Part II. Self-Assessment

During the March 2003 to March 2004 permit year, the Town of Kingston has steadily worked toward achieving the target activities for the first year. We have successfully partnered with the Jones River Watershed Association, the Silver Lake Conservation, Horticulture and Science Programs at the high school, as well as local citizens to incorporate the public education, outreach and participation aspects of the NPDES Phase II permit. We have begun detecting and mapping our illicit discharges in order to eliminate their influence on the water quality of streams, lakes, ponds and the bay. The Town has also been working to develop and implement local stormwater controls to reduce construction runoff to water resources. In addition, efforts are continuously being made to improve maintenance and prevent pollution at municipal facilities. In the coming permit year the Town of Kingston will continue our work of mapping discharges and outfalls as well as expanding our sampling efforts through a citizen volunteer program. Though the Town of Kingston has worked hard in the first permit year to comply with the NPDES Phase II Stormwater Permit, we hope to enhance our efforts in permit year two with additional funding from grant opportunities and the voters of Kingston at a special town meeting in June of 2004.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
# 2.1 Revised	Partnership with local schools	Recreation and Conservation	Gray's Beach Restoration Project	Planting bio-retention areas on Gray's Beach (Silver Lake High School Conservation and Horticulture Program)	Student presentations of plantings of bio-retention areas in April 2004 Planting to take place in May 2004 Grand Opening May 16, 2004
# 2.2 Revised	Partnership with watershed association	Planning, Harbormaster, Conservation	Estuary monitoring with combined town, watershed and volunteer efforts	First year of two-year estuary monitoring complete (JRWA) Discussion of increased sampling efforts with citizen volunteers (JRWA)	Second year of two-year monitoring of estuary planned Create expanded citizen monitoring program Obtain funding for analysis
# 2.3 Revised	Storm drain stenciling	Highway, Conservation	Discussion of organizing neighborhoods/volunteers	Decision made to purchase storm drain stencils	Organization of volunteers and implementation of storm drain stenciling program starting with areas near priority water bodies.
# 2.4 Revised	Establishing formal Storm Water Management Task Force with citizen involvement	Selectmen and all other applicable boards	Establish Storm Water Management Task Force with regularly scheduled meetings and activities	Informal stormwater management meetings with appropriate town officials	Formal Stormwater Management Task Force established with expanded involvement to include more town boards and citizens at large
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
# 3.1 Revised	Catch basin/outfall and sewer mapping to receiving waters	Planning, Highway, Conservation	Mapping hotspots that are suspected to carry high pollutant loads	Orthophotos manually marked with hotspots Smoke testing of storm drains on Jones River performed by JRWA, CZM & DMF Shoreline survey of bay (JRWA) Mapping of Category 3 outfall pipes (See attached) (JRWA & Geosyntec)	Use inter-department funds to obtain GPS for mapping of outfalls Establish contact with MassHighway to share information on mapping of state drainage under transportation MS4 permit Organize & educate public/ volunteers to locate illicit discharges Establish hotline
# 3.2 Revised	Connecting to town sewer to reduce illicit discharges	Sewer Commission	Complete connections to sewer	80% of Phase I (Rocky Nook & Kingston Shores) complete with moratoriums for current Title V's to connect when systems fail and fines for those with failing systems until they connect	Complete Phase I sewer connections and vote to implement Phase II at Special Town Meeting in June 2004
# 3.3 Revised	Hazardous Waste Collection and Recycling Program	Highway	Hazardous Waste Collection Days	Annual collection of hazardous waste (in cooperation with Duxbury) is increased for residents by allowing residents and businesses to attend other town's collections via reciprocal arrangement (South Shore Recycling Cooperative - SSRC) Recycling and hazardous waste brochures mailed (SSRC)	Encourage recycling in municipal buildings
# 3.4 Revised	Storm drain stenciling	Highway, Conservation	Adopt a Storm Drain	Discussion of including this in storm drain stenciling efforts	Neighborhood representatives to monitor storm drains for illicit discharges
# 3.5 Revised	Water Quality Monitoring	Harbormaster, Planning, Conservation, Highway, Water	Start monitoring program to establish focus areas	Discussion on coordinating efforts with JRWA to do more monitoring Current monitoring of the bay and estuary (See attached) (DMF, UMass Dartmouth)	Obtain funding for expanding monitoring program

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 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
# 5.1 Revised	Regulatory Mechanisms	Selectmen, Town Administrator, Planning, Building, Conservation, Highway	Establish and implement local stormwater management by-laws to improve post-construction runoff controls	Adoption of MA DEP Stormwater Management Policy and Standards by Planning and Conservation Reviewing existing by-laws relating to stormwater management	Establish Stormwater Management by-law specific to post-construction (Town counsel)
# 5.2 Revised	Site Plan Review	Planning, Conservation, Building, Zoning, BOH	Establish Phase II specific stormwater guidelines for review of site plans	NPDES Phase II Stormwater Symposium attended by Planning, Conservation and Highway 3/2004 Discussion of in house erosion and sediment control training New conservation by-laws passed at Annual Town Meeting (100' buffer to vernal pools, 100 – 200' undisturbed vegetated buffer to rivers)	Seminar for town employees, local contractors, citizens in erosion and sediment controls (NRCS ?) Develop guidelines to be read, understood and signed by all homeowners/developers doing construction on all size projects Require more as-builts
# 5.3 Revised	Enforcement	Building, Planning, Zoning, BOH, Highway, Conservation	Establish new site inspection forms, new procedures and fee/fine schedules for incorporating requirements of Phase II	Educating developers on as needed basis of new 1 acre or more disturbance regulation and construction general permit requirements Including maintenance schedules for stormwater treatment systems in Conservation Orders of Conditions	Develop/gather educational materials for developers/citizens involved in building projects Develop guide on priority areas of town where further pollutant loading may threaten water supply Establish bond surety with developers to create binding obligation to keep stormwater runoff onsite

Revised					

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 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
# 6.1 Revised	Employee Training	Selectmen, Highway, Water, Building, Planning, Conservation	Establish pollution prevention plan and good housekeeping procedures & schedules	Highway Superintendent and Planning attended two stormwater management training seminars Conservation attended one stormwater seminar	Attend more DPW specific training and train all appropriate employees Educate municipal employees on car oil leaks and other things that contribute to polluted runoff Municipal building recycling program in place
# 6.2 Revised	Improved Maintenance	Highway, Water, Building	Increase frequency of maintenance and implement better storage practices	Highway request for vacuum truck to clean out catchbasins through Capital planning committee (denied for last 5 years) Installation of new permanent salt shed	Obtain vacuum truck Increase frequency of street sweeping, maintenance of catchbasins and infiltration galleys Address vehicle maintenance, fuel tanks, sediment stockpile
# 6.3 Revised	Improved stormwater treatment	Highway, Water, Conservation, Planning		Installation of stormwater treatment systems on town roads and town property (Marsh Rd., Boundary St., Gray's Beach and others in progress) Highway Capital planning committee request for funds in 2003 to install street drainage and stormwater treatment systems in Rocky Nook (denied)	Improve street drainage and treatment in Rocky Nook and increase the number or stormwater treatment systems on town roads and properties. Install Lake Street and Rte. 27 BMPs to attenuate pollution to Jones River (JRWA)

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
7.1	Target 303d waterbodies	Conservation, Planning, Highway	Focus on 303d's in aquifer protection area	Established list of 303d water bodies in aquifer protection district (JRWA)	Expand existing sampling program and focus monitoring in aquifer areas with 303d impairment Then focus on other 303d's and the bay
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

Part IV. Summary of Information Collected and Analyzed

The following assessments were conducted or are in process:

1. Mapping of Category 3 outfall pipes (see attached info.)(JRWA, Geosyntec & MWI – 2000-2001);
2. Silver Lake Stewardship Project, Bathymetric Mapping of Silver Lake and Forge Pond (see attached info.)(JRWA, Coler & Colantonio – 2003)
3. Silver Lake Water Quality Assessment (Town Of Kingston, JRWA & ESS Group, Inc – 2003- 2004);
4. Current monitoring of the bay (see attached) and estuary (Town Of Kingston, JRWA, DMF & UMass Dartmouth); and
5. Multi-year smelt study in Jones River (JRWA & DMF – started in 2004).

Though the mapping of outfalls by Geosyntec, MWI and JRWA occurred in 2001, the report and mapping are invaluable to the Town Of Kingston's NPDES Phase II stormwater work. An interactive map (copy attached) shows erosion, outfalls, drainage, etc. in and around 303d waters. This study will provide a jumping off point for further study, action and compliance.

The bathymetric mapping project of Silver Lake and Forge Pond provided essential data needed to determine when water withdrawal will adversely effect mussel species in Silver Lake as well as many species of fish and other organisms in the Jones River. The project also investigated sedimentation in Forge Pond and measured actual depths of sediment in the pond.

The Silver Lake Water Quality Assessment project is not enclosed, but it provides the Town Of Kingston with an assessment of stormwater and watershed impacts to Silver Lake. The study focused on nutrient loading to the lake and it was found that phosphorus is slightly higher than permissible levels indicating that better stormwater management in the basin is important to the quality of this important surface water supply.
The Division of Marine Fisheries monitors Kingston Bay on a regular basis since it is a shellfish growing area (results of 2003-2004 enclosed).

The estuary monitoring project will assess and model nutrient loading of the bay in order to help guide land use practices. Results of the two-year estuary project have yet to be obtained for 2003, but will be sent as soon as they are available.

The smelt study by the Division of Marine Fisheries is a multi-year project and though result are not yet in, sampling has shown that the Jones River is the only river in the study where smelt have been found during every sampling effort. Currently, the JRWA is working to restore fish ladders on various reaches of the river and the restoration of native fish to the watershed is another reason to better manage the Town Of Kingston's stormwater. Results for this study will be sent as soon as they are obtained.

Further sampling efforts are planned for FY05 pending funding availability.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures	($)	

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	
Stream teams established or supported	(# or y/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)	

Legal/Regulatory

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

Accompanying Regulation Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				
▪ Erosion & Sediment Control				
▪ Post-Development Stormwater Management				

Mapping and Illicit Discharges

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

Construction

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

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	

Site inspections completed	(# or %)	
Estimated volume of stormwater recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	
Total number of structures cleaned	(#)	
Storm drain cleaned	(LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		
Cost of screenings disposal	($)	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	
Cost of sweepings disposal	($)	
Vacuum street sweepers purchased/leased	(#)	
Vacuum street sweepers specified in contracts	(y/n)	

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	

Anti-/De-icing products and ratios	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized	(y/n)	
Manual control spreaders used	(y/n)	
Automatic or Zero-velocity spreaders used	(y/n)	
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	
Storage shed(s) in design or under construction	(y/n)	