

Municipality/Organization: City of Cambridge

EPA NPDES Permit Number: MAR041076

MaDEP Transmittal Number: W-040464

**Annual Report Number
& Reporting Period:** No. 2: March 04-March 05

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Lisa Peterson Title: Commissioner, Dept. of Public Works

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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: Robert W. Healy

Title: City Manager

Date: May 2, 2005

Part II. Self-Assessment

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

Part III. Summary of Minimum Control Measures (MCM)

MCM #1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
1.a	Develop Educational and Outreach Material for Residents and Businesses	Commissioner/DPW	(i)Develop 3 brochures or fact sheets (completed under year 1 activities) - Continue the development of relevant materials.	Four (4) brochures were published and targeted at hot spot business interests: 1. <i>Small Business Hazardous Waste Collective</i> ; 2. <i>Food Wastes and Grease: Information for Restaurants and Food Establishments</i> ; 3. <i>Protecting our Waterbodies from Automotive Runoff: How Automotive Service Facility Employees Can Protect the Charles River and Alewife Brook</i> , and 4. <i>Step by Step Guide to Business Recycling</i> . A brochure was also developed in cooperation with the Friend of Alewife Reservation discussing a pilot storm drain stenciling project in Alewife developed by an Eagle Scout candidate entitled <i>No Dumping Drains to Alewife Brook</i> . Copies are attached in Appendix I. In addition four public service announcements (PSAs) were released. One PSA was on <i>Street Cleaning Starts April 1st</i> , which discussed the value of keeping trash, debris and pollutants out of catch basins that lead to the Charles River and Alewife Brook. Three PSAs were released regarding Household Hazardous Waste collection days. Copies and examples are attached in Appendix 1. In addition information on the EPA television special <i>After the Storm</i> was posted on web sites and/or announcements were aired on cable, announced in local newspapers and distributed over e-mail listserves and the City’s local cable TV-8 station also aired the EPA special several times on City TV-8.	Continue the development of relevant materials.

		Commissioner/DPW	(ii) Post information on the web	A Stormwater Management web page was developed as part of the DPW web site during program year 1. It can be viewed at http://www.cambridgema.gov/~TheWorks/stormwater/index.html . This site has been updated to provide links to several of the new brochures described above, efforts to address issues in the Alewife subwatershed and to provide updates to the public on important stormwater management construction projects and BMPs being undertaken throughout the city. Summaries of these pages are provided in Appendix I. Additional water quality information and activities are posted through the DPW homepage, Engineering homepage, Sewer homepage and City of Cambridge homepage.	This site will be updated and expanded to include information on watersheds and best management practices
		Commissioner/DPW	(iii) Distribute materials	The information developed and described above is available at most public buildings (City Hall, Libraries, DPW, City Hall Annex) with other brochures developed by DPW. The PSAs were broadcast on local cable, posted in local newspapers, posted on the City's web site. Brochures are also distributed at various public meetings and at DPW sponsored events (rain barrel pick ups, clean-up events).	As new materials are developed we will continue to use cable TV, door to door, direct mail and/or other means to distribute materials.
1.b	Develop Outreach Materials/Activities for Children	Commissioner/DPW	(i) Begin school outreach in Cambridgeport	Although not required in Year 2 outreach efforts continued with elementary school children at the Morse School in Cambridgeport. Two presentations were made to 7 th grade science classes regarding the problems on non-point water pollution, construction efforts to improve water quality and the effects of urbanization on water systems. See attachment in Appendix 1 for an outline of the presentation.	Not required in Year 3. Additional outreach activities to school children in Cambridgeport will be explored.
		Commissioner/DPW	(ii) Begin School Outreach in Alewife	The mural project sponsored by the Friends of Alewife Reservation and funded by the City was completed by local High School artists/students from Cambridge, Belmont and Arlington. The Alewife Mural Project portrays the natural environment and social and historical significance of the area. The mural was dedicated on October 22, 2004 and is displayed on the exterior of the MBTA parking garage at Alewife. Information on the mural and its dedication is attached in Appendix I. Stormwater management activities in Alewife are still in the permitting and planning phases and activities with local school children will be developed as construction activities are underway.	Not required in Year 3. School programs will be developed as construction projects get underway. Construction is hoped to begin in 2005.

1.c	Develop a Stormwater Web Page	Commissioner/DPW	(i) Develop a stormwater web page	A stormwater web page was developed during Year 1 and can be viewed at http://www.cambridgema.gov/~TheWorks/stormwater/index.html	This site will continue to be updated and expanded
		Commissioner/DPW	(ii) Update stormwater web page	See 1.a. (ii) above.	See 1.c. (i) above.
1.d	Create a Catch Basin Curb Marker Program	Commissioner/DPW	(i) Install catch basin curb marker/plaques	DPW installed catch basin curb markers during sidewalk reconstruction projects and our remedial reconstruction projects. A total of 226 have been installed (see Appendix 1). In addition a pilot program by a local Boy Scout was initiated in Alewife. The industrial area of Alewife was hand stenciled by local boy scouts with paint, stencils and other supplies provided by the DPW. Support was also provided by The Friends of Alewife Reservation from the co sponsorship of a brochure outlining benefits of storm drain stenciling (see 1.a. (i) above).	Continue to install catch basin curb markers during construction projects.
1.e	Reduce Stormwater Pollution from Automobiles	Assistant City Manager for Community Development/CDD	i) Sponsor an event to promote alternative forms of transportation	The Community Development Department sponsored and participated in many activities promoting alternative forms of transportation during the May 2004 Go Green Month events. Activities included alternative forms of transportation information tables at all major squares in Cambridge, giveaways to cyclists and pedestrians, participation in local bike week events. A listing of Go Green Month events is provided in Appendix I.	Alternative forms of transportation will be promoted through activities and events.

MCM #1. Additional Information

- ❑ Cambridge CDD has reviewed or monitored 42 entities under the Parking and Transportation Demand Management (PTDM) Ordinance to reduce motor vehicle trips associated with increased parking.
- ❑ The City provides a comprehensive City Employee Commuter Benefits to all of its employees. These benefits include subsidized T passes, a free shuttle service, and an internal car pool matching service. The City also supports bicycle use and walking through the respective city programs and provides an internal web site that provides information on other regional ride matching and sharing programs.
- ❑ The DPW is developing information on Recycling & Trash Guidelines in 10 additional languages including: Spanish,

Portuguese, Haitian, Chinese, Italian, Japanese, Korean, German, Russian, and Hindi. Final pamphlets will be available later this year (during Year 3) and will be distributed.

- The City produces biannually a publication entitled “City View” and distributes it to every household in the City (over 48,000). The Spring 2004 issue included several sections highlighting the City’s stormwater management efforts. A copy of City View is available in Appendix 1.

- The Cambridge Public Health Department (CPHD) has launched a new program for small businesses in Cambridge an effort to improve compliance with hazardous waste removal laws and practices. This new program will work, in part, as a "buyer's club" for waste removal services to meet the needs of any business that joins. CPHD has been able to use the prospect of efficiently connecting hazardous waste vendors with Very Small Quantity Generators (VSQGs) to draw competitive bids for removal services and has recently selected Onyx Environmental as the vendor for the program. These small generators of waste have not generally received close scrutiny by state and federal regulators in the past and have been a largely unrealized potential customer base for waste removal vendors. The sectors we are actively recruiting include Dry Cleaners, Auto Body shops, Garages, Printer/Repro/Copy retailers, Property Management companies (paint, solvents, pesticides), and Dental Offices (Hg waste streams). Once businesses have agreed to join our staff will work individually with them to achieve best practices in waste labeling, storage, and maintenance of health & safety information for their employees. The program hopes to work with certain sectors in the future, using our knowledge of their waste-removal costs and volumes, to propose alternative technologies where they are well-proven and can be demonstrated to result in cost savings, greater workplace safety, and reduced impact on groundwater, run-off, and soil in the community.

MCM #2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
2.a	Participate in Public Meetings on Water Quality and Quantity	Commissioner/DPW	(i) Participate in/sponsor a public meeting on water quality/quantity and/or the stormwater management plan	DPW participated in several public meetings on water quality/quantity including: EPA public hearing on February 15, 2005 regarding the Notice of Intent stormwater management plans submitted by several communities, including Cambridge, 2. Alewife Reservation Preservation and Transformation – February 24, 2005 (flyer and presentation in Appendix 2), and 3. Report on Tri-Community Working Group on Flooding – November 16, 2004 (flyer attached in Appendix 2).	Public meeting will be hosted by DPW regarding the status of the stormwater management program and/or stormwater quality.
		Commissioner/DPW	(ii) Advertise meeting through various sources	The above meetings were advertised in local papers, on the city’s web site and/or through local list serves.	Meeting will be publicly advertised in local newspapers, through the web site and/or other means.
2.b	Support Volunteer Efforts	Commissioner/DPW	(i) Provide clean-up assistance for one event annually	The City participated in Earth Day at Alewife on May 1, 2004.	Support/assistance will be provided for one clean-up event.

		Commissioner/DPW	(ii) Support educational efforts of local watershed groups as opportunities arise through talks and /or support of grant applications	<p>The City supported the efforts of the Friends of Alewife Reservation (FAR) and the Mystic River Watershed Association (MyRWA):</p> <ul style="list-style-type: none"> • The DPW spoke to water quality improvement efforts along the Alewife at FAR's Stream Team meeting on August 25, 2004. • DPW wrote a letter of support for FAR's efforts to nominate the Little River and Alewife Reservation as Corporate Wetland Restoration Program Priority Project. • DPW wrote letters of support for the Mystic River Watershed Association (MyRWA) grant applications to Coastal Zone Management's NonPoint Source Grant and MA Environmental Trust's Ecosystem Health & Biodiversity Program.. 	DPW will continue to provide support to local watershed associations as opportunities permit.
		Commissioner/DPW	(iii) Seek permission to post links to local watershed groups' web sites	Links were posted to MyRWA and CRWA during Year 1. No new watershed links have been added this year.	As the stormwater management web page is expanded and updated additional links and resources will be added

2.c	Sponsor Recycling of Hazardous and Solid Waste	Commissioner/DPW	(i) Hold 4 Household Hazardous Waste Collection (HHW) days annually		
Revised		Commissioner/DPW	Hold 3 Household Hazardous Waste Collection days annually (Revised in Year 1)	Three Household Hazardous Waste collection days were held this permit year on April 24 th , June 12 th and October 23 rd . DPW has determined that the reduction in the amount of collection days has not resulted in a reduction in the amount of materials collected. See Appendix 2 for a summary of recycling tonnage from Drop-off center, curbside and HHW collections.	HHW collection will be held on April 23, June 25 and October 22, 2005.
		Commissioner/DPW	(ii) Accept recycling materials at a drop off center on a regular basis	During 2004 DPW operated a recycling drop-off center at the DPW yard on Tuesdays and Thursdays from 4 – 7:30 p.m. and Saturdays from 9 a.m. – 4 p.m. Materials accepted include: books, clothing, electronic media (CD's, floppy disks, VHS tapes), plastic bags and unmarked stiff plastic containers, Styrofoam, non-alkaline batteries (NiMH, NiCd, Hg, Li Ion, Pb Acid, AgO2), fluorescent bulbs, mercury containing devices (thermometers, thermostats, etc.), and motor oil.	DPW will continue to operate a drop-off center for recycling materials by residents, small businesses and non-profit organizations with 50 employees or less

		Commissioner/DPW	(iii) Beginning in yr 2 provide information on illicit discharges and reporting	A pamphlet was developed and distributed at the Household Hazardous Waste collection events that discussed illegal dumping into catch basins and the importance of proper disposal of wastes (see Appendix 2). Information was provided on the stormwater management homepage and "Information and Hotlines" link from the DPW web site regarding a stormwater hotline to report suspicious or illicit discharges.	DPW will provide information on illicit discharges and reporting at Household Hazardous Waste events.
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MCM #2. Additional Information

- ❑ The DPW sponsored its second rain barrel promotions in April 2004. This promotion resulted in the distribution of approximately 50 rain barrels. DPW brochures on Vehicle maintenance, disposal of pet waste and tree care programs were distributed to everyone picking up their barrels. The program was advertised through the web and local newspapers.
- ❑ DPW sponsored 2 events to celebrate America Recycles Day on November 15th. Events included a free Tote Bag Giveaway and a Worm Composting Workshop.
- ❑ Cambridge supported a 319 Non Point Source Pollution Grant application submitted by the Town of Belmont and committed funds in support of this grant which would improve Bair Pond/Wellington Brook in Cambridge, but whose watershed is primarily in Belmont. Cambridge is working with its neighboring communities to attempt to address watershed concerns.
- ❑ DPW hosts an annual Vehicle Road Show. This year's event was held on May 18, 2004. The focus of the event was education of children and adults about the steps the City has taken to implement environmentally friendly practices including recycling, street sweeping, park/tree maintenance, drain cleaning, alternative fuel vehicles. Over 300 children and adults attended the event.

MCM #3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3.a	Update Stormwater Drainage System, Outfalls and Receiving Waters in GIS	Commissioner/DPW	(i) Map Fresh Pond outfalls	Completed. (Revised outfall map is provided in Appendix 3).	None required – there are no other known outfalls at Fresh Pond.
		Commissioner/DPW	(ii) Migrate existing GIS database to a new format	The City hired a consultant, CDM, to migrate the existing GIS data into the ArcInfo 8.3 geodatabase format. CDM has substantially completed the migration of this information. Their contract was extended to the end of June 2005 to allow for the field location of various public BMPs and QA/QC checks.	Work will continue on the migration and QA/QC of data.
		Commissioner/DPW	(iii) Track private structural controls in a database	Private structural controls are tracked in a database (see Appendix 3). Approximately 50 projects underwent DPW site plan review.	We will continue to track private structural controls through our site plan review process.
		Commissioner/DPW	(iv) Catalogue record drawings	Cataloguing of record drawings was not necessary. The contract to update the GIS database included scanning record drawings and has been completed. Over 3000 record drawing have been scanned and spatially linked to the database.	A catalogue of updated information will be available to query when the database is operational.
		Commissioner/DPW	(v) Train engineering staff on new GIS software	Database is not yet finalized and thus training has not begun on its use.	Staff will be trained on new ArcInfo database when completed.

		Commissioner/DP W	(vi) Begin updating GIS information with as-built/record drawings	Although not applicable Year 2 over 3000 record drawing have been scanned and spatially linked to the database and is substantially completed to date.	Following the training of staff, new record drawings will be linked as they become available.
3.b	Detect and Eliminate Illicit Discharges	Commissioner/DP W	(i) Perform routine water quality sampling	Two (2) Water quality samples were taken at 13 outfalls on the Charles, three (3) samples at 8 outfalls on the Alewife. See Appendix 3 and Part IV of this report.	Water quality samples will continue in each watershed.
		Commissioner/DP W	(ii) Test one location in each watershed for oil and grease annually	.	One location in each watershed will be tested for oil and grease.
Revised			(Revised for Year 2 only)	Six (6) oil & grease samples were done during Year 2: 2 samples in the Charles and 4 in Alewife (see Appendix 3)	
		Commissioner/DP W	(iii) Perform additional water quality testing and field investigations as necessary	Additional water quality testing was performed to isolate the location of illicit discharges and to confirm their successful removal.	We will perform additional water quality testing and field investigations as necessary.
		Commissioner/DP W	(iv) Identify and remove illicit discharges	Illicit discharges/connections were removed at: <ul style="list-style-type: none"> • 27 Concord Avenue • 147 Sherman Street • 27 Cameron Avenue • Terminal Road Cross Connection • 109 Ellery Street (scheduled for removal in April 2005) Refer to Collection System Investigation & Improvements Summary Reports in Appendix 3)	We will continue to monitor for and remove illicit discharges.

		Commissioner/DP W	(v) Perform water quality sampling at a Fresh Pond outfall annually	A water quality sample was taken at Little Fresh Pond (see Appendix 3 and Part IV of this report).	A water quality sample will be taken at Fresh Pond
3.c	Conduct Illicit Discharge Education Program	Commissioner/DP W	(i) Advertise illicit discharge hotline number and information on illicit discharges	The Stormwater Hotline number for illicit discharges was published in 2 brochures: 1. <i>No Dumping Drains to Alewife Brook</i> (see 1.a.(i) above), and 2. <i>Household Hazardous Waste Collection Days</i> (see MCM 2.c. (iii) above). Also refer to MCM #1 and 2 above and #6 below for additional information.	The Stormwater Hotline number for illicit discharges will be incorporated in additional public information. Also refer to MCM #1 and 2 above and #6 below for additional information.
3.d	Develop Regulations Prohibiting Illegal Dumping of Non-Stormwater into the MS4	Commissioner/DP W	(i) Develop a working draft	Completed in Year 1.	Complete (refer to MCMs #3.d (ii) and (iii) below for more information)
		Commissioner/DP W	(ii) Provide opportunity for public and peer review of draft	Although not required in Year 2 a consultant was retained in February 2005 to provide a peer review of the draft Regulations (see copy of contract in Appendix 3).	The consultant will continue their peer review of draft Regulations. Public review of a draft will follow after peer review and redrafting has been completed.
		Commissioner/DP W	(iii) Revise draft as necessary	Not applicable in Year 2.	Depending upon peer review schedule redrafting may occur during Year 3.
		Commissioner/DP W	(iv) Present regulations/ordinance to City Council for consideration for adoption	Not applicable in Year 2.	Not applicable in Year 3.

MCM #3. Additional Information

- ❑ Cambridge participated in a brain storming session with EPA and Boston Water and Sewer personnel to assist EPA in refining a protocol for an illicit connection detection and elimination (IDDE) programs to be implemented by the lower Charles River communities through their Phase II MS4 permits.
- ❑ Cambridge DPW supports the volunteer efforts of private individuals and groups undertaking water quality monitoring. During 2 occasions DPW facilitated the stormwater sampling from manholes in Cambridge by Roger Frymire. Mr. Frymire's sampling results are included in Appendix #3. Also included are sampling results from the Mystic River Watershed Association's October 26, 2004 Hot Spot monitoring. DPW appreciates and will continue to work with these organizations as they bring potential problem discharges to our attention.
- ❑ During this program year Cambridge separated over 50 common manhole structures throughout the City. Common manholes are underground structures that allow people to access both sewer and storm drain pipes through a single structure. Typically, the drainage system runs above the sanitary system, separated by a steel plate. Over time the steel plate deteriorates causing sewerage to mix with stormwater. This can lead to two problems during storm events. First it can cause stormwater to enter and overwhelm the sanitary system causing sewerage to overflow and back-up on to the street or into basements. Second, untreated sewerage can enter the storm drain system and be released into either the Charles River or Alewife Brook. See Appendix 3 for a map of the common manholes that have been separated throughout Cambridge.

MCM #4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
4.a	Develop Program for Construction Site Runoff Control	Commissioner/DP W	(i) Review existing planning and construction procedures	A consultant was retained to assist the City in this effort (see consultant contract identified in MCM #3. d. (ii) above.	Work will continue on this effort.
		Commissioner/DP W	(ii) Clarify needed regulatory mechanism	Although not required in Year 2 this scope of work has been included in the consultant contract identified in MCM # 3.d.(ii) above.	Work will continue on this effort. An approach should be identified.
		Commissioner/DP W	(iii) Develop draft regulatory mechanism, procedures and guidelines	Although not required in Year 2 this scope of work has been included in the consultant contract identified in MCM # 3.d.(ii) above.	Work will continue on the refinement of this effort (scheduled for development in years 3 and 4).
		Commissioner/DP W	(iv) Present draft to the community for review	Not applicable in Year 2	Not applicable in Year 2 (scheduled for year 4)
		Commissioner/DP W	(v) Amend draft as necessary and submit for consideration for adoption	Not applicable in Year 2	Not applicable in Year 3 (scheduled for year 5)
4.b	Educate Contractors and Residents about the Construction Site Runoff Control Program	Commissioner/DP W	(i) Make materials available on erosion and sediment control practices available through city web site and/or other means	Not applicable in Year 2	Information on Erosion and Sediment Control practices will be developed and made available to the public and contractors through various means.

		Commissioner/DP W	(ii) Discuss erosion and sediment control practices and problems at 3 construction coordination meetings annually	The City Engineer discussed erosion and sediment control practices and problems with permitted contractors working in the City at 3 construction coordination meetings on April 5, April 12 and April 20 th . (see Appendix 4 for sign-in sheets). In addition erosion and sediment control problems were discussed at some of the public meetings discussed in MCM #1 and 2 above and #6 below..	The City Engineer will discuss erosion and sediment control practices and problems with contractors at 3 construction coordination meetings.
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MCM #4. Additional Information

MCM #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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
5.a	Revise Sewer Use Regulations and Guidance	Commissioner/DPW	(i) Complete a working draft	Completed in Year 1.	Not applicable, working draft is complete. A final draft will be developed during Years 4 and 5 (see below).
		Commissioner/DPW	(ii) Undertake and complete peer review and legal review of draft	A consultant was retained in February 2005 to provide a peer review of the draft Regulations (see copy of contract in Appendix 3). Review has not been completed and implementation of this MCM will continue into Year 3.	The consultant will continue their peer review of draft Regulations. Legal review of a draft will occur following peer review and after redrafting has been completed.
		Commissioner/DPW	(iii) Develop draft guidelines on BMPs	Although not applicable in Year 2 this scope of work was included in the consultant contract identified in MCM # 3.d.(ii) above. Guidelines have not been completed and implementation of this MCM will continue onto Year 3.	Draft guidelines on BMPs will be developed.
		Commissioner/DPW	(iv) Discuss final draft and guidance with the community	Not applicable in Year 2	Not applicable in Year 3 (scheduled for Year 4)

		Commissioner/DPW	(v) Present final regulation, guidance and monitoring program for consideration and adoption	Not applicable in Year 2	Not applicable in Year 3 (scheduled for Year 5).
5.b	Participate in Watershed and Planning Efforts	Assistant City Manager for Community Development/CDD and Commissioner/DPW	(i) Complete Phase I of Concord-Alewife study	Phase I was completed during Year 1. Information from this process can be viewed at http://www.cambridgema.gov/~CDD/commplan/zoning/concalew/index.htm Phase II discussion of zoning recommendations began.	Not applicable in Year 2, Phase I completed. See MCM #5.b (ii) below.
		Assistant City Manager for Community Development/CDD and Commissioner/DPW	(ii) Complete Phase II if authorized	The Concord-Alewife Planning Study Committee completed their zoning recommendations and a public meeting was held in June 2004 on their zoning and land use recommendations of the Concord-Alewife Planning Committee. During Year 2 the Planning Board held four meetings on proposed rezoning of the Concord-Alewife area and are preparing a rezoning petition to be filed with the City Manager for consideration by Cambridge City Council early in Year 3.	Phase II is projected to be completed early in Year 3.
		Assistant City Manager for Community Development/CDD and Commissioner/DPW	(iii) Forward study recommendations to the City Manager for consideration	Not applicable in Year 2. (See MCM# 5. b (ii) above.	A rezoning package will be forwarded to the City Manager ahead of schedule - during Year 3.
		Commissioner/DPW	(iv) Execute the Environmental Joint Powers Agreement (EJPA)		

<i>revised</i>			Work with EOEa to advance the EJPA to a final document (Revised in Year 1)	The EJPA was forwarded to EOEa and a public hearing was held on November 9, 2004. The final EJPA was fully executed on March 4, 2005 and forwarded to EOEa. Completed. (See Appendix 5)	This activity has been completed.
<i>Revised</i>		Commissioner/DPW	(v) ABC Flooding Board to meet 4 times annually	Since the EJPA has not yet been formally adopted the <i>ABC Flooding Board</i> has not been created.	The <i>tri-community working group</i> and/or the ABC flooding Board will continue to meet at least 4 times/year. The draft Progress Report will be finalized.
			Revised in Year 1	The <i>Tri-Community Working Group</i> has continued to meet approximately 10 times during Year 2 and has sponsored one larger public forum on their draft Progress Report. The draft Progress Report was completed and released for public review in June 2004 (see Appendix 5) and the public meeting to discuss the report was held on November 16, 2004. The progress report provides a summary of the information presented and gathered by the tri-community working group for the purpose of understanding the flooding issues attributed to the Alewife Brook and the municipal sewer systems of Arlington, Belmont and Cambridge. The working group is comprised of municipal employees of Arlington, Belmont and Cambridge as well as concerned residents. One of the reasons for the adoption of the EJPA is to create a useful vehicle when funding becomes necessary to further the goals of the group. Since the EJPA was adopted at the end of Year 2 the ABC Flooding Board was not created during that program year.	
5.c	Undertake Tree Protection Activities	Commissioner/DPW	(i) Provide community outreach and education activities on the care, importance and protection of trees and their role in climate protection	<p>The City Arborist conducted 10 in school visits around tree care and the "adopt a tree" program. In addition he participated in Arbor day events with 1st and 2nd grade student, and 2 science fair events: 1 at CRLS and one at MIT that involved the students and parents with info on tree care and question/answer sessions.</p> <p>The City adopted a Municipal Tree Ordinance on August 2, 2004 (see Appendix 5) and it was incorporated into the municipal zoning code on November 1, 2004.</p>	DPW will continue outreach efforts on the importance and protection of trees.

MCM #5. Additional Information

- ❑ Cambridge received the 2005 Governor's Smart Growth Award, Honorable Mention, for the Concord-Alewife Planning Study. This award recognizes cities and towns that are leading the way in spurring important smart growth projects and their efforts as models for all 351 cities and towns in Massachusetts.
- ❑ The tri-community working group is working with the USGS on a cooperative watershed effort to install a flow gage along the Alewife Brook to obtain and share important hydraulic information. Each community is participating on an equal financial and resource basis for the gauging station's installation and maintenance.
- ❑ DPW has monthly meetings with the Committee on Public Planting regarding the benefits of green space and trees.
- ❑ Cambridge received the "Tree City USA" award in 2004 by the National Arbor Day Foundation. This marks the thirteenth year that Cambridge has received this award, which recognizes municipalities for their efforts to maintain the urban forest. Cambridge also received the prestigious Growth Award for the third time, which recognizes environmental improvement and higher levels of tree care.
- ❑ Adoption of the Municipal Tree Protection Ordinance reinforces the City Councils finding that the preservation of existing trees and the promotion of new tree planting is a public purpose that protects the public health, welfare, environment and aesthetics of the City of Cambridge and its citizens. The Urban forest serves a wide variety of functions, which promote the health, safety and welfare of residents. These functions include:
 - a) conserving energy, by providing shade and evaporative cooling through transportation;
 - b) improving local and global air quality by absorbing carbon dioxide and ozone, absorbing particulate matter; and producing oxygen;
 - c) reducing wind speed and directing air flow;
 - d) reducing noise pollution,
 - e) providing habitat for birds, small mammals, and other wildlife;
 - f) reducing storm runoff and the potential for soil erosion;
 - g) increasing real property values; and
 - h) enhancing visual and aesthetic qualities that attract visitors and businesses.

MCM #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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
6.a	Educate Municipal Employees about Pollution Prevention	Commissioner/DPW	(i) Provide a general stormwater training session for municipal employees annually	A Stormwater Management presentation was made on March 29, 2005 and open to all City of Cambridge employees (see presentation in Appendix 6). Employees from DPW, GIS and the Water Department were in attendance. Engineering, street and sewer division staffs also receive erosion and sediment control training at the contractor meetings discussed in MCM #4.b (ii) above.	A general training on stormwater management will be sponsored by DPW and open to all interested city employees.
		Commissioner/DPW	(ii) Work with managers to identify operations personnel with stormwater responsibilities	Work on this effort is continuing and will be completed in Year 3.	Develop list of responsible operations personnel with stormwater responsibilities.
		Commissioner/DPW	(iii) Develop and implement training protocols that are applicable to operations	A consultant was retained in February 2005 to assist the City with training protocols for operations and maintenance of BMPs (see Appendix #3).	Training of DPW operations personnel will begin in Year 3.
6.b	Maintain Strong Operations & Maintenance Program to Reduce Pollutants from Operations	Commissioner/DPW	(i) review operations and maintenance programs	Review of operations and maintenance procedures was begun in Year 1 and is continuing. To assist the City in this effort a consultant was retained in February 2005 (see Appendix #3).	Review of operational programs will continue in Year 3.

		Commissioner/DP W	(ii) Identify municipal facilities in separated areas and identify structural controls	Work on this effort is continuing and will be completed under our consultant contract (see Appendix #3).	Complete the identification of facilities in separated areas and identify structural controls at each.
		Commissioner/DP W	(iii) Document inspections procedures and maintenance schedules in a procedures manual	Although not required in Year 2 a consultant was retained in February 2005 to work with various municipal facilities to document operations procedures and incorporate them into a manual (see Appendix #3).	Consultant work will continue into Year 3
		Commissioner/DP W	(iv) Develop inspections procedures and maintenance schedules for long term structural controls	Although not required in Year 2 a consultant was retained in February 2005 to develop inspection procedures and maintenance schedules for long term structural controls (see Appendix #3).	This activity is ahead of permit schedule. Permit schedule indicates this work would begin in Year 4. Consultant work will continue on this activity in Year 3.

MCM #6. Additional information

- The *PIO Update* is an internal e-mail bulletin for City employees. This bulletin is issued weekly and provides information on City events and activities. The PIO bulletin has been used to help get the word out to Cambridge employees on the stormwater management efforts of the City. Information on the City's stormwater management construction efforts, announcements for the broadcast of *After the Storm*, and links to important stormwater information was included in this bulletin.
- In public construction projects DPW has constructed the following stormwater best management practices (BMPs)
 - common manholes separated = 51 [(2) Remedial: 1 @ Cameron Ave and 1 @ Edmunds Street, (34) Common Manhole Contract #3, (9) Cambridgeport Roadways, (3) Harvard Square, and (5) AAP]
 - number of illicit connections removed = 4 (27 Concord Avenue, 147 Sherman Street, 27 Cameron Avenue, Terminal Road Cross Connection)
 - number of new catch basins with deep sumps and hoods installed = 217 [(105) Cambridge Street Project, (37)Remedial, (40) Chapter 90 Contracts, and (35) Common Manhole #3]

- number of catch basins retrofitted with a hood = (6) Cambridge Street
 - number of curb markers installed = 226 [(39)Chapter 90 Contracts, (37)Remedial, and (150) Cambridge Street]
 - number of deep sump storm drain manholes = 12 (Common Manhole #3)
 - number of flushing vaults constructed = 0
 - number of stormwater storage tanks and pump station installed = 2 (Beacon Street)
 - Floatable control structures installed = 1 (Vortech Structure – Riverside Road)
 - number of infiltrating catch basins installed = 5 [(3) Coolidge Avenue, (2) cemetery]
- A majority of the City’s large vehicle fleet is fueled by biodiesel. Over eighty (80) city-owned vehicles, including garbage trucks, construction and hauling vehicles, sewer maintenance equipment, forestry equipment, and over a dozen City-owned school buses are running on biodiesel. The use of biodiesel in the City’s fleet is a result of a successful two-year pilot study that showed that biodiesel B20 performed as well as petroleum diesel and the reported improvement in air quality when working with biodiesel by City mechanics. Biodiesel burns cleaner than regular diesel fuel and contributes to better air quality and less particulates left behind on roadways.
- The City of Cambridge and the Massachusetts Institute of Technology (MIT) formed a Clean Diesel Collaborative for a healthy Cambridge. This collaboration with financial support from EPA through its *Voluntary Diesel Retrofit Program* will reduce diesel pollution from their respective fleets over the next 2 years. Building on the environmental expertise of MIT and the fleet operation experience of the City’s Department of Public Work’s, the project will involve the demonstration of new technologies in innovative applications and the sharing of lessons learned to help others implement similar programs.

Part IV. Summary of Information Collected and Analyzed

- See Appendix 3 for the results of water quality sampling at Alewife Brook, Charles River and Fresh Pond from April 2004 through March 2005 and their associated summary of results.
 - Alewife Brook samples from August 3, 2004, November 22, 2004, and February 8, 2005.
 - The Alewife fecal coliform samples are consistently high from the interconnected system from the pipes entering Cambridge from the Town of Belmont. The Cambridge City Engineer and the Belmont Town Engineers have met on several occasions to discuss ongoing improvements and to share information.
 - Charles River samples from August 3, 2004 and February 8, 2005
 - Little Fresh Pond samples from June 2004.
 - Oil and Grease samples from December 2, 2004 and May 19, 2004
 - Charles River Hot Spot (wet weather) monitoring by Roger Frymire on April 1, 2004
 - Charles River Hot Spot monitoring by Roger Frymire on October 13, 2004
 - Alewife Brook dry-weather monitoring by Roger Frymire on February 24, 2004.
 - Winn Brook, Wellington Brook, Little River Hot Spot Monitoring by Mystic River Watershed Association on October 26, 2004
- The City is involved in several collection system investigations and improvement projects throughout Cambridge. Appendix 3 contains a summary of activities for the following periods:
 - March 2004 – September 2004
 - September 2004 – March 2005