

**Comprehensive Water Resources Management
Plan (CWRMP)**

APPENDICES A – E

**Volume 2 of 5
Acton, MA**

February 2006



35 New England Business Center
Andover, MA 01810
(978) 557-8150

www.woodardcurran.com



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street, Boston, MA 02202

ARGEO PAUL CELLUCCI
GOVERNOR
TRUDY COXE
SECRETARY

Tel: (617) 727-9800
Fax: (617) 727-2754
<http://www.magnet.state.ma.us/envir>

December 1, 1998

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
ESTABLISHING A SPECIAL PROCEDURE
FOR MEPA REVIEW

PROJECT NAME : Comprehensive Wastewater
Management Plan
PROJECT MUNICIPALITY : Acton
PROJECT WATERSHED : Assabet
EOEA NUMBER : 11781
PROJECT PROPONENT : Town of Acton
DATE NOTICED IN MONITOR : October 25, 1998

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Sections 11.03 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project requires the preparation of an Environmental Impact Report (EIR). Furthermore, pursuant to Section 11.09 of the MEPA Regulations, I hereby establish a special procedure for review of the required EIR.

This project involves the development of a town-wide wastewater management plan for the Town of Acton. The Town has previously developed Wastewater Management/Facilities Plans and these resource materials should be useful in preparing the required Environmental Impact Report.

The Town has requested that a portion of the sewerage project, described in the Environmental Notification Form as Middle Fort Pond Brook Sewer Project, which includes portions of South Acton and Kelley's Corner, be allowed to proceed prior to completion of the overall environmental review for the wastewater management planning process. The areas in question currently have problems meeting the provisions of Title 5 and are among the more densely developed areas of the community.

The Middle Fort Pond Brook Project involves the installation of slightly less than 10 miles of new sewers and the construction of a new sewage treatment facility with a groundwater discharge

at the Adams Street site. The town has prepared a geohydrologic analysis for the discharge site that clearly shows that disposal of up to 250,000 gallons per day of highly treated effluent can be accommodated without significant threat of adverse environmental impact. Most of the sewer installation will be within existing public ways, which minimizes the potential for adverse impacts from the installation of those sewers. I find that the need for this portion of the project has been shown and that the permitting process with the Department of Environmental Protection will provide the design details necessary to ensure protection of the environment.

Based on my review of that information, I will allow the Town to proceed with that portion of the project, described above, outside of the MEPA review for the overall project, as requested. While I am not requiring further specific environmental review of this portion of the project, I expect that the flows from this area will be included in the analyses that are prepared during the overall environmental review.

A special procedure for review of the EIR/Facilities Plan is appropriate in this case because the Town can save both time and money through a process that focuses the problems and solutions more effectively than the standard MEPA review. The following procedure is based on discussions with the Town and its engineering consultants as well as the Department of Environmental Protection (DEP). It provides for a phased review beginning with a town-wide needs and growth management analysis (Phase I) and subsequent filings of Expanded ENFs (Section 11.05(7) of the MEPA Regulations) for subsequent phases.

Consequently, I am not issuing a detailed scope for all phases of the EIR at this time. This Certificate contains the scope for the Phase I report and a general description of the requirements for future phases.

SPECIAL PROCEDURE

The EIR process will consist of the filing of several documents. Phase I will consist of a Needs and Growth Management Analysis covering the entire town and subsequent phases will be filed individually under the umbrella of the Phase I document. The filing under each Phase will thoroughly examine the issues associated with its respective Phase.

Each document will be distributed and reviewed according to the review procedures identified in Section 11.07 of the MEPA Regulations, EIR Preparation and Filing, including a 30 day public comment period and 7 days for the Secretary to issue a decision on adequacy.

PHASE I - NEEDS AND GROWTH MANAGEMENT

The Town has collected and analyzed considerable data on needs that should be reported in the Phase I document. The needs analysis should identify existing wastewater problems, their causes, and the geographic area over which they occur. The analysis should be based on as much empirical data as is available, or can reasonably be developed. Such data may include existing wastewater flows, septage volumes, pumping records and the like.

The analysis should result in a definition of specific service areas for application of wastewater disposal measures. It is important to note that these determinations should, in the first instance, be made independent of what measures might be available to reduce water use and subsequent demand. The analysis should specifically document the need for each disposal measure by geographic area and land use type, including a reasonable projection of growth through the design year.

In addition, the Phase I report should present an analysis that begins to take into account measures that have the potential for reducing wastewater volumes, and adjust the needs analysis accordingly. The report should address the feasibility and effectiveness of such measures and should, at a minimum, include a preliminary water demand management and conservation plan. The MEPA office has reviewed such conservation plans in the recent past that could serve as examples and I recommend consultation with the MEPA staff on this matter.

Executive Order #385 requires that state and local agencies engage in proactive and coordinated planning oriented towards both resource protection and sustainable economic development. For reasons both of environmental protection and fiscal prudence, investments in public infrastructure should be carefully targeted toward those areas for which clear existing need has been established and for areas where denser development is appropriate, thereby relieving development pressures on open space, agricultural lands, and other valuable natural resources.

The Phase I Report should identify the land uses in those areas that are determined to need collection systems, and compare the potential secondary growth impacts that may be induced by public sewers with local and regional growth management policies. If the Town has a current local comprehensive plan in place, the Phase I Report may refer to that plan's identification of priority areas for growth and development, and for open space and farmland preservation. Otherwise, that degree of planning for growth should be carried out directly as part of the Phase I Report. I encourage the proponent to consult with DEP and the Growth Management Policy staff at the Executive Office of Environmental Affairs as it develops its growth management strategy.

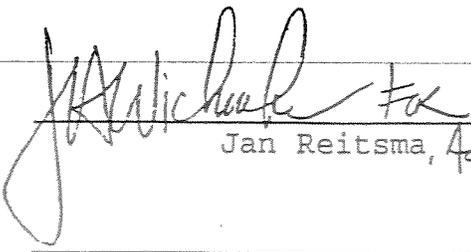
SUBSEQUENT PHASE REPORTS

Subsequent phases of the project should be reviewed beginning with the filing of an Expanded ENF, as defined in the MEPA Regulations. This filing should identify the need for corrective measures and growth management strategies, as determined in the Phase I report, and should assess the alternatives available for correcting the reported problems. The alternatives considered should include the full range of options available and each should be screened to determine which alternative can address the problems in the most environmentally sensitive and economical manner.

Environmental resources in the area of the project should be identified and an assessment can be made of the potential impacts to those resources.

Based on the information submitted for each phase, I will make an assessment as to whether an EIR is required at all, if a Single EIR (Section 11.06(8) of the MEPA Regulations) is appropriate, or if a Draft and Final EIR is required.

December 1, 1998
Date

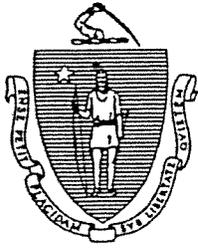

Jan Reitsma, *Acting Secretary*

Date

Town of Acton

Comments received :

Department of Environmental Protection
Massachusetts Historical Commission
Massachusetts Highway Department
Metropolitan Area Planning Council
National Park Service
Organization for the Assabet River



ARCEOPALLCELTUCEJ
Governer

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINDYER STREET, BOSTON, MA 02108 617-292-5500

JKUD

D. J. B. S.
C

November 24, 1998

Trudy Coxe, Secretary
Executive Office of Environmental Affairs
Attention: MEPA Office
Dick Foster, EOEA #11781
100 Cambridge Street, 20th Floor
Boston, MA 02202

Re: Acton
Middle Fort Pond
Sewer Project

Dear Ms. Coxe:

The Bureau of Resource Protection (BRP) of the Department of Environmental Protection (DEP), in conjunction with the Central Regional Office (CERO), has reviewed the ENF for the Town of Acton's proposed wastewater collection and treatment project. The Department has been working closely with the town and their consultants and concurs with the recommendation to sewer portions of the South Acton and Kelly's Corner areas of the town, which are experiencing significant difficulties in complying with the provisions of Title 5. The flow from the proposed first phase of this collection system will be approximately 250,000gpd. The wastewater collected from these two areas of concern will be conveyed to a new wastewater treatment facility located at the Adams Street site, where the effluent will be discharged to the ground in accordance with the provisions of the Department's ground water discharge permit.

The Department has required detailed geohydrologic analyses to be conducted at the site, and our preliminary review of the analyses indicates that a discharge of 250,000 gpd should be permissible. Because of the close proximity of the ground water discharge to the Assabet River, the wastewater treatment plant is being designed to achieve a very high level of phosphorous reduction in order to avoid any significant input of phosphorous to the Assabet River. In addition, the analyses

This information is available in alternate format by calling our ADA Coordinator at (617) 574-6872.

DEP on the World Wide Web: <http://www.magnet.state.ma.us/dep>

Printed on Recycled Paper

showed that the design of the site will need to include appropriate slope stability measures in certain areas in order to control any potential erosion of the slopes due to the ground water discharge.

As the ENF indicates, the town's plans for sewerage additional areas of the South Acton and Kelly's Corner areas, and possibly other areas of the southern portion of Acton, will require an EIR because the length of sewers would exceed the 10 mile threshold in the MEPA regulations. In addition, the town will be evaluating the possibility of a new surface water discharge to the Assabet River because of the limitations of the Adams Street site for a ground water discharge. This issue, in itself, also warrants the development of an EIR. Additional detailed scoping of the analyses needed for such a proposal will be required when the town proceeds further. The Department concurs with the town's request for a Special Procedure for the EIR that would allow the current Phase 1 project to proceed without further environmental review and for the remaining wastewater planning and EIR development to proceed in a phased process over time, as was discussed at the MEPA scoping session on November 17. The Department believes that Acton has developed an innovative and creative approach to its wastewater management planning, and we support their efforts to proceed in this manner.

If you have any questions concerning these comments, please contact Ron Lyberger of my staff.

Sincerely,

Glenn Haas, Director
Division of Watershed Management

cc: Doug Halley, Board of Health-Acton
Steve Fogg, Woodard & Curran
Dan Garson, Woodard & Curran
Paul Hogan, DEP-CERO
Margo Webber, DEP-CERO
Jana Leung, DEP-CERO
Tom Cusson, DEP-CERO
Gus Swanquist, DEP-BRP
Steve Hallem, DEP-BRP



DF

The Commonwealth of Massachusetts
William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

RECEIVED
NOV 16 1998

MEPA

November 10, 1998

Secretary Trudy Coxe
Executive Office of Environmental Affairs
100 Cambridge Street, 20th Floor
Boston, MA 02202

ATTN: MEPA Unit

RE: Middle Fort Pond Brook Sewer Project, Acton, MA. MHC #RC.22364. EOE A #11781.

Dear Secretary Coxe:

Staff of the Massachusetts Historical Commission have reviewed the Environmental Notification Form filed for the proposed project referenced above, received by the MHC on October 19, 1998.

Portions of the project area are considered to possess a strong likelihood for containing significant historic and archaeological resources. Since the project area has not been systematically examined by archaeologists, no archaeological sites have yet been recorded within the project impact areas. In New England, archaeological sites are usually buried in the soil and thus require systematic test excavations to be identified. The archaeological sensitivity of the project area is principally defined by a diversity of favorable environmental characteristics which includes well-drained sandy soils, and proximity to streams and other wetlands systems and the Assabet River. Review of the Inventory of Historic and Archaeological Assets of the Commonwealth indicates that ancient Native American sites have been discovered in similar environmental contexts.

MHC requests that a reconnaissance archaeological survey (950 CMR 70) be conducted to provide more detailed information on specific project impact areas likely to contain significant archaeological deposits, and to provide recommendations on whether any additional archaeological testing would be recommended (through, e.g., an intensive (locational) archaeological survey). The reconnaissance survey should assess project impact areas for the wastewater treatment facility, pump station sites, and any cross-country sewer routes not proposed within existing streets or within previously impacted utility corridors. Staff of the MHC are willing to assist in developing an appropriate scope for the survey that must be conducted under a permit (950 CMR 70) issued by the State Archaeologist.

Numerous historic structures are located within the proposed project area, many of which are included in the MHC's Inventory of Historic and Archaeological Assets of the Commonwealth. Some of these structures are also listed in the State Register of Historic Places. One location, Pumping Station No. 6, has been identified in the ENF as being located within the South Acton Village Historic District, a Local Historic District.

Sec. Coxe/MEPA/EOEA #11781

10 November 1998

Page Two

In addition to the information requested above, MHC staff request the opportunity to review site plans (showing existing as well as proposed conditions), elevation drawings for the pump houses, current original photographs of the locations of the seven proposed pump house sites, along with street numbers of adjacent properties, and a Certificate of Appropriateness from the Acton Historic District Commission for the construction of Pump House No. 6.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800), Massachusetts General Laws, Chapter 9, Sections 26-27C, as amended by Chapter 254 of the Acts of 1988 (950 CMR 70-71) and MEPA (301 CMR 11). If you have any questions, please feel free to contact Edward L. Bell or Karen Parker of my staff.

Sincerely,



Brona Simon
State Archaeologist
Deputy State Historic Preservation Officer
Massachusetts Historical Commission

xc: Paul Porada, Woodard & Curran
Doug Halley, Acton Board of Health
DEP/NERO-Wetlands
DEP/NERO-Water Pollution Control
Ron Lyberger, DEP/Bureau of Municipal Facilities
Steve Hallem, DEP/Bureau of Resource Protection
Acton Historical Commission

November 16, 1998

Trudy Coxe, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street, 20th floor
Boston, MA 02202

RECEIVED

NOV 20 1998

MEPA

RE: Acton - Middle Fort Pond Brook Sewer Project - ENF
(EOEA #11781)

ATTN: MEPA Unit

Dear Secretary Coxe:

The Massachusetts Highway Department (MassHighway) has reviewed the Environmental Notification Form (ENF) for the proposed Middle Fort Pond Brook Sewer project in Acton. The project entails the construction of a wastewater treatment facility, collector and interceptor sewers, pump stations, and associated facilities. MassHighway permits will be required for construction within the layout of Route 111 (Massachusetts Avenue).

We believe that the overall traffic impacts of this project to the state highway system will be minimal, and we recommend that no further environmental review be required based on traffic issues. The details of any access-related issues and the traffic management plan can be handled during the MassHighway permit process for this project.

If you have any questions regarding these comments, please contact me at (617) 973-8238 or Lionel Lucien of the Public/Private Development Unit at (617) 973-7341.

Sincerely,



Richard Bourré, Manager
Public/Private Development Unit

cc: E. Corcoran, Deputy Commissioner
T. Broderick, Chief Engineer
L. Paiewonsky, Director, Bureau of Transportation
 Planning and Development
C. Sterling, State Traffic Engineer
M. O'Meara, DHD, District 3
PPDU files
Planning Board, Town of Acton
Metropolitan Area Planning Council



Metropolitan Area Planning Council

60 Temple Place, Boston, MA 02111 617/451-2770 Fax: 617/482-7185 Internet: www.mapc.org

Serving 101 cities and towns in metropolitan Boston

November 23, 1998

The Honorable Trudy Coxe, Secretary
Executive Office of Environmental Affairs
MEPA Unit
100 Cambridge Street
Boston, MA 02202

RECEIVED

NOV 24 1998

MEPA

Project Identification:

Project Name: Middle Fort Pond Brook Sewer Project
Project Proponent: Town of Acton
Location: Acton
MEPA Number: 11781

Dear Secretary Coxe:

The Metropolitan Area Planning Council regularly reviews development proposals deemed to have regional impacts. These proposals are reviewed for consistency with MetroPlan 2000, the regional plan for the Boston metropolitan area which was adopted by the 101 cities and towns in the region, as well as for their impact upon the environment. The Council encourages MEPA to ensure that any mitigation is consistent with the goals and objectives of MetroPlan 2000.

The subject of this ENF is Phase I of a proposed multi-phase wastewater treatment and sewerage project. Phase I includes construction of a tertiary wastewater treatment facility which will discharge to the ground, and the first of several phases of sewer line construction to serve areas experiencing failing septic systems. The proponent is requesting Special Review Procedure, which would provide a review of Phase 1 at the ENF stage only, without requiring a categorical EIR at this time. The proponent acknowledges that a full EIR would be conducted for all later phases of the project, which may include expansion of the sewer service area, increasing the capacity of the treatment facility, and ultimately discharging the effluent to surface water (the Assabet River). Part of these further phases may also involve watershed trading measures to offset the pollution load of the additional wastewater discharge.

MAPC is aware that the town of Acton has had a long-term problem with failing septic systems in several areas of the town. Acton is probably the most densely developed town that still relies exclusively on septic systems and on-site wastewater facilities. The town has undertaken a long term and thoughtful planning process which has brought it to the point of this proposal. Further, MAPC has worked with the town to designate South Acton as a Concentrated Development Center (CDC). The CDC plan for South

Grace S. Shepard, *President*

Richard C. Walker, III, *Vice President*

Donna M. Jacobs, *Secretary*

Richard A. Easler, *Treasurer*

David C. Soule, *Executive Director*

11/27/80 100 10.00 100 01 100 100

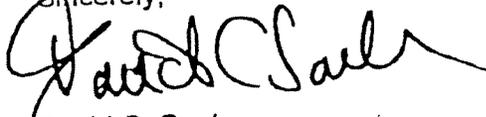
Action acknowledges the need to address chronic wastewater and public health problems in the area, and by virtue of its designation as a CDC, MAPC recommends that South Acton receive high priority for necessary infrastructure improvements.

At the same time, MAPC acknowledges that any new or expanded sewer infrastructure raises important questions of both water quality and water quantity in the watershed, as well as critical land use and growth management issues. These questions must clearly be addressed and appropriate mitigation measures must be implemented for such a project. On the question of phasing of the project, MAPC supports the town's request for a Special Procedure for Phase 1 only, while clearly stating that a full EIR will be necessary for any phases that follow.

The EIR should thoroughly address several key issues, including: the water quality impacts of the discharge, whether to groundwater or surface water; impacts on the water balance and flows in the watershed; impacts on habitat; the project's impact on land use and growth in newly sewerred areas, and alternatives and mitigation measures for all of these impacts. The land use analysis should quantify the potential growth impacts in newly sewerred areas by accounting for undeveloped or underdeveloped parcels and considering their development potential under current zoning. Changes in zoning and land use policy should be considered which will take advantage of the ability to cluster development and preserve more open space. Non-point source pollution associated with any induced growth should also be addressed and mitigated. Such a growth management analysis should be seen as necessary to be consistent with Executive Order 385.

Thank you for the opportunity to review this ENF.

Sincerely,



David C. Soule
Executive Director

Cc: Dore Hunter, MAPC Representative, Acton



United States Department of the Interior

NATIONAL PARK SERVICE

Boston Support Office
15 State Street
Boston, Massachusetts 02109-3572

IN REPLY REFER TO:

November 23, 1998

Trudy Coxe, Secretary
EOEA, Attn: MEPA Office
Dick Foster, EOEA #11781
100 Cambridge St. — 20th Floor
Boston, MA 02202

RECEIVED

NOV 24 1998

MEPA

RE: ENF for Middle Fort Pond Brook Sewer Project, Acton

Dear Secretary Coxe,

The Rivers Program of the National Park Service's Boston Support Office has reviewed the subject ENF, and offers the following comments:

1) Contents of ENF

We note with some surprise that, despite efforts by the proponent and consultant to seek the early involvement of the SuAsCo Basin Team, SuAsCo Coalition, and others, in the review of the proposed project, the ENF omits several important issues that were raised at an informal presentation made to the team on 12/17/97. In particular, there is a pervasive disregard in the ENF for the need to provide information about the potential impact of the proposed wastewater discharge on the nearby Assabet River. Given the diligence of the proponent in seeking early comments on the proposal from the river conservation community, and the need to gain EOEA's approval of the proposal to allow the project to proceed before an EIR is prepared, in order to qualify for state revolving funds, this seems a little peculiar.

We feel that the following information should have been provided in the ENF:

- some mention of the fact that the final 4.4 miles of the Assabet River, starting at a point less than three miles downstream from the proposed WWTP, is currently subject to the protections afforded by Section 7(b) of the Wild and Scenic Rivers Act, P.L. 90-542. This status was explained to the proponents at the 12/17/97 meeting, and was also pointed out in a 9/29/98 letter from OAR. Designation of this segment of the Assabet was unanimously endorsed in March 1995 by a federal advisory committee that included two representatives of the Commonwealth, and by all eight towns within the study area at their 1995 Town Meetings. In addition, both former Governor Weld and Governor-elect Cellucci have requested Congress to designate the river into the National Wild and Scenic Rivers System.
- the "required permits" table should have included the need for a 404 permit from the Army Corps

of Engineers, and the need for Section 7 review of any federal water resource permits (e.g. NPDES and 404) for the project by the National Park Service.

- a description of the Assabet's current water quality and anticipated impacts of the discharge of treated wastewater to nearby infiltration beds, somewhere in schedule 3 or 4 of the ENF. The ENF as written focusses almost exclusively on localized impacts from the wastewater collection system on wetlands and the Town's drinking water. Surely the project's impacts on the Assabet River, which is already heavily used for wastewater assimilation, deserve some mention.

The proponent is requesting that this phase of the project be allowed to go forward without an EIR. The ENF states "[g]round and surface water quality improvement are expected." No data are provided to substantiate this claim, however. While it is entirely possible that the collection and tertiary treatment of wastewater from failed septic systems will result in some improvement in the condition of the Assabet and its tributaries, ENF reviewers should not be expected to take this on faith. Last December the consultants described some of their initial work on water quality characterization in tributaries, and also stated that baseline groundwater quality information would be collected at the proposed discharge site. It would have been helpful if summaries of these studies had been provided in the ENF. Without such information, it is virtually impossible for reviewers of the ENF to assess the project's likely impacts on the quality of groundwater, tributaries, and the Assabet River.

2) Section 7 Wild and Scenic Rivers Act Review Process

Regardless of EOEAs decision whether or not to allow this phase of the project to proceed, with a more complete examination of its impacts to be provided in a subsequent EIR, the proponent should be aware that NPS will need more information on river-related impacts before it can sign off on any consultation required under the Wild and Scenic Rivers Act for the Phase I project. If NPS determines that the project would have a direct and adverse effect on the values that make the Assabet eligible for Wild and Scenic designation (including recreation and fish and wildlife habitat), federal water resources permits will have to be denied. It is unfortunate that the information needed to make this determination, which will have to be provided before the project goes into operation in any case, will not be available for review by the many other public and private interests concerned with the river's condition because it was not included in the ENF. This seems to thwart the purpose of MEPA review.

Sincerely,

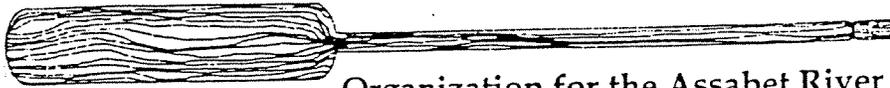


Cassie Thomas

NPS Rivers Program, Boston

617/223-5014

O.A.R.



Organization for the Assabet River
Damonmill Square, Concord, Massachusetts 01742

DF

RECEIVED

NOV 25 1998

MEPA

November 23, 1998

Trudy Coxe, Secretary
Executive Office of Environmental Affairs, Attention: MEPA Office
Richard Foster, EOE No. 11781
100 Cambridge Street, 20th Floor
Boston, MA 02202

Re: Middle Fort Pond Brook Sewer Project; Acton
via fax: 617/727-1598

Dear Secretary Coxe:

The Organization for the Assabet River is pleased to submit to you our comments on the above-referenced ENF. This is an expanded version of comments submitted last month to the town of Acton.

1. Include a more complete project description, schedule. The groundwater discharge phase of the project is the first phase of a larger project, and includes a collection system designed for larger future flows. We would like to see the ENF summarize all phases of the project and include a timeline showing when each phase will occur.

2. Require an EIR for Phase II. Acton should complete a full EIR for phase II of this project. OAR is concerned that the plan to complete a series of EIRs in phases for portions of this facility will weaken MEPA review of the project. At a minimum, the town should address total future impacts to the Assabet and other waterways (including intrabasin transfers) from all phases of the project in the first EIR, as agreed to by Doug Halley of Acton, and the town's consultants at the scoping meeting on November 17 at Acton Town Hall.

3. Describe impacts of groundwater discharge on the river. The ENF fails to address the impacts of this project on the Assabet River. The project should include a baseline study of nutrients and TSS in existing surface water to be affected by the groundwater discharge. The ENF should describe the impact the groundwater discharge will have on the Assabet mainstem. When Acton seeks a ground discharge permit for this phase, OAR would like to see an adequate modeling attempt at estimating any additional plant growth due to the high N-complex concentration of the effluent. Resuspension of phosphorus from instream mineralized phosphate sediments may lead to such an effect.

Schedule 4, item #2 states that ground and surface water improvements are expected as a result of the project. Since no baseline data is given on the Assabet subwatersheds of Fort Pond Brook and Nashoba Brook, how will these improvements be measured?

This section also states that there will be a "redirection and possibly a reduction of ground water recharge in parts of the watershed as current septic systems are removed from service and replaced by sewers." The ENF should address the impact of this reduced recharge on Warners Pond and on its ability to filter pollutants from entering the Assabet River.

4. Describe guarantees against plant failure. The lower Assabet receives heavy recreational use in the spring, summer, and fall. The last four miles are protected by the National Park Service as part of the National Wild and Scenic Rivers program. How will Acton guarantee against plant failure to insure that the river is safe for recreation? Describe disinfection methods, redundancies that will be built into the system, and advanced technologies to be implemented.

5. Verify that flow changes in Fort Pond Brook will not occur. The ENF states that the flow capacity of the river channel or floodplain is not affected by the subsurface installation of sewer lines. Three crossings of Fort Pond Brook are planned. More explanation is needed to verify this does not in fact alter ground flows, which could result in local flow changes in the brook.

6. Acknowledge intrabasin groundwater transfer. It is stated in several places that no net transfer of ground water will occur. However, it has been established that an intrabasin transfer of groundwater will occur, with potential repercussions for surface flows in Fort Pond Brook, (Fort Pond Brook, Nashoba Brook, Warner's Pond, Assabet). It is therefore important for Acton to continue establishing a water budget and monitoring program of its water bodies and this should be specified in the ENF.

7. Describe how the facility will handle stormwater inflow, infiltration. Several municipalities along the Assabet have experienced plant failure during severe storms. The ENF should explain how the Acton plant will handle this problem.

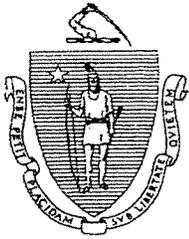
We appreciate the opportunity to comment on this ENF.

Sincerely,



Julia Blatt
Executive Director

cc: Doug Halley, Town of Acton

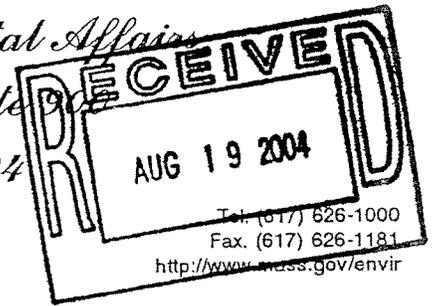


The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

100 Cambridge Street, Suite 900

Boston, MA 02114-2524



MITT ROMNEY GOVERNOR

KERRY HEALEY LIEUTENANT GOVERNOR

ELLEN ROY HERZFELDER SECRETARY

cc: BOS D. HALLEY

August 16, 2004

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS ON THE SPECIAL PROCEDURE: PHASE I - NEEDS ANALYSIS

PROJECT NAME : Comprehensive Water Resources Management Plan
PROJECT MUNICIPALITY : Acton
PROJECT WATERSHED : Assabet
EOEA NUMBER : 11781
PROJECT PROPONENT : Town of Acton
DATE NOTICED IN MONITOR : June 23, 2004

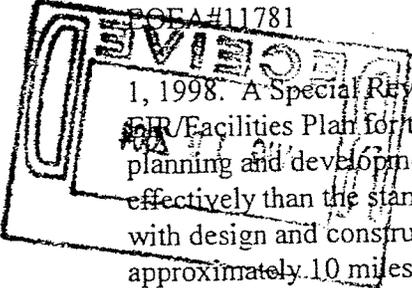
As Secretary of Environmental Affairs, I hereby determine that the Comprehensive Water Resources Management (CWRMP)/EIR/Phase I, Needs Analysis document submitted on this project adequately and properly complies with the Massachusetts Environmental Policy Act (G. L., c. 30, ss. 61-62H) and with its implementing regulations (301 CMR 11.00).

Overview

As described in the Environmental Notification Form (ENF) and the Phase I document (EIR/Phase I), the project involves the phased development of a town-wide comprehensive wastewater collection and treatment management plan to address the immediate and long-term growth needs for the Town of Acton.

The Town of Acton prepared an ENF in October 1998 for the Middle Fort Pond Brook Sewer Project. The Town of Acton wanted to accelerate the engineering design of a new advanced wastewater treatment plant (WWTP) proposed to be built on a 35-acre town-owned parcel of land at Adams Street, in the southeastern area of town. The wastewater treatment facility would treat up to 250,000 gallons per day (GPD) of waste and discharge treated effluent to a groundwater discharge system also located on Adams Street site. The Assabet River flows adjacent to the site. A chief reason for the accelerated WWTP design and construction and phased approach to town-wide facilities and water resources planning was the impact to public health and water quality from older under-designed and failing onsite septic systems in several sections of Acton.

The Secretary of Environmental Affairs issued a Certificate for the project on December



1, 1998. A Special Review Procedure (SRP) was established to facilitate the review of the EIR/Facilities Plan for the preparation and review of the EIR for town-wide wastewater facilities planning and development through a process that focuses the problem and solutions more effectively than the standard MEPA review process. This allowed the Town of Acton to proceed with design and construction of an advanced wastewater treatment facility on Adams Street and approximately 10 miles of collection systems outside of the MEPA review process. A Special Procedure was established to address the remaining town-wide wastewater facilities planning and assessment requirements under a comprehensive phased set of reports and subsequent filings of Expanded ENFs (Section 11.05(7)) of the MEPA Regulations) for subsequent phases for long-range planning.

This assessment was also in conjunction with the guidelines issued by the Department of Environmental Protection (DEP) regarding comprehensive water resources management planning to address other factors to establish an effective town-wide wastewater management plan, such as stormwater management, groundwater recharge, natural resources protection and surface water quality.

The following Phase I Certificate is a review of the town-wide Needs and Growth Management Analysis, which presents the findings and conclusions of an assessment of the current environmental conditions in and around Acton. Water demand projections are estimated for the 20-year study period and impacts to the present and future water supply are reviewed. Current stormwater systems and programs are reviewed. In addition, current waste water management systems are discussed, followed by a determination of wastewater needs. Finally, potential locations for satellite wastewater treatment facilities are presented.

Subsequent Phase Reports

Subsequent phases of the project will be reviewed beginning with the filing of an Expanded ENF, as defined in the MEPA Regulations. For each phase the filings should identify the need for corrective measures and growth management strategies, as determined in the Phase I report, and should assess the alternatives available for correcting the reported problems. The alternatives considered should include the full range of options available and each should be screened to determine which alternative could address the problems in the most environmentally sensitive and economical manner. Environmental resources in the area of the project should be identified and an assessment can be made of the potential impacts to those resources.

Based on the information submitted for each phase, I will make an assessment at each submittal of an Expanded ENF for subsequent phases as to whether an EIR is required at all and if so, whether a Single EIR (Section 11.06(8) of the MEPA Regulations) is appropriate, or if a Draft and Final EIR will be required.

I have reviewed the Phase I document for the Town of Acton. While I find that the report

provides substantial information, there are substantive comments received that must be addressed and reported on in the next Expanded ENF (*Phase Report*). I am confident the specific information required as described below and the response to comments received that are within MEPA jurisdiction can be addressed by the Town in the next filing.

Additional Information To Be Provided

Wastewater

There are several facilities that are between 10,000 and 15,000 gallons per day and in a Zone II or an Interim Wellhead Protection Area (IWPA) that will be required to obtain a ground water discharge permit and probably require upgrading (Chapter 6, Sections 6.6.1 and 6.6.2 of CWRMP). Those facilities are Dover Heights, Strawberry Hill, and Woodvale. As the town proceeds to consider alternative solutions for the identified needs areas, consideration should be given to whether these facilities should remain as individual treatment and disposal systems or should be tied in to a facility serving a larger area.

The Douglas/Gates School Complex, if operated at full occupancy, would meet the criteria established in Table 6-11 of the CWRMP. The design flow for these schools (on one lot) should be added together and included.

Groundwater

When the planning effort proceeds to screen potential groundwater discharge sites, the Town of Acton should work closely with DEP to review potential sites and develop detailed scopes of work for any hydrogeological investigations prior to the initiation of any fieldwork.

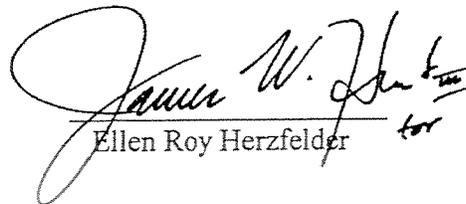
Historic Resources

As the planning process proceeds I encourage the Town of Acton to consult with the Massachusetts Historical Commission (MHC) to review projects that have the potential to affect historic and archaeological resources.

I want to acknowledge the significant effort that continues to be put forth by the Town of Acton, DEP, and public commenters to this project on this innovative approach to water and wastewater management in Massachusetts.

August 16, 2004

Date


Ellen Roy Herzfelder for

Comments received:

06/22/04 Massachusetts Historical Commission
07/23/04 Carol Holly



Commonwealth of Massachusetts

Riverways Programs

AC

Joan C. Kimball, *Riverways Director*
251 Causeway • Suite 400 • Boston, Massachusetts 02114 (617) 626-1544
joan.kimball@state.ma.us
<http://www.massriverways.org>

RECEIVED

JUL 26 2004

23 July, 2004

MEPA

Secretary Ellen Roy Herzfelder
EOEA, Attn: MEPA Office
EOEA No. 11781
100 Cambridge Street, Suite 900
Boston MA 02114

Comprehensive Water Resources Management Plan/EIR, Acton, MA

Dear Secretary Herzfelder,

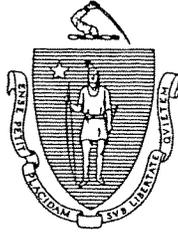
The Riverways Programs has reviewed the Town of Acton's Comprehensive Water Resources Management Plan/EIR. We have several concerns with the direction the project is taking and the impact its ultimate recommendations may have on rivers and other surface water features within the town.

The holistic, integrated planning in this document could be improved by the addition of a section detailing the hydrologic budget of each subwatershed. These budgets should include water withdrawal points and volumes, wastewater return points and volumes (including on-site systems), stormwater conveyances and volumes, and a description of natural water levels and flow regimes for surface water features such as rivers, streams, wetlands, and vernal pools. The net gain or loss of water from each subwatershed will be invaluable during the next phase of this project, in which solutions for wastewater and stormwater conveyance and disposal are suggested, because they will allow a quantitative analysis of the impact of each proposal on local hydrologic budgets.

In conjunction with the hydrologic budget analyses, the maps of environmentally sensitive areas (Figure 2-10) should be fully incorporated into the Phase II decisions about specific solutions. For instance, the sensitivity of each resource type to water withdrawal, nutrient enrichment (as might occur with on-site systems or centralized system discharge locations), or dewatering (as might occur in areas where wastewater is removed for treatment off-site) should be assessed and included in the decision making GIS analysis of suitable sites for wastewater and stormwater disposal locations or new water withdrawal locations. In particular, the effect of changes in local hydrology should be evaluated for vernal pools and rare and endangered species habitats. This type of analysis based on natural resources is missing from the preliminary search for wastewater disposal locations in Section 6.8.

We are also concerned that the needs analysis may overestimate the number and volume of off-site solutions that are necessary. While we commend the Town for emphasizing smaller, cluster systems as potential solutions for areas in need of off-site treatment we would like to emphasize that on-site systems are now widely recognized as the best option whenever possible both for keeping water local to support the natural environment and for cost-effectively treating wastewater.

Figure 6-2 "Minimum Service Areas" indicates that many of the lots that are predicted to fail based on the GIS modeling are individual lots scattered among lots that are not predicted to fail. The proposed minimum service areas group several individual "failing" lots together with non-failing lots in order to make a cluster treatment solution economically viable. In most cases the proposed service areas include at least 50% non-failing lots. This type of solution is both an unnecessary economic burden to homeowners of non-failing lots as well as an unnecessary environmental impact as water is diverted from recharging groundwater on individual lots.



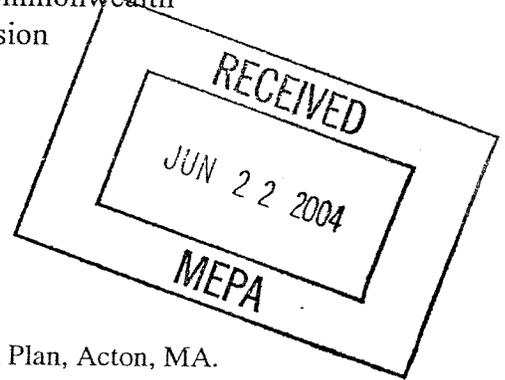
AC

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

June 21, 2004

Secretary Ellen Roy Herzfelder
Executive Office of Environmental Affairs
100 Cambridge Street Suite 900
Boston, MA 02114



Attn.: MEPA Unit

RE: Comprehensive Water Resources & Wastewater Management Plan, Acton, MA.
MHC #RC.27092 & 22364. EOE #11781.

Dear Secretary Herzfelder:

Staff of the Massachusetts Historical Commission have reviewed the Comprehensive Water Resources Management Plan/Environmental Impact Report, entitled "Phase I: Definition of Needs."

The report is a general planning document that includes a consideration of historic and archaeological resources on pp. 2-14 to 2-15. As planning proceeds, and when particular projects are proposed, MHC looks forward to reviewing information and further consultation to review projects that have a geographic impact and which may have the potential to affect historic and archaeological resources.

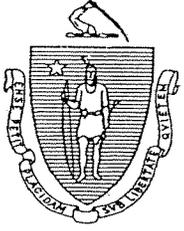
These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), Massachusetts General Laws, Chapter 9, Sections 26-27C (950 CMR 70-71), and MEPA (301 CMR 11). If you have any questions or need further information, please feel free to contact Edward L. Bell of my staff.

Sincerely,

Brona Simon
Deputy State Historic Preservation Officer
State Archaeologist
Massachusetts Historical Commission

xc:

Daniel Garson, Woodard & Curran, Inc.
Doug Halley, Acton Board of Health
Acton Historical Commission
John Felix, DEP
DEP/CERO



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Central Regional Office, 627 Main Street, Worcester, MA 01608

AC

MITT ROMNEY
Governor

ELLEN ROY HERZFELDER
Secretary

KERRY HEALEY
Lieutenant Governor

ROBERT W. GOLLEDGE, Jr.
Commissioner

July 23, 2004

RECEIVED

AUG 2 2004

MEPA

Secretary Ellen Roy Herzfelder
Executive Office of Environmental Affairs
100 Cambridge Street, 9th Floor
Boston, MA 02114

Attention: MEPA Unit –Ann Canaday

Re: Draft Environmental Impact Report (DEIR)
Comprehensive Water Resources and Wastewater Management Plan
Acton
EOEA # 11781

Dear Secretary Herzfelder,

The Department of Environmental Protection (the Department) Central Regional Office has reviewed the Draft Environmental Impact Report (DEIR) submitted for the Comprehensive Water Resources and Wastewater Management Plan for Acton.

The Department offers the following comments:

Wastewater

In Chapter 6, Sections 6.6.1 and 6.6.2, it should be noted that there are several facilities that are between 10,000 and 15,000 gallons per day and in a Zone II or an Interim Wellhead Protection Area (IWPA) that will be required to obtain a ground water discharge permit and probably require upgrading. Those facilities are Dover Heights, Strawberry Hill, and Woodvale. As the town proceeds to consider alternative solutions for the identified needs areas, consideration should be given to whether these facilities should remain as individual treatment and disposal systems or should be tied in to a facility serving a larger area.

The Douglas / Gates School Complex, if operated at full occupancy would meet the criteria for Table 6-11. The design flow for these schools (on one lot) should be added together and included.

When the planning effort proceeds to screen potential ground water discharge sites, the town and the consultants should review the potential sites with the Department and develop detailed scopes of work for any hydrogeological investigations prior to the initiation of the fieldwork.

The Department appreciates the opportunity to comment on the proposed project. If you have any questions regarding these comments, please do not hesitate to contact me at (508) 792-7650 *2802.

Sincerely,

A handwritten signature in cursive script that reads "Paul Anderson".

Paul Anderson

Section Chief, Water Supply and Municipal Services

cc: Martin Suuberg, Regional Director, CERO
Commissioner's Office, DEP, Boston

AC

RECEIVED
JUL 27 2004
MEPA

Carol Holley
39 Pope Rd.
Acton, MA 01720

Secretary Ellen Roy Herzfelder
EOEA, ATTN: MEPA Office
Anne Canaday, EOEA #11781
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Further Comments and Information

Dear Ms Canaday,

Thank you for extending the comment period due to clerical errors in the address given to commenters. I would like to take this opportunity to comment a little further, and provide some background information.

Please find enclosed excerpts from the sections of the East Acton Village Plan that discuss water quality, especially in regards to wastewater. Since the document under review references the East Acton Village Plan, I thought the original source text would be helpful to you.

I would also express my concerns regarding "fast-tracking" this project. It is my understanding that the normal process is two-phased, but an accelerated process is available should the reviewing body deem it appropriate. I believe that there are some inadequacies in Acton's Comprehensive Water Resource Management Plan as it stands, and would like to see all possible opportunities for citizen input and review of any further documents before approvals and permits are issues.

Thank you for the time and attention you have given this matter.

Sincerely,
Carol Holley

Goal T4: Increase accessibility to public facilities and utility services.

The East Acton Village Planning Committee believes that managing growth and controlling allowable uses of property are best accomplished through zoning. Infrastructure, such as public facilities, utilities, and services, should be provided as needed to support new development allowed by zoning within the East Acton Village Zoning District.

For the most part, the committee does not see big issues in meeting infrastructure needs. However, there are a few areas, such as wastewater treatment and water, that warrant specific objectives and strategies, as described below.

Objective 1: Encourage environmentally responsible wastewater treatment options.

Issues, Recommendations, and Implementation

In East Acton, most properties are currently served by private on-site wastewater treatment systems. Systems are regulated under 310 CMR 15.000 (Title 5) and Acton Board of Health Regulations. Each lot contains its own system serving the building or buildings located on that lot. If a system will have a design flow of 10,000 gallons per day or greater, a groundwater discharge permit issued by the Massachusetts Department of Environmental Protection will be required. This usually necessitates the construction of a complete wastewater treatment facility. In East Acton, the Lifecare Center is the only property served by its own wastewater treatment plant.

On-site wastewater treatment systems can have a variety of problems. Some soils have inadequate infiltrative capacity to dispose of and treat certain flows of effluent from a septic tank. Wastewater treatment systems need to be maintained by pumping and inspection of filtering devices. Even when properly maintained, wastewater treatment systems have limited lives and must be replaced, repaired, or upgraded. These systems have the potential for polluting groundwater. (See the Environmental section of this plan for more details on the environmental concerns raised by traditional wastewater treatment systems.) Lastly, because of the shallow depth to groundwater, certain systems have to be "mounded." This can create an unsightly topographical feature out of character with the Village.

Some desirable and allowed businesses that happen to have high wastewater requirements are limited or are not feasible in East Acton Village due to inadequate areas for leaching fields. A good example is restaurants. Residents and business owners in East Acton were asked, "If properties become available in or near the current East Acton Village Zoning District, which of the following potential uses would be desirable?" "Restaurants" was the second most desirable potential use chosen by residents: 59% rated restaurants as desirable. "Restaurants" was the most desirable potential use chosen by business owners:

74% rated restaurants as desirable. (See Appendix H for complete survey results.) Currently, limited land area for onsite wastewater treatment and disposal makes it difficult or impossible to locate more restaurants in East Acton Village. Existing restaurants may not be able to increase their number of seats. A similar limitation exists for other water-intensive uses, such as hair salons and residential units.

To allow properties in the Village District to be developed to the degree allowed by zoning, additional appropriate, environmentally responsible wastewater treatment options should be made feasible. Increased development will likely require an increase in the need for offsite wastewater treatment and disposal solutions, as individual wastewater treatment systems to serve the increased development would be greatly limited by the absence of available land area and/or the less than ideal soil conditions.

Inclusion within the existing sewer district is probably not feasible because of its distance from East Acton and the difficulty of crossing Route 2. However, the committee supports other smaller, environmentally responsible solutions such as shared wastewater treatment systems or a small new East Acton sewer district. The committee agrees with the Master Plan (page 193) in recommending that the town "plan and implement appropriate shared wastewater systems in East Acton." The town's *Comprehensive Water Resources Management Plan* currently underway by Woodard and Curran should be used to guide the planning for East Acton Village.

In some parts of East Acton Village, developing wastewater management systems that are shared by multiple parcels with multiple owners may be among the most cost-effective and environmentally appropriate solutions. It is difficult for property owners and developers to build shared systems because legally there must be a governing body (for example, a town wastewater management body or a condominium association) to manage the shared resource, and there must be financial securities to ensure continued operation and maintenance of the shared resource. Condominium associations may be appropriate for properties already jointly owned, but they are very difficult to put in place for separate properties with separate owners. Therefore, the committee supports the creation of a town wastewater management body so that the most appropriate wastewater treatment options are available to East Acton Village.

Objective 2: Provide adequate drinking water to East Acton.

Issues, Recommendations, and Implementation

The Water Supply District of Acton (WSDA) currently supplies Town water to 97% of the businesses and residents in Acton. Either private wells or Concord Water Supply (CWS) provides the remaining 3%. EAV, however, has the majority of its

Goal E1: Protect and improve the quality and quantity of groundwater and surface water resources in the East Acton Village Area.

Objective 1: Encourage development and redevelopment in the East Acton Village area that will not negatively impact EAV water resources, including the use of stormwater management methods and wastewater disposal methods that minimize adverse environmental impact.

Objective 2: Facilitate, support, and /or maintain awareness of the cleanup of contaminated (21E) sites and other conditions that may pose a threat to ground and surface water in East Acton Village.

Objective 3: Support efforts to minimize both point and non-point source pollution, including nonpoint source pollution associated with motor vehicle traffic. Encourage environmentally sound business practices as a means to this end.

Issues

*“Acton’s greatest environmental problem, water, is the frame in which our future will take place”.*¹⁷

Acton’s Master Plan Update includes as goals protect and sustain Acton’s natural environment and resources, with an objective of ensuring the restoration of polluted environmental resources.¹⁸

The East Acton Village District straddles Great Road. To the northeast of the Village District is Pope Road Hill, and to the southwest are Nashoba Brook and Ice House Pond. Soils within the District consist of sand and gravel deposits to a depth of 50 feet with a high water transmissivity (ability to transmit water through the soil) rate (see Map 2 in Chapter 2)¹⁹. Most parcels are deemed suitable for on-site wastewater disposal systems, although two parcels, one abutting the Village and one within, require mounded leaching areas due to high groundwater²⁰. The Acton Health Department monitors Nashoba Brook in East Acton Village on a regular basis for bacterial count²¹.

The Nashoba Brook Watershed is a 48 square mile area. The brook starts in Littleton and runs through Westford and Acton before joining Fort Pond Brook by Warner’s Pond in Concord. The EAV area is in the southeast corner of subbasin NB1, a 1,615 acre section of the watershed (see Map 3 in Chapter 2). Nashoba Brook is a cold water habitat perennial stream, annually stocked with trout by Massachusetts Fish & Wildlife.

¹⁷ *Acton Open Space and Recreation Plan*, p. 5

¹⁸ *Acton Master Plan Update*, p 41

¹⁹ Woodard and Curran, *Draft Acton Comprehensive Water Resources Management Plan*.

²⁰ *Ibid*

²¹ Per Brent Reagor, RS, Acton Health Dept.

"There is evidence indicating Nashoba Brook and associated ground and surface water resources in the basin may already be impaired by existing water withdrawals and effective impervious surfaces. For example, a report issued by the Massachusetts Water Resources Commission (MWRC) in December 2001 titled Stressed Basins In Massachusetts classified the Nashoba Brook basin as *hydrologically stressed*. The purpose of the stressed basin classification is to flag areas which may require a more comprehensive and detailed review of environmental impacts or require additional mitigation."²²

Ice House Pond is an artificial impoundment of Nashoba Brook, first dammed in the 18th century. It is a Class B water body, so designated for protection and propagation of fish and other wildlife, and for primary or secondary recreation. It is periodically stocked with trout for sport fishing purposes. The Master Plan Update notes that the pond is "still a major wildlife area, especially for waterfowl."²³ Occasional spikes of fecal coliform bacteria counts in Ice House Pond, however, render it of questionable use for swimming. The Pond's shallow depth and small size (12 acres) makes it unsuitable for powerboating, but it is a favored site for ice skating, fishing and canoeing. Ice House Pond suffers from continued eutrophication due to the high nutrient load from nearby and upstream wastewater systems and runoff. The shallow depth of the pond (3 feet before a dredging project, 5 feet after)²⁴ leave the water body vulnerable to bottom-rooting aquatic plants. Per "The Ice House Pond Report", in 1992, the pond was host to one of the worst infestations of water chestnut, *trapa notans*, on record. Probes showed sediment 2 feet deep and anoxic (no oxygen available in the water for breakdown bacteria) conditions led to incomplete degradation of plant debris. The nutrient load from decaying vegetation with effluent from private on-site wastewater disposal systems led to cultural eutrophication (filling in) of the pond.²⁵ The pond was dredged in the late 1990's and continues to be monitored. Unfortunately, as water chestnut is spread by many vectors, including seeds lodged in waterfowl feathers, it will be nearly impossible to completely eradicate the invasive alien plant and continual monitoring and weeding is required.

Several properties near East Acton Village, on Wetherbee Street and Pope, Flagg and Brabrook Roads, depend on private potable water supply wells. Several commercial properties along Nashoba Brook, most notably East Acton Mobil and Bursaw Gas and Oil, possess underground storage tanks that contain oil, gasoline, or other hazardous materials.

To mitigate the adverse effects of human activities and improve the general quality of ground and surface water, the Clean Water Act requires that several steps, both structural and educational must be taken.²⁶ Proven technologies known as Best

²² Letter from Julia Blatt, Executive Director, Organization for the Assabet River, to Kurt Jacobson, MADEP, February 14, 2003.

²³ *Master Plan Update* p 165

²⁴ T. Tidman, *Ice House Pond Report*, 1/93, conversation with Town Staff

²⁵ T Tidman, *Ice House Pond Report*, 1/93

²⁶ *SmartGrowth and the Clean Water Act*

Management Practices (BMPs) and Integrated Management Practices (IMPs) need to be designed keeping the New England climate, the low-lying topography of the EAV area, and the proposed density of a village setting in mind. A holistic approach to environmental issues in the village district is desirable, including a mix of stormwater management solutions, innovative wastewater treatment, and “integrated sustainable design”²⁷ in building construction and business practices as outlined in the Leadership in Energy and Environmental Design (LEED) rating system. The Facility Managers’ Institute News, Spring 2003 Issue, quotes the USGBC (US Green Building Council) as follows: “Smart business people recognize that high performance green buildings produce more than just a cleaner, healthier environment. They also positively impact the bottom line. Benefits include: better use of building materials, significant operational savings and increased workplace productivity.”²⁸

Water quality preservation steps applicable to the East Acton Village District are discussed below.

Recommendations

Objective 1: Encourage development and redevelopment in the East Acton Village area that will not negatively impact EAV water resources, including the use of wastewater disposal methods that minimize adverse environmental impact.

- **Reduce Impervious Cover.** Research has shown that stream degradation occurs at relatively low levels of impervious cover (10-20%) and 30% or more impervious cover can be “quite damaging.”²⁹ Impervious cover includes paved areas, decks and rooftops. “Imperviousness is one of the few variables that can be explicitly quantified, managed and controlled at each stage of development.”³⁰ In the Zoning Bylaw the required minimum for Collective Use of Parking Facilities in EAV should be 50% of the unshared parking requirement, and the required minimum for unshared parking should be reduced to 70% of the standard requirement. Other recommended methods to reduce impervious surfaces include shared driveways, angled parking, and taller buildings (taking up a smaller portion of the lot).³¹ LEED standards dictate that a developer “Size parking capacity to meet, but not exceed, minimum local zoning requirements....”³² (LEED Credit 4.4) and that building footprints be reduced (LEED Credit 5.2).

²⁷ energydesignresource.com e-news, Issue 5, April 29, 2000

²⁸ Sticky, Nick, “Buildings for a Livable Future”, the FMI News Spring 2003

²⁹ InternationalCity/County Management Association with Geoff Anderson, “Why Smart Growth: A Primer”

³⁰ *Site Planning for Urban Stream Protection*, www.cwp.org/SPSP

³¹ Ibid

³² US Green Building Council, *LEED – Leadership in Energy & Environmental Design, Green Building Rating System Version 2.1*, Revised 3/03 p. 8

- **Encourage the use of TDRs with the brook side of Great Road as sending area and the opposite side of Great Road as receiving area.** Most of the southwest section of East Acton Village lies within the legal riparian (stream side) zone of Nashoba Brook, a perennial stream. Regulations promulgated pursuant to the Rivers Act (MGL c 258, Acts of 1996) and the Wetlands Protection Act, (310 CMR 10.00) may restrict development possibilities in this area. It would benefit both the sending district in terms of maintaining water quality and complying with regulations, and the receiving district in terms of allowing greater density, to facilitate the intra-village Transfer of Development Rights process. Also, by being allowed to sell development rights that could not otherwise be exercised, the stream-side property owners reap financial benefits.
- **Encourage site plan design that, where possible, sets a pervious area aside for snow stockpiling at the farthest possible distance from water bodies or wetlands.** Spring snowmelt has a particularly high level of pollutants, as an entire winter's buildup of salt and other pollutants in snow are released over a short time span. Further, acid snow can accumulate over the winter months...when it melts in spring, an entire season's acid content is released. This large pulse of pollution creates an acid shock in small streams and pools.³³ To protect water bodies, snow storage should be as far from the stream as possible and should be placed on a pervious surface so that the snowmelt can be filtered through vegetation and soils before reaching streams, ponds or wetlands.
- **Encourage site plan design that, where possible, and particularly in or near the riparian (streamside) zone of Nashoba Brook, provide shade over parking areas in order to keep runoff cool.** "Cold water can hold more oxygen than warm water...this keeps trout, salmon and other oxygen-lovers happy"³⁴. Heated runoff adversely impacts the ability of a water body to hold oxygen, adversely impacting resident creatures in the brook. Parking lots will need to be designed to accommodate the root systems of larger trees. (LEED Credit 7.1 – Heat Island Effect, Non-Roof)
- **Educate the public as to the importance of high quality water bodies.** Public education is a part of the National Pollutant Discharge Elimination System (NPDES) process currently undertaken by several municipal departments. Private organizations in the Greater Acton area, including the Stream Teams, Organization for the Assabet River, Clean Water Action, and Acton Citizens for Environmental Safety advocate for clean water. Ultimately the success of responsible water policy depends on the support of individuals in town and in the EAV area. Education about the significance of clean water

³³ Beck, Gregor Gilpin and Dobson, Clive. *Watersheds: A Practical Handbook for Healthy Water*, 1999

³⁴ Ibid

bodies to the health of the community and the impact of individuals' actions on water quality is an essential component of clean water policy.

- **Encourage the use of advanced wastewater treatment technologies.** Several new technologies have made on-site wastewater disposal systems environmentally friendlier than in years past. 310 CMR 15.281(1) (Title 5) notes that "Alternative systems, when properly designed, constructed, operated and maintained, may provide enhanced protection of public health, safety, welfare and the environment" (LEED Credit 2).
- **Where possible and appropriate, encourage the use of shared wastewater treatment systems.** In a village setting where clustering of buildings and collective use of parking is desired, shared systems may be appropriate. Title 5, Section 15.290(1) states "An approving authority may allow the use of shared systems, subject to any special conditions...for upgrade of existing systems, for new construction, or for increased flow to an existing system." The additional regulatory and legal work required for the installation of shared systems may prove, in the long term, worthwhile.
- **Establish a decentralized wastewater management body.** East Acton Village, with its potential for shared wastewater treatment systems, could become a decentralized wastewater management district, administered by the appropriate agency (e.g. a Board of Health or a Sewer Commission). One function of this entity is to plug the regulatory gap between municipal treatment plants, regulated directly by the DEP, and the small system that is subject to state-mandated standards but is difficult to manage locally by the property owner. In this fashion the agency is charged, at the local level, with regulatory and enforcement functions similar to the DEP. This entity may also be charged with hands-on operational and service oriented tasks, much like a local sewer authority or DPW.³⁵

³⁵ Shephard, Frank C., "Managing Wastewater" Prospects in Massachusetts for a Decentralized Approach – A discussion of options and requirements", April 1996

Carol Holley
39 Pope Road
Acton, MA 01720

July 16, 2004

EOEA
Attn: MEPA Unit – Anne Canaday
100 Cambridge Street
Boston, MA 02202

Re: Town of Acton
Comprehensive Water Resources and
Wastewater Management Plan
EOEA No. 11781

RECEIVED

JUL 23 2004

MEPA

Dear Ms Canaday,

Please find enclosed my comments on the above referenced document. Aside from the enclosed, I was somewhat dismayed by Acton's emphasis/dependence on sewerage, which entails major political and financial hurdles, and by the lack of reference to Low Impact Development and other decentralized water and wastewater management techniques.

Sincerely,

Page ES-2 While the geography of Acton might not be conducive to having NPS controls directly benefit the Assabet River, there are several streams in the community that have wildlife, aesthetic, and recreational value – would NPS controls not benefit these waterbodies?

In general, re public input: Public exposure to this process has been minimal, therefore “public review” has been limited to a very small number of individuals. This process and document should have been publicized more, and documents should have been made available to public repositories in a more timely manner. In June of 2004, the Acton Memorial Library did not have the 2003 draft of the CWRMP. The CWRMP the library did have was not filed in the area traditionally designated the “Acton shelf” and was therefore difficult to locate in the Reference collection.

Page 1-6, 1.2.2 The CAC, before the June 2004 meeting, had not gathered in a year and a half. Several of the bullet points from the initial meeting discussion refer to public input, “sunshine/public” discussions, publicity, etc. One member of the CAC has noted to me personally that communications/progress reports had been “fuzzy”.

Page 2-1 2.2.1 Do the population figures need to be revised upward to accommodate current and planned 40B developments?

Tables 2-2, 2-3. Any statistical correlation between household income and water usage? Age and water usage?

Figure 2-3 Does this figure differentiate between protected and unprotected open space (conservation or other deed restrictions) or is it just currently undeveloped land? If it currently just undeveloped land, please consider differentiating between protected and unprotected open space.

2-7 – Formatting issue, heading not on same page as paragraph

Page 2-8, Village Districts. Is the North Acton Village District really the same as Acton Center? Since there are differentiations in density in residential areas, maybe differentiate densities between the village districts, if in fact there are any differences in maximum FAR?

Page 2-13, 2.2.6.2 Is it really appropriate to assume that “202 residential dwelling units currently located in non-residential zoning districts” will evaporate?

2.2.6.3 Please tweak this section in accordance with zoning changes made at Town Meeting 2004 to the EAV district.

Page 2-15, 2.2.7 Please add the Nylander’s house on Great Road to the Historic Register list.

Page 2-16, Table 2-11. I think there's at least one day care center on Great Road that's not listed, and please change the elementary schools to reflect Parker Damon Bldg. There is a nursing home on Great Road that is not listed. Ice House Pond/Morrison property might appropriately be added to recreational properties.

Page 2-17 2.3.2 Typo, "remaining areas" – I think the "d" doesn't belong, or this is a technical term I'm not familiar with?

Table 2-12 Major soil types table confusing – is the 51% of "various" less than 9% of the soils described? Isn't 51% the majority?

Page 2-18 2.3.3.3 Conant Brook isn't mentioned? Considered part of another (Nagog) brook?

Page 2-20. "Despite the physical realities of where each brook flows..." Is there any case where MassGIS delineation and reality diverge to the point of a solution based on MassGIS delineation won't work in reality?

Page 2-28, 2.3.6 Is use of the monitor wells to determine groundwater levels for septic system design to supplement or replace deep test hole data?

Page 2-29, 2.3.7 I assume that no testing of coliform has been done to determine the type of animal (human, bird, etc) that is the source of the coliform, which is why it can't be concluded septic systems are the culprits.

Page 3-2 Please update AWD pumping data.

Somewhere in Section 3 Please factor in Quail Ridge Country Club water withdrawal and evapotranspiration rates that go with golf courses as opposed to residential development. Will the golf course in Westford's water withdrawal and evapotranspiration rate impact the Kennedy wellfield in any way?

Page 3-13 3.4 Residential development. The increased density and water withdrawal impact 40B projects, ongoing and projected and potential, should be factored in.

Page 3-14, 3.5.1 Are bedrock irrigation wells for residential lawns factored in as water withdrawals anywhere?

Page 4-1 I don't see the CAC discussing stormwater anywhere in the CAC paperwork? Yet it seems to be a big factor? Also, there seems to be no interest in LID stormwater management techniques anywhere in this section.

Page 4-4, 4.3.2 Is the stormwater management plan available to the public? (It would have been nice for EAV purposes).

Page 4-5 Pet Waste programs are very labor intensive – is there political will to enforce this in Acton? The leash law didn't pass Town Meeting....

Could retrofitting on-lot LID techniques such as cisterns, rainbarrels and rain gardens mitigate runoff in existing developments?

Page 4-12 Most people, including people who live in “Poet’s Corner,” call it “Robbins Park”. Could you add a parenthetical (“Robbins Park” or “Alcott St. neighborhood”) so people understand where this is?

Pages 4-20 to 21 Soil group map and tables – is it possible to show on the map the extent of current development? If the document recommends preservation of open space in these areas, it would be nice to know there's open space to preserve.

Page 4-23 MCM 1- Public Educational Outreach. (a) correct “Eductional” and (b) any proposed projects besides NARA kiosk, as lots of people don't use the NARA beach?

Page 4-23, 4.6.3 Is the NOI submittal from last July in a public repository (the Acton section of the library)? Town Hall is not an appropriate public repository because documents are not available after hours or on weekends.

Page 5-8, Figure 5-3 This may have been a result of writing to .pdf format, but some of the labels overlap and you have to look pretty hard to see the light gray of the developed parcels against the white of the undeveloped parcels.

Page 5-9, Table 5-6. I don't understand how development status can be “unknown”. Further, using number parcels, while it makes sense, doesn't give an easily visualizable picture of the proportion of an area in any one status. You can have a developed parcel of a half acre and an undeveloped parcel of 4 acres – and vice versa. And you can have widely varying development densities per parcel.

Page 5-9, 5.5.1.2 The Phosphorous limit bullet would be better on the following page with the sub-bullets.

Page 5-10. Sludge management – what's the polymer? How is it added? Is the sludge tested for substances like heavy metals that could have adverse health effects? Are any of the off-site disposal facilities land applications that could endanger people in other communities?

Page 5-12, Table 5-7. Suburban Manor hasn't been called that for years; could you use the name that corresponds with the signage so people newer to the community know where this package treatment plant is located?

Page 5-13, Table 5-8. Do you think adding notation as to which schools are on the sewer system would be useful? Combining McCarthy Town and Merriam into the one

Parker Damon Building would reflect wastewater generation reality since they are no longer in separate building using separate onsite systems.

Page 5-13. I would have numbered 5.6.3 *et seq* a little differently because 5.6.2, 5.6.3 etc. are all subsets of 5.6.1, Board of Health Regulations, not really separate topics.

Page 5-14, 5.6.4 I think the regs were updated recently. Please make sure this corresponds with current regs. Also, if Title 5 is more stringent, you should use Title 5.

Page 5-15. Figure 5-5. Does everybody who would possibly look at this picture understand that the d-box comes between the septic tank and the field? There's no reference to the tank at all.

Page 5-16, 16-4.2.9. Doesn't 10,000 gpd trigger state review and a possible groundwater discharge permit? Did I miss some Title V references somewhere?

Page 5-17, 5.6.5. Please, do adopt an adjustment factor!

Page 5-19 5.6.11 Not all septic system records are very complete, however.

Page 5-21, Table 5-11. What percentage of developed parcels have data vs not?

Page 5-22, 5.6.17. Is a public education effort on the proper care and feeding of septic systems in the works?

Page 5-26, 5.6.19. I would think this would be also driven by the very hot real estate market, because a lot of system failures are found with conveyancing-related inspections.

Page 5-27, Table 5-16. How many variances for new systems versus repairs?

Page 5-28. "Grease is typically charged a higher fee." Do you mean that it costs more to pump a grease trap? This doesn't have to do with hairstyles of pumpers/haulers, right?

Page 5-30. Peroxide treatments still happening? Did pump slips once have a place to check if the item structure was a cesspool instead of a tank?

Page 5-31, Table 5-19. How many of the "No data/Individual Wells" are individual wells? How much of this water usage is likely to be for lawn irrigation?

Page 5-32, Table 5-20. Letters recently went out to private well owners reminding them to test their wells. Couldn't you use the number of letters sent as a guesstimate for the number of private wells? As a private well owner, this concerns me somewhat.

Page 5-33, Table 5-21 and Figure 5-9. How many of those larger parcels have multiple dwelling units?

Page 5-35, Table 5-24. What percentage of these parcels not appropriate for on-site systems are currently served by private or municipal sewer systems?

Page 5-37, Figure 5-10. A way to show which of these areas were served by treatment plants, like cross hatching or dots, would be very nice.

Page 5-41. Depth to bedrock will also affect cost of sewerage. Given the number of parcels with information compared to the number of parcels without, is this data set really significant?

Page 5-42, 5.7.13, paragraph #2. So, worst case scenario is assumed where there are incomplete data.

Page 6-4, Table 6-3. Of the parcels where off-site is likely required, how many are developed, developable, undevelopable? Same for Table 6-5.

Page 6-11, 6.5.2.2. I could have sworn that earlier in the document the number of private water supplies was characterized as not available?

Page 6-13, 6.6.1. Do all these cluster systems include advanced wastewater treatment facilities (package treatment plant)? Does “year built” refer to the wastewater treatment facility or the dwelling or commercial buildings?

Page 6-14, Table 6-11. I thought Nylander way was scheduled to hook into the current sewer system.

Page 6-17, Figure 6-3. If the lots between Great Road and Nashoba Brook in the EAV and EAV II areas had reduced shared parking and shared stormwater and wastewater treatment opportunities, would they still be considered a “red zone”? While separate parcels, a certain percentage of this area is owned, if you trace all the realty trusts and so on, to the same individual(s).

Page 6-18, 6.8.2. Criteria. Sometimes it might be more cost effective to take a parcel by eminent domain than run a pipe a longer distance, maybe?

Page 6-24, 6.10. This section seems to ignore 40B and the tendency of developers to threaten suit, and the tendency of the town to, at best, compromise with developers.

Page 6-25. Area 3, East Acton Village – this “strong planning document” was drafted in such a way that sewerage would not be required to fulfill the goals the plan. Further, a great deal of public input indicated resistance to sewerage because sewerage would bring a level of density that the public felt was inappropriate for this village district. This document does not recommend sewerage.

AC

Ellen Roy Herzfelder, Secretary
Executive Office of Environmental Affairs
Attn: MEPA Office
EOEA No. 11781, Anne Canady

100 Cambridge Street, Suite 900
Boston MA 02114
Fax: 617-626-1181

RECEIVED
JUL 30 2004
MEPA

Comments on Acton's CWRMP, June, 2004
By Eric Hilfer, member AWAC/CAC
16 Orchard Drive
Acton, MA 01720
hilfer@tomsnyder.com

1) **Broader notification of public**

Although the Citizen's Advisory Committee had some involvement with the CWRMP process, there was minimal disclosure about the process to the public at large. Very few citizens in Acton have any idea that a project of this scope is underway. In addition, there is a proposal to accelerate the process by combining Phase 2 and Phase 3 together. It is critical that there be frequent public dissemination and comment gathering sessions to ensure that the public is aware of what issues are being decided and what plans are being implemented, and so that they can participate more directly in the process. The CAC is too small a group to truly represent the broader viewpoints of the public, or to effectively disseminate information to the public.

2) **Broader screening for toxins and wellhead protection**

Since this plan is comprehensive in nature and is intended to cover a 20-year planning period, I would like to see a more comprehensive discussion of potential toxins in the wastewater effluent stream. The plan currently only discusses issues of biological contamination, like bacteria, and nutrient loading, like phosphorous. The plan also supports the possible future discharge of treated wastewater in or near the Zone 2 areas of town water supply wells. Although the body of literature about other toxins in wastewater effluent is relatively new and based on studies in Europe, this 20-year plan should discuss the current state of the art for protecting the water supply from hazards that may not currently be controlled by a regulatory structure. These contaminants may currently fall under the category of "micropollutants", including Hg (Mercury), chlorine from household cleaners, pharmaceutical compounds, and many others. The CWRMP should mention these issues and propose a plan for ensuring safety, rather than waiting for problems to be detected. The plan should acknowledge that the town will commit to measure and control the discharge of these substances as the state of the art advances for assessing the health impact of these substances and detecting their

presence in the effluent. Claims of safety should be backed by actual data, not vague anecdotes.

3) **Sludge disposal**

The CWRMP does not discuss the disposal of the non-liquid components of the sewage. As a comprehensive report, there should be a section discussing the toxicity of the concentrated sludge, and the safety of its disposal within or outside of Acton's boundaries. Particular attention should be paid to heavy metals and other pollutants that may become concentrated in the sludge. Liability should also be discussed.

4) **Wastewater treatment options**

Phase 2 is scheduled to cover the water treatment options in more detail. Will there be a public comment period on Phase 2 version of the Plan? Will these options be included into the text of the CWRMP, or do they form a different document? The current version of the CWRMP does not contain sufficient information on alternate treatment options to adequately educate the public to make an informed decision about treatment, leaving Acton's current wastewater treatment facility as the only option that the public is familiar with.

5) **Stormwater NPS pollutants**

The discussion of stormwater management and recharge options focuses heavily on nutrient loading. The discussions should also deal with Non Point Source Pollutants from parking lots and road ways, including dealing with extraordinary events such vehicle accidents, particularly with trucks carrying industrial payloads.

6) **Existing groundwater contamination**

As a comprehensive report, the CWRMP should at least mention the existence of the current groundwater contamination plumes and acknowledge the risks of discharging treated wastewater in their vicinity. There are risks and liability issues regarding the potential for disturbing any of the existing contamination plumes.

Water Supply District of Acton

693 MASSACHUSETTS AVENUE
P.O. BOX 953
ACTON, MASSACHUSETTS 01720-0953

TELEPHONE (978) 263-9107

FAX (978) 264-0148

Memo to: Bob Rafferty, Woodard and Curran
From: Jane Ceraso, Acton Water District
RE: AWD Comments: Comprehensive Water Resources Management Plan,
Impact Report, Phase I, Acton, MA

Comments are listed in order of page.

ES-2 paragraph 3, change “eleven” wells and wellfields to “seven.” Change “nine” of which are treated to “five.”

ES-2 paragraph 4, start paragraph with “In 2004” and change 1.93 MGD to 1.928 MGD.

ES-2 paragraph 5, first sentence: change “at approximately” to “below” and 1.85 to 1.86.

Page 2-9: Please note that these “Zone” definitions are somewhat inconsistent with DEP’s definitions. DEP’s are generally the ones used.

Page 3-2, second paragraph: Please define and quantify ET losses.

Seventh paragraph: Where are evapotranspiration and consumptive losses factored in here?

Last paragraph: I disagree with the statement “This new sewer system does not represent a loss to the Town’s aquifers...” Because of the location of the point of discharge from the new treatment plant, virtually all of the water will be lost from the District’s supply aquifers.

Page 3-3, first sentence: add “virtually” after “there is”

Page 3-5, Table 3-3: delete “Assabet No. 2” and “Marshall Wellfield” rows, these wells are not currently used for water supply.

Page 3-6, middle paragraph change “eleven” to seven and “nine” of which are treated to “five”

Figure 3-1: Title should be “Public Water Supplies in Acton” as many of the wells on the map are not part of the Acton Water District. You may want to differentiate from AWD and other public supplies.

Page 3-8, I suggest you add a sentence explaining the difference between the approved yield and actual yield/pumping.

Page 3-8 second paragraph should mention the Butterbrook and Quail Ridge golf course wells. Third paragraph, last sentence should say ...combined “maximum” yield of 0.75 mgd. Last paragraph, precede this paragraph with “Approved” before the word “yields.”

Page 3-9, 3.3.2, AWDs distribution system was recently surveyed at 120 miles.

Page 3-10, 3.3.3, first paragraph, second sentence, change “nine” to “five” and eleven to “seven.” Third sentence, add “provide disinfection, pH adjustment, and fluoridation” prior to “...remove...”

Page 3-11, first paragraph change GAC regeneration to “replacement”

Page 3-12, Table 3-6, column 3, do you want to say “pumping capacity” or “safe yield”?

Page 3-14, Third paragraph, “in 2000” should say “using data from 1998-2000”

Page 3-18, insert final bullet “Conservation (seasonal) rates to reduce peak demand” just prior to “Outdoor Watering Ban”