

Ms. Linda Murphy
Director, Office of Ecosystem Protection
U.S. Environmental Protection Agency New England
P.O. Box 8127
Boston, MA 02114

August 30, 2006

Mr. Glenn Haas
Director, Division of Watershed Management
Department of Environmental Protection
One Winter Street
Boston, MA 02108

**RE: Massachusetts Water Resources Authority NPDES Permit Number MA0103284 -
MWRA Annual Infiltration and Inflow (I/I) Reduction Report for Fiscal Year 2006**

Dear Ms. Murphy and Mr. Haas:

In compliance with the requirements of MWRA's NPDES Permit MA0103284 - Part I, Item 18.bb (ii) "Infiltration/Inflow" (page 28 of 32), the Authority submits this cover letter and the six Attachments listed below that together comprise the MWRA Annual Infiltration and Inflow (I/I) Reduction Report for Fiscal Year 2006.

- [Attachment 1](#) – Overview of MWRA Regional I/I Reduction Plan
- [Attachment 2](#) – MWRA Regional I/I Reduction Plan - FY06 Progress Update and Detailed Implementation Schedule for FY07 Activities
- [Attachment 3](#) – MWRA Actions Taken to Reduce I/I During FY06
- [Attachment 4](#) – Status Update on MWRA's I/I Local Financial Assistance Program
- [Attachment 5](#) – I/I Reduction Status Update for Member Communities
- [Attachment 6](#) – CY05 Community Wastewater Flow Data

Should you require additional information, please contact Carl H. Leone, Senior Program Manager, Community Support Program at (617) 788-4356.

Sincerely,

Michael J. Hornbrook
Chief Operating Officer

cc: DEP-Regulatory Branch, Boston
DEP – NERO
DEP - SERO
Richard Chretien, DEP, Boston
Grace Bigornia-Vitale, MWRA, NPDES Coordinator
Carl H. Leone, MWRA, Community Support Program

ATTACHMENT 1
TO
MWRA ANNUAL I/I REDUCTION REPORT FOR FY06
Reporting Period – July 2005 Through June 2006

OVERVIEW OF MWRA REGIONAL I/I REDUCTION PLAN

The MWRA Board of Directors approved the Regional Infiltration/Inflow (I/I) Reduction Plan on May 23, 2001 and authorized staff to submit the Plan to EPA and DEP as required under MWRA's NPDES Permit. The plan was submitted to EPA and DEP in June 2001 and DEP approved the plan in a letter dated November 19, 2002. A full copy of the Regional I/I Reduction Plan (dated September 2002) was included as Attachment 2 to the August 29, 2003 MWRA Annual I/I Reduction Report for FY03.

The Regional I/I Reduction Plan combines recommendations from the I/I Task Force Report (March 2001) with ongoing MWRA I/I reduction initiatives. The updated plan replaces the Authority's 1990 I/I Reduction Policy. Implementation of the Regional I/I Reduction Plan focuses on the cooperative efforts of member communities, DEP, EPA and MWRA to develop and implement I/I reduction and sewer system rehabilitation projects.

Under the plan, MWRA has full legal and fiscal responsibility for implementation of operation, maintenance, and I/I reduction programs for the MWRA-owned interceptor system. Each member community retains full legal and fiscal responsibility for implementation of operation, maintenance and I/I reduction programs for community-owned sewers. MWRA will provide technical and financial assistance to member communities and work cooperatively with DEP, EPA and other stakeholders to help solve local and regional sewer problems. MWRA's Regional I/I Reduction Plan is organized into five major goals:

1. MWRA will continue its current operation and maintenance program for the MWRA-owned interceptor system leading to the identification, prioritization and rehabilitation of structural and I/I problems.
2. MWRA will work cooperatively with member communities, DEP and EPA to eliminate sewer system backups into homes and other buildings and to minimize health and environmental impacts of SSOs related to I/I.
3. MWRA will work cooperatively with member communities, DEP and EPA to reduce I/I in the regional collection system with emphasis on the following: (1) inflow reduction in areas tributary to sewer backups and SSOs, (2) private source inflow reduction, (3) infiltration that may impact groundwater or surface water resources, and (4) excessive infiltration as defined in DEP regulations or guidance documents.
4. MWRA will work cooperatively with member communities, DEP and EPA to expand existing efforts to educate and involve the public regarding regional sewer backup, SSO and I/I reduction issues.
5. MWRA will provide technical assistance and work cooperatively with member communities, DEP and EPA regarding guidance on local operation and maintenance and capital improvement programs intended to provide a reasonable level of sewer service to local sewer users/ratepayers.

ATTACHMENT 2
TO
MWRA ANNUAL I/I REDUCTION REPORT FOR FY06
Reporting Period – July 2005 Through June 2006

**MWRA REGIONAL I/I REDUCTION PLAN -
FY06 PROGRESS UPDATE AND DETAILED
IMPLEMENTATION SCHEDULE FOR FY07 ACTIVITIES**

This document provides a progress update for FY06 accomplishments and a description of the activities to be accomplished during FY07 for each of the I/I reduction strategies in the MWRA Regional I/I Reduction Plan. The update appears in bold type directly below each I/I reduction strategy. This document is intended to satisfy condition 5 of DEP's November 19, 2002 letter approving the MWRA Regional I/I Reduction Plan.

Goal 1 under MWRA's Regional I/I Reduction Plan is:

MWRA will continue its current operation and maintenance program for the MWRA-owned interceptor system leading to the identification, prioritization, and rehabilitation of structural and I/I problems.

Strategy A: Utilize MWRA's internal TV inspection equipment that currently includes two fully outfitted internal TV inspection vehicles equipped with 6000 feet of multi-conductor cable. MWRA also utilizes an OZ-camera that has a 200X zoom capability. Annual inspection schedules are outlined in MWRA's Collection System O&M Manual. This strategy has an ongoing schedule that has been initiated.

Strategy B: Utilize MWRA's sonar camera to inspect siphons and force mains. Annual inspection schedules are outlined in MWRA's Collection System O&M Manual. This strategy has an ongoing schedule that has been initiated.

Strategy C: Physical inspection of collection system manholes and structures by Operations Division field crews. Annual inspection schedules are outlined in MWRA's Collection System O&M Manual. This strategy has an ongoing schedule that has been initiated.

During FY06, MWRA properly operated and maintained the MWRA-owned interceptor system. Annual performance targets and ongoing accomplishments are tracked as part of the Authority's electronic MAXIMO maintenance database and are reported monthly to MWRA senior management. Specific activities undertaken by MWRA for FY06 are detailed in Attachment 3. Additional information on MWRA's FY06 maintenance activities is provided under separate submittal - NPDES Part I.18.g Annual Maintenance Status Sheets.

During FY07, MWRA will continue to properly operate and maintain the MWRA-owned interceptor system.

Goal 2 under MWRA's Regional I/I Reduction Plan is:

MWRA will work cooperatively with member communities, DEP, and EPA to eliminate sewer system backups into homes and other buildings and to minimize health and environmental impacts of SSOs related to I/I.

Strategy A: MWRA will provide technical assistance to DEP to develop a uniform format for use by communities for reporting wastewater backup and sewer system overflow information. A representative group of communities should be consulted for review. MWRA will provide technical assistance to DEP to develop a system to record the information reported by communities into a usable database format. This database may have the capability to be linked to GIS mapping and the information may be made available to communities, MWRA, DEP, EPA, watershed groups, the general public, etc. upon appropriate request. This strategy has an ongoing schedule that should be initiated in the short-term. Completion of this strategy requires a significant resource commitment by DEP. Collection and recording of sewer backup and SSO information from member community sewer systems is the responsibility of DEP. DEP will be responsible for management of collection and distribution of these records. (Cross-reference this strategy to the I/I Task Force Report recommendations 4.1 Strategy A-2 and 5.2 Strategy B-2)

Work by MWRA under this Strategy is complete.

During spring 2001 MWRA provided DEP a draft SSO reporting/record keeping electronic database format that was developed by Malcolm-Pirnie, Inc. under contract to MWRA. This work was completed by MWRA as technical assistance to DEP. A follow-up letter dated June 20, 2001 requested DEP identify the format for finalizing the SSO reporting/record keeping electronic database.

During FY04, DEP (in conjunction with staff in the Massachusetts Information Technology Division), developed a new format SSO electronic database package. This project is part of statewide efforts to upgrade computerized resources and electronic access. The new system was demonstrated at an April 8, 2004 DEP/MWRA joint workshop. Development/implementation by DEP was expected to continue in through FY05. MWRA is awaiting follow-up by DEP on roll-out of the SSO reporting/record keeping electronic database.

Strategy B: Once a central information database is established (see Strategy A), MWRA will periodically delineate areas which may be "at risk" for backups and SSOs that may be impacted by the MWRA-owned collection system. MWRA will evaluate potential improvements to the MWRA-owned collection system that may reduce the risk of sewer backups and SSOs. This strategy should be completed in the mid to long-term. (Cross-reference this strategy to the I/I Task Force Report recommendations 4.3 Strategy C-2 and 5.5 Strategy E-2)

MWRA's work on this strategy is awaiting follow-up by DEP on roll-out of the SSO reporting/record keeping electronic database (see Strategy A above).

During FY06, MWRA continued its ongoing project to inspect all inverted siphons using the sonar camera. Follow-up siphon cleaning and reinspection is expected to minimize potential SSOs upstream of siphons and reduce the risk of hydraulic

limitations and/or blockage from debris buildup in siphon barrels. This project will continue in FY07.

During FY06, MWRA reviewed existing SSO sites based on rainfall events over the last few years. The specific SSO sites were verified with MWRA field Operations staff and a new site identification spreadsheet is under development. The new spreadsheet will include MWRA stationing, GPS coordinates, receiving water, and will include a GIS location map. The new SSO list will replace the list initially include in the 2001 MWRA Collection System Operation and Maintenance Manual. During FY07, review and development of the updated SSO list will continue. The information will be submitted to DEP under separate cover. This work is a follow-up to the MWRA – DEP NERO meeting held on July 7, 2006.

During FY05, MWRA completed a major upgrade to its electronic sewer database and GIS mapping system. Also during FY05, MWRA completed coordination with local communities to more accurately map connection points of local sewers to the MWRA interceptor system and GPS located all wastewater meter sites located in community-owned sewers. MWRA’s new mapping information was rolled-out in FY06. Two community based projects were undertaken to help member communities fully benefit from MWRA GIS mapping upgrades (see discussion under Goal 3 – Strategy D). During FY06, most modeling work was targeted to the CSO program. In FY07, MWRA will begin to utilize the updated electronic sewer database, GIS mapping system, and hydraulic modeling to review existing MWRA SSO sites that are not incorporated within ongoing relief sewer projects.

Strategy C: Once a central information database is established (see Strategy A) and member communities have delineated areas which may be “at risk” for backups and SSOs, MWRA - jointly with DEP - will provide technical assistance to member communities to evaluate potential improvements to local infrastructure that may reduce the risk of sewer backups and SSOs. MWRA will assist communities to determine if impacts from the regional collection system are an issue. The schedule for this strategy is dependent on prior actions by DEP and member communities. (Cross-reference this strategy to the I/I Task Force Report recommendations 4.3 Strategy C-1 and 5.5 Strategy E-1)

MWRA’s work on this strategy is awaiting follow-up by DEP on roll-out of the SSO reporting/record keeping electronic database (see Strategy A above).

Strategy D: For the MWRA-owned interceptor system, MWRA will review and analyze the health and environmental impacts of existing SSO sites. SSO sites will be prioritized based on the frequency and duration of activations and the resulting health and environmental impacts, including: potential for human contact, impact to water supply, impact to shellfish beds or other economic resources, impact to animal or aquatic habitat, etc. This strategy will be completed in the short-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 5.3 Strategy C-1)

During FY06, MWRA reviewed existing SSO sites based on rainfall events over the last few years. The specific SSO sites were verified with MWRA field Operations staff and a new site identification spreadsheet is under development. The new spreadsheet will

include MWRA stationing, GPS coordinates, receiving water, and will include a GIS location map. The new SSO list will replace the list initially include in the 2001 MWRA Collection System Operation and Maintenance Manual.

During FY07, review and development of the updated SSO list will continue. The information will be submitted to DEP under separate cover. This work is a follow-up to the MWRA – DEP NERO meeting held on July 7, 2006.

Strategy E: Utilizing the priority ranking to be completed in Strategy D above, as well as system hydraulic analyses, MWRA (for the MWRA-owned interceptor system) - in conjunction with DEP and EPA - will evaluate the potential to eliminate each overflow. Appropriate I/I reduction and/or relief sewer projects that may eliminate (or minimize) SSOs from MWRA-owned interceptors will be evaluated. This strategy will be initiated in the short to mid-term; however, implementation of projects developed from the evaluation may span beyond the long-term time frame as defined within the Regional I/I Reduction Plan. (Cross-reference this strategy to the I/I Task Force Report recommendation 5.3 Strategy C-2)

During FY06, MWRA continued ongoing planning/design/construction on a variety of relief sewer and sewer rehabilitation projects that will reduce existing SSOs. Of particular note are the Braintree/Weymouth Relief Facilities, the Upper Neponset Valley Sewer, and the Cummingsville Replacement Sewer projects. Progress on these projects is detailed in Attachment 3.

During FY07, work on this Strategy will continue in coordination with work on Strategy D.

Strategy F: For those overflows that are unlikely to be eliminated in the short to mid-term (based on the evaluation from Strategy E, above), MWRA (for the MWRA-owned interceptor system) will consider developing interim measures to relocate or otherwise mitigate the impact of existing overflows on human and natural resources. The priority ranking (from Strategy D, above) will be utilized in development of interim mitigation measures. This strategy has an ongoing schedule that should be initiated in the short-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 5.3 Strategy C-3)

During FY07, work on this Strategy will likely begin in coordination with work on Strategy D and E.

Strategy G: MWRA will assist DEP, member communities, and other regional stakeholders to inform local plumbing inspectors of the regional priority of eliminating sewer system backups. Plumbing inspectors will be requested to work more closely with local DPW staff to identify sewer system backup problem areas and locations where backflow prevention devices may be required. MWRA expects to meet this strategy by distributing a letter to the plumbing inspector in each member community that discusses sewer backups, potential public health impacts, backflow prevention, and coordination with the local DPW to identify problem areas. This strategy will be completed in the short-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 4.2 Strategy B-4)

Work by MWRA under this Strategy is complete.

On September 26, 2005, MWRA distributed an informational package on Sewer Backups and Sanitary Sewer Overflows to all service area community plumbing inspectors, Health Departments (Boards of Health), DPW Directors, Engineering Departments, and collection system operators. The package included information from fourteen separate sources and provided many web links for additional information. On September 29, 2005, MWRA sent a copy of the informational package to EPA, DEP, all MWRA water-only member communities, and local watershed associations.

Plumbing inspectors from some communities have become directly involved with local private inflow source removal programs. MWRA's Toxic Reduction and Control Program (TRAC) staff coordinate with local plumbing inspectors regarding industrial permits.

Goal 3 under MWRA's Regional I/I Reduction Plan is:

MWRA will work cooperatively with member communities, DEP, and EPA to reduce I/I in the regional collection system with emphasis on the following: (1) inflow reduction in areas tributary to sewer backups and SSOs, (2) private source inflow reduction, (3) infiltration that may impact groundwater or surface water resources, and (4) excessive infiltration as defined in DEP regulations or guidance documents.

Strategy A: MWRA will continue to analyze available MWRA wastewater metering data to estimate community infiltration and inflow rates. MWRA will provide this information along with technical assistance to help interpret the information to member communities. This strategy has an ongoing schedule that has been initiated. (Cross-reference this strategy to the I/I Task Force Report recommendations 6.1 Strategy A-1, and 7.1 Strategy A-1).

For the FY06 report, MWRA could not estimate CY05 community infiltration and inflow rates because implementation of MWRA's \$5 million Wastewater Metering Replacement project was ongoing. Under this project, wastewater metering system hardware and software was replaced with a more modern system that included installation of new meters and a cellular communication system for data transmittal. MWRA's wastewater metering system remained out-of-service through March 2005. Metering system software upgrades and improvements continued throughout 2005, therefore, continuous electronic community flow data files were not available for 20005 to enable the analysis of community flow components. Community wastewater flow data for CY06 will be presented in next year's FY07 MWRA Annual I/I Reduction Report.

Strategy B: MWRA, in cooperation with member communities, will evaluate the feasibility of developing and operating an expanded emergency notification system (ENS). Currently, the MWRA remotely monitors wastewater flow at key locations within the regional collection system before and during wet weather events. Interested communities are notified when sewer system depths reach critical levels. The Authority and member communities use this information to forecast problem areas, predict potential sewer system overflows and deploy work crews. The

MWRA's wastewater metering system will be upgraded over the next few years. This upgrade may impact the ENS. MWRA is also investigating, over the next three to five years, the benefits of adding SCADA-type meters at some key locations in the collection system. After completion of the two ongoing projects, MWRA will evaluate whether an ENS system can be used efficiently to provide information at the local level. This strategy will be completed in the long-term or more extended time frame subject to the schedule of the ongoing projects noted above. (Cross-reference this strategy to the I/I Task Force Report recommendation 5.4 Strategy D-1)

As outlined above, MWRA's Wastewater Meter Replacement project was ongoing during FY06. No action under this Strategy was conducted during FY06. The third phase of MWRA's Wastewater Central Monitoring (SCADA) Project is planned for the FY08-09 time period. This phase will include decision making on the benefits of adding SCADA-type meters at key locations in the collection system. This Strategy will be reexamined during FY07.

Strategy C: MWRA will provide technical assistance to member communities to establish written infiltration and inflow identification and removal programs as outlined in the I/I Task Force Report. This strategy has an ongoing schedule that will be initiated in the short to mid-term. (Cross-reference this strategy to the I/I Task Force Report recommendations 6.1 Strategy A-1, and 7.1 Strategy A-1)

During FY06, MWRA staff continued to meet with community representatives to discuss local programs. Communities are often interested in progress reports on what specific actions other communities are pursuing. All member sewer communities are actively participating in MWRA's I/I Local Financial Assistance Program (see Attachment 4). Community I/I reduction programs are generally being conducted by local engineering consultants under contract to the communities. These projects generally utilize standards established in DEP's January 1993 I/I Guidelines. This work will continue in FY07.

Strategy D: MWRA will provide technical assistance to member communities that seek to emphasize infiltration removal that may impact groundwater and surface water resource areas. MWRA will provide GIS mapping information to member communities that identifies water resource areas, provides an overlay of local and regional sewers, and delineates watersheds. The I/I Task Force Report recommends communities target areas where infiltration reduction will provide the most meaningful benefit for aquifer recharge, stream flow, wetlands and water levels in lakes and ponds. The Task Force also recommends communities coordinate their infiltration reduction efforts with appropriate EOEAs Watershed Teams, local watershed groups and the local conservation commission. Distribution of MWRA mapping information is intended to assist member communities in fulfilling this I/I Task Force recommendation. This strategy has an ongoing schedule that will be initiated in the short to mid-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 7.1 Strategy A-5)

Work by MWRA under this Strategy is complete.

During FY05, MWRA completed a major upgrade to its electronic sewer database and GIS mapping system. Also during FY05, MWRA completed coordination with local communities to more accurately map connection points of local sewers to the MWRA

interceptor system and GPS located all wastewater meter sites located in community-owned sewers. MWRA's new mapping information was rolled-out in FY06. Two community based projects were undertaken to help member communities fully benefit from MWRA GIS mapping upgrades.

In March 2006, a project to develop GIS partnership agreements with member communities was initiated. Based on the initial work, through July 2006, over 30 of MWRA's 43 sewer communities have agreed to GIS partner with MWRA and have signed nondisclosure agreements that detail security protocols necessary to safeguard the data.

In July 2006, a second GIS mapping project was completed. MWRA provide GIS maps with detailed water resource information overlaid with the local sewer system to each MWRA member sewer community. In addition, land use mapping was also distributed to the communities. The distribution of this mapping information fulfills MWRA's work under this Strategy.

Strategy E: MWRA, in coordination with the MWRA Advisory Board, will continue to fund the I/I Local Financial Assistance Program to provide grants and loans to member sewer communities to fund local I/I reduction projects. Through September 2002, MWRA has authorized a total budget of \$140.75 million to fund this program. Financial assistance is provided through 45 percent grants and 55 percent interest-free loans for eligible projects. The MWRA Board of Directors has approved the program through FY2010. The I/I Local Financial Assistance Program is fully detailed in the "Program Guidelines" document available from the MWRA Community Support Program. This strategy has an ongoing schedule that has been initiated. (Cross-reference this strategy to the I/I Task Force Report recommendation 10.2 Strategy B-1)

In June 2006, the MWRA Board of Directors approved an additional \$40 million (\$18 million in grants and \$22 million in interest-free loans) to increase the total I/I Local Financial Assistance Program budget to \$220.75 million and extended the program through 2015. During FY06, MWRA continue to provide grants and loans to member sewer communities to fund local I/I reduction and sewer system rehabilitation projects. A total of \$18 million was distributed during FY06. Since inception of the program in May 1993, \$134 million has been distributed to fund 305 local projects. A detailed status update on MWRA's I/I Local Financial Assistance Program is included as Attachment 4.

During FY07, MWRA will continue to distribute funds and assist communities in the management of projects under the I/I Local Financial Assistance Program. MWRA's financial assistance funds that have not yet been distributed to communities are authorized for distribution through FY15.

Strategy F: MWRA, in coordination with the MWRA Advisory Board, will continue to provide emergency assistance to member communities for sewer services on local collection systems that are routinely performed by MWRA staff for the MWRA-owned interceptor system. Examples of past community assistance provided by MWRA staff include: emergency response assistance, bypass pumping, internal TV inspection, sewer cleaning, flow metering, engineering

technical assistance, etc. This strategy has an ongoing schedule that has been initiated. (Cross-reference this strategy to the I/I Task Force Report recommendations 9.6 Strategy F-2, and 10.2 Strategy B-2)

During FY06, MWRA continued to provide emergency assistance to member communities, as requested. These efforts included internal TV inspection of 6 miles of local sewers, as well as, other emergency assistance. During FY07, MWRA will continue to provide emergency assistance to member communities.

Goal 4 under MWRA's Regional I/I Reduction Plan is:

MWRA will work cooperatively with member communities, DEP, and EPA to expand existing efforts to educate and involve the public regarding regional sewer backup, SSO, and I/I reduction issues.

Strategy A: MWRA will act as a "clearinghouse" to collect and distribute information on I/I and SSO issues. Other groups, agencies, associations, community representatives, and local citizens wishing to disseminate information on I/I and SSO issues within the region can provide a copy to MWRA that will be copied and distributed. MWRA staff will maintain a database of contacts with Federal, State and community officials, as well as, local associations and individuals that wish to stay informed on I/I and SSO issues. Summary mailings will be made periodically. MWRA, in coordination with the MWRA Advisory Board, will also act as a clearinghouse to inform regional stakeholders about the progress of efforts to increase state and federal funding for I/I reduction and SSO projects. Regional stakeholders will be advised on the most appropriate time to provide input and lobbying efforts. This strategy has an ongoing schedule that will be initiated in the short-term. (Cross-reference this strategy to the I/I Task Force Report recommendations 8.1 Strategy A-1, 10.4 Strategy C-5, and 10.4 Strategy D-2)

During FY06, MWRA distributed technical information to member community Public Works Directors and local wastewater system operators, including:

- 1. July 2005, I/I Local Financial Assistance Program reminder to communities that had not utilized their entire Phase 2 funding that the Phase 2 sunset date for the grant portion of financial assistance was June 30, 2006. All phase 2 funds were subsequently utilized by communities prior to the sunset date.**
- 2. September 2005, MWRA distributed an informational package on Sewer Backups and Sanitary Sewer Overflows to all service area community plumbing inspectors, Health Departments (Boards of Health), DPW Directors, Engineering Departments, and collection system operators. The package included information from fourteen separate sources and provided many web links for additional information.**
- 3. February 2006 I/I Local Financial Assistance Program Funding Update.**
- 4. August 2006, I/I Local Financial Assistance Program Funding Update and notification of additional Phase 6 funding.**

During FY07, MWRA will continue to distribute information on I/I and SSO issues.

Strategy B: MWRA will develop and distribute a summary of previous information/technology distributions regarding I/I reduction and SSOs. The summary will be organized by topic and distributed to all regional stakeholders in MWRA's database of contacts. This summary can be used as a tool to help reference previously distributed information. This strategy will be completed in the short-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 8.1 Strategy A-2)

During FY06, MWRA continued to summarize previous information/technology distributions regarding I/I reduction and SSOs. During FY07, MWRA will distribute the summary data to member communities, EPA, MADEP, and regional stakeholders.

Strategy C: MWRA, jointly with DEP (and possibly other regional organizations), will organize periodic demonstration projects and/or workshops to bring together regulators, community representatives, vendors, environmental groups, consultants, contractors, etc. Workshops may cover topics such as: new or revised regulations, I/I reduction technologies, updates/progress on Task Force Report recommendations, etc. MWRA and DEP conducted a joint workshop on private source inflow reduction during November 2001. Lessons learned from this workshop will help shape future efforts under this strategy. Completion of this strategy requires a significant resource commitment by DEP. This strategy has an ongoing schedule that will be initiated in the short-term. (Cross-reference this strategy to the I/I Task Force Report recommendations 8.1 Strategy A-3 and 8.2 Strategy B-6)

During FY06, MWRA participated in the Water Environment Federation, Collection System Conference held July 17-20, 2005 in Boston, "Sustaining Aging Infrastructure." At the Sunday workshop, MWRA's Director of Wastewater Transport presented a talk on "Restoring Capacity in MWRA's System." During FY06, DEP and MWRA had no discussions on organizing additional joint workshops. During FY07, MWRA will continue to work cooperatively with DEP on this strategy.

Strategy D: MWRA will develop a summary of available public education material such as local/regional billing inserts, Water Environment Federation (WEF) brochures, "How-To" pamphlets, etc. The summary will provide information on where to obtain the material. A listing of available public education materials will be posted on the MWRA Internet site. MWRA will also make copies of public education material available to communities and local associations. MWRA will pilot this strategy by distributing to member communities sample copies of the "Fat-Free Sewers" brochure developed cooperatively by the Water Environment Federation (WEF) and EPA. MWRA will recommend use of the brochures for public education. This strategy has an ongoing schedule that will be initiated in the short-term. (Cross-reference this strategy to the I/I Task Force Report recommendations 8.2 Strategy B-1, and 8.2 Strategy B-4)

MWRA distributed the Fat-Free Sewers brochure to wastewater system operators in July 2003. No additional work on this strategy was conducted in FY06.

During FY07, MWRA will reexamine its work on this strategy. In conjunction with the summary of previous information/technology distributions (see Strategy B), MWRA will distribute the summary data to member communities, EPA, MADEP, and regional stakeholders.

Strategy E: Depending on the outcome of the summary of available information being developed under Strategy D, MWRA (jointly with DEP, and possibly other regional organizations) may develop informational materials that will educate the public on I/I and SSO issues. This effort may include “how-to” pamphlets that detail a step-by-step process for disconnecting private inflow sources or similar information. The development of new materials under this strategy will be targeted to fill gaps that are not covered by existing/available public education material. This strategy will be completed in the mid-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 8.2 Strategy B-2)

During FY06, no specific actions were required under this Strategy. Communities actively involved with private inflow removal programs have generally been developing public education information related to their specific project and/or utilizing information already available via local engineering consultants.

Strategy F: Upon request from member communities, MWRA will assist member communities in providing a link from the local DPW or community Internet site to the MWRA Internet site. The possibility of a link or reference to other regional bodies that are involved in sewer system issues (such as DEP, EPA, New England Water Environment Association, New England Interstate Water Pollution Control Commission, watershed associations, etc) will also be investigated. This strategy will be completed in the mid-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 8.2 Strategy B-3)

Work by MWRA under this Strategy is complete.

Local communities, state agencies, regional associations, etc. all maintain their own web pages with numerous information links. MWRA’s web site contains links to the communities’ web sites and links to other organizations. Based on current broad use of the web, additional work under this strategy is no longer needed and it is considered complete. During FY06, MWRA continued to revise and upgraded its web site www.mwra.com.

Strategy G: MWRA will integrate information on I/I and SSO issues into existing MWRA school education materials. MWRA’s School Education staff will identify what types of materials are appropriate for their programs. This strategy has an ongoing schedule that will be initiated in the mid-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 8.3 Strategy C-1)

Work by MWRA under this Strategy is complete.

The focus of MWRA’s School Education Program is to provide a general understanding of water and wastewater transport and treatment systems with emphasis on water conservation and environmental awareness issues. Educational materials are designed for students from elementary to high school levels.

Strategy H: Upon request from DEP, MWRA will provide technical assistance to DEP to develop and issue DEP press releases prior to and during extreme wet weather events to notify the public of possible sewer system backups and overflow problems. The I/I Task Force Report recommends DEP develop a standardized format that includes a request that system users minimize non-essential water consumption activities and includes a standardized high sewer flow warning. Completion of this strategy is dependent on DEP actions. This strategy has an ongoing schedule that should be initiated in the short to mid-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 5.4 Strategy D-2)

During FY06, no assistance from MWRA was requested by MADEP. During FY07, any action under this strategy will be initiated jointly with MADEP.

Strategy I: Upon request from member communities, MWRA will provide technical assistance to communities to provide residents with information on I/I reduction, SSOs and backups using local cable stations or other media outlets. This strategy has an ongoing schedule that will be initiated in the mid to long-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 8.2 Strategy B-7)

During FY06, no MWRA assistance was requested under this Strategy. During FY07, MWRA will respond to community requests.

Goal 5 under MWRA's Regional I/I Reduction Plan is:

MWRA will provide technical assistance and work cooperatively with member communities, DEP, and EPA regarding guidance on local operation and maintenance and capital improvement programs intended to provide a reasonable level of sewer service to local sewer users/ratepayers.

Strategy A: MWRA will provide all member communities a copy of the I/I Task Force Report (which includes recommendations for sewer system operation and maintenance). MWRA will maintain a supply of I/I Task Force Reports and will provide additional copies to MWRA member communities and regional stakeholders, as requested. This strategy has an ongoing schedule that has been initiated.

Work by MWRA under this Strategy is complete.

MWRA provided all member communities and all interested parties copies of the I/I Task Force Report in April 2001, shortly after the Report was completed. MWRA continues to maintain a supply of I/I Task Force Reports and will provide additional copies to MWRA member communities and regional stakeholders, as requested. In July 2003, all member communities were provided a copy of the MWRA Regional I/I Reduction Plan.

Strategy B: MWRA will request member communities provide a copy of their existing local Sewer Use Regulations to MWRA, will review those local Regulations that are submitted, and will make recommendations for improvements. MWRA may utilize a committee representing a cross-section of sewer system stakeholders to assist in accomplishing this strategy. This strategy

will be completed in the mid-term. (Cross-reference this strategy to the I/I Task Force Report recommendation 9.1 Strategy A-2)

MWRA's work under this strategy is on hold pending future issuance of EPA's SSO Rules, including CMOM Regulations, that may impact local sewer use regulations.

Strategy C: MWRA will develop a Member Community Collection System Operation and Maintenance Manual Guidance Document and Overflow Response Plan. This guidance document will be provided to all member communities. This strategy will be completed in the short-term.

Work by MWRA under this Strategy is complete.

A Member Community Collection System Operation and Maintenance Manual Guidance Document and Overflow Response Plan was developed and submitted to EPA and MADEP for review in June 2001. This guidance document was made available to member communities. During FY04, MADEP distributed a new guideline document – “Optimizing Operation, Maintenance and Rehabilitation of Sanitary Sewer Collection Systems” dated August 2003. This manual was developed by New England Interstate Water Pollution Control Commission (NEIWPCC) under a grant from EPA. It was written by a committee consisting of NEIWPCC member state environmental agencies, EPA, and wastewater consultants. The manual is available at www.neiwpcc.org. MWRA provided its collection system O&M manual and the community collection system guidance document to the NEIWPCC committee for review. With the publication of the NEIWPCC manual, further efforts on the Member Community Collection System Operation and Maintenance Manual Guidance Document are not required.

ATTACHMENT 3
TO
MWRA ANNUAL I/I REDUCTION REPORT FOR FY06
Reporting Period – July 2005 Through June 2006

MWRA ACTIONS TAKEN TO REDUCE I/I DURING FY06

The MWRA Field Operations Department's Technical Inspection program staff have internally inspected approximately 36 miles of Authority-owned interceptors and approximately 6 miles of community-owned sewers, internally sonar inspected 54 inverted siphon barrels, and physically inspected over 1000 sewer manholes and other structures (diversion chambers, siphon headhouses, tide gates, etc.) during FY06. During the internal inspection process, problems such as physical defects, infiltration, sediment, grease deposits, etc. are noted and stored in MWRA's electronic maintenance (MAXIMO) database. Maintenance work is then scheduled based on the identified problems. During FY06, maintenance work included hydraulic/mechanical cleaning of 20 miles of sewer pipelines and 88 siphon barrels, rehabilitation of 5 sewer manholes, and replacement of 105 manhole frames and covers. Potential structural problems and infiltration sources identified during the inspection process are referred to engineering staff for follow-up review and analysis of cost-effective repairs.

The MWRA is undertaking a number of significant capital projects to provide additional hydraulic capacity and rehabilitate portions of Authority-owned interceptors. Updates on these projects are included below.

1. During FY06, MWRA continued rehabilitation of sewer interceptors under the Interceptor Renewal/Asset Protection Program. A \$0.7 million rehabilitation of Sewer Sections 80/83 is ongoing and will be completed in FY07. A \$3.4 million Mystic Valley Sewer (Section 160) evaluation/rehabilitation project is scheduled for construction during FY06-08. Each of these projects will reduce I/I entering the MWRA interceptor system.
2. MWRA's \$220 million Braintree/Weymouth Relief Facilities Project is nearing completion. The new facilities will provide additional sewer capacity in the Braintree/Weymouth system to reduce sanitary sewer overflows (SSOs).
3. MWRA's \$56 million Upper Neponset Valley Sewer Project began construction in FY05 and is ongoing. This project will provide hydraulic relief to about four miles of Sewer Sections 526, 527, 528, 529, and 530 located in Newton and West Roxbury. These sewers, constructed in 1896 to 1902, receive flow from West Roxbury, Newton, Brookline and Dedham. As an outcome of this project, I/I and periodic SSOs will be reduced.
4. MWRA's \$9.4 million Cummingsville Replacement Sewer Project began construction in FY05 and is complete. This project is intended to provide hydraulic relief through replacement of about one mile of Sewer Section 47 (constructed in the 1890's) and rehabilitation of about one mile of Sewer Section 86 (constructed in 1952) in Winchester. As an outcome of this project, I/I and periodic SSOs will be reduced.

5. MWRA's \$72 million East Boston Branch Sewer Relief Project will replace or rehabilitate approximately 25,000 feet of existing sewer in East Boston to provide hydraulic relief and reduce CSO discharges. Construction is scheduled for FY06-08.
6. MWRA's \$812 million Combine Sewer Overflows (CSO) Program includes a number of projects that will provide for the separation of sanitary sewer and stormwater flows. These projects will reduce stormwater inflow to the collection system. Details of MWRA's CSO Control Plan are reported under the requirements of NPDES Permit – Part I, Item 19. Long-term CSO Control Plan.

ATTACHMENT 4
TO
MWRA ANNUAL I/I REDUCTION REPORT FOR FY06
Reporting Period – July 2005 Through June 2006

**STATUS UPDATE ON MWRA'S
I/I LOCAL FINANCIAL ASSISTANCE PROGRAM**

Financial Assistance Update

All 43-member sewer communities are participating in MWRA's \$220.75 million Infiltration/Inflow (I/I) Local Financial Assistance (grant/loan) Program. The program began in May 1993 and, through FY06, \$134 million has been distributed to fund local I/I reduction and sewer system rehabilitation projects. The program budget of \$220.75 million includes the addition of \$40 million in new phase 6 funds approved by the MWRA Board of Directors for distribution beginning in FY07. The table on page 2 provides a summary of funding allocations, distributions, and funds remaining for each community. Distribution of the remaining \$87 million in funds has been approved through FY15.

Program Background

MWRA's I/I Local Financial Assistance Program was initiated to provide funding to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. Following recommendations from the Advisory Board, the Board of Directors approved a total program budget of \$220.75 million. The funds have been allocated among the 43 MWRA sewer communities based on respective shares of overall MWRA wholesale sewer charges. Financial assistance for Phases 1 and 2 (total of \$63.75 million) was distributed for approved projects as a 25 percent grant and a 75 percent interest-free loan. The grant/loan split was revised for distribution of the Phase 3, 4, 5, and 6 funds (total of \$157 million) to a 45 percent grant and a 55 percent interest-free loan. The loan portion is repaid to MWRA over a five-year period beginning one year after the date the funds are distributed.

MWRA funding is provided to a community following execution of a standard agreement that stipulates the project scope, schedule, and loan repayment requirements. Communities are required to provide periodic schedule and expenditure progress reports to MWRA. For planning and design projects, the work products (reports, plans, specifications, and bidding documents) are reviewed and approved by MWRA. During construction, staff perform site visits to document progress.

Program Goals

The I/I Local Financial Assistance Program is a critical component of MWRA's Regional I/I Reduction Plan. Specifically, local sewer system rehabilitation projects are intended to at least offset ongoing collection system deterioration to prevent a net increase in regional I/I. In the long-term, system rehabilitation should result in lower I/I, which will allow for future increases in sanitary (residential, commercial, industrial, and institutional) flow without a net increase in total wastewater flow. A second goal of the program is to assist member communities in implementing effective annual local collection system maintenance programs to assure efficient operation and ongoing repair/replacement of the collection system.

**MWRA I/I LOCAL FINANCIAL ASSISTANCE PROGRAM
FUNDING SUMMARY (THROUGH AUGUST 2006)**

Community	Total Allocations (Phases 1/2/3/4/5/6)	Total Distributions (Phases 1/2/3/4/5/6)	Percent Distributed	Funds Remaining
Arlington	\$4,189,000	\$1,951,500	47%	\$2,237,500
Ashland	\$930,500	\$550,500	59%	\$380,000
Bedford	\$1,691,600	\$775,300	46%	\$916,300
Belmont	\$2,556,100	\$1,292,400	51%	\$1,263,700
Boston	\$62,946,200	\$34,650,551	55%	\$28,295,649
Braintree	\$3,861,000	\$2,483,127	64%	\$1,377,873
Brookline	\$6,268,200	\$4,730,200	75%	\$1,538,000
Burlington	\$2,389,800	\$1,949,800	82%	\$440,000
Cambridge	\$11,347,100	\$6,656,655	59%	\$4,690,445
Canton	\$2,013,900	\$1,645,900	82%	\$368,000
Chelsea	\$3,005,100	\$2,469,100	82%	\$536,000
Dedham	\$2,945,000	\$2,183,000	74%	\$762,000
Everett	\$3,841,500	\$3,141,500	82%	\$700,000
Framingham	\$6,019,000	\$4,230,395	70%	\$1,788,605
Hingham	\$741,500	\$589,500	80%	\$152,000
Holbrook	\$780,600	\$496,600	64%	\$284,000
Lexington	\$3,507,300	\$1,533,600	44%	\$1,973,700
Malden	\$5,641,900	\$3,226,997	57%	\$2,414,903
Medford	\$5,834,600	\$4,794,600	82%	\$1,040,000
Melrose	\$2,845,300	\$1,769,300	62%	\$1,076,000
Milton	\$2,779,500	\$2,279,500	82%	\$500,000
Natick	\$2,754,600	\$1,772,000	64%	\$982,600
Needham	\$3,218,600	\$1,478,300	46%	\$1,740,300
Newton	\$10,089,400	\$4,641,200	46%	\$5,448,200
Norwood	\$3,355,400	\$2,115,963	63%	\$1,239,437
Quincy	\$9,373,000	\$5,985,000	64%	\$3,388,000
Randolph	\$2,866,800	\$1,614,900	56%	\$1,251,900
Reading	\$2,116,100	\$1,736,100	82%	\$380,000
Revere	\$4,582,900	\$2,407,789	53%	\$2,175,111
Somerville	\$7,459,800	\$3,925,290	53%	\$3,534,510
Stoneham	\$2,451,900	\$2,043,900	83%	\$408,000
Stoughton	\$2,276,900	\$1,436,900	63%	\$840,000
Wakefield	\$2,880,900	\$2,157,600	75%	\$723,300
Walpole	\$1,759,000	\$1,139,000	65%	\$620,000
Waltham	\$6,580,400	\$4,212,400	64%	\$2,368,000
Watertown	\$3,113,800	\$952,600	31%	\$2,161,200
Wellesley	\$2,779,700	\$854,624	31%	\$1,925,076
Westwood	\$1,209,300	\$733,300	61%	\$476,000
Weymouth	\$5,561,900	\$4,529,900	81%	\$1,032,000
Wilmington	\$1,180,000	\$968,000	82%	\$212,000
Winchester	\$2,072,000	\$952,300	46%	\$1,119,700
Winthrop	\$1,614,400	\$516,800	32%	\$1,097,600
Woburn	\$5,318,500	\$4,302,500	81%	\$1,016,000
Totals	\$220,750,000	\$133,876,391	61%	\$86,873,609

Type of Local Projects Receiving Funding

Funding has been provided to local communities for eligible I/I reduction projects including planning, design, construction, and engineering services during construction. These projects generally take one to three years to complete. Seventy-one percent of funds distributed to date have financed local construction projects. The table below details funds distributed by project phase for both completed and ongoing projects.

<u>PROJECT PHASE</u>	<u>COMPLETE PROJECTS</u> <u>(\$ millions)</u>	<u>ONGOING PROJECTS</u> <u>(\$ millions)</u>	<u>TOTAL</u> <u>(\$ millions)</u>
Planning/Study:	\$ 14.5	\$ 9.9	\$ 24.4 (18%)
Design:	3.7	2.9	6.6 (5%)
Construction:	59.0	36.7	95.7 (72%)
Eng. Services During Const.:	4.5	2.6	7.1 (5%)
TOTAL	\$ 81.7 (61%)	\$ 52.1 (39%)	\$ 133.8 (100%)

Estimated I/I Removal

The estimated average daily flow reduction associated with all MWRA funded I/I reduction projects that have been completed is about 48 mgd. This flow reduction “ballpark” figure is based on the communities’ (or their consultants’) peak I/I reduction estimates. MWRA staff have prorated the peak I/I reduction estimates to estimate the average I/I reduction. The estimated I/I removals noted here represent groundwater and stormwater that no longer enter the collection system. Regional wastewater flow reductions resulting from specific local I/I reduction projects are difficult to substantiate through end-of-the-collection-system meter data, due to factors noted below:

- Wastewater flows within the collection system vary dramatically due to changes in precipitation. For example, annual average daily flow for MWRA’s system varies up to 80 mgd from year to year. Small flow reductions for individual projects (typically less than one mgd) are dwarfed by regional flow fluctuations.
- Sewer capacity gained by elimination of I/I in one subsystem may, in some cases, allow for other I/I to enter the collection system at a different location, resulting in no net flow reduction at the end of the collection system.
- The consequence of ongoing pumping and interceptor upgrades, as well as combined sewer overflow and system optimization projects is an increase in the capture and treatment of wastewater flow and the reduction of raw sewage discharges. These increased flows offset I/I reductions.

Recognizing the limitations noted above for analysis of regional flow data, and accounting for varying annual rainfall, MWRA historical flow data show a general decreasing trend in community wastewater flows for the regional system.

Projects Funded During FY06

Local projects are funded quarterly by MWRA. Attached are funding summaries for the four quarterly funding distributions during FY06: August 2005, November 2005, February 2006, and May 2006 (not included with WEB version).

ATTACHMENT 5
TO
MWRA ANNUAL I/I REDUCTION REPORT FOR FY06
Reporting Period – July 2005 Through June 2006

**I/I REDUCTION STATUS UPDATE FOR MEMBER
COMMUNITIES**

The MWRA is working cooperatively with member communities to develop phased I/I reduction programs throughout the service area. The Authority will encourage continuing community efforts in I/I reduction as detailed in the MWRA Regional I/I Reduction Plan. Many community I/I projects are funded through MWRA's I/I Local Financial Assistance Program. This \$220.75 million grant/loan program was established to provide funding to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. Through FY06, MWRA has distributed \$134 million to fund local projects. A detailed update on MWRA's I/I Local Financial Assistance Program is included as Attachment 4 to this report.

The Authority has instituted a computer-based questionnaire format for communities to comply with required annual I/I reduction program status reporting. All 43 member sewer communities have submitted the latest I/I status report; the information is summarized below.

1. ARLINGTON: North System

Background Information:

- Miles of Sewer: 106
- Sewered Population: 41,903
- Three Year ('01 - '03) Annual Average I/I: 3.16 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Sewer System Investigation and Repair Program (Year 1) Report (April 2006 draft). Approximately 50,000 gpd of infiltration and 7,000 gpd of peak inflow were found to be excessive/value effective to remove.

Private Source Inflow Removal Program: East End Sewer Study metering identified areas that will require additional study to identify possible sump pump/drain leader connections to the sewer.

I/I Rehabilitation Projects in Design or Construction: Sewer Improvements on Hemlock St, Pine St & Lansdowne Rd Contract which was bid in April 2005 has been substantially completed. The design of the sewer rehabilitations recommended by the Year 1 Sewer System Investigation and Repair Program Report was approved for MWRA funding in February 2006

Reporting Period Activity: MWRA Funds were approved for the Year 2 Sewer System Investigation and Repair Program Study.

MWRA I/I Local Financial Assistance Program: The community has financed ten (10) I/I reduction projects through the Authority's funding assistance program. Of the \$4,189,000 allotted through the Program's Phases 1-6, the community has \$2,237,500 remaining in funding assistance.

2. ASHLAND: South System

Background Information:

- Miles of Sewer: 43
- Sewered Population: 11,606
- Three Year ('01 - '03) Annual Average I/I: 0.53 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: I/I Investigation and Repair (CY 04/05) - Sub-Basins III & IV

Private Source Inflow Removal Program: The Town will be performing sump pump investigations of residential/commercial properties in Sub-Basins III and IV.

I/I Rehabilitation Projects in Design or Construction: Completed clear flow investigation and manhole frame/cover replacement in Sub-Basin III. Completed internal TV inspection and manhole rehabilitation in Sub-Basin IV.

Reporting Period Activity: The Town has a sewer moratorium on new sewer connections at this time. New connections are only added if I/I removal has been achieved. Pond Street and Downtown sewer extension projects have been approved. Brackett Road Lift Station construction has been completed.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$930,500 allotted through the Program's Phases 1-6, the community has \$380,000 remaining in funding assistance.

3. BEDFORD: North System

Background Information:

- Miles of Sewer: 68
- Sewered Population: 11,576
- Three Year ('01 - '03) Annual Average I/I: 1.73 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: SSES, July 2006

Private Source Inflow Removal Program: No additional inspections were reported this period.

I/I Rehabilitation Projects in Design or Construction: In December 2005, the Town completed miscellaneous sewer manhole repairs which removed an estimated 38,340 gpd of peak infiltration and 7,000 gpd of peak inflow.

Reporting Period Activity: The SSES study that was conducted on approximately 60,000 l.f. of sanitary sewer in Sewer Subareas 3 / 9; portions of Walsh Road, Ashby Road and Great Road have been completed. The report concluded that approximately 250,000 gpd of infiltration and 7,000 gpd of peak inflow was excessive/value effective to be removed.

MWRA I/I Local Financial Assistance Program: The community has financed three (3) I/I reduction projects through the Authority's funding assistance program. Of the \$1,691,600 allotted through the Program's Phases 1-6, the community has \$916,300 remaining in funding assistance.

4. BELMONT: North System

Background Information:

- Miles of Sewer: 78
- Sewered Population: 23,358
- Three Year ('01 - '03) Annual Average I/I: 2.09 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Detailed House Survey Report (March 2000)

Private Source Inflow Removal Program: The first contract for connecting private inflow sources to the town's storm drain system is currently scheduled to be completed this summer.

The Town continues to work with potential developers in implementing a program that either removes I/I at rate of 5:1 or makes a one time payment to the Town to fund community I/I removal work. The Belmont Uplands project is currently under negotiations.

I/I Rehabilitation Projects in Design or Construction: The contract for connecting private inflow sources to the Town's storm drain system was awarded in February 2004 and has been substantially completed. Only punch lists items remain. This project will remove approximately 1,165,000 gpd of peak daily inflow from the existing sewer.

Reporting Period Activity: See previous comments. Also, in August 2005, MWRA funds were distributed to the Town for the development of a hydraulic model of the sewer and drain systems.

MWRA I/I Local Financial Assistance Program: The community has financed two (2) I/I reduction projects through the Authority's funding assistance program. Of the \$2,556,100 allotted through the Program's Phases 1-6, the community has \$1,263,700 remaining in funding assistance.

5. BOSTON: North and South Systems

Background Information:

- Miles of Sewer: 858
- Sewered Population: 581,034
- Three Year ('01 - '03) Annual Average I/I: 45.65 mgd
- Massachusetts DEP Administrative Order: None (Cooperative agreement exists)

Latest I/I or SSES Reports: Upper Neponset Valley Sewer Inflow Survey; Granite Avenue I/I Survey; Dorchester High Level Sewer I/I Survey; Lower Dorchester Brook Sewer Study

Private Source Inflow Removal Program: Since 1994, the Downspout Disconnection Program has conducted approximately 36,000 building surveys and 10,000 dye water tests. Approximately 19,000 downspouts have been disconnected. During CY05/06, a total of 75 large impervious areas were surveyed to identify inflow sources. All 75 areas have been dye tested.

I/I Rehabilitation Projects in Design or Construction: BWSC has both completed and is currently working on a wide variety of separation and I/I identification/rehabilitation projects. To date, fifty-seven (57) projects have received funding through the MWRA I/I Local Financial Assistance Program. In CY05/06, BWSC completed the following rehabilitation projects: Causeway Street Sewer Separation, Marginal Street Sewer Separation, Neponset Area Large Commercial Properties Separation, St. Botolph Street Sewer Separation, Maverick Street Sewer Separation and Chester Park Area Sewer Separation.

BWSC entered into an I/I reduction agreement with the Massachusetts DEP in January 1986. As provided in the agreement, BWSC has performed a Phase II SSES on separated sewer areas within the City. BWSC also has an ongoing tide gate/regulator inspection and repair program and performs separation projects on pockets of combined sewers tributary to separated sewer areas.

Boston is one of MWRA's four combined sewer service communities. As part of the MWRA CSO Facilities Upgrade Project, Boston's flows are being evaluated for volume and discharge locations.

Reporting Period Activity: BWSC is required to report to the EPA on I/I reduction measures under their NPDES permit. This reporting requirement coincides with the MWRA's required submittal dates; therefore, please refer to the BWSC NPDES report for a summary of activities over this period.

MWRA I/I Local Financial Assistance Program: The community has financed fifty-seven (57) I/I identification/reduction projects through the Authority's funding assistance program. Of the \$62,946,200 allotted through the Program's Phases 1-6, the community has \$28,295,649 remaining in funding assistance.

6. BRAINTREE: South System

Background Information:

- Miles of Sewer: 133
- Sewered Population: 33,694
- Three Year ('01 - '03) Annual Average I/I: 4.45 mgd
- Massachusetts DEP Administrative Order: No. 546 (Issued April 1, 1985), ACO-NE-01-1001 (March 27, 2001)

Latest I/I or SSES Report: Flow Isolation / TV Inspection of Allen St. Interceptor (April 2003)

Private Source Inflow Removal Program: Nine (9) private source sump pump removal contracts have redirected 294 sump pumps to date. Developer Flow Reduction Program is now 6:1 per DEP ACO.

I/I Rehabilitation Projects in Design or Construction: Howie Road Infiltration Rehabilitation (Sub-Areas L2 through L7) design is complete. The Allen Street interceptor lining and infiltration work in Sub-Areas HC2 and M2 is complete.

Reporting Period Activity: Howie Road Infiltration Rehabilitation (Contract 06-S1) was awarded in July 2006. The project had an estimated peak infiltration removal of 0.20 mgd.

MWRA I/I Local Financial Assistance Program: The community has financed five (5) I/I reduction projects through the Authority's funding assistance program. Of the \$3,861,000 allotted through the Program's Phases 1-6, the community has \$1,377,873 remaining in funding assistance.

7. BROOKLINE: North and South Systems

Background Information:

- Miles of Sewer: 111
- Sewered Population: 56,585
- Three Year ('01 - '03) Annual Average I/I: 5.81 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Phase II I/I Investigation (April 2002)

Private Source Inflow Removal Program: Town is in the process of developing a Private flow Source Identification and Removal Program.

I/I Rehabilitation Projects in Design or Construction: Sewer Rehabilitation Project No. 4, including various locations townwide, lined 11,575 LF of sewer and lined/sealed 80 manholes. The project has removed approximately 200,000 gpd of infiltration.

Sewer Rehabilitation Project No. 5 (Contract No. PW/06-16), which includes the cured-in-place lining of approximately 100 manholes in various locations in the southern portion of Town, was bid in April 2006. Construction is expected to be completed by December 2006. An estimated 100,000 gpd of peak infiltration is to be removed.

Reporting Period Activity: See above work description.

MWRA I/I Local Financial Assistance Program: The community has financed five (5) I/I reduction projects through the Authority's funding assistance program. Of the \$6,268,200 allotted through the Program's Phases 1-6, the community has \$1,538,000 remaining in funding assistance.

8. BURLINGTON: North System

Background Information:

- Miles of Sewer: 115
- Sewered Population: 22,643
- Three Year ('01 - '03) Annual Average I/I: 2.17 mgd
- Massachusetts DEP Administrative Order: ACO-NE-01-1004 (7/25/01)

Latest I/I or SSES Report: Sewer System Evaluation Survey (January 2003)

Private Source Inflow Removal Program: Sump pump removal program is continuing as sump pumps are found.

I/I Rehabilitation Projects in Design or Construction: Construction associated with the "Sewer System Rehabilitation Program" as recommended by the SSES Report of January 2003 is ongoing.

Reporting Period Activity: See above work description. Also, fifteen (15) more sump pumps have been redirected.

MWRA I/I Local Financial Assistance Program: The community has financed five (5) I/I reduction projects through the Authority's funding assistance program. Of the \$2,389,800 allotted through the Program's Phases 1-6, the community has \$440,000 remaining in funding assistance.

9. CAMBRIDGE: North System

Background Information:

- Miles of Sewer: 194
- Sewered Population: 101,485
- Three Year ('01 - '03) Annual Average I/I: 9.45 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Phase I/I & SSES Study (April 2004)

Private Source Inflow Removal Program: Building inspections are being completed on an as-needed basis. Building inspections are ongoing in the Common Manhole Contract No. 4 area. The City recently adopted a zoning change in the Concord Ave/Alewife Brook area that includes a required flow reduction program.

I/I Rehabilitation Projects in Design or Construction: The City continues its implementation of Stormwater Management Program. DPW continues to require developers to handle as much stormwater as possible on their sites by using dry wells and other storm water retention/detention devices.

Reporting Period Activity: Common Manhole Contract No. 3 has been completed (30 common manholes in Cambridgeport and 2 common manholes in the Alewife Area have been separated). South Massachusetts Avenue Cam017 Phase II, which involves the extension of the South Massachusetts Avenue drain line into Central Square has been completed. The Bishop Allen Stormwater Management Project, which involves sewer separation (14 common manholes) and stormwater management of the area north of Massachusetts Avenue and west of Columbia and Main Streets, has been rescheduled to begin in Spring 2007. Porter Square sewer separation and surface enhancement project (Contract No. 7A) has been completed. Cambridgeport Roadways construction project removed 12 common manholes within lower Cambridgeport. Under the Amesbury, Audrey and Pearl Street outfall construction project, two new drain outfalls have been constructed; the Granite/Pearl Street cross connection to the MWRA North Charles Interceptor has been removed; and 3 common manholes on Vassar Street have been removed. The Harvard Square Phase 1 project, which involved diverting flow to the MWRA Charles River Relief Sewer from the Metropolitan Sewer at Hawthorne Street, has been completed. The Harvard Square Phase II project, which involves the separation of approximately 25 acres of area, is presently out to bid. The design has been completed for the Myrtle/Magnolia Sewer Separation and Stormwater Management Project (CAM011) Phase VI Contract 3E, which involves sewer separation and stormwater management in the mid-Cambridge area. Field investigation and design is ongoing for the separation of common manholes in the Cambridgeport/Central Square Area (Common Manhole Contract No. 4).

MWRA I/I Local Financial Assistance Program: The community has financed seven (7) I/I reduction projects through the Authority's funding assistance program. Of the \$11,347,100 allotted through the Program's Phases 1-6, the community has \$4,690,445 remaining in funding assistance.

10. CANTON: South System

Background Information:

- Miles of Sewer: 62
- Sewered Population: 15,634
- Three Year ('01 - '03) Annual Average I/I: 1.93 mgd
- Massachusetts DEP Administrative Order: No. 537 (Issued April 3, 1984)

Latest I/I or SSES Report: Comprehensive Water Resources Management Plan (On-going)

Private Source Inflow Removal Program: No additional inspections were reported during this period. Town has established an I/I Mitigation Fee for all new connections. Fee is paid based upon DEP flow rates at a 4:1 ration.

I/I Rehabilitation Projects in Design or Construction: I/I Rehabilitation Project (Contract 2006-1S) to be bid in Fall 2006. Work includes cleaning/testing/sealing approximately 14,600 LF of pipe, replacing approximately 300 LF of existing main, rehabilitating 65 manholes and installing 40 watertight covers in Subsystem 14. Design work for the replacement of Green Lodge Interceptor is on-going.

Reporting Period Activity: See above work description.

MWRA I/I Local Financial Assistance Program: The community has financed five (5) I/I reduction projects through the Authority's funding assistance program. Of the \$2,013,900 allotted through the Program's Phases 1-6, the community has \$368,000 remaining in funding assistance.

11. CHELSEA: North System

Background Information:

- Miles of Sewer: 41
- Sewered Population: 34,106
- Three Year ('01 - '03) Annual Average I/I: 1.78 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Inflow Evaluation for area tributary to CSO CHE-007 (March 2003)

Private Source Inflow Removal Program: Private inflow source identification is complete for CHE-007 tributary areas. The City is in the process of implementing a developed funded sewer bank for I/I removal improvements. The program is expected to be a 1:1 ratio.

I/I Rehabilitation Projects in Design or Construction: Construction of sewer separation in Vale Street includes installation of 300 LF of drain to redirect 3 catch basins, was completed in Winter 2005. Design for one of the three drainage outfalls (Highland Street Drainage Outfall) under Phase 1 of the CHE007 Tributary Area Sewer Separation Plan is on-going; construction has been delayed. Construction of approximately 2,300 LF of storm drain to separate approximately 8 acres of drain in the Eastern Avenue area is ongoing. The design of the Spruce Street Roadway and Utility Project, which involves construction of 560 LF of 48-inch drain line on Spruce Street and construction of a new drain line on Sixth Street to allow sewer separation has been completed. Design has been completed for the Crescent Avenue Sewer Separation Project, which involves the separation of the combined sewer on Crescent Avenue from Cary Avenue to Eleanor Street and redirection of all catch basins in the project area. The construction is awaiting funding.

The Library Street Area Sewer and Drainage Improvement project, which involves the installation of new sewers and drains is ongoing and should be completed by Fall 2006. Under the project, one catch basin (estimated 140,580 gpd of peak inflow) will be disconnected and a drainage outlet from the area will be installed which will allow for the separation of seven additional catch basins (an estimated 861,053 gpd of peak inflow) under a subsequent project.

Chelsea is one of MWRA's combined sewer service communities. As part of the MWRA CSO Facilities Upgrade Project, Chelsea's flows are being evaluated for volume and discharge locations.

Reporting Period Activity: See above work description.

MWRA I/I Local Financial Assistance Program: The community has financed nine (9) I/I reduction projects through the Authority's funding assistance program. Of the \$3,005,100 allotted through the Program's Phases 1-6, the community has \$536,000 remaining in funding assistance.

12. DEDHAM: South System

Background Information:

- Miles of Sewer: 88
- Sewered Population: 21,849
- Three Year ('01 - '03) Annual Average I/I: 3.70 mgd
- Massachusetts DEP Administrative Order: No. 547 (Issued October 1, 1985).

Latest I/I or SSES Report: Internal TV Inspection of Sewers (Letter Report - June 2004)

Private Source Inflow Removal Program: A revised Sewer By-Law was recently adopted to change the sewer bank fee structure to a payment of \$4.50 per gallon of new wastewater added.

I/I Rehabilitation Projects in Design or Construction: Town recently completed replacement of 1,100 LF of sewer main under the East Street and Washington Street Sewer Replacement Project.

Reporting Period Activity: Installation of new/replacement sewers on Glenway, Hamilton Avenue, Sanderson Avenue, Wentworth Street and Endicott Estate has been completed. Two small sewer extensions on Pine Street and Whiting Avenue were installed.

MWRA I/I Local Financial Assistance Program: The community has financed eleven (11) I/I reduction projects through the Authority's funding assistance program. Of the \$2,945,000 allotted through the Program's Phases 1-6, the community has \$762,000 remaining in funding assistance.

13. EVERETT: North System

Background Information:

- Miles of Sewer: 57
- Sewered Population: 37,540
- Three Year ('01 - '03) Annual Average I/I: 3.64 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: I/I Investigation (February 2000)

Private Source Inflow Removal Program: No additional inspections were reported during this period.

I/I Rehabilitation Projects in Design or Construction: The City is continuing with the sewer rehabilitations that were completed in 2001. MWRA funds were distributed in May 2006 for the design and construction associated with this project. It is anticipated that an estimated 300,000 gpd of annual infiltration will be removed by this project. The design is expected to be completed by February 2006.

Reporting Period Activity: See above work description.

MWRA I/I Local Financial Assistance Program: The community has financed six (6) I/I reduction projects through the Authority's funding assistance program. Of the \$3,841,500 allotted through the Program's Phases 1-6, the community has \$700,000 remaining in funding assistance.

14. FRAMINGHAM: South System

Background Information:

- Miles of Sewer: 275
- Sewered Population: 59,287
- Three Year ('01 - '03) Annual Average I/I: 2.52 mgd
- Massachusetts DEP Administrative Order: No. 592 (Issued January 8, 1986)

Latest I/I or SSES Report: Town-Wide I/I Study / SSES / CWMP (Under Final Review)

Private Source Inflow Removal Program: The SSES included a house-to-house inspection component initiating at properties along the Howard Street Sewer Rehabilitation Project. Three basement sump pumps were identified and are scheduled for removal. Sewer use regulations are being updated to strengthen penalties levied to private source inflow. The Town is also undertaking a Storm Water Management Study that will provide mapping of the town-wide sewer (completed April 2004) and storm water drainage (on-going) systems. Private inflow sources will be identified and removed as part of rehabilitation contracts within portions of Gregory Road, Water street, Simpson Drive, Central Street and Concord Street.

A new user connection fee of \$18.00 per gallon of new wastewater added was adopted in January 2005.

I/I Rehabilitation Projects in Design or Construction: Rehabilitation of approximately 3,000 LF of sewer in the Howard Street area was completed in December 2005. Rehabilitation of approximately 5,300 LF of sewer near Franklin Street (between Mt. Wayte Avenue and Main Street) was completed in December 2005.

Reporting Period Activity: A new chemical feed system was installed at the Worcester Road Pumping Station in response to the sulfide settlement agreement between the Town and MWRA.

MWRA I/I Local Financial Assistance Program: The community has financed ten (10) I/I reduction projects through the Authority's funding assistance program. Of the \$6,019,000 allotted through the Program's Phases 1-6, the community has \$1,788,605 remaining in funding assistance.

15. HINGHAM: South System

Background Information:

- Miles of Sewer: 31
- Sewered Population: 6,207
- Three Year ('01 - '03) Annual Average I/I: 0.85 mgd
- Massachusetts DEP Administrative Order: No. 536 (Issued November 15, 1985)

Latest I/I or SSES Report: Comprehensive Wastewater Management Plan (On-going);
I/I Investigation (On-going)

Private Source Inflow Removal Program: The house-to-house sump pump inspection program continues. Two hundred residences were inspected in FY06. Based on these inspections, two sump pumps were located and redirected.

I/I Rehabilitation Projects in Design or Construction: Massachusetts DCR coordinated the elimination of inflow sources at the Wompatuck State Park. Inflow was entering the park's sewer system through 42 ground level drains adjacent to water spigots at wash stations. Rehabilitation work was completed August 2006.

Reporting Period Activity: The Town will use Developer Flow Reduction Program funds to identify I/I sources in conjunction with the on-going I/I Investigation and Comprehensive Wastewater Management Study. Twenty-four new sewer connections were added during FY06.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$741,500 allotted through the Program's Phases 1-6, the community has \$152,000 remaining in funding assistance.

16. HOLBROOK: South System

Background Information:

- Miles of Sewer: 31
- Sewered Population: 8,494
- Three Year ('01 - '03) Annual Average I/I: 0.46 mgd
- Massachusetts DEP Administrative Order: ACOP-NE-04-1 001

Latest I/I or SSES Report: I/I Inspections Report (July 2006)

Private Source Inflow Removal Program: In April 2006, the building inspection program was resumed for 720 private buildings in Sub-areas C / I / B / H(7). Eighteen illicit sumps, ten illegal open pipe connections, one illegal open cleanout and fifteen illegal basement rains were identified. Two sump pump have been removed to date.

I/I Rehabilitation Projects in Design or Construction: Eighty-six manholes were rehabilitated in June 2006.

Reporting Period Activity: The Town has completed its yearly check of all cross-country sewer manholes. Phases 3/4 of the Holbrook collection system expansion remain on hold.

MWRA I/I Local Financial Assistance Program: The community has financed one (1) I/I reduction project through the Authority's funding assistance program. Of the \$780,600 allotted through the Program's Phases 1-6, the community has \$284,000 remaining in funding assistance.

17. LEXINGTON: North System

Background Information:

- Miles of Sewer: 154
- Sewered Population: 30,563
- Three Year ('01 - '03) Annual Average I/I: 3.36 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Sewer System GPS Mapping (April 2002)

Private Source Inflow Removal Program: Inspections are performed through two Town Departments. For all buildings that have been issued Town work permits, the Building Division inspectors check basements for the presence of floor drains and sump pumps. During the past year, no sump pumps were ordered to be removed. The Public Works Department also checks homes during routine business.

I/I Rehabilitation Projects in Design or Construction: No projects are currently being designed or constructed. Town currently in the planning phase. See Reporting Period Activity below.

Reporting Period Activity: The Town negotiated a contract with Tutela Engineering Associates for a comprehensive evaluation of the sewer system. The scope of this work involves: installation of temporary meters; collection/analysis of flow data; developing hydraulic model; identifying and inspecting sewer system deficiencies and making recommendations; internal TV inspections; and summary report preparation.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$3,507,300 allotted through the Program's Phases 1-6, the community has \$1,973,700 remaining in funding assistance.

18. MALDEN: North System

Background Information:

- Miles of Sewer: 100
- Sewered Population: 55,760
- Three Year ('01 - '03) Annual Average I/I: 5.58 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Malden Sewer System Survey II – Phase II Report (July 2006)

Private Source Inflow Removal Program: No additional inspections were reported during this period.

I/I Rehabilitation Projects in Design or Construction: Construction has been completed for the Sewer Rehabilitation Contract No. 2004-S-1.

Reporting Period Activity: The construction for the Sewer Rehabilitation Contract No. 2004-S-1 has been completed. This rehabilitation project, which is estimated to remove 0.43 mgd of I/I, was recommended by the Sewer System Survey Report of April 2004. A draft copy of the Malden Sewer System Survey II – Phase II Report was submitted in July 2006. This report included flow isolation of approximately 128,000 LF of sewer and cleaning and internal inspection of approximately 32,300 LF of sewer. The recommended sewer rehabilitations are expected to eliminate approximately 412,000 gpd of infiltration.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$5,641,900 allotted through the Program's Phases 1-6, the community has \$2,414,903 remaining in funding assistance.

19. MEDFORD: North System

Background Information:

- Miles of Sewer: 113
- Sewered Population: 54,679
- Three Year ('01 - '03) Annual Average I/I: 5.11 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: I/I Analysis / Limited SSES – Part 2 (October 2002)

Private Source Inflow Removal Program: No additional inspections were reported during this period.

I/I Rehabilitation Projects in Design or Construction: Design associated with the Sydney Street Inflow Removal and Drainage Improvement Project has been completed along with the bidding. Construction has commenced with completion expected in the Winter 2006. Once constructed, this project is estimated to remove 7.0 mgd of peak inflow.

Reporting Period Activity: MWRA Local I/I Financial Assistance funds (MWRA Project No. WRA-P5-19-3-503) were distributed in August 2004 for Infiltration Reduction Construction Contract. This project includes the recommendations presented in the “CY 1999 – 2000 Television Inspection” Report. The sewer rehabilitation work will take place in Sewer Subsystems A, B, E, N, P, R and T.

MWRA I/I Local Financial Assistance Program: The community has financed seven (7) I/I reduction projects through the Authority’s funding assistance program. Of the \$5,834,600 allotted through the Program’s Phases 1-6, the community has \$1,040,000 remaining in funding assistance.

20. MELROSE: North System

Background Information:

- Miles of Sewer: 74
- Sewered Population: 26,757
- Three Year ('01 - '03) Annual Average I/I: 2.64 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: I/I Rehabilitation Project Recommendations (November 2001)

Private Source Inflow Removal Program: No additional inspections were reported during this period.

I/I Rehabilitation Projects in Design or Construction: The City is proceeding with the design of three (3) small sewer rehabilitation projects. Two of the designs involve additional areas identified during the construction of Contract No. 05-1. The other design project involves the sewer rehabilitations within the area tributary to the Upham Street pump station. These

rehabilitations were identified in the “Upham St. Pump Station Tributary Area I/I Reduction Project” Report dated February 1995.

Reporting Period Activity: The City is continuing its public and private inflow source identification and removal program. The construction of the I/I Rehabilitation Project (Infiltration/Inflow Rehabilitation Project – Contract No. 05-1), as recommended by the 1995 SSES Report, began in June 2005 and has been completed. Project work will involve the rehabilitation of approximately 29,000 LF of sewer in various sections of the City. The estimated infiltration removal is 1.13 mgd.

MWRA I/I Local Financial Assistance Program: The community has financed three (3) I/I reduction projects through the Authority’s funding assistance program. Of the \$2,845,300 allotted through the Program’s Phases 1-6, the community has \$1,076,000 remaining in funding assistance.

21. MILTON: South System (Small Portion Tributary to the North System)

Background Information:

- Miles of Sewer: 83
- Sewered Population: 24,291
- Three Year ('01 - '03) Annual Average I/I: 2.70 mgd
- Massachusetts DEP Administrative Order: No. 580 (Issued June 13, 1985)

Latest I/I or SSES Report: I/I Rehabilitation - Year 4 (On-going)

Private Source Inflow Removal Program: The Town is continuing to pursue the removal of sump pumps and other private inflow sources identified through a previously completed building inspection program.

I/I Rehabilitation Projects in Design or Construction: Town-Wide Sewer Evaluation Program - Year 3 rehabilitation construction completed March 2006. Estimated infiltration removal is 206,500 gpd. Television and manhole inspection for Year 4 of the Town-Wide Sewer Evaluation Program was conducted in Spring 2005. Town-Wide Sewer Evaluation Program - Year 4 rehabilitation construction to begin Fall 2006.

Reporting Period Activity: Fletcher-Steele Way Development will add approximately 1,600 LF of sanitary sewer. The developer for the Milton Landing Project at Wharf Street is conducting an evaluation of Sewer Sub-System S-17. Town-wide sewer GIS mapping scheduled was completed October 2005.

MWRA I/I Local Financial Assistance Program: The community has financed fifteen (15) I/I reduction projects through the Authority’s funding assistance program. Of the \$2,779,500 allotted through the Program’s Phases 1-6, the community has \$500,000 remaining in funding assistance.

22. NATICK: South System

Background Information:

- Miles of Sewer: 123
- Sewered Population: 27,441
- Three Year ('01 - '03) Annual Average I/I: 1.75 mgd
- Massachusetts DEP Administrative Order: No. 593 (Issued November 15, 1985)

Latest I/I or SSES Report: Town-Wide SSES (On-going)

Private Source Inflow Removal Program: The SSES includes a house-to-house inspection component. Home inspections have been completed in conjunction with a water meter replacement program.

I/I Rehabilitation Projects in Design or Construction: The SSES includes manhole inspection, house-to-house private source investigation and sewer line smoke testing. Replaced 2,900 LF of 8 to 10-inch sewer on East Central Street and West Central Street. Replaced 850 LF of 10-inch sewer on Grant Street.

Reporting Period Activity: Town-Wide SSES on-going.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$2,754,600 allotted through the Program's Phases 1-6, the community has \$982,600 remaining in funding assistance.

23. NEEDHAM: South System

Background Information:

- Miles of Sewer: 131
- Sewered Population: 27,826
- Three Year ('01 - '03) Annual Average I/I: 3.33 mgd
- Massachusetts DEP Administrative Order: No. 549 (Issued November 21, 1984)

Latest I/I or SSES Report: Smoke Testing Report (On-going)

Private Source Inflow Removal Program: No additional inspections were reported this period.

I/I Rehabilitation Projects in Design or Construction: Sewer Sub-Areas 2 / 24 / Lower 21 were TV inspected. A rehabilitation project is in the design phase and will include root treatment, heavy cleaning, testing and sealing of joints, spot CIP repair and full length (manhole-to-manhole) pipe replacement.

Reporting Period Activity: Upgrade of Great Plain Avenue Pumping Station to begin Fall 2006. Richardson Drive Pumping Station elimination is in design phase.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$3,218,600 allotted through the Program's Phases 1-6, the community has \$1,740,300 remaining in funding assistance.

24. NEWTON: North and South Systems

Background Information:

- Miles of Sewer: 271
- Sewered Population: 82,637
- Three Year ('01 - '03) Annual Average I/I: 8.83 mgd
- Massachusetts DEP Administrative Order: ACO-NE-00-1001

Latest I/I or SSES Report: Cheesecake and Laundry Brook Underdrain Access Point Inspection Final Report (July 2006)

Private Source Inflow Removal Program: The City continues to conduct home inspections for illicit connections to the sanitary sewer collection system. The sewer task force that was created to develop and implement a Private Inflow Removal Program has been holding meetings to discuss the issues.

I/I Rehabilitation Projects in Design or Construction: Underdrain separation of a sewer manhole at the intersection of Central Street and Turner Terrace.

Reporting Period Activity: Broadlawn/LaGrange Street Flow Monitoring Study Report, which presented the findings of the flow monitoring that was conducted during Spring 2005, was completed. The Cochituate Aqueduct Investigation Report, which presented the findings of the internal TV inspection of the 25,000 LF of the Cochituate Aqueduct Sewer, was completed. The Cheesecake and Laundry Brook Underdrain Access Point Inspections draft report, which presented the results of the follow up inspections of the rehabilitated sewer/underdrain common manhole access points, was completed. Work commenced on the internal inspection of approximately 19,600 LF of sewer adjacent to underdrains in portions of the Hyde Avenue/George Street area; Hillside Avenue/Otis Street area; Cheery Street area; and Commonwealth Avenue/Fuller Street area I/I mitigation associated with the Kessler Woods Development is continuing.

MWRA I/I Local Financial Assistance Program: The community has financed fifteen (15) I/I reduction projects through the Authority's funding assistance program. Of the \$10,089,400 allotted through the Program's Phases 1-6, the community has \$5,448,200 remaining in funding assistance.

25. NORWOOD: South System

Background Information:

- Miles of Sewer: 83
- Sewered Population: 28,443
- Three Year ('01 - '03) Annual Average I/I: 3.85 mgd
- Massachusetts DEP Administrative Order: No. 534 (Issued July 25, 1983)

Latest I/I or SSES Report: Meadowbrook Area Sewer Inspection (On-going)

Private Source Inflow Removal Program: As part of the Meadowbrook Area Sewer Inspection, 10 buildings were inspected for illicit connections. As part of the Norwood Gardens SSES, 56 buildings were inspected and 10,000 LF of sewer line was smoke tested.

I/I Rehabilitation Projects in Design or Construction: Meadowbrook Area Sewer Inspection Project includes Focused Electrode Leak Locator inspection of 6,000 LF of 6 to 12-inch sewer in the Norwood Hospital area. The Pellana Road Pumping Station Area Sewer Rehabilitation construction is complete. Norwood Gardens SSES complete.

Reporting Period Activity: Margaret Street / Surrey Road Sewer Main Rehabilitation Project (Norwood Contract No. NPW 05-07) completed August 2006.

MWRA I/I Local Financial Assistance Program: The community has financed twelve (12) I/I reduction projects through the Authority's funding assistance program. Of the \$3,355,400 allotted through the Program's Phases 1-6, the community has \$1,239,437 remaining in funding assistance.

26. QUINCY: South System

Background Information:

- Miles of Sewer: 202
- Sewered Population: 88,970
- Three Year ('01 - '03) Annual Average I/I: 8.59 mgd
- Massachusetts DEP Administrative Order: No. 644 (Issued October 22, 1986)

Latest I/I or SSES Report: Fenno / Division Street TV Inspection (May 2004)

Private Source Inflow Removal Program: Thirty-five sewer lateral repairs/replacements performed this period.

I/I Rehabilitation Projects in Design or Construction: Quincy Shore Drive Sewer Improvement Project (Phase I) complete. Quincy Shore Drive Sewer Improvement Project (Phase II) design complete. Construction to be complete Fall 2007. North Quincy Lateral Sewer Improvements (Phase II) design complete. Fenno Street / Division Street Sewer Improvements in design phase. Carlisle Street Pump Station / Main Replacement in design phase. Houghs Neck Collection

System / Sea Street Interceptor Improvements design complete. Construction to be complete Fall 2006.

Reporting Period Activity: Beale Street Emergency Sewer Repair (pipe bursting 315 LF of 8-inch sewer) completed June 2006.

MWRA I/I Local Financial Assistance Program: The community has financed seven (7) I/I reduction projects through the Authority's funding assistance program. Of the \$9,373,000 allotted through the Program's Phases 1-6, the community has \$3,388,000 remaining in funding assistance.

27. RANDOLPH: South System

Background Information:

- Miles of Sewer: 101
- Sewered Population: 30,738
- Three Year ('01 - '03) Annual Average I/I: 1.75 mgd
- Massachusetts DEP Administrative Order: No. 548 (Issued October 23, 1986)

Latest I/I or SSES Report: Amelian Road SSES (January 2003)

Private Source Inflow Removal Program: Amelian Road area house-to-house inspection findings forwarded to DEP.

I/I Rehabilitation Projects in Design or Construction: Sewer System Rehabilitation Project (Sub-areas 1-4/8) design to be complete August 2006. Construction scheduled for completion December 2006.

Reporting Period Activity: The Town has developed a sump pump removal plan/policy along with expanding its Developer Flow Reduction Plan.

MWRA I/I Local Financial Assistance Program: The community has financed six (6) I/I reduction projects through the Authority's funding assistance program. Of the \$2,866,800 allotted through the Program's Phases 1-6, the community has \$1,251,900 remaining in funding assistance.

28. READING: North System

Background Information:

- Miles of Sewer: 96
- Sewered Population: 22,311
- Three Year ('01 - '03) Annual Average I/I: 1.23 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Illicit Sewer System Inflow Building Inspection Program Final Report (March 2006)

Private Source Inflow Removal Program: The house-to-house inspection program is continuing. To date, this program has inspected 86% of the buildings and has found a total of 146 sump pumps and 18 interior/exterior drains connected to the sewer system.

I/I Rehabilitation Projects in Design or Construction: Cleaned approximately 17,737 LF of sewer; tested 4,182 joints and sealed 3,648 joints; sealed and cement-lined 70 sewer manholes; and sealed 8 sewer service laterals.

Reporting Period Activity: MWRA Local I/I Financial Assistance funds (MWRA Project No. WRA-P5-19-3-503) were distributed in May 2005 for the completion of a House-to-House Survey for the remainder of the Town. This survey began in Fall 2004. This program is approximately 74% complete. To date, 72 sump pumps have been identified as being connected to the sewer.

MWRA I/I Local Financial Assistance Program: The community has financed two (2) I/I reduction projects through the Authority's funding assistance program. Of the \$2,116,100 allotted through the Program's Phases 1-6, the community has \$380,000 remaining in funding assistance.

29. REVERE: North System

Background Information:

- Miles of Sewer: 78
- Sewered Population: 46,955
- Three Year ('01 - '03) Annual Average I/I: 4.06 mgd
- Massachusetts DEP Administrative Order: No. 837 (Issued April 21, 1991)

Latest I/I or SSES Report: SSES Phase 3 (August 1999)

Private Source Inflow Removal Program: Removed five sump pump connections discharging to the sewer.

I/I Rehabilitation Projects in Design or Construction: Replaced approximately 500 LF of 20-inch sewer with 24-inch sewer along Revere Beach Parkway.

Reporting Period Activity: Cleaned and televised 62,110 LF of sewer along Revere Beach, Beachmont, Shirley Avenue, Malden Street and Washington Avenue areas.

MWRA I/I Local Financial Assistance Program: The community has financed three (3) I/I reduction projects through the Authority's funding assistance program. Of the \$4,582,900 allotted through the Program's Phases 1-6, the community has \$2,175,111 remaining in funding assistance.

30. SOMERVILLE: North System

Background Information:

- Miles of Sewer: 128
- Sewered Population: 75,533
- Three Year ('01 - '03) Annual Average I/I: 6.19 mgd
- Massachusetts DEP Administrative Order: NON-NE-00-1006 (Issued January 21, 2000)

Latest I/I or SSES Report: Tannery Brook Drain Separation Preliminary Design Interim Report (December 2005)

Private Source Inflow Removal Program: Private inflow source investigation on-going in the Mystic River watershed area. This work includes sampling and dye-testing of residences suspected of having illegal connections.

I/I Rehabilitation Projects in Design or Construction: Numerous sewer rehabilitation projects are in the design and/or construction phase. These projects include: Somerville Avenue Sewer Spot Repairs; Sewer replacement in sections of Alewife Brook Area; next phase of the storm drain and sewer separation in the Ten Hills area; Somerville Avenue cured-in-place sewer lining which is associated with the Mass Highway Somerville Avenue Reconstruction Project.

Reporting Period Activity: See above work description. Also, Citywide Sewer Assessment Study is ongoing.

MWRA I/I Local Financial Assistance Program: The community has financed five (5) I/I reduction projects through the Authority's funding assistance program. Of the \$7,459,800 allotted through the Program's Phases 1-6, the community has \$3,534,510 remaining in funding assistance.

31. STONEHAM: North System

Background Information:

- Miles of Sewer: 63
- Sewered Population: 21,581
- Three Year ('01 - '03) Annual Average I/I: 1.42 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: CCTV Report in Study Areas V & VI (June 2004); Phase II Aqua Zoom Assessment (June 2004)

Private Source Inflow Removal Program: Continuing to inspect buildings on a limited basis.

I/I Rehabilitation Projects in Design or Construction: Design of the sewer rehabilitations as recommended by the CCTV performed in Study Areas 6 / 7 is on-going.

Reporting Period Activity: Completed the Aqua Zoom, cleaning and CCTV of the sewers in Study Areas 6 / 7. Upgrading of the GIS sewer mapping.

MWRA I/I Local Financial Assistance Program: The community has financed five (5) I/I reduction projects through the Authority's funding assistance program. Of the \$2,451,900 allotted through the Program's Phases 1-6, the community has \$408,000 remaining in funding assistance.

32. STOUGHTON: South System

Background Information:

- Miles of Sewer: 60
- Sewered Population: 17,611
- Three Year ('01 - '03) Annual Average I/I: 2.30 mgd
- Massachusetts DEP Administrative Order: No. 538 (Issued June 17, 1984)

Latest I/I or SSES Report: Phase VI SSES (February 2003)

Private Source Inflow Removal Program: TV inspection of service connections on-going.

I/I Rehabilitation Projects in Design or Construction: Phase VI sewer rehabilitation on-going.

Reporting Period Activity: Phase V rehabilitation construction complete.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$2,276,900 allotted through the Program's Phases 1-6, the community has \$840,000 remaining in funding assistance.

33. WAKEFIELD: North System

Background Information:

- Miles of Sewer: 93
- Sewered Population: 23,881
- Three Year ('01 - '03) Annual Average I/I: 3.05 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Subarea 6 Flow Isolation, TV and Manhole Inspection Report (March 2005); Sub-area 6 Smoke Testing Dyed Water Testing Report (March 2005)

Private Source Inflow Removal Program: Continuing to review alternatives for a program.

I/I Rehabilitation Projects in Design or Construction: Construction associated with the Subarea 6 Infiltration Rehabilitation Project (Contract 05-S1-1292) has been completed. It is estimated that approximately 158,700 gpd of infiltration has been removed. Additional manhole rehabilitation work was performed in the Edgewater Industrial Park area as part of Contract 05-S1-1292. This additional work removed approximately 14,600 gpd of infiltration.

Reporting Period Activity: Edgewater Industrial Park I/I Investigation Study Report was completed in May 2006. Underdrain Investigation & Preliminary Design draft letter report was completed in July 2006. Based on the information compiled from the Town's sewer record drawings, approximately 120 sewer manholes were identified as having suspected underdrain access points. During the inspection, infiltration defects were located at benches, inverts, walls, and sanitary sewer pipe connections in approximately 30 manholes. These defects contribute an estimated 53,568 gpd of infiltration. Approximately 39 sewer manholes were observed to have underdrain access points. Of the 39 manholes, 28 manholes had an access point with a tightly sealed cover. The remaining 11 access points either had a loose cover or no cover. From these 11 manholes, three access points were observed to be leaking a combined total of approximately 10,080 gpd of infiltration into the sanitary sewer. The other eight manholes had visible water inside the underdrain but were not actively leaking at the time of the inspection. The investigation and evaluation of the cross-country sewer between New Salem Street and Water Street is ongoing. The internal inspection / preliminary design of approximately 7,800 LF of the Quannapowitt Trunk Sewer is ongoing.

MWRA I/I Local Financial Assistance Program: The community has financed twelve (12) I/I reduction projects through the Authority's funding assistance program. Of the \$2,880,900 allotted through the Program's Phases 1-6, the community has \$723,300 remaining in funding assistance.

34. WALPOLE: South System

Background Information:

- Miles of Sewer: 59
- Sewered Population: 14,864
- Three Year ('01 - '03) Annual Average I/I: 1.28 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: SSES Phases 1 and 2 (June 2002)

Private Source Inflow Removal Program: There have been 85 suspect roof leaders identified. Town working with property owners for redirection design. Town includes house-to-house inspection program as part of its water meter replacement program.

I/I Rehabilitation Projects in Design or Construction: Under Contract 2006-21, 16,000 LF of sewer main was cleaned, TV inspected, joint tested and sealed. Additional work included 950 LF of sewer lining and open cut replacement and the rehabilitation of 34 manholes.

Reporting Period Activity: Construction of 4,500 LF of 8-inch sewer within Toll Brothers subdivision.

MWRA I/I Local Financial Assistance Program: The community has financed three (3) I/I reduction projects through the Authority's funding assistance program. Of the \$1,759,000 allotted through the Program's Phases 1-6 the community has \$620,000 remaining in funding assistance.

35. WALTHAM: North System

Background Information:

- Miles of Sewer: 138
- Sewered Population: 58,305
- Three Year ('01 - '03) Annual Average I/I: 6.18 mgd
- Massachusetts DEP Administrative Order: ACOP-NE-04-IN004 (3/16/05)

Latest I/I or SSES Report: Infiltration/Inflow Investigation Report for the Warrendale Area (August 2006)

Private Source Inflow Removal Program: The City is investigating the extent of the sump pump situation. An amnesty program will be offered for sump pump removal. A consultant will be planning the design and construction portion of this program. The City will be applying for SRF funding for this project in August 2006.

I/I Rehabilitation Projects in Design or Construction: The Hobbs Brook Sewer Rehabilitation contract which was awarded in June 2005 was completed in April 2006 (I/I removal of 100,000 gpd). The Metropolitan State Hospital Sewer Rehabilitation contract which was awarded in July 2005 was completed in February 2006 (I/I removal of 520,000 gpd). The Carlton/Felton/Elm Sewer Rehabilitation contract which was awarded in September 2005 was completed in June 2006 (I/I removal of 156,000 gpd). The Roberts Trunk Sewer Rehabilitation, contract is currently under construction will completion expected in Spring 2007.

Reporting Period Activity: See above work description. Private developers have also been involved in I/I mitigation. Over the last year, they have rehabilitated approximately 45 sewer manholes, removing approximately 154,400 gpd of I/I.

MWRA I/I Local Financial Assistance Program: The community has financed five (5) I/I reduction projects through the Authority's funding assistance program. Of the \$6,580,400 allotted through the Program's Phases 1-6, the community has \$2,368,000 remaining in funding assistance.

36. WATERTOWN: North System

Background Information:

- Miles of Sewer: 75
- Sewered Population: 32,915
- Three Year ('01 - '03) Annual Average I/I: 1.84 mgd
- Massachusetts DEP Administrative Order: ACOP-NE-97-5004

Latest I/I or SSES Report: I/I and SSES Analysis Draft Report (September 2000)

Private Source Inflow Removal Program: The Town performed 7 building inspections. The Town is requiring Beacon properties, a developer, to develop a public education brochure for I/I.

I/I Rehabilitation Projects in Design or Construction: The Town eliminated a direct cross connection between the storm drain and sewer at Common Street and Mt. Auburn Street, eliminating approximately 275,000 gpd of inflow. Another direct connection between storm drain and sewer at Mt. Auburn Street and School Street was eliminated by a developer. Design and construction of sewer rehabilitations in the Cottage Street, Spring Street, Arlington Street areas is ongoing.

Reporting Period Activity: Town conducted 1,350 LF of smoke testing of the sanitary sewer on Chester Street, Otis Street, Franklin Street, Washburn Street and portions of Mt. Auburn Street. TV inspection and repair of approximately 500 LF each of storm drain and sewer on Bancroft Street at Lexington Street. Cleaning and inspection of 1,808 LF of sewer on Nichols Avenue. Cleaning and TV inspection of Arlington Street siphon and upstream 18-inch sewer. The Town is proceeding with an SSES Study in those areas (Sub-areas 6/7/8/15/16) which exhibited excessive infiltration during the 1997 flow metering study (I/I Analysis Report of September 2000).

MWRA I/I Local Financial Assistance Program: The community has financed two (2) I/I investigation projects through the Authority's funding assistance program. Of the \$3,113,800 allotted through the Program's Phases 1-6, the community has \$2,161,200 remaining in funding assistance.

37. WELLESLEY: South System

Background Information:

- Miles of Sewer: 130
- Sewered Population: 25,648
- Three Year ('01 - '03) Annual Average I/I: 2.52 mgd
- Massachusetts DEP Administrative Order: No. 579 (Issued May 23, 1985)

Latest I/I or SSES Report: Phase 2 SSES (November 1994)

Private Source Inflow Removal Program: The DPW is contacting the owners of illegal sump pumps, based on previous private source inflow studies. To date, 18 sump pumps have been removed from the sanitary system.

I/I Rehabilitation Projects in Design or Construction: Contract No. 04C-50-05 (Sewer Rehabilitation in the Wellesley Farms Area - Year 3) is on-going. The project included the cleaning and television inspection of approximately 38,150 LF of sanitary sewer, testing 6,600 joints and sealing 2,215 joints.

Reporting Period Activity: The replacement/rehabilitation of 15 existing pneumatic ejector stations and 4 package sewage pump stations is complete. Greylock Road Pump Station rehabilitation is complete. A feasibility study to determine if alternatives exist to direct the discharge of the Boulevard Road Pump Station away from an intermunicipal connection with Newton's system is ongoing.

MWRA I/I Local Financial Assistance Program: The community has financed six (6) I/I reduction projects through the Authority's funding assistance program. Of the \$2,779,700 allotted through the Program's Phases 1-6, the community has \$1,925,076 remaining in funding assistance.

38. WESTWOOD: South System

Background Information:

- Miles of Sewer: 77
- Sewered Population: 13,407
- Three Year ('01 - '03) Annual Average I/I: 1.12 mgd
- Massachusetts DEP Administrative Order: No. 578 (Issued May 23, 1985)

Latest I/I or SSES Report: SSES Phases 1 and 2 (January 1991)

Private Source Inflow Removal Program: House-to-house inspection survey, as part of the FY06 Annual Inspection Program, has been completed. No properties were identified with illicit connections.

I/I Rehabilitation Projects in Design or Construction: The maintenance program for FY06 has been completed. The program included television inspection of seven miles of sewer, the testing and sealing of sewer manholes, and house-to-house inspection surveys to identify illicit connections to the sewer system.

Reporting Period Activity: Installation of 2,800 LF of new sewer extensions complete.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$1,209,300 allotted through the Program's Phases 1-6, the community has \$476,000 remaining in funding assistance.

39. WEYMOUTH: South System

Background Information:

- Miles of Sewer: 238
- Sewered Population: 51,855
- Three Year ('01 - '03) Annual Average I/I: 5.16 mgd
- Massachusetts DEP Administrative Order: No. 543 (Issued November 14, 1984)
(A new ACO was executed in 1999.)

Latest I/I or SSES Report: I/I Program Evaluation: Flow Monitoring (February 2006)

Private Source Inflow Removal Program: The Town has completed the redirection of 310 sump pumps (for an estimated 155,000 gpd of inflow removal). Six (6) sump pumps were redirected during FY06.

I/I Rehabilitation Projects in Design or Construction: Sewer System CIP Contract 1, Winter Street to Essex Street Sewer Replacement, completed June 2005. Approximately 123,900 gpd of infiltration removed from sanitary system. Lower Central/Old Swamp River Infiltration Rehabilitations (Contract S04-1) completed July 2005. Approximately 438,200 gpd of infiltration removed from sanitary system. Southeast/Landing Infiltration Rehabilitations (Contract S04-2) completed July 2005. Approximately 726,200 gpd of infiltration removed from sanitary system. Mill River/North Weymouth Infiltration Rehabilitations (Contract S05-1) completed June 2006. Approximately 509,500 gpd of infiltration removed from sanitary system.

Reporting Period Activity: Sewer System CIP Contract 3, Libbey Industrial Parkway Pump Station and Influent Gravity Sewer Rehabilitation construction approximately 90% complete. Sewer System CIP Contract 4, Force Main and Winter Street Gravity Sewer Rehabilitation, completed October 2005.

MWRA I/I Local Financial Assistance Program: The community has financed fourteen (14) I/I reduction projects through the Authority's funding assistance program. Of the \$5,561,900 allotted through the Program's Phases 1-6, the community has \$1,032,000 remaining in funding assistance.

40. WILMINGTON: North System

Background Information:

- Miles of Sewer: 20
- Sewered Population: 3,858
- Three Year ('01 - '03) Annual Average I/I: 0.74 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Draft Infrastructure Maintenance and Management Program (IMMP) Phase 2 Report (March 2005)

Private Source Inflow Removal Program: Town successfully petitioned a private resident on Lake Street to remove a basement sump pump which was discharging approximately 43,200 gpd of inflow to the sewer.

I/I Rehabilitation Projects in Design or Construction: Phase 2 of the Sewer System Rehabilitation project is 95% complete. An estimated 285,500 gpd will be removed through this sewer rehabilitation contract. This contract also included additional CCTV and sewer rehabilitation recommendations.

Reporting Period Activity: The Town is continuing with the next phase of their Infrastructure Maintenance and Management Program (IMMP). This will include another sewer rehabilitation contract or work order using the existing contract. The sewer rehabilitation work will be based on the recommendations from the IMMP – Phase II Report of March 2005.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$1,180,000 allotted through the Program's Phases 1-6, the community has \$212,000 remaining in funding assistance.

41. WINCHESTER: North System

Background Information:

- Miles of Sewer: 83
- Sewered Population: 21,161
- Three Year ('01 - '03) Annual Average I/I: 1.67 mgd
- Massachusetts DEP Administrative Order: Draft ACO in 2001.

Latest I/I or SSES Report: I/I Removal Report (April 1994)

Private Source Inflow Removal Program: The Town's Private Inflow Source Removal Program is on-going. Over 135 private inflow sources have been disconnected to date.

I/I Rehabilitation Projects in Design or Construction: No design work is currently being prepared.

Reporting Period Activity: Allstate Power Vac has completed cleaning and TV inspecting 52,000 LF of sewers and testing and sealing 11,300 pipe joints. The Town is preparing an RFP for the work associated with an update to the House-to-House Survey and for conducting a Smoke Testing Program.

MWRA I/I Local Financial Assistance Program: The community has financed three (3) I/I reduction projects through the Authority's funding assistance program. Of the \$2,072,000 allotted through the Program's Phases 1-6, the community has \$1,119,700 remaining in funding assistance.

42. WINTHROP: North System

Background Information:

- Miles of Sewer: 36
- Sewered Population: 17,981
- Three Year ('01 - '03) Annual Average I/I: 1.14 mgd
- Massachusetts DEP Administrative Order: None

Latest I/I or SSES Report: Preliminary Design Report/Shirley Street Sewer Rehab. (July 2002)

Private Source Inflow Removal Program: No additional inspections were reported during this period.

I/I Rehabilitation Projects in Design or Construction: In February 2006, the Town replaced approximately 30 LF of 12-inch sewer on Reed Street. The sewer had deteriorated beyond the rehabilitation stage, so it was replaced. This replacement work eliminated approximately 2,500 gpd of infiltration.

Reporting Period Activity: The Town has received MWRA funding for internal TV inspection of approximately 17,000 LF of sewer and inspection of 75 manholes in the area near the center of Town. The project will also include the design/construction of the sewer rehabilitations that are recommended by this inspection work.

MWRA I/I Local Financial Assistance Program: The community has financed four (4) I/I reduction projects through the Authority's funding assistance program. Of the \$1,614,400 allotted through the Program's Phases 1-6, the community has \$1,097,600 remaining in funding assistance.

43. WOBURN: North System

Background Information:

- Miles of Sewer: 141
- Sewered Population: 35,919
- Three Year ('01 - '03) Annual Average I/I: 5.59 mgd
- Massachusetts DEP Administrative Order: ACO-NE-01-1005 (August 16, 2001)

Latest I/I or SSES Report: West Side Building Inspections Final Report (April 2005)

Private Source Inflow Removal Program: A new Sewer Use Ordinance and Private Inflow Program were adopted in June 2004. Numerous inflow sources were removed at the request of the Plumbing Inspector and recorded in the Sewer Bank. Building inspections have been completed in both the Dix Road Pumping Station tributary area and the West Side Interceptor tributary area.

I/I Rehabilitation Projects in Design or Construction: Construction of the Dix Road Area sewer rehabilitations, as recommended by the July 2004 SSES, was completed in September 2005. This project also included recommended rehabilitations of the Sylvania Interceptor. Design of the West Side Sewer Rehabilitations was completed in October 2005. Construction is on-going with completion expected in Fall 2006.

Reporting Period Activity: Design for private inflow source removal is scheduled to begin during Winter 2005 with construction to begin Summer 2006. Additional building inspections and dye tests are being conducted in the 19% of houses not entered during previous inspection attempts.

MWRA I/I Local Financial Assistance Program: The community has financed six (6) I/I reduction projects through the Authority's funding assistance program. Of the \$5,318,500 allotted through the Program's Phases 1-6, the community has \$1,016,000 remaining in funding assistance.

ATTACHMENT 6
TO
MWRA ANNUAL I/I REDUCTION REPORT FOR FY06
Reporting Period – July 2005 Through June 2006

CY05 COMMUNITY WASTEWATER FLOW DATA

During CY05, MWRA completed a \$5 million capital project to replace and upgrade its wastewater metering system. Beginning in March 2004, all MWRA flow meters used to gather community wastewater flow data were taken out-of-service as part of the upgrade project. All meters remained out-of-service through March 2005 to facilitate installation of the new metering equipment and new data collection hardware/software. Metering system software upgrades and improvements continued throughout 2005, therefore, continuous electronic community flow data files were not available for 2005 to enable the analysis of community flow components. No CY05 community wastewater flow data is presented in this report. Community wastewater flow data for CY06 will be presented in next year's FY07 MWRA Annual I/I Reduction Report.