning Board and ConCom adhere to Construction Site bylaw in subdivision review/inspection.	Town Planner, Planning Board and ConCom will continue to adhere to bylaw in subdivision review/inspection.
Revised		Town Planner			
15	ZBA includes E&S BMPs in site plan review	T/C, ZBA	BMP's required	Town Planner, Planning Board and ZBA adhere to Construction Site bylaw in site plan review/inspection.	Town Planner, Planning Board and ZBA will continue to adhere to bylaw in site plan review.
Revised		Town Planner			
16	Enforcement of by-law	<del>Stormwater Manager &amp; Selectmen</del>	E&S and runoff reduced	Building Inspector and ConCom enforce Construction Site bylaw via regular inspection and, if necessary, requirements for corrective action.	Town Planner, Planning Bd, ConCom, & Stormwater Manager will continue inspection and enforcement of bylaw.
Revised		Building Inspector & ConCom			

#### 4a. Additions

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
17	Planning Bd meets with T/C to review goals of stormwater plans	Planning Bd, Technical Committee	Identify changes in regulations needed to comply	T/C identified needed changes in existing regulations. Town regulations were adopted in 2004 and amended to address stormwater management and require compliance with MADEP stormwater standards in 2007 and 2012.	No further action required at this time.
Revised					
18	Propose regulation changes as appropriate	Planning Bd, Technical Committee, ZBA	Amend existing regulations	Town regulations were amended to address stormwater management in 2007 and 2012.	No further action required at this time.
Revised					
19	Require BMPs in review process	Planning Bd, ZBA	Land-use boards require stormwater management plans	2007 and 2012 amendments to Town regulations require compliance with MADEP stormwater standards, including requirements for BMPs.  Building Inspector also assists with the bylaw enforcement responsibilities.  Development on Lilac Lane was built with both a cleansing basin and detention basin.	Continue to adhere to MADEP standards in review process.
Revised		Town Planner, Building Inspector			
20	Require deed restrictions	Planning Bd, ZBA, Town Counsel, Stormwater Manager	Town can ensure long term maintenance	2007 and 2012 amendments to Town regulations require easements and deed restrictions. Proof of filing with the Registry is required for Boards to sign off. Operation & Maintenance of BMPs is required of the developer for 5 years before being transferred to Town for O&M.  Building Inspector also assists with the bylaw enforcement responsibilities.	Continue to enforce existing requirements.  Town will review the existing rules and regulations for any inconsistencies in requiring O&M from the developer for 5 years before being transferred to Town. Any necessary changes will be made.
Revised		& Town Planner		All newly installed drain lines are required to be TV inspected to ensure proper installation and function before they are accepted by the Town.	

## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
21 Revised	Clean catch basins regularly	Highway Department	Prevent debris from entering MS4	Since elimination of sand for snow/ice control, catch basins are cleaned on an “as-needed” basis. If a basin needs frequent cleaning, the cause is investigated and addressed.	Continue regular catch basin cleaning program.
22 Revised	Sweep streets regularly	Highway Department	Prevent sand & debris from entering MS4	Streets in low-lying are swept regularly to reduce leaf/debris accumulation. All other streets are cleaned as resources permit with the goal of at least once per year.	Continue regular street sweeping program.
23 Revised	Use E&S controls for road repairs	Highway Department	Prevent erosion into MS4	E&S controls are used for road repairs.	Continue to use E&S controls on road repairs.
24 Revised	Cover outside drains Delete BMP No. 24	Highway Department Delete BMP No. 24	Prevent leachate Delete BMP No. 24	The intent of the original BMP is not understood by current staff; therefore, it has been deleted from the SWMP.  Emergency spill kits are kept at the DPW facility to protect the catch basins should any spills occur.	No further action required.

### 6a. Additions

24a	Review winter operations & minimize pollution	Highway Department	Reduced materials in exposed areas.	The Town eliminated the use of sand to reduce sediment. Salt storage is controlled/covered to prevent runoff. Calibrated spreaders are used to minimize salt use. Magnesium chloride has secondary containment and is mixed at the spinner, not in the salt shed, to prevent the discharge of pollutants.	Continue current efforts to minimize pollution from winter operations.
24b	Prevent pollutant runoff from vehicle washing	Highway Department	Washwaters captured	Vehicle washing is performed indoors with oil/water separation and effluent discharge to the Town’s sewer system.	Continue current vehicle washing procedures.

**7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 10</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities</b>
25	Does MS4 discharge into impaired water body?	Highway Department	Show outfalls of MS4 into impaired water bodies	The Matfield River is the only water body with a listed TMDL.	The Town will concentrate current BMP efforts in the area of the Matfield River for the upcoming Permit Year.
Revised					Additional BMPs will be identified and reviewed for the new upcoming Phase II Permit.
26	Identify whether pollutants are discharging into MS4	Highway Department	Identify source of pollutants	The Matfield River is the only water body with a listed TMDL.	The Town will concentrate BMP efforts in the area of the Matfield River for the upcoming Permit Year.
Revised					Additional BMPs will be identified and reviewed for the new upcoming Phase II Permit.
27	Ensure WLA met by stormwater BMPs	Highway Department	Determine if additional stormwater BMPs are needed	The Matfield River is the only water body with a listed TMDL.	The Town will concentrate BMP efforts in the area of the Matfield River for the upcoming Permit Year.
Revised					Additional BMPs will be identified and reviewed for the new upcoming Phase II Permit.
28	Reduce pollutant discharges coming thru MS4	Highway Department	Enforce illicit discharge by-law	The Matfield River is the only water body with a listed TMDL.	The Town will concentrate BMP efforts in the area of the Matfield River for the upcoming Permit Year.
Revised					Additional BMPs will be identified and reviewed for the new upcoming Phase II Permit.

**7a. Additions**

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**7b. WLA Assessment**

Not applicable.

**Part IV. Summary of Information Collected and Analyzed**

No additional information has been collected outside of what has been listed in Part III, above.

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

(Since beginning of permit coverage unless specified otherwise by a \*\*, which indicates response is for period covering April 30, 2012 through March 31, 2013)

<b>Programmatic</b>	<b>(Preferred Units)</b>	<b>Response</b>
Stormwater management position <del>created</del> /staffed	(y/n)	Yes
Annual program budget/expenditures **	(\$)	Not available
Total program expenditures since beginning of permit coverage	(\$)	Not available
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General fund

**Education, Involvement, and Training**

Estimated number of property owners reached by education program(s)	(# or %)	N/A
Stormwater management committee established	(y/n)	Yes
Stream teams <del>established</del> or supported	(# or y/n)	Yes
Shoreline clean-up participation <del>or quantity of shoreline miles cleaned</del> **	(y/n or mi.)	Yes
Shoreline cleaned since beginning of permit coverage	(mi.)	Not available
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	No
▪ community participation **	(# or %)	Not available
▪ material collected **	(tons or gal)	Not available
School curricula implemented	(y/n)	No SWPh2

<b>Legal/Regulatory</b>	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
<b>Regulatory Mechanism Status (indicate with "X")</b>					
▪ Illicit Discharge Detection & Elimination					X
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X
<b>Accompanying Regulation Status (indicate with "X")</b>					
▪ Illicit Discharge Detection & Elimination					X
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X

**Mapping and Illicit Discharges**

	(Preferred Units)	Response
Outfall mapping complete	(%)	~40 ± %
Estimated or actual number of outfalls	(#)	Est. 490
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	1%
Mapping method(s)		
▪ Paper/Mylar ( <i>% method for outfalls completed to date</i> )	(%)	99%
▪ CADD	(%)	0%
▪ GIS	(%)	1%
Outfalls inspected/screened **	(# or %)	5%
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	52 / 25%
Illicit discharges identified **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	0
Illicit connections removed **	(# & gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(# & gpd)	0
% of population on sewer	(%)	35%
% of population on septic systems	(%)	65%

**Construction**

Number of construction starts (>1-acre) **	(#)	~10
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	100%
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	\$0
Complaints/concerns received from public **	(#)	0

**Post-Development Stormwater Management**

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	100%
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Yes
Low-impact development (LID) practices permitted and encouraged	(y/n)	Yes

**Operations and Maintenance**

**(Preferred Units) Response**

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	As needed
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	As needed
Qty of structures cleaned **	(#)	Not available
Qty. of storm drain cleaned **	(%, LF, mi.)	Not available
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	Not available
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Compost
<b>Basin Cleaning Costs</b>		
• Annual budget/expenditure (labor & equipment)**	(\$)	Unknown
• Hourly or per basin contract rate **	(\$/hr,\$/basin)	N/A
• Disposal cost**	(\$)	N/A
<b>Cleaning Equipment</b>		
• Clam shell truck(s) owned/leased	(#)	1
• Vacuum truck(s) owned/leased	(#)	0
• Vacuum trucks specified in contracts	(y/n)	0
• % Structures cleaned with clam shells **	(%)	100%
• % Structures cleaned with vector **	(%)	N/A

Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1/yr
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	1/yr
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	Unknown
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Compost
<b>Annual Sweeping Costs</b>		
• Annual budget/expenditure (labor & equipment)**	(\$)	Unknown
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	Unknown
• Disposal cost**	(\$)	Unknown
<b>Sweeping Equipment</b>		
• Rotary brush street sweepers owned/leased	(#)	1
• Vacuum street sweepers owned/leased	(#)	1
• Vacuum street sweepers specified in contracts	(y/n)	0
• % Roads swept with rotary brush sweepers **	%	15%
• % Roads swept with vacuum sweepers **	%	85%

**(Preferred Units) Response**

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	N/A
▪ Herbicides	(lbs. or %)	N/A
▪ Pesticides	(lbs. or %)	N/A
Integrated Pest Management (IPM) Practices Implemented	(y/n)	N/A

Average Ratio of Anti-/De-Icing products used **  (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	100% MgCl <sub>2</sub>
Pre-wetting techniques utilized **	(y/n or %)	No
Manual control spreaders used **	(y/n or %)	Yes
Zero-velocity spreaders used **	(y/n or %)	No
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/l <sub>n</sub> mi. or %)	Unknown
Estimated net reduction or increase in typical year sand application rate **	(±lbs/l <sub>n</sub> mi. or %)	100%
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N/A
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Yes

**Water Supply Protection**

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	N/A
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	N/A
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	N/A