

# TOWN OF WINCHESTER



**BOARD OF SELECTMEN'S  
REPORT TO TOWN MEETING  
ON  
FLOOD MITIGATION,  
STORMWATER MANAGEMENT,  
INFLOW & INFILTRATION (I&I),  
AND WATER QUALITY**

**November 3, 2003**

## I. INTRODUCTION

**MISSION:** The Board of Selectmen, having been charged by the public to provide relief from flooding and having the responsibility to provide for a safe and healthy environment for all residents of Winchester, have established flood control, stormwater management, water and sewer system integrity, and water quality as top priorities and are committed to employing all means available in the most affordable manner to ensure the well-being of Winchester residents.

**A SHARED MISSION:** This mission is not that of the Selectmen alone, for it must be a cooperative effort among many bodies in town, neighboring communities, and multiple levels of government as the Town meets not only its moral responsibility but also a multitude of legal requirements of state, federal, and local laws and regulations regulating drinking water, sanitary sewer systems, clean waterways, wetlands protection, flood control, and prevention of hazardous waste contamination.

Failure to meet this challenge could lead to a reduced quality of life in town and potentially to economic loss similar to that experienced by our citizens and businesses during the 1996, 1998, and 2001 flood events, a loss currently documented to be well in excess of \$14 million.

### **PURPOSES OF THE REPORT**

Explain the Comprehensive Vision and Collaborative Process for Flood Mitigation

- Why and how it is a complex process with no simplistic solutions
- Why it has to be flexible
- Why most of it is invisible to the public and may appear unduly slow
- Where it is now

Summarize Legal Authorities and Cooperative Efforts

- Local Authorities & Their Involvement
- Town Meeting Initiatives
- Involvement of Agencies and Legislators
- Community Outreach
- Environmental Issues

Update Town Meeting on Water and Sewer Projects

- Past and Current Projects and Initiatives
- Future initiatives
- Finances: funds expended, funds available, funds being sought

Summarize the Board of Selectmen's goals and its commitment to them.

## **II. A COMPREHENSIVE VISION / A COLLABORATIVE, ELABORATE PROCESS**

Since 1999, when Camp Dresser & McKee (CDM) produced its *Aberjona River Flood Study* with 16 recommendations for flood-mitigation improvements, townspeople have been hearing about the Town's flood-mitigation plan. In actuality, there is not one plan; there are many interlocking ones, including plans for flood mitigation projects along both Aberjona River and Horn Pond Brook, stormwater improvements, inflow & infiltration of the sewer system, and the water quality of both our drinking water and our waterways. Further, ideas are being discussed through the Strategic Plan process which may be integrated with existing Town programs. All are meant to work together, guiding the Town toward realizing a vision of a safe, healthy, and attractive community.

The Town thus has a comprehensive vision and approach to its problems. It does not, however, have a single comprehensive plan, nor can it. The Aberjona River plan itself is not a complete plan but rather a program under development. It should not be supposed that because the Town has an engineering plan for flood mitigation that it is the complete plan. It was never meant to be. It is a framework.

Starting Point: After the floods of 1996 and 1998, the Board of Selectmen commissioned CDM to study the causes of flooding and make recommendations. That report, submitted in 1999, led to the board's adoption of a 16-point flood-mitigation plan. The board has also received a Horn Pond Brook Flood Control Evaluation from CDM, commissioned by Project Impact. The CDM recommendations are only starting points or frameworks. CDM performed hydraulic analyses and wrote hydraulic recommendations. These tell what the results of the projects should be and suggest engineering solutions but do not necessarily define how to get there.

Beyond Engineering: There are more issues to flood mitigation than engineering and more to drainage than piping. There are more causes of flooding than overflowing streams – there is also a stressed drainage system. There are more issues to flooding than excess water – there is contamination. There are more issues with water than flooding. There are more projects for the waterways than flood control - there is water purity, environmental protection, and public use. There is more involved than just Winchester, and all the issues are interconnected.

A Comprehensive Approach vs. A Comprehensive Plan: Given the number of intertwined issues, Town officials are taking a many-pronged, comprehensive approach to solving water and sewer problems, an approach that by necessity is evolving and must be flexible. Accompanying this comprehensive approach with a single complete and comprehensive plan is simply not possible due to the complexity of the processes and all the variables (beyond the New England weather).

Complexity:

- Before the Board of Selectmen or its staff may act, legal authority and legal changes may have to be enacted (see Section III).

- Different boards and committee have different authorities; collaborations with Town Meeting and Town committees must be established. Efforts must go forward by those bodies which have the proper authority to get things accomplished.
- Solutions must also respond to public concerns.
- Making and implementing plans cannot be done by Winchester staff and officials alone but also involves cooperation with neighboring communities, legislators, and a number of state and federal agencies, including;
  - Massachusetts Department of Environmental Protection
  - US Environmental Protection Agency
  - Department of Environmental Management
  - US Army Corps of Engineers.
  - Massachusetts Executive Office of Environmental Affairs (MEPA)
- All the environmental agencies examine a complex set of environmental issues. Flood fixes must address not just overflowing banks but also low-flow and drought conditions and all wetlands protections.
- There may also be considerations of the built environment, abutting properties, infrastructure, and historical preservation.

Each step of every plan or project involves a process of problem analysis, defining a solution in context of the environment, estimating costs, planning and securing funding, commissioning required tests, obtaining permits, holding meetings, bidding and awarding contracts for design work and for construction, and managing projects. At any stage, a project may have to be adjusted by new requirements or information.

### Variables

Town plans evolve not only because of the number of agencies, requirements, and conditions, any of which may shape and reshape the project over the entire length of the project's life, but also because there are many variables.

- **Cost:** The flood-mitigation program is very expensive, in excess of \$13,000,000. Different options for an improvement may carry different price tags, not determined until the design stage. The cost of replacing the Shore Road Bridge, for example, was considered prohibitively expensive, so an additional culvert was added resulting in the same desired flood relief.
- **Financing:** The Town cannot afford a \$13 million program, even if bonded. State and federal funds are crucial, but they must be sought individually over time and the results are impossible to predict. In addition, Town allocations must also be sought on an annual basis.
- **Environment & legal requirements:** The Town must respond to outside agencies and legal requirements, many concerned with environmental protection. Each site

must be studied for environmental conditions and impacts, and the findings (e.g., presence of contaminants) may affect the design and schedule of the flood solution. The Town must also meet many legal responsibilities, including an extensive number of permit applications to local, state, and federal environmental agencies (as noted above), each of which may have conflicting standards and requirements.

- Review: Projects also have to respond to committee and public concerns, also unpredictable.
- Design alternatives: After site conditions are known and evaluated and the conditions under which the work may be performed are established by the various agencies, each project must be designed. Design alternatives have to be weighed with regard to effectiveness, costs, and aesthetics before a final recommendation is chosen.
- Timing: Not only does each issue take time, but also information becomes available at different times. The outcome of one effort may affect what the next steps are to be and their sequence. All the information cannot be available all at once.
- Changing conditions: Prices, requirements, and other elements may change; unknown or hidden circumstances may surface.

It has been asked if all the variables could be analyzed up front and a master plan produced. Alternatives are and will be considered, in due course. Even the engineering plan has not been completely worked out, and engineering is the backbone of the project. When an engineering fix for each project has been determined, the rest may follow, but only in stages.

**If the plan had to wait upon every answer, there would probably be no project.**

The program based on the CDM recommendations was designed as a suite of individual projects that the Town can implement as funds become available. Each project contributes a measurable benefit to the Town, although all must be implemented for the full benefit to be reaped. Individual projects should not be delayed because the whole is not ready. No one knows when and if another devastating flood may occur. Given our recent history, we will probably not have to wait long. It is not prudent or responsible to delay life-, health-, and property-savings measures to weigh all the alternatives and complete all the details for a vision that can be realized only over a long period of time during which any number of things may change and alter the plan. Given that recent events have caused talk of revising definitions of 25, 50, and 100-year storms, the Town does not have the time to wait.

Past & Present: Over a century ago, Winchester had major water problems. The waterways were a contaminated, polluted mess, used for dumping industrial waste and residential trash. All along the river there were mosquito- and vermin-ridden marshes.

Improvement began with introducing sewers into town and enacting legislation requiring industries to use them. It continued with removing industry and lining the waterways

instead with a series of parks – Manchester Field, Ginn Field, Mill Pond, Leonard Pond and Field, and Davidson Park. Though the plans developed by the Town and MDC in the 1890s and by Herbert Kellaway in 1911 and 1928 were created principally to eliminate pollution and mosquitoes, they also included a vision of the river and brook as aesthetic and recreational assets running through and connecting the entire length of the town. Their implementation was under the jurisdiction of the Park Commissioners. The result transformed the waterways, giving the town cleaner water, landscaped parks, and the arched bridges and semi-circular dam at Mill Pond, the centerpiece of a revitalized civic center.

Today's Broad Scope: Today also the main goals of the Town's water programs are the health and safety of the community. Again, there could be a broad scope to the improvements, including such enhancements as paths, bikeways, park benches, shade trees, and more. In fact, the bikeway is being integrated into the railroad bridge project (#10). The channel projects are expected to include landscaping. The Mount Vernon Street bridge design is sensitive to its historic status. With the Conservation Commission and other environmental agencies having to approve every step of the plans along the river and brook, the ecology and natural environment will be well studied and protected, and vegetative landscaping improvements may be not only suggested but also required.

Kellaway mapped out a master plan, but times have changed. Though Winchester then had to have the cooperation of Town Meeting, various boards, and townspeople, it did not have the complex permitting processes required by local, state, and federal governments. It was not required to do the painstaking and costly environmental study and analysis as must now occur. Further, standards and values have changed. Kellaway's plans involved practices that might not stand up to today's ideas of good environmental protection or waterway design, such as the elimination of bordering wetlands. Whereas our Historical Commission has recommended preserving the Mount Vernon Street Bridge, Kellaway recommended replacing it.

The Town did not implement all of Kellaway's plans, and Kellaway himself changed his recommendations in response to various factors. The question of completing the Kellaway plan has also arisen. The Town, in fact, applied for a grant in 2002 to study the possibilities but was denied. A major impediment to integrating the Kellaway plan with current plans is that the Town has been significantly built up since 1928. It has developed so much that some of the projects undertaken on his recommendations have since been changed or even eliminated.

Opportunities: Though a master plan may be impractical, opportunities will nevertheless arise to develop the scope of individual projects. When each succeeding project gets to its design stage, public meetings will be held to decide what the projects will look like and what enhancements it may include and what they would cost. Then the Town can determine if it wants to put more money into the projects.

## **ACCOMPLISHMENTS**

Invisible process: Much of what has been accomplished since 1999 has been done behind the scenes, involving legal steps, cooperation, financing, permitting, and other measures that have to be taken before a shovel is ever put into the soil. This may lead to a perceived lack of progress with the plan. A review of the complexities outlined above should tell townspeople anxious to see the flood program implemented that the process has many challenges and constraints and no simplistic solutions.

Still, the Town can point to a number of important accomplishments. These are detailed in the report in the following sections:

- IV: Flood Mitigation
- V: Stormwater Management
- VI: Inflow & Infiltration
- VII: Water Quality

## **STATUS OF THE FLOOD-MITIGATION PROCESS**

Last summer, a major setback for the flood-mitigation program was announced, when the Secretary of the Executive Office of Environmental Affairs denied a requested waiver that would have exempted the next two flood-mitigation projects from a full Environmental Impact Review (EIR) required by the Massachusetts Environmental Protection Act (MEPA) and let them move right ahead. In July, the Selectmen announced that the project was on hold until the Town could assess the situation and decide a course of action.

Under MEPA regulations, an EIR is required for a flood mitigation plan. However, partial waivers may be issued. On advice from the assistant director of the MEPA Office, the Town submitted an Environmental Notification Form (ENF) prepared by CDM, which grouped the 16 points of the project, plus a storm drain project also needing MEPA review, into three phases. Though expecting to have to prepare an EIR for phases 2 and 3, the Town requested a waiver for Phase 1, which includes the two flood projects which are closest to completion and are believed to have no major environmental impact, i.e., the Cross Street culvert and the Mount Vernon Street Bridge.

In June a MEPA analyst met with local, state, and federal officials at Town Hall to gather input and make a site visit. Concerned committees and agencies were also invited to submit written comments. "Based on the information provided in the ENF and the comments received on the project," Secretary Ellen Roy Herzfelder wrote in a certificate on the ENF, "I am denying the waiver request."

The decision surprised Town officials not only because it was 180 degrees in the opposite direction of MEPA advice received just weeks before, but also because it expanded the scope of the project significantly past flood control to include storm water control, water quality, watershed management, and regional planning issues. The Town was told to evaluate project alternatives that include solutions beyond Town lines, though issues beyond the town borders are also beyond the Town's control.

Because of this decision, the Town was looking at a loss of time and increase in cost. An EIR for the entire river requires a lot of engineering and analysis up front, is estimated to cost hundreds of thousands of dollars and extend the process by several years. The decision did not recognize the Town's urgent flood problem or its approach to the overall project, which is based on funding becoming available.

Solution: The Town developed a strategy and is overcoming this hurdle. Recently, with the assistance of Senator Shannon, discussions were opened among the Town, MEPA, DEP, and Army Corps of Engineers relative to the Corps assisting the Town. Previously the Corps did a preliminary study of the river and determined that the channel from Bacon Street to Waterfield Road qualified for its 205 program and, while conducting tests and environmental analyses, is pursuing an economic study to determine if there is a feasible project to satisfy the cost/benefit ratio. The Corps also concluded that three sections of the river north of the Center might qualify for its 206 (wetlands creation) program. Thanks to the efforts of Bob Russo and John Connelly of the Corps, they have received permission from its headquarters to expand its work to do an environmental study for the entire Aberjona River in Winchester. MEPA, DEP, and the Corps are working with the Town and its consultants to develop a scope of work for the study.

The Corps' study would not only cover existing conditions and the local impact of the proposed improvements but also determine any negative impact on other communities. Further, part of the study would be to look at alternatives, required by the MEPA EIR. And that look will not be the Corps' job alone but will be shared by the community. During any design stage any project may be enhanced by any number of community ideas, to the extent they are supported by community dollars.

An immediate benefit of these meetings was an agreement among DEP, MEPA, and the Town to file for a Notice of Project Change relative to the MEPA decision on the Cross Street culvert so that this fully funded project could move ahead immediately. An additional benefit was a commitment from MEPA to take a fresh look at the Mount Vernon Street bridge proposal after the design is finalized. Therefore, the design process has recommenced with MEPA blessing.

Through this cooperative effort, a negative situation has been turned into a positive one.

### III. LEGAL STEPS & COLLABORATIONS

The Town is not one monolithic structure but an assemblage of boards, committees, and staff with different authorities which must work in partnership on environmental matters. Further, the Town must work cooperatively with State and Federal regulatory authorities. Though the public may become frustrated with the regulatory process, it exists and requires that local projects be backed by the proper local authority.

Various local authorities include:

- The Board of Selectmen, the executive arm of the Town.
- The Board of Health, which is responsible for the formulation and enforcement of rules and regulations affecting the environment and the public health.
- The Conservation Commission, which has responsibility for the preservation of open space and protection of wetlands through the provisions of the Massachusetts Wetlands Protection Act.
- The Historical Commission, which has the responsibility to advise on the Town's historic assets.
- Capital Planning Committee, which has the responsibility to recommend capital expenditures to Town Meeting.
- Town Meeting, which has the authority to allocate funding, to establish legal authority, and to establish by-laws.

The support of Town Meeting has been crucial. Its initiatives have given Town officials the legal preparation and tools to move forward, including:

- The amendment of the flood plain zoning by law requirement by spring Town Meeting to bring it in compliance with FEMA's insurance guidelines.
- A by-law amendment giving the Selectmen legal authority to regulate flooding and drainage improvements on the Town's private ways.
- The vote to establish special stabilization funds, which can only be used for capital improvements including those for Flood Mitigation Projects.
- The by-law amendment giving the Selectmen the power to impose fines on those parties who knowingly abuse state and local water and sewer regulations.
- The financing of the water treatment plant.
- The adoption of Chapter 110, placing MWRA's & Town Water & Sewer Debt on the tax rate, making it tax deductible and exempt from the limitations of Proposition 2 ½.
- The establishment of the Water & Sewer Enterprise Account.
- Establishment of Water and Sewer Connection Fee Revolving Fund.

Legal counsel is necessary through the entire program. One area that highlights this is the issue of dealing with the contaminated soils and sediments caused by over 100 years of industrial pollution. The Town and its environmental counsel, working in conjunction with the EPA team involved in upstream superfund sites and with DEP solid waste, are involved in an extensive testing and environmental review on a project-by-project basis in order to harmonize those two agencies' different approaches to the sedimentation, contamination, remediation programs in the river.

## COLLABORATIVE EFFORTS

### COLLABORATIONS WITH OTHER TOWNS & AGENCIES

Winchester cannot solve its flooding problems alone. First, since the Aberjona River and Horn Pond Brook run through several communities, flooding problems are shared by Winchester and its neighbors within the Mystic River Watershed, and changes along any portion of the waterways may affect other communities. Second, the waterways come under the jurisdiction of a number of local, state, and federal agencies. Third, the price tag for flood mitigation plus stormwater management plus I&I is enormous. Even with bonding, the Town could not pay it all without financially crippling the Town.

Listed below are the major current cooperative agreements and efforts.

Winchester-Woburn: To help prevent flooding, Winchester and Woburn have a coordinated flood control procedure by which the dams at Horn Pond and Mill Pond may be opened to lower the level of the river when a major storm is impending. The MDC, which controls the Amelia Earhart dam downstream, is also contacted.

Project Impact: Town Meeting adopted a Joint Powers Agreement to allow communities to act as one entity to spend money to mitigate flood hazards. In July 1998, the Aberjona-Mystic River Hazard Mitigation Working Group was formed to provide coordinated, multi-community response to flood issues. It evolved into the Upper Mystic River Watershed Board, which in 1999 was formally designated as a Project Impact Community by FEMA. In 2001 the Board of Selectmen authorized Winchester to participate in the Upper Mystic River Watershed Board to examine regional solutions to ongoing flood problems. Winchester is the lead agency, with Fire Chief John Nash serving as chairman.

Horn Pond Brook Flood Control Evaluation: In June 2001, the Board of Selectmen and Town Manager Brian Sullivan met with Woburn's mayor and City Council to discuss concerns with flooding from Horn Pond. Agreement was reached to use FEMA funds to conduct a hydrologic/hydraulic (H&H) study of Horn Pond and Horn Pond Brook. CDM finished a draft in March. Subsequently, the Aberjona/Horn Pond Brook Committee reviewed the report. Its comments were reviewed and incorporated if possible into the final document. The revised report was presented to the Selectmen on October 27, and the Conservation Commission, Planning Board, Board of Health, and all abutters to Horn Pond were invited to attend the meeting. (See also Section IV.)

Cummingsville Sewer Settlement: In November 1999, in response to the MWRA plan to construct an enlarged sewer line, Winchester filed a lawsuit against the MWRA and EOEA under the state's environmental impact review statute. A settlement was reached in Sept. 2002. As a result, the MWRA agreed to mitigate flooding and sewer overflows that might result in Winchester from proposed upgrades of the new sewer line. The cost of mitigation projects is estimated to exceed \$500K. They include moving the siphon at the MBTA Wedgemere station, which CDM recommended as a way to remove a major

downstream impediment to the flow of the Aberjona during a major storm event. Thus, this project is to be done at no cost to the Town. Other projects are the correction of sewer overflow problems at Edgewater Place and at Ginn Field and replacement or relocation of any Winchester-owned water mains along Sylvester Avenue that will be affected by the Cummingsville Sewer project.

MBTA: The replacement of a partially collapsed storm drain culvert under the commuter rail line this October was co-sponsored by the MBTA and the Town, with Winchester doing the design and permitting and the MBTA paying for the project. (See also Section IV.)

Tri-Community Bike Path: The bikeway project, a joint project among Winchester, Woburn, and Stoneham, provides for rebuilding the railroad bridge near the Muraco School (CDM recommendation #10), estimated to be the fourth most expensive project. (See also Section IV).

Army Corps of Engineers: In 2001 the Town applied for funding under the Army Corps of Engineers 205 Flood Control Program. After a preliminary study, the Corps agreed to perform a full feasibility study, now underway. (See Section IV.) The Town is pursuing further Corps' involvement, as discussed in Section II.

## OTHER EFFORTS

Winter Pond: Working with the community to improve Winter Pond, which is suffering from a lack of water, by bringing in water and improving its water quality, the Town got a \$50,000 state grant to hydro rake the pond. Last summer about 800 cubic yards of weed growth were taken out of the pond, enlarging its capacity. The project involved the assistance of the Friends of Winter Pond. The Town also applied for a federal 604(b) grant to study whether west-side storm water could be diverted away from the traditional system and sent through a stormwater management wetland facility to filter stormwater and convey it to Winter Pond. The grant was denied but is being reworked to be refilled.

Brownfields Revitalization Act: In 2002 the Town applied for a grant under the recently enacted Small Business Liability Relief and Revitalization Act, signed by President Bush that January. The purpose was to clean up the river bed and banks in the area of the former Whitten Gelatin Factory (Marotta property). The final proposal, submitted, in March 2003, was denied because Winchester did not satisfy some demographic factors.

Historic Preservation Grant: In 2002 the Town applied unsuccessfully for a grant to review the Kellaway Plan and see how it might be adapted to current plans.

## COLLABORATION OF STATE & FEDERAL LEGISLATORS

The Town has depended on the help of State and federal legislators who have annually supported the Town's efforts. In fact, realizing the area was vulnerable to flooding, Senator Charles Shannon and Representative Paul Casey inserted language in the

State's Open Space Bond Bill for dredging of the river and its tributaries a full year before the 1996 storm. The Town has sought the assistance of both Senator Shannon and Representative Paul Casey to promote better understanding of and to identify shared goals in the Aberjona River flood control project. Both have secured valuable state aid for Winchester projects, as has Congressman Edward Markey.

## **COMMUNITY OUTREACH AND PARTICIPATION**

Also essential to the process is community involvement, both input from the community and communication to the public.

Aberjona River Horn Pond Brook Selectmen's Study Committee: This committee was organized after the 1998 flood. Originally formed to advise on the Aberjona River report, its charge and membership were revised 2002. The group currently includes one selectman, representatives of the Board of Health, Conservation Commission, town manager, town engineer, and DPW director, plus citizen representatives. Its most recent activity (June 2003) has been to review and report on the CDM report on Horn Pond Brook.

Corps Feasibility Study: Public help was enlisted to assist the Army Corps of Engineers' cost/benefit analysis (see Section IV). The Corps distributed a questionnaire among commercial, retail, and residential property owners in the area of the river from Bacon Street to the high school in order to assess damages. As part of this process the Corps held a meeting on April 9, 2003 to explain the questionnaire and receive input.

Strategic Plan process: Through the Strategic Plan process, other goals for the waterways may be identified. The Steering Committee has discussed the river in terms of economic vitality, recreational infrastructure, and distinctive landscapes. The plan is scheduled to be presented to the public for its input in December.

Informational Meetings: The Town has held and will continue to hold public informational meetings. For example, in June 2001, after the storm, the Selectmen organized a public forum at the Jenks Center, the intent of which was to update the public on progress and to give residents an opportunity to let Federal and State officials and Legislators know of the severity of the problems and seek their financial assistance to implement the flood mitigation measures recommended by CDM. Attended by about 150 residents, participants included representatives of CDM, ACE, MEMA, FEMA, DEM, and the offices of Senator Shannon, Rep. Casey, Congressman Markey, Senator Edward Kennedy, and Senator John Kerry.

Public meetings are also being worked into the planning process for the Mount Vernon Street Bridge, as they will be with all projects having design stages. While earlier projects, were essentially engineering projects, this bridge project is the first to involve a design phase and is thus the first to be publicized for broad input. In addition to input from the Conservation and Historical Commissions, Planning Board, and Design Review Committee, valuable public input has been received and is being evaluated by the Town's Engineers. (See also Section IV.)

Reports: Reports on the Town's projects have been made at Selectmen's meetings and Town Meeting. Reports have been made to or by the Capital Planning Committee, Finance Committee, and Board of Health. A compilation of materials on flood mitigation has been placed in the public library, where board minutes are also available.

## **CONSULTANTS**

Special Counsel: The Board hired Choate Hall and Stewart as special environmental counsel to work with Town Counsel on the Cummingsville lawsuit and subsequently on difficult problems relating to hazardous materials contamination which could be caused by dredging and channel widening in the Aberjona.

Other Consultants: Staff expertise has been supplemented by the use of licensed site professionals, an environmental consultant, and a historian.

## **IV. FLOOD MITIGATION UPDATE**

### **ABERJONA RIVER**

#### **PROJECTS AND INITIATIVES**

At the 2002 fall annual Town Meeting, the board reported that two of the 16 projects planned for the Aberjona River, the Shore Road culvert (#5) and removal of the dam behind the Muraco School (#12), had been finished, that others were under design or study, and that the Town had negotiated for the MWRA to assume the siphon relocation project (#1). Below is an update on all past and current river projects and initiatives in chronological order.

Sequencing: The board has been questioned about taking the projects out of order. Ideally, had the money been available, projects would have gone in sequence from downstream to upstream. However, the Town can only do what it can pay for. The funds initially available were limited and thus used on less costly projects, but only because they were deemed to have minimal impact. In some cases the funds were earmarked by the State for specific projects. The projects anticipated to have the most impact are those widening the river channel, which will begin downstream. The section from Bacon Street to Waterfield Road is, in fact, now under study by the Army Corps of Engineers. Once that and other current projects (#4 and #13) are completed, the next project is the high school field culvert. Then the plan is to move upstream in numerical sequence. A possible exception is the railroad bridge, if funding comes through for the bikeway.

## **COMPLETED PROJECTS**

Shore Road Culvert (#5): A parallel 6' x 5' culvert was constructed during the summer of 2002, using both state and local funds. The alternative to the culvert was to build a new bridge, which would have tripled or quadrupled the cost and gained no additional hydraulic capacity.

Dam behind Leonard Field, near Muraco School (#12): Removed by the DPW during Fall 2002, the dam was originally built in 1932 to help maintain the level of the water in Leonard Pool, then fed by the river. The pool was separated from the river in 1938. At the request of the Conservation Commission, the Town worked with a wildlife specialist through CDM.

Center Falls Dam (#3): The installation of one of two valves is finished. A 30-inch valve, part of the dam when it was built in 1915, on the north side of the Center Falls Dam was replaced with a five-foot butterfly valve last fall. Because of an early winter and because storms and cold will not allow the concrete to set up, the concrete work, as well as the landscaping, were finished in the spring. The Town has the option of also replacing the south valve. The only alternative measure would have been to reduce the height of the dam, destroying part of an historic structure. The Design Review Committee was consulted with the design.

MBTA Culvert: The replacement of a partially collapsed storm drain culvert in the vicinity of Davidson Park under the commuter rail line was accomplished over the weekend of October 22-23, 2003. The project is designed to improve drainage and lower the water levels at the park.

## **CURRENT PROJECTS & INITIATIVES**

Cross Street Culvert (#13): This project is at the point of going out to bid. It has received all its permits, the Conservation Commission having issued an Order of Conditions in May. As noted in Section II, the project will be the subject of a Notice of Project Change by agreement with the DEP and MEPA so it can move forward to construction in Spring 2004.

The project is planned to enlarge the capacity for flow passing under the bridge through the construction of a 5'x12' parallel relief culvert next to the existing 6.5' x 16' bridge opening. To address concerns of the Conservation Commission regarding dry weather flows, the design incorporates provisions to install stop logs at the inlet of the new culvert to allow for operational control and isolation of river dry weather flows. In addition, it has been designed so it will not interfere with the public's access to the shoreline or the navigability of the river.

Mount Vernon Street Bridge (#4): Alternatives for altering the bridge are under design and review. The Town hired Bayside Engineering to design alternatives for increasing the bridge's hydraulic capacity while also maintaining historic characteristics and considering cost, functionality, and aesthetics. The Town employed the services of

local historian Ellen Knight to research the bridge's history. That background and preliminary design concepts were presented at a public informational meeting on April 15 attended by members of the Planning Board, Design Review Committee, Conservation Commission, Historical Commission, Historical Society, and others. Design alternatives were narrowed to adding a fourth culvert on the east end of the existing structure (which currently has three 8-foot wide openings) or replacing the bridge with a new single- or double-arched structure. A second public informational meeting was held Oct. 28. A consensus was developed around two possible options – a fourth culvert or a by-pass, under water culvert. Various bridge railing configurations will be evaluated with the goal of allowing some views of the River through the railings. Once design is finalized, this project will also be the subject of a Notice of Program Change so it can move forward prior to the completion of the EIR.

The existing bridge, constructed in 1872, is the oldest surviving stone highway bridge in Winchester. It was listed on the National Register of Historic Places as part of the Winchester Center Historic district in 1986. As a result, the Massachusetts Historical Commission requested that photographs of the original structure and plans be submitted for its review; the information was supplied by the local historical commission. When further projects are engineered and enter the design stage, input from the Historical Commission will again be crucial.

Wedgemere Siphon (#1): As a result of the Cummingsville Settlement, the MWRA agreed to mitigate flooding and sewer overflows that might result in Winchester from proposed upgrades of the new sewer line, including an agreement to relocate the MWRA siphon at the Wedgemere train station, removing a major downstream impediment to the flow of the Aberjona during a major storm event. The schedule for this project is being developed by the MWRA.

Channel Widening Bacon Street to Waterfield Road (#2): The Army Corps of Engineers has been engaged in a year-long feasibility study including environmental testing and financial fact-finding. Part of this study is the potential environmental impact of dredging the sediments and removing the bank materials, both of which contain potentially hazardous materials. As a result of the MEPA decision, the Corps has agreed to include the entire Aberjona River in Winchester in the study and address DEP and MEPA environmental concerns. The Town and Corp, closely working with Joe Lemay of the EPA and DEP staff and utilizing as a base line the data from the recently completed EPA risk assessment and environmental study of the Aberjona River, are hard at work on this critical element of the project. The early results look very promising. The EPA has cooperated with the Town in reviewing plans and specs for flood mitigation projects prior to bidding.

Associated with the channel widening is the restoration of the river bank along the project site. The objective would be to return the area to a park setting. Replacement landscaping with bicycle and pedestrian paths and well as bioengineered bank protection to support plantings consistent with a park setting would be incorporated into the design, after the engineering solutions are evaluated. All will require substantial public input and dollars.

Atlantic Gelatin: Complementary to the original 16-part Aberjona River plan, the Town and Atlantic Gelatin, which is located in Woburn and Winchester, filed a request in June with the Army Corps of Engineers for a federal wetlands restoration program (206 program). The Corps is considering developing the Atlantic Gelatin site at the Woburn / Winchester line as a potential flood retention area during major storm events.

## **FUTURE INITIATIVES**

Ciarcia Field (#6): As noted in Section II, the Army Corps has agreed to expand its environmental study to include the entire Aberjona River within Winchester. If the feasibility study for the Bacon Street to Waterfield Road justifies the Corps' continuing through to the end of that project, the next step would be the Ciarcia Field culvert. This involves putting an additional culvert under the high school field to supplement the three seven-foot diameter culverts installed beneath the high school field in 1968 to convey river flow underground and create the field. A suggested alternative by the Conservation Commission is daylighting the river, though a preliminary engineering view is that the river would overflow and the use of the field would be lost. The Board of Selectmen plans to schedule a public hearing to obtain public input on the daylighting proposal.

Railroad Bridge near Muraco School (#10): It is planned to combine the tri-community bikeway and flood-mitigation plans at this point and build a large 9-foot-diameter culvert for both the river and bikeway to pass parallel under the railroad. It is to be built at the site of the existing railroad bridge, which crosses the river between the Muraco School and transfer station. This plan offers safe passage for cyclists under the railroad, and, during heavy storm events, a flood-relief culvert. The project is dependent upon all bikeway right-of-way issues with Stoneham, Woburn, and Winchester being resolved. Town Engineer Bob Conway is the lead agent on the bikeway project.

## **HORN POND BROOK**

### **PROJECTS & INITIATIVES**

Horn Pond Brook Flood Control Evaluation: In October, CDM completed a report for the Upper Mystic River Watershed Board. The study had two primary objectives: reducing flood risks along Horn Pond Brook and reducing the risk of overtopping Scalley Dam. The report contains recommendations for improvement but no cost estimates. The Selectmen held a public hearing on October 27, as a result of which the Town will be evaluating if we want to contract with CDM to do additional work relative to the study.

Groundwater Infiltrators: After FEMA rejected a proposal for Project Impact to reconstruct Scalley Dam, it was decided to install infiltrators in Burlington and Woburn. They are scheduled to be installed late this year. These systems will be installed within

existing developed parcels and enable runoff to be recharged into the groundwater rather than flow as runoff to the river.

Canal Street and Sylvester Avenue Bridges: This maintenance project was put on a fast track in hopes of having it completed this calendar year. This project went out to bid after the Conservation Commission issued an Order of Conditions in late September. However, since no bids were received (it being too close to winter) the project has been put back out to bid for work to commence in the spring of 2004. The bridges, which were damaged in the flood of 2001 and have continued to deteriorate, are to be replaced with reinforced concrete culverts four feet wider than the current structures. The Waterfield Design Group was hired to work on the design. The plan is to use a bottomless box with a single opening to minimize disruption of the stream and be less costly. These design modifications were the result of input from our Conservation Commission. Construction is expected to take a little over two months.

Though primarily a repair project, the new culverts have been designed with flood control in mind. Widening the bridges will improve hydraulic conditions by reducing the potential for debris to block the river. According to CDM, the widening will make no difference in downstream conditions during 100-year flood conditions

## FINANCING

### COMPLETED PROJECTS

Muraco Dam (#12)

Actual Cost: \$4,000  
(work done in-house)

Center Falls Dam (#3), replace two valves  
replacement of one valve

Actual Cost: approx. \$295,000

Shore Road Culvert (#5)

Actual Cost: \$115,000

Funding:

- Town: FY 03 \$250,000 borrowed for Center Falls dam and Shore Road culvert.
- DEM: \$400,000 in construction grants for Center Falls Dam, Shore Road culvert installation, and Cross Street culvert addition

MBTA Culvert

Cost to the Town: \$0

### CURRENT PROJECTS

Cross Street Culvert (#13)

Estimated Cost: \$400,000

Funding:

- Town: FY 03 \$200,000 allocation, meeting the requirement for matching a state grant.
- DEM: \$200,000

Mount Vernon Street Bridge (#4)

Estimated Cost: \$700,000 - \$1,500,000

Funding:

- Town: FY 03 Capital Stabilization Fund, \$170,000 for the design.
- State: A \$1.5 million funding request for the Mount Vernon Street Bridge construction costs was inserted in the transportation bond bill by Representative Casey and Senator Shannon.

MWRA Siphon (#1)

Estimated Cost: \$500,000  
Actual Cost to the Town: \$0  
The MWRA will pick up all costs due to the Cummingsville Settlement.

Bacon St. to Waterfield Rd. Channel (#2)  
Feasibility Study

Estimated Cost: \$1,949,000 (Town 17 ½-35%)  
Estimated Cost: \$300,000 (Town 50%)

## Funding

- Town: FY 2002, \$100,000  
FY 2003 capital stabilization fund, \$130,000 for feasibility study testing and permitting.
- Federal: 50 % matching funds for the study.

If the Corps continues the project, construction costs will be shared 65% / 35% by the Corps and Winchester. It is typical that the Corps will enter an agreement with DEM, and DEM funds 1/2 of Town's 35% share.

### Sylvester Ave. and Canal St. Culverts

Estimated Cost: \$750,000

#### Funding:

- FEMA approved funding through MEMA of \$240,000.
- Balance from Phase I Drainage Appropriation.

## **FUTURE INITIATIVES**

### Ciarcia Field Culvert (#6)

Estimated Cost: \$4,500,000

#### Funding:

- Federal: \$145,000 anticipated. In July 2003 Congressman Markey announced that the House Energy and Water Subcommittee on Appropriations had approved \$145,000 in FY 2004 funding for Winchester for a major flood mitigation process. It is earmarked for the field culvert, if approved by Congress. Congressman Markey is pursuing additional federal funding to cover a more substantial portion of the construction costs.

## **SUMMARY OF TOWN APPROPRIATIONS**

\$200,000 - June 2002 Town Meeting appropriation (Cross Street culvert)

\$100,000 - FY 2002 appropriation (matching share for cost of Corps' study)

\$350,000 - FY 2003 authorization to borrow (Center Falls Dam and Shore Road culvert)

\$300,000 - FY 2003 Capital Stabilization Funds (Mt. Vernon Bridge, Army Corps Study)

\$280,000 - FY 2004 Capital Stabilization Funds (not yet allocated)

After voters passed a general override in 2002, a capital stabilization fund was created, making \$800,000 available for capital projects annually. The Capital Planning Committee decided to use this fund for large, long-term projects, including flood mitigation. It is anticipated that about a third of the fund may be dedicated to this project for several years into the future. This decision, carried through in the last two capital reports, evidences the support of the Capital Planning Committee for the Selectmen's flood mitigation plan.

## **GRANTS**

It should be noted that every project underway has some sort of outside funding associated with it, evidence of official efforts to minimize the use of Town dollars.

STATE: Senator Shannon and Representative Casey have placed both Winchester and Mystic Valley flood-mitigation projects into transportation bond bills, including the \$1.5 million for the Mount Vernon Street Bridge. Winchester has also received \$400,000 in DEM construction grants.

FEDERAL: Congressman Markey has also come to Winchester's aid, getting federal funding for the Corps' share of the environmental study and working on funding for the Ciarcia Field culverts.

## **V. STORMWATER MANAGEMENT**

Winchester's flooding problems stem not just from the streams but also from the drainage systems. Thus the Town is aggressively tackling town-wide drainage improvements along with flood-mitigation measures along the Aberjona River and Horn Pond Brook.

### **CURRENT PROJECTS AND INITIATIVES**

Stormwater Management Plan: In response to an Environmental Protection Agency (EPA) mandate to meet requirements of the EPA's National Pollutant Discharge Elimination System (NPDES) Phase II stormwater regulations, the Town asked CDM to develop a Stormwater Management Plan. After consultation with the Conservation Commission, Planning Board, and Board of Health, CDM prepared the plan, which concluded that Winchester is in compliance with NPDES Phase II permit eligibility requirements, and in July the Board of Selectmen approved the plan to be forwarded to the EPA.

In 1987, the EPA amended the Clean Water Act to require a two-phased national program to address water pollution from stormwater. Phase II regulations require certain urbanized areas, including Winchester, to obtain a NPDES permit. The goals of the plan are to reduce the discharge of pollutants to the maximum extent practicable and protect water quality. The plan describes best management practices (BMPs) that the town is to complete over the next five years for the six minimum control measures listed below.

The Town already has some stormwater programs that can be used to help fulfill the EPA requirements, including (to name a few) volunteer cleanup at Winter Pond, the addition of the storm drain system to the GIS, review of all site plans for erosion and sediment control, reduced DPW use of pesticides, the purchase of a new catch basin cleaner, and hazardous-waste collection days. The Town is moving forward to incorporate as many more of the BMPs as we can in the stormwater program.

In order to comply with the plan, additional costs to the Town would include an additional 10% to any capital requests for drainage, the cost of permanent water control devices incorporated into the project storm drain system, and an estimated \$30,000 to

\$50,000 annual costs for the good housekeeping of the storm drain and roadway network.

A total of 35 best management practices are included in the plan as follows:

I. Public education and outreach,

1. Article/brochure about stormwater in the annual Consumer Confidence Report (mailed annually to every residence and business).
2. Send information about proper disposal of lawn waste to landscape contractors in Winchester.
3. Staff a table with information about stormwater at Town Day each year.
4. Offer to give a stormwater education presentation for all classes of a middle school grade.
5. Install and maintain “do not feed the waterfowl” signs at popular feeding areas.
6. Annual update of Stormwater Management Plan at a televised Selectmen’s meeting.

II. Public participation/involvement

1. Comply with state public notification guidelines in MGL c. 39 § 23B (with which the Town is already complying)
2. Give prize to a water- or environment-themed artwork in the Middle School art fair.
3. Provide in-kind assistance to river and pond clean-ups.

III. Illicit discharge detection and elimination

1. Conduct dry weather outfall screening.
2. Map stormwater outfalls and receiving waters.
3. Map the stormwater collection system in a GIS.
4. Develop and implement a plan to identify and remove non-stormwater discharges to the MS4.
5. Develop a water and sewer regulation to allow Town inspectors into a building to check for illicit connections to the storm drain.
6. Develop a water and sewer regulation to make it illegal to improperly connect a sanitary sewer to the storm drain system and to dump pollutants into the system.
7. Develop a water and sewer regulation to require inspection of new construction for correct connection to the sanitary sewer.

IV. Construction site runoff control

1. Require a construction site erosion and sediment control plan for construction sites greater than or equal to one acre in area.
2. Require a waste management plan at construction sites greater than or equal to one acre.
3. Continue to review site plans for stormwater impacts.
4. Hold a public hearing for each new construction project that disturbs greater than or equal to one acre of land.
5. Inspect and enforce erosion and sediment controls.

V. Post-construction stormwater management in new development and redevelopment

1. Develop a draft water and sewer regulation to apply standards 2, 3, 4, and 7 of the Massachusetts Stormwater Policy to the entire town; present the regulation to the Board of Selectmen.
2. Specify a stormwater BMP manual to be used for consistent design and performance standards.
3. Develop a draft water and sewer regulation that ensures long-term maintenance of structural BMPs.
4. Continue to allow conservation restrictions on private land.

VI. Pollution prevention/good housekeeping for municipal operations

1. Continue employee training program.
2. Identify sensitive receptors (such as wetlands, beaches) within the town.
3. Control street and parking lot sweeping.
4. Calibrate salt spreaders and monitor industry "smart salting" standards.
5. Clean all catch basins at least once every five years and clean drain pipes as necessary.
6. Train staff in the proper application of herbicides, pesticides, and fertilizers.
7. Hold annual household hazardous waste drop-off day.
8. Continue proper snow disposal.
9. Develop and implement a plan for catch basin and street sweeping residual disposal.
10. Evaluate the Town yard and transfer station for stormwater good-housekeeping practices.

Town Way to Stowell Road: Now an independent project, this project was formerly included in the ENF for Aberjona River flood mitigation. The project involves replacing drain lines and catch basins along several streets. CDM performed a capacity analysis. The design is nearly complete and should be bid during the winter of 2003-2004.

Drainage Improvement Plan: In recent years, because of budgetary constraints, limited funds were allocated to maintain storm drains. During 2002, the Capital Planning Committee worked with the Board of Selectmen in planning the Town's drainage improvement program, an estimated \$7 million, five-year project that will be funded through Chapter 110 residential real estate taxes and commercial water/sewer uses, timed for minimal impact on taxpayers as other projects are complete. Spring 2002 Town Meeting voted that projects totaling \$3,000,000 be bonded. The plan is to be implemented in three phases.

Phase I: The most important drainage work to be undertaken in the short term are those projects that have been identified by virtue of documented flood complaints and problems. CDM proposes to conduct a capacity analysis on the projects the Town has already identified for this phase, which includes small projects that do not require detailed designs and for which permits can be obtained early.

Projects for FY04 - FY05 include:

- Wickham Road/West Chardon Road, installation of a new percolating drain line in West Chardon Road to act as a relief storm drain for the Wickham Road area, under design, to be bid for spring 2004 construction.
- Myopia Road, drain line installation and roadway reconstruction, construction to be completed summer 2004.
- Highland Avenue, Thornberry Road, and Squire Road, 3 trash racks and possible headwalls, to be combined with next project and bid spring 2004.
- Thornberry Road/Berkshire Drive, basin replacement at intersection.
- Marchant Road, TV inspection, evaluation of drain line, installation of double-grate basins, possibly combined with Town Way project, for installation spring 2004
- Lockeland Road, evaluate 18" outlet to golf course
- New Meadows and Thornton Roads, drain line replacement, new catch basins, to be bid spring 2004.
- Cox Road, drain line replacement, study for capacity restrictions
- Squire Road, drain line replacement at Thornberry Road
- Winter Pond / Cambridge Street, drain line replacement, overflow from West Side Field area
- Tufts Road / Harvard Street, drain line replacement, CB inlet problem at Chester & Irving, drain size from Chester to Tufts, settled pipe Tufts to river.
- Pocahontas Drive, replace undersized drain downstream of Lockeland Road.
- Arlington Street, replace drains, catch basins, and curbing to prevent flooding, under design for spring 2004 construction.
- McCall Road, replace drain line and roadway construction, bid in Nov./Dec. for spring 2004 construction.
- Woodside Road Catch Basins, two new catch basins were installed June 2003 for improved drainage and protection of Winter Pond. Basins have four-foot sumps to capture sediment and hoods to prevent floatables and hydrocarbons from entering Winter Pond.

Washington Street Reconstruction Program: Phase I of this state construction contract, now about 60% complete, involves major drainage improvements.

## **FUTURE INITIATIVES**

Capacity Analysis: CDM has been asked to do a capacity analysis of the Town's entire drainage system to identify the scope of construction of Phase I projects (FY 2004-05) and major projects that should be undertaken during FY 2006-2007 and to estimate the costs associated therewith. After completing Phase I, it will next evaluate the remaining projects for the Town's phased list and produce a prioritized list of projects based on the impact to flood improvement with estimates of construction costs. Finally, CDM will evaluate the remaining portions of the storm drain system and identify areas that may be undersized and require improvement as funds become available.

## FINANCING

Town: FY 2003 \$3,000,000 bond authorization for drainage improvements.

Water and Sewer Operating budget:

FY 2003 \$40,000

FY 2004 \$75,000

## VI. INFLOW & INFILTRATION (I&I)

The reduction of Inflow and Infiltration (I&I) is critical to effective control of storm water and water quality. During storms and floods, water and sewage can back up into homes, and sewage can surcharge, contaminating flood waters on fields, yards, and other areas around town. Major causes are inflow - water flowing into the sewer system through illegal tie-ins - and infiltration - water leaking into the system through breaks.

On an average day, the Town's sewerage can handle normal usage. During storms, if sump pumps are all pumping water out of basements into the sewer system rather than outside or into the storm drains, they max out the capacity of the sewers causing them to back up. The excess can also cause sewers to overflow or surcharge.

With the help of MWRA funds, the Town has made considerable progress toward its goal of eliminating I&I. The Board of Selectmen, working closely with the Board of Health, the Conservation Commission, and DEP, has taken significant steps to reduce the infiltration of storm and drain water into our sanitary sewers and to prevent the flows from our sanitary sewers from entering our lakes and rivers.

## PROJECTS & INITIATIVES

Sump Pump Reduction Program: This program locates and remedies illegal residential sump-pump tie-ins to the sewers. It was begun with MWRA grants by which the Town pays 45% of costs and the MWRA 55%. Due to the possibility of homeowner's being unaware of their improper use of sump pumps, an Amnesty Program was initiated. Over a three-year period mailings were sent to residents notifying them of the program and asking that sump pumps wrongly connected to the sewer system be remedied to pump water outside. Up to \$1,000 per householder has been made available to correct the illegal sump pumps. To date about 104 residents plus the Parkview Condominiums have taken advantage of the program. To continue the program, the Town is also checking for illegal connections through home inspections.

TV camera testing: To locate breaks and stop infiltration, the Town has been doing TV camera inspections. Sewers are inspected by running a camera up a line to each joint, spaced every 13 feet or so. The joint is pressure tested and, if needed, sealed on the spot. Then the camera proceeds to the next joint. To date, about 16 miles of sewer line

(out of a total of 86 miles) have been done in two programs with two MWRA grant loans. Seven broken sewer lines have been repaired. The Town has purchased its own TV, and the program is ongoing. The DEP recommends doing about 5% of the community each year.

Sewer System Evaluation Survey: With the help of another MWRA grant, the Town has just contracted CDM to update the SSES survey done in the 1980s by Coffen & Richardson, Consulting Engineers. The study, which is essentially a master plan for the sewer system, is expected to take 18 months. It will involve monitoring flows town-wide during both wet and dry times in order to check flow, capacity, and stormwater infiltration.

Edgewater Place: As part of the Cummingsville settlement, the MWRA is examining the sanitary sewer siphon which runs under the lake to see if it is over capacity and what other improvements may be necessary.

## FINANCING

<u>First MWRA Loan/Grant</u> 1994-95	\$236,700 – 75% loan/25% grant
Plus Town funds	TOTAL: \$300,609.85

Work: Tested and sealed 57 manholes and 41,000 ft. of sewer pipelines

<u>Second MWRA Loan/Grant</u> 1998	\$377,200 - 75% loan/25% grant
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Work: Repaired broken pipelines found in first phase; tested and sealed manholes and 52,500 feet of sewer pipelines; disconnected drain overflow connections; funded the removal of sump pump connections to the sanitary sewer system,

<u>Third MWRA Loan/Grant</u> 2001	\$338,400 – 55% loan / 45% grant
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Work: Continued and combined with second MWRA project for continued sump pump removal program; prepared GIS base sewer system mapping; sewer system evaluation survey and inventory (SSES); wet weather gauging of sewer system to evaluate problem areas; house to house internal inspection to locate sources of inflow.

<u>Fourth MWRA Loan/Grant</u>	\$371,700 - 55% loan / 45% grant
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Work: It is anticipated that these funds will be used to perform engineering and construction work found to be necessary based on findings of SSES work under phase 3, expected in Summer 2004.

<u>Town Funded Project</u> 2003-04	Est. \$300,000
Funded from sewer connections fee account.	

Work: Testing and sealing of manholes and approx. 40,000 ft. of sewer pipelines in area contributing to MWRA Gauge WC-4C near Fenwick Road; design in progress, expect construction to begin in Spring 2004.

## VII. WATER QUALITY

### POTABLE DRINKING WATER

Improvements having been made to the water system in past years, attention is now focused on the sewer system. Nevertheless, water quality is still a high priority. Past and continuing water improvements include the following:

The Randall Swartz Water Treatment Plant was completed in 1996 at a cost of \$6.4 million to put the reservoirs in compliance with the Federal Clean Water Act and the Surface Water Treatment Rule.

Spot Pond Water Agreement: Separate negotiations between the MWRA and the Town, which commenced in 1993 and were concluded during the Cummingsville Settlement, led to the formalization of the Spot Pond Water Agreement, under which the MWRA agreed to transfer its Spot Pond overflows free to the Town reservoirs for the next thirty years. This will provide the Town with approximately \$7,500,000 of free water while at the same time protecting Stoneham from flooding due to Spot Pond overflows. To date 150 million gallons have been taken. MWRA water normally costs \$1,650 per million-gallons.

Cleaning and Lining Mains: Since 1987, when a master plan by Weston and Sampson was completed, the Town has taken aggressive measures to clean, line, and replace mains town-wide and has completed this program. Town Meeting appropriated millions of dollars for this project.

Leak Detection: Twice a year the Town operates a leak detection program in accordance with MWRA guidelines.

Washington Street: A new water main on Washington Street was looped to provide better circulation, water quality, and fire flows, to 17 dead-ended streets from Symmes Corner to Forest Street. Phase I was done in the early 1980s and was all finished by 1998.

### WATER POLLUTION

EPA Comprehensive Risk Assessment: The EPA undertook a study of the Aberjona River and published preliminary findings last spring. The report identified two problem areas with potential health and safety issues, Wells G and H and the cranberry bog in Woburn. The final report, due this winter, should include potential impacts of the remediation work in Woburn upon Winchester. The EPA is also monitoring sediment migration.

In concert with the EPA study, the Army Corps of Engineers did sampling of the embankments and stream bed of the river in Winchester between Bacon Street and Waterfield Road. The Corps is finalizing their numbers.

It should be noted that EPA regulations dealing with sediments have not been finalized and are still subject to the deliberative process of a variety of federal agencies. Accordingly, at this time it is difficult to put a cost on the dredging or removal of the sediments.

## VIII. COMMITMENT

Since the beginning of the community that grew into the Town of Winchester, the Aberjona River and Horn Pond Brook together have played a key role in the town. In many ways they have been assets, environmentally, aesthetically, recreationally, and economically. But they also present challenges and hazards, including pollution and flooding. This dual nature also characterizes the water and sewer systems. They provide beneficial services but may, without proper care, carry the potential for public harm.

The first goal of the Board of Selectmen is to pursue every means available to prevent harm to life and property, through flood mitigation, improved stormwater management, and water purification projects. The Board is thus *committed* to keeping flood control and water quality as top priorities.

The second goal is to do this in a fiscally responsible manner. Because of limited resources, the board is *committed* to minimizing Town dollars spent on its water projects while maximizing federal and state dollars to move forward expeditiously.

A third goal is to consider, within the constraints of an urgent safety situation and a strained fiscal position, improving the environment and quality of life by enhancing the assets of the waterways. As far as it enjoys community support, the board is *committed* to a vision of renewed green spaces, protected wildlife habitats, and recreational opportunities such as bike paths and trails, which not only enhance the beauty and pleasures of the town but also its economic vitality. It is further *committed* to related goals in the Strategic Plan as feasible.

A final goal, accompanying all of those above, is to listen to and communicate with the residents. The board is *committed* to the public process, to open public discussion, input from the community as a whole, and balanced input from the professionals on Town boards and committees. With this report, its successors, annual reports, public informational meetings, and other means, the board is *committed* to keeping the community informed of its progress.

The community is asked, in return, to understand that the visions and goals can only be accomplished as a cooperative effort, including the cooperation of residents and Town Meeting. After the boards, consultants, agencies, and staff have worked out solutions and drawn up plans, the limits to what can be done are ultimately set by what the community itself wants to support.