Comprehensive Water Resources Management Plan (CWRMP)

APPENDICES A – D

Volume 2 of 5
Acton, MA

March 2006
Revised June 2006

WOODARD & CURRAN
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APPENDIX A: PHASE 1 - SECRETARY'S CERTIFICATE AND PUBLIC COMMENTS

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 sewering 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 densly 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 environmenally sensitive and economical manner.

Environmental resources in the area of the project should be identified and an assessment can be made of the potentical 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

for Jan Reitsma, Acting Secretary

Date

Town of Acton

EOEA #11781 Special Procedure December 1, 1998

Comments received :

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

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

ARGCOPAULCELLUCCI
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TRUD

DAVID B. ST
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 permittable. 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

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 sewering 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

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. EOEA #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.

220 Morrissey Boulevard, Boston, Massachusetts 02125 · (617) 727-8470
Fax: (617) 727-5128 · TDD: 1-800-392-6090
www.state.ma.us/sec/mhc

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

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

DT

MASS HIGHWAY
Argeo Paul Cellucci, Governor
Patrick J. Moynihan, Secretary
Kevin J. Sullivan, Commissioner

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

Project Identification:

Project Name:	Middle Fort Pond Brook Sewer Project
Project Proponent:	Town of Acton
Location:	Action
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 sewering 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

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 sewered areas, and alternatives and mitigation measures for all of these impacts. The land use analysis should quantify the potential growth impacts in newly sewered 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

DF

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

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 EOEA's 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.

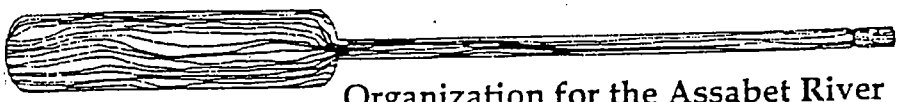
Sincerely,

Cassie Thomas

Cassie Thomas
NPS Rivers Program, Boston
617/223-5014

DF

O.A.R.



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

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NOV 25 1998
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November 23, 1998

Trudy Coxe, Secretary
Executive Office of Environmental Affairs, Attention: MEPA Office
Richard Foster, EOEA 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 is 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

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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

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

AC

RECEIVED
JUL 26 2004
MEPA

23 July, 2004

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 was 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 solution 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 unite 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.

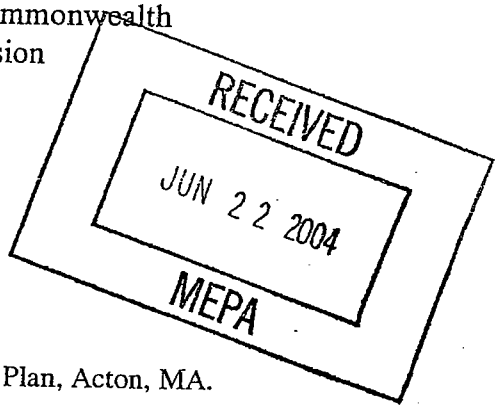
PAGE 2 ON REVERSE →

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. EOEA #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

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

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www.state.ma.us/sec/mhc

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

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

ELLEN ROY HERZFELDER
Secretary

ROBERT W. GOLLEDGE, Jr.
Commissioner

AC

July 23, 2004

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,

Paul Anderson

Paul Anderson
Section Chief, Water Supply and Municipal Services

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

AC

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 Action 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 groundwater[20]. The Acton Health Department monitors Nashoba Brook in East Acton Village on a regular basis for bacterial count[21].

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.

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[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

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[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).

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[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

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 sewering, 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,

Carol Holley
6/27/04

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.

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 sewering. 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 sewering would not be required to fulfill the goals the plan. Further, a great deal of public input indicated resistance to sewering because sewering would bring a level of density that the public felt was inappropriate for this village district. This document does not recommend sewering.

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

Comments on Acton's CWRMP, June, 2004
By Eric Hilfer, member AWAC/CAC
16 Orchard Drive
Acton, MA 01720
hilfere@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 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"

APPENDIX B: CITIZEN'S ADVISORY COMMITTEE MINUTES AND PUBLIC OUTREACH MATERIAL

WOODARD & CURRAN
Engineering • Science • Operations

CORPORATE OFFICES: Maine, Massachusetts,
New Hampshire, Connecticut, Florida
Operational offices throughout the U.S.

Town of Acton

ACTON WASTEWATER CITIZENS ADVISORY COMMITTEE

Comprehensive Water Resources Management Plan /
Environmental Impact Report
CWRMP/EIR
Thursday, June 3, 2004
7:00 PM

ACTON SENIOR CENTER

Meeting Goals:

Review the needs areas and potential solutions.

Reach consensus on the priority of needs areas and the preferred solutions.

Determine disposal areas for further exploration.

Agenda:

• Welcome	Doug Halley	5 min
• Introductions	All	5 min
• Project update	Helen Gordon	5 min
• Overview - needs areas & satellite locations	Bob Rafferty	5 min
• Potential solutions	Brent Reagor	15 min
• Break out session	All	30 min
• Q&A	Helen Gordon	10 min
• Next Steps	Bob Rafferty	5 min
• Evaluate the Meeting	All	5 min

Attachments:

Project summary informational handout - including figures

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MEETING MINUTES

MEETING DATE: June 3, 2004

REFERENCE: Acton CWRMP
CAC Meeting

ATTENDEES: CAC:
Jane Ceraso – Acton Water District
Ann Chang – CAC / SAC
Nancy Tavernier – CAC / SAC
Art Gagne – CAC / SAC
Pat Cumings – resident
Carol Holley - ACES
Tony Capobiano – Atlantic Management Co
Jim Shope – Nagog Woods Manager
Lauren Rosenzwerg – Planning Board
Stacey Rogers – Assoc Planning Board
Mary Michelman –ACES
Doug Halley – Health Director
Brent Reagor – Health Dept
Dan Garson – Woodard & Curran
Bob Rafferty – Woodard & Curran

DISTRIBUTION: Attendees
Helen Gordon
File

Submitted by: Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

ATTACHED ITEMS

Agenda cover sheet
Presentation

AGENDA ITEMS

A project update was presented along with goals of CAC meeting. Bob Rafferty presented the status since the last CAC meeting, including presentation of the minimum and maximum service areas, as well as locations of satellite treatment and disposal facilities.

Dan Garson presented the status of the MEPA submittal of the Phase 1 CWRMP/EIR. The public comment period will be for 30 days (July) with another 7 days for issuance of the Secretary's Certificate.

The project team will file an expanded ENF and attempt to streamline the MEPA process. DEP must agree with our approach and methodologies. A standard EIR process would take 12 to 18 months. A single EIR could be allowed if the problem is focused and localized. The regulatory process timeline is 8 to 12 months for a single EIR.

Brent Reagor presented a PowerPoint presentation of the preliminary priority needs areas derived from evaluating the criteria put forth by the project team and previous CAC meetings. The CAC was asked for input into the priority rankings and responded with several suggestions and a request for more detail on the needs criteria.

The break out session was not conducted due to the vibrant discussion consisting of questions and answers regarding the needs criteria and methods of setting priorities for the needs areas.

DISCUSSION ITEMS

Comments from the CAC regarding the project update and MEPA process included:
(Q = Question from CAC; A = Answer from Project Team; C = Comment from CAC; R = Response from Project Team.)

Q. What are the new technologies that may have come available since we started the CWRMP/EIR process? Can wastewater effluent be discharged into a Zone II with new treatment technologies? Can the effluent be re-used?

A. The DEP has approved several innovate/alternative (I/A) technologies for various uses in Massachusetts. Some of the potential solutions for Acton's needs areas include irrigation on soccer fields and discharge within a Zone II. DEP has regulations and guidelines for reuse of wastewater effluent.

Q. Does the recent Assabet TMDL report influence the CWRMP/EIR?

A. The Draft TMDL sets a limit of 0.1 mg/L phosphorus discharge for the public treatment plants discharging directly to the river upstream of Acton during the summer. However, downstream plants similar in size to Acton's are allowed 0.5 mg/L year round. Acton's treatment plant currently reaches 0.2 mg/L consistently. Acton's plant discharges to the ground.

Q. Could there be a requirement to use water conservation devices if a building is connected to the sewer system?

A. Plumbing work is required to have a plumbing permit, which would regulate the type of fixtures.

Comments received on the presentation of "Potential Solutions of Priority Needs Areas" included:

Q. Have expected wastewater flows been calculated for the priority needs areas?
A. No. Anticipated wastewater flows have been calculated for the initial service areas presented with the handouts summarizing the Phase 1 work. The areas discussed in the presentation were drawn to include the maximum expected area. It will be more efficient to remove lots if needed than to expand the boundaries.

Q. How much capacity exists at the wastewater treatment facility on Adams Street?
A. Approximately 60,000 gallons per day (gpd) according to current wastewater flows. This will be reduced if the sewer is extended to the Powdermill Plaza area.

West Acton Center

Q. How much flow would the sewer system be able to take from this area?
A. The infrastructure was designed and built to handle the flow from this area. The WWTF is currently limited by permit to 250,000 gpd, but the infrastructure is sized for 500,000 gpd. The WWTF would need a new discharge point to be able to process the flow.

C. Extension of the sewer would require connecting houses along its route on Mass Ave, which is difficult politically.

Spencer/Tuttle/Flint Roads

C. Dover Heights apartments need a new system.
C. Beavers are active in this area.

Indian Village

C. Aesthetics are a concern currently. Many homes have mounded systems that required tree cutting.

East Acton Village

C. Stoneymeade area not shown as a problem area on the maps though is has groundwater problems.

Q. Is the Morrison property considered for disposal?
A. The property is not ideal because of groundwater near the surface. It is not completely ruled out, but it is not a preferred site.

Q. Does the preferred site (along Route 2 on the land farmed by MCI Concord for cow corn) have any conservation issues?
A. From CAC: Town bought the property and it may be managed by ConCom, but it was purchased for municipal purposes.

C. The Town recreation department may want to put in a well for the soccer fields across Route 2.

A. The Natural Resources Director is aware of the plan to put the WWTF on the site, and is aware of the potential to use effluent for irrigation of the soccer fields.

C. Regarding the use of the rail trail for sewer infrastructure. Some benefits may not actually be benefits because of timing. The Rail Trail may be built long before the sewer system is built.

A. The timing of the projects will be included for consideration when prioritizing the service areas.

Brucewood Estates

C. Potential disposal location is in a Zone II, which may not be desirable

C. Disposal in Zone IIs is not ruled out by the Water District as long as suitable controls must be in place to protect the drinking water.

R. Many other states reuse wastewater effluent to a much greater degree than Massachusetts. Discharging to a Zone II is not ideal because of the expense needed to meet regulatory requirements. The option remains open until a better alternative is found through the CWRMP/EIR process or the service area is not determined to have needs sufficient to be addressed.

Flagg Hill

C. There are spots of good sand and gravel in Colonial Acres. A new system is being put in now in a Zone II.

Audubon Hill

Q. What is the Town's liability with the failing system considering the Senior Center is located here.

A. The Senior Center is leased from the property owner. Town would be liable if the center caused the septic system to fail.

General comments and questions included:

Q. What is a typical cluster system size?

A. It can range from two houses to up to 20,000 gpd, which is 40 to 45 4-bedroom homes.

Q. What are the sizes of the treatment facilities in Acton?

A. They range from 6,000 gpd to 250,000 gpd at Nagog.

Q. What is the status of the Powdermill Plaza? Can the town get any utility from the existing site and treatment plant? Does the site flood?

A. The town and property owner are currently negotiating the connection of the plaza to the Town's wastewater system. The existing plant is old and discharges to the Assabet. Further details are dependent on the negotiations.

Q. It appears that the Adams Street WWTF is needed for areas close to the site. What will be left for other sewer extensions?

A. The final priorities are still being evaluated but it is a significant consideration.

Q. What sort of public/private solutions are possible?

A. Nationwide there are several examples of wastewater districts owned and operated by private entities, similar to water districts. The most basic example is an industry accepting wastewater to its treatment facility from a community.

Q. Are I/A systems suitable to control building booms similar to growth seen in some areas of Acton?

A. On-site I/A systems are similar to septic systems in that they are considered temporary solutions. Once a sewer is built abutting a property, the property has 90 days to connect.

Q Area 1 (North Acton) appears to have many needs according to the maps. Why isn't this a priority?

A. The project team prioritized off-site solutions because on-site solutions, including establishing special wastewater management districts, are the default solution for all the service areas. Area 1 has one potential off-site solution at the former septage lagoons, which is a less than desirable solution. This area will be discussed at the next CAC meeting when the CAC reviews potential disposal locations.

C. Much of the initial "expanded" sewer district is not shown as being a needs area. The residents in this area were expecting sewers but were denied access. These residents may oppose sewering areas not in the initial district.

C. Timelines of projects are important when deciding priorities.

R. Some large systems may need to be replaced, which could trigger a review of alternative solutions, such as extending sewer to an area.

C. The schools put political weight behind sewer extensions for the Gates and Douglas Schools.

Q. Combining the construction of a rail trail with construction of a sewer off Route 2A is a good idea, but the timeline may be difficult. What would happen if the rail trail was built before the sewer?

A. The rail trail may be excavated to install the sewers.

C. A short discussion ensued regarding reuse and discharge of treated effluent in a Zone II. The CAC was divided on the safety. The CAC suggested that the project team must educate the public on the safety of this practice if this option is recommended.

ACTION ITEMS

A second CAC meeting was scheduled for July 15 to follow up on the CAC comments and move forward with the service area prioritization.

W&C will provide the following additional information for the July 15 meeting:

- Information regarding innovative/alternative (I/A) treatment and disposal systems, including:
  - Summary of I/A systems approved for use in Massachusetts;
  - Costs of I/A systems (order of magnitude);
  - Discussion of disposal field sizes needed for the proposed solutions; and
  - Map of where I/A systems are located in Acton.

- Details regarding needs criteria and solutions criteria.

Project Update

What has happened since the last CAC meeting?

- Needs areas finalized and grouped into preliminary service areas. (See Attached Executive Summary)
- Potential treatment and discharge alternatives are identified.
- Comments from DEP on the Phase 1 report have been received and addressed.
- The report was submitted for MEPA process – public review.
- Phase 2 has started.

Overview

Wastewater Collection, Treatment and Disposal Alternatives

Collection, treatment and disposal alternatives are inextricably linked, making the process somewhat iterative. The analysis includes a review of technical, financial, aesthetic, political, environmental, and public health considerations.

We have identified between 8 and 15 areas that have some need for wastewater disposal solutions. Each area is unique with its own set of needs and potential solutions. Some areas may not have "constructible" solutions.

Potential wastewater solutions

- Wastewater management program (on-site systems),
- Cluster systems,
- Decentralized options,
- Connection to the existing sewer system, and
- Do nothing.

Summary of Analysis Results for Discussion

A summary of the analysis results is presented in Table 1.

Locations of the needs areas are presented in two figures from the CWRMP/EIR. Figure 1 displays the minimum service areas based on combining closely grouped areas determined to require off-site solutions. Figure 2 displays the maximum service areas based on combining closely grouped areas requiring off-site solutions and adjacent parcels requiring mounded systems.

We have identified potential locations for wastewater disposal as shown in Figure 3.

Our break out session will focus on six representative areas that illustrate the levels of need and priority of solutions. These six areas are highlighted in Table 1.

Table 1: Possible Solutions to Identified Needs Area

Needs Area	Description	Possible Solutions	Comments
1	Marshall Crossing Robin's Brook	• Disposal to former septage lagoons	• Disposal site in or adjacent to Zone II
2	Handley Woods North Acton Woods Acorn Park North Acton Condos	• Wastewater Management District • Possible combination with Area 1 for wastewater system	• Existing private ownership of large Title 5 systems, cluster systems, small package treatment plants • Henley – residential area with private wells
3	East Acton Village Route 2A	• Decentralized wastewater system with subsurface discharge near Route 2 • Rail trail route for infrastructure	• Commercial area dependent on economic growth
4	Concord Road Poets Estates	• Possible extension (Phase 2) of East Acton Village solution	• Residential area with high groundwater
5	Brucewood Estates	• Decentralized wastewater system	• Disposal site in or adjacent to Zone II • Disposal site on private property
6	Brookside Apartments	• Potential for connection to sewer system	• Disposal site in or adjacent to Zone II
7	Powdermill Plaza	• Connect to Acton sewer system	• Plaza has an existing treatment plant with outfall to the Assabet River
8	Maynard border Audubon Hill (North & South)	• Gravity connection to Maynard system • Connect to Acton sewer system	• Sporadic "bad" lots not economically feasible to connect to Acton's sewer • Pump station required
9	Heath Hen Meadow	• Wastewater Management District	• High groundwater • Isolated area with no local disposal options

Needs Area	Description	Possible Solutions	Comments
10	Spencer Road Area Tuttle / Flint / Mallard Dover Heights	• Connect to Acton sewer system	• Pump station required
11	Nash and Downey	• Wastewater Management District	• Multiple pumping stations required to connect to Acton's sewer system. • High groundwater with no local disposal options
12	West Acton Center	• Connect to Acton sewer system	• Commercial center • Dense development
13	Indian Village	• Connect to Acton sewer system	• Residential area – fully built
14	Colonial Acres	• Wastewater Management District	• Isolated from other systems with no local disposal options • High groundwater problem may be solved with mounded systems
15	Town Hall	• Wastewater Management District	• Isolated from other systems with no local disposal options

ACTON CWRMP PHASE I

EXECUTIVE SUMMARY

The Town of Acton filed an Environmental Notification Form (ENF) in October 1998 for the Middle Fort Pond Brook Sewer Project. The ENF requested a "Special Procedure" under the Massachusetts Environmental Policy Act (MEPA) to phase the overall environmental analyses, regulatory review and approval, and engineering design of a town-wide wastewater collection and treatment management plan to address the immediate and long-term growth needs of the Town.

The Secretary of Environmental Affairs issued a Certificate for the project on December 1, 1998. The MEPA Certificate (EOEA No. 11781) established a Special Procedure for the preparation and review of an EIR for town-wide wastewater facilities planning and development. This allowed the Town to proceed with design and construction of an advanced wastewater treatment facility on Adams Street and approximately 10 miles of collection system 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 for long-range planning.

The Comprehensive Water Resources Management Plan / Environmental Impact Report (CWRMP/EIR) for the Town of Acton consists of four phases. The first phase, of which this report presents the findings and conclusions, includes 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 storm water systems and programs are reviewed. Current wastewater management systems are discussed, followed by a determination of wastewater needs. Finally, potential locations for satellite wastewater treatment facilities are presented.

The Town of Acton recognizes the need to look at water resources in a comprehensive manner. This includes soliciting and incorporating resident and other stakeholder input. This study includes public outreach in the form of three Citizen Advisory Committee (CAC) meetings. The CAC communicated issues of importance to the residents of Acton and provided valuable insight, historical and anecdotal information, and direction to the project team.

The Town recently built a state-of-the-art treatment facility and groundwater discharge system with aggressive phosphorus removal. The Town has conducted surface and ground water sampling for several years and has developed an extensive database of fecal coliform levels throughout the Town's surface waters. The Town proactively engaged in stormwater planning, not only with the recent EPA Phase II requirements, but also by winning a 319 grant in 2001 to implement stormwater best management practices to reduce phosphorus loading in local waterways. The Town works closely with the Acton Water District, which has recently updated its master plan and conducted an assessment of land use risks to its wells. This first phase of the CWRMP/EIR compiles and synthesizes elements of all these projects into a comprehensive evaluation of Acton's water resources.

The Town of Acton is a residential community located approximately 25 miles northwest of Boston, MA. The Town has a proactive municipal staff that is actively engaged in finding solutions to wastewater issues and water quality problems. The Town's Board of Selectmen currently acts as the Sewer Commissioners. Several active environmental organizations are located in Acton and the surrounding Sudbury-Assabet-Concord (SuAsCo) Rivers Watershed.

Acton's most current census population is approximately 20,000. The Town's Master Plan projects the ultimate buildout population to be approximately 29,200, which will be reached in 40 years. Acton's

estimated maximum residential buildout is approximately 10,600 dwelling units (defined as the residence of one family), a net increase of about 3,400 units over the 1998 housing stock of 7,200 units. About 68% of this net increase is attributed to further development of existing developed parcels. Non-residential buildout is estimated to come through greenfield development (40%) and expansion and conversion of existing developed parcels (60%).

The entire Town lies within the drainage basin of the Assabet River. The two principal streams in Acton are Nashoba Brook and Fort Pond Brook. The Assabet River has been identified as receiving excessive levels of nutrients, particularly phosphorus. The sources identified as the leading cause of nutrient impairment in the Assabet River are the publicly-owned wastewater treatment facilities located upstream of Acton. During summer months, under low flow conditions, wastewater treatment facility effluent accounts for approximately 80% of the total river flow.

The topography of Acton is characterized by gently rolling hills and some small peaks. Elevation gradually increases from the southeast to the northwest. Acton's surficial geology is predominated by sand/gravel and till/bedrock deposits. Generally, the sand and gravel deposits occur in the narrow and constrained valley aquifers along the principal streams of the Town, and run in north-south lines. A large strip of till/bedrock separates the two sand/gravel areas. These aquifers are the only source of public drinking water in Town.

Approximately 95% of Acton's population is served by the Acton Water Supply District (the District). The District withdraws drinking water from five locations in these areas of sand and gravel. Drinking water sources consist of eleven wells and wellfields, nine of which are treated by packed tower aeration (PAC), granular activated carbon (GAC), or a combination of the two technologies. The District regularly enacts water use restrictions and is proactive in public education of water issues, especially promoting conservation measures.

The District is permitted to withdraw up to 1.93 MGD on average over a calendar year. In 2002 the District's average daily withdrawal was 1.86 MGD, with a maximum demand day of 2.90 MGD. The Acton Water District exceeded its permitted average daily withdrawal capacity only once, in 2001, when unaccounted water reached 19% of water withdrawn primarily due to an open valve that allowed unmetered water to flow from Acton's distribution system into Maynard.

With the exception of 2001, the District's average daily use has remained at approximately 1.85 MGD since 1997 even though Acton's population as grown by about 10 percent during that period. The District's Master Plan predicts an average daily demand of 2.24 MGD by 2011, with a maximum day demand of 3.68 MGD by 2011.

Much of the Town's drainage system was constructed in the 1930's through the programs of the Works Progress Administration. At that time, little consideration was given to controlling the quantity or quality of stormwater entering natural water bodies. Since approximately 1980, the Town's Subdivision Rules and Regulations require new commercial and residential developments in Acton to collect and convey runoff into a vegetated detention basin. In addition to these rules, developers of subdivisions containing five or more lots must adhere to Stormwater Management Standards set forth by MADEP.

The geography of Acton is not conducive to non-point source (NPS) controls having a direct benefit on the Assabet River. The only section of Acton that discharges directly to the river is the southeastern corner of Town. All of Acton streams flow through local water bodies to Warner Pond in Concord prior to entering the Assabet River.

In conjunction with the recent construction of the wastewater collection and treatment system, the Town has undertaken several projects to address stormwater issues. Acton is conducting a Watershed Trading Study aimed at reducing phosphorus loading on local waterways. The project (MADEP Project 00-07/319) is funded by an EPA 319 grant. According to the USEPA grant scope, "The project is intended to pilot watershed trading programs that will become increasingly important and common in the coming years..." Acton will construct two structural best management practices (BMPs), a wetland to reduce phosphorus in the local swimming pond, and undertake several nonstructural measures to improve regulations and inform and involve the general public. The grant work is being undertaken in conjunction with this CWRMP/EIR and the recently completed Stormwater Management Plan required by EPA under the Phase II program.

The Middle Fort Pond Brook Sewer System, which includes an advanced wastewater treatment facility (WWTF) with 10 miles of gravity sewer and ten pumping stations, has been on line since February 2002. The sewer system serves approximately 700 total parcels. The WWTF is permitted for 250,000 gpd with an effluent phosphorus limit of 0.2 milligrams per liter (mg/l). The facility discharges to rapid infiltration beds (RIBs) on the bank of the Assabet River.

The town is served by ten privately owned and operated cluster wastewater systems that are permitted to collect, treat and discharge approximately 450,000 gpd. Eleven small-medium cluster systems contribute a total of approximately 90,000 gpd of wastewater treatment and disposal capacity. These facilities discharge to subsurface disposal systems.

Approximately 84% of the town's developed parcels use on-site wastewater disposal systems. The Acton Board of Health (BOH) maintains a complete set of records for all septic systems in Acton. The BOH file system includes permit lists, Title 5 inspection lists, variance list (1995-2001), Geographic Information System (GIS) database, design data list, and non-electronic files (paper and microfiche) containing design and permit details.

To determine areas in need of wastewater disposal solutions, specific data were evaluated, including system age, repair history, septage pumping records, inspection data, variances, private wells location, parcel size, depth to groundwater and bedrock, and percolation rate. The files and database form the basis for the wastewater needs analysis. Key design data recorded in existing non-electronic files were digitized for this project and merged with existing BOH electronic information into a comprehensive GIS database. Soils parameters available through standard Natural Resources Conservation Service (NRCS) mapping were adjusted based on BOH records.

The analysis was applied town-wide, incorporating an improved and more detailed approach to identifying areas in need of wastewater solutions on a lot-be-lot basis. This process evaluates wastewater needs without presumptions or unintended bias inherent in preconfigured study areas.

Over 90% of the existing septic systems can remain as on-site systems for the planning period, with approximately 3.5% of these lots requiring innovative/alternative (I/A) technology and/or mounded systems. Lots identified as requiring offsite solutions to wastewater disposal problems are dispersed throughout the community.

Attempting to service only the dispersed lots with off-site solutions would be technically impractical and cost prohibitive. The lots identified as needing off-site solutions could be joined by adjacent lots to create independent service areas that may be more economically feasible to address. These needs areas will be further reviewed by the project team, with input from DEP, Town staff, CAC and general public as part of the forthcoming phases.

The range of wastewater flows projected to be collected treated and dispersed from the proposed needs/service areas is between 110,000 gpd and 265,000 gpd. Potential solutions to locating facilities and selecting appropriate technology for offsite solutions, whether decentralized/cluster facilities or expansion/extension of the existing wastewater collection and treatment system, will be further evaluated in forthcoming phases of the study. A critical component of this evaluation is the determination of potential locations for wastewater effluent disposal within Acton.

The principal tool used in identifying areas of interest (AOI's) with potential for wastewater disposal has been the GIS databases derived from the Town of Acton's GIS system and MassGIS. These databases provide information on soil type characteristics, depth to seasonal high groundwater, depth to bedrock, level of development, and location of sensitive receptors. Preliminary analysis of selection criteria concludes that approximately 620 acres are available within Acton for locating wastewater treatment and disposal facilities. Additional parcels identified by the town and CAC input may provide effective alternatives to the lots selected from the analysis.

The Town is currently comparing actual flows at the central WWTF to the design flows to maximize the facility's effectiveness and optimize the potential solutions to wastewater needs. Pending this analysis, the first needs area under consideration for extension of the existing wastewater collection system is the Powdermill Plaza area, currently served by an older treatment facility that discharges directly to the Assabet River.

Phase II of the CWRMP/EIR includes pairing of the needs areas with potential disposal locations, including subsurface investigations if needed. Collection and treatment technologies will be evaluated for each needs/service area.

Innovative/Alternative Onsite Wastewater Technologies

Innovative / Alternative (I/A) treatment and disposal systems tend to be modular and can be scaled from individual properties to serve clusters of properties at larger flows. Generally, the I/A systems are innovative smaller versions of conventional treatment system technologies, using either suspended or fixed media, or a combination of both. The specific mechanical and operational systems make them more conducive to individual or cluster systems and can reduce operation and maintenance requirements while performing at levels much higher than conventional Title 5 systems. However, the historical record for operating these specific technologies at larger flows (greater than 30,000 – 50,000 gpd) is sparse. At these flows these technologies usually give way to conventional treatment technologies such as extended aeration, sequencing batch reactors, and rotating biological contactors with more operating and performance history.

I/A technologies are available for both treatment and disposal of wastewater in onsite systems. A summary of these technologies is attached in Tables 4 and 5.

Use of I/A Technology in Massachusetts

Typical use of I/A technology in Massachusetts (design flows under 10,000gpd) is governed by Title 5 (310 CMR 15.000), specifically, 310 CMR 15.280-15.289. This section of the regulations lists the approval process for the technologies, and the general conditions applicable to all systems utilizing these technologies.

Types of I/A Technologies

I/A technology can be grouped into two major areas: Treatment and Disposal. The names are self-explanatory. Within the two major groups, there are subgroups:

Treatment:

Active Treatment - requires an "active" component, which is usually an aerator (blower) and/or a mixing arm that physically adds air and agitates the wastewater during the treatment process.

Passive Treatment - usually involves application of wastewater to a media filter consisting of textile, foam, peat, or sand. The treatment of the wastewater occurs within the media and the wastewater can then be disposed of within the soil absorption system.

Disposal:

Pressurized - employs pressure within the network of pipes to disperse the effluent evenly across the soil absorption system.

Non-pressurized - does not employ pressure, but relies on gravity to disperse the effluent within the soil absorption system.

Each of these subgroups has both their advantages and disadvantages; these are listed within Tables 4 and 5.

Table 4

Treatment

Active

Technology Name	Manufacturer/Distributor	Type of Process
Cromaglass	Cromaglass Corp., Williamstown, MA	Sequencing Batch Reactor
JET Home Aerobic System	Clearwater Recovery, Rockland, MA	Aerobic Treatment Unit
FAST (Fixed Film Activated Sludge)	J&R Associates, Raynham, MA	Aerobic Treatment Unit
Singulair	Siegmund Environmental Services	Aerobic Treatment Unit
Amphidrome	FR Mahoney and Associates, Rockland, MA	Submerged Attached Growth Sequencing Batch Reactor
MicroSepTec Enviroserver	MicroSepTec Inc., Laguna Hills, CA	Aerobic Treatment Unit
FAR	Environmental Operating Systems, Falmouth, MA	Aerobic Treatment Unit
Biocycle	Biocycle, Providence, RI	Aerobic Treatment Unit

Advantages	Disadvantages
Shorter startup period	More sensitive to upset
High BOD/TSS Removal	Higher life cycle costs

Passive

Technology Name	Manufacturer/Distributor	Type of Process
Recirculating Sand Filter	Non-proprietary	Sand Filter
Ruck	Holmes and McGrath, Falmouth, MA	Biofilter
Intermittent Sand Filter	Orenco Systems Inc., Sutherlin, OR	Sand Filter
Bioclere	Aquapoint, New Bedford, MA	Trickling Filter
Waterloo Biofilter	Clearwater Industries, Ipswich, MA	Biofilter
Nitrex	Lombardo and Associates, Newton, MA	Trickling Filter for Nitrogen Removal
PhosRID	Lombardo and Associates, Newton, MA	Trickling Filter for Phosphorus Removal
PuraFlo	Bord na Mona, Greensboro, NC	Peat BioFilter
EcoFlo	Premier Tech, Birmingham, MA	Peat BioFilter
Advantex	Orenco Systems Inc., Sutherlin, OR	Textile BioFilter
SeptiTech	SeptiTech of Massahcusetts, Cohasset, MA	Trickling Filter with Aeration
CFT Ruck	NorthCoast Technologies, Falmouth, MA	Aerobic Ruck Filter

Advantages	Disadvantages
Lower life cycle costs	Longer startup period
Less sensitive to upset	Some types require a larger footprint than active systems
Better for nutrient removal	

Collection Systems

Gravity collection systems are generally the default convention because of the simpler system components and life cycle costs (O&M). Alternative collection technologies such as pressure or vacuum systems can be less expensive to install because of shallower burial depths, particularly for more rural areas where the number of connections is less per linear foot than more densely developed areas. Pressure or vacuum sewers can be installed where pipe slope needs to be installed against surface grades.

Gravity Systems

Gravity systems are comprised of large diameter pipe (greater than 8-inches) with manholes generally spaced at a maximum of 300 feet and at changes in slope and direction. These systems can be the most economical for life cycle cost calculations and best in densely developed locations with grades to support flow. Most gravity systems have centralized pumping stations to overcome adverse grades.

Septic Tank Effluent Gravity or STEG systems use onsite septic tanks to remove solids with effluent flow to gravity sewers, which can be smaller than conventional because of lower solids content. STEG systems are commonly used to sewer areas with existing septic tanks for short distance conveyance.

Pressure Sewers

Pressure sewers are comprised of smaller diameter pipe buried at a depth shallower than gravity systems. These sewers require pumps at individual connections, either grinder pumps that macerate solids or septic tank effluent pumps (STEP) that pump septic tank effluent. Pressure sewers are commonly used in areas of adverse topography or where deeper excavations will be cost prohibitive due to geology or groundwater, or in rural areas with large distances between user connections.

The primary difference between grinder pump systems and STEP systems is the amount of solids conveyed to the collection system. STEP systems rely on septic tanks to remove settleable solids, grease, and grit. Therefore, septic tanks must be pumped regularly. Grinder pumps require slightly more electrical power.

Vacuum systems

Vacuum systems operate under low vacuum instead of gravity or pressure and are comprised of small diameter pipe buried at shallow depths with receiving tanks at individual user connections.

Vacuum systems are typically installed in rural areas to minimize the cost of deeper excavations and in relatively flat terrain because of limited ability to overcome elevation differences. The general convention for vacuum systems is to limit use to areas with less than 20 feet of elevation gain. Larger elevation gains can be achieved by intermediate vacuum pumps and air admittance systems. Odors at the vacuum stations can be an issue that should be considered.

Table 5

Disposal

Pressurized

Technology Name	Manufacturer/Distributor	Type of Process
GeoFlow	J&R Associates, Raynham, Ma	Drip Irrigation
Pressure Distributed SAS	Non-proprietary	Pressurized equal distribution of effluent

Non-Pressurized

Technology Name	Manufacturer/Distributor	Type of Process
BioDiffuser	Advanced Drainage Systems, Hillard, OH	Chamber
Cultec Chambers	Cultec Inc., Brookfield, CT	Chamber
Eljen In-Drain	Eljen Corp., East Hartford, CT	Chamber with Media
Hancor Enviro-Chamber	Hancor, Findlay, OH	Chamber
Infiltrator Chambers	Infiltrator Systems, Old Saybrook, CT	Chamber

Cluster Systems / Package Plants

A cluster system is a wastewater collection and treatment system that serves two or more dwellings, but less than an entire community. Individual septic tanks or aerobic units may pre-treat wastewater from several homes before it is transported to a treatment unit that is relatively small compared to centralized systems.

Small satellite treatment plants or soil absorption systems that have low-cost collection sewers are called cluster systems. Cluster systems treat wastewater from a group of dwellings and/or businesses and are most appropriate in moderately populated areas. These systems are located near the buildings they serve. These units often use soil absorption fields or effluent recycling rather than discharge the treated wastewater to surface waters.

Package plants are cluster-type systems in size and application but also are similar to larger centralized technologies. Alternative collection technologies can be used to convey the wastewater to the plant.

Decentralized Systems

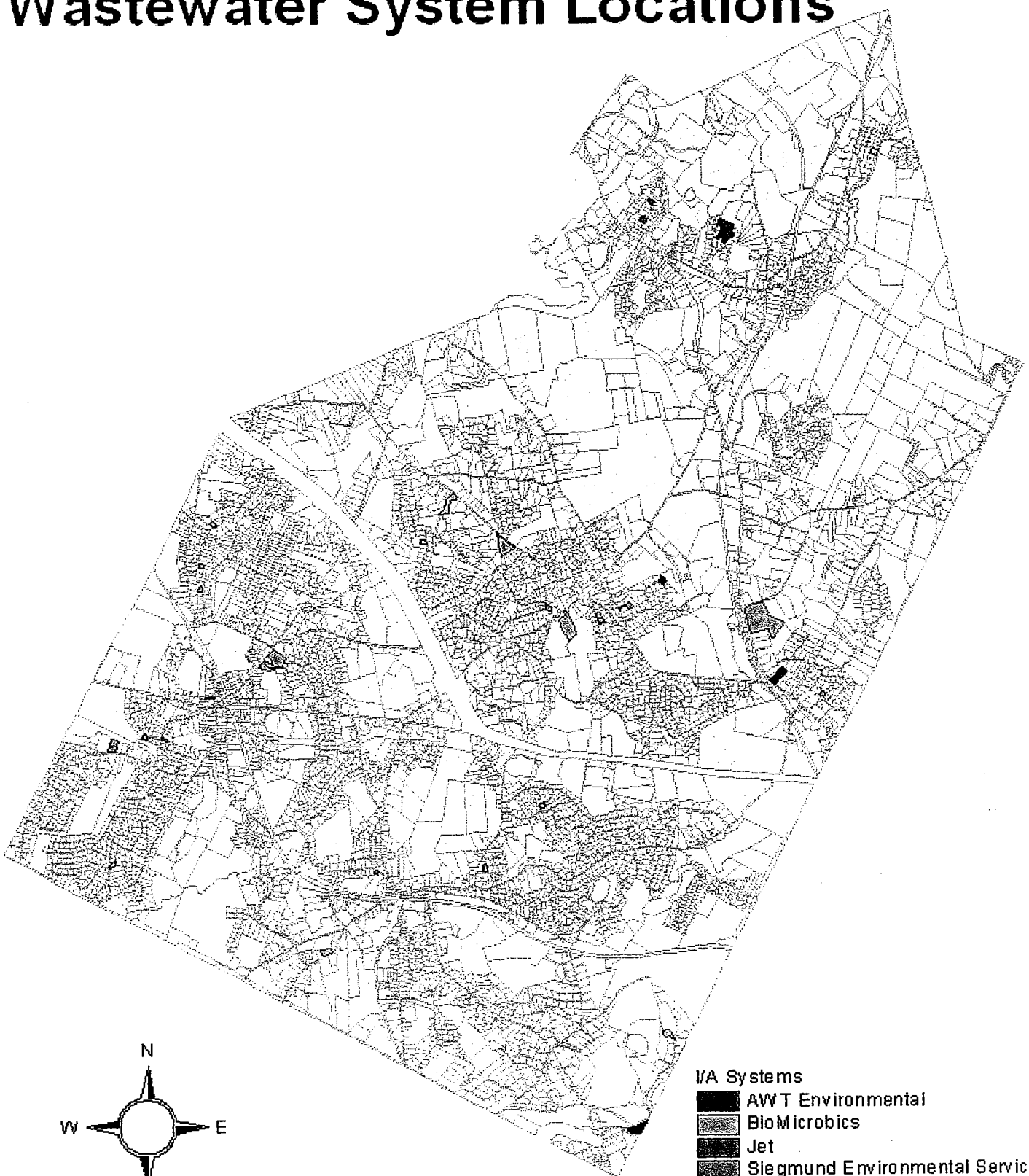
A decentralized system is an onsite or cluster wastewater system that is used to treat and dispose of relatively small (or intermediate) volumes of wastewater, generally originating from individual or groups of dwellings and businesses that are located relatively close together. Onsite and cluster systems are commonly used in combination. The choice of a decentralized treatment involves using a combination of treatment technology options, both traditional and innovative, where they are most appropriate in a community. Conventional onsite systems, alternative onsite systems, cluster systems for groups of homes and businesses, and some use of centralized treatment can be included when considering decentralized community wastewater management.

Decentralized systems allow for flexibility in wastewater management. Different parts of the system may be combined into trains or series of processes to meet treatment goals, overcome site conditions, and to address environmental protection requirements. For instance, watertight interceptor (septic) tanks at each home or business may be combined with a watertight collection system running to a treatment facility.

Proponents of decentralized systems commonly cite the following reasons for choosing decentralized over centralized:

1. Saves money by deciding on a preventative strategy (such as assessing conditions and needs in a specific area of a community) to manage wastewater before crisis occurs, thereby avoiding unnecessary cost;
2. Allows homeowners to continue to use their properly functioning septic systems;
3. Maintains community character and is consistent with growth plans by avoiding sewering of large areas to reach centralized facilities;
4. Enables better watershed management by eliminating the large transfers of water from one watershed to another;
5. May be the most cost-effective treatment strategy for rural communities with sparse populations; and
6. Is appropriate for varying site conditions including ecologically sensitive areas. Treatment methods can be tailored to suit different site conditions.

Innovative/Alternative Wastewater System Locations

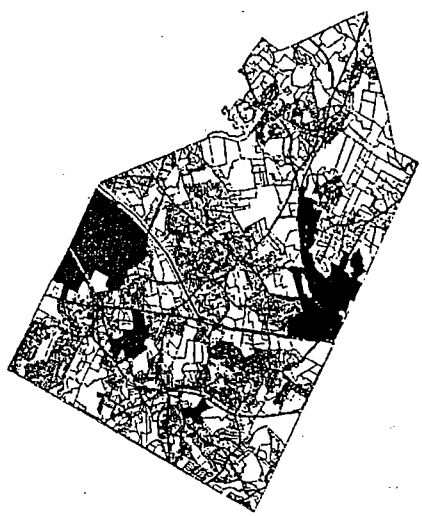


Potential Solutions for Priority Needs Areas

Brent Reagor, RS

What Are the Priority Needs Areas?

- West Acton Center
- Spencer/Tuttle/Flint Roads
- Indian Village
- East Acton
- Brucewood Estates
- Flagg Hill
- Audubon Hill

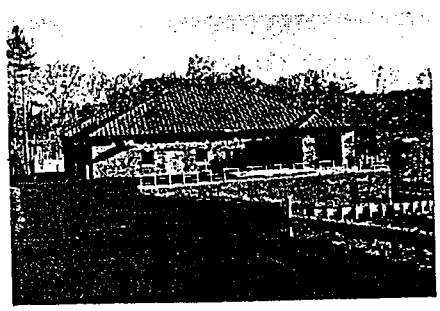


What are the Potential Solutions?

- Connection to the Middle Fort Pond Brook Sanitary Sewer System
- Construction of a new Sewer System
- Decentralized or Cluster System
- Wastewater Management District

Connection to the Middle Fort Pond Brook Sanitary Sewer System

- Most additional connections will require pump station(s)
- Currently ~60,000 gallons per day of additional capacity have been identified
- Any flows above that 60,000 gallon limit would require an additional discharge point
  - More Rapid Infiltration Basins
  - Point Discharge to the Assabet River



Construction of a New Sewer System

- Significant Capital Cost
- Could be designed to "mirror" the components at the existing Adams Street WWTP
- Additional infrastructure construction could occur simultaneously
  - Stormwater improvements
  - Rail Trail
  - Water Line Extensions

Decentralized/Cluster Systems

- Well-suited for:
  - Isolated areas of primarily residential development
  - Flows of less than 100,000 gallons per day
- Could be Town-owned or part of a Public/Private Partnership
- An adequate disposal area would have to be identified

Wastewater Management District

- A geographic or political area with greater regulatory oversight of the operation of onsite wastewater treatment systems
- EPA has issued the Voluntary National Guidelines for Decentralized Wastewater Management
- The level of oversight and/or operation by entities other than the homeowner increase as the level of possible environmental impact increases
- Default solution for all needs areas

Priority Areas

- **West Acton Center**
- **Spencer/Tuttle/Flint Roads**
- **Indian Village**
- **East Acton**
- **Brucewood Estates**
- **Flagg Hill**
- **Audubon Hill**

West Acton Center

West Acton Center

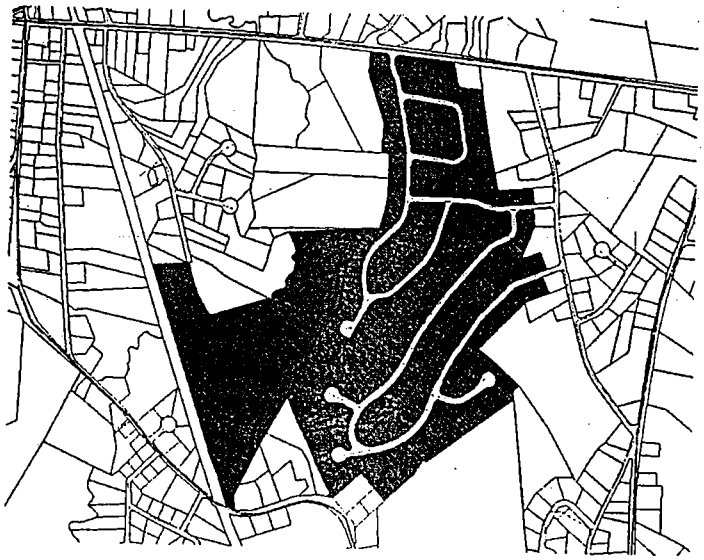
Problems

- Dense Development
- High groundwater on some lots
- Commercial Uses
- Douglas and Gates Schools are on one parcel and will be required to construct a WWTP or connect to sewers by DEP

Solutions

- Connect to the existing sewer system

Spencer/Tuttle/Flint Roads



Spencer/Tuttle/Flint Roads

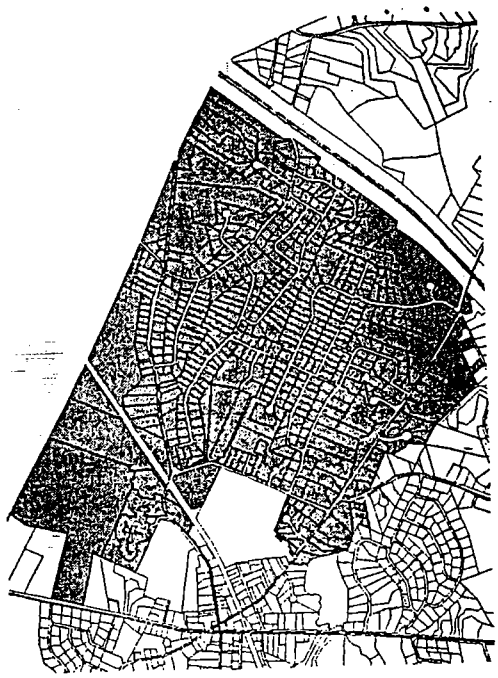
Problems

- High groundwater levels
- Wetlands
- Poorly drained soils
- Dover Heights Apts. is included
  - Their design flow is over 15,000 gpd and they will be required to construct a WWTP or connect to sewers

Solutions

- Connect to the existing sewer system

Indian Village



Indian Village

Problems

- Residential development at "full buildout"
- Wetlands issues on some lots
- Poorly drained soils on some lots
- Construction of new onsite systems in the last 10 years has greatly reduced the number of trees

Solutions

- Connect to the existing sewer system
  - This connection would require an additional discharge point for the treated wastewater
    - Assabet River
    - Additional Rapid Infiltration Basins

East Acton

East Acton

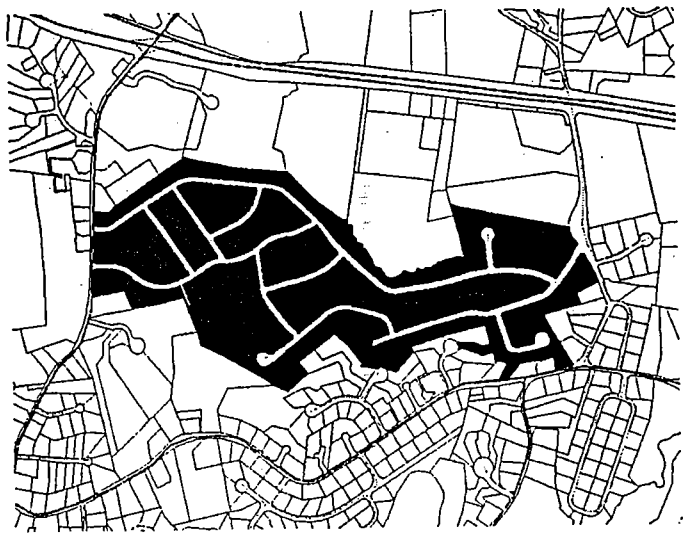
Problems

- Dense commercial and multi-family residential development
- Some single family residential land has poor soils and high groundwater
- Systems have a shorter lifespan because of commercial and multi-family flows
- East Acton Village Plan cannot be fully implemented without a community oriented wastewater solution

Solutions

- Construction of a new Sewer System
- Would serve areas from 2A/27 intersection to the Concord Line
- Bruce Freeman Rail Trail could be constructed as part of the infrastructure
- WWTP and disposal field would be located on Wetherbee Street near Route 2

Brucewood Estates



Brucewood Estates

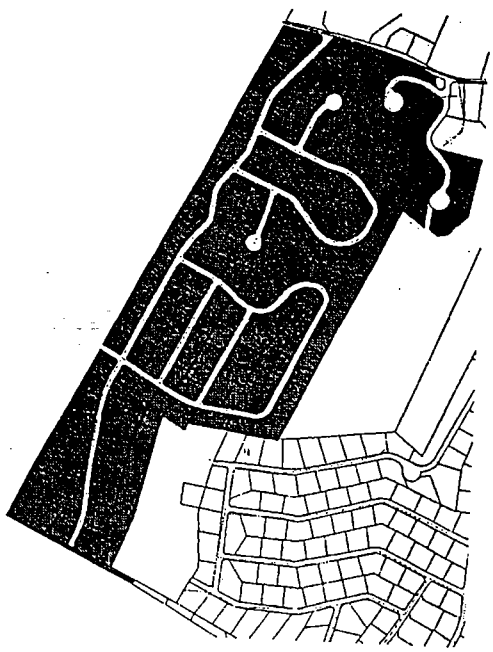
Problems

- High groundwater
- Poorly drained soils
- Wetlands
- Flood Plain
- Primarily residential area

Solution

- Decentralized/Cluster system
- Possible disposal in a Zone 2
- Disposal site on State or private property
- Possible Wastewater Management District

Flagg Hill



Flagg Hill

Problems

- High groundwater
- Poorly drained soils

Solution

- Decentralized/Cluster system
- Disposal site in or adjacent to Zone 2
- Possible Wastewater Management District

Audubon Hill

Audubon Hill

Problems

- Audubon Hill South system in failure
- DEP will likely aggregate the flows from both North and South together
- This will require a WWTP be constructed as the flows are over 14,000 gallons per day

Solution

- Connect to the Acton Sewers on Faulkner Hill Road

QUESTIONS???

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MEETING MINUTES

MEETING DATE: July 15, 2004

REFERENCE: Acton CWRMP
CAC Meeting

ATTENDEES: CAC:
Jane Ceraso – Acton Water District
Ann Chang – CAC / SAC
Nancy Tavernier – CAC / SAC
Art Gagne – CAC / SAC
Bob Johnson – BOS
Pat Cumings – resident
Helen Probst – resident
Eric Hilfer - ACES
Stacy Rogers – Assoc Planning Board
Paulina Knibbe – LWV
Doug Halley – Health Director
Brent Reagor – Health Dept
Helen Gordon - Woodard & Curran
Bob Rafferty – Woodard & Curran

DISTRIBUTION: Attendees
Dan Garson
File

Submitted by: Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

ATTACHED ITEMS

Agenda cover sheet

AGENDA ITEMS

A project update was presented along with goals of CAC meeting. Helen Gordon presented the status since the last CAC meeting, including the MEPA schedule. CWRMP has been submitted for public

review. MEPA review period ends on July 23, 2004, with another seven days for the Secretary's Certificate.

Bob Rafferty led the discussion regarding needs criteria. The CAC was asked to review the handout distributed prior to the meeting and be prepared to rank the criteria used to establish the needs areas and potential solutions. The CAC reviewed the tables presented in the handout.

- Table 1: Criteria for Technical Assessment
- Table 2: Criteria for Needs Areas and Disposal Site Evaluation
- Table 3: Needs Evaluation / Solutions Evaluation Criteria

DISCUSSION ITEMS

Criteria listed in the tables were reviewed. The CAC agreed that the technical criteria are of equal rank, but some "non-technical" criteria are more important than others. Non-technical criteria important to the CAC include implementability, economic growth in areas designated for growth, optimization of the current wastewater infrastructure and wastewater treatment facility (WWTF), and reuse/recharge of groundwater/aquifers.

- ***Implementability*** includes ease of technical solution, probability of permitting, political considerations such as addressing the initial expanded sewer district and local resident perceptions.
- ***Economic growth*** areas include West Acton Center and East Acton along Route 2A.
- ***Optimization*** of the current wastewater infrastructure and treatment facility means making as many connections as possible to fully use the pipelines, pump stations and treatment facility to achieve an economy of scale from using the entire system. Additional sewering would be conducted according to the needs areas as the priority, but fairness plays a role. Develop service areas to link to lots that actually need a solution, do not conveniently connect contiguous properties while leaving out a nearby needs area, even if the cost is more.
- ***Reuse/recharge*** includes finding disposal locations within Acton to recharge the local aquifer instead of seeking a surface water discharge from the treatment facility. The existing infrastructure and facility could be used in conjunction with subsurface discharge locations located some distance from the facility. Other satellite treatment and disposal systems could be located in areas that may recharge drinking water aquifers if it is not feasible to connect to the existing system. Wastewater effluent discharge in Zone IIs was discussed at length.

Comments from the CAC regarding the ranking of criteria and service areas, and selection of disposal alternatives, included:

(Q = Question from CAC; A = Answer from Project Team; C = Comment from CAC; R = Response from Project Team.)

C: A general approach may be to evaluate the capacity of the existing wastewater infrastructure and WWTF and then look at high priority areas that could be solved by connecting to the existing system.

R: To completely serve the high priority service areas listed in the handout Table 3 would require additional treatment and discharge capacity at the wastewater treatment facility. This may include a surface water discharge to the Assabet River.

C: There seems to be an assumption that there is no net loss to the aquifer by sewering because the sewered area is outside of the drinking water aquifer recharge areas. If we are to expand the use of the WWTF then there could be a net loss to the groundwater system.

R: Recharge of aquifers is an important issue, whether through recharging of stormwater or wastewater. Subsurface discharge is considered as an alternative for satellite treatment systems.

C: The Adams Street WWTF could still be used to treat wastewater but the discharge could be pumped to a location that can recharge the groundwater instead of discharging to the Assabet River.

C: The intent is to address the needs areas and determine the best place to discharge the treated wastewater. Wellfields may be good alternatives.

R: This is acknowledged as an alternative.

Q: Why is Area 2 not more highly ranked if private facilities are in noncompliance?

A: Some of the noncompliance issues are being addressed by the private owners. One project ongoing is the Woodlands at Laurel Hills, where a WWTF may be constructed in Westford to serve new development partially in Acton. To link the Area 2 service area to Area 1 and the local disposal location near NARA would probably require construction through conservation land.

Q: How much capacity exists at the wastewater treatment facility on Adams Street?

A: Approximately 60,000 gallons per day (gpd) according to current wastewater flows. This will be reduced if the sewer is extended to the Powdermill Plaza area.

Q: The service areas presented in the handout figures differ from the sample areas presented at the last CAC in June. How do you define service areas?

A: The areas presented for discussion reflect a possible alternative as part of the overall discussion of alternatives. These areas show the entire neighborhoods that may be included and are therefore larger than the service areas shown in the figures. The service areas on the handout figures reflect the most logical minimal areas that include the specific needs areas. The final service areas will depend on the relative ranking of needs criteria, and the availability of disposal options and management alternatives.

Several service areas were designated as priority areas by various members of the CAC. Prioritized service areas are discussed below.

Powdermill (Area 7):

C: Economic growth is a major factor in this area. It should be connected to the existing sewer system.

R: Powdermill is being investigated for connection to the existing sewer system. The process is already underway.

Audubon Hill (Area 8b)

C: Audubon Hill can be connected to the existing sewer system

West Acton Center (Area 12), Spencer Road Area (Area 10a), Dover Heights (Area 10b),

C: The area between West Acton and the existing sewer district was included in the original expanded sewer district, and these should be served to fully utilize the infrastructure and treatment facility.

Q: Is it possible to put pipes on the side of the road and combine with sidewalk construction to make it safer to walk on a busy road?

A: Yes, linking beneficial uses is a good idea.

C: A force main may work between Flint and West Acton because there is not much development.

C: Could run a pipe along Central Street to West Acton, which could also serve Nash/Downey (Area 11).

East Acton (Area 3)

C: There is probably political and local backing to sewer Area 3 for economic growth. Combining East Acton (Area 3) with Poets Corner/Robbins Park (Area 4) may make sense.

R: These service areas would require a treatment and disposal facility. A potential disposal site is located on Wetherbee Road on Route 2.

Indian Village (Area 13)

C: Extending sewer past West Acton to Indian Village to address primarily aesthetic concerns only makes sense if the cost isn't too great.

R: The final boundaries of service areas are dependent on the availability of alternatives for disposal of treated wastewater. There may not be suitable infrastructure, facilities, or disposal locations to extend the sewer throughout the entire area. The site investigation phase will provide better answers.

Q: Can the potential disposal site located in the area provide an alternative?

A: A small privately owned parcel located near West Acton may provide some amount of wastewater effluent disposal. However, it will probably not provide a complete solution.

Brucewood Estates (Area 5)

Q: This has some of the same criteria as Indian Village. Why is it ranked as a medium priority?

A: Two potential disposal sites are located near this area, the auto auction property and Acton Water District property near the School Street well field, which is located within the Zone II. Initially, the disposal sites were deemed to be less than desirable. However, based on CAC comments the School Street site will be investigated as part of the next phase.

CONSENSUS ACTION ITEMS

- Evaluate likelihood of discharge into an approved Zone II. Research where this is being done within Massachusetts.
- While the priority areas should focus on optimizing the existing WWTF, a parallel effort should be to move forward with plans for East Acton, which would be separate from the existing wastewater system.
- High priority areas are:
    - Powdermill (Area 7)
    - Audubon Hill (Area 8b)
    - West Acton (Area 12)

  - East Acton (Area 3)
  - Dover Heights & Spencer Road (Area 10)
  - Brucewood Estates (Area 5)
  - Indian Village (Area 13) and Nash/Downey (Area 11)
- Disposal sites identified for further investigation include:
  - Area 1 – North Acton near NARA
  - Area 3 – Wetherbee Street near Route 2
  - Area 5 – School Street (Zone II)
  - A privately owned parcel near the Assabet wellfield may be included.

Project Summary Report to CAC
Town of Acton, Massachusetts
Comprehensive Water Resources Management Plan/Environmental Impact Report
Phase 1 Review and Phase 2 Kick-off

CAC Meeting – July 15, 2004

The CWRMP's first phase, which includes an assessment of the current environmental conditions in and around Acton, is complete with the submittal of the Phase 1 report to MEPA to begin the process for public review. The second phase has begun with the kick-off meeting with the CAC held on June 3, 2004. This document summarizes the roles and responsibilities of the CAC over the course of the process and presents the Wastewater Assessment Process.

Organization and Purpose of CAC

The CAC consists of stakeholders representing members of various town boards, local environmental groups, the Acton Water District, several local businesses and the general resident populace. The mission of the CAC is to:

- Serve as a representative Acton forum to offer views, comments and opinions about the CWRMP/EIR to the Town and consultant team;
- Help the Town and consultant team identify all relevant issues, topics and concerns about CWRMP/EIR by offering its good ideas and constructive comments;
- Demonstrate to MEPA and DEP by its periodic meetings and discussions that the diverse views of the community have been considered in the process; and
- Provide outreach to Acton residents and the community at large to communicate the process and results of the CWRMP/EIR and, hopefully, help to build a consensus for the plan that emerges from this process.

Previous CAC Meetings

In addition to the kick-off meeting, the Phase 2 process has two CAC meetings scheduled prior to completion of the Phase 2 report. Phase 1 meetings of the CAC achieved the following goals:

- Confirmed each Needs Area and established the level of effort to characterize each area through field investigations, especially for non-wastewater concerns such as neighborhood character, historical significance, etc; and
- Established the objective criteria by which each Area's wastewater needs will be assessed.
- Confirmed the results of the needs rating of each Study Area and established the technical criteria for determining potential sites for wastewater treatment and disposal satellite facilities.

Goals of the CAC (July 15, 2004 Workshop)

Goals of the July 2004 CAC meeting are to:

- Reach consensus on the technical (e.g. engineering and treatability) and "non-technical" (e.g. community, socio-economic, and implementability) criteria and assign relative weights to each if applicable.
    - The CAC will be evaluating criteria that are not typically defined as technical criteria to help prioritize the needs areas and refine the needs areas into study areas. These criteria include neighborhood character, historical significance, aesthetics, implementability, resource protection, and other factors.
- Determine disposal areas for further exploration.
- Reach consensus on the priority of needs areas and the preferred solutions.

Pre-work for the CAC (July 15, 2004 Workshop)

We request that the CAC review the material in the handouts prior to the meeting so that the meeting can quickly reach its goals. In particular, please consider the discussion included under Step 4 and review the following questions related to the tables included with this handout.

- Handout Table 1 and Table 2:
    - Which criteria are most important to you and are there other criteria that are not included here that should be?
- Handout Table 3:
    - Do you agree with the rankings of each service area given the "needs" criteria?
    - Which solutions criteria are important to you and which may not be included in the handout?
    - Are the recommended solutions feasible?
    - Do the recommended solutions match your vision of Acton's long-term character?

Needs and Solutions Process Summary

Figure 1 shows an outline of the assessment process. The process is comprised of two tasks, Needs Assessment and Solutions Assessment, which are conducted concurrently. **Table 1** and **Table 2** list the criteria for Phase 1, which covers the first three steps.

Step 1

Technical Criteria Evaluation. Areas in need of wastewater disposal solutions are identified. The data from the BOH records, CAC input, previous reports and studies, water sampling, and local regulations and bylaws form the basis for the analysis of the "needs" rankings.

General Technical Evaluation of Solutions. Potential technical alternatives for wastewater collection, treatment, disposal and management are evaluated for application in Acton.

Step 2

Create Needs Areas. Needs areas are created based on the technical evaluation and on "non-technical" parameters, including criteria suggested by the CAC.

Disposal Sites Evaluation. In-town locations for disposal facilities are identified though an evaluation similar to the needs assessment. The project team searched for publicly owned property with favorable soils located outside of sensitive resource areas.

Step 3

Create Service Areas. Needs areas are grouped into geographically logical areas, called service areas. Clusters of lots needing alternative wastewater disposal solutions as determined through the needs analysis are combined.

Figure 2 and Figure 3 show the results of applying this analysis to the Town. The figures show locations most likely suitable for on-site wastewater solutions and locations with potential need for off-site wastewater solutions. This lot-by-lot analysis was used to define future needs areas, realizing that data do not exist for all lots and off-site solutions are not practical for isolated lots. Figure 2 displays the minimum service areas based on combining closely grouped areas determined to require off-site solutions. Figure 3 displays the maximum service areas based on combining closely grouped areas requiring off-site solutions and adjacent parcels requiring on-site mounded and innovate/alternative systems.

Identify Disposal Locations. Potential locations are identified through analysis of the technical criteria and by applying the "non-technical" criteria similar to the process used to create needs areas. Through CAC input the team added land owned by non-profit agencies and large lots that are not fully developed, as well as locations along the Route 2 corridor.

The lots shown in **Figure 4** are the primary focus for locating satellite facilities. This process also benefited from the lot-by-lot detail provided by the converted BOH records. Preliminary analysis was completed in Phase 1, with continued analysis, including onsite investigations, in the next phase of the CWRMP/EIR.

Phase 2 begins with Step 4 and the June and July CAC meetings.

Step 4

Prioritize Service Areas. The service areas identified at this point are all priorities from a technical viewpoint. However, some technical issues may be more important than others to the Acton community. The "non-technical" criteria considerations also influence the rankings.

Prioritize Solutions At this point the potential solutions are matched to the prioritized service areas. First the service areas are prioritized and then recommended solutions are prioritized. The following discussion presents criteria that may be involved in the evaluation of "pros and cons" for each potential solution.

The availability of ***implementable*** solutions will govern the final recommended solutions. When considering potential solutions, regulatory, political, financial and popular opinions play a role, and will include the following issues presented during the June CAC meeting:

- Ability to "sell" a project at Town Meeting especially considering residents formerly included in the "old" sewer district that would not be served under the CWRMP plan.
- Perception of potential discharge in Zone II of public drinking water wells.
- Actual options available considering potential solutions (available discharge location, connection to sewer, etc.)
- Comparative "permitability" of the alternatives in terms of the relative ease of permitting and timeline to achieve regulatory approvals.

The time-line for implementation is also important because of the timing of related projects, as well as the overall time needed to implement a particular solution compared to other options.

- Potential to link to other opportunities such as rail trail construction.
- Other pending (large) problems that may see pressure from regulatory agencies (Audubon Hill, Gates and Douglas Schools, Powdermill Plaza)

Two other important criteria are required to be considered when selecting potential solutions to wastewater disposal needs.

- The solution should be consistent with the community's Master Plan, Open Space and Recreation Plan, and other local planning documents.
- Secondary growth impacts (positive and negative) should be evaluated if sewering a service area is considered a viable solution.

And finally, the expected costs of each solution will greatly factor into the overall assessment.

Table 1

Step 1 - Criteria for Technical Assessment

Needs Assessment

Regulatory Minimum Setbacks

- Property line
- Buildings
- Wetlands
- Floodplains
- Surface water
- Public well
- Private well
- Vernal pools

Design Parameters

- Percolation rate
- Depth to groundwater
- Depth to bedrock

Solutions Assessment

Preliminary Technology Evaluation

- On-site – management programs
- Clusters – available land
- De-centralized – available land
- Centralized In-town – capacity
- Centralized Regional – capacity

Table 2

Step 2 - Criteria for Needs Areas and Disposal Site Evaluation

Needs Assessment

"Non-Technical" Criteria

- Aesthetics (mounded septic systems, etc.)
- Community impacts and neighborhood character
- Archeological and historical impacts
- Proximity to abutters and human sensitive receptors

Solutions Assessment

Site Evaluation

- Percolation rate (soils type)
- Depth to groundwater
- Depth to bedrock
- Sensitive human receptors
- Sensitive environmental receptors
- Well impacts
- Proximity to needs areas
- Availability of land
- Cost
- Land uses
- Proximity to archeological and historical resources

Attachments:

Figure 1: Wastewater Assessment Process

Figure 2: Minimum Service Areas

Figure 3: Maximum Service Areas

Figure 4: Potential Disposal Locations

Figure 1: Wastewater Assessment Process

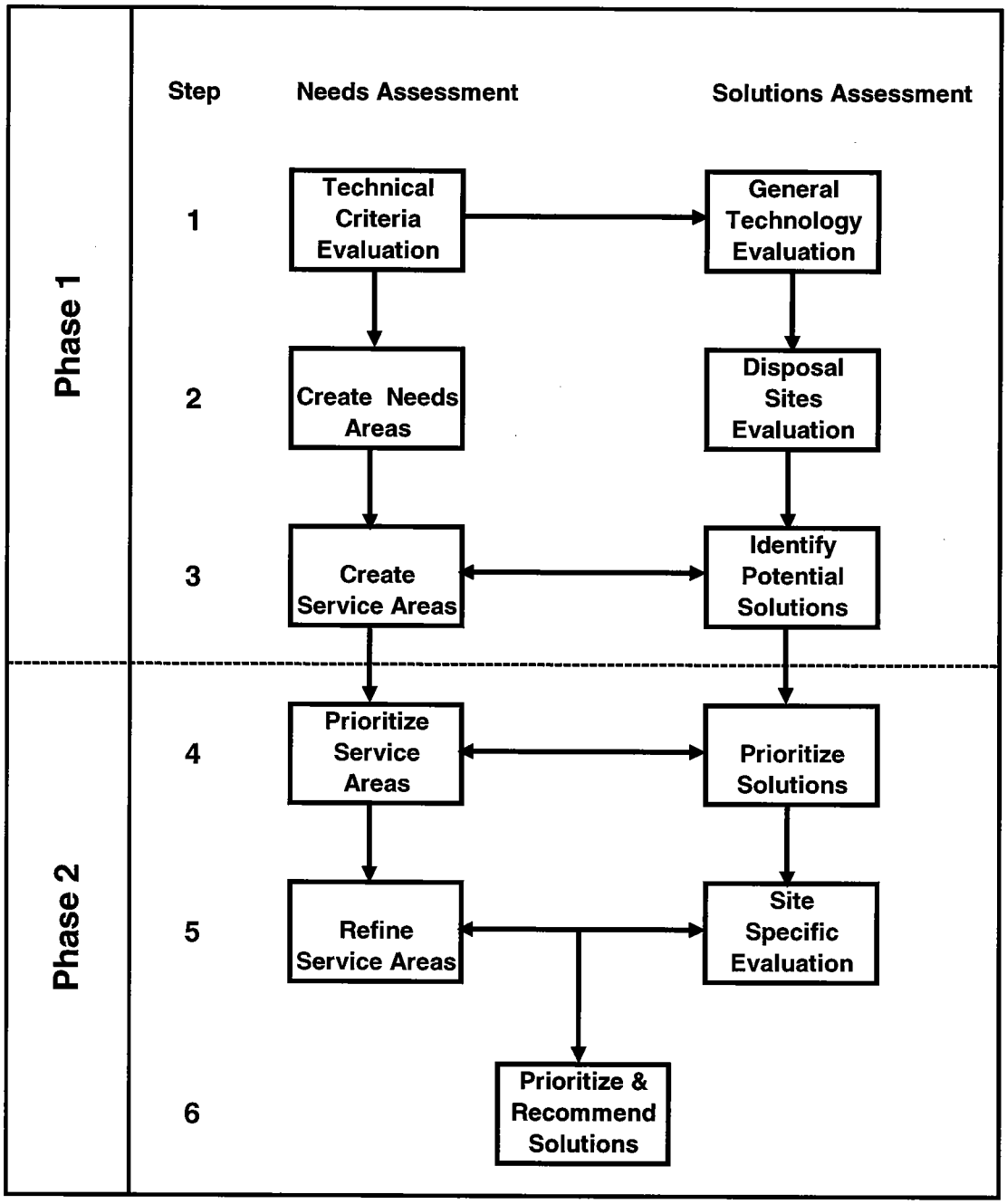
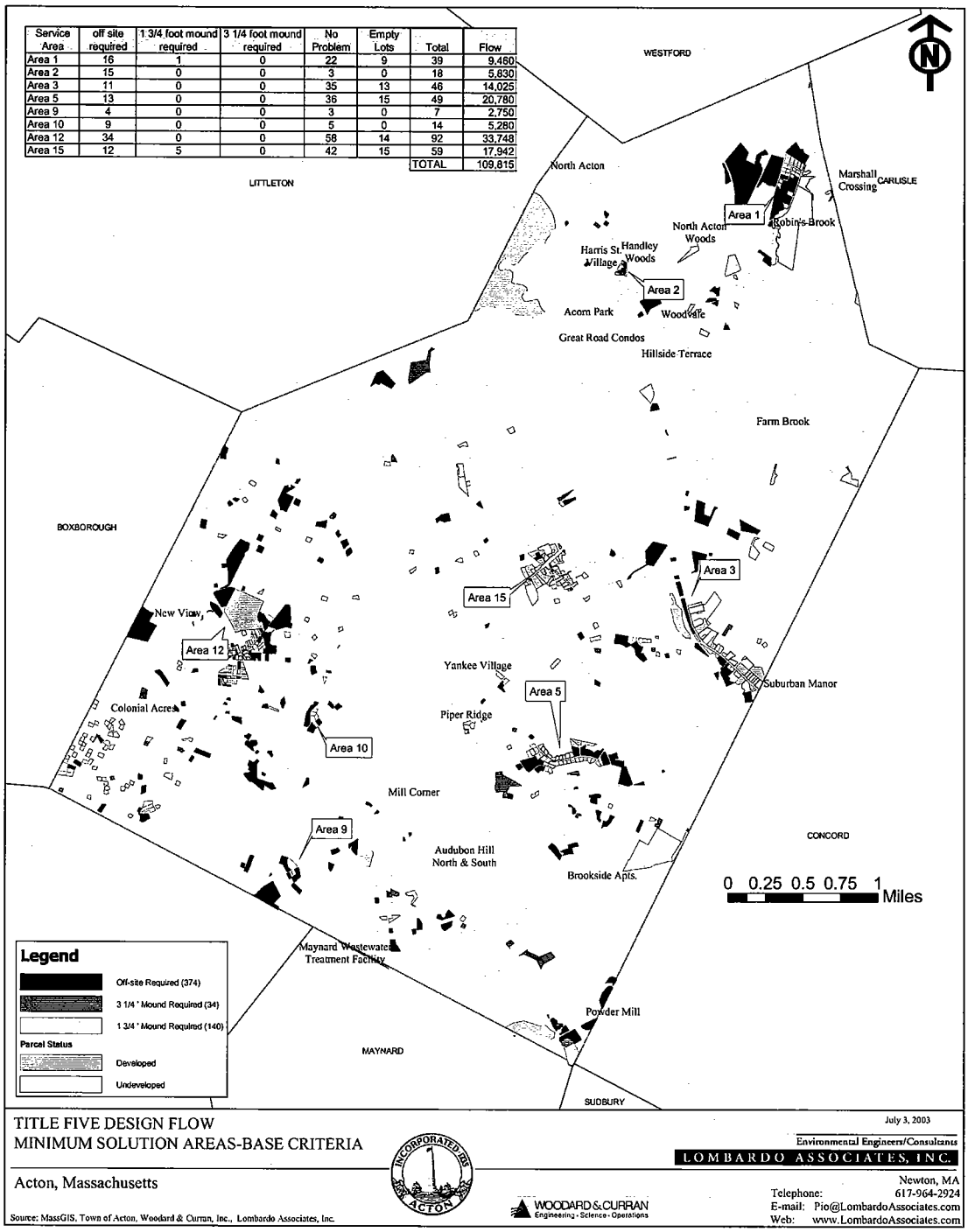


Figure 2: Minimum Service Areas

Service Area	off site required	1 3/4 foot mound required	3 1/4 foot mound required	No Problem	Empty Lots	Total	Flow
Area 1	16	1	0	22	9	39	9,460
Area 2	15	0	0	3	0	18	5,830
Area 3	11	0	0	35	13	46	14,025
Area 5	13	0	0	36	15	49	20,780
Area 9	4	0	0	3	0	7	2,750
Area 10	9	0	0	5	0	14	5,280
Area 12	34	0	0	58	14	92	33,748
Area 15	12	5	0	42	15	59	17,942
						TOTAL	109,815



TITLE FIVE DESIGN FLOW
MINIMUM SOLUTION AREAS-BASE CRITERIA

Acton, Massachusetts

Source: MassGIS, Town of Acton, Woodard & Curran, Inc., Lombardo Associates, Inc.

July 3, 2003

Environmental Engineers/Consultants
LOMBARDO ASSOCIATES, INC.
Newton, MA
Telephone: 617-964-2924
E-mail: Pio@LombardoAssociates.com
Web: www.LombardoAssociates.com

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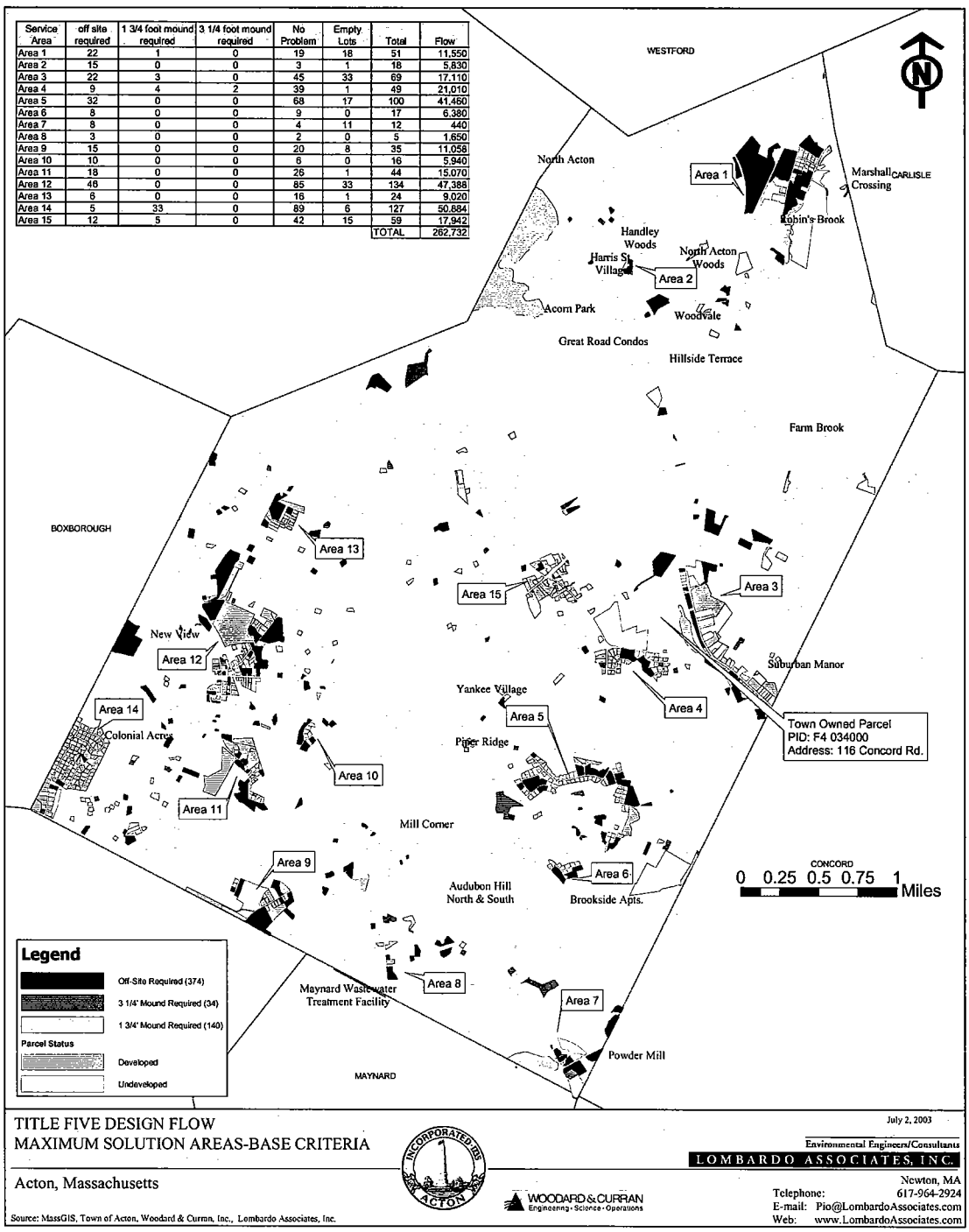
Figure 3: Maximum Service Areas

Service Area	off site required	1 3/4 foot mound required	3 1/4 foot mound required	No Problem	Empty Lots	Total	Flow
Area 1	22	1	0	19	18	51	11,550
Area 2	15	0	0	3	1	18	5,830
Area 3	22	3	0	45	33	69	17,110
Area 4	9	4	2	39	1	49	21,010
Area 5	32	0	0	68	17	100	41,460
Area 6	8	0	0	9	0	17	6,380
Area 7	8	0	0	4	11	12	440
Area 8	3	0	0	2	0	5	1,650
Area 9	15	0	0	20	8	35	11,058
Area 10	10	0	0	6	0	16	5,940
Area 11	18	0	0	26	1	44	15,070
Area 12	46	0	0	85	33	134	47,388
Area 13	6	0	0	16	1	24	9,020
Area 14	5	33	0	89	6	127	50,684
Area 15	12	5	0	42	15	59	17,942
						TOTAL	262,732



TITLE FIVE DESIGN FLOW
MAXIMUM SOLUTION AREAS-BASE CRITERIA

Acton, Massachusetts

Source: MassGIS, Town of Acton, Woodard & Curran, Inc., Lombardo Associates, Inc.

July 2, 2003

Environmental Engineers/Consultants
LOMBARDO ASSOCIATES, INC.
Newton, MA
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Web: www.LombardoAssociates.com

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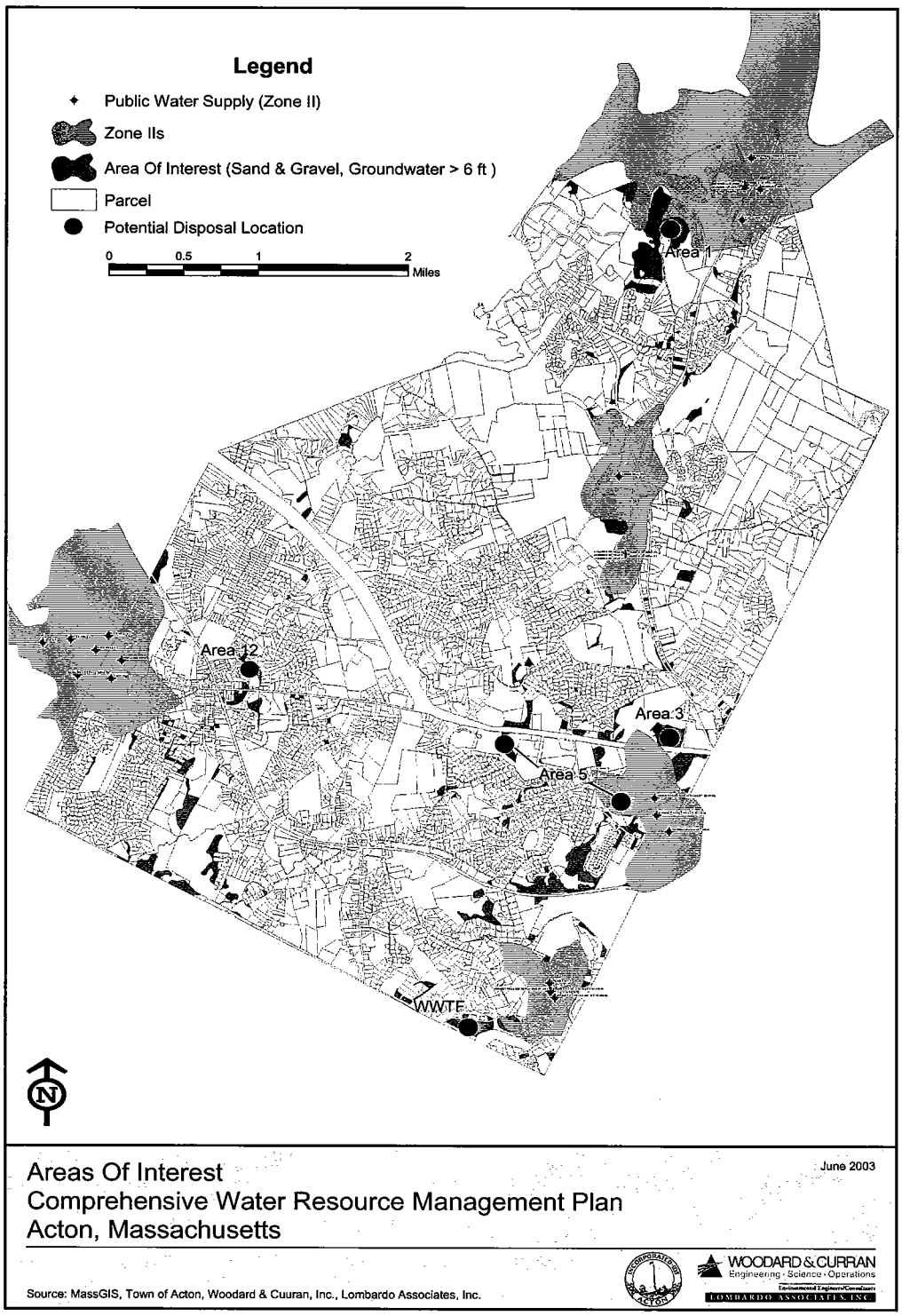
Figure 4: Potential Disposal Locations



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CORPORATE OFFICES: Maine, Massachusetts,
New Hampshire, Connecticut, Florida
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Town of Acton

ACTON WASTEWATER CITIZENS ADVISORY COMMITTEE

Comprehensive Water Resources Management Plan /
Environmental Impact Report
CWRMP/EIR
Thursday, September 16, 2004
7:00 PM

ACTON TOWN HALL, ROOM 204

Meeting Goals:

Review the comments from MEPA and other interested parties

Update on progress towards Phase II/III

Agenda:

• Welcome	Doug Halley	5 min
• Introductions	All	5 min
• MEPA update	Bob Rafferty	10 min
• Discussion	All	60 min
• Next Steps	Bob Rafferty	5 min
• Evaluate the Meeting	All	5 min

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www.woodardcurran.com

Meeting Minutes

Acton Wastewater Citizens Advisory Committee

Meeting Date: Thursday, September 16, 2004

Meeting Place: Room 204, Acton Town Hall

Attendees: Brent Reagor—Acton Health Department
Bob Rafferty—Woodard and Curran
Ann Chang
Art Gagne'
Helen Probst
Tony Capobianco
Mary Michelman
Eric Hilfer
Pat Cummings
Jane Ceraso

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Acton Health Department, Acton, Massachusetts Attn: Brent Reagor, breagor@acton-ma.gov

ATTACHED ITEMS

Agenda cover sheet
EOEA Secretary's Certificate

The meeting was called to order at 7:45pm.

Mr. Reagor (BR) opened the meeting with a short discussion of the EOEA Secretary's Certificate comments on the Phase I submittal. The meeting would follow the format of the comments, addressing each section: Wastewater, Groundwater, and Historic Resources in order.

Wastewater

EOEA has requested a further examination of facilities with design flows greater than 10,000 gpd in the Zone II's or Interim Wellhead Protection Areas. Three facilities were named: Dover Heights, Strawberry Hill, and Woodvale; but Woodvale should be deleted from that list because they have a WWTP.

EOEA is specifically mentioning the Douglas and Gates Schools in West Acton and following the aggregation of flows regulation within Title 5.

Ann Chang (AC) – The two schools could be considered part of the West Acton Center planning area and not the Indian Village planning area.

Helen Probst (HP) – This statement in the Certificate from EOEA should bump the priority of this area to #1.

Art Gagne' (AG) – Dover Heights could also be included with the West Acton Center planning area.

A question was raised regarding Area 12, as a possible disposal site for wastewater from West Acton Center, on the possible disposal location maps. Mr. Reagor stated that this area has now been disqualified due to flood plain, wetlands, and high groundwater issues.

Mary Michelman (MM) asked whether a Notice of Noncompliance could be issued to the schools at any time for the wastewater flows. BR answered "yes" and that DEP has been asking about the Gates and Douglas schools for a while now.

MM then asked about the total Title 5 design flows for the areas between West Acton Center and the existing sewer system.

BR – Spencer, Tuttle, Flint and Dover Heights = 66,265 gpd
West Acton Center = 80,000 (this includes the 2 elementary schools)

AC – When bringing sewer from West Acton to the existing system, we may need to pick up areas like the Nash and Downey Road subdivision.

Jane Ceraso (JC) – mentioned a parcel behind the playground in West Acton Center that may have potential for disposal location.

BR then gave a background of the existing sewer system capacity and the requested changes that Acton is currently pursuing during the renewal process for its Groundwater Discharge Permit. This includes the recognition of 65,000 gpd of extra capacity under the existing permitted limit of 250,000 gpd and an increase in the permitted disposal rates to 300,000 gpd. This is based on studies conducted by the Health Department and Woodard and Curran.

MM was concerned about base flow recharge to area streams and wanted the solutions to be needs driven, not just sewering because we can.

AC and BR both stated that when you run a sewer line past a property there is a political, financial and legal obligation to provide sewer service to that property.

AG questioned the quality of the base flow recharge water as many septic systems are discharging to the groundwater

JC mentioned a study conducted by DEM and USGS for a groundwater model in the Assabet basin. It may prove helpful as we move forward.

AG and BR both pointed out that the current WWTP is producing higher quality effluent than originally advertised. A sample passed EPA primary and secondary standards back in August of 2003.

An agreement was reached by the CAC that the first priority for a solution should be the area that includes West Acton Center; Spencer, Tuttle, Flint Roads, and Dover Heights; and the Gates and Douglas Schools.

Groundwater

This discussion was to determine the ranking of sites for investigation for future wastewater disposal.

BR stated the CAC needed to come out of tonight's meeting with a ranking of the sites from 1-4. The sites are: Adams Street, Assabet Wellfield, Wetherbee Street land, Town land above NARA, and the School Street wellfields.

BR -- The Assabet wellfield site would use indirect potable reuse by discharging into the Zone II of the water supply wells.

JC mentioned that the Assabet wellfield is the most transmissive aquifer in Town.

BR – The Wetherbee street site would be used for an East Acton solution along Route 2A. Soils maps show an area that could potentially handle 300 – 350,000 gpd of wastewater flow. There is a USGS well very near the site that can provide significant information about groundwater levels.

MM asked about the plume from the landfill and AC stated it was not an issue as it does not pass near this property.

MM was concerned about the need for sewers in East Acton.

BR stated there are at least 5 large septic systems on Route 2A that are in some level of failure and are endangering the groundwater in the area.

MM wanted to consider the Adams street site separate from the Assabet Wellfield. BR stated there is some additional room on the Adams St. property for additional disposal beds, but not sure how much.

BR then went on to give a short summary of indirect potable reuse projects in the US. Most are on the West Coast and are using a variety of methods to treat the wastewater and recharge the aquifers.

The CAC agreed to delete the School Street wellfields from the list of sites to investigate as they are in close proximity to the Wetherbee Street site and any discharge here might affect the Grace plume.

The sites for investigation were ranked by the CAC:

1) Adams Street/ Assabet Wellfield

2) Wetherbee Street site
3) Town land above NARA

MM had a concern that we don't just build sewers to help developers.

HP mentioned the Route 2 Rotary revisions and the possible impacts it may have on disposal at the Wetherbee Street site.

BR explained the capacities of the existing sewer collection system, WWTP and disposal site versus the permitted disposal capacity.

Eric Hilfer (EH) stated that public education about possible reuse at the Assabet wellfields should begin as soon as possible. JC echoed those comments.

BR mentioned the comprehensive program the City of San Diego developed to get its customers to accept reuse.

MM wanted a summary of all available information in reuse.

Bob Rafferty mentioned that all of this should wait until we determine if the Zone II discharge is even possible.

BR mentioned that Acton may have to perform as Health Risk Assessment of wastewater discharge to a wellfield if we go down that path.

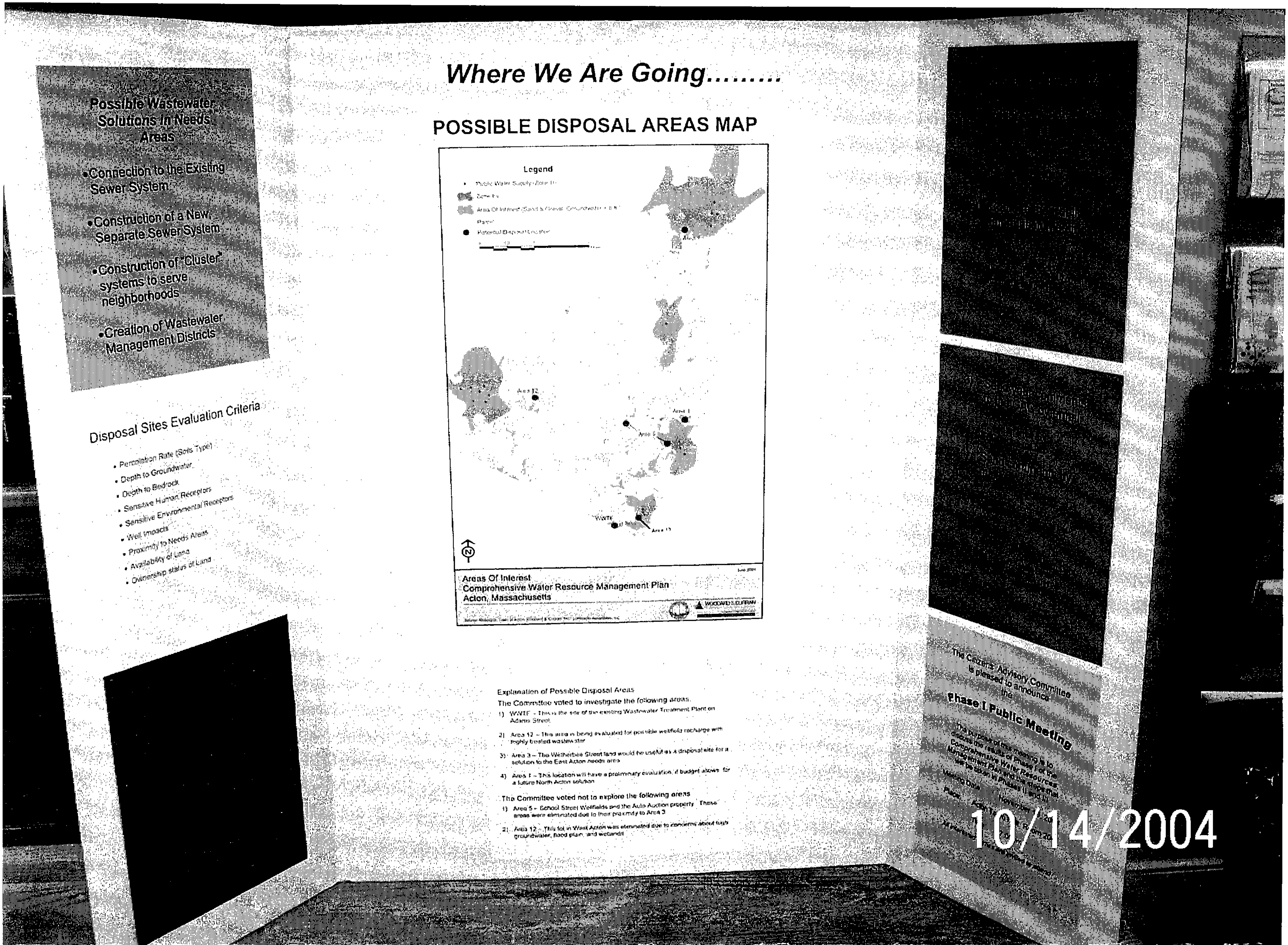
JC liked that idea and likened it to a pilot study.

The meeting adjourned at 9:15pm

09/16/04

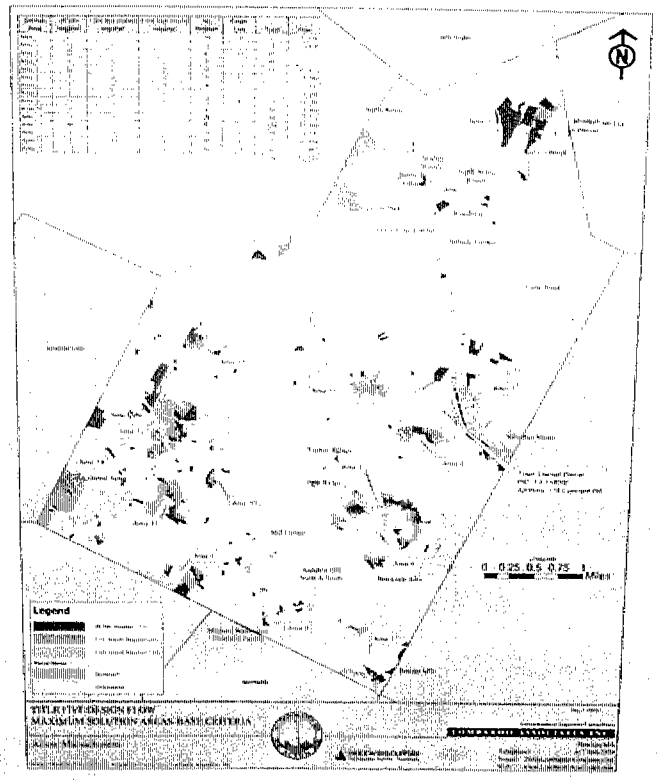
CAC - Sign-in

Ann Champ
ART GAGNÉ
Helen Probst
[illegible]
Mary Michelman
Tony Capobianco
Eric Hilfer
Jane Cerasoli

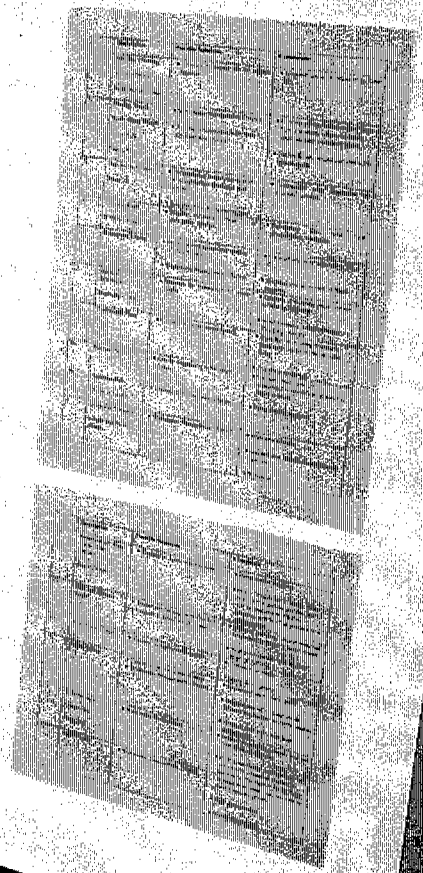

Where We Are Going........
POSSIBLE DISPOSAL AREAS MAP
Legend
Areas Of Interest
Comprehensive Water Resource Management Plan
Acton, Massachusetts
Possible Wastewater Solutions In Needs Areas
•Connection to the Existing Sewer System
•Construction of a New, Separate Sewer System
•Construction of "Cluster" systems to serve neighborhoods
•Creation of Wastewater Management Districts
Disposal Sites Evaluation Criteria
• Percolation Rate (Soils Type)
• Depth to Groundwater
• Depth to Bedrock
• Sensitive Human Receptors
• Sensitive Environmental Receptors
• Well Impacts
• Proximity to Needs Areas
• Availability of Land
• Ownership status of Land
Explanation of Possible Disposal Areas
The Committee voted to investigate the following areas.
The Committee voted not to explore the following areas
The Citizens' Advisory Committee is pleased to announce the
Phase I Public Meeting
10/14/2004

Where We Have Been.....

NEEDS MAP



NEEDS AREAS



Citizens' Advisory Committee for the Comprehensive Water Resources Management Plan

Mission Statement:

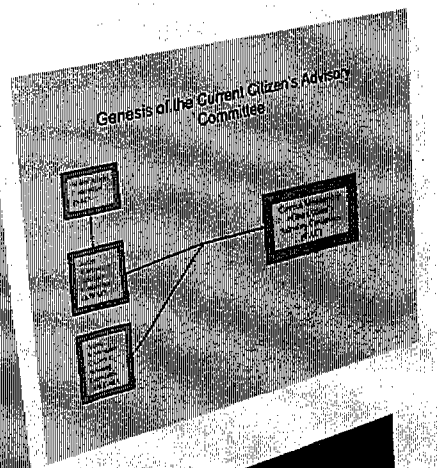
"1) To offer views, comments and opinions about the CWRMP to the Town and Consultant Team

2) To help the Town and Consultant Team identify all relevant issues, topics, and concerns about the CWRMP by offering good ideas and constructive comments

3) To demonstrate to MEPA and DEP by its periodic meeting and discussions that the diverse views of the community have been considered in the process

4) To provide outreach to Acton residents and the community at large to communicate the process and results of the CWRMP

5) To help build a consensus for the Water Resources Management Plan that emerges from this process"



What is a "Needs Area"?

A needs area is defined as an area of concern in which a property has a need for a wastewater disposal solution other than an onsite septic system.

What Criteria Were Used to Determine a "Need"?

Technical Criteria	Non-Technical Criteria
Regulatory Minimum Setbacks	• Facilitation
• Property Lines	• Neighborhood Character
• Dwellings	• Real estate value impacts
• Wetlands	• Regulatory Framework
• Flood Plain	• Potential risk to other properties/environment
• Surface Water	
• Public Wells	
• Private Wells	
• Various Tanks	
Design Parameters	
• Percolations Rate	
• Depth to Groundwater	
• Depth to Bedrock	

10/14/2004

What is a "Needs Area"?

A needs area is defined as an area of parcels in which a majority has a need for a wastewater disposal solution other than an onsite septic system.

What Criteria Were Used to Determine a "Need"?

Technical Criteria

Regulatory Minimum Setbacks:

- Property lines
- Buildings
- Wetlands
- Flood Plain
- Surface Water
- Public Wells
- Private Wells
- Vernal Pools

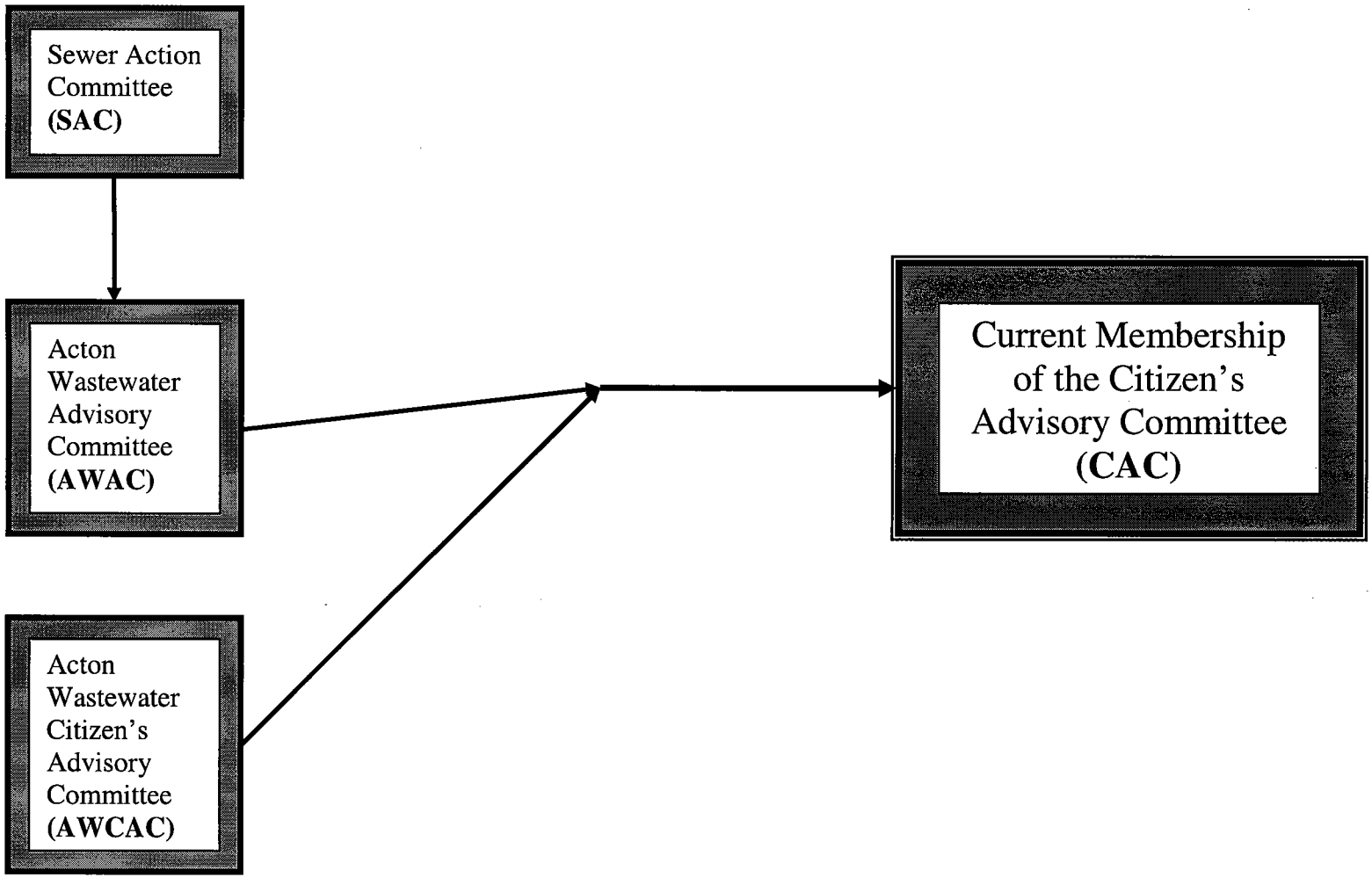
Design Parameters

- Percolations Rate
- Depth to Groundwater
- Depth to Bedrock

Non-Technical Criteria

- Aesthetics
- Neighborhood Character
- Archeological and Historical Impact
- Regulatory Pressure
- Potential link to other projects/opportunities

Genesis of the Current Citizen's Advisory Committee



Current Members of the Citizens' Advisory Committee

COMMITTEE MEMBERS	AFFILIATION
Kathleen Doran Boyle	Citizen
Tony Capobianco	Business/Property Owner
Jane Ceraso	Acton Water District
Ann Chang	Citizen
Pat Cummings	Citizen
Walter Foster	Board of Selectmen
Art Gagne'	Citizen
Eric Hilfer	ACES
Bob Johnson	Board of Selectmen
Bill McInnis	Board of Health
Helen Probst	Citizen
Len Rappoli	OAR
Lauren Rosenzweig	Planning Board
Jim Shope	Business/Property Owner
Nancy Tavernier	Citizen
PROJECT TEAM	AFFILIATION
Doug Halley	Acton Health Department
Brent Reagor, RS	Acton Health Department
Helen Gordon, PE	Woodard and Curran
Bob Rafferty, PE	Woodard and Curran

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5) To help build a consensus for the Water Resources Management Plan that emerges from this process"

How do I get Involved?

1) Apply to join the CAC

--Take a membership application, fill it out and return it to the Board of Health Office, no later than November 22, 2004

2) Come to the Public Information Meeting

--The CAC is holding a Public Information Meeting on November 16, 2004 at 7pm in Room 204 at Town Hall.

3) Send your comments to the CAC by email

-- Send an email to CAC@acton-ma.gov

4) Send comments by mail

-- Send your comments, questions, or concerns to the CAC at:

CAC
c/o Acton Health Dept.
472 Main Street
Acton, MA 01720

Phases of the CWRMP

Phase I – Examination of existing conditions and future requirements for water resources. Identification of problems and needs areas

Phase II – Initial assessment of management techniques, screening of technologies, and satellite disposal site location

Phase III – Detailed assessment of management options and recommendation of solutions for needs areas

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Andover, Massachusetts 01810

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Fax: 978-557-7948
mail@woodardcurran.com
http://www.woodardcurran.com

MEETING MINUTES

MEETING DATE: November 16 2004

REFERENCE: Acton CWRMP
Public Information Meeting

DISTRIBUTION: CAC
Doug Halley – Health Department
Brent Reagor – Health Department
Dan Garson – W&C
Helen Gordon – W&C
W&C File
Posting on Town website

Submitted by: Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

ATTACHED ITEMS

Agenda
Report of the Citizen's Advisory Committee
Map: Disposal Sites for High Priority Areas
Map: Maximum Needs Areas Delineation
Map: High Priority Needs Planning Areas
Presentation Handout – Where are We Now?
CAC Member Application

AGENDA ITEMS

Welcome and Introductions:
Doug Halley led the introductions of the Project Team and provided a background on the Comprehensive Water Resources Management Process (CWRMP) process. The project is the result of a special procedure agreed to by the Department of Environmental Protection and Massachusetts Environmental Policy Act (DEP/MEPA) to conduct planning related to the wastewater needs of Acton and the construction of the Middle Fort Pond Brook sewer project.

Question and answer sessions are notated as follows: (Q = Question from Attendees; A = Answer from Project Team; C = Comment from Attendees; R = Response from Project Team)

Project Background – How did we get here?
Project Status – Where are we now?
Brent Reagor led a slide presentation regarding the history of the project and the status of the project (presentation is attached). The CWRMP Phase 1 report is complete. Phase 1 was comprised of identifying areas in need of wastewater disposal alternatives and identifying possible solutions for needs areas.

Q: One of the potential solutions is to institute wastewater management districts. How are these set up and how are they funded?

A: Wastewater management districts can take many forms, ranging from requirements to track septic system pumping to user-funded monitoring and control implemented by the town or a private contractor. The intent of the districts is to manage overall water quality of all water resources. The details of the plans have not been developed but the basic premise is to improve the control over wastewater disposal systems within the district.

Q: Was development potential a consideration? How much potential for development is there?

A: The "needs" are primarily based on developed lots. We looked at the limitations for wastewater disposal on all lots. As part of the process that matches needs with solutions, we will consider the potential wastewater flow for lots that may be developed within any area that may be served by offsite wastewater disposal.

Q: How do you determine the needs of undeveloped lots?

A: Board of Health data is available on developed lots only. The state and the Natural Resource Conservation Service (NRCS) have other data such as soils characteristics, wetlands, floodplains, and vernal pools. The Project Team correlated the NRCS soils data with Board of Health data and then extrapolated the data to other lots with similar soil types. Lots were generally undeveloped because they cannot support some requirement of Title 5 or building/zoning regulations.

Q: Is there environmental data to support the Needs Areas such as fecal coliform sampling or algal blooms?

A: The town has sampling locations throughout the community that have been in place long before the CWRMP and sewer system. The sampling data is factored into the CWRMP analysis but the majority of the data used in the hard analysis is from Board of Health records for onsite disposal systems.

Regulatory Update

Bob Rafferty led an update of regulatory issues. The intent of the project team is to submit an Environmental Notification Form and request a single Environmental Impact Report. The ENF can be submitted once the first phase of the hydrogeologic modeling is completed and the CAC finalizes its recommendations for solutions to each Needs Area.

Views from the Citizen's Advisory Committee

Art Gagne presented the perspective from the Citizens' Advisory Committee (CAC) and the Sewer Action Committee (SAC), which was active as part of the Middle Fort Pond Brook sewer system planning and construction. The following is a summary of his presentation.

The Adams Street wastewater treatment facility (WWTF) was designed and constructed to be expandable and perform properly at all levels of flows. The effluent exceeds the level of treatment mandated by its discharge permit. Phosphorus is continually reduced to less than 0.2 parts per million. Greater than 1.0 MGD is possible in the sewer system as presently constructed and with expansion of processes at the WWTF. The SAC fully supports the work and findings of the CAC.

Disposal capacity is the limiting factor. The DEP controls discharge onto land at the existing sand beds or other locations such as on Adams Street on the other side of the WWTF or at the High Street well field. EPA controls discharges to the Assabet River.

The CAC has preliminary recommendations for construction of a new WWTF to serve the East Acton Village area with local groundwater discharge. The existing system should be expanded to serve the West Acton Village Area, in particular the Gates and Douglas schools.

Four main issues drive the decisions:

1. Environmental health and protection of water resources.
2. Economics analysis and support of economic development while maintaining the overall character of the community.
3. Diverse housing stock with opportunities provided through infrastructure improvements.
4. Aesthetic considerations, such as tree removal and construction of retaining walls to construct viable onsite systems.

Jane Ceraso presented as a CAC member and from the perspective as an authority on Acton's drinking water supplies as the Environmental Manager for the Acton Water District.

The State DEP requires the town to conduct this planning process as part of the special procedure outlined in its NPDES discharge permit. The study includes evaluation of wastewater, drinking water, and storm water systems.

One of the considerations is to find sites favorable for disposal of treated wastewater effluent. The soil characteristics are similar to soils favorable for drinking water wells. The Executive Office of Environmental Affairs (EOEA) issued a water assets report on its web site that projects a build-out water demand of 2.13 MGD. The Acton Water District is currently permitted to withdraw 1.95 MGD. The Town is faced with finding more water or better managing its use. Well operating septic systems and other treatment facilities that discharge treated wastewater effluent to the groundwater help to recharge the aquifers underlying Acton.

There is an interaction between quantity and quality of water. Quantity is an issue for withdrawal needs and quality is becoming an issue. The Health Department maintains and monitors wells, checking for nitrogen concentrations in the groundwater that could indicate problems. These were considered as part of the needs analysis.

The town should optimize the current wastewater collection system (use it to capacity) to address the needs near the existing system and to make good on the expectations set when the project was constructed. The town also has to think about keeping water local to maintain healthy aquifers. The EOEA Comprehensive Water Policy encourages treated wastewater reuse. However, the science and management of controlling reuse is still being developed. Keeping water local is a focus of many environmental groups.

Questions and Answers:

Q: Do we have to do anything - such as building wastewater facilities?

A: The requirements of the study are to look at alternatives, one of which is to do nothing. This alternative has costs also, such as economic opportunity costs and environmental costs. The project evaluates these impacts and tries to determine the impact that doing nothing will have on the community. If this is the most feasible alternative given the decision criteria, then it will be recommended. But the findings to date show this to be unlikely for the Needs Areas. The solutions could be a mix of structural (constructed) solutions and nonstructural (such as management districts or bylaw amendment) solutions. There are no "needs" for the majority of the town, so the recommendation for these areas is to do nothing.

C: This study should look at regulating development and growth and issues such as maintaining town character, etc.

R: The purpose of the study is to assess wastewater disposal needs while factoring in water resources in a comprehensive manner, though secondary growth impacts and town character are criteria considered as they relate to evaluating wastewater solutions.

C: This seems to be a wastewater study, but it is called as comprehensive water resources study.

R This scope of this report was negotiated with DEP to satisfy requirements for the WWTF permit. The guidelines for wastewater planning studies continually go through changes as more is know about the interaction of water resources. The scope of this study includes more evaluation of stormwater and drinking water quality and quantity than previous versions of standard wastewater plans.

Q: If the soils are good for both wastewater disposal and drinking water wells, will disposal compromise the drinking water quality or affect the yield of the wells?

A: Under current regulations, Title 5 provides control over onsite disposal systems, but it is difficult to identify and monitor failing systems before they become problems. It is better to monitor wastewater treatment proactively. With wastewater management districts and treatment facilities, the town can actively monitor and manage the effluent and better protect surface water and drinking water.

Q: Will the choice of the Wetherbee site change the use of the site? It has a conservation restriction.

A: This is a consideration in the final evaluation. Any disposal facility would be subsurface so that the use can continue as farmland.

Q: Why treat the Adams Street discharge to such low levels of phosphorus?

A: Phosphorus is a major issue in the Assabet River, even though the WWTF discharges to sand beds and not directly to the river. WWTF's along the Assabet are facing more stringent limits on nutrient discharges.

Q: How is the water withdrawal limit of 1.93 million gallons per day related to safe limits for what we could actually pump?

A: The limit is based on a safe level of withdrawal.

Q: Spencer Road should be part of the sewer district because of wetlands, flooding, and high groundwater. Is there specific data on groundwater levels>

A: We have some actual data on groundwater levels through town. Other data is based on interpolation of groundwater contours. These concerns are part of the needs analysis.

Q: Should combine septic system needs with flooding issues. Can groundwater levels be controlled?

A: Controlling groundwater levels is very difficult, especially on a large scale, but there may be some limited ability in specific small areas.

C: The CWRMP process needs stronger outreach and publicity especially during the public comment period, such as advertising for meetings and updates on the progress. There should be a public advertisement that the CAC is evaluating wastewater solutions and not exclusively planning for sewers. *The Beacon* would be a good outlet for press releases and announcements.

R: The CAC will submit press releases and announcements to local newspapers.

Q: Does the CWRMP include smart growth principals. Many people may believe that the best direction for Acton is to limit growth.

A: The CWRMP is consistent with the village plans, the Town's master plan, and open space plans.

C: The CWRMP and the CAC meeting minutes are not very accessible. Can the information be put on the Town's web sit?

A: Copies of the CWRMP are available at the Health Department and the library. The project team will post the CWRMP on the web site if it is technically feasible; it is a very large file. CAC meeting minutes will be posted on the web site also.

Next Steps

- The project team will finalize the first phase of the hydrogeologic study at Wetherbee Street, Quarry Road, High Street, and Adams Street after receiving approval of the scope of work from DEP.
- Pending the results of the study, the project team will move forward with the Environmental Notification Form (ENF) to start the MEPA review process.
- Meeting minutes and reports will be posted on the Town's web site.
- The Project Team and CAC will draft a press release to issue to local newspapers.

Town of Acton

PUBLIC INFORMATION MEETING
Comprehensive Water Resources Management Plan /
Environmental Impact Report
CWRMP/EIR
Tuesday November 16, 2004
7:00 PM

TOWN HALL

Meeting Goals:

Present the CWRMP: the goals, the history, the progress, and the plan for the future.

Educate and inform.

Receive input and advice from the citizens of Acton.

Moderator: ***Doug Halley, Public Health Director***

Agenda:

• Welcome	Doug Halley	5 min
• Project Background - How did we get here?	Doug Halley	10 min
• Project Status – Where are we now?	Brent Reagor	10 min
• Regulatory Update	Dan Garson	5 min
• Views from the Citizens Advisory Committee		
Tentatively Scheduled to Speak →	Art Gagne	5 min
	Jane Ceraso	5 min
• Q&A	Doug Halley	30 min
• Next Steps	Bob Rafferty	10 min
• Closing Remarks	Doug Halley	5 min

Report of the Citizens' Advisory Committee

Who are we?

The Citizens' Advisory Committee (CAC) was formed in 2000 as a facilitated discussion group to guide the direction of the Acton Comprehensive Water Resources Management Plan / Environmental Impact Report.

Where are we now?

We have finished the Phase I report. The Committee, with the help of Woodard and Curran and staff from the Health Department, has worked to identify locations that will probably need an alternative to standard on-site wastewater disposal and linked these challenges to potential solutions. (This took several committee meetings)

Areas were identified as "Needs Areas" based on where:

- There are increasing septic failures
- Poor soils do not allow for proper treatment of wastewater
- Wetlands, flood plains and valuable environmental sites encroach on septic systems
- Small lots would not allow for compliant septic systems to be built

The potential solutions include:

- Individual on-site wastewater systems, including innovative/alternative technologies
- Cluster (neighborhood) systems / Package plants
- Decentralized (Satellite) treatment and disposal systems
- Centralized solutions, including connection to the existing wastewater system
- Wastewater management districts

In addition to the existing sewer system, sites have been selected for the potential to treat and dispose of the treated wastewater.

At the last CAC meeting the committee voted to investigate the following sites:

- Increasing the discharge to the current disposal field and expanding the disposal field at the Adams Street Treatment Plant
- Recharging the Acton Water District Wellfields on High Street
- Constructing a decentralized treatment and disposal facility on Wetherbee Street land currently owned by the Town at Route 2

The project will also include, if budget allows, an investigation of a possible disposal location in North Acton, behind NARA.

One of the final requirements of Phase I is a public meeting where the progress of the CAC is presented, with possible solutions for those identified needs areas.

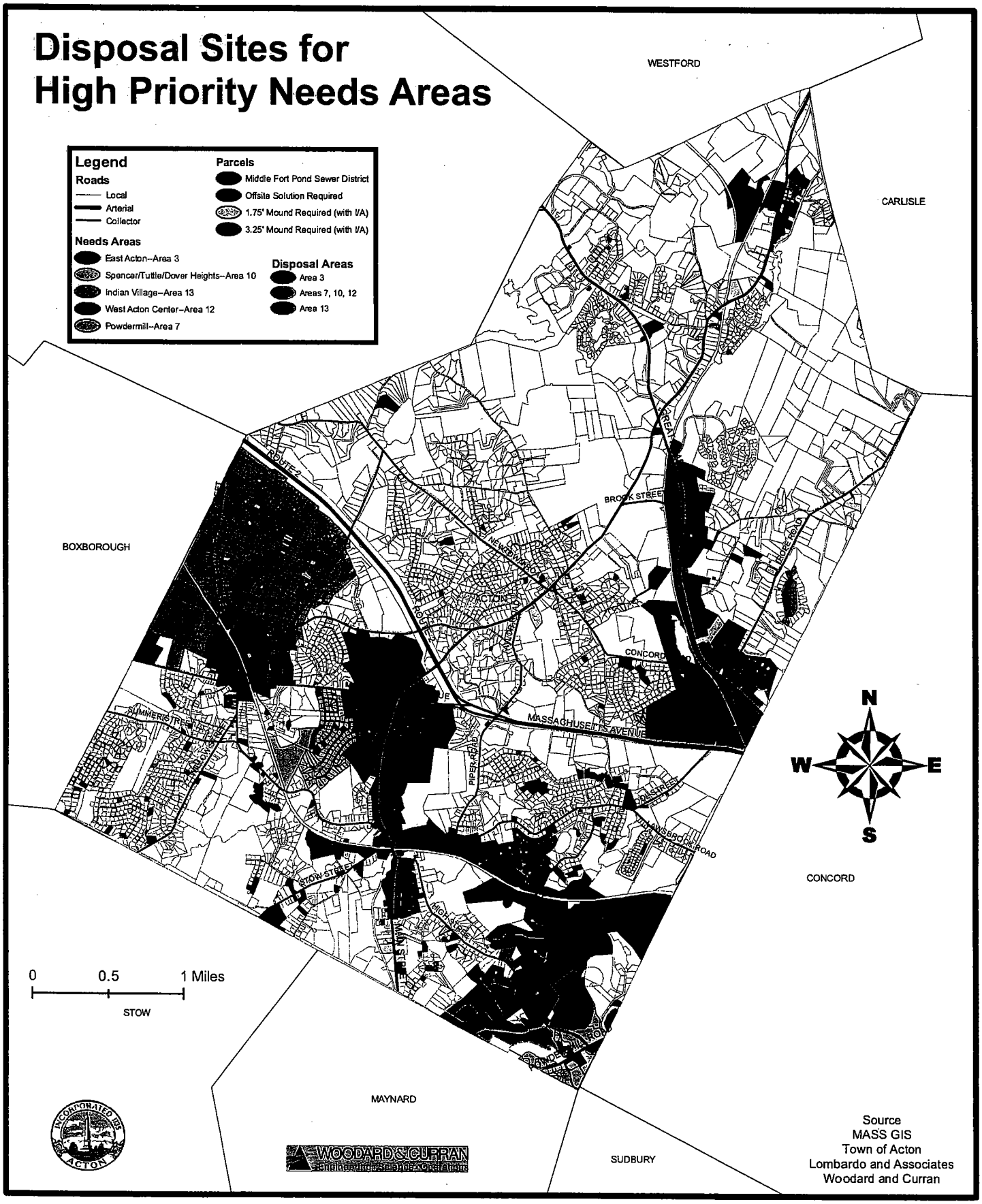
Since information from Acton's Board of Health was so complete, the consultants have already started on aspects of Phase II and are now asking the DEP if the two stages can be telescoped into one.

Where we go from here?

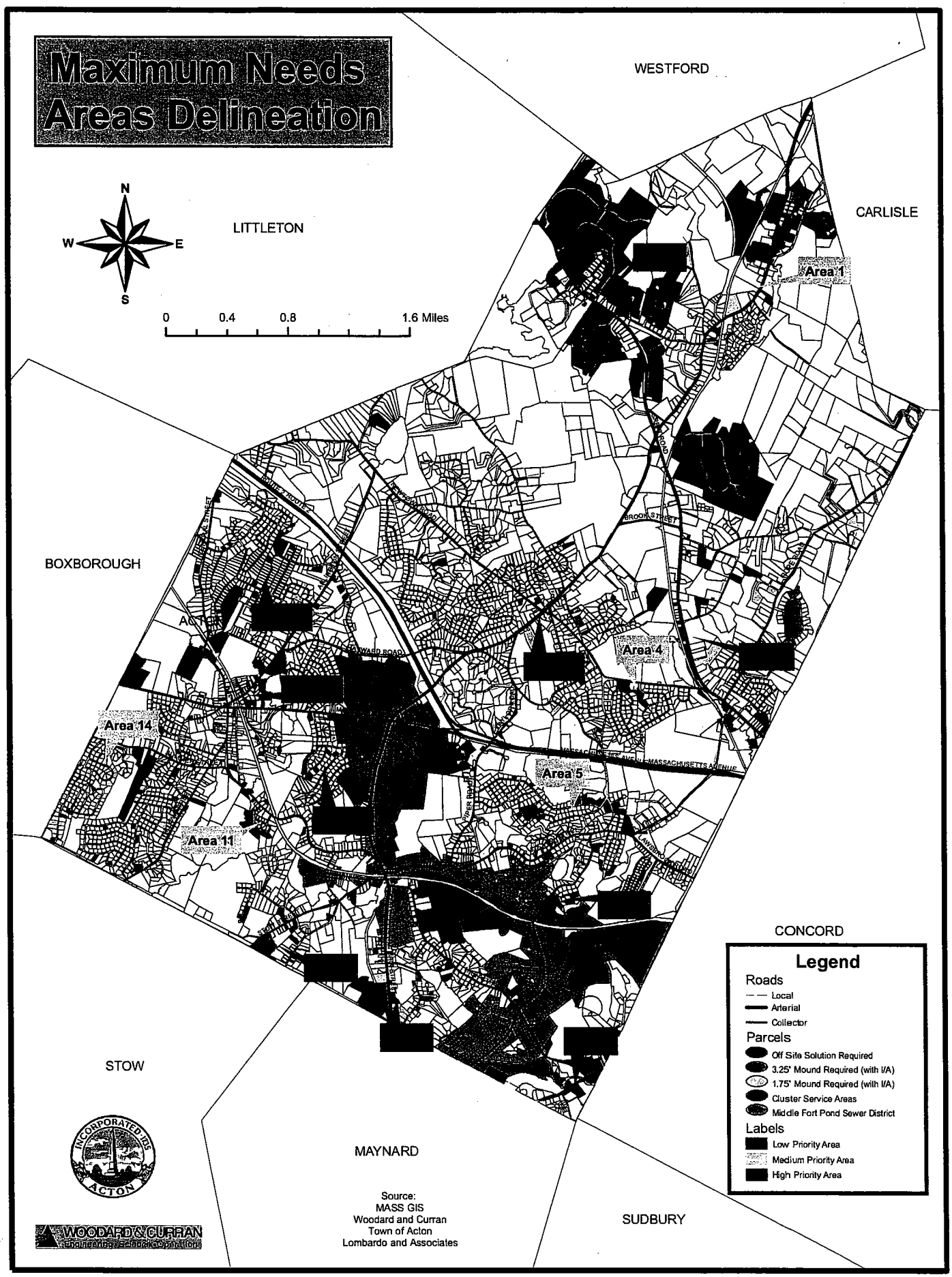
There are several actions that are happening simultaneously:

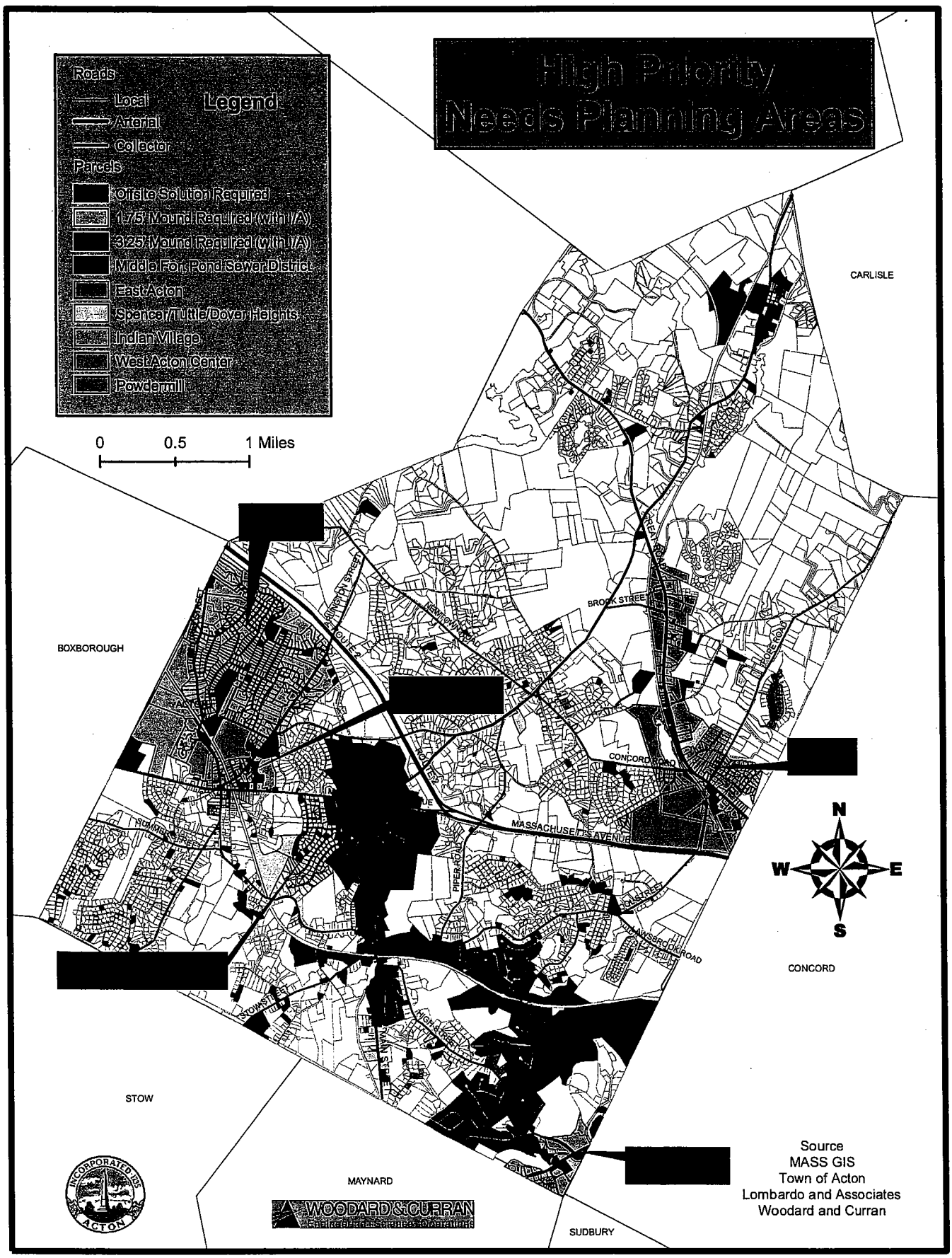
- Petitioning the DEP to combine Phases II and III
- Investigating the three disposal sites voted by the committee
- Evaluating the alternative collection and treatment technologies, and the feasibility of the solutions
- Developing the parameters of a wastewater management district

Disposal Sites for High Priority Needs Areas



Source
MASS GIS
Town of Acton
Lombardo and Associates
Woodard and Curran


Maximum Needs Areas Delineation
WESTFORD
CARLISLE
LITTLETON
BOXBOROUGH
ACTON
STOW
MAYNARD
SUDBURY
CONCORD
N
W
E
S
0
0.4
0.8
1.6 Miles
Area 1
Area 4
Area 5
Area 11
Area 14
BROOK STREET
HOWARD ROAD
MASSACHUSETTS AVENUE
Legend
Roads
Local
Arterial
Collector
Parcels
Off Site Solution Required
3.25' Mound Required (with I/A)
1.75' Mound Required (with I/A)
Cluster Service Areas
Middle Fort Pond Sewer District
Labels
Low Priority Area
Medium Priority Area
High Priority Area
Source:
MASS GIS
Woodard and Curran
Town of Acton
Lombardo and Associates
WOODARD & CURRAN


High Priority
Needs Planning Areas
Legend
Roads
Local
Arterial
Collector
Parcels
Offsite Solution Required
1.75' Mound Required (with I/A)
3.25' Mound Required (with I/A)
Middle Fort Pond Sewer District
East Acton
Spencer/Tuttle/Dover Heights
Indian Village
West Acton Center
Powdermill
0
0.5
1 Miles
CARLISLE
BOXBOROUGH
CONCORD
STOW
MAYNARD
SUDBURY
N
W
E
S
Source
MASS GIS
Town of Acton
Lombardo and Associates
Woodard and Curran
WOODARD & CURRAN

Where Are We Now?

Status of the Acton CWRMP

Brent Reagor, RS
Environmental Health Specialist
Acton Health Department

Phase I is Complete

What was Phase I?

- Identifying Needs Areas
  - Total of 15 Identified
  - Needs Areas were Ranked in Order of Priority
- Identifying Possible Solutions for Needs Areas

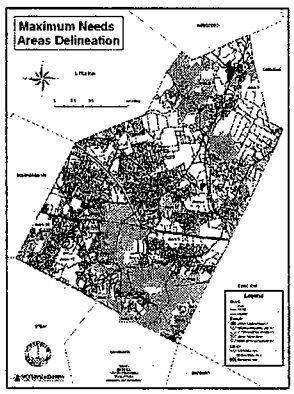
What is a Needs Area?

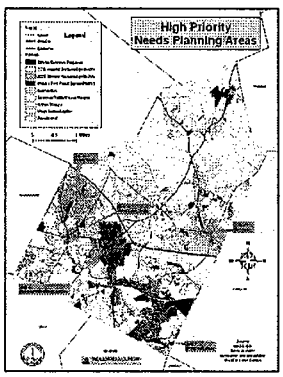
A grouping of parcels that have a "NEED" for a wastewater disposal solution other than their current onsite wastewater (septic) system.

What Determines Need?

- High number of prematurely failed systems
- Poor soils that do not allow for proper treatment of wastewater
- Wetlands, flood plains, and environmentally sensitive areas that encroach on land available for onsite systems
- Small lots that do not allow for compliant systems to be built
- Aesthetic and environmental impacts of mounded systems
- High groundwater elevations, requiring mounded systems greater than 1.75' in height above the existing ground elevations

B. Reagor 11/18/2004

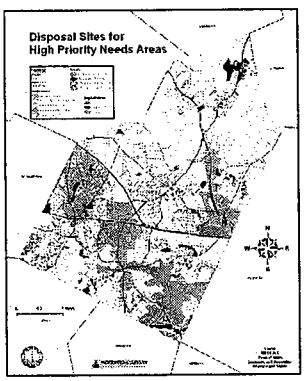




What Are The Possible Solutions?

- Retain current onsite systems, possibly require additional treatment of the wastewater
- Cluster systems (neighborhood sized or smaller) with "package" treatment facilities
- Large scale cluster systems with satellite treatment facilities
- Construction of a new "Decentralized" sewer system with a treatment facility
- Expansion of the existing sewer system
- Wastewater management districts

B. Reagor 11/16/2004

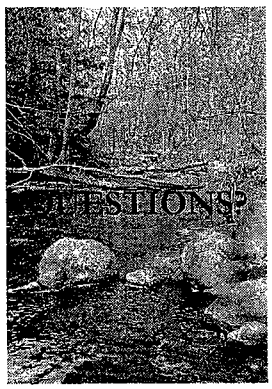


Phase I is Complete

What was Phase I?

- Identifying Needs Areas
  - Total of 15 Identified
  - Needs Areas were Ranked in Order of Priority
- Identifying Possible Solutions for Needs Areas
  - Solutions vary from:
    - Keeping Onsite Wastewater Systems to
    - New Sewer Construction

B. Reagor 11/16/2004



B. Reagor 11/16/2004

TOWN OF ACTON
472 Main Street
Acton, Massachusetts, 01720
Telephone (978) 264-9634
Fax (978) 264-9630

Comprehensive Water Resources Management Plan
Citizens' Advisory Committee
Committee Member Application

Name:_____

Address:_____

Phone Numbers:
Home:_____
Work:_____

Email Address:_____

Occupational Field (optional) :_____

Please answer the following questions:

1) What two environmental issues are most important to you as they relate to water and wastewater resources in Acton?

2) What two economic issues are most important to you as they relate to water and wastewater resources in Acton?

3) What goals would you like the Comprehensive Water Resources Management Plan to accomplish?

4) What do you see as the most important communication issue(s) associated with the Comprehensive Water Resources Management Plan?

5) Do you represent a specific Board, Committee or other interested party? If so, which one?

6) Are you available for monthly and/or quarterly night meetings?

Any additional comments?

Please return this form to the Acton Board of Health Office no later than November 22, 2004.

Acton 210605

ACTON

The Boston Globe

Outlook grim on waste water

Official says septic systems deficient

By Sally Heaney, Globe Correspondent | November 21, 2004

At least two-thirds of Acton will need new ways of handling waste water in the next 20 years because home septic systems and small neighborhood treatment plants are not doing the job adequately or will fail in the future, a town Health Department official said last week.

For more than one-third of the town, a solution is needed immediately. In these high-priority areas, there are high numbers of septic system failures and poor conditions for building systems that meet state and local regulations, Brent Reagor, environmental health specialist in the Health Department, said in an interview last week.

Reagor spoke Tuesday night at a public meeting where officials unveiled the first phase of the town's Comprehensive Water Resources Management Plan. Fewer than 20 people were in the audience.

The plan is required by an agreement Acton struck with the Massachusetts Environmental Policy Act Office several years ago when the town obtained a permit to build its only municipal waste-water treatment plant, according to Dan Garson, a consultant with Woodard and Curran. The plant, which serves 9 percent of the town, discharges the treated waste water into the Assabet River.

A number of other towns, including Concord, have been required by the state to prepare similar plans laying out how waste water will be handled in the future.

The state required the management plans because it wants Acton and other towns to find more environmentally friendly ways to dispose of waste water. The state wants towns to do a better job of treating the waste water and then keep it local, if possible, to recharge the ground water. While the state sees faulty septic systems as a problem, sending sewage to central treatment plants, then down rivers -- which are already stressed by pollutants -- and out to sea is not seen as the ideal solution.

Jane Ceraso, environmental manager for the Acton Water District, said that looking at water management in a comprehensive fashion is a good idea. "This process is long overdue," she said. "We don't have great aquifers, and we don't have great waste-water disposal systems in Acton."

In Phase 1 of Acton's planning process, a citizens advisory committee worked with town staff and consultant Woodard and Curran to rank the needs in 15 areas throughout town as high, medium, or low. The factors that led to an area being ranked as high on the scale include poor soil that does not properly treat the waste water; dense development; nearby wetlands or flood plains; small yards; and high ground water.

"There are lots where it is physically impossible to build a compliant [septic] system," Reagor said.

The next step will be to match the possible solutions identified by the team with the areas. Reagor said the goal is to present researched, recommended solutions for all the high-priority areas to the public by the end of 2005. Preliminary work on potential solutions for the medium- and low-priority areas also will be presented.

How soon any of the solutions will be implemented "depends on the voters of Acton," Reagor said. "Any progress forward is going to require funding."

Possible solutions include expanding the existing sewer system and building new treatment facilities for

neighborhoods.

The team identified four potential locations for new treatment facilities: two off High Street near the existing treatment plant on Adams Street, another near the intersection of Wetherbee Street and Route 2, and the fourth near Quarry Road north of NARA Park.

The team concluded that, in some areas, the only environmentally and politically feasible solution may be keeping the home-based septic systems but improving them, perhaps by making them larger, Reagor said.

Resident Terra Friedrichs expressed concern at the meeting improved waste-water treatment would foster increased development in town. Health director Doug Halley said the town is looking at how to meet existing needs, but he couldn't say more growth wouldn't occur as a result of improved treatment capabilities.

Areas identified as high priority are not concentrated in any particular part of town. The largest area has 548 parcels, including the Indian Village subdivision. The others are along both sides of Great Road in East Acton from Route 27 to the Concord town line; the Spencer Road, Tuttle Drive, Dover Heights area; West Acton Center; and the Powdermill Plaza area along Route 62.

Areas with medium-priority needs include North Acton Village near NARA Park; the Robbins Park neighborhood; Brucewood Estates; the Nash Road and Downey Road neighborhood off Central Street; and the Flagg Hill and Forest Glenn area.

The areas identified as low-priority are near Great Road and the Littleton line; Acton Center; the Brookside Village neighborhood off Parker Street; southern Main Street near the Maynard line; and the area near Stow Street and Billings Street. ■

Planning our Water Future: Acton's CWRMP

Acton is in the process of completing a Comprehensive Water Resource Management Plan/Environmental Impact Report (CWRMP/EIR). This Plan is intended to be a comprehensive look at the management of all water resources in Acton. A major component of the plan will examine the wastewater disposal needs and solutions for the entire Town. With only a small portion of town covered by the Middle Fort Pond Sewer District, development creating more demand on our water resources, and many septic systems in need of major upgrades to meet Title Five specifications, this comprehensive look at water planning is timely. Wastewater disposal is not the only focus of the plan, it will also take into account other water resource issues such as: drinking water quantity and quality, stormwater management, surface and ground water quality, and the integration of all aspects of water resource management. Jane Ceraso, the Acton Water District's Environmental Manager, is a member of the CWRMP Citizen's Advisory Committee, which is working with Acton's Health Department and the project engineers, Woodard and Curran.

Phase One of the CWRMP has now been completed. It included identification of the greatest waste water "needs areas" in town and potential solutions for those areas. In addition to the existing sewer system, sites have been selected for the potential to treat and dispose of treated water. The plan will now investigate those sites and evaluate alternative collection and treatment technologies, and the feasibility of various solutions. It is expected that a public meeting will be scheduled in 2005 to discuss these potential solutions.

For more information, contact Jane Ceraso, Acton Water District, at (978) 263-9107 or Brent Reagor, Acton Health Department, at (978) 264-9634.

Acton Water District Newsletter

WOODARD & CURRAN INC.

35 New England Business Center
Suite 180
Andover, Massachusetts 01810

Tel. 978-557-8150
Fax: 978-557-7948
mail@woodardcurran.com
http://www.woodardcurran.com

MEETING MINUTES

MEETING DATE: April 20, 2005

REFERENCE: Acton CWRMP
CAC Meeting

ATTENDEES: CAC:
Jane Ceraso – Acton Water District
Ann Chang – CAC / SAC
Nancy Tavernier – CAC / SAC
Lauren Rosenzweig - BOS
Pat Cumings – resident
Helen Probst – resident
Eric Hilfer – ACES
Gigi Hopkins – Land Steward, Wetherbee Conservation land
Terra Friedrichs – resident
Carol Holley – ACES, EAVPC
Hart Millett – resident
Sid Levin - resident
Doug Halley – Health Director
Brent Reagor – Health Dept
Bob Rafferty – Woodard & Curran

DISTRIBUTION: Attendees
Dan Garson – W&C
Helen Gordon – W&C
W&C File
Posting on Town website

Submitted by: Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

ATTACHED ITEMS

Agenda
Handout – Preparation Memo dated 4/07/05
Maps of possible disposal site fieldwork

AGENDA ITEMS

Welcome and Introductions:
Doug Halley led the introductions and presented the goals of the meeting. He also discussed the recent change in the discharge (NPDES) permit for the town's wastewater treatment facility, which increased the permitted discharge capacity to 299,000 gpd from 250,000 gpd. This increase in the NPDES permit may provide an alternative solution to some needs areas.

Disposal Site Evaluation Update:
Brent Reagor presented an update on the hydrogeologic study conducted at the three selected parcels – Wetherbee Street (at Route 2), North Acton (near NARA), and Adams Street (near the WWTF). Refer to the attached maps. The fieldwork is complete and soil samples have been sent to the laboratory for analysis. On-site hydrogeologic investigation included:

Borings – monitoring well installation (8 borings and 6 wells)
- Bore hole permeability tests (Falling head test)
- Drill to refusal
- Installation of wells where groundwater was encountered

Test Pits – excavation to groundwater (4 pits at Wetherbee Street and 3 pits at North Acton)
- Percolation tests and soils classification

Based on the fieldwork it appears only the Wetherbee site is favorable for further analysis. The following table summarizes the issues:

Table 1 – Summary of Potential Disposal Site Issues

Site	Comments	Pros	Cons
North Acton	• Near medium priority Needs Area 1– North Acton	• Limited neighbors • Town-owned parcel	• Mixed soils – erratic • Gravel has been removed • Site of former septage lagoons • Near wellfield
Wetherbee	• Near high priority Needs Area 3 – East Acton • 70 acre parcel	• Good soils near Wetherbee / Rte 2 intersection • Subsurface disposal potential	• Deeded conservation restriction • Active cow corn farming
Adams Street	• Could provide additional discharge capacity at the WWTF	• Adjacent to WWTF	• Vernal pool on the parcel • May affect the Maynard WWTF groundwater problems • Lens of silt/till at 5' deep

Bob Rafferty presented an overview of the process for selecting and investigating the potential disposal sites, and followed with specific information about the subsurface investigation.

The hydrogeologic study is part of a prescribed process regulated and mandated by DEP. After ranking the needs areas, we evaluated alternative solutions. Potential solutions include:

Decentralized collection, treatment and disposal
- Onsite (do nothing or increased management)
- Cluster (including private/public partnerships)
- Satellite (larger than cluster systems but distributed instead of centralized)

Centralized collection, treatment and disposal

We conducted a town-wide search for potential treatment and disposal locations to evaluate all alternatives. We did not select possible disposal areas based on the location of Needs Areas. The September 2004 CAC meeting reviewed and prioritized the disposal locations, eliminating some from further consideration. The CAC also ranked Needs Areas and matched Needs Areas with potential general solutions.

For off-lot solutions, we looked for areas of sand & gravel with groundwater greater than 6-feet below the surface and large lots that are primarily undeveloped. Specific on-site investigation methods were reviewed and approved by DEP.

Specific data from the hydrogeologic study are listed in the following Table 2. This data was summarized at the CAC meeting but is presented here in more detail for reference.

Table 2: Boring Logs – Specific Information (values in feet – rounded numbers)

Well	Sand Depth (depth below surface where encountered till)	Groundwater - start depth below surface	Refusal / End – below surface
North Acton - NA1	23 – mixed soil	22	23
North Acton - NA2	15 – mixed soil	None	15
Wetherbee – W1	40	14.5	52
Wetherbee – W2	9	7.5	20
Wetherbee – W3	10	3.5	15
Wetherbee – W4	40	9	50
Adams Street - A1	25 (3-8)	None	50
Adams Street - A2	30	16	35

The CAC conducted the following discussion regarding the disposal site evaluation:
(Q = Question from CAC; A = Answer from Project Team; C = Comment from CAC; R = Response from Project Team.)

Q: Did the project team look at the state land across Wetherbee Street from the conservation land?

A: Legislature recently changed the way the state disposes of land, making it very difficult for towns to purchase state land. Cost is a criterion in the overall selection process. Therefore, we focused our investigation on the town-owned land adjacent to the state parcel.

C: The CWRMP process appears to be focusing on sewering and the Town's consultant appears to be steering the town toward sewers, which would benefit the consultant.

R: The CWRMP process is set by the loan agreement the town has with DEP. We are trying to identify all feasible alternatives and we are obligated to include all identified alternatives in the discussion and evaluation. Sewering may be a potential solution. No final decisions or recommendations have been made.

C: The CWRMP process could be more open to the public because it now appears that the CWRMP has set solutions in mind.

R: The CWRMP process has included several CAC meetings and a public information meeting. A public hearing is also included for the future. The meeting minutes from past CAC meetings and the public information meeting will be posted on the town's web site. Residents from all points of view are encouraged to share their opinions with the CAC.

Q: Did the project team look at private land for possible disposal sites?

A: Yes, but no private parcels passed the first CAC review because of site conditions including flood plains, wetland issues, parcel size, and shallow groundwater.

Q: Does the mix of uses in an area make treatment more difficult?

A: The town requires pretreatment of many wastes, including waste from restaurants. The end treatment processes are the same for all typical municipal sewerage.

Prioritization of Solutions:

Brent Reagor led the discussion of general solutions following the format of the memo dated 4/20/05. The memo is attached. The CAC took the discussion points in reverse order:

IV. Establish wastewater management districts

The town now has a basic septic system management structure that requires pumping of residential tanks every two years and pumping of commercial tanks every year. A potential alternative solution for Needs Areas is to require a higher level of wastewater treatment on parcels comprising the Needs Areas. Innovative/Alternative (I/A) systems, as discussed in the June 2004 CAC meeting, provide higher levels of treatment but require more effort to operate, maintain and manage because I/A systems are micro-scale treatment facilities. One solution may be to institute requirements within specific Needs Areas for O&M and management of private on-lot I/A systems.

There are multiple alternatives regarding treatment levels, financing systems, and levels of management for a wastewater management entity. For example, the town could require private I/A owners to meet specific treatment levels and provide proof of regular operation and maintenance (O&M) and management by a qualified private contractor. Or, the town could implement a public utility (management district) that provides O&M and management financed through user fees.

C: The town should not pick up the bill for private problems. People who do not need an alternative wastewater system will not, and should not, pay for others that have problems.

C: It may be difficult to get a public utility through town meeting, because it means government control of private property and access to private lots.

R: The program could be funded 100% by user fees. There are many different management structures that could keep wastewater treatment and disposal local and under private control but with more oversight and safeguards.

C: Some neighborhood developments have condo-like agreements to maintain a community treatment system. These are maintained well, and use is monitored by the association.

C: The willingness to accept a management utility or district may depend on whether the district is for new a development or existing neighborhoods.
C: This may be a long-term solution given the 20-year planning process. However, it may not make sense to set up now.
C: It could help with the water balance.
C: Most people acknowledge that sewers take care of the problem and can increase property values, as well as making it easier to sell a property.
C: There may be some perceived value in this without the negatives of public construction.
R: Establishing a management utility (or district) may provide some level of confidence that the private system was maintained properly, and that there is a system in place acceptable to the town. This is better than standard Title 5 (septic) systems.
R: This alternative is for Needs Areas that have demonstrated some problem(s) maintaining continued reliance on standard septic systems. Acton has many I/A systems (#2 in the state for number of systems outside of Cape Cod communities), and many are located in the Needs Areas.
Q: Are the existing I/A systems for replacement or new construction? What kinds of systems are there?
A: About 90% are repair systems. Types include FAST, Singulair, Bioclere, and JET.

III. Group parcels into smaller cluster/community systems

C: Cluster systems could encourage more buildout. This is a negative.
Q: Are there many potential cluster systems if they are located near problem areas?
A: There is not much potential for this option. Siting is difficult. They may have to be sited some distance away from the Needs Area. This could be expensive, and costs play a role in decision-making. Public/private partnership is an alternative since there are several private treatment facilities, especially in North Acton.
C: The town should require new developments to have cluster construction.
Q: Public/private partnerships – Can a private entity provide service to abutting parcels? Can development be linked to providing capacity for neighbor's needs?
A: Public/private partnerships are an option. Several private treatment facilities exist in Acton. In Mashpee, the town purchased capacity from a private entity to serve neighborhood needs.
C: Irrigation by using effluent could be an alternative, aside from the public relations image.
C: Many people do not react favorably to proposals that spray effluent on public spaces – especially playing fields.
Q: Are graywater systems a benefit or a possible solution?
A: Graywater systems are currently prohibited. There is no incentive to construct graywater systems. New rules are being explored at the state level.

II. Construct a new satellite wastewater treatment and collection system

C: If Wetherbee Street is the only viable site then it should be linked to improving the Bruce Freeman rail trail.
C: The rail trail schedule is moving more quickly than the CWRMP schedule.
C: The ability to get another big sewer construction project through town meeting is questionable.
Q: How deep are the sewer pipes?

A: Typical gravity sewers are about 8-feet deep. Low-pressure sewers are about four to five feet deep.

Q: Is it appropriate to lay a sewer pipe along a stream, say within 30-feet?

A: Yes. Often the best route for a sewer is along a route parallel to streams. Acton has several stream crossing. Appropriate measures must be taken to protect the streams.

C: The political reality is that if a disposal field can provide a dual or improved use, or preserve existing use, the field is more likely to be accepted.

R: At Wetherbee for instance, the existing use can be maintained once the construction is complete by constructing a subsurface disposal field. There will not be venting pipes because the system will be dosed by pressure.

Q: Does the subsurface disposal field have a shorter life span than a septic system's field?

A: Not really. A treatment facility will treat to a higher level, helping to preserve the life of the disposal field.

C: Buildout within the sewered area may be an unintended consequence. Water demand may change also because septic systems now limit the potential for growth on individual parcels. Restaurants may be able to expand, etc. if sewers are constructed.

R: Secondary growth impacts are a consideration and are included as a decision criterion in the matrix developed by the CAC. However, further review of the impacts should be conducted if this alternative is selected.

Q: The WR Grace plumes are approaching the School Street wells. The wells will not contain the plume for very long. How will a subsurface disposal field at Wetherbee affect the plume?

A: This specific scenario has not been studied yet. A more involved hydrogeologic analysis, which includes modeling, would be conducted prior to moving forward with a satellite solution. The impact of the plume could be included in this process.

I. Connect to the existing system

The town's NPDES (WWTF discharge) permit has been modified to allow 299,000 gpd, an increase of 49,000 gpd. This may provide solutions to Needs Areas adjacent to the existing sewer district. The additional discharge capacity will be sent to the existing disposal field.

C: The areas that were initially included in the sewer district should be given priority.

R: Some of these areas are not actually Needs Areas as determined by this CWRMP. Many of the initial areas were included because of geography, sewer routing, etc.

C: Priority should be given to Powdermill Plaza, West Acton, Dover Heights, North Audubon, Indian Village, schools in West Acton, and Spencer Road area including Flint, Mallard. A decision should be made whether to construct a sewer in Central Street or follow the railroad bed.

Q: What are the needs in West Acton Village? The village character could be changed by development if sewers are brought to the area.

R: West Acton Village has three I/A systems, and one parcel has more variances than any other does in town. Secondary growth impacts are a criterion for decision-making and are included in the matrix developed by the CAC.

R: Audubon Hill's onsite system problems have been corrected, so this can be omitted from the priority ranking. This was considered a priority location by the CAC because the senior center system was in failure.

R: Powdermill Plaza negotiations continue. The intent is to reach an equitable agreement to remove the Plaza's treatment facility and connect it to the town's sewer system.
Q: How much flow would be allocated to Powdermill Plaza? What is the status?
A: Approximately 4,000 gpd – 6,000 gpd.
R: The 49,000 gpd will not address all high priority Needs Areas listed by the CAC.
C: The schools' needs appear to be legitimate but the buildings are not near any existing infrastructure.
R: The state has mandated that the school properties at Gates/Douglas be considered one property, which results in the total flow becoming greater than 15,000 gpd. This triggers additional regulations for treatment. The state has not acted on enforcement yet because of the CWRMP process.
C: A public education program could be instituted it ensure that existing systems do not fail.
R: Many systems would fail inspection because of the soils, groundwater, etc. I/A systems would still be required at a minimum. The Health Department sent public education mailings in the past, but homeland security requirements have take much of the available time and budget for these activities.
C: Priorities could be set with more clarity if the actual wastewater flows for the Needs Areas were known with more accuracy.
C: The schools contribution to sewering would be the cost equal to replacing the onsite systems with new systems meeting regulations. It would be helpful to have a quick in-house estimate of the cost/benefit of constructing new onsite systems for the schools.
Q: Can the CAC get more information on the typical costs for I/A systems?
A: The project team will review the information at the Health Department and report back to the CAC.

WATER REUSE

Brent Reagor led the discussion regarding an alternative disposal site located in the Assabet wellfield on High Street. We did not conduct a hydrogeologic assessment of this area because information is available on the soils and geology of the Assabet wellfield from previous studies. The wellfield may provide additional capacity to optimize the existing sewer system and serve Needs Areas that cannot be served by the current WWTF and disposal field.

Q: Has wastewater effluent been discharged to wellfields in Massachusetts?
A: Not by a municipality. Reuse regulations are being reviewed by DEP but no final document has been published.
Q: Is there long-term data on reuse?
A: Yes, from California for example, though the specific use of the wastewater effluent (potable water, irrigation, etc.) should be reviewed before applying the results to Acton's situation.
C: Epidemiology studies can be tricky because populations are not static – people move. The studies tend not to be conclusive.
R: Acton is taking part in a study by Johns Hopkins to review the WWTF effluent for emerging contaminants

A subgroup of the CAC was established to review whether the wastewater needs lead to reuse as a solution. The subgroup will review the concerns, issues, and challenges to reuse. Volunteers and

nominees for the subgroup led by Brent Reagor are, Eric Hilfer, Jane Ceraso, Pat Cumings, and Art Gagne. The CAC suggested that a Board of Health member be part of the group.

REGULATORY UPDATE

The CWRMP process is the result of a special procedure issued by DEP that allowed the construction of the Middle Fort Pond Brook sewer system prior to conducting wastewater planning. The Project Team met with DEP in February to present the CWRMP process, review the scope of the hydrogeologic study, and discuss the requested change in the WWTF discharge permit. DEP wants a detailed hydrogeologic investigation prior to submitting an Environmental Impact Report (EIR), which is the final document of the CWRMP process.

The Project Team's plan is to submit an expanded Environmental Notification Form (ENF) shortly after the next CAC meeting. We will submit an expanded ENF to Massachusetts Environmental Policy Act (MEPA), requesting a single EIR. However, MEPA may still require a draft EIR prior to the final EIR.

NEXT STEPS

The Project Team will complete the hydrogeologic assessment once the laboratory results are delivered. The assessment will be forwarded to CAC and DEP for comment.

At the next CAC meeting:

- The CAC will complete the pairing of Needs Areas with potential solutions, and review and rank the potential solutions for each Needs Area.
- Once the CAC ranks solutions, the Project Team will begin the analysis of the potential wastewater treatment techniques and technologies, including refined flows, costs, and management practices.
- The reuse subgroup will update the CAC on its work.

CONSENSUS ACTION ITEMS

- The Project Team will refine the flow estimates for the priority Needs Areas and report back to the CAC so a final priority list can be developed.
- The Project Team will conduct a quick in-house analysis of the cost for I/A systems at the Gates/Douglas School.
- The Project Team will provide cost information for the various types of I/A systems in Acton.
- The reuse subgroup will meet to set its goals and mission, and begin discussions.
- Meeting minutes will be posted on the Town's website.

Town of Acton

Citizen's Advisory Committee Meeting

Comprehensive Water Resources Management Plan /
Environmental Impact Report
CWRMP/EIR
Wednesday, April 20, 2005
7:00 PM

MEMORIAL LIBRARY

Meeting Goals:

Discuss the results of the recent disposal site evaluations

Prioritize solutions for the Needs Areas

Receive input and advice from the citizens of Acton.

Agenda:

• Welcome and Introductions	Doug Halley	5 min
• Disposal Site Evaluation Update	Bob Rafferty	20 min
• Prioritization of Solutions	All	60 min
• Regulatory Update	Dan Garson	10 min
• Water Reuse	Brent Reagor	15 min
• Next Steps	Bob Rafferty	10 min

MEMORANDUM

Acton Board of Health - Telephone (978) 264-9634

TO: Members of the CAC

FROM: Brent L. Reagor, R.S.

RE: 4/20 CAC Meeting

DATE: 4/7/2005

As we approach our next meeting, we are in what is hopefully the last year of this phase of the project. Now that 15 Needs Areas have been delineated and ranked in order of priority, we must apply a solutions matrix in each area and develop a ranking of those solutions.

To refresh your memory, the possible solutions are:

I. Connect to the existing sewer system
II. Construct a new satellite wastewater treatment and collection system
III. Group parcels into smaller cluster/community systems
IV. Establish wastewater management district(s)

The Project Team will present the results of the initial site investigations at the Adams Street, Wetherbee Street, and Quarry Road sites, and what those results mean in the context of possible solutions for needs areas.

The Project Team will present information to you, prior to the meeting, listing what has been determined to be the "Primary Need" or reason for each area to be classified as a needs area. This information should aid you in your solutions ranking thoughts and decisions.

As you think about possible solutions, here are some questions you should ask yourself:

Solution I. Connect to the existing sewer system:

1) With a pending surplus capacity of 49,000 gallons per day, which adjacent needs areas should be connected?
2) What is the reality of discharging to the wellfield, both politically and environmentally?

Solution II. Construct a new satellite wastewater treatment and collection system

1) What is the political viability of another major sewer project in Acton?
2) Do you believe that subsurface disposal of wastewater would alter the use of a parcel of open space?

Solution III. Group parcels into smaller cluster/community systems

1) Would you support the Town entering into Public/Private partnerships with major landowners/companies in order to solve wastewater needs issues?
2) How do you feel about irrigation of public or private fields with highly treated wastewater?
3) Could/would you support the creation of a Wastewater Management Entity (pseudo-utility) to operate and maintain privately owned cluster wastewater collection and treatment systems? What about outright ownership of those systems?

Solution IV. Establish wastewater management district(s)

1) If the annual cost was less than or equal to the current average sewer bill, would you be willing to pay that rate for operation, maintenance, inspection, and (if necessary) replacement of your onsite wastewater system?
2) Could/would you support the creation of a Wastewater Management Entity (pseudo-utility) to operate and maintain privately owned onsite wastewater collection and treatment systems? What about outright ownership of those systems?
3) What is your overall perception of the state of environmental protection as it relates to water quality/watersheds in the Town of Acton? Are we doing enough now?

Finally, I would like to solicit a couple of volunteers to be initial members of a Stakeholder Working Group on the feasibility of Indirect Potable Reuse (wellfield discharge) in Acton. Myself and Helen Gordon from W&C are members of a regional committee to promote reuse of treated wastewater and the Commonwealth is in the process of revising its regulations in this area. I would expect that a small group (no more than 8) people would meet on a semi-regular basis to discuss and possibly promote the reuse of treated wastewater within Acton.

This is just the initial communication prior to the meeting. In a week or so you will receive an agenda and any other additional materials for the meeting.

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MEETING MINUTES

MEETING DATE: July 14, 2005

REFERENCE: Acton CWRMP
CAC Meeting

ATTENDEES: CAC:
Ann Chang – CAC / SAC
Nancy Tavernier – CAC / SAC
Art Gagne – CAC / SAC
Chris Schaffner – CAC / Planning Board
Helen Probst – CAC
Eric Hilfer – ACES
Anne Ford – resident
Stuart Barne – resident
Victoria Beyer – Yankee Village Condo
Cathleen Kennedy – Yankee Village Condo
Allen A. Whitaker – Yankee Village Condo
Doug Halley – Health Director
Brent Reagor – Health Dept
Bob Rafferty – Woodard & Curran

DISTRIBUTION: Attendees
Dan Garson – W&C
Helen Gordon – W&C
W&C File
Posting on Town website

Submitted by: Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

ATTACHED ITEMS

Agenda
Memo re: Yankee Village situation dated 7/6/05
Memo re: Needs/Solutions Ranking Chart (Chart not included) dated 7/6/05
Draft press release
Memo to Town Manager from Health Director re: Yankee Village

AGENDA ITEMS

Welcome and Introductions:
Doug Halley led the introductions and presented the goals of the meeting. He discussed the recent fire at the Yankee Village (the Village) wastewater treatment facility (WWTF).

Yankee Village Condominiums:
The options include rebuilding the current WWTF or connecting to the Middle Fort Pond Brook sewer (MFPBS). The Village is currently hauling wastewater to Acton's WWTF. The Board of Selectmen will consider allowing the Village to connect to the system pending a recommendation from the CAC. Relevant issues include the scheduling of solutions (time and money to pump and haul the wastewater), insurance payment amount, initial costs, betterments, and permitting.

Yankee Village is currently getting bids on the rebuilding of the WWTF. Their insurance company is involved and hired an engineer to evaluate the alternatives. A major hurdle for the Village is the cost to connect to the MFPBS, which consists of a privilege fee and betterment.

The CAC conducted the following discussion regarding the Yankee Village Condominiums:
Q = Question from CAC;
A = Answer from Project Team; AYV = Answer from Yankee Village representatives
C = Comment from CAC;
R = Response from Project Team; RYV = Answer from Yankee Village representatives

Q: Will insurance cover the costs for rebuilding or connecting
AYV: Insurance is for replacement cost coverage so if connecting is less expensive than rebuilding it may be advantageous. The insurance company in obligated to fix the problem with a permanent solution.
Q: Time frame may be an issue if DEP approval is required.
AYV: Board of Health regulates the WWTF since the capacity is less than 10,000 gpd.
A: DEP would need to approve the connection to the MFBPS. The BOH will try to be consistent is its review of a proposed WWTF, but approval of a new WWTF does take some time.
C: Environmental risk with the existing situation warrants quick resolution. Location of Yankee Village is adjacent to a wastewater pumping station so sewer extension would only be across the street. Major concern is if the sewer system and Adams Street WWTF can accept the flow.
C: The CAC discussed the original financing of the sewer project and the process by which betterments were assessed. The discussion included how much money was allocated for expansion of the system and how much was for service of the primary sewer district. At issue was how costs were assessed to initial users.
Q: Where does the money from new connections and new betterments go?
A: Estimated that expansion capability costs $1.3 million. This was not attributed to specific financing. Town benefited from some users paying the betterment fee up front instead of over time, which allows Town to postpone addressing the full costs of expansion capabilities. New users will pay for the entire expansion capability cost. A Privilege Fee is assessed to new users to cover costs for construction of the initial system.
Q: Can Yankee Village pay the Privilege Fee over time?

A: No. There is no mechanism to allow this. The Privilege Fee must be paid in one payment. Betterments can be time payments.

C: This sets a precedent throughout Town. If new users have to pay the privilege fee up front then any expansion of the sewer system would be heavy opposition.

Q: Does this impact the CWRMP plan?

A: The Town has to consider connection requests on a first come, first served method. The CWRMP has not considered Yankee Village a priority needs area, so this connection would use approximately 4,000 gpd that was initially allocated elsewhere.

RYV: The condominium association will meet to evaluate its options. The initial cost is the biggest stumbling block for a connection to the MFPBS.

C The CAC recommends accepting the Yankee Village request to connect to the MFPBS, but for the BOS to look for creative ways of financing the Privilege Fee.

Future Connections – West Acton Village

Brent Reagor led the discussion of general solutions for Needs Areas. The discussion focused on West Acton Village and surrounding neighborhoods. The CAC has previously identified these areas as having a preferred solution of connection to the MFPBS.

Q: How far can the sewer system extend given the limits on discharge capacity? Can the sewer reach Jefferson Arms on Elm Street?

A: Yes, a connection would probably through the school properties if this alternative is ultimately selected.

Q: Why does the map show no connections west of the railroad right of way?

A: Cost is a consideration, but the area shown in the map is tentative and based on available capacity. Spencer/Tuttle/Flint neighborhood also has needs and any service line to West Acton would abut this neighborhood.

C: There are two large red lots shown on the map but they are not shown as connected to a solution.

R: The two lots are undeveloped and not buildable due to wetlands and floodplains.

R: The project team will look at adding filters to the high priority map for developed/undeveloped lots, wetlands, and I/A and new/upgraded onsite systems.

C: The CAC discussed the impact of sewering on "unbuildable" lots and the reasons lots may be currently unbuildable. We must consider the impact of development on "unbuildable" lots because of new sewers.

C: The Town must address the schools and minimize secondary growth impacts while addressing needs.

C: West Acton Center is a priority, which is where economic growth is targeted according to other Town plans. Sewering West Acton Center would address Planning Board goals.

C: Affordable housing is difficult to institute in West Acton because there are no sewers.

Q: Is the Spencer/Tuttle/Flint area more important than west of West Acton Center (west of railroad tracks)?

A: Spencer/Tuttle/Flint has its own environmental needs. Nevertheless, given limited capacity the CAC must decide on the priorities.

The CAC reviewed text for a press release. Completed survey forms were returned to Brent.

NEXT STEPS

The Project Team is working on the hydrogeologic assessment. The assessment will be forwarded to CAC and DEP for comment.

CONSENSUS ACTION ITEMS

- Complete the survey forms
- Complete the hydrogeologic report
- Recommend Board of Selectmen approve connection of Yankee Village Condominiums to the MFPBS.
- Recommend that Board of Selectmen consider alternative financing of the Privilege Fee.

WOODARD & CURRAN
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Town of Acton

ACTON WASTEWATER CITIZENS ADVISORY COMMITTEE

Comprehensive Water Resources Management Plan /
Environmental Impact Report
CWRMP/EIR
Thursday, July 14, 2005
7:30 PM

ACTON TOWN HALL, ROOM 204

Meeting Goals:

Review the request of Yankee Village Condominiums to connect to the MFPBS

Begin discussions regarding future connections to the MFPBS, including West Acton Village

Prepare for the final prioritization of solutions at the August meeting

Agenda:

- Welcome
- Introductions
- Regulatory update
- Yankee Village Request
- Future Connections (WAV)
- Next Steps
- Evaluate the Meeting

MEMORANDUM

Acton Board of Health - Telephone (978) 264-9634

TO: CAC Members

FROM: Brent L. Reagor, R.S.

RE: 7/14 Meeting

DATE: July 6, 2005

As you are most likely aware, on Sunday June 19, the small wastewater treatment facility serving Yankee Village Condominiums (behind Roche Brothers) and the Acton Real Estate offices caught fire and was severely damaged. The facility, in its current state, is not able to function, and the condominiums are currently utilizing their raw wastewater lift tanks as holding tanks, and are pumping them on a alternating daily basis. At the upcoming meeting on Thursday, July 14, the major issue on the agenda will be the request from the residents of Yankee Village Condominiums for a connection to the Middle Fort Pond Brook Sanitary Sewer System. A number of you have posed questions regarding the gallons per day flow of the facility and the impact this addition would have on plans to service needs areas as delineated during Phase I of the CWRMP.

Yankee Village Condominiums consists of 41 units: 5 studios, 6 1-bedroom, 28 2-bedroom, 2 3-bedroom; for a total of 73 bedrooms spread over two buildings. The Acton Real Estate building consists of office space and 3 one bedroom units. According to the Acton Water District records from 1996-2005, the average winter water usage for the entire site is 5363 gpd (one winter's usage is much higher and skews this number). For water use modeling purposes, the Health Department is comfortable with an allocation of 5,000 gpd of wastewater flow to the Yankee Village/Acton Real Estate site.

The projected West Acton Phase I expansion, which is included in your packet, is approximately 39,000 gallons per day of flow. The Powdermill Plaza expansion, voted by the CAC, and approved by 4/2005 Town Meeting accounts for 4,000 gallons per day of flow.

49,000 gallons per day available
-5,000 gallons per day – Yankee Village
-4,000 gallons per day – Powdermill
-39,000 gallons per day – West Acton Phase I
1000 gallons per day reserve

As you can see, capacity is available for this connection. The condominium owners have been made aware of the sewer privilege fee (which takes the place of the betterments, now that final betterments have been issued), and are evaluating their options along with their insurance company.

MEMORANDUM

Acton Board of Health - Telephone (978) 264-9634

TO: CAC Members

FROM: Brent L. Reagor, R.S.

RE: Needs/Solutions Ranking Chart

DATE: July 6, 2005

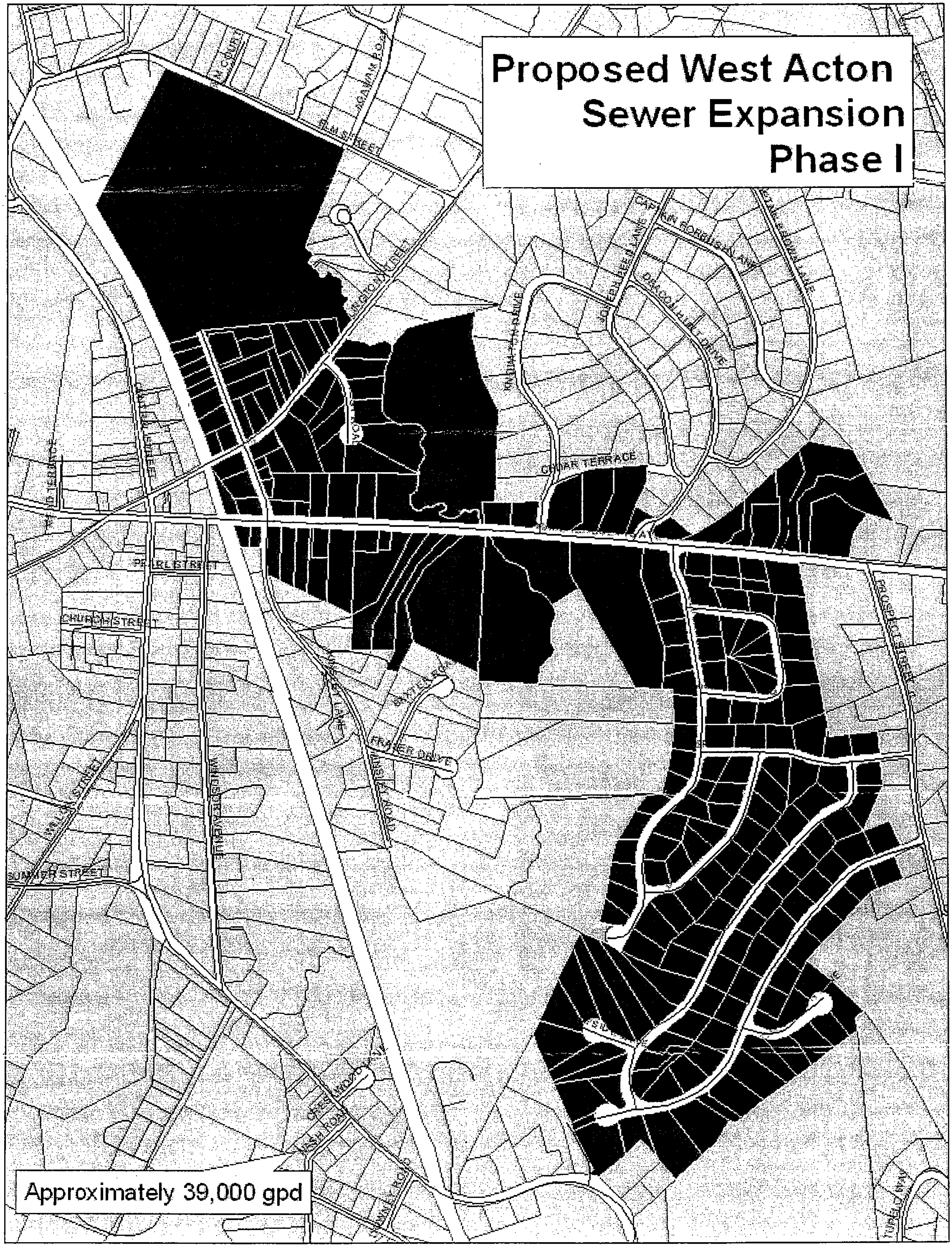
Attached with this memo you will find a chart for the ranking of solutions for each of the 15 needs areas. We would like to collect this from you before the end of July (between the two meetings). If you have it completed by the 7/14 meeting, we will gladly take it from you.

The instructions are simple:

For each needs area, please rank (1-4, with 1 being the most favored) the solutions that you are all familiar with:

1) Connect to the existing Middle Fort Pond Brook Sanitary Sewer System
2) Construct of a new wastewater treatment facility and appurtenant collection system
3) Cluster groups of homes onto common treatment/disposal systems
4) Implementation of wastewater management district(s)

If you have any questions regarding the completion of the chart, please call or email me.


Proposed West Acton
Sewer Expansion
Phase I
Approximately 39,000 gpd
PEARL STREET
CHURCH STREET
SUMMER STREET
PROSPECT STREET

Draft #II
CWRMP
The goal is to send out a progress report and keep people informed

A part of the acceptance of the Middle Fort Pond ~~River~~ Sewer Project by the Department of Environmental Protection (DEP) was the agreement by the Town to undertake a Comprehensive Water Resources Management Planning effort to determine the wastewater disposal needs and analysis for the entire Town. At the 2002 Annual Town Meeting, $500,000 was appropriated for the study. A call went out for residents for the Citizens' Advisory Committee (CAC). This committee has been meeting an average of four times a year since then.

The CAC and Town Staff chose Woodward & Curran (W&C) to work as consultants on the project. Their first task was to get the scope of the study approved by the Massachusetts Department of Environmental Protection (MADEP). The approved scope initially included 5 phases, which, thanks to the efforts of the CAC and the project team, have been consolidated into 3 phases.

Phase I of the study included the mapping of the Town noting those areas of need. Need is a technical term used to describe lots that "need" a solution other than their current onsite wastewater (septic) system. In many cases it is an area where the soils and drainage are poor, wetlands are close, and there are health concerns about the level of environmental protection offered by a conventional onsite wastewater system. All the needs areas were also inspected on the advice and after questioning by some of the CAC members. The needs map has gone through several iterations with suggested changes by the CAC. A total of 15 needs areas were identified, covering an area equal to approximately 2/3's of the Town. The CAC then prioritized the needs areas, placing those areas of greatest need at the top. The results of these analyses were presented at a public meeting in November of 2004, and published in a document: "Comprehensive Water Resources Management Plan", which is available in the Health Department office, the Acton Memorial Library, or from the Health Department page of the Town of Acton website: www.acton-ma.gov.

The project team, consisting of Acton Health Department Staff: Director Doug Halley and Environmental Health Specialist Brent Reagor, and W&C consultants developed a list of 4 possible solutions for the needs areas. Those solutions are: 1) Connection to the existing sewer system; 2) Construction of a new sewer collection system and wastewater treatment plant in a separate area of Town; 3) Clustering of homes and neighborhoods into smaller "satellite" systems with smaller scale wastewater treatment facilities; 4) The establishment of wastewater management districts – these districts would be distinct areas of the community where additional levels of regulatory management would be placed upon the onsite wastewater systems currently installed.

During the summer of 2005, the CAC is working with the project team to rank, in order of preference (1-4), the solutions for each of the 15 needs areas identified. This is the first step in Phase II of the project, which will conclude with a report detailing the

INTERDEPARTMENTAL COMMUNICATION

Acton Board of Health - Telephone 978-264-9634 - Fax 978-264-9630

July 14, 2005

TO: Don Johnson, Town Manager

FROM: Doug Halley, Health Director

SUBJECT: Yankee Village

The Wastewater Advisory Committee met on July 14th with the Trustees of Yankee Village regarding their interest in connecting to the sewer system. Yankee Village recently suffered the loss of their on-site Treatment Plant due to a catastrophic fire. They are now examining the option of rebuilding or connecting to the Town's sewer system.

The Committee reviewed their priority list and the excess capacity available at the Town's Treatment Plant. Their priority list includes the southern portion of West Acton Center, the Gates and Douglas Schools, the Tuttle/Flint subdivisions and the Powdermill Plaza. Based on the current need of Yankee Village and consistent with the goals of the Committee to provide wastewater solutions to West Acton Village and Powdermill Plaza, the Committee unanimously recommended that the Board of Selectmen include Yankee Village in the sewer service area.

The Committee also further recommended that the Selectmen work with Yankee Village to find creative ways to finance the sewer privilege fee so that time payments can be accessed rather than an up front payment of the sewer privilege fee. The Committee and Yankee Village would appreciate it if this could be placed on the Selectmen's upcoming agenda on Monday. Please advise me on how to proceed.

BOB RAFFERTY	WOODARD & CURRAN
BRENT REAGOR	ACTON HEALTH
Doug Halley	Acton Health
Ann Chang	CAC's
Nancy Tavernier	CAC
ART GAGNÉ	CAC
Helen Probst	ACAC - citizen
Stuart Barrie	Main St.
Anne Ford -	A.P.M. - main street
VICTORIA BEYER	Yankee Village Condo
Cathleen Kennedy	yankee Village Condo
Allen A. Whitaker	Yankee Village Condo
CHRIS SCHAFFER	CAC / PLANNING BOARD

WOODARD & CURRAN INC.

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http://www.woodardcurran.com

MEETING MINUTES

MEETING DATE: August 25, 2005

REFERENCE: Acton CWRMP
CAC Meeting

ATTENDEES: CAC:
Ann Chang – CAC / SAC
Nancy Tavernier – CAC / SAC
Art Gagne – CAC / SAC
Jane Ceraso – CAC / Acton Water District
Chris Schaffner – CAC / Planning Board
Pat Cumings – CAC
Brent Reagor – Health Dept
Bob Rafferty – Woodard & Curran

DISTRIBUTION: Attendees
Doug Halley – Health Director
Dan Garson – W&C
Helen Gordon – W&C
W&C File
Posting on Town website

Submitted by: Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

ATTACHED ITEMS

Agenda
Matrix of prioritized solutions

AGENDA ITEMS

Welcome and Introductions:
Brent Reagor led the introductions and presented the goals of the meeting. He discussed the status of the CWRMP and hydrogeologic investigation, which is complete pending completion of the final report. This meeting focuses on the findings of the hydrogeological investigation and the prioritization of solutions. The CWRMP project team (consultants and town staff) met on August 29, 2005 to discuss the potential technologies suitable for wastewater collection, treatment, and disposal based on the capacity for offsite disposal in each disposal area. The evaluation will continue once the CAC prioritizes solutions.

Hydrogeological Investigation:

Bob Rafferty presented a summary of the hydrogeologic investigation findings. The following Summary Table presents the hydraulic loading rate, overall hydraulic capacity, and resultant mounded groundwater height above normal (sampled) groundwater level for each proposed disposal site. The numbers are rounded for ease of readability. The full hydrogeological report will discuss the range of loading rates, as well as considerations for variations in the soil hydraulic conductivity.

Site	Loading Rate (gpd / sq ft)	Capacity (gpd)	Groundwater mound height (ft)	Loading Rate (gpd / sq ft)	Capacity (gpd)	Groundwater mound height (ft)
Quarry Road	0.5	48,000	3 – 5	1.0	96,000	5 – 9
Wetherbee	0.5	125,000	2.3	1.5	370,000	8
Adams St	0.5	84,000	3 – 5	1.5	250,000	8
High St	0.5	84,000	0.5	1.5	250,000	1.1

Potential Disposal Sites:
The CAC discussed each site in more detail: (Q = Question from CAC; A = Answer from Project Team; C = Comment from CAC; R = Response from Project Team)

Quarry Road, North Acton
This site was identified as a potential offsite solution for Needs Areas 1 and 2. The site is located at the Highway Department storage area, and is the location of decommissioned septage lagoons.

C: It does not appear to be sufficient capacity to warrant putting pipes in the ground from Needs Area 2 to this site. Are there other alternatives for Needs Areas 1 and 2?

R: Although disposal locations are limited, Needs Area 2 has many private treatment plants that are operating adequately, so a public/private solution is a possibility. Also, new construction may provide opportunities. For example, Spring Hill apartments will be building a treatment facility. The Woodlands at Laurel Hills, partially located in Westford, is another potential partnership. There may be an opportunity at the Nagog Woods treatment facility, but because they have challenges with the disposal field this option was ruled out in earlier assessments. However, since Nagog and Woodlands are in close proximity some combination of Nagog Woods residents and Woodlands may provide excess capacity at either facility. These alternatives have not been investigated further by the project team since Spring Hill and Woodlands are recent developments.

Needs Area 1 has a recent residential development with approximately 90 5-bedroom homes, all on individual onsite systems. Extensive fill was needed to raise the ground surface. A local private treatment facility has excess capacity and has experienced operational problems, partially because of the low flows.

C: A cluster solution in Needs Area 1 could fit with Planning Board thoughts on North Acton Village.

Q: Have public/private partnerships been used elsewhere? What are the drawbacks to these and cluster systems?

A: Mashpee Commons is a good example. In Western Massachusetts, several communities entered into agreements with the local paper mill facilities to treat domestic wastewater, though not without complication when the mill downsized or shut down. DEP has requirements for small cluster system funding, requiring that owners hold funds in escrow for maintenance and replacement of the system.

Weatherbee Street

This area is a potential solution to Needs Areas 3 and 4. The site is farmed by the state as part of a program affiliated with MCI Concord. The site borders Route 2 and Wetherbee Street.

Q: This parcel has a legislated conservation restriction on its deed. Town Counsel is currently evaluating a similar situation concerning a septic system on conservation land, though this may be a different legal issue. Does a disposal facility constitute a change in use?

A: The construction of a disposal field would be subsurface, which would allow continued use as agricultural land. Town Counsel should review the legal aspects.

Q: Which part is conservation land, and what structures would be above ground.

A: The farmed portion is conservation land. A treatment facility would be located nearby. Site layout will be conducted as part of the technology evaluation.

C: This is not only a legal issue; perception is important since the field is a local landmark.

C: The Town should check with legal counsel to determine the best course of action, possibly go to the legislature to remove the restriction or amend the conservation restriction if needed.

Adams Street

This parcel is a potential solution to provide increased disposal capacity at the Adams Street treatment facility. The site is comprised of a generally level wooded lot with the boundary defined by Adams Street, Maynard, the Acton WWTF, and steep slopes toward the Assabet River. To maximize the area for modeling purposes, this site was divided into two distinct areas separated by the vernal pool. The modeling effort is somewhat less precise than other sites because of the potential for a perched water table and the slope, which impact hydraulic loading. Another consideration is the elevated groundwater levels at the Maynard WWTF, downstream of the potential disposal site, and would be part of any further investigatory effort.

C: Archeological issues should also be considered because of the finds at the WWTF site.

R: Agreed, this would have to be considered if this site is considered a viable alternative.

Q: The site is divided into two disposal areas. Is this feasibile?

A: The follow up phase, if this site is selected, would be to refine the disposal area considering the hydrogeology, costs, and other issues. The capacity ranges given in the introductions are preliminary assuming the soil characteristics are accurate and each site can be used to it's maximum extent, which is unlikely in this case because of the vernal pool and other

challenges. As a practical consideration, the challenges in the introduction would all have to be addressed.

High Street

This site is a potential solution to expansion of the existing WWTF to serve Needs Areas adjacent to the sewer system. The area is located on the same parcel as the High Street well field and the Assabet wells. The travel time from the disposal area to the wells is part of siting the location of the field. The state is currently reviewing proposed regulations for treated wastewater effluent reuse, which may reduce the travel time restriction from 2 years to 1 year. The hydrogeologic evaluation was based on previous reports and other subsurface studies. No borings or test pits were performed for this project at this site.

C: The WR Grace plume should be a consideration is any modeling and planning.

R: Yes, if this alternative is selected for further evaluation, the modeling would factor the impact on the plume, travel time to the wells, and the delineation of the Zone II, which makes the next phase of investigation the most costly of the four sites.

Q: Acton has not explored the potential for other discharge options such as partnering with the Maynard WWTF. Maynard is faced with meeting strict discharge limits and may be willing to consider assistance from Acton in exchange for capacity.

R: Town staff will follow up on this suggestion. In addition, the Powdermill Plaza WWTF is continuing with plans to connect to the Acton sewer system, which may make its permitted discharge permit available for transfer to the Town. The Town is investigating whether the permitted discharge loadings to the Assabet River are be available for use by the Town.

Q: What is the total expected wastewater flow from the Needs Areas adjacent to the sewer system?

A: The Health Department has collected almost all the water use data needed to refine the wastewater estimates for the west side of the railroad right of way. Once the data is collected, the project team to refine the analysis.

Q: Does the potential inclusion of Yankee Village change any plans to serve other Needs Areas?

A: Yankee Village has not moved forward with a formal application to connect. The Board of Selectmen has determined that there is no legal mechanism to defer payment of the legal fee. the privilege fee must be paid up front. The Village Condominium Association is waiting for more data to complete their evaluation.

C: The payment of the privilege fee may be a problem if the sewer system is expanded. If everyone had to pay the fee up front, it would be difficult to find support for extending the sewer. The Town should investigate a home rule petition to allow payment of the privilege fee over time, similar to the betterment fees.

Ranking of Solutions:

The CAC worked through the attached matrix, assigning priorities for each solution to each Needs Area. Specific notes are:

One option is creation of Wastewater Management Districts. These have been discussed at previous CAC meetings, but the structure and implementation of districts can follow a wide range of possibilities. For this discussion, the consideration of districts as a solution should be considered as a general idea of increased monitoring and control on onsite systems.

The CAC considered some solutions as NA (Not Applicable). Generally, connection to the existing collection system for Needs Areas north of Route 2, or construction of new collection and treatment system for Needs Areas adjacent to the existing collection system are considered not feasible.

C: It would be easier and more effective to institute districts as part of new developments instead of trying to regulate existing systems.

R: The town has required elements of districts for new developments. The Health Department already has a basic program in place that requires regular pumping of all septic systems.

Needs Area 1 (North Acton Village):

C: Wastewater Management District or cluster (to private system if available) makes the most sense because the Quarry Road site has too many drawbacks – gravel removed, access, distance.

Needs Area 2 (Nagog Woods etc):

C: Cluster solution should include a potential tie-in to Woodlands or Nagog Woods.

Needs Area 3 (East Acton Village):

C: East Acton Village plan should fit well with construction of a new system.

Q: What are the expected wastewater flows?

A: We estimated wastewater flows along the Route 2A corridor at approximately 280,000 gpd using Title 5 values.

Needs Area 4 (Robbins Park):

C: This area could be combined with Needs Area 3 and connected to the Wetherbee Street alternative.

Needs Area 5 (Brucewood Estates):

C: The Auto Auction site was considered when the existing system was being planned, but was found to not have the capacity needed for the Middle Fort Pond Brook system.

C: The other potential disposal site for a satellite (or cluster) system was near the School Street well fields, which the CAC recommended to remove from the hydrogeological investigation program.

Needs Area 6 (Brookside):

This area has a small private WWTF (12,000 – 13,0000 gpd) that is approximately 20 years old. The Needs Area has approximately 15 houses located across the Middle Fort Pond Brook from the sewer system.

C: A cluster (maybe to private system) solution seems to fit this situation, or set up a district.

Needs Area 7:

C: Powdermill Plaza is in the process of connecting to the existing system.

Needs Area 8 (Maynard border):

C: This is in the original sewer district. Solutions should be to connect to the Acton or Maynard sewer.

Needs Area 9 (Heath Hen Meadow etc):

C: Could connect to existing sewers if the main pipe was in Central Street but would be a significant distance.

Needs Area 10 (Spencer/Tuttle/Flint):

C: Needs should be weighed against West Acton Center and Indian Village if the Adams Street WWTF disposal capacity limits choices.

Needs Area 11 (Nash/Downey):

C: Dover Heights may be a concern because of the large amount of flow. There may be some good soils on smaller lots suitable for cluster solutions.

Needs Area 12 (West Acton Center):
C: West Acton includes the schools.
Needs Area 13 (Indian Village):
C: Indian Village appears to be too large and beyond the reach of a sewer system extension, especially if Spencer/Tuttle/Flint is considered a higher priority.
Needs Area 14 (Colonial Acres / Flagg Hill):
C: There are large systems in the area. A cluster or shared system may be possible, but most system problems could be corrected by constructing mounded systems.
Needs Area 15 (Acton Center / Town Hall):
C: Phase 3 of East Acton (Wetherbee) is a possibility.

NEXT STEPS FOR THE PROJECT TEAM

1. The Project Team is finalizing the hydrogeologic assessment. The report will be forwarded to CAC and DEP for comment prior to the next CAC meeting.
2. Flows from each Needs Area will be matched to the capacity potential of the CAC's recommended solutions.
3. Technological alternatives for solutions will be prepared.
4. The Environmental Notification Form (ENF) will be prepared for submittal to MEPA.

CONSENSUS ACTION ITEMS

- Follow up on recommendation to Board of Selectmen to provide means for time payment of the Privilege Fee, possibly through a home rule petition.
- Ask Town Counsel to review legality of a subsurface disposal field at Wetherbee Street.
- Contact Maynard to inquire about opportunities to collaborate on serving Needs Areas and meeting new stringent wastewater effluent discharge limits.

WOODARD & CURRAN
Engineering • Science • Operations

CORPORATE OFFICES: Maine, Massachusetts,
New Hampshire, Connecticut, Florida
Operational offices throughout the U.S.

Town of Acton

ACTON WASTEWATER CITIZENS ADVISORY COMMITTEE

Comprehensive Water Resources Management Plan /
Environmental Impact Report
CWRMP/EIR
Thursday, August 25, 2005
7:00 PM

ACTON TOWN HALL, ROOM 204

Meeting Goals:

Prioritize Solutions for Needs Areas

Develop cohesive public outreach

Agenda:

- Welcome
- Introductions
- Regulatory update
- Prioritization discussions
- PR/Outreach planning
- Next Steps
- Evaluate the Meeting

980 Washington Street • Dedham, Massachusetts 02026• (781) 251-0200 • (800) 446-5518 • (781) 251-0847 (Fax)
www.woodardcurran.com

Needs Areas / Solutions Matrix per CAC Recommendations (8/25/05)

				Rank (1-4) with 1 being your first choice, etc...			
Needs Area #	Description	Current Priority Status		Connect to Existing Sewers	Construct New WWTF/Sewers	Cluster/Neighboorhood System	Wastewater Management District
1	North Acton Village Robbins Brook Marshall Crossing	Medium		NA	3	1	2
2	Nagog Woods Acorn Park North Acton Woods	Low		NA	2	1	NA
3	East Acton Village Route 2A	High		NA	1	2	3
4	Concord Road Robbins Park	Medium		NA	1--EAST ACTON	3	2
5	Brucewood Estates	Medium		3	NA	2	1
6	Brookside Apts.	Low		2	NA	1	3
*7	Powdermill Plaza	High					
8	Maynard Border (Main St.)	Low		1 MAYNARD OR ACTON	NA	3	2
9	Heath Hen Meadow Liberty Street Stow Street	Low		3	NA	2	1
10	Spencer/Tuttle/Flint	High		1	NA	NA	2
11	Nash/Downey Dover Heights	Medium		1	NA	2	3
12	West Acton Center	High		1	NA	2	3
13	Indian Village	High		1	2	4	3
14	Colonial Acres Forest Glen Flagg Hill	Medium		NA	NA	2	1
15	Acton Center	Low		NA	2--EAST ACTON	3	1
			NA = Not Applicable				
* In process of connecting to MFPBS							

Nov 1, 2005 Board of Selectmen

Where Are We Now?

Status of the Acton CWRMP

Lauren Rosenzweig
Citizen's Advisory Committee

CWRMP = Comprehensive Water Resources Management Plan

Planning commenced in 2002, with the Town Meeting appropriation of $500,000.

The project was required by the State of Massachusetts as part of the approval of the Middle Fort Pond Brook (South Acton) Sewer Project.

What is the Mission of the CAC?

- To advise Town and Consultants on CWRMP
- Identify issues for study
- Provide diverse views of process
- Communicate to community
- Build consensus for final Plan

The CAC is a group of Acton residents, representing a broad range of interests, which meet with the Project Team in a facilitated discussion format.

The Project Team is made of Health Department staff and consultants from Woodard and Curran Inc.

BOARD OF SELECTMEN
NOVEMBER 1, 2005

Spring TM Article

- Accept Final Comprehensive Water Resources Management Plan and its recommendations

Once the State has had a chance to comment, the Town must ratify the Report through a Town Meeting Vote. It is expected that this vote will happen at the 2006 Annual Town Meeting this coming spring

Special Town Meeting – Fall 06

- Articles for design and construction funding for West Acton Sewer Expansions
  - Douglas/Gates Schools
  - West Acton Village
  - Spencer/Tuttle/Flint Roads Neighborhood

One of the highest priority areas, even before this process fully began, was the West Acton Village area. Currently, the South Acton sewer facility has additional capacity available that can be used to serve some of the properties in this area. While planning is still underway, it is expected that by the Fall of 2006, this planning will be complete, and a presentation will be ready for a Special Town Meeting to vote to fund the design and construction of a sewer extension into West Acton Village.

Thank You's

- Acton Health Department
- Woodard and Curran
- Members of the CAC
- Board of Selectmen

Questions?

If anyone would like more information related to the CWRMP they should contact the Acton Health Department at 978-264-9634, or the Phase I report can be found on the Health Department section of the Town's website.

TOWN OF ACTON

MUNICIPAL QUARTERLY

VOLUME 13 NUMBER 3 OCTOBER 2005 ACTON, MASSACHUSETTS

CALLING 911 IN ACTON

The Acton Public Safety Facility at 371 Main Street has been completed and is now in full operation. The final item to be completed for this project was the integration of separate police and fire dispatch functions into a state of the art combined police and fire dispatch center. This communications center that serves as the heart of the Public Safety Facility is staffed by two public safety dispatchers on duty 24 hours a day, seven days a week. All 911 emergency calls as well as police and fire business calls are received at this center and appropriate emergency units are dispatched immediately. This replaces the older system where 911 calls were received by the Acton Police and if fire or emergency medical units were required the call was then transferred to the fire department. Of special note, and to alleviate any confusion, is the fact that when calling for public safety (police or fire) business the caller will be greeted by a public safety dispatcher answering the phone with the words "Acton Public Safety". The Acton Public Safety Facility consists of facilities for Police Department Operations and Administration, Fire Administration, an Emergency Operations Center and shared conference and training function areas.

All emergency calls should be made to 911 only. Calling any other number may result in a delay in the handling of your call and/or an inability to determine the proper address.

Residents who use new phone technology such as Voice Over Internet Protocol (VOIP), cable internet and computer phones are reminded to check with their vendor to make sure that a 911 call made from your phone will show the proper address. Also remember that during a power outage your VOIP phones or computer phones may not operate. Please DO NOT call 911 to test your phones.

Robert Craig
Fire Chief
978-263-9191

Frank J. Widmayer III
Chief of Police
E-911 Municipal Coordinator
978-263-2911

STAR PARTY @ NARA PARK

Mark your calendars: a Star Party for Acton is being planned for Friday, November 4, with a cloud date of November 5, at NARA Park. For the past three years, the Outdoor Lighting Education Committee has organized very successful Star Parties for the Acton Fourth-Grade students to supplement their Astronomy studies. This November event is meant for the entire town to enjoy, and is sponsored by the Outdoor Lighting Education Committee, the Conservation Commission, Acton Conservation Trust and the Acton-Boxborough Regional High School Astronomy Club. Check local newspapers for more details in the weeks to come, and check out www.actonstarparty.com in the near future for information about the objects we will see.

Residents are invited to come to the Star Party to look through telescopes and binoculars, and talk with folks who know and can point out interesting sights that we otherwise would overlook. Did you know that you can see one of our nearest galactic neighbors, the Andromeda Galaxy, with your unaided eye? That is, if you know where to look and what to look for. The Andromeda Galaxy, at a distance of two million light years, is the farthest object that can be seen without optical aid.

Do you have a telescope or binoculars, know a little about astronomy, and would like to share your knowledge with your neighbors? We'd welcome your participation in our Town Star Party! **Please call either Steven Feinstein, 978-263-7045 (email sjf@feinstein.net)**, or **Bernie Kosicki, 978-263-2812 (email kosicki@verizon.net)** to find out more. Don't know anything about astronomy but still would like to participate? We have other opportunities to help make this an event that Acton will remember, so please let us know of your interest.

PLANNING FOR FUTURE WASTEWATER NEEDS

As part of the acceptance of the Middle Fort Pond Brook Sewer Project by the Department of Environmental Protection (DEP) the Town agreed to undertake a Comprehensive Water Resources Management Planning effort to determine the wastewater disposal needs and analysis for the entire Town, along with the integrated planning necessary to protect Acton's vital liquid resources. At the 2002 Annual Town Meeting, $500,000 was appropriated for the study. A call went out for residents to volunteer for the Citizens' Advisory Committee (CAC). This committee, with a cross-section of interests, has been meeting at least four times a year since then.

The CAC and Town Staff chose Woodard & Curran (W&C) to work as consultants on the planning project. Their first task was to have the scope of the study approved by the DEP. The approved scope initially included five phases,

which, thanks to the efforts of the CAC and the project team, have been consolidated into three.

Phase I of the study included the mapping of the Town noting areas of wastewater disposal need. Need is a technical term used to describe lots that "need" a solution other than their current onsite wastewater (septic) system. In many cases this is an area where the soils and drainage are poor, wetlands are close, and there are health concerns about the level of groundwater pollution caused by a conventional septic system. All the needs areas were also inspected after discussions with the CAC members.

A total of 15 needs areas were identified covering an area equal to approximately two-thirds of the town. The CAC then prioritized the needs areas, placing those of greatest need in rank order. The results of these analyses were presented at a public meeting in November of 2004, and published in the document: "Comprehensive Water Resources Management Plan, June 14, 2004", which is available in the Health Department Office, the Acton Memorial Library or from the Health Department page on the Town of Acton website: **www.acton-ma.gov**.

The project team, consisting of Acton Health Department staff: Director Doug Halley and Environmental Health Specialist Brent Reagor, and Woodard & Curran consultants developed a list of four possible solutions for the needs areas. The solutions are:

1. Connecting to the existing sewer system;
2. Construction of a new sewer collection system and wastewater treatment plant in another section of Town;
3. Clustering of homes and neighborhoods into smaller "satellite" systems with smaller scale wastewater treatment facilities; and
4. The establishment of wastewater management districts---these districts would be distinct areas of the community where additional levels of regulatory management would be placed on onsite wastewater systems currently installed.

During the summer of 2005, the CAC has worked with the project team to rank, in order of preference (1-4), the solutions for each of the 15 needs areas identified. This is the first step in Phase II of the project, which will conclude with a report detailing the preferred solutions for the 15 needs areas, and a basic analysis of the obstacles that must be overcome to implement each of the solutions. It is hoped that this phase will finish with a public meeting before the end of the calendar year to present the results. Specifics of this public meeting will be announced later in the fall.

Phase III will be the production of the final report, with guidelines and schedules for the implementation of the solutions for each of the needs areas. When this report is complete, it will be presented at a public meeting during the late winter of 2006 followed by a presentation at the Annual Town Meeting in April.

If you have any questions regarding the Comprehensive Water Resources Management Plan or the Citizen's Advisory Committee, please contact Doug Halley or Brent Reagor at the **Acton Health Department at 978-264-9634**.

HOW TO PREVENT IDENTITY THEFT

The National Crime Prevention Council reports that identity theft is one of the fastest growing crimes in the United States. Most of us do not realize how often our everyday actions put us at risk for identity theft. The numbers are staggering and enough to cause concern for any individual.

Here are some tips to prevent identity theft:

- Don't put outgoing mail, especially bill payments, in unlocked mailboxes.
- Drop your mail off at the US Postal Service mailboxes.
- Don't put mail in an unsecured outgoing mail station at work.
- Don't write your account number on the outside of an envelope containing a bill payment.
- Have the post office hold your mail for you when you are out of town or have a trusted neighbor pick it up daily.
- Make sure no one is standing behind you when you use the ATM. He or she may use a cell phone with a camera to try to photograph your card number and pin number. Always shield your card and the screen.
- Pay your bills online, but only through a secure site.
- Don't give out your credit card number on the Internet unless the site is an encrypted secure site whose identity you are certain of.

For more information, brochures and other resources you can visit **www.ncpc.org** or **www.weprevent.org**. Victims of identity theft can call the Identity Theft Toll-Free Hotline established by the **Federal Trade Commission at 877-IDTHEFT**.

GETTING READY TO RETIRE?

Are you contemplating retirement in the not too distant future? The Acton-Boxborough United Way has funded a four-part evening series through the Friends of the Acton Council on Aging entitled *"Getting Ready to Retire"*. The programs will cover everything from *Pensions, Investments and Social Security through Long Term Health Care, Health Insurance, Getting Your Legal Affairs in Order, Housing Options, Taxation and its ramifications to Healthy Life Styles, Keeping Mentally Active and Community Volunteer Opportunities* all presented by professionals in these areas. These programs will be held at the Acton Senior Center, 50 Audubon Drive, Acton, MA on Tuesday September 27, October 11, 18, and 25 from 7 to 9 PM. The programs are open to anyone in the area considering retirement and light refreshments will be served; this is not limited to Acton residents.

Please call the Acton Council on Aging at 978-264-9643 to reserve your seat for this free and informative series.

NEWS FROM MEMORIAL LIBRARY

The Library is offering Library and Computer Skills Clinics Monday evenings at 7 and Thursday mornings at 10. These small, informal sessions are geared to a broad range of needs, including finding library materials and placing reserves, using email or business databases, doing job searches or researching a topic on the Internet. Signing up at the Reference Desk (978 264-9641 x281) on the second floor will assure a space, but drop-ins are accepted when space is available.

Save These Dates:

Tuesday, Oct. 4, 7:30 PM, "Digging the Big Dig: Boston Archaeology from Island to Underground" This slide presentation by Archaeologist Marty Dudek of John Milner Associates covers several of the major archaeological projects undertaken as part of the Big Dig, including an ancient campsite on Spectacle Island, colonial backyards and outhouses near Hay Market and a nineteenth century glass factory in South Boston.

Tuesday, Oct. 18, 7:30 PM, "Native American Life 3,000-5,000 Years Ago: Reflections on Flagg Swamp Rockshelter, Marlborough". Dr. Shirley Blancke of the Concord Museum discusses how unusually well-preserved animal and plant remains at Flagg Swamp Rockshelter, upriver from the Pine Hawk site in Acton, make it one of the most important archaeological sites in this area. Dug 25 years ago, recent analysis has added focus to previous understanding and suggested the possibility of bear ritualism.

The programs are free and sponsored by the Friends of the Acton Libraries and the Friends of Pine Hawk.

Friday through Sunday, Oct. 28 - 30 Friends of the Acton Libraries' Fall Book Sale. The Preview Sale for Friends members and Acton Memorial Library Foundation donors is Friday night Oct. 28th from 7 to 9. The Book Sale is open to the general public Saturday 9 to 4. Sunday is 'Give Away Day' from 2 to 4 in the afternoon.

To qualify for admittance to the Preview Sale, donations to the Acton Memorial Library Foundation must have been made after May 1st but prior to Oct. 27th.

The sale will feature thousands of used hard-covers and paperbacks for children and adults; there are also a limited number of audiovisual items.

The Friends of the Acton Libraries support the Memorial Library, West Acton Citizens Library, and the elementary, junior high, and high school libraries.

(

Postcard Mailing 12/05

IS EXPANSION OF SEWERS A SOLUTION TO ACTON'S WASTEWATER DISPOSAL PROBLEMS?

WHAT IS THE 20 YEAR PLAN FOR PROTECTING ACTON'S WATER RESOURCES?

ANSWERS TO THESE QUESTIONS, AND MANY MORE AT:

PUBLIC INFORMATION MEETING

COMPREHENSIVE WATER RESOURCES MANAGEMENT PLAN

THURSDAY, DECEMBER 8TH
7:00 PM
FAULKNER ROOM (ROOM 204)
ACTON TOWN HALL

For more information, contact the Health Department at (978) 264-9634

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For more information, contact the Health Department at (978) 264-96

IS EXPANSION OF SEWERS A SOLUTION TO ACTON'S WASTEWATER DISPOSAL PROBLEMS?

WHAT IS THE 20 YEAR PLAN FOR PROTECTING ACTON'S WATER RESOURCES?

ANSWERS TO THESE QUESTIONS, AND MANY MORE AT:

PUBLIC INFORMATION MEETING

COMPREHENSIVE WATER RESOURCES MANAGEMENT PLAN

THURSDAY, DECEMBER 8TH
7:00 PM
FAULKNER ROOM (ROOM 204)
ACTON TOWN HALL

For more information, contact the Health Department at (978) 264-9634

POSTCARD MAILING

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THURSDAY, DECEMBER 8TH
7:00 PM
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ACTON TOWN HALL

For more information, contact the Health Department at (978) 264-963

12/8/05 PUBLIC MEETING

WOODARD & CURRAN INC.

35 New England Business Center
Suite 180
Andover, Massachusetts 01810

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http://www.woodardcurran.com

MEETING MINUTES

MEETING DATE: November 15, 2005

REFERENCE: Acton CWRMP
CAC Meeting - Public Information Meeting (PIR)

ATTENDEES: CAC:
Ann Chang – CAC / SAC
Nancy Tavernier – CAC / SAC
Art Gagne – CAC / SAC
Jane Ceraso – CAC / Acton Water District
Chris Schaffner – CAC / Planning Board
Lauren Rosenzweig – CAC / BOS
Helen Probst – CAC
Terra Friedrichs – Resident
Carol Holley – Resident
Eric Hilfer – CAC/ACES
Brent Reagor – Health Dept
Bob Rafferty – Woodard & Curran

DISTRIBUTION: Attendees
Doug Halley – Health Director
Dan Garson – W&C
Helen Gordon – W&C
W&C File
Posting on Town website

Submitted by: Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

ATTACHED ITEMS

Agenda
Handouts:
Potential MEPA schedule
Summary of Hydrogeologic Study
Map – Figure 1: Potential Wastewater Disposal Sites (from Hydrogeologic Report)
Matrix of prioritized solutions
Final Report of the Acton Indirect Potable Reuse Working Group (without appendices)
Presentation – IPR working group

AGENDA AND GOALS

The CAC will rank its high priority Needs Areas to reflect the urgency, schedule, and implementability of each area. The highest ranked Needs Area and solution will be the area the CAC recommends to address first. The report presented at this meeting will guide the CAC to this decision by addressing indirect potable reuse, finalizing the availability and suitability of the remote disposal locations, and matching needs areas solutions to the disposal areas.

The CAC will discuss and recommend the format and content of the public meeting to be held December 8. The public meeting will present the draft CWRMP/EIR Phase 2 report and solicit public comment prior to delivering the report to DEP and proceeding with the MEPA review process.

REPORT UPDATES

Final Indirect Potable Reuse Group Report:
Brent Reagor presented the summary of the IPR working group. The attached presentation and report discuss the mission and recommendations of the IPR working group. CD's of the complete report will be distributed to CAC members requesting a copy. The CAC discussed the recommendations:

(Q = Question from CAC; A = Answer from Project Team; C = Comment from CAC; R = Response from Project Team)

Q: What is the problem the working group was trying to solve by investigating indirect potable reuse?

A: The issues are of supply of drinking water and disposal of wastewater.

For supply, The Nashoba Brook Basin is listed as a stressed basin and the Massachusetts Water Resources Commission is developing new withdrawal limits for stressed basins. The CWRMP/EIR is projecting needs over a 20-year planning period so drinking water supplies could become limited in that timeframe.

Disposal options are limited. The CAC formed the IPR group to investigate an alternative method for dispersal of reclaimed water. The hydrogeologic report (reviewed following this discussion) further demonstrates the limited options for disposal of treated wastewater effluent outside of the Zone II areas.

C: The outreach component appears to say that the Town should try to convince the residents that IPR is a good idea now.

R: The intent is to educate Acton residents so they can make an informed decision, whether to proceed with investing in an IPR study or to rule out the option.

C: It may be best not to move forward with such a controversial alternative in the CWRMP when there are viable solutions that should be the focus. The IPR could divert the discussion to an issue that is not a priority.

R: The CWRMP will include the entire IPR report in an appendix and will discuss the IPR option within the body of the report. The goal is not to rule out alternatives that may be feasible within the planning period, though not recommended as a viable solution in the

short-term. The IPR report recommends that as the Town assesses its needs in the future, reclaimed water use remains in consideration while the Town determines if the concept is ultimately viable.

MEPA Schedule:
The potential MEPA schedule reflects one alternative whereby the CWRMP is complete in December 2005, and DEP requires a two-step EIR, with submittal of both draft and final EIRs. However, it also assumes that the DEP will not require further hydrogeologic testing at the potential disposal sites, which would extend the schedule and require a town meeting vote for more funds.

The project team's intent is to request a single EIR, without additional hydrogeologic testing. Our opinion is that the hydrogeologic information we have developed is suitable to eliminate unsuitable parcels while addressing the unknown capacity issues for potentially suitable parcels. Further study of the one remaining potential parcel (at Wetherbee Street) can be conducted if the Town decides that centralized sewering in East Acton Village is the preferred solution and needed immediately, and the legislatively deeded conservation restriction on the parcel is resolved. However, the Town owns the parcel; therefore, CAC's opinion is there is no immediate and impending urgency to further refine the analysis or reserve the lot for a potential effluent disposal site while other alternatives still are viable.

Hydrogeological Investigation and Draft Technology (Solutions):
Bob Rafferty presented a summary of the hydrogeologic investigation findings. A summary of the report is included in the handouts. The CAC discussed each site in more detail:

Quarry Road, North Acton
This site was identified as a potential offsite solution for Needs Areas 1 and 2. The site is located at the Highway Department storage area, and is the location of decommissioned septage lagoons. Previous CAC meetings ruled out centralized sewering of Needs Areas 1 and 2. The hydrogeologic study confirms that the dispersal area does not have the capacity to accept all the projected wastewater from either area. The CAC ranking of alternatives remains as discussed in the previous meeting, with cluster/neighborhood systems as the preferred alternative. No further hydrogeologic study will be recommended at the Quarry Road site.

Weatherbee Street
This area is a potential solution to Needs Areas 3 and 4 by construction of a centralized collection system and a wastewater treatment and disposal facility on the Wetherbee Street parcel. The site is farmed by the state as part of a program affiliated with MCI Concord. The site borders Route 2 and Wetherbee Street. The site appears to be the most favorable hydrogeologically for a dispersal area, with a preliminary estimate of disposal capacity exceeding the expected wastewater flow. This parcel has a legislated conservation restriction on its deed, which will preclude moving forward with further hydrogeologic investigations in the short-term.

C: The Town should check with legal counsel to determine the best course of action, possibly go to the legislature to remove or amend the conservation restriction if needed.

R: This would likely extend the CWRMP schedule and is outside the scope of the CWRMP. There are other nearby alternatives for a satellite treatment facility and dispersal location, but the land is owned by MCI Concord. The soils appear to be favorable on the lot across Wetherbee Street. The Town may want to open discussion with the prison.

C: The CAC ranked cluster/neighborhhod systems as the second ranked solution. There may be suitable lots available to combine systems, especially with commercial development on contiguous parcels.

R: Cluster/shared systems are a recommended strategy in the East Acton Village Plan. (Strategy No. T4.1a – Plan and implement appropriate shared wastewater systems in East Acton.)

C: It would best to connect a centralized collection system to the construction of the Bruce Freeman rail trail. Can the Town move forward with the centralized sewering alternative?

R: The next phase of the hydrogeologic study includes pumping the expected amount of water into the ground and monitoring the groundwater. Conducting the next phase on the parcel would be difficult, given the reluctance to alter the use of the property, the costs involved with the required analyses, and the legislative conservation restriction on the parcel.

East Acton Village is a high priority Needs Area. The final recommendation of the CAC will be included the rankings of solutions for the high priority needs areas. The final recommendations then drive the order in which the projects should be completed. If the CAC wants to prioritize construction of a treatment facility at Wetherbee Street for East Acton Village, then the deeded restriction, or better alternatives, should be resolved. There may not be a quick resolution, so centralized collection and treatment for East Acton area should be ranked as the lowest priority of the high priority solutions to reflect the schedule, enabling the Town to proceed with other priorities unimpeded.

C: The CAC voted to alter the preferred solution for East Acton to investigate cluster/neighborhood systems while continuing to evaluate the deeded conservation restriction on the Wetherbee Street parcel.

Adams Street

This parcel is a potential solution to provide increased disposal capacity at the Adams Street treatment facility. The site is divided into two distinct dispersal areas separated by the vernal pool. The modeling results for this site are the most uncertain because of potential breakout on the slope, impact on the vernal pool and elevated groundwater levels at the Maynard WWTF, which is downhill of the potential disposal site. The eastern portion holds some promise but may be limited, so a consideration is the cost to develop the site and make modifications to the treatment facility to treat the additional capacity and pump the effluent.

Q: Should this site be investigated considering the capacity we may need from potential areas that could need sewers: West Acton, Spencer-Tuttle-Flint, and Indian Village?

R: The cost and feasibility of upgrading the WWTF to handle the potential capacity may drive this decision. The site also has drawbacks, specifically the overall lot size and potential for breakout on the slope toward the river. The capacity of the WWTF disposal area, as it now stands, may be the limiting factor in extending sewers to the Needs Areas.

C: The Assabet River still looks like a good place to discharge treated wastewater.

R: The Powdermill Plaza WWTF is continuing with plans to connect to the Acton sewer system, which may make its discharge permit available for transfer to the Town. The Town

is investigating whether the permitted discharge loadings to the Assabet River would be available for use by the Town. The permit allows the Powdermill facility to discharge 12,000 gpd.

C: The schools are a public need but the private residences and businesses are a private need. They should not be ranked equally.
R: Malfunctioning onsite wastewater systems are a public concern because their impacts are not restricted to property lines.
Q: Can the schools be sewered while avoiding sewering properties in West Acton Center?
A: No, current state requirements are to allow connection to the sewer by any property that abuts the sewer as long as capacity exists in the system. For new systems, we can not plan to skip properties.

The CAC discussed the alternatives for sewering and onsite or cluster treatment in the West Acton area. The previous rankings of solutions were discussed briefly, as were the limitations of onsite wastewater systems at the schools. An area photograph of the area was displayed showing Fort Pond Brook bisecting the Douglas and Gates properties.

C: The CAC concurred that onsite treatment and cluster systems are highly unlikely given the needs analysis.

<u>High Street</u>
This site is a potential solution to expansion of the existing WWTF to serve Needs Areas adjacent to the sewer system. The area is located on the same parcel as the High Street well field and the Assabet wells. The travel time from the disposal area to the wells is part of siting the location of the field. The state is currently reviewing proposed regulations for reclaimed water use, which may reduce the travel time restriction from 2 years to 1 year. The hydrogeologic evaluation was based on previous reports and other subsurface studies. No borings or test pits were performed for this project at this site.

We selected the disposal site to be outside the 1-year travel time requirement. There is no location on the parcel that is outside the 2-year requirement.

R: Until the indirect potable reuse issues are resolved this location should not be considered for a disposal site.
Q: What is the total expected wastewater flow from the Needs Areas adjacent to the sewer system?

Ranking of Solutions:
One option is the creation of Wastewater Management Districts. These have been discussed at previous CAC meetings, but the structure and implementation of districts can follow a wide range of possibilities. The Draft Technology Report discusses some of the alternatives. Further evaluation of implementing this alternative would be funded though a Town Meeting vote.

The five high priority areas are ranked in order of implementation schedule:
1. Powdermill Plaza
2. West Acton Center and schools
3. Spencer-Tuttle-Flint neighborhood

4. East Acton Village
5. Indian Village

Q: When do costs become part of the equation?
A: Costs are part of the evaluation. The ranking of the alternative includes costs as a qualitative consideration at this point. In the case of the Douglas and Gates schools the School Department will contribute toward a centralized collection system in the amount it would cost to construct an onsite system, so the costs are not a consideration for the schools. However, the Draft Technology Report begins the development of estimated costs for the primary structural solutions to the high priority needs areas. This will be continued to derive an estimated per lot cost to compare to the other recommended solutions for each Needs Areas.

Preparation for Public Meeting:

The CAC discussed the content of the December 8 public meeting. The meeting will be held in Town Hall room 204. The CAC suggested the following approach:

- The process and criteria that derived the Needs Areas should be presented, as well as the limited availability of disposal locations.
    - The criteria are: Technical and non-technical, regulatory limits, limits on economic growth, improvements to environmental and public health, balancing all the concerns, etc.
- The comprehensive evaluation of all water sources (drinking water, stormwater, surface water quality, groundwater) should be emphasized.
- Public notification should be increased. The CAC has attempted to get press releases published but have been unsuccessful.

The CAC will reformat the press release into a letter to the editor. The Health Department is planning a directed postcard mailing to the properties in the high priority areas. The department does not have the funds for a town-wide mailing.

CONSENSUS ACTION ITEMS

- W&C has forwarded the hydrogeologic report to DEP for comment. The Project Team will attempt to meet with DEP to reach consensus on the EIR process prior to the December 8 public meeting.
- CAC will prepare and submit a letter to The Beacon editor regarding the CWRMP and public meeting.
- The Project Team will compile the various reports into the Phase 2 CWRMP, with a target to complete and submit the CWRMP by the end of 2005.

UPDATE (FOLLOW UP) NOTES FOR CAC:

- The Eastern portion of Adams Street has been remodeled without the western portion. Disposal of water in this area would elevate the groundwater in the area of the vernal pool. In one scenario, the site is loaded at 1.5 gpd per square foot, which elevates the groundwater at the

vernal pool by over 3 feet. This scenario rules out the use of the eastern portion of the Adams Street site without caution and extensive analysis.

- *Clarification on the Town vote to accept the CWRMP/EIR:* The State does not require Town Meeting approval of the CWRMP. The official approval is done via the EIR and final MEPA Certificate from the Secretary of EOEA, once CAC approves release and submittal of the CWRMP. Town officials certainly can go to Town Meeting for a vote, which may be a good idea since the town appropriated the funding for the work, but this is a local decision and a process the State does not monitor or require.

WOODARD & CURRAN
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Operational offices throughout the U.S.

Town of Acton

ACTON WASTEWATER CITIZENS ADVISORY COMMITTEE

Comprehensive Water Resources Management Plan /
Environmental Impact Report
CWRMP/EIR
November 15, 2005
7:00 PM

PUBLIC SAFETY FACILITY

Meeting Goals:

Wrap up the needs areas & solutions discussion.

Prepare for the December 8 Public Meeting

Agenda:

• Welcome	Doug Halley	5 min
• Introductions	All	5 min
• Report Updates		45 minutes
• Final Indirect Potable Reuse Group Report	Brent Reagor	
• Final Hydrogeological Analysis Report	Bob Rafferty	
• Draft Technology (Solutions) Report	Bob Rafferty	
• Preliminary Schedule of Implementation	Brent Reagor	
• MEPA Update	Bob Rafferty	5 min
• Preparation for the Public Meeting	Doug Halley	5 min
• Q&A / General Discussion	Doug Halley	20 min
• Closing Remarks / Action Items	All	5 min

ACTON WASTEWATER CITIZENS ADVISORY COMMITTEE
Comprehensive Water Resources Management Plan /
Environmental Impact Report
CWRMP/EIR
November 15, 2005

Potential MEPA Schedule

Meet with DEP to discuss CWRMP/EIR process	Dec 5
Public Meeting to present draft CWRMP/EIR	Dec 8
Submit CWRMP/EIR Phase 2 Report	Dec 19
MEPA Approval of Phase and EIR approach	Feb 2006
Draft EIR preparation	March 2006
Submit Draft EIR – File with MEPA	June 2006
End public comment period - Certificate	Sept 2006
Submit Final EIR – File with MEPA	Nov 2006
End public comment period – Certificate	Jan 2007

Summary of Hydrogeologic Study

WETHERBEE STREET

The preliminary analysis shows that a groundwater mound of almost 8 feet would result from an application of approximately 1.5 gpd per square feet. The distance from ground surface to the mound would be about 6 feet under this scenario.

Wetherbee Site – Summary of Model Mounding Results

application rate gpd/ft^2		application total (gpd)		mound in ft above static GW
0.5		245,381		2.3
1.0		490,762		5.2
1.5		736,181		7.8

Note: 490,800 sq ft facility = approximately 11 acres
Maximum loading for subsurface methods by regulations is 3 gpd/sqft
K = 128 ft/day, which is average from testing at Wetherbee site

Assuming a .3 gpd per square foot application rate, gives a capacity of approximately 736,000 gpd. However, since the subsurface disposal system would require a reserve area, the actual maximum application rate is approximately 375,000 gpd over 5.5 acres.

NORTH ACTON

The groundwater elevation ranges from approximately 5 feet to approximately 19 feet. The preliminary analysis shows groundwater mounding ranging from 3.1 feet to 8.8 feet.

North Acton Site – Summary of Model Mounding Results

application rate gpd/ft^2		estimated K value ft/day		application total (gpd)		mound in ft above static GW
0.5		75.0		48,119		5.4
0.5		150.0		48,119		3.1
1.0		75.0		96,237		8.8
1.0		150.0		96,237		6.7

Note: 96,250 sq ft facility = approximately 2.2 acres

The test pits exhibited groundwater elevations too shallow for a disposal field, with cobbles and boulders through out the excavations. The groundwater elevation in the two borings was much further below the ground surface than the test pits. Boring/Well NA-1, however, is located in a heavily used and altered area, and further investigation would be required prior to conducting more precise modeling.

Test boring NA-2, in the northeast corner of the parcel, has bedrock at 15.5 feet below ground surface, with no groundwater, but the slope and bedrock in the area would warrant further investigation prior to a more refined analysis. The northeast portion of the parcel is mostly undisturbed, and therefore the most likely location for a potential disposal area.

ADAMS STREET

The field is divided into two sections because of topography and to avoid a vernal pool located on the parcel.

Adams Street Site – Summary of Model Mounding Results

application rate gpd/ft^2		estimated K value ft/day		application total (gpd)		mound in ft above static GW
0.5		30.0		83,746		4.8
0.5		50.0		83,746		3.0
1.0		30.0		167,484		8.8
1.0		50.0		167,484		5.6
1.5		50.0		251,238		8.0

Note: 167,500 sq ft facility = approximately 3.8 acres

The groundwater elevation ranges from approximately 15 feet between the sections, to over 24 feet at the eastern portion of the parcel. The mounding analysis shows that groundwater mounding should not cause interference with a disposal facility. However, the Adams Street site may be the most uncertain because of major terrain variations, potential for breakout on the slope in the eastern section, possible perched water table hydraulically connected to the vernal pool in the western section, and potential impact on the groundwater elevation at the nearby Maynard WWTF.

HIGH STREET

The one-year travel time appears to be approximately 1,000 feet up gradient from the Assabet #1 and Assabet #2 wells. Figure 7 displays the area selected for the proposed dispersal facility location.

Table 11: High Street Site – Summary of Model Mounding Results

application rate gpd/ft^2		estimated K value ft/day		application total (gpd)		mound in ft above static GW
0.5		130.0		83,192		0.4
1.0		130.0		166,385		0.7
1.5		130.0		249,592		1.1
2.0		130.0		332,785		1.5
2.5		130.0		415,992		1.8
3.0		130.0		499,200		2.2

The dispersal of reclaimed treated wastewater on land and the subsequent groundwater mound will change the local groundwater gradient. If the High Street site is selected for further study this aspect will have to be addressed with additional exploration and transport modeling.

CONCLUSIONS

The Wetherbee site has the greatest capacity for treated wastewater application with the least mound creation. Geologically this is the preferred location. The other three sites do not exhibit the potential capacity without other technical or hydrologic hurdles.

The North Acton site is able to accept loading rates up to one gallon per square foot per day, but it appears to be a small site with limited total capacity. The ground surface on the majority of the site is heavily disturbed and much of the native material has been removed. The CAC did not rank the offsite treatment facility and disposal field at this location as the preferred/priority solution. Therefore, we do not recommend further study of this area.

Loading at the Adams Street location is problematic because of potential disturbance to the vernal pool, possible slope breakout toward the river and potential influence on the groundwater level at the Maynard wastewater treatment facility site. The eastern portion of the proposed area may hold promise, but DEP/EPA recently agreed to permit an additional 49,000 gpd discharge capacity to the WWTF's rapid infiltration basins. Further study of this potential dispersal area, as part of this CWRMP/EIR, is not warranted to serve the priority needs parcels. The Town owns the parcel and can hold it available additional needs that justify further exploration.

Discharge of treated wastewater at the High Street location will require extensive exploration and groundwater flow testing to confirm that any possible dispersal location is more than one year's travel time from the municipal wells. The parcel does not support a dispersal location with a two year's travel time from the municipal wells. Use of this site is linked to expansion of the Town's WWTF, which is not needed to serve the Town's priority Needs Areas adjacent to the sewer system. We do not recommend further study at this site under this CWRMP/EIR.

The most promising location, hydrogeologically, is the Wetherbee Street site, which is aligned with the East Acton Needs Areas (Area 3 and Area 4) as an offsite alternative. However, research into the availability of the parcel has uncovered a deeded legislative conservation restriction. The town is pursuing further information through its Town Counsel. The CWRMP Phase 2 report will provide updates on this issue, and the EIR process will further refine the alternatives evaluation.

Needs Areas / Solutions Matrix per CAC Recommendations (8/25/05)							
				Rank (1-4) with 1 being your first choice, etc...			
Needs Area #	Description	Current Priority Status		Connect to Existing Sewers	Construct New WWTF/Sewers	Cluster/Neighboorhood System	Wastewater Management District
1	North Acton Village Robbins Brook Marshall Crossing	Medium		NA	3	1	2
2	Nagog Woods Acorn Park North Acton Woods	Low		NA	2	1	NA
3	East Acton Village Route 2A	High		NA	2	1	3
4	Concord Road Robbins Park	Medium		NA	2--EAST ACTON	3	1
5	Brucewood Estates	Medium		3	NA	2	1
6	Brookside Apts.	Low		2	NA	1	3
*7	Powdermill Plaza	High					
8	Maynard Border (Main St.)	Low		1 MAYNARD OR ACTON	NA	3	2
9	Heath Hen Meadow Liberty Street Stow Street	Low		3	NA	2	1
10	Spencer/Tuttle/Flint	High		1	NA	NA	2
11	Nash/Downey Dover Heights	Medium		1	NA	2	3
12	West Acton Center	High		1	NA	2	3
13	Indian Village	High		1	2	4	3
14	Colonial Acres Forest Glen Flagg Hill	Medium		NA	NA	2	1
15	Acton Center	Low		NA	2--EAST ACTON	3	1
			NA = Not Applicable				
* In process of connecting to MFPBS							

INDIRECT POTABLE REUSE WORKING GROUP
Acton Board of Health - Telephone (978) 264-9634

FINAL REPORT

OF THE

ACTON INDIRECT POTABLE REUSE

WORKING GROUP

NOVEMBER 15, 2005

Executive Summary

Indirect Potable Reuse, which is groundwater recharge via surface or subsurface disposal in order to augment a potable aquifer, has been in practice across the United States for many years in both planned and unplanned fashions. In Massachusetts, according to the Reclaimed Water regulations now under review, Indirect Potable Reuse would be defined as a discharge of highly treated wastewater treatment plant effluent into the Zone II[1] of a wellfield, with no less than a one year travel time[2] from the point of discharge to the point of intake of the well(s), under normal hydrologic conditions.

The Indirect Potable Reuse Group, which met during the summer and early fall of 2005, evaluated information from regulatory and academic sources in an effort to explore the topic for possible future implementation to help solve water resources management difficulties in Acton.

After much discussion, four major areas of concern emerged:

1) Detection, removal and potential health effects of multiple classes of emerging contaminants
2) Timing of implementation in regards to technological, regulatory, and political timelines
3) Comparison of centralized Indirect Potable Reuse in one wellfield versus decentralized Indirect Potable Reuse in multiple wellfields
4) Coupling implementation with increased water conservation and emerging contaminant source reduction efforts

These four areas represent the foci of the unanswered questions regarding Indirect Potable Reuse and its potential for implementation in Acton. Knowing that a great percentage of these questions need answers, the Group developed a series of four recommendations through which the desired information may be discovered.

The recommendations of the Group are as follows:

1) Inclusion of the concept as a possible solution in the Comprehensive Water Resources Management Plan.

2) Continue to monitor academic and regulatory developments with Indirect Potable Reuse and their possible impact on Acton.

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[1] Zone II – that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated

[2] Travel Time – a figure, calculated by computer modeling, which closely approximates the amount of time a water molecule will take to travel from one point to another in the ground under normal hydrologic conditions.

3) Development of a targeted public outreach and education program related to Indirect Potable Reuse, which could include the provision, if feasible and accepted by the community, of a small-scale pilot study through which "local" answers to important questions may be obtained.

4) In the event Indirect Potable Reuse is chosen for further study by the Town, a standing committee should be seated to direct these efforts. This committee should be similar in makeup to the Sewer Action Committee.

Group Report

Background

The Acton Indirect Potable Reuse Working Group was formed in May, 2005, as a sub-group of the Citizens Advisory Committee (CAC) for the Comprehensive Water Resources Management Plan (CWRMP). The Group was tasked with the evaluation of the concept of Indirect Potable Reuse, prior to any consideration of its implementation within Acton. The Group performed its duties under the following mission statement:

> "To evaluate the potential feasibility of the implementation of Indirect Potable Reuse of highly treated Wastewater Treatment Plant effluent through a discharge to the Zone II of a wellfield; the group will examine the issue from the "human" perspective, looking at the political and public relations impacts of any proposal. Those impacts can then be used to determine whether this concept is feasible as a discharge option within Acton."

The Group members are:

Art Gagne' –	Member of the CAC
Eric Hilfer –	ACES representative and member of the CAC
Joanne Bissetta –	Member of the Acton Board of Health
Greta Eckhardt –	Acton Resident
Pat Cumings –	Member of the CAC

Indirect Potable Reuse – The Concept

The reclamation of treated wastewater as a viable resource has been in practice, in many fashions, for over 50 years around the world. Most projects utilizing Indirect Potable Reuse are located in the western and southwestern United States. The closest planned project of significant size to Acton is the Upper Occoquan Sewage Authority, in suburban Washington D.C., which discharges highly treated effluent into a drinking water reservoir. Interest in Indirect Potable Reuse is growing as the grim picture of the scarcity of the world's water resources emerges. More and more communities are looking to innovative solutions, which allow them to recharge their own aquifers with the wastewater they are producing, thereby preserving the local hydrologic cycle.

Indirect Potable Reuse is only one facet of the larger concept of reclaimed water use. This holistic approach to preservation of the local hydrologic cycle includes reuse options for irrigation – residential, commercial, and agricultural; industrial cooling systems; process water in manufacturing facilities; toilet flushing; snowmaking; and fire protection systems. As greater awareness is achieved in regards to the growing

scarcity of water resources, water reclamation practices, like Indirect Potable Reuse, are growing in popularity.

Acton CWRMP

The Acton Comprehensive Water Resources Management Plan (CWRMP) was undertaken as part of the acceptance of the Middle Fort Pond Brook Sewer Project by the Massachusetts Department of Environmental Protection (DEP); to determine the wastewater disposal needs for the entire Town, along with the integrated planning necessary to protect Acton's vital liquid resources for the next 20 years.

The CWRMP is guided by two groups working jointly to develop a cohesive plan. The Project Team – consisting of Acton Health Department staff and Woodard and Curran, Inc. engineers and scientists; and the Citizens Advisory Committee – a group of local stakeholders appointed by the Acton Board of Selectmen to represent the broadest possible range of views in regards to Acton's water resources.

As part of the project, wastewater disposal options were evaluated for centralized and decentralized sewer projects of varying sizes. As Acton is both regulatorily and environmentally limited for surface discharge locations, subsurface discharge must be the primary option examined. Subsurface disposal of treated wastewater requires soils with high permeability in order to efficiently dispose of the effluent from both a cost and footprint perspective. As Acton is solely reliant on groundwater aquifers for its public water supply and those aquifers are located in the most permeable soils, the concept of Indirect Potable Reuse was a concept that could not be ignored as a part of a 20 year water resources management plan.

Indirect Potable Reuse Working Group

A sub-group of the Citizens Advisory Committee was formed in May of 2005 to further examine the issues surrounding Indirect Potable Reuse. This group was established to bring together local stakeholders with a variety of viewpoints.

The group received information packets, consisting of published educational journal articles, copies of government-produced information, and newspaper articles all directly related to Indirect Potable Reuse. Copies of these packets are included in Appendix A of this report. The group met during the summer of 2005, to discuss the issues related to Indirect Potable Reuse in accordance with the group's mission statement.

Discussion

After a review of the academic and professional research presented, the group delineated four major areas of concern, each containing topics requiring further research. These four major areas of concern are:

1) Detection, removal and potential health effects of multiple classes of emerging contaminants
2) Timing of implementation in regards to technological, regulatory, and political timelines
3) Comparison of centralized Indirect Potable Reuse in one wellfield versus decentralized Indirect Potable Reuse in multiple wellfields
4) Coupling implementation with increased water conservation and emerging contaminant source reduction efforts

Detection and removal of multiple classes of emerging contaminants

Current research by multiple educational and governmental institutions have identified new classes of emerging contaminants in wastewaters, drinking waters, groundwaters, and surface waters. While research into the possible health effects of these categories of contaminants is ongoing, the absence of concrete toxicological and medical data cannot be ignored. These new classes of contaminants include pharmaceuticals, personal care products, their metabolites and their by-products. Some commonly identified compounds are: Triclosan – an antibiotic found in various antibacterial household products; Caffeine; and Estradiol – one of the key hormones in oral contraceptives.

Studies in Europe, Australia, and the United States are in varying stages of completion in regards to the prevalence of these compounds in wastewater treatment plant influent and effluent. The Town of Acton is participating in one of these studies, sponsored by the Johns Hopkins Bloomberg School of Public Health. Further information on this study is included in Appendix B. This study will report the prevalence and concentration of many of the most common classes of these emerging contaminants, allowing the Town to develop a baseline against which to measure future treatment and disposal options. Separate studies are evaluating the capacity of different wastewater treatment technologies and processes to reduce or eliminate these compounds from the waste stream. Initial results of both sets of studies are presented in some of the articles attached to this report in Appendix A. It must be noted, that as with all academic efforts in the scientific realm, these studies are part of a continuum of discovery following a three-step process: detection, assessment of health risks, development of removal strategies.

Timing of implementation in regards to technological, regulatory, and political timelines

Further pursuit of Indirect Potable Reuse as a reclaimed water strategy will require funding that is not currently allocated within the Comprehensive Water Resources Management Plan. The disbursement of this funding will be at the discretion of the citizens of Acton. While economics will affect the local progression of Indirect Potable Reuse, acceptance of IPR at the state and federal levels will also greatly impact any possible implementation or exploration.

As have been shown by other reclaimed water projects around the U.S., a significant public participation and education campaign must be successfully mounted as the first step of any plan. In Acton, this campaign should be spearheaded by an elected or appointed Town official, not a staff member. It is important that the residents of Acton sufficiently understand the concept of Indirect Potable Reuse so that they may both collectively and individually accept or reject the proposal. This local acceptance must also fit into the Town's broader water resources management strategy in regards to the treatment and disposal capacity necessary to provide a solution to the designated needs areas.

Developments on the regulatory front may have the greatest impact on the possibilities for implementation of Indirect Potable Reuse in Acton. The Commonwealth of Massachusetts is currently developing a new set of Reclaimed Water Regulations, which will govern the reuse of highly treated wastewater in a variety of modalities. Indirect Potable Reuse will, of course, be included as a component of these regulations. These regulations will govern the effluent quality required for an Indirect Potable Reuse discharge, and the economic implications of the level of treatment may be the ultimate determining factor in implementation.

From a technological standpoint, the field of wastewater treatment advances each day in its ability to reduce various compounds to increasingly lower concentrations in treatment plant effluent for reuse projects. While it is impossible to predict what effluent limitations would be placed on any proposed Indirect Potable Reuse project in Acton sometime in the future, it can be expected that proven technologies will be available to meet those limits. The current wastewater treatment plant on Adams Street is discharging some of the highest quality effluent in the Commonwealth. The plant consistently discharges effluent with a Total Nitrogen of less than 3 mg/L (where the EPA drinking water standard is 10 mg/L) and 0 colonies of fecal coliform bacteria. These two contaminants, total nitrogen and fecal coliform bacteria, are two of the most important health-impacting contaminants in the drinking water standards as they relate to wastewater treatment. A caveat to this section would be the inclusion of any classes of emerging contaminants in effluent limitations. As stated previously, studies are still underway to determine which treatment process will most efficiently remove which classes of compounds. Further study would be required, possibly at the local level, in order to determine the best course of action in this case.

Comparison of centralized Indirect Potable Reuse in one wellfield versus decentralized Indirect Potable Reuse in multiple wellfields

The Town of Acton receives 95% of its drinking water from the five Acton Water District wellfields located across the community (see figure 1). As the implementation of Indirect Potable Reuse is evaluated against the needs areas identified in the Comprehensive Water Resources Management Plan, the possibility of lesser discharges spread across multiple wellfields should also be considered. This could allow for broader basin-wide recharge, which could be a benefit to stream flow; and it

could also allow for greater proliferation of offsite wastewater disposal solutions for needs areas across Acton.

Coupling implementation with increased water conservation and emerging contaminant source reduction efforts

The possible implementation of an Indirect Potable Reuse project in Acton, and the public participation and education campaign that would precede such a project, could offer a unique outreach opportunities to promote citizen involvement in the protection of water resources. Awareness of the consequences of waterborne disposal of personal care products and pharmaceuticals could lead to a reduction of those products which, along with their metabolites and by-products, make up the classes of emerging contaminants mentioned previously, in the waste stream. As with any other water resources based initiative, it would offer the opportunity to augment the already successful education efforts undertaken by the Acton Water District.

Recommendations

As the Town looks towards the future, all options for beneficial reclamation of wastewater must be evaluated to provide solutions for the 2/3's of the Town identified as having a need for an off-site wastewater disposal solution. This includes Indirect Potable Reuse. No possible solution should be discarded prior to an intensive, citizen-driven, review process.

The group recognizes the contribution that Indirect Potable Reuse could make to the water resource management efforts in Acton. It could serve to recharge aquifers within "stressed" basins and it addresses one of the primary components of the Massachusetts Water Policy, which encourages "keeping water local" by preserving the local hydrologic cycle. Through its deliberations, the group is aware of a number of unanswered questions under each of the four major topic areas.

1) Detection, removal and potential health effects of multiple classes of emerging contaminants
2) Timing of implementation in regards to technological, regulatory, and political timelines
3) Comparison of centralized Indirect Potable Reuse in one wellfield versus decentralized Indirect Potable Reuse in multiple wellfields
4) Coupling implementation with increased water conservation and emerging contaminant source reduction efforts

As with any major environmental decision, the Town must weigh the risks against the benefits and determine whether to progress forward.

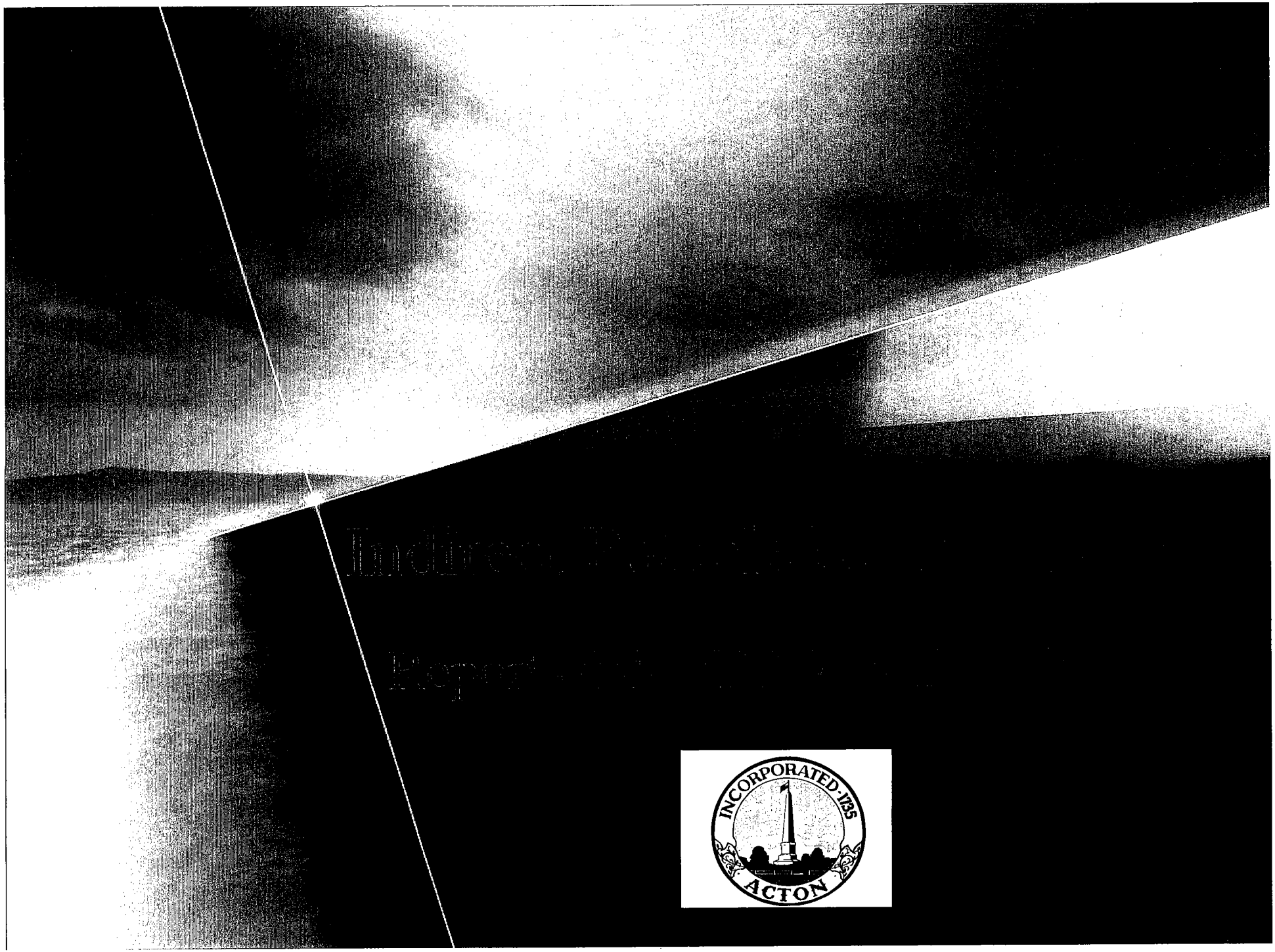
The "local" answers to the questions that arise under these four areas may only be fully answered with a small-scale pilot project developed under close coordination with EPA, DEP, academia, and local officials. This project, if feasible, would serve to provide more

specific answers to many questions, for which the answers may currently come from project implemented in the Western United States. This pilot project would require funding appropriations, and would be subject to the approval of elected officials and their constituents in Acton.
Should the Town choose to further explore implementation of Indirect Potable Reuse, a permanent committee, similar to the Sewer Action Committee, should be appointed by the Board of Selectmen to further evaluate implementation options. This committee should be chaired by an elected or appointed town official who is also a resident of the community. It should include representation from, at least, the following stakeholders:

- Acton Board of Selectmen
- Acton Board of Health
- Acton Citizens for Environmental Safety
- Acton Planning Board
- Acton Water District
- Acton Conservation Commission
- The current incarnation of the Wastewater Citizens Advisory Committee
- Residents from those areas who will benefit from the additional disposal capacity
- Acton residents-at-large

This committee should work with the Town's consultants to cultivate a public participation and education plan devoted to Indirect Potable Reuse, and if the response is positive, should work to bring the project to fruition.

Indirect Potable Reuse, as a concept, holds much promise, not only for the Town of Acton, but for many other communities across New England, as the reality of the scarcity of our liquid reserves becomes readily apparent.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Mission Statement

"To evaluate the potential feasibility of the implementation of Indirect Potable Reuse of highly treated Wastewater Treatment Plant effluent through a discharge to the Zone II of a wellfield; the group will examine the issue from the "human" perspective, looking at the political and public relations impacts of any proposal. Those impacts can then be used to determine whether this

Working Group Members

Art Gagne' – Member of the CAC

Eric Hilfer – ACES representative and member of the CAC

Joanne Bissetta – Member of the Acton Board of Health

Greta Eckhardt – Acton Resident

Pat Cumings – Member of the CAC

Others Who Attended Meetings

Peter Shanahan, PhD – MIT Senior Lecturer and Co-Founder of Hydroanalysis Inc.

Mary Michelman – ACES President

Jim Gagliard – Former Acton WWTF Manager

Four Major Areas of Concern

1) Detection, removal and potential health effects of multiple classes of emerging contaminants

2) Timing of implementation in regards to technological, regulatory, and political timelines

3) Comparison of centralized Indirect Potable Reuse in one wellfield versus decentralized Indirect Potable Reuse in multiple wellfields

4) Coupling implementation with increased water conservation and emerging contaminant source reduction efforts

Final Recommendations

1) Inclusion of the concept as a possible solution in the Comprehensive Water Resources Management Plan.

2) Continue to monitor academic and regulatory developments with Indirect Potable Reuse and their possible impact on Acton.

3) Development of a targeted public outreach and education program related to Indirect Potable Reuse, which could include the provision, if feasible and accepted by the community, of a small-scale pilot study through which "local" answers to important questions may be obtained.

4) In the event Indirect Potable Reuse is chosen for further study by the Town, a standing committee should be created to direct these efforts. This committee should be similar in makeup to the Sewer Action Committee.

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MEETING MINUTES

MEETING DATE:	December 8, 2005
REFERENCE:	Acton CWRMP Public Information Meeting
DISTRIBUTION:	CAC Town of Acton Health Department Woodard & Curran Posting on Town website
Submitted by:	Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

ATTACHED ITEMS

Agenda
Presentation Handouts
- Where are We Now?
- What are the Priorities?
- Where did the Priorities Come From?

AGENDA ITEMS

Welcome and Introductions:
Doug Halley led the introductions of the CAC and provided a background on the Comprehensive Water Resources Management Process (CWRMP) process. The project is the result of a special procedure agreed to by the Department of Environmental Protection and Massachusetts Environmental Policy Act (DEP/MEPA) to conduct planning related to the wastewater needs of Acton and the construction of the Middle Fort Pond Brook sewer project.

The town received a petition signed by 115 residents interested in sewer service in the Spencer/Tuttle/Flint neighborhood. This area is part of the analysis to be presented at this meeting.

PRESENTATIONS

(This discussion is a summary of the presentations. Refer to the attached presentations for specifics)

Needs and Solutions:
Brent Reagor (Assistant Health Director) presented a PowerPoint presentation explaining the history of the needs and solutions analyses. The presentation included a summary of needs criteria, possible solutions, priority rankings, and action items for the next steps. The CWRMP Phase 2 report is nearly complete, with feedback from this public meeting to be included in the report. The CAC volunteers have

been involved for a long time and they have the knowledge of the process as well as ownership of the results. The CWRMP will be submitted to the DEP and MEPA in the form of an Environmental Notification Form (ENF). The report will also be submitted to Town Meeting for approval.

The CAC and Project Team identified 15 areas as having need for alternative wastewater disposal solutions for various reasons. The areas were divided into high, medium, and low priorities. The CAC evaluated each needs areas, ranked the possible solutions, and selected a preferred solution for each area. The high priority areas were also ranked to set the priority for action.

Specific points not on the presentation slides include:

- Brent presented an overview of the current wastewater disposal systems is Acton. Approximately 10% (727) of the town's parcels are located in watershed protection zones – many of the parcels have septic systems.
- A series of maps are on display that show the CWRMP process, from determining needs areas to the final planning areas, and a map showing areas proposed to be connected to the Middle Fort Pond Brook sewer system.
- The wastewater solutions are limited by disposal capacity since available land suitable for receiving water is scarce.
- Major obstacles to construction of infrastructure include Route 2 and railroad tracks. Though not impossible to cross with pipelines, these features can greatly increase complexity and cost. Therefore, the West Acton needs area was split into two segments divided by the railroad right of way.

What are the Priorities?
Lauren Rosenzweig (Board of Selectmen representative on the CAC) presented a discussion on the recommended ranking of solutions, including structural and non-structural criteria.

The priority rankings are:
1. Powdermill Plaza
2. West Acton Center (east)
3. Spencer/Tuttle/Flint
4. West Acton Center (west)
5. East Acton Village / Route 2A Corridor
6. Indian Village

The Town had the foresight during the planning for the Middle Fort Pond Brook sewer to design capacity in the system for expansion. There is 49,000 gallons per day of disposal capacity capacity in the existing system, which will not serve all of the needs areas.

Service to the West Acton Center (west) area will be limited because of the capacity limits. The East Acton Village / Route 2A Corridor area has limited disposal options because the Wetherbee Street parcel, initially identified for potential dispersal site, has a deeded conservation restriction.

Where did the Priorities Come From?

Nancy Tavernier presented a discussion of the CAC's role and the process by which the priorities were set. The CAC was formed in 2000 to include a cross-section of the town citizens, or stakeholders, to provide opinions and views and act as a sounding board. The CAC has no official voting or decision-making powers. Town Meeting is the final decision maker.

Nancy reviewed the needs criteria selected by the Project Team and CAC. Economics also factored in the criteria review.

Available capacity is limited to 49,000 gpd. The wastewater flow from the original sewer district was 500,000 gpd shortly before the scheduled Town Meeting vote on the Middle Fort Pond Brook sewer system. However, DEP only allowed half (250,000 gpd) of the capacity because of concerns with breakout from the disposal fields. This resulted in the existing configuration of the sewer system. DEP has allowed an additional 49,000 gpd to be discharged at the disposal field. The recommended priorities reflect this limited capacity. The CAC discussed concerns related to the best use of the capacity, the cost-effectiveness, and the methods of paying for a new sewer project.

Estimated flows from the high priority needs targeted for connection to the sewer are:

- Powdermill Plaza – 5,000 gpd
- West Acton Center (east) – 20,000 gpd (with schools included)
- Spencer/Tuttle/Flint – 17,000 gpd
- West Acton Center (west) – 17,000 gpd

The total of 59,000 gpd exceeds the available capacity. The schools are driving the direction of the pipe. The town needs data from the school property, such as an engineering study to determine if an onsite solution is feasible at the schools. If it is feasible, then additional properties in West Acton could be connected to the sewer.

May people called members of the CAC with creative and thoughtful ideas. Many residents who were part of the original sewer district expressed interest in being connected to the sewer system.

Question & Answer Session

Question and answer sessions are notated as follows: (Q = Question from Attendees; A = Answer from Project Team/CAC; C = Comment from Attendees; R = Response from Project Team/CAC)

C: The Wetherbee parcel that is identified as a potential dispersal location for East Acton has a deeded conservation restriction that states that the parcel will revert to the Commonwealth of Massachusetts if the land is not used for conservation. The State is interested in preserving agricultural soils, so if the soils are removed or altered for wastewater disposal then the Town may not be preserving these soils. Article 97 of the State Constitution requires an act of the legislature (both houses) and a Town Meeting vote to transfer the use of the parcel.

A: The Town shares the same concerns. The deed restrictions have not been reviewed in depth but before any additional work is done on the parcel we get State approval. The town does not want to risk losing the land.

Q: Residents in the Spencer/Tuttle/Flint neighborhood petitioned for connection to the sewer. Many are installing expensive onsite systems, groundwater is high, and some pump the septic tank every 3 months. Can the schedule be expedited so that the Town votes in April to appropriate money for the sewer?

A: The first step is to accept the report because Town Meeting voted to fund the study. Then the public review period and state approval process has to be completed before moving forward. Bonding, design, etc all take time.

C: The whole neighborhood is under a swamp, some people are digging up their entire yards for septic systems, every house in the neighborhood is polluting the water. The Town approved installing systems in all these areas and now people are having problems with them. Only recently did a delay occur in the proposed schedule.

R: The CAC is sympathetic and wants to move a quickly as possible to solve the problems but as a practical matter, public projects take time. To be realistic, the earliest that a funding vote could be taken is fall 2006.

Q: In East Acton, sewering along Route 2A may result in the type of growth that does not support the village plan. The scale is counter to the village plan. Can the recommendation be scaled down to address the village area only?

A: The Health Department was involved with the village planning effort. Cluster (small shared or neighborhood) systems are the preferred solution at this time, mainly because the restrictions on the Wetherbee parcel restrict the probability of a larger system. Clusters may be the only (or best) solution that is implementable and feasible.

C: It would be better to do as little, not as much, as possible.

Q: What is the cost to tie in versus the cost not to tie in? Some people have already spent $20,000 to $30,000 for a new septic system.

A: For the Phase 1 project, properties with frontage along the sewer had a betterment of approximately $12,500, which could be repaid over 30 years. This is paid whether on not the property connects to the system. Add $3,000 to $4,000 for the service connection contractor and user charges. User charges are paid monthly; betterments are paid quarterly. New construction project estimates will be completed prior to Town Meeting.

Q: Was any engineering done on areas adjacent to the sewer system as part of the Phase 1 sewer project?

A: Some investigations were done in these areas, but no design work was conducted.

Q: Are betterments transferable to a new property owner?

A: Yes, but the mortgage company decides this issue. Often, it depends on the amount of the down payment.

Q: The Town should vote to serve the Spencer/Tuttle/Flint neighborhood, which obviously needs sewer, but not West Acton. West Acton Center may need more study because the preliminary data does not make a convincing argument for sewering. West Acton could hold Spencer/Tuttle/Flint hostage if West Acton residents resist sewering at Town Meeting. The Town should address smart growth in West Acton Center and conduct an onsite financial analysis to compare to the cost of sewering prior to going to Town Meeting.

Wrap-up

Doug Halley closed the meeting by thanking everyone for attending and reiterating that involvement of citizens is an important component of the planning process.

Town of Acton
Public Information Meeting
Comprehensive Water Resources Management Plan
Phase II
Thursday, December 8, 2005
Room 204
Acton Town Hall
7:00pm

Moderator: **Doug Halley, Public Health Director**

Meeting Goals:

Present the results of Phase II:

- Solutions selected for the "Needs Areas"
- Priority Ranking of Needs Areas and Solutions

Receive input from the citizens of Acton

Agenda:

• Welcome	Doug Halley	5 minutes
• Needs and solutions	Brent Reagor	15 Minutes
• What are the Priorities?	Lauren Rosenzweig	15 Minutes
• Where did the Priorities come from?	Nancy Tavernier	15 Minutes
• Questions and Answers	Doug Halley	45 Minutes
• Wrap-up	Doug Halley	5 Minutes

Acton CWRMP

Where are we, Where are we going?

Phase II

- Phase II is now almost complete
  - Report will be published early 06
- Solutions identified and ranked for 15 Needs Areas
- High priority needs areas ranked in order of priority

What is a Needs Area?

A grouping of parcels that have a "NEED" for a wastewater disposal solution other than their current onsite wastewater (septic) system.

What Determines Need?

- High number failed systems
- Poor soils
- Wetlands, flood plains, environmentally sensitive areas
- Small lots
- Aesthetic and environmental impacts
- High groundwater elevations

4 Solutions

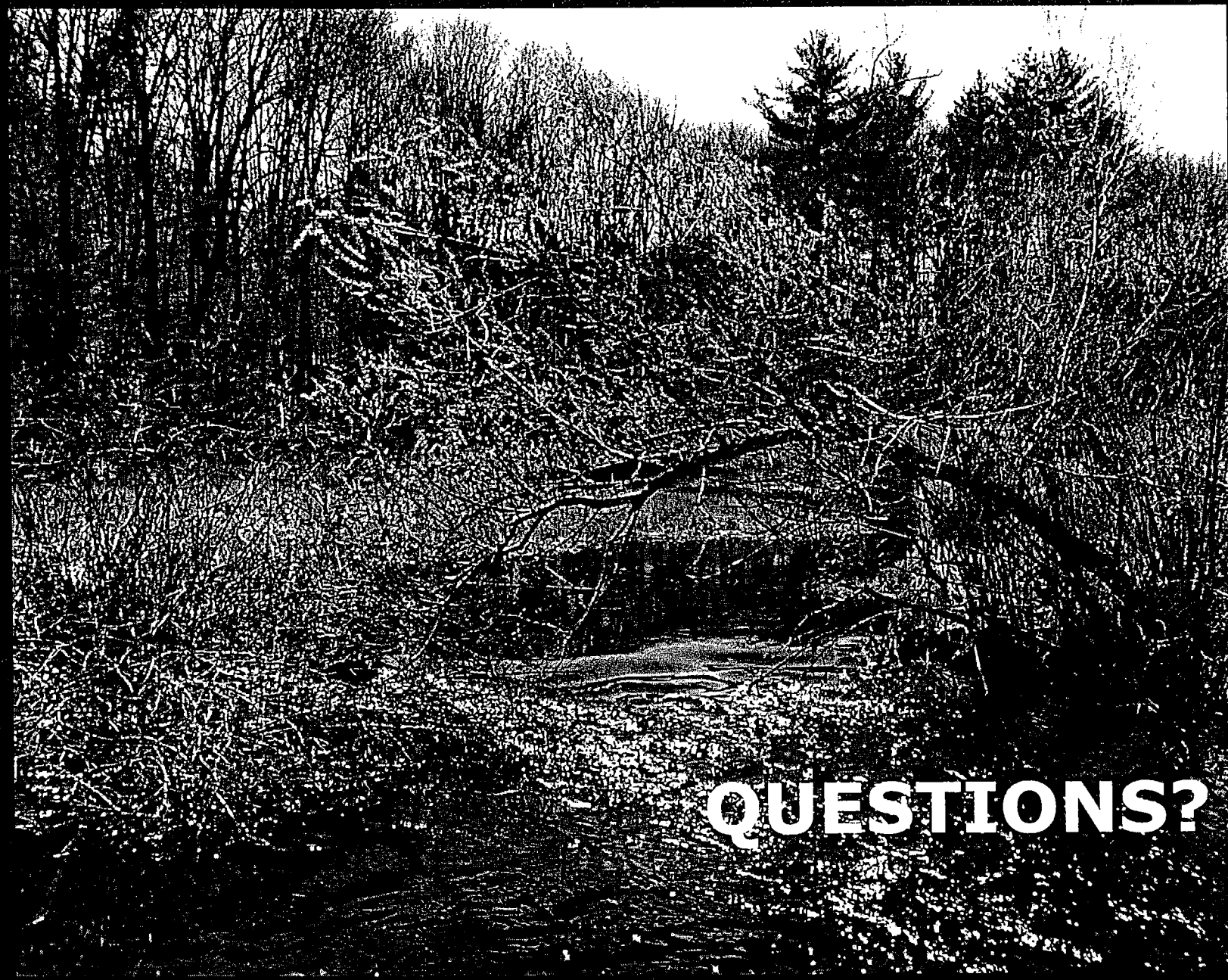
1) Connect to the Existing Sewers
2) Construct New Sewer System and Treatment Plant
3) Cluster/Neighborhood Systems
4) Wastewater Management Districts

High Priorities

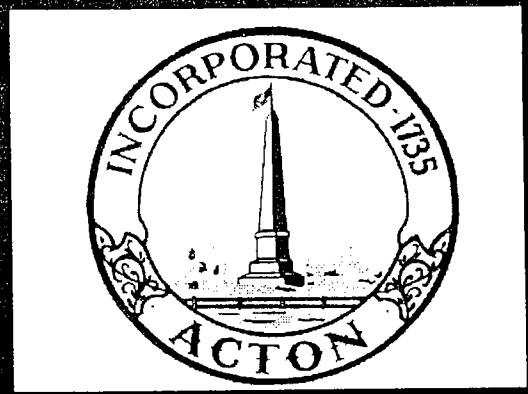
1) Powdermill Plaza
   - Agreement signed with the Town, will connect
2) West Acton Center (East of the RR Tracks)
   - Includes the Douglas and Gates Schools
3) Spencer/Tuttle/Flint Neighborhood
4) West Acton Center (West of the RR Tracks)
5) East Acton/Route 2A Corridor below Rte. 27
6) Indian Village

What's Next

- Phase II report to be published in early 2006
- Sewer expansion for selected West Acton needs areas
- Feasibility studies and implementation of wastewater management districts
- Final CWRMP report to be presented at Annual Town Meeting



Brent Reagor, RS Town of Acton breagor@acton-ma.gov



What are the Priorities?

Acton CWRMP

Lauren Rosenzweig

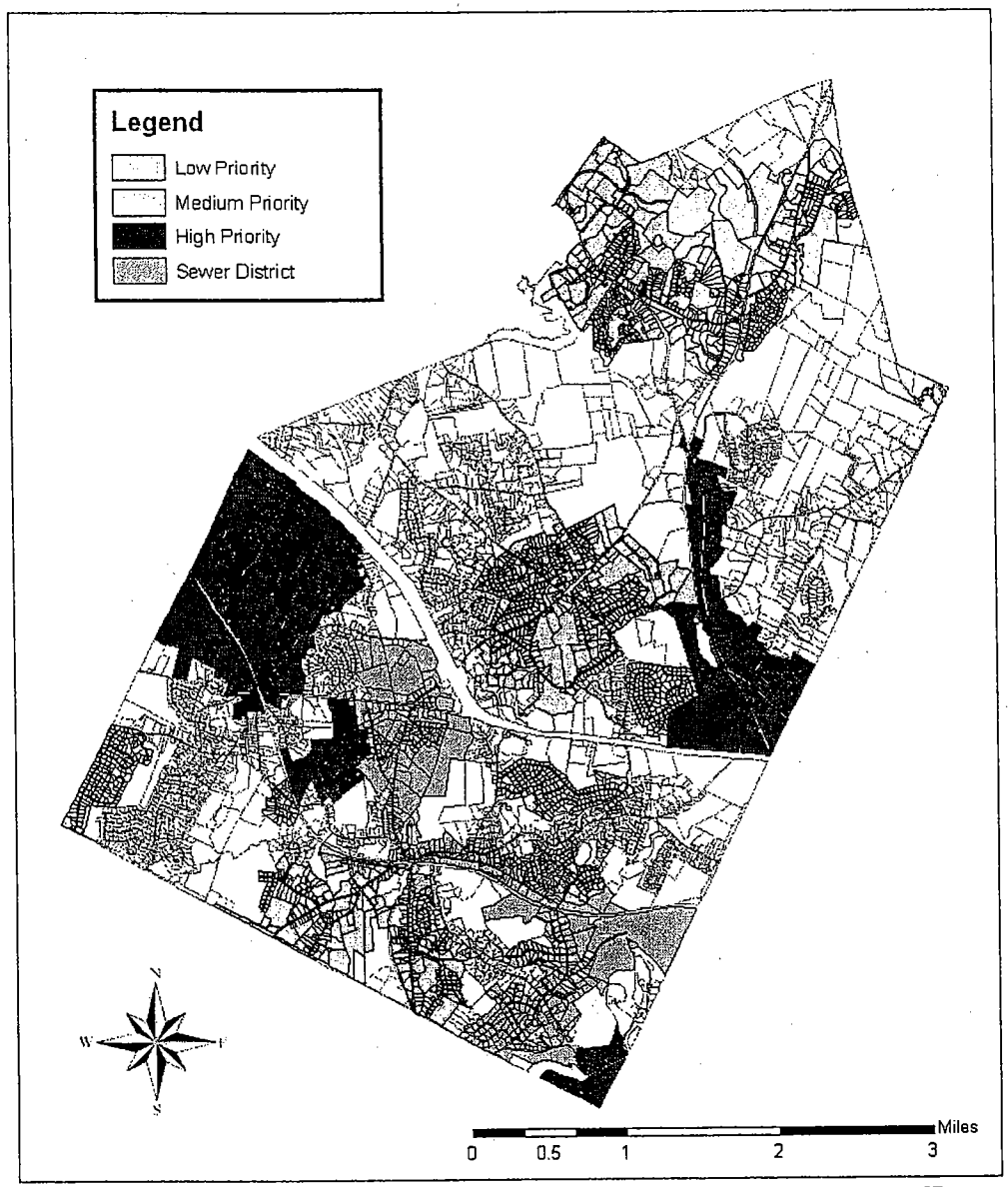
Citizen's Advisory Committee

What has happened since Last Year?

- Ranked the "High Priority" Needs Areas
  1) Powdermill Plaza
     - Agreement signed with the Town, will connect
  2) West Acton Center (East of the RR Tracks)
     - Includes the Douglas and Gates Schools
  3) Spencer/Tuttle/Flint Neighborhood
  4) West Acton Center (West of the RR Tracks)
  5) East Acton/Route 2A Corridor below Rte. 27
  6) Indian Village

How Were They Ranked?

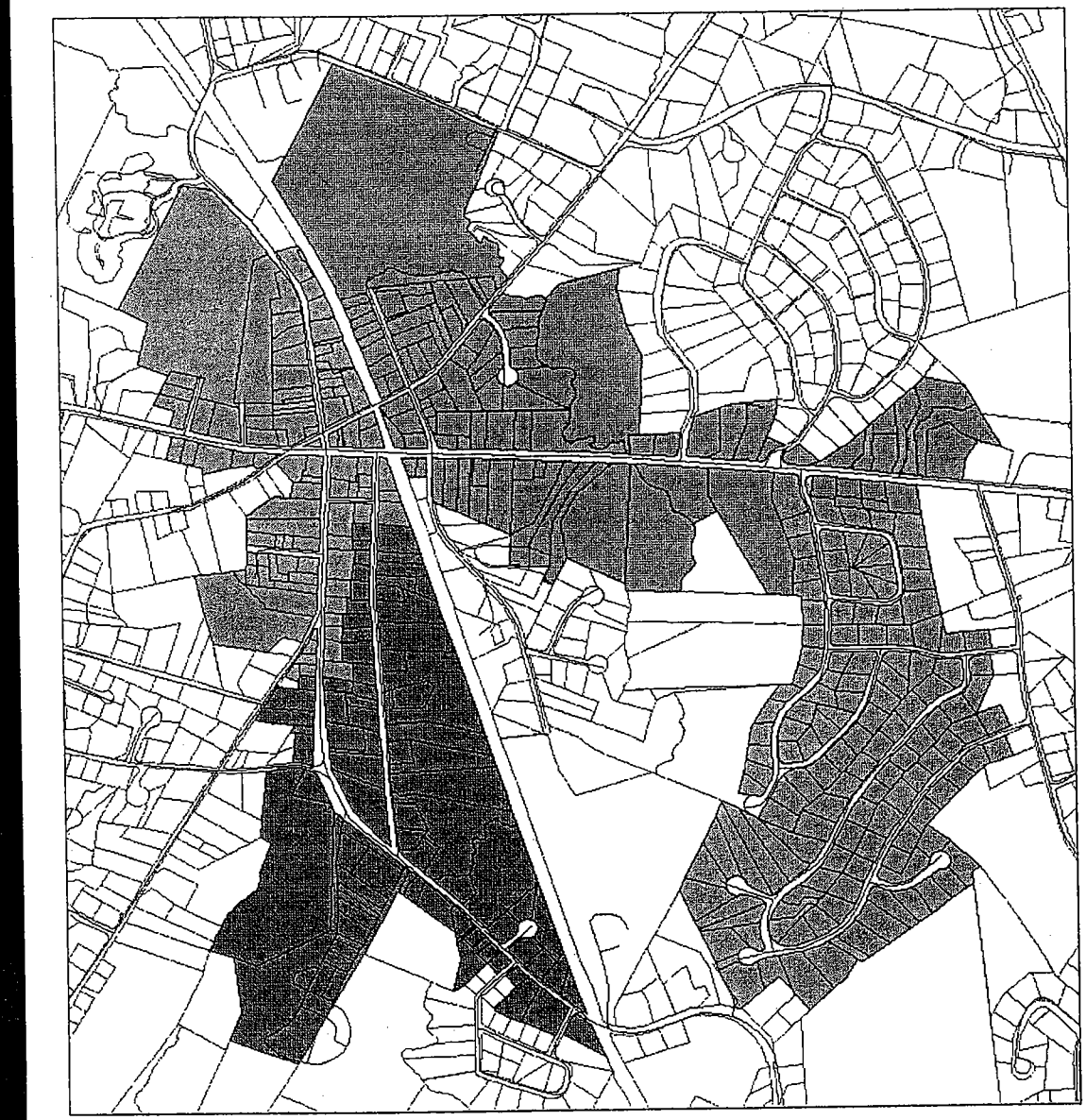
- Structural Factors
  - Environmental impact of current systems
  - Regulatory Non-compliance
- Non-Structural Factors
  - Ease of implementability
  - Economic stimulus
  - Political realities



Acton CWRMP
Needs Planning Areas
Solution Priority Status

Why the Rankings?

- Of the 5 High Priority Areas, most are adjacent to the current sewer system
- There are 49,000 gallons per day still available at the Adams Street Treatment Facility
- This capacity only allows part of West Acton Center and the Spencer/Tuttle area
  - Or both parts of West Acton Center
- Legal issues with the Wetherbee Land in regards to an East Acton solution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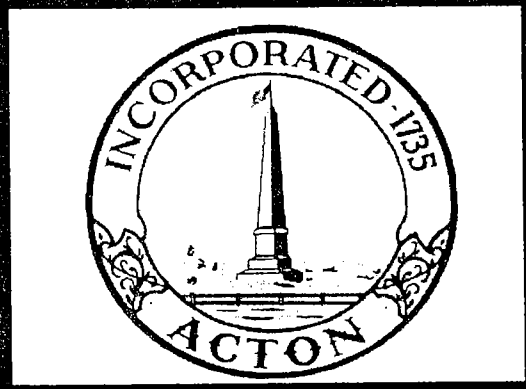
What are the Proposed Solutions?

- Powdermill Plaza
  - Connect to sewers in next expansion
- West Acton Center (East of the Tracks)
  - Connect to sewers in next expansion
- Spencer/Tuttle/Flint Neighborhood
  - Connect to sewers in next expansion
- West Acton Center (West of the Tracks)
  - Connect to sewers in a future expansion
- East Acton (Route 2A corridor below Rte. 27)
  - Construct new sewer system within 10 years/Explore cluster systems
- Indian Village
  - Establish Wastewater Management District/Connect to sewers within 10 years

Questions?

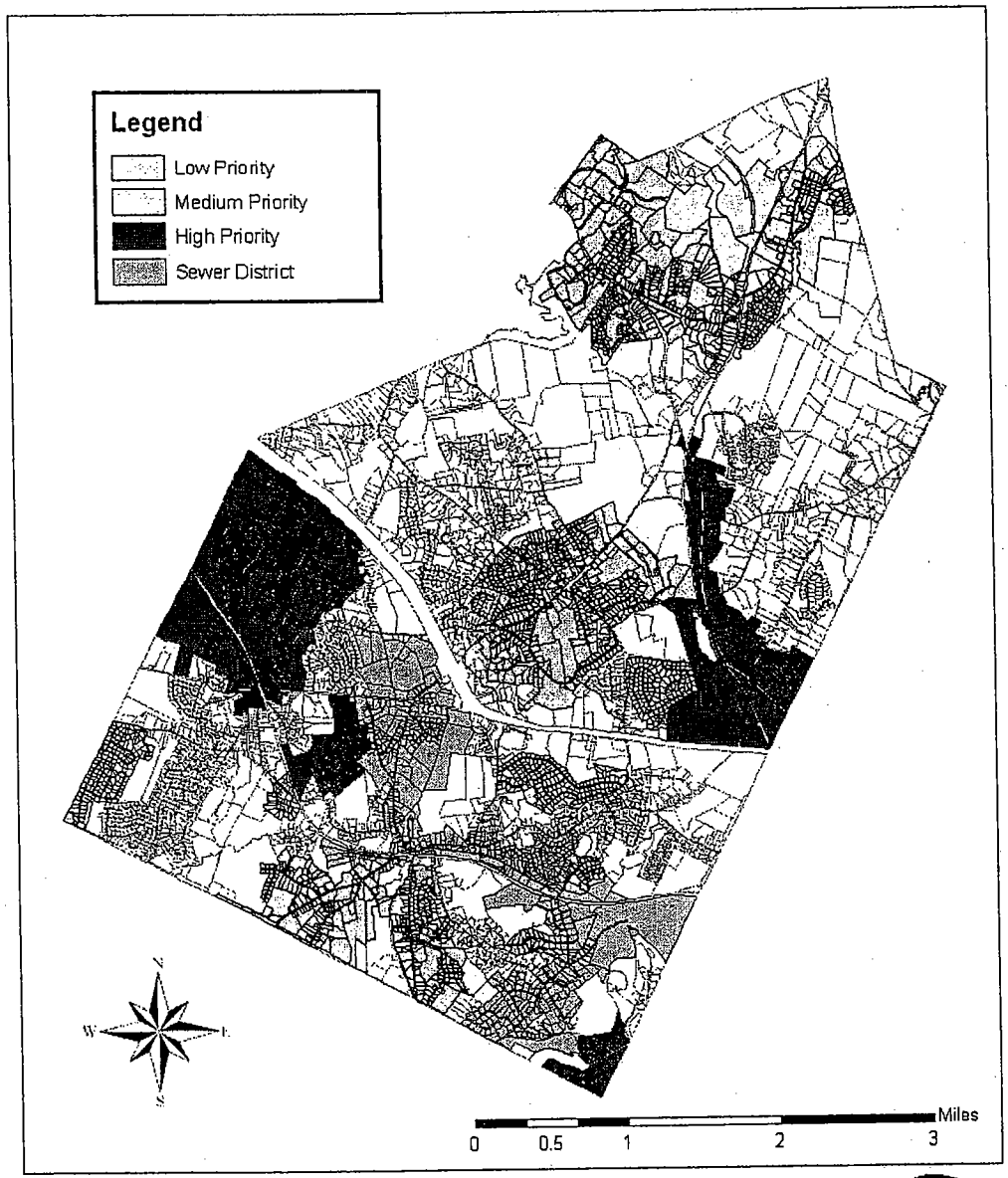


Where did the Priorities Come From?

Acton CWRMP

Nancy Tavernier

Citizen's Advisory Committee



Acton CWRMP
Needs Planning Areas
Solution Priority Status

What Determines Need?

- High number failed systems
- Poor soils
- Wetlands, flood plains, environmentally sensitive areas
- Small lots
- Aesthetic and environmental impacts
- High groundwater elevations

High Priorities

1) Powdermill Plaza
   - Agreement signed with the Town, will connect
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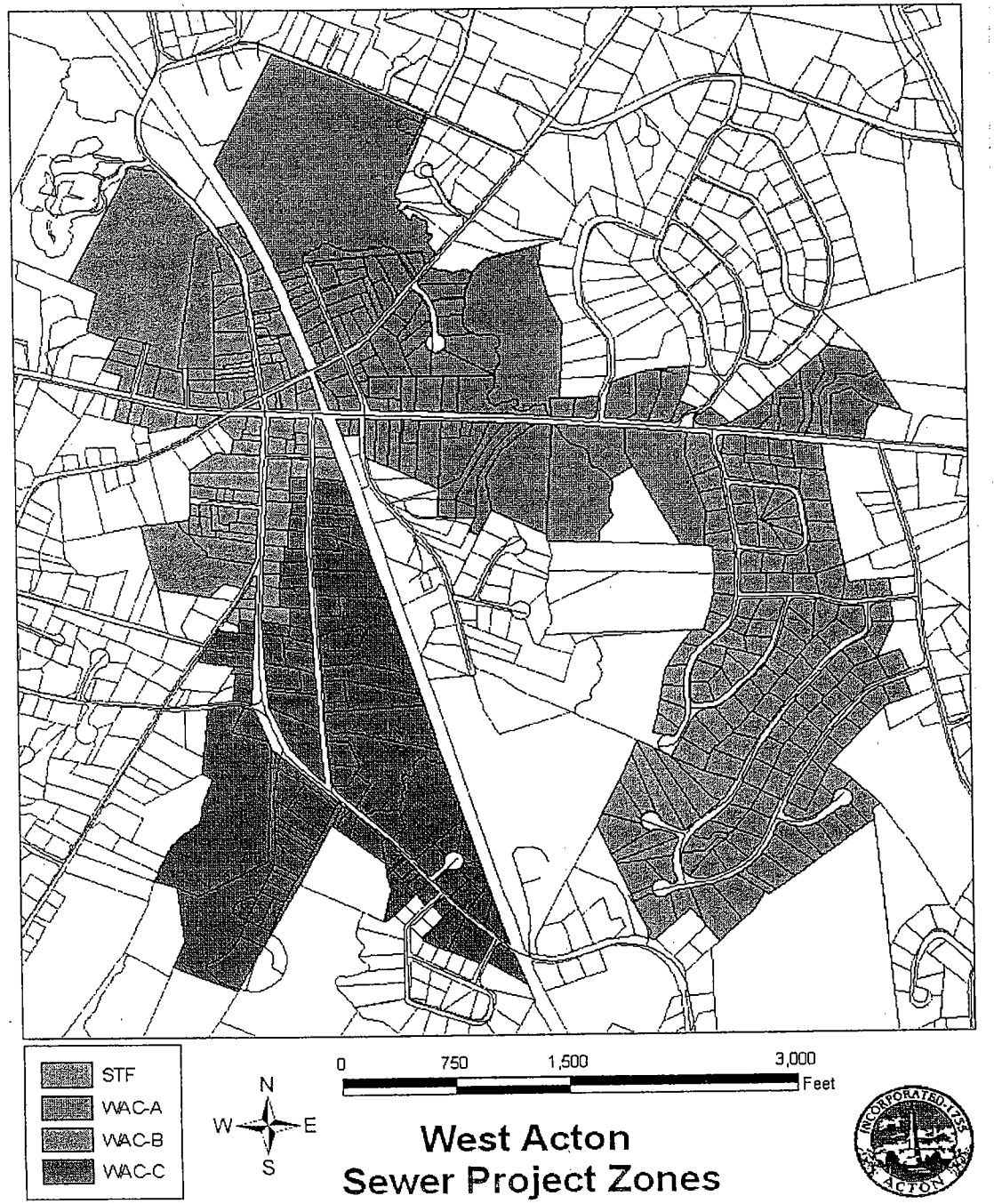
How Were They Ranked?

- Structural Factors
  - Environmental impact of current systems
  - Regulatory Non-compliance
- Non-Structural Factors
  - Ease of implementability
  - Economic stimulus
  - Political realities

Why?

- Additional 49,000 gallons per day available at the Adams Street Plant
- Adjacent areas to the existing sewers are the most cost-effective connections
- Limited available capacity only allows part of West Acton Center and the Spencer/Tuttle area
  - Or both parts of West Acton Center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Sewer Project Zones
INCORPORATED 1735
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Questions?

Sign In Sheet

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Sign In Sheet

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Andy & Barbara Munro	8 Spencer Road	978 263-3268	allmunros@msn.com
ART GAGNE	16 FRANCINE RD	978-263-5819	
Nancy Tavernier	35 Mohawk		
Jim Snyder-Grant	18 Half Moon Hill	178 266 9409	jimsg@newview.org
H. Probst	9 Putter.	You have it!	
Ron Sutherland	24 Lothrop	978 263 8981	rsutter@yahoo.com
Laurea Rosenzweig	26 Marshall Path	978-263-8918	LSR57@comcast.net
Andrew Magee	10 Lilac Court	978-263-0053	amagee@gpsolarassociates.com
SUE HOWE	33 TUTTLE DR	978-263-0247	MSUSANHOWE@AOL.COM
Ed Starzec	43 Newtown Rd	978 263 8959	estarzec@massdevelopment.com
Mark Fidler	45 Flint Rd	263-2278	Mfidler@evergreensolar.com
GARY & SHARON GROOSE	8 LOTHROP RD	263-7285	ggmail@groose.com

Sign In Sheet

Name	Address	Phone Number	Email Address
Pauline Kribble	Stoneymeade Way		
J.E. BOSWORTH	29 MAIN	264 0584	
Barry Charse	12 Tuttle	266 2259	
Kathryn Black	237 Central St.	263-0977	Ksb832ecs.com
Elaine Pellett	33 ~~Little~~ Rd	263-0247	CLPMASS@AOL.COM
Margot Reed	198 ARLINGTON	263-8693	
La Choit	14 MALLARD RD	635-1217	LJOITO YAHOO.com
IRENE OIT	14 MALLARD RD	" "	"
Jimmie Montagna	1 Durkee Rd.	263-2617	jcmontagna@verizon.net
Joe MONTAGNA	1 Durkee RD	263-2617	"
John Hitz	36 Flint Rd	263-9417	jhitz622@verizon.net
Pat Lummings	120 Arrowhead St	263-4221	
Jane Ceraso	139 Ethan Allen	263-9225	"
Ron Lopez	2 Torrington Lane	263-1260	
Joe Bisognano	4 Torrington Lane	263-9812	j.bisognano@comcast.net
ERIC HILFER	16 ORCHARD DR	635-8362	hilfere@tomsnyder.com
Carol Holley	30 Pope	263 4531	
DORE HUNTER	3 FOSTER ST	263-0882	BOS@ACTON-MA.GOV

Sign In Sheet

Name	Address	Phone Number	Email Address
Liz Horbw	310 Arlington St.	263 5882	rze42thu@verizon.net
Gloria Jacobs & Larry	51 Flint Rd	263-7224	gloriajacobs1@juno.co
Valerie Malinowski	3 Torrington Lane	263 4786	valmal52@aol.com
Oleg Volinsky	8 Durkee Rd	263-4212	oleg.volinsky@verizon.ne
[illegible]	282 Central St.	263-5002	jm@careyandassociates.com
John Cirillo	45 Conant St	263-6473	cirilloj@comcast.net
Debbie & John Murphy	57 Flint Rd.	263-4039	smurf4@comcast.net
Carole Marcacci	16 Orchard Dr.	635-8362	artemis7@verizon.net
Terra Friedrich	Wright Terrace	2[illegible] 2778	TerraF@compuserve.com
[illegible] Kadlec	19 Paul Revere Rd	263-4361	stowal@stolab.com
D. Cron	5 Durkee Rd	264-0559	
Padmaja	4 Spencer Road	266-1463	Kuchinanchi@Hotmai

Sign In Sheet

Name	Address	Phone Number	Email Address
Wynne Hotaling	12 Tuttle Dr. Acton	978-635-9239	Wynne922eyahoo.com
Beth Thompson	43 Flint Rd., Acton	978-263-7714	starchewz@aol.com
Karen ONeill	54 Central St. Acton	6350237	Koneill@massaudubon.org
Mary Sullivan	18 Lothrop Rd	263-0461	
JACK LANDERS	17 MARLBORO ROAD	263 7841	FITZLAND1@aol.com
Anne Marie Lurgin	5 Spencer Rd	263-7637	
Michael Lurgin	5 Spencer Rd	263-7637	

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MEETING MINUTES

MEETING DATE: January 24, 2006

REFERENCE: Acton CWRMP
Public Information Meeting

DISTRIBUTION: CAC
Doug Halley – Health Department
Brent Reagor – Health Department
Dan Garson – W&C
Helen Gordon – W&C
W&C File
Posting on Town website

Submitted by: Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

ATTACHED ITEMS

Agenda

AGENDA ITEMS

Welcome and Introductions:
Doug Halley led the introductions of the Project Team and provided a background on the Comprehensive Water Resources Management Process (CWRMP) process. The project is the result of a special procedure agreed to by the Department of Environmental Protection and Massachusetts Environmental Policy Act (DEP/MEPA) to conduct planning related to the wastewater needs of Acton and the construction of the Middle Fort Pond Brook sewer project.

Question and answer sessions are notated as follows: (Q = Question from Attendees; A = Answer from Project Team; C = Comment from Attendees; R = Response from Project Team)

Regulatory Update
The Adams Street wastewater treatment facility has a new permit for 299,000 gallons per day. The Project Team intends to submit an expanded ENF to ask for no EIR, or worst case a single EIR. The Team and CAC feel that the research and evaluation are sufficient to submit the ENF only.

C: Let local citizens know when the report is done.

R: Yes. Town Meeting will vote to approve the CWRMP though this is not a state requirement. Reports will be available at the library and Town Hall.

Q: What point can the Board of Health grant waivers in a specified area?
A: Town Counsel's opinion is that once Town Meeting accepts the CWRMP then the Board of Health can grant waivers in the proposed sewer areas. No Title5 inspection is necessary at the time of title transfer as long as the new owner commits to connecting to the sewer when available. The timeframe is up to 5 years. Town Counsel does not feel that a dedication of funds (appropriation) is needed, but a commitment by the community is needed.

Prioritization
The CAC discussed the prioritization of solutions.

Nancy Tavernier stated that the intent of the CAC was consensus building, not a policy making body. The purpose is to give guidance and input, not be a sewer commission with statutory responsibility.

Brent Reagor reviewed the alternatives in West Acton Center and Spencer Tuttle Flint. The treatment facility has 49,000 gallons per day of available capacity, of which Powdermill Plaza will use between 5,000 gpd to 7,000 gpd, leaving approximately 43,000 gpd for other extensions. Water usage is much less than anticipated; therefore, there is unused capacity at the treatment facility for in-district fill-in growth.

The CAC discussed whether to sewer the entire West Acton Center, part of West Acton Center, or just the Spencer/Tuttle/Flint neighborhood. The discussion centered on available capacity at the Adams Street treatment facility and the needs in each area.

Q: Does DEP allow the Town to estimate low usage for the treatment facility?
A: No, the town uses conventional estimates, such as actual water usage and Title 5 estimates. DEP sets the permit cap at the treatment facility. DEP and town will permit any expansion of the sewer system based on the cap.

Q: What is the status of the Douglas and Gates Schools?
A: The two schools actual flow is above that allowed for septic systems. The State is looking at all the large septic systems and requiring upgrades to treatment as required by Title 5 regulations. The schools combined flow is just below 15,000 gpd, which is getting the State's attention, especially if any school expansion is planned.

Q: What will the betterments be as compared to the original sewer project?
A: That depends on construction bids and the current climate in material costs, etc. However, the original project included a treatment facility that was about 30% of the entire cost. The betterments should be similar to the Middle Fort Pond Brook project. The betterments are based on usage. State law currently does not allow a reassessment of betterments if using the frontage or area methods of betterment calculations. The town is trying to change this so that the new users can fairly contribute to the cost of the downstream infrastructure. The Town does not have a fund to start the project yet. The town needs to start a cash flow prior to starting construction.

Q: Can the schools construct a treatment facility on their property instead?

A: Possibly. But for funding the construction costs are the same for a treatment facility or connection to public sewer because the schools pay a sewer connection charge equal to the avoidance cost of building a facility.

C: Art Gagne stated that the former Sewer Action Committee did not push for this because we didn't need it. Public confusion of this funding fact needs to be cleared up.

C: Helen Probst stated that the original needs parcels are concentrated in the Spencer/Tuttle/Flint neighborhood and in West Acton Center's eastern half. The CAC should focus on where people really need help. Other criteria, such as economic drivers, should not be weighed as heavily.

R: A note about the "red" or needs lots. The GIS coding did not catch the address for the Douglas and Gates schools, so it did not show up as a needs lot. However, the brook bisects the site, which contributes to high groundwater and a lack of buildable land on the parcel.

C: Art Gagne stated that the town started talking about sewers in 1945. The town can address two areas now given the available capacity, but the CAC also looked at other options to gain more capacity such as discharge to within Zone II areas of wells. Treatment and discharge to Zone II areas may provide the additional disposal capacity to expand the sewers further.

C: The town should be very cautious about discharging in close proximity to drinking water. There should not be an obligation to proceed further until more is known about emerging contaminants from household products.

R: Agreed, concerns should be addressed. The CAC envisions a two step process beginning with investigating publications and other documents for research already completed followed by a pilot study using a side stream of the existing treatment facility if further research is warranted. The CWRMP is a 20-year planning document, so many alternatives that do not exist now could become possible.

The CAC prioritized the areas of Spencer/Tuttle/Flint and West Acton Center for sewering through numerous suggestions of priority and lively discussion. The final vote ranked Spencer/Tuttle/Flint as the highest priority, with West Acton Center (east of the railroad right of way) as a secondary priority, and West Acton Center (west of the railroad right of way) as a future sewer area if and when capacity becomes available. The Project Team was directed to review the needs parcels and criteria to make sure that not by sewering an area we do not omit the sole solution for needs parcels.

Public Outreach:

C: Having a consent decree on the schools would drive public perception of the needs for sewers in West Acton Center but the town has been able to avoid a consent decree.

C: Focus on water resources. Some sewering is recommended but sewers are not the only solution proposed, but they receive the most focus. The CWRMP works toward the future with technology advances in mind. Well protection and keeping water in town are concerns.

The CAC reached consensus that the Board of Selectmen should form an education and outreach committee.

Next Steps

- The project team will finalize the CWRMP prior to Town Meeting.
- The project team will review the CAC priority recommendations for consistency with the West Acton Center needs.
- Pending the results of Town Meeting, the project team will move forward with the Environmental Notification Form (ENF) to start the MEPA review process.
- The Board of Selectmen should form an education and outreach committee prior to Town Meeting to inform residents of the CWRMP.

WOODARD & CURRAN
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CORPORATE OFFICES: Maine, Massachusetts,
New Hampshire, Connecticut, Florida
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Town of Acton

ACTON WASTEWATER CITIZENS ADVISORY COMMITTEE

Comprehensive Water Resources Management Plan /
Environmental Impact Report
CWRMP/EIR
Tuesday, January 24, 2006
7:00 PM

ACTON MEMORIAL LIBRARY, MEETING ROOM

Meeting Goals:

Prioritize Needs Areas for Sewer Expansion Inclusion

Develop cohesive public outreach for Sewer Expansion

Review Work Schedule for Sewer Expansion

Agenda:

- Welcome
- Introductions
- Regulatory update
- Prioritization discussions
- PR/Outreach planning
- Next Steps
- Evaluate the Meeting

To the Editor,

On March 16, 2006, the Acton Citizens Advisory Committee for the Comprehensive Water Resources Management Plan will present their findings to the public. The Citizens Committee has been meeting since April 2002 after Town Meeting voted $500,000 to fund a comprehensive study of Acton's water resources' problems, needs, and possible solutions. With the help of consultants Woodard & Curran, the entire Town was mapped to locate those areas that presented an environmental risk to water resources. These areas of need and information about the solutions available to address those needs were presented at public meetings on November 16, 2004 and December 8, 2005.

Building upon the previous public meetings, this meeting will present the final draft of the Acton Comprehensive Water Resources Management Plan Report, which presents a "Framework for the Future"; a framework which sets forth the foundation for the next 20 years of protecting Acton's vital resources – our drinking water, our streams, our ponds, and our wetlands. This presentation will serve as a prelude to the 2006 Annual Town Meeting, where the citizens of Acton will be asked to accept the Comprehensive Water Resources Management Plan Report which will provide guidance for future water resource decisions in Acton.

Copies of the plan are available in the Memorial Library, the Acton Health Department, and on the Town of Acton website for those who wish to review them.

The meeting will be held on March 16, 2006 in the Francis Faulkner Room (Room 204) of the Acton Town Hall and will start at 7PM

If you have any questions about the report or the meeting, please call the Acton Health Department at 978-264-9634.

Sincerely,

The Acton Citizens Advisory Committee for the Comprehensive Water Resources Management Plan Public Education Subcommittee

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MEETING MINUTES

MEETING DATE: March 16, 2006

REFERENCE: Acton CWRMP
Public Information Meeting

CAC: Doug Halley
Ann Chang
Art Gagne
Brent Reagor
Pat Cumings
Lauren Rosenzweig
Jane Ceraso
Helen Probst
Eric Hilfer
Bob Rafferty, Woodard & Curran
Helen Gordon, Woodard & Curran

DISTRIBUTION: CAC
File

Submitted by: Robert Rafferty, P.E.

The following meeting minutes have been interpreted to the best of the writer's understanding with respect to topics discussed. A copy of these minutes has been sent to the attendees for their review and information. Additions and/or corrections are invited and will be made a matter of record. Mail, email, or fax additions/corrections to Woodard & Curran, Inc. Andover Massachusetts, Attn: Bob Rafferty. brafferty@woodardcurran.com

Public information handouts distributed:
Executive Summary of the Phase II Report
Summary (submitted as Article 31 for Town Meeting approval on April 4, 2006)

Discussion:
The meeting was called to order at 7:10 pm.

Doug Halley opened the meeting by introducing the project. He indicated that after the presentation questions and comments would be taken, and incorporated with the committee's responses into an appendix to the final report.

Helen Probst gave the CWRMP overview. The CWRMP was required by the State, and the DEP has overseen the process. The Citizen's Advisory Committee (CAC) was formed to direct the study, and is a cross-section of community members.

Phase 1 provided the risk assessment, defined existing conditions, prioritized issues, and made

recommendations. The focus was to provide the framework for future water resources decisions, and to address the areas of greatest risks (such as disposal of wastewater and potential impacts to potable water wells).

Acton's Phase 2 was a streamlined version of traditional Phases 2, 3, 4 and specifically evaluates solutions to issues raised during the Phase 1. Helen discussed the needs assessment and priorities, such as septic system failures, poor soils, wetlands, small lots, and other environmental risks to the groundwater. The outcome was the creation of 15 Needs Planning Areas for further discussion.

Lauren Rosenzweig discussed priority ranking and creation of priority needs areas based upon structural and non-structural factors. The highest priorities were identified as: Powdermill Plaza, Spencer/Tuttle/Flint Neighborhood, West Acton Center, East Acton Village/Route 2A Corridor, and Indian Village. Each will require a solution, including at a minimum a wastewater management district. The CAC's preferred solution options include:

1) Connect to existing sewers (possible for West Acton, Powdermill Plaza, Spencer/Tuttle/Flint)

2) Cluster/Neighborhood Systems (possible for East Acton Village/Route 2A Corridor)

3) Wastewater Management District (Indian Village)

Lauren Rosenzweig discussed each of these solutions. The actual implementation of solutions for each needs area would need to be determined. She indicated that the Phase II report is anticipated to be submitted to the State in the next few weeks, and that it is a framework for future decisions. She stressed the importance of the Town's approval of this report under Town Meeting Article 31. Future Town Meeting votes would be required for implementation of any of the recommendations.

The meeting was then opened to questions and comments from the attendees.

Carol Holley – Pope Road
Ms. Holley requested that additional Phase II copies be made available in the Library, including Phase I report copies which include a lot of important information. She also asked whether irrigation wells were included in the groundwater protection areas (Doug Halley answered that they were not).

She also requested that further public education become a priority, not just that which was included in the Appendix. She indicated that this is a necessity. Doug Halley agreed, and stated that this was an ongoing initiative that began before the Phase I.

Don Barren – 7 Mallard Road
Mr. Barren stated that he looks forward to his neighborhood connecting to sewers, and is concerned about mounding created by new septic systems going up in his neighborhood. He stated that he wants very much to connect to the sewer that is in such close proximity to this area.

Terra Freidrichs –
Ms. Freidrichs stated that she supports the study. She questioned the statistical basis for the findings (% of systems impacted, and % of town land area that is unsuitable). She also questioned the statement that 97% of the systems would be fine? Lauren has said 67%. Bob Rafferty stated that he would check and

issue an answer.

She also asked whether the Selectmen had requested a waiver from DEP to construct the Spencer/ Tuttle area sewers prior to finalizing the CWRMP. Lauren Rosensweig answered that DEP may be hesitant issue a waiver until the plan was complete. Terra disagreed, said she had talked to DEP and they said that they had not been asked about a waiver, and would entertain a waiver request.

Doug Halley also stated that he has spoken to both DEP Central Regional Office (CRO) and Boston, and to his knowledge it is not true that a waiver can be issued easily.

She asked about the Douglas and Gates Schools, and why, if actual flows are below the 10,000gpd, the requirement to construct a treatment system is not waived. Lauren Rosenzweig answered that they issued a letter that said they needed to see the data. Her concern is why is West Acton otherwise a priority, if not for Douglass and Gates School?

Charlie Kadlec, Paul Revere Road
Mr. Kaldec questioned why this report was being put before Town Meeting?
He questioned financial analysis, and costs for alternatives for each solution. He said financial data in the report was minimal, with no backup, and that it was therefore incomplete.

Lauren Rosenzweig said that the costs were based upon related costs of the Middle Fort Pond Brook treatment plant. She also stated that this was a Plan, these estimates were appropriate at this time, and all alternatives have uncertain costs at this time. The major issue that this plan addresses is groundwater protection, and implementation of the recommendations will cost less now, than possibly having to clean up the contaminated groundwater later. This is a 20 year Plan.

Ann Chang added that this is not a financial report, and that comparison numbers have come from the Board of Health related to septic system replacements in Acton. This was intended to be an environmental report, not a financial report.

Mr. Kadlec stated that the report does not meet the requirements for this Study. He questioned the presentation's use of the term "most cost-effective solution" when only the sewer connection (i.e., for West Acton) was evaluated.

Helen Probst answered that it would not take a detailed financial analysis to know that installation of a pipe is far cheaper than replacement of a septic system/wastewater treatment plant for the Douglas and Gates Schools in West Acton.

Mr. Kadlec questioned the betterment charge, and what it would be in the future? On page 3-13, the average cost per property is $34,000, so who is going to pay the difference for properties that cost less? Doug Halley answered that the average was a math exercise for anticipated costs spread out over the number of parcels, and that it was not meant to be a final analysis. Final betterments are based on the Town's Sewer Assessment Bylaw not solely the number of parcels.

Mr. Kadlec stated that he had reviewed data at Town Hall. He questioned what "scientific analysis" has been done to determine Needs Areas? How did they get from the data to the Needs Areas definition? Doug Halley stated that the following criteria were used: screening process, public meetings, consensus

of the CAC, groundwater protection zones based upon mapping (GIS) for risks, etc. Lauren Rosenzweig added that the planning process was to look at the management of an entire Needs Area, even if specific parcels did not show a need.

Ann Chang added that the specific criteria for needs - soil maps, groundwater maps, septic failures, mounding requirements, areas where soils were poor, high groundwater, septic problems, etc. created the actual Needs Areas.

Mr. Kadlec stated that he still had a problem with no full evaluation of, or proposed solution options for, each Needs Area.

Doug Halley said that is not true – the solution options are detailed in the Phase 2 report. Mr. Halley also felt that it would be unfair to choose the solution for each wastewater management district without the input of the neighborhoods impacted.

Mr. Kadlec then asked, "Why will it cost $11 million?"
Brent Reagor clarified that page 3-17 table delineated the present worth of costs over a 20 year period, including capital expenses, management, software, consulting, etc. This is a method of comparing alternatives. The system evaluated is one alternative for wastewater management districts.

There are over 100 new systems being installed or replaced per year, and the additional wastewater management will have costs associated with them. The centralization of wastewater management will save homeowners costs by bundling services to serve the entire community.

Mr. Kadlec stated that he hoped that the impacted community members were aware of this Plan.

Andy Munroe - Spencer Road area.
Mr. Munroe requested that the West Acton area receive a letter at Town Meeting that indicates there are other options versus sewer to address groundwater risk issues. Doug Halley agreed that additional information could be provided. Andy indicated that his area has problems with high groundwater, and supports the sewer within his Needs Area.

Jim O'Neil - Flint Road.
Mr. O'Neil stated that his backyard has a real problem with high groundwater which he feels could create health issues. He questioned the waiver process, the discrepancy with whether Town Meeting approval is needed or required, and whether DEP could issue a waiver without the Town Meeting approval. Doug Halley stated that they are obligated to complete this Phase by their commitment to DEP. Until MEPA requirements are met (such as Town meeting approval), sewer connection permits cannot be issued by the DEP without a waiver. If no Town Meeting approval, then the Plan will not be submitted to MEPA, and the Town has not made progress.

Allen Nitschelm - Marian Road
Mr. Nitschelm asked why it was important to bring the Plan to Town Meeting? Doug Halley answered that it would be inappropriate to proceed with this significant plan without agreement by the Town.

Eric Hilfer followed up by asking whether the Phase 2 report could be separated to meet the MEPA process? By Needs Area perhaps? Doug Halley answered that no, MEPA wants a town-wide assessment

which is appropriate under their planning requirements.

Mr. Nitschelm asked whether Flint Road was included in the initial assessment of Middle Fort Pond Brook treatment plant? Doug Halley answered that Yes, but not studied closely, so it still needed to be included in this approval process.

Mr. Nitschelm questioned the formation of Needs Areas, concerned that his portion of Flagg Hill was included in a wastewater management district by proximity with Ethan Allen Road for a common solution? Brent Reagor stated that data indicated the number of septic systems (20) that were replaced on Ethan Allen Road (out of possible ~50). Mr. Nitschelm neighborhood is approaching that replacement stage, and that the "pattern" of the data indicates that his road should be included in the Needs Area. Mr. Nitschelm stated that he did not want to be included in an area that will cost him money unnecessarily.

Brent Reagor stated that over 20 years, the plan will be able to address what will in the future (if not now) be required to meet requirements and regulations. Lauren Rosenzweig reiterated the requirement for septic system replacements in his neighborhood, and that the issue will have to be addressed at some point.

Mr. Nitschelm questioned the Title V requirements that fail a system? Doug Halley explained the criteria for pass/fail that is protective of the environment, even if there are no apparent problems for the homeowner. Mr. Nitschelm questioned the timeline and the need to complete the study within a timeline? Doug Halley said if it is delayed too much the process cannot go forward.

Carol Holley (again)
Ms. Holley asked what happens if Town Meeting does not approve? She stated that she had called Marty Suuberg (DEP), and asked whether or not the worst case scenario will allow for some relief? DEP's verbal response was that there is potential for a waiver of requirements.

Dore Hunter
Mr. Hunter applauded the efforts of the Committee. His comment: pending question of school hookups, he supports this in order to protect the town's groundwater resources, so that money can be used for the schools. The schools should be on sewer if at all practical.

Bob Evans – Old Meadow Lane
Mr. Evans was curious as to costs to taxpayers, the costs to homeowners for the school sewer hookups.

Helen Probst related this to the cost allocation of the Middle Fort Pond Wastewater Treatment Plant. Schools get assessed an annual charge, which is spread out over all taxpayers, and some homeowners will see this as an additional charge to what they are paying for their own wastewater management district. She reiterated that it is a 20-year environmental study that should have been done already under the MEPA process.

Mr. Evans also questioned the approval process of the report, and is concerned that the approval will bind the community to all of the recommendations in the report over 20 years.

Doug Halley indicated that this is similar to the Town's Master Plan, in that it is a framework to move forward. Town Meeting votes will be required to implement the recommendations.

Terra Freidrichs – (again)
Ms. Freidrichs is concerned that individuals within a Needs Area will be a requirement to abide by the recommendations, and that Needs Areas people must speak up during the Public Comment period.

Lauren Rosenzweig stated again that this is a plan with recommendations for moving forward to address the need for solutions in order to protect the environment, not a final requirement for specific solutions.

Allen Nitschelm (again)
Mr. Nitschelm questioned the analogy of the Master Plan, which was also approved at Town meeting. Mr. Nitschelm asked whether the Master Plan was approved by the state?

Ann Chang answered yes, since in order to access grant funds, the Master Plan had to be approved and updated every five years. The Master Plan is used in reference to future proposals for planning, and for consistency. The Phase 2 Study can be used in the same way. Ann indicated that for funding requests related to implementing recommendations of this Study, they would have to go back to Town Meeting for 2/3 vote each time a project was proposed.

Mary Michelman
Ms. Michelman was concerned that the Study was trying not to exclude any solution in the future, while protecting the groundwater resource. Specifically the indirect potable re-use option for future wastewater treatment plant effluent disposal is of concern due to possible biological contaminants, as well as emerging contaminants such as viruses, pharmaceuticals, etc. She recommended that this be a last-resort option, and requested clarification of the language in the Phase 2 regarding Indirect Potable Re-use as an option, including the need to be protective (better testing, etc.) if this is even being considered.

Lauren Rosenzweig requested that she put these thoughts on paper, as they are important to consider. Ms. Michelman asked whether people could make suggestions on report content? Doug Halley answered that the report, that is the subject of Article 31, will be the one submitted to the Town on March 3, 2006 by Woodard & Curran. The only report changes that can be accepted would be changes during the Town Meeting. Brent Reagor stated that once the report was submitted to MEPA, there is a public comment period, and a public hearing. Comments can be made at that time as part of the public hearing process.

When asked about the best time to comment? Doug Halley answered that it is now, and that there is an opportunity to create an Appendix based upon comments received.

Andy Munroe (again)
Mr. Monroe asked for clarification in the report of consideration of other logical alternatives that may not have been included. Doug Halley agreed, indicating that it could also be relevant during discussions with schools that are able to evaluate other options not necessarily included in the report.

Mr. Monroe also wanted clarification that the Plan is a general direction, and that changes can occur in the 20 year future. Doug Halley agreed.

Mr. Monroe asked if the Town Meeting approval is for the Plan, but not for the financial obligation within it? Doug Halley said yes and noted also that the high-priority items would be addressed very soon afterwards in near-future Town Meetings.

David Stone - Liberty Road
Expressed appreciation for 5 years of effort by the Committee. Mr. Stone asked whether 25% of Town Area was within a Needs Area? Brent Reagor answered yes, and that the incorporation of proximity parcels increases it to about 40-50%.

Mr. Stone asked how did half the town escape from being in a Needs Area? Brent answered that what drove the proximity inclusion was the anticipated septic replacement need of a particular area, combined with water resource protection. Doug Halley added that the application of future solutions could reduce the planning areas.

Andy Magee (again)
Mr. Magee addressed the cost issues raised by others: He stated that this is a planning document, and recognized that it does not have to be a financial management plan. DEP will accept this, because it is a very good wastewater management study. If a waiver was approved by DEP now, DEP would require a wastewater management approval some day. He has experience with this. He felt that the plan was open enough to be able to unbind areas and people if needed. He supports the plan, and it should go forward. He has a problem using the Wetherbee Conservation Land for effluent disposal, but overall wants to see that this gets approved.

Susan Mitchell-Hardt – Pope Road
Ms. Mitchell-Hardt stated that she was disappointed that the Wetherbee Conservation Land was included as a disposal area in the Plan. She'd like to preserve this area as a gateway to Acton and does not want it to be put at risk through this possible use. Helen Probst said that there were 4 possible solutions. One of the choices included the construction of a sewer. There were only 2 sites identified as available for subsurface disposal in the whole town – Wetherbee is great for disposal, but the deed restrictions on the conservation land are being taken very seriously and will be considered only under last, possible solutions.

Terra Freidrichs (again)
Ms. Freidrichs, indicating Tables 6-8, and 6-9 of the Phase I report, questioned the statistics used in this report. Doug Halley indicated that they would have to get back to her on it.

Jim O'Neil (again)
Mr. O'Neil recognized that MEPA process must happen, but was concerned about the consequences if there was not the Town Meeting support? Doug Halley stated that if this report is not approved at Town Meeting, then it sends a strong signal that there is not support for the Plan overall.

David Trudeau- Mallard Road
Mr. Trudeau stated that this Plan must be a priority, but he wanted the Committee to consider the possibility of taking off the Flint/Spencer/Mallard area from the plan, and initiating a waiver process for it. Doug Halley stated that the DEP long-term process would be too hard if the short-term waiver process goes forward. Brent Reagor added that without a town-wide plan in place, low-interest loans are unavailable to the Town and they are open to commercial loan options only (more expensive).

Mr. Trudeau wanted to know how to avoid the risk of failure at Town Meeting. Doug Haley and Ann Chang responded that it is necessary that people come out and approve it.

Helen Probst stated that the Town Meeting passing of the Middle Fort Pond Brook sewer system and treatment plant was difficult. She stated that the current excess flow capability from the wastewater treatment plan needed to be used effectively, and not just in one particular area. Schools may be able to be taken out of the Plan, but this is not guaranteed. Doug Halley is optimistic that the Plan will be approved. Correspondence with town counsel indicates that if the Town approves the Plan, homeowners at risk with their systems could be granted waivers from immediate replacement requirements by the Acton Board of Health under Title V.

David Stone (again)
Mr. Stone indicated concerned that the Plan is all or nothing. What if Town Meeting votes No Action?

Lauren Rosenzweig re-stated that this is first and foremost a groundwater protection plan, that if it doesn't get approved at this Town Meeting, they would raise it again (at more incremental cost) at a future meeting. This was a comprehensive effort that would be a waste of time and money if it did not get approved.

Andy Magee (again)
Mr. Magee's opinion is that DEP will not allow for segmentation of the Plan. They will not issue Sewer Connection Permits before the MEPA Certificate is issued and complete. His experience with MEPA is that it needs to be addressed as a complete project, and that it will be longer and harder to piece it together instead.

Dore Hunter (again)
Mr. Hunter commented regarding project financing: If Acton's bylaw requires self-supporting wastewater funding, the Committee needs to consider how the projects will be funded in upfront costs, about $500K.

Carol Holley (again)
Ms. Holley asked how 40B projects (proposed or future) would tap into the gallons per day of excess WWTP capacity available? Doug Halley answered that most of the 40B developments proposed are outside of the sewer district. He doesn't believe that 40B developments are within the target areas of this Plan.

Terra Freidrichs (again)
Ms. Freidrichs stated that she'd like to reduce high priority (West Acton) areas to medium priority.

Helen Probst stated that she thinks that this is a good CWRMP, and is concerned that people will vote it down completely, even if there is only a small part of it that they object to. There are 20 years of future planning, and public comment/hearing opportunities to address specific area concerns without killing the entire Plan.

The Acton Citizen's Advisory Committee thanked all who attended. The meeting was adjourned at 9:50 p.m.

Sign In Sheet

Name	Address	Phone Number	Email Address
JUDY WOLFF	6 DURKEE RD	264.0286	fenway3@earthlink.net
DAVID WOLFF	6 DURKEE RD	264-0286	
Marian EVANS	4 old meadow La	3-5557	
Robert EVANS			
Beth Thompson	43 Flint Rd	978-263-7714	starchewz@aol.com
Jinni Montagna	1 Dunkee Rd.	978-263-2617	jomontagna@verizon.net
Joe MONTAGNA	1 DUNKEE RD	"	"
LouAnn Hopkins	6 Mallard Rd	978-263-8033	tom.louann@verizon.net
DON BARRON	7 MALLARD RD	978 264 3953	BOBBIEDON@COMCAST.NET
Andrea Mayer	10 Lilac Ct	978-263-0683	amayer@epsilonassociates.com
Claire Bellitto	33 Tuttle Dr	978-263-0247	CLPMASS@AOL.COM
SUE HOWE	33 TUTTLE DR	978-263-0247	MSUSANHOWE@AOL.COM
Pat Cummings	120 Prospect St		
Jane Cerasoli	39 Ethan Allen	978-263-9225	
Gigi Hopkins	5H Iris Court		

Sign In Sheet

Name	Address	Phone Number	Email Address
Andy Munro	8 Spencer Road	263-3268	afmunro@gmail.com
BARRY ROSEN	5 Windemere	978-264-4656	barry.rosen@comcast.net
DAVID TRUDEAU	15 MACLEAN	266-912 2	TRUDEAU@MINDSPRING.COM
John Capen	16 Algonquin Rd	264-4256	
Jim O'Neil	37 Flint Rd	266-2670	joneil@sybase.com
JOHN MURPHY	57 FLINT RD	263-4039	jfmurphy57@COMCAST.NET
Margaretha Eckhardt	55 Maple St.	978.929.9655	gretaeckhardt@alum.mit.edu
Russ Bastaki	11 Spencer Rd	263-7348	
Peg Edwards	9 Spencer Rd	263-6024	dje92@eartlink.net

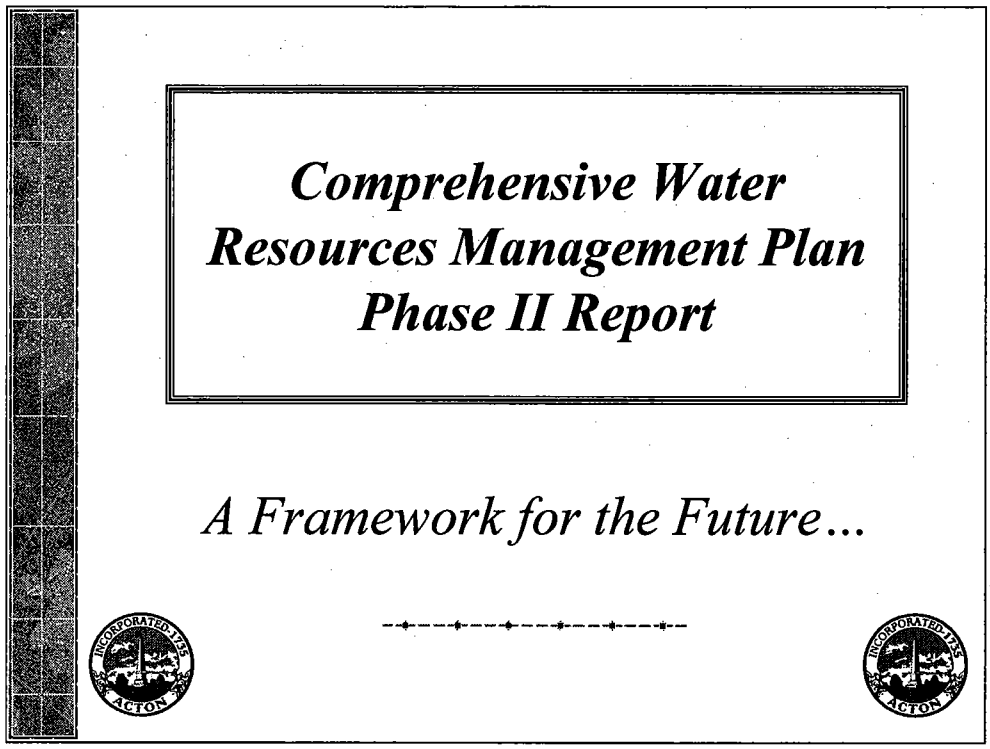
Sign In Sheet

Name	Address	Phone Number	Email Address
Doré Hunter			
Joe Bisognano	4 Torrington Lane	978 263 9812	jbisognano@msn.com
Craig Roach	39 Flint Rd	978-266-9997	csroach@comcast.net
Eric Hilfer	16 Orchard Dr	978-635-8362	
Mary Michelman	6 Magnolia Dr.	978-263-7370	msmichelman@comcast.net
Gloria Jacobs	51 Flint	978-263-7224	gloriajacobs@verizon.net
Charlie Kadlec	19 Paul Revere Rd	263-4361	
Kerry Byrne	7 Lothrop Rd	263-5223	KByrne@mail.ab.mec.edu
Pat Gasten	42 Ethan Allen Dr	263-2035	pat.gasten@comcast.net
Allen Nitschelm	9 Marian Rd	266-2456	Allen@nelsonstudio.com
[illegible]	47 Alcott St	263-0855	
Valerie Malinowski	3 Torrington Lane	2634786	valmal52@aol.com
Carol Holley	39 Pope Rd	2634531	
Hart Millett	47 Alcott St	978 263-0988	hart.millett@verizon.net
[illegible]	326 Pope R		

Sign In Sheet

Name	Address	Phone Number	Email Address
MARY DONAY	42 TAYLOR RD	978 263 4747	

3/27/06 Board of Selectmen



- **Tonight we present results of over 5 years hard work by**
  - **members Citizens Advisory Committee**
  - **Health Dept. Staff**
  - **consultants from Woodward & Curran**
- **Phase II report is built on Phase I--completed in 2004--Environmental Risk Assessment for entire town**
- **Phase II went on to prioritize areas of risk**
- **Provides menu of options avail. as solutions to mitigate those risks.**

Phase II is Complete

- Extensive Research into how Acton Manages its Water Resources
- Provides a Framework for Future Water Resources Decisions
- Addresses the Greatest Risk to Acton's Water Resources:
  - How We Dispose of Our Wastewater

•Main focus of this report is to provide Town with a Framework to base future Water Resources Management decisions for next 20 years

•A Planning document, not Implementation document

•Included looking at all areas involving water, including water needs projections, storm water, and wastewater.

•Acton takes its water from wells/groundwater, so Greatest Risk to our Water Resource = Subsurface Disposal of Wastewater

Where did this all start?

- Town-wide study required by the State as a part of the South Acton Sewer Project
- Annual Town Meeting in 2000 voted to appropriate $500,000 for the study
- The Town and the State agreed on the scope and the process the study would follow

•State required this study as pat of the Middle Fort Pond Brook Sewer Project

•State specified direction of study

Citizens Advisory Committee

- Formed by the Board of Selectmen in 2001 to direct the Study
- 15 Committee meetings
- 4 Public Information Meetings
- 15 Members
  - Cross-section of the community
  - Representatives of Boards, Committees, and Citizens' Groups

•Citizens Advisory Committee managed this study over last 5 years within scope set by State

•Large amounts of Technical Data Gathered, Presented, Discussed and Digested in order to develop this Final Report

NAME	AFFILIATION
Kathleen Doran Boyle	Citizen
Tony Capobianco	Business/Property Owner
Jane Ceraso	Acton Water District
Ann Chang	Citizen
Pat Cumings	Citizen
Chris Schaffner	Planning Board
Art Gagne'	Citizen
Eric Hilfer	ACES
Lauren Rosenzweig	Board of Selectmen
Walter Foster	Board of Selectmen
Helen Probst	Citizen
Len Rappoli	OAR
Nancy Tavernier	Citizen
William McInnis/Mark Conoby	Board of Health
Jim Shope	Business/Property Owner

- **CAC true cross-section of community**
- **Appointed by Board of Selectman**

Process

- Phase I – Completed in 2004
  - Definition of Needs
  - Profile of Existing Conditions
- Phase II – Completed in 2006
  - Evaluation of Solutions
  - Prioritize Areas of Need
  - Recommended Framework for the Future to address the Identified Needs

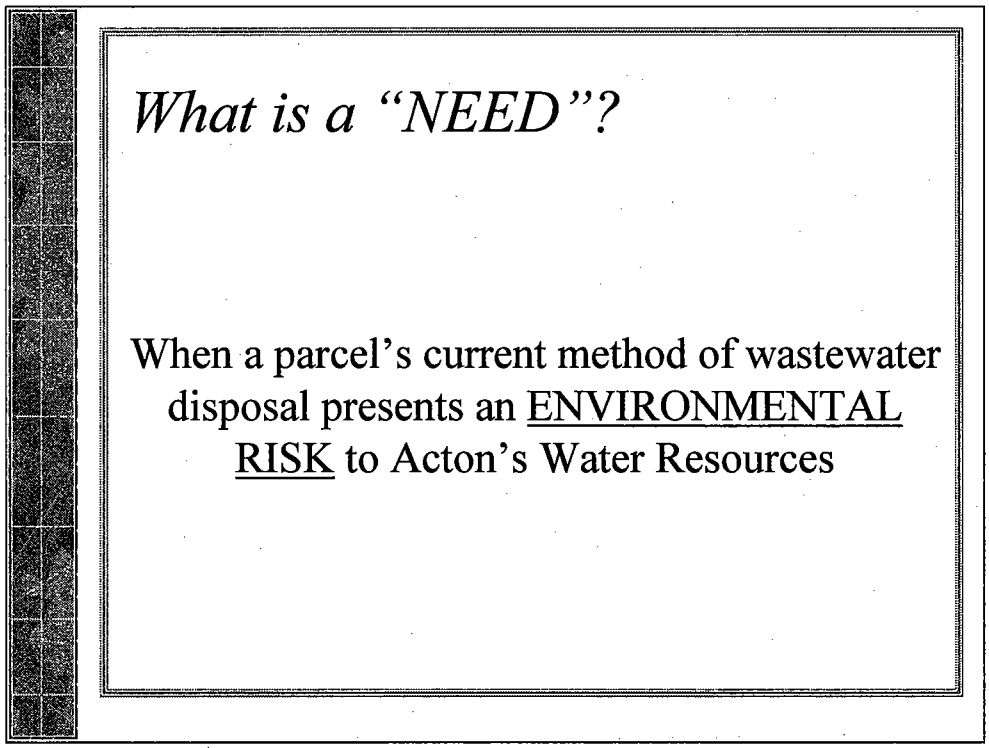
•Study originally designed with 4 Phases

•Able to condense project into 2 Phases due to

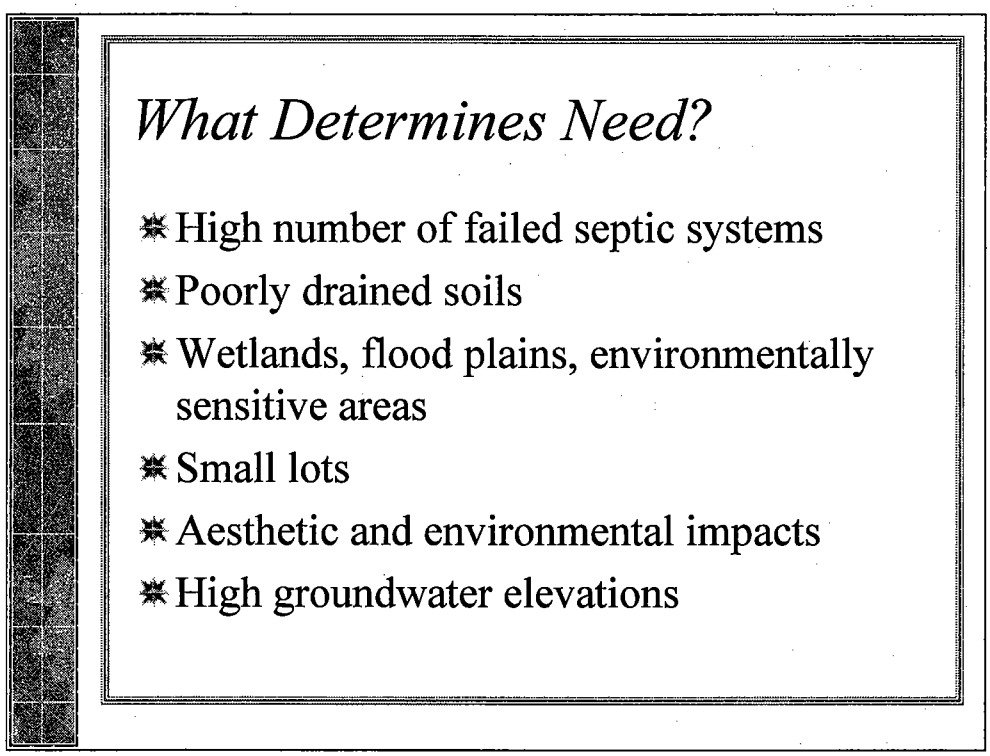
- **amount of Useful Data collected by Health Dept. over last 10+ years**
- **•Ability of consultants to use that data**
- **•No loss in results or scope, just streamlined process**

•Phase I gave Existing Conditions

•Phase II Looked to Future, Evaluating any/all possible solutions, Prioritizing 15 Needs Areas, Creating Recommendations as to how to proceed



- **Acton does not have good soils for septic system construction**
  - **Analysis of soil data from Natural Resources Conservation Service**
  - **Only 34% are favorable**
- **Septic systems only minimally treat wastewater before disposing of it into ground**
- **Compare to our sewer plant which treats to an almost 'potable' (drinkable) standard before discharging into the septic field**
- **Wastewater disposal presents an Environmental Risk to our Water Resources**



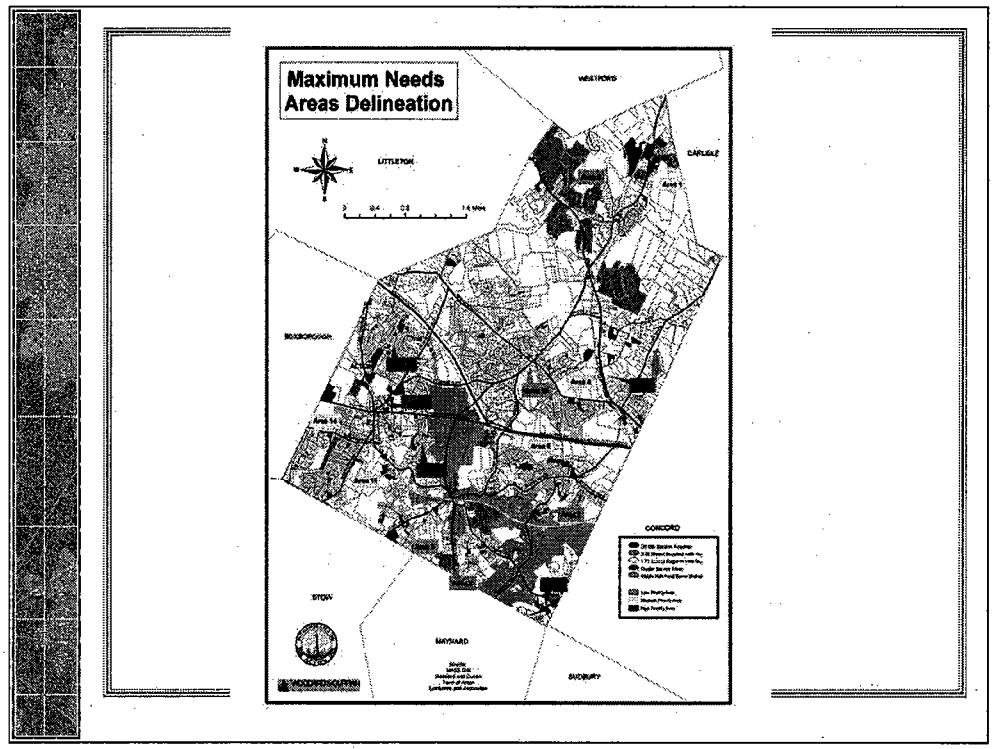
- **Big Indicators/Determiners of Need**
- **Most are clearly environmental standards, consistent with Title V statutes**
- **All factors did not necessarily receive equal weighing when determining need status; all were considered important enough to include in discussions**

Where Did the "NEEDS" Data Come From?

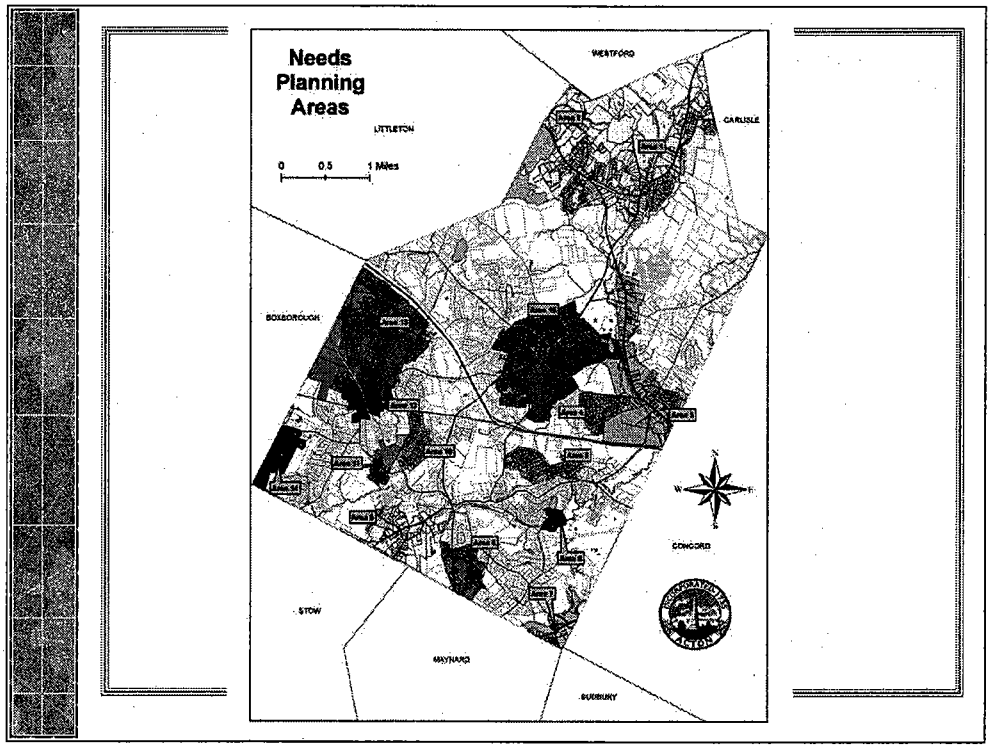
- Town of Acton Health Department Records (1995 – 2003)
  - 3,507 Deep Test Holes
  - 1,701 Percolation Tests
  - 2,279 Septic System Construction Plans
- Town of Acton Engineering and Natural Resources Departments
- United States Department of Agriculture
- United States Geological Survey
- Massachusetts Department of Environmental Protection
- Massachusetts Geographical Information System
- Federal Emergency Management Agency

•Need Data came from MANY sources

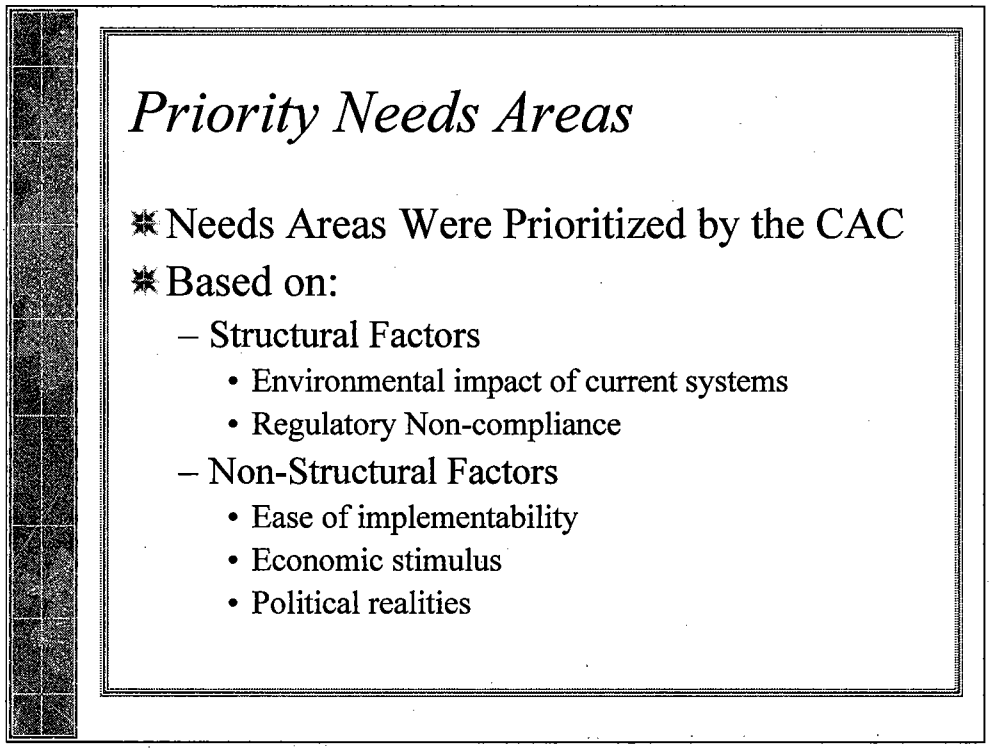
•Data used in this study from more sources than usual in this time of study—we are/were fortunate to be able to fine-tune our data from all these sources



- **Map of Lots determined to have Need in Phase I (from previous slide's data sources)**
- **Grey is present sewer district; Purple are cluster systems; Both grey and purple pre-treat before discharging wastewater in septic field. All else is the (minimal) treatment of individual septic systems/fields**
- **If property is colored red, orange or yellow it is likely to require a number of variances to local and state regulations in order for a septic system to be installed; more variances=increased environmental risk**
- **NOTE: map used to look for patterns, not necessarily lot-by-lot**



- **Grouped parcels with Needs into Planning Areas**
- **Grouped by**
  - **Geography**
  - **Neighborhood Identification**
  - **Similar type of use**
- **Total of 15 areas Identified for Further Evaluation**



- **Each of 15 Needs Areas were Prioritized by CAC**
  - **5 high; 5 medium; 5 low**
- **Method of setting priority based on several factors**
  - **Structural (how bad is it now?)**
  - **Non-structural**
    - **is hooking up to present sewers feasible? Land availability?**
    - **Could sewers help economic stimulus?**

High Priorities

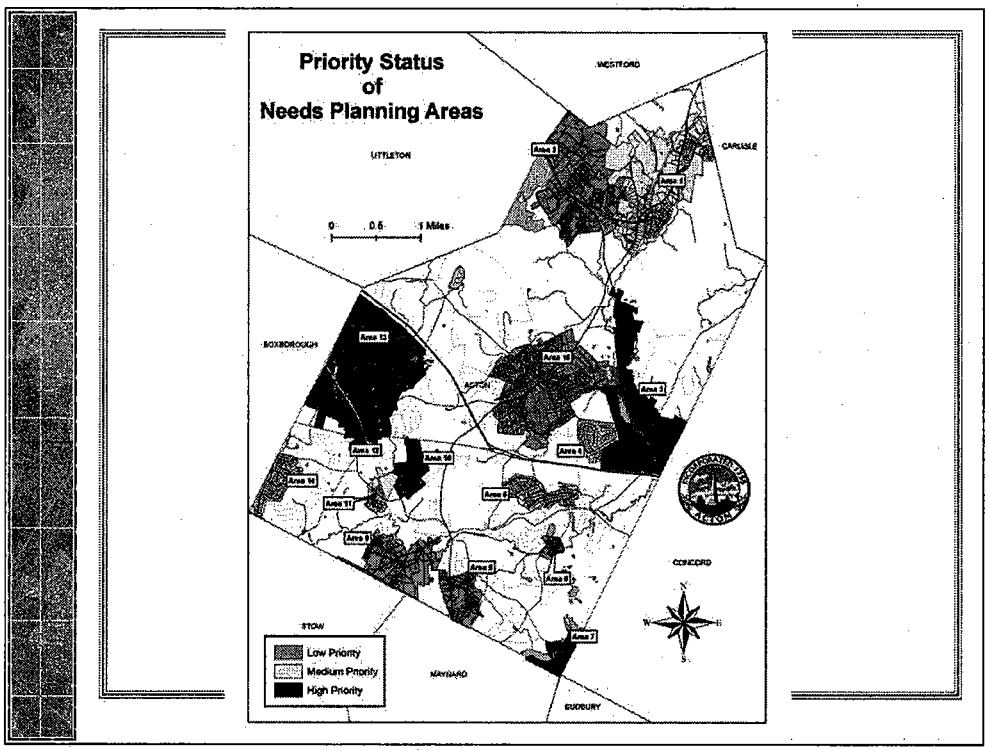
1) Powdermill Plaza
   - Agreement signed with the Town, will connect
2) Spencer/Tuttle/Flint Neighborhood
3) West Acton Center
4) East Acton/Route 2A Corridor
5) Indian Village

•Much deliberation

•5 high priority areas (greatest need, best solutions available)

•Ranked in order of receiving solution

•Powdermill Plaza (Stop & Shop) is already underway



- **Map from earlier slide but now color-coded by priority level**
- **Red=high**
- **Yellow=medium**
- **Green=low**

Potential Solutions

ALL NEEDS AREAS REQUIRE A SOLUTION!

- Connect to Existing Sewer System
- Construct New Sewer System
- Construct Cluster/Neighborhood Systems
- Wastewater Management Districts

•Needs areas were determined through extensive analysis using large amounts of data to offer an ENVIRONMENTAL RISK to our Water Resources

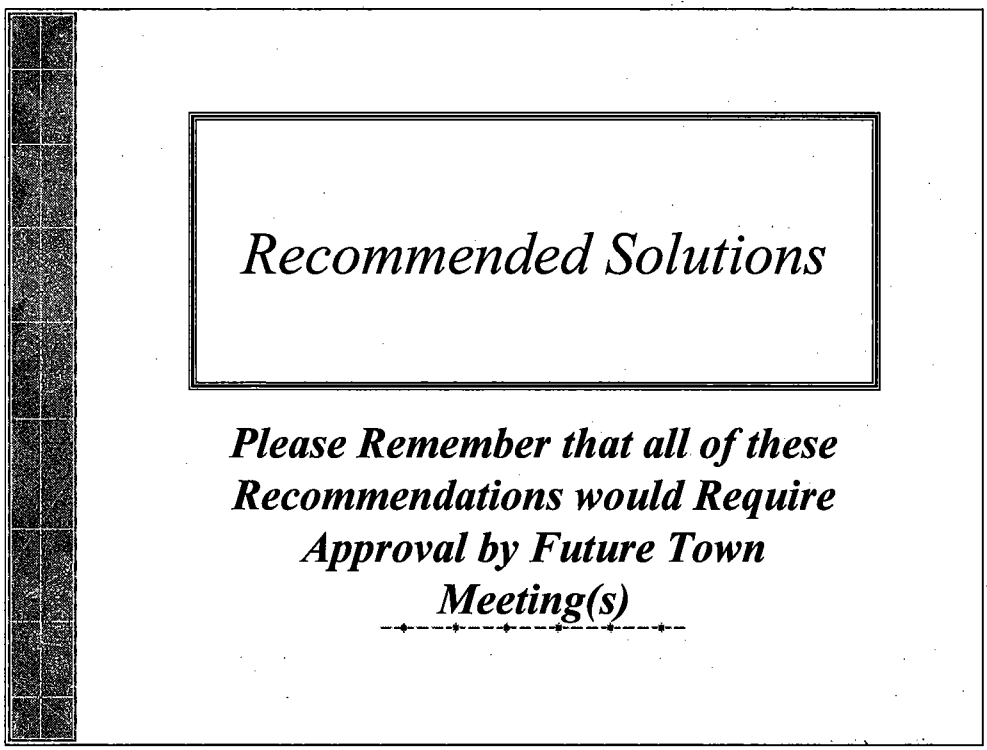
•"Doing Nothing" is NOT an option

•Minimal option is Wastewater Management District

Wastewater Management District

An area where the greater level of environmental risk of septic systems must be addressed by additional levels of environmental protection through more involved management of individual systems

- **Option recommended for most needs areas within Acton**
- **Allows property owner to retain current septic systems**
- **Adds Regulations/Oversight to offset environmental risks presented by septic systems**
- **Specifics still need to be determined**
- **Minimalist option—just as much as needs to be done to safeguard our water**



- **All action on this report requires Town Meeting Approval (and not this April, 2006 meeting)**
- **Solutions would require 2/3's vote**
- **Further clarification/planning/design needed in all cases**

Connect to Existing Sewers

- Powdermill Plaza
- Spencer/Tuttle/Flint Neighborhood
- West Acton Center

•Current Adams St. Treatment plant has additional 49,000 gallons/day available due to State upgrade of operating permit

•Sewer system was deliberately oversized when constructed to maximize potential for expansion

•All above are High Priority Needs Areas near to existing sewer infrastructure

•Best combination of environmental/financial considerations

Cluster/Neighborhood Systems

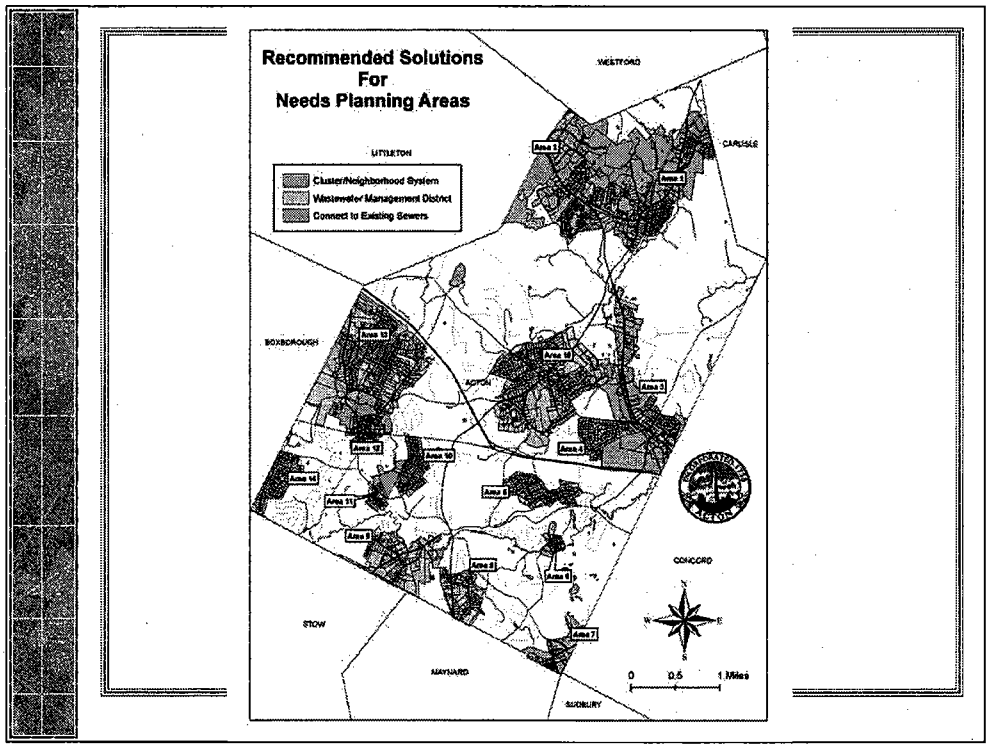
- North Acton (Route 27)
- Brookside Apartments area
- Nagog Woods, North 2A
- Nash/Downey/Dover Heights
- East Acton Village

- **Cluster systems work best in these areas**
- **Many areas have existing privately-owned treatment plants**
- **These plants may have additional capacity available to connect adjacent parcels**

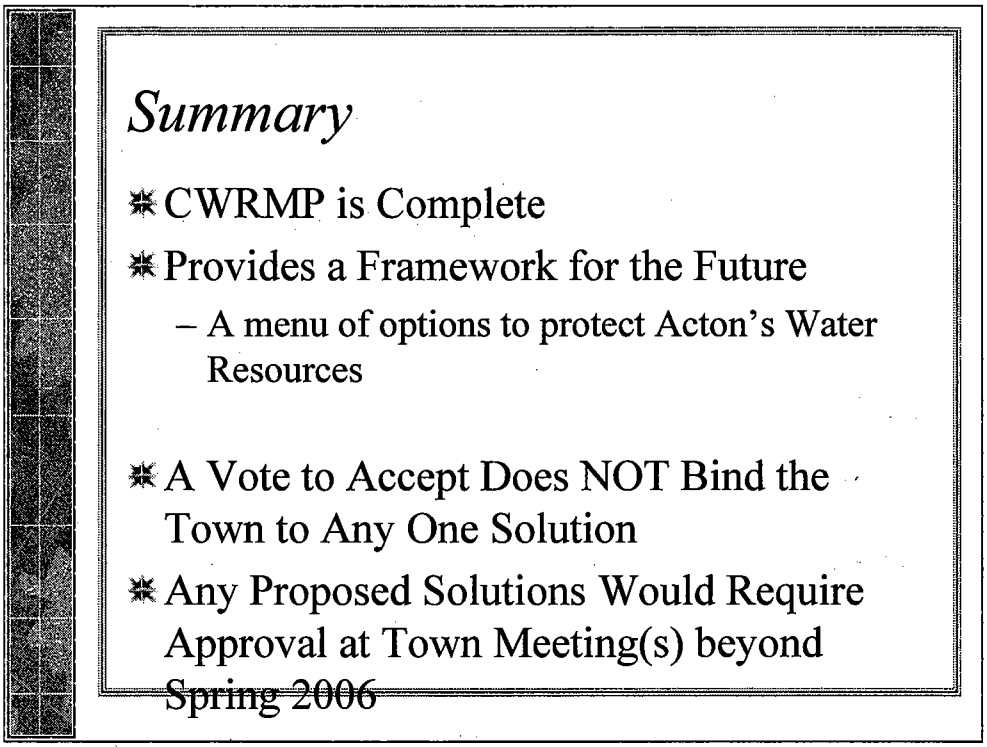
Wastewater Management Districts

- Robbins Park – Alcott Street, etc..
- Brucewood Estates
- South Main Street (near Maynard)
- Billings/Stow/Liberty Neighborhood
- Acton Center/Patriot's Hill
- Indian Village
- Flagg Hill/Forest Glen

- **Majority of 15 Needs Areas have this recommended solution**
- **These areas retain their current septic systems**
- **Additional regulations protect Acton's water resources**



- **Needs Areas shown color-coded by recommended solution type**
  - **Green= Wastewater Management District**
  - **Blue= Cluster/Neighborhood Systems**
  - **Purple= Connect to Current Sewers**
  - **NOTE- NO NEW SEWERS RECOMMENDED!, ONLY EXPANSION OF CURRENT SEWERS.**



•Completes a 5-year process

•Report will be submitted to State in upcoming weeks for final approval

•This is a Planning Document, provides a Framework to judge Future Decisions concerning Water and Wastewater

What Do You Need to Do?

- Attend the Annual Town Meeting
- Vote to Accept the Comprehensive Water Resources Management Plan Report
  - Article #31
- Educate Your Friends And Neighbors About These Important Issues
- Ask Your Friends and Neighbors to Vote to Accept the Report so Acton can Continue to Protect our Water Resources

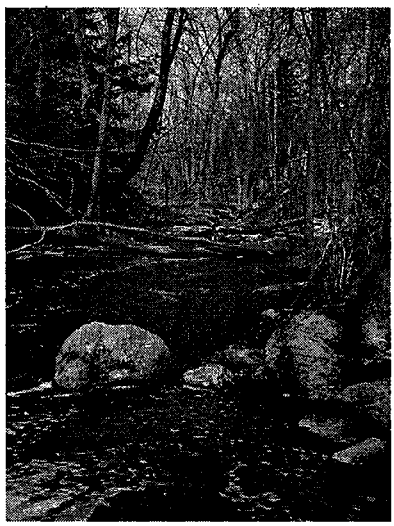
•Important that Town Meeting accept this report

•Project started with Town Meeting vote in April of 2000 (appropriating the money)

•It continues with a Town Meeting vote to accept results of rigorous, scientific analysis

•Future votes will be needed to implement any or all of the recommendations included in this report

•Water issues have always been important to Acton—this report helps us better protect that precious resource



ANY

QUESTIONS?

ANY

COMMENTS?

- **See you at Town Meeting, 2nd night!**

TOWN CLERK
EVA K. BOWEN

TOWN OF ACTON
472 MAIN STREET
ACTON, MASSACHUSETTS, 01720
TELEPHONE (978) 264-9615
FAX (978) 264-9630
clerk@acton-ma.gov

EXCERPT OF THE ANNUAL TOWN MEETING HELD MONDAY, APRIL 3, 2006, 7:00 P.M. WITH ADJOURNED SESSIONS HELD APRIL 4. 2006

Number of Registered voters attending Town Meeting
APRIL 3, 2006 – 364 and APRIL 4, 2006 - 230

ARTICLE 31 **ACCEPT COMPREHENSIVE WATER RESOURCES**
(Majority vote) **MANAGEMENT PLAN REPORT**

To see if the Town will vote to accept the Comprehensive Water Resources Management Plan Report prepared by Woodard and Curran, dated March, 2006, on file with the Board of Selectmen, or to take any other action relative thereto.

MOTION: **Ms. Rosenzweig** moves that the Town authorize the Town Manager or his designee to submit to the Massachusetts Secretary of Environmental Affairs, for public comment pursuant to the Secretary's Special Procedures Certificate for Project No. 11781, dated December 31, 1998 and supplemented on August 16, 2004, the Draft Phase 2 Comprehensive Water Resources Management Plan Report prepared by Woodard & Curran dated March, 2006, along with an Expanded Environmental Notification Form identifying and describing that Draft Report, subject to the express conditions that:

(a) the Draft Report shall not obligate the Town to undertake any particular project or projects or other course of action that may be described in the report, and

(b) an affirmative vote by a future Town Meeting shall be required to appropriate funds, borrow funds, issue any bonds, or otherwise raise any funds necessary to implement any recommended actions contained in the Draft Report which require such an appropriation, borrowing, bonding, or other financial commitment of the Town Meeting not heretofore made.

MOTION CARRIES

Annual Town Meeting 4/3/2006

SUMMARY

The 2000 Town Meeting voted to fund a comprehensive town-wide needs assessment, considering all affected water resources; including water supply, wastewater and storm-water management practices. For the past five years the Town's consultant, Woodard and Curran, working with the Health Department analyzed the historic and current water resource conditions within the Town; developed an analysis that identified areas in the town that presented an environmental risk to water resources that must be addressed; and made recommendations on solutions that addressed each specific need.

As part of that study a Citizen's Advisory Committee was formed consisting of a cross-section of Town residents and Board members. Throughout the study, this group was relied upon to guide, advice, and troubleshoot the findings of the report. In addition, during the process, several public hearings were held and comments from the public were incorporated into the report.

The Comprehensive Water Resources Management Plan report is available at the Memorial Library, Health Department and on the Town of Acton Web Site. It has major recommendations which will form a framework for decisions on water resources for the next twenty years. Acceptance of the report at this Town Meeting provides guidance to the Town in attaining goals that protect Acton's water resources. Each recommendation will be brought to future Town Meetings for approval.

ATM 4/3/06

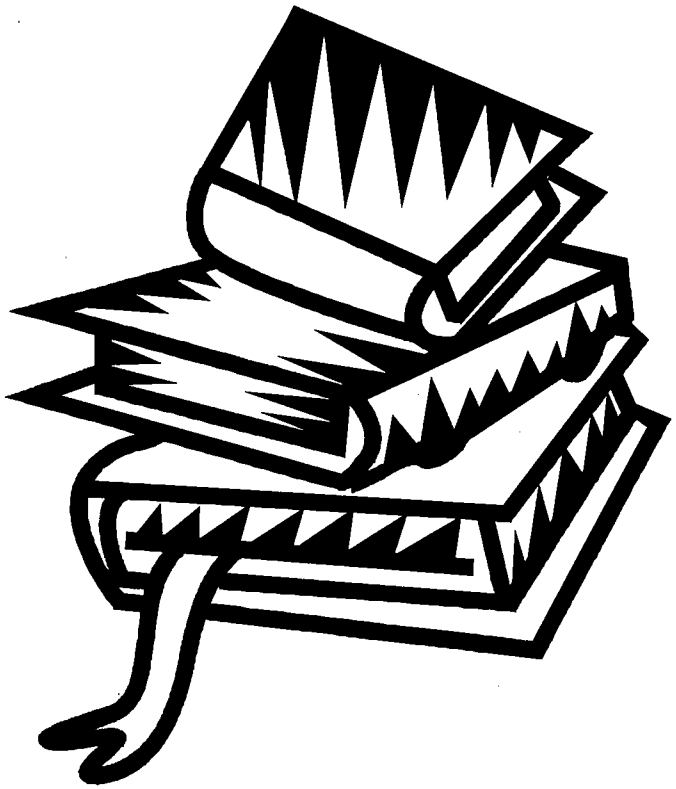
Comprehensive Water Resources Management Plan

A Framework for the Future...

Where did this all start?

- Town-wide study required by the State as a part of the South Acton Sewer Project
- Annual Town Meeting in 2000 voted to appropriate $500,000 for the study
- The Town and the State agreed on the scope and the process the study would follow
- 15 CAC members represented the Town

Where are we now?



READY TO GO!

PHOTO OF
STACK OF
DOCUMENTS
HERE

- 5 years later; $500,000; 44" of Paper

What did we find out?

Grey = MFPB Sewer District

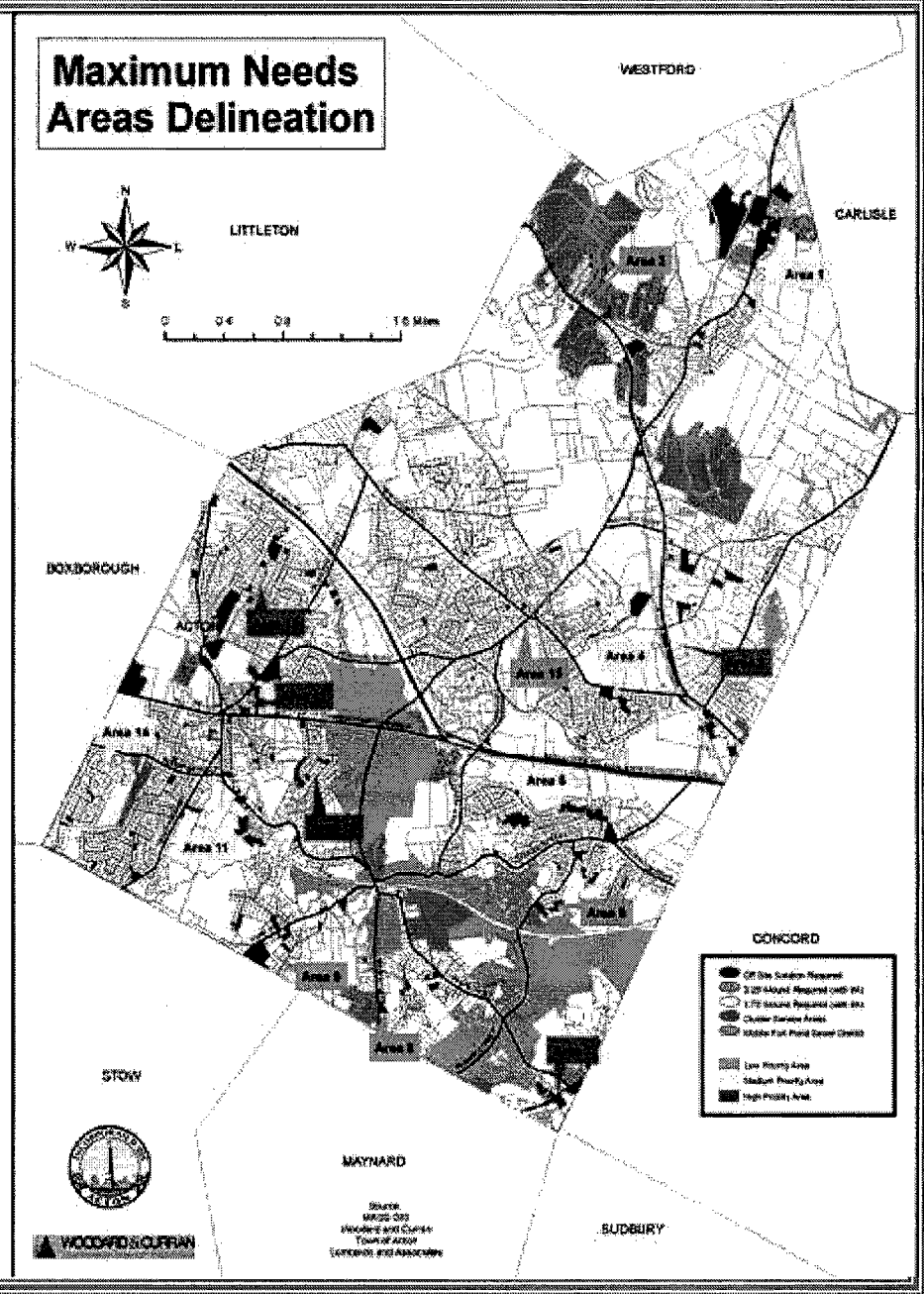
Purple = Cluster Systems

Red = Off-site Solution Required

Orange = 39" Mound Required

Yellow = 21" Mound Required

Majority of Town retains On-Site Septic Solution



How did we find out?

Grey = MFPB Sewer District

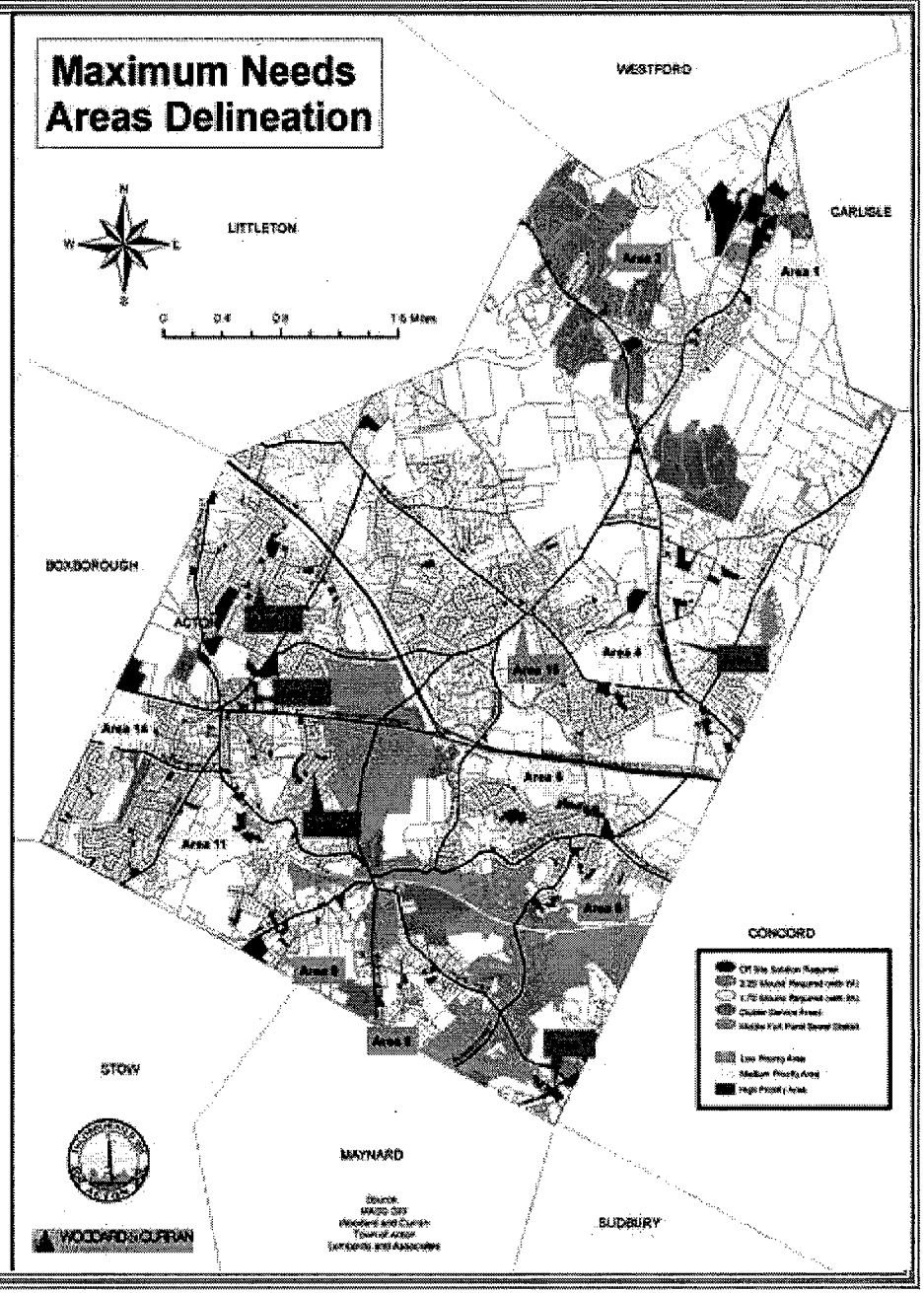
Purple = Cluster Systems

Red = Off-site Solution Required

Orange = 39" Mound Required

Yellow = 21" Mound Required

Majority of Town may retain their On-Site Septic Solution



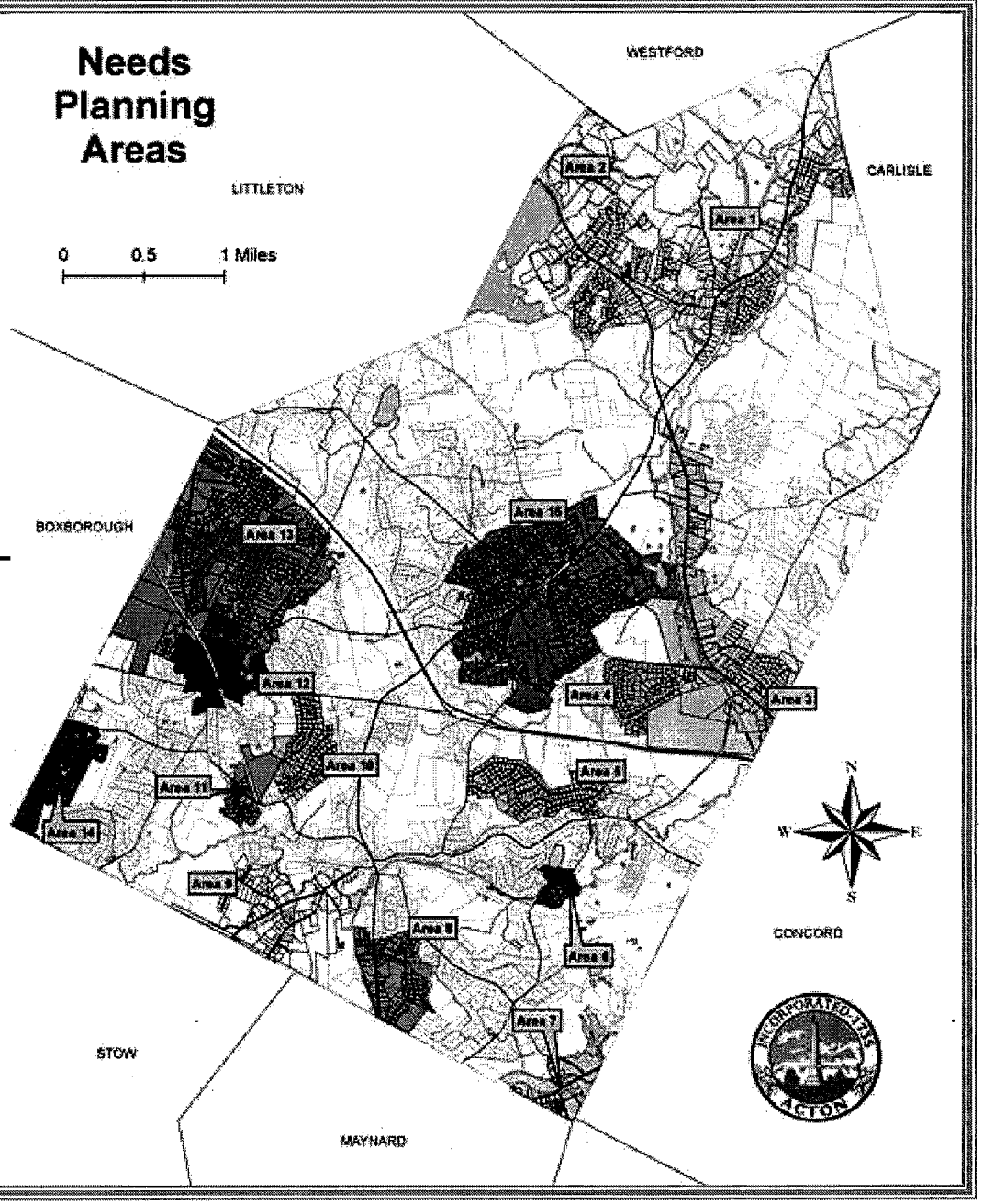
What is a "NEED"?

When a parcel's current method of wastewater disposal presents an ENVIRONMENTAL RISK to Acton's Water Resources

What Next? Making a Plan

Planning Areas – based on:

- Geography
- Neighborhood Identification
- Type of Use (retail/residential)



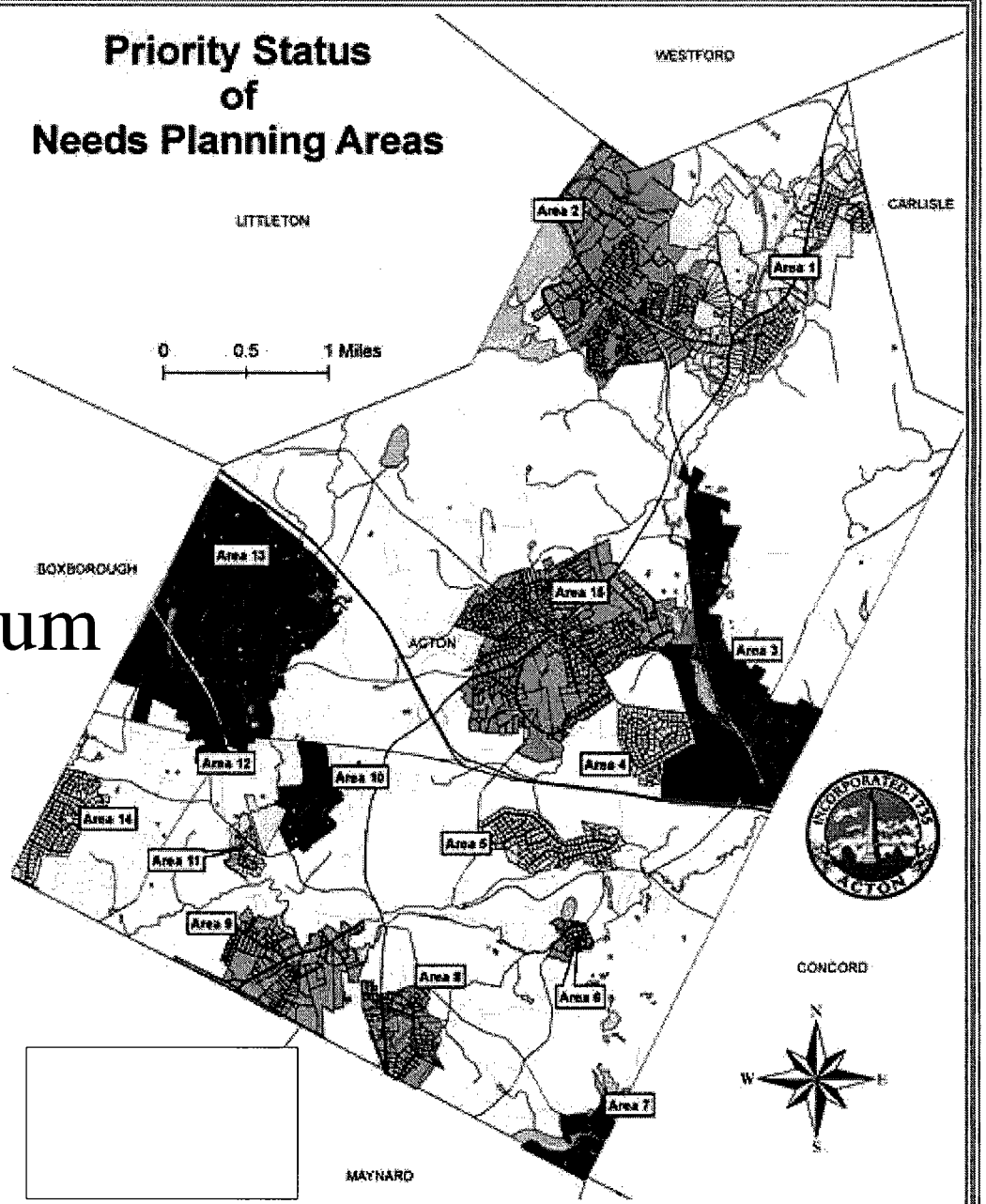
Considering Solutions . . .

- Connect to Existing Sewer System
- Construct New Sewer System
- Construct Cluster/Neighborhood Systems
- Wastewater Management Districts

ALL NEEDS AREAS REQUIRE A SOLUTION!

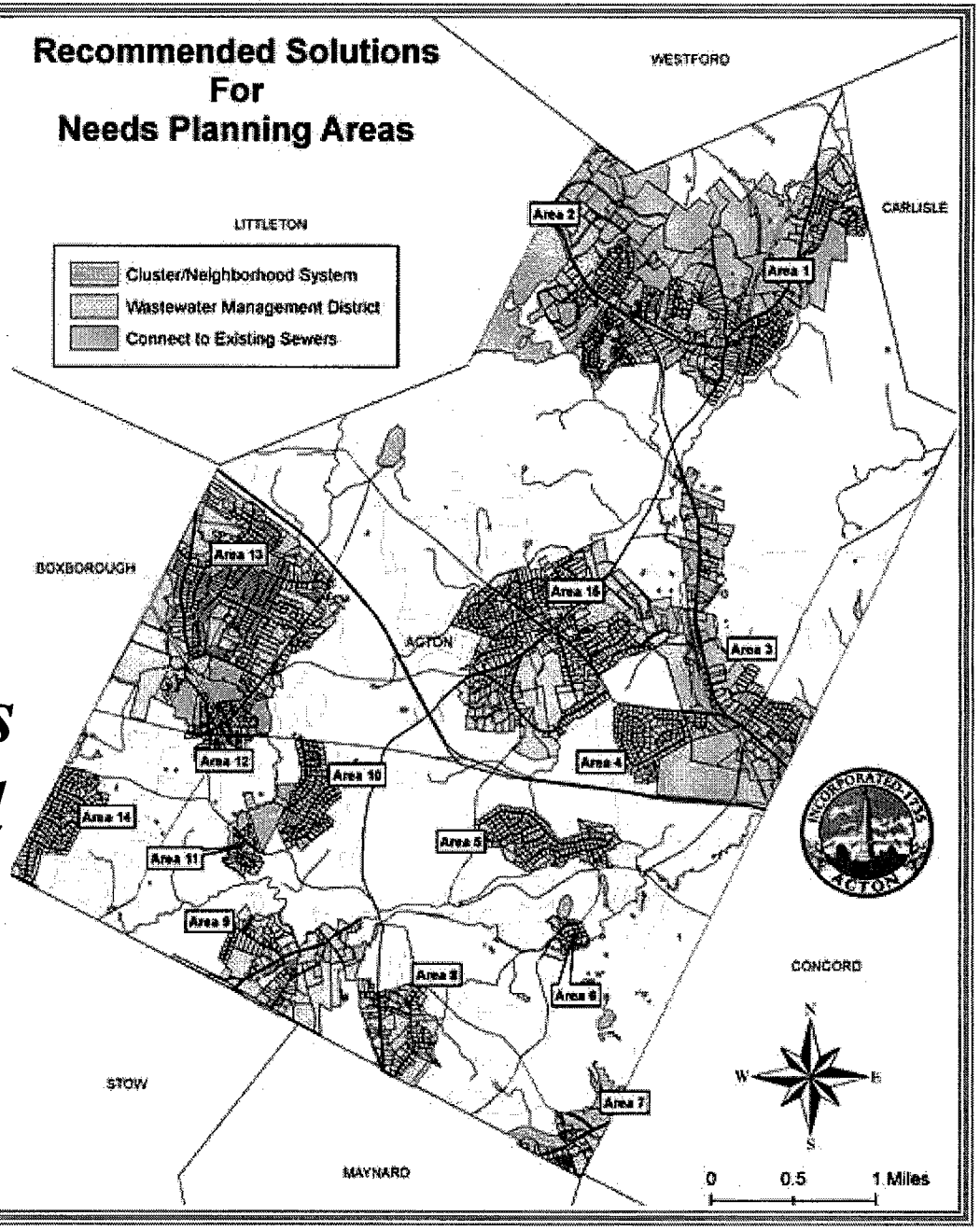
Next? Priorities

- Red = High
- Yellow = Medium
- Green = Low



Matching Solutions to Needs Areas

All CWRMP Recommendations Require Approval by Future Town Meetings



Connect to Existing Sewers (15%)

- Powdermill Plaza
- Spencer/Tuttle/Flint Neighborhood
- West Acton Center

Cluster/Neighborhood Systems (25%)

- North Acton (Route 27)
- Brookside Apartments area
- Nagog Woods, North 2A
- Nash/Downey/Dover Heights
- East Acton Village

Wastewater Management Districts (60%)

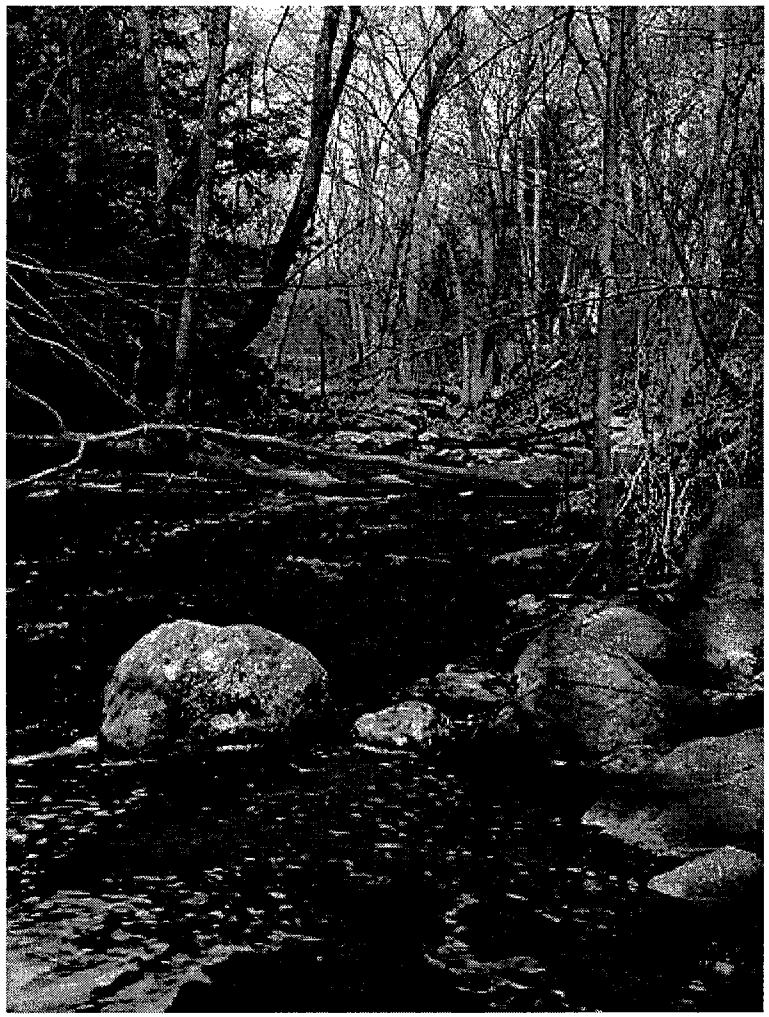
- Robbins Park – Alcott Street, etc..
- Brucewood Estates
- South Main Street (near Maynard)
- Billings/Stow/Liberty Neighborhood
- Acton Center/Patriot's Hill
- Indian Village
- Flagg Hill/Forest Glen

Where Do We Go From Here?

- Vote to Accept Draft CWRMP
- State (MEPA) Review process of Draft CWRMP including 30 day Public Comment Period
- State issues Secretary's Certificate
- Future Town Meeting Vote(s) to address Needs Area Solutions

Why Do We Need This Vote?

- CWRMP gives us the tools we need to keep our water safe
- Future TM votes will have to build on this project's foundation. We should all know about it and how it affects us
- Acceptance will demonstrate Acton's commitment to solving our Water issues; allows Board of Health to issue waivers



ANY QUESTIONS?

Town of Acton

Comprehensive Water Resources Management Plan
Citizen's Advisory Committee Meeting

Meeting minutes
April 27, 2006

Committee Attendees:
Chris Schaffner
Art Gagne
Brent Reagor
Lauren Rosenzweig
Helen Probst
Eric Hilfer
Bob Rafferty, Woodard & Curran (consultant)
Helen Gordon, Woodard & Curran (consultant)

The meeting was called to order at 7:05 pm.

Lauren Rosenzweig opened the meeting by reviewing the Agenda items for the evening, including report edits, comments received, the upcoming MEPA process, and the status of the Massachusetts Department of Environmental Protection (DEP) review of the CWRMP. Afterwards, they will open the meeting to public comment.

Helen Gordon described the environmental review process under the Massachusetts Environmental Policy Act (MEPA), including the proposed schedule for submittal. If the Environmental Notification Form (ENF) is submitted as scheduled in May, public comments will be accepted into June, and then the Certificate from the Secretary of Environmental Affairs should be received in August.

Bob Rafferty gave an update of the DEP's review of the CWRMP. He stated that the agency was still reviewing the document, and that there was no feedback yet. Many edits & clarifications have been made to the CWRMP, and will be reflected in the version for the MEPA submittal. Additional suggested edits and/or comments are still welcome.

Chris Schaffner asked Bob Rafferty to describe the MEPA process. Bob Rafferty gave a general overview, and indicated that the Town submits the ENF to MEPA. Helen Gordon added that after comments are received during the public comment period, and the Secretary of Environmental Affairs issues a certificate. A response or final CWRMP will be issued, if the Secretary's comments require edits to the report. The Town's response will include responses to the comments received during the process. It will be up to the CAC to determine how to address the comments received, and/or make clarifications to the CWRMP to complete the MEPA public review process.

The next Agenda item was a discussion regarding a petition received from Sylvia Street residents. Brent Reagor described the residents' petition to be included within the sewer

district. A new developer who is constructing 2 or more houses on the street is one of the petitioners. The CAC members discussed the new construction plans. The results of the soil studies indicated that soils were acceptable, so the new building plans have been approved based upon the suitability for onsite wastewater systems.

The Committee expressed concern with the financial impact of considering their request, and indicated that to be added would require payment of a privilege fee prior to issuance of a Permit. Also, there is a regulatory issue: a sewer extension of this magnitude could create a new requirement for ENF under MEPA, which would complicate the current MEPA process. Art Gagne asked whether this decision fell under the CWRMP needs area – Brent stated that the street is in Needs Planning Area #8 – a Medium Priority area. Brent Reagor stated that if the Committee made a recommendation, then it would go to the Sewer Commission for a decision. The Committee agreed that there was no current timetable for a sewer connection to this planning area, and it seems to be outside of the CWRMP process at this time.

Art Gagne asked whether this location had the same issues as Spencer/Tuttle/Flint? Brent Reagor answered, yes, there is high groundwater, and Sylvia Street consists of about 6 houses. The residents originally submitted a petition for inclusion in the original sewer area, then withdrew it. Lauren Rosenzweig asked about the excess treatment plant capacity, and whether it would hinder other areas? Brent answered that at 200 gpd/house, 9 homes equals ~ 2,000 gpd. This would not be a big impact. Lauren Rosenzweig stated that she had no problem including them in current or future plans, but was not comfortable making a decision without more information. Helen Probst did not want to move ahead of the CWRMP process, and was concerned that the Committee not parcel away the excess capacity, especially if it is not due to a desperate need that was previously identified. She stated that the request should be taken under advisement, but that the Committee should stay with the current plan and continue to prioritize need.

Terra Friedrichs raised a possible Point of Order regarding the mapping completed within the Phase I, and specifically the designation of "systems where needed" in West Acton. The Committee replied that the issue was not relevant to the current Phase II CWRMP Report which supersedes the Phase I report.

Lauren Rosenzweig requested that any Sylvia Street residents identify their presence. No one spoke, so Lauren requested a motion to re-schedule a specific meeting to hear plans for Sylvia Street, and the priorities, urgency, and other issues with the residents. Chris Schaffner made the motion, and Helen Probst seconded the motion. Art Gagne then requested a hold on voting on the motion, so that the motion could be amended to table the issue instead of scheduling a separate meeting. There was no second to the motion, and no discussion, so the original motion was voted on. All agreed except Art Gagne. Brent Reagor stated that the Health Department would schedule the meeting with the Sylvia Street residents. Lauren Rosenzweig stated that she would confer with the Selectmen, and then make a decision on whether the CAC is the correct body to hear this issue.

There was a general discussion of the public hearing comments heard on March 16th, and additional written comments received, all of which will be incorporated into the Phase II Appendix. Eric Hilfer distributed his version of suggested edits to the March 16, 2006 public hearing minutes, after talking with people who were at the hearing to clarify what they had said.

The Committee reviewed some of the specific comments received during the March 16th public hearing. Helen Probst clarified the comments made by Susan Mitchell-Hardt regarding the Wetherbee Conservation Land site. The Committee agreed to modify the CAC's response at the public hearing to the appropriate place as a comment response.

The Committee reviewed the specific public hearing comments from Mary Michelman regarding Indirect Potable Reuse (IPR), and Eric Hilfer read out loud his suggested revision to the section in the meeting minutes to better reflect her comments. The CAC's response to the comment was also amended for the record, and there was general discussion on whether this alternative disposal option should be considered. Art Gagne stated that what we know today to be a contaminant may change in the next 20 yrs. All of this is a basic plan of groundwater protection, and eventually more analysis would need to be done before any final options are being considered, and more discussion on the IPR issue is not helpful or useful now. Brent Reagor made a revision to this comment response, to include language that although IPR is still considered an option, it is of the lowest priority.

Brent Reagor asked whether the CAC would be accepting the newly edited version of the public hearing comments and CAC responses, including the Wetherbee change. Lauren Rosenzweig requested a motion to accept draft responses to comments including changes tonight for inclusion in the Appendix of the Draft CWRMP report. Chris Schaffner motioned, Helen Probst seconded the motion, and the motion was passed unanimously.

Several audience members requested a more detailed review of the comments and responses from the March 16th public hearing. Working versions of the unfinalized comments and CAC responses were given to several audience members. Brent Reagor asked for email addresses so he could send comments/responses, and he stated that the information would also be added to CWRMP reports on file at library and other locations.

Charlie Kadlec - Robbins Road
Mr. Kadlec asked whether the Phase II report had changed from that which was approved at Town Meeting. Helen Probst stated that some edits were made, and clarifications, but nothing substantial.

David Stone – Liberty Road
Mr. Stone made a suggestion about coding the technical solutions. He asked for clarification on variances, and the definition of "alternative solution." Brent Reagor responded that variances can be allowed as an alternative solution, but there are also

options for installation of tight tanks, etc. Lauren Rosenzweig added that new technologies are being developed, but that there is no long-term track record for them.

Susan Mitchell-Hardt - Pope Rd.
Ms. Mitchell-Hardt stated that she was concerned that three parcels included in the Town's Open Space/Preservation Plan were in the High Priority needs area. Lauren Rosenzweig stated that they were included due to issues, regardless of current or future use, and that it doesn't mean that the parcels will be built on or are at risk for development. Lauren Rosenzweig requested that Ms. Mitchell-Hardt put this particular concern in writing and submit it as a comment to MEPA, and she reiterated that the report and designation of needs areas was based upon data analysis only.

Allen Nitschelm - Marian Road
Mr. Nitschelm asked about the privilege fee, and whether it was used to construct sewers. He also asked how much of $25 million is for the collection system, and how much for the treatment plant? (Committee's answer: $8 million for the treatment plant, $17 million for the collection system) Mr. Nitschelm also asked whether new users pay into the cost of the original treatment plant. Brent Reagor clarified the Sewer Commission regulations, and read relevant sections that were enacted under Massachusetts General Laws. Monies go to fund what was not funded by Town funds to oversize the pipes and pump stations, to allow for future expansions. The Privilege Fees paid are used to pay down that debt, since this is the only source of funding to pay off the debt. Money is deposited into Sewer Enterprise Fund. Art Gagne asked for clarification of sizing of the collection and treatment system – Brent Reagor described the system, and that it is greater capacity than DEP permitted disposal capacity. Mr. Nitschelm also requested information on re-assessment of betterments. Brent Reagor described the process allowable and formulated. Under existing laws, Acton cannot reassess current district. Home rule legislation pending to allow possible reduction in betterment with the addition of new users.

Russ Fuller, Robert Road
Mr. Fuller stated that he was pleased that sewer district participants do not foot the entire bill of the system, and that new users will be required to pay as they enter the district.

Terra Friedrichs – Mass Ave., West Acton
Referencing the charts on CWRMP, Ms. Friedrichs was concerned that West Acton was considered a High Priority Needs Area, when it had not been studied enough. She recognized that Douglas and Gates Schools needed inclusion, but requested that the report be amended so that it is a Planning document, and that further analysis is needed to technically justify a High Priority Needs Planning Area.

Lauren Rosenzweig asked Bob Rafferty to clarify the language of High Priority Needs Areas. Bob Rafferty described the criteria table, and how the areas were established. For West Acton, based upon the criteria, the CAC's preferred solution has been determined to be sewer. The final delineation of the area that will actually get sewer will take place during the preliminary design phase.

Terra Friedrichs asked whether it had been established that sewer is needed for West Acton? Bob Rafferty answered that at this level of study, it was the solution established for that Area in the Plan.

Terra Friedrichs asked to see the full data analysis, to understand this conclusion. Bob Rafferty explained that to understand the data, one has to understand the process, including weight of criteria, as explained in the Phase 2. Lauren Rosenzweig said that all of Ms. Friedrichs' written comments submitted will be incorporated into the Phase 2 Appendix for the upcoming MEPA submittal.

Steve Garbas – Lawsbrook Rd.
Mr. Garbas asked whether many of the High Priority Needs Areas were in the West Acton area. The Committee's answer: Several specific neighborhoods, yes.

Charlie Kadlec - Robbins Road
Mr. Kadlec asked about the Privilege Fee, and who ends up paying for the laying of the pipe? Brent Reagor stated that the Town has found innovative ways to pay for the sewers. There are also options for homeowners to pay for their own sewer construction.
Mr. Kadlec then asked whether there were two separate costs for new users – new construction and joining fee? Committee's answer: Yes, and privilege fee is set by Sewer Commission. The fee amount can be changed as it is their decision.

Andy Munro – Spencer Rd.
Mr. Munro expressed his satisfaction that these steps are moving forward to sewer the Spencer/Flint/Tuttle area.

There was a general discussion on the opportunities for more public outreach and involvement. Helen Probst expressed interest in increasing the overall outreach related to the Program, including fliers on keeping septic systems healthy, the MEPA process, the DEP's Revolving Loan Fund, etc. and other helpful information to keep people informed.

Art Gagne added that in-Town communications have been lacking since the local Beacon Editor passed away. Local newspapers are not the only answer, but Channel 8 is the local cable access channel, and there are other mass media outlets available. He added that it continues to be important to find ways to reach the public.

Eric Hilfer stated that it is even more important to include the public comments, and wants to keep the process open to help issues from becoming contentious. More people involved will result in the public feeling more satisfied about being part of the process.

Chris Schaffner wants to work towards a more clear and open process. Lauren Rosenzweig indicated that she is seeking more opportunity for outreach. Brent Reagor stated that he would appreciate continued assistance from the CAC in keeping the public involved as the CWRMP is implemented.

Lauren Rosenzweig requested the one additional CAC meeting be scheduled, after the information card gets mailed to the households. Although the Appendix has been drafted, the CAC and the Health Department continues to be open to comments and suggestions. This is an open, continuous process.

Brent Reagor requested that any substantive comments be submitted to MEPA during the ENF public comment period, instead of as a response to this Committee meeting, to avoid an unending comment response obligation that prevents or delays the ENF submittal.

Lauren Rosenzweig, in response the question "What Next" stated that she will take it back to the Selectmen. She recommended that a Water Resources Advisory Committee be formed, consisting of a large group with subcommittees for each Needs Planning Area, to serve as conduits for public input from each area.

Brent Reagor offered to be responsible for scheduling the next CAC meeting, and a separate specific meeting with the Sylvia Street residents.

The Acton Citizen's Advisory Committee thanked all who attended. The meeting was adjourned at 9:00 pm

Respectfully submitted,

Kathleen Campbell, P.E., L.S.P.
CDW CONSULTANTS, INC.

Town of Acton
Citizens Advisory Committee Meeting

Comprehensive Water Resources Management Plan
Phase II
Thursday, April 27, 2006
Meeting Room
Acton Memorial Library
7:00pm

Meeting Goals:

Complete the Phase II Report for Submittal to MEPA

- Overview of the MEPA Process
- Discussion/Approval of Public Comment Appendix

Agenda:

• Welcome	Lauren Rosenzweig
• MEPA Process – Where do we go from here?	Helen Gordon
• DEP Review Update	Bob Rafferty
• Sylvia Street Request Discussion	Brent Reagor
• Public Comment Appendix Discussion	All

ACES Acton Citizens for Environmental Safety

March 26, 2006

To: Mr. Brent Reagor, Acton Health Department
From: Mary Michelman, ACES
Re: ACES Comment for inclusion in CWRMP Phase II Report, March 2006

Please consider adding the following statement to the main text of the CWRMP report, especially where reference is made to IPR (Indirect Potable Reuse). At a minimum please include this statement in the public comment section of the report, before it is submitted to DEP and MEPA.

The Town should fully explore all other wastewater management options and only consider wastewater discharge within close proximity to public wells as a very last resort in any wastewater option; only to be considered if there is an imminent critical threat to public health or the environment that cannot be mitigated in any other way.

If the Town were ever to consider disposing of treated sewage near one of Acton's public drinking water supplies, either within the Zone II or within close proximity to it---the Town should do everything possible to detect and remove all "emerging contaminants" and other pollutants from the treated effluent, before disposal. Disposal should be done as far away from the Town wells as possible, and should maximize travel time to the wells, if possible beyond the currently mandated minimum two year travel time.

"Emerging contaminants" include, but are not limited to: viruses, household cleaning chemicals, personal care products, pharmaceutical waste, and hormonal and endocrine disrupting chemicals. These contaminants, which are not included in current standard detection or treatment programs, and may be part of a complex chemical cocktail in wastewater, have the potential to cause serious health effects. The "Precautionary Principle" should be applied.

For each of these emerging contaminants, full knowledge is needed of their:

- Persistence
- Mobility
- Concentration
- Hazardous breakdown products
- Synergistic effects
- Sampling protocols
- Treatment options
- Potential health effects

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ACTON

20-year plan on water has its doubters

The Boston Globe

By Sally Heaney, Globe Correspondent | April 27, 2006

Acton's long-term plan on how to manage its water resources is being met with concern among some residents -- especially its proposal to expand the town sewer system. Also raising objections: the possibility that treated effluent might be dumped near the town's well fields and that conservation land could serve as a waste water disposal site.

Town Meeting voted this month to submit the Comprehensive Water Resources Management Plan to the state. It is the kind of document that rarely raises concern, but in this case, critics want changes made before the state gets the plan, which covers 20 years. They are not sure that such last-minute amendments are possible.

"I would like to see the plan changed" before it gets to the state, said a resident, Susan Mitchell-Hardt, "but I'm not too optimistic."

Still, a group of critics, many of whom are longtime local activists, is expected to attend a meeting of the Citizens Advisory Committee that is responsible for the plan at 7 tonight in the Acton Memorial Library.

The critics are concerned about recommendations to extend the sewer system to the Spencer/Tuttle/Flint neighborhood and to West Acton Center, including the Gates and Douglas schools. They fear the sewers will spur development, will cost millions, and might not be needed, especially in West Acton.

"My intuition tells me we probably need something, but I don't think it needs to be as dramatic as sewers," said a resident, Terra Friedrichs.

Other critics of the plan also are wary of a proposal to possibly use the Wetherbee Street conservation land as a waste-water disposal site. And some residents object to the testing of technology in which treated effluent would be discharged near the well fields to recharge them.

Selectwoman Lauren Rosenzweig is a member of the committee that worked with town Health Department staff and consultant Woodard and Curran to produce the plan, which cost $500,000. She defended the plan as being "very conceptual at this point."

Rosenzweig also said the plan is just "a recommendation of how this committee thought it best to go forward." She said that implementation of the individual pieces of the plan, such as sewers and waste water disposal sites, would require feasibility studies and Town Meeting approval of expenditures.

But Friedrichs said that it is much harder to change a plan after it has been submitted to the state. She said she thinks that the plan sounds as though the town has already committed to sewers and wants the language tempered.

"I want the report to reflect" what the committee is saying in public, she said. "The plan is completely invested in sewering West Acton although the analyses haven't been done. . . . We have to be careful about submitting a document that we all can't live with."

Rosenzweig said that questions and concerns that citizens have raised about the plan, and responses to them, will be attached as an appendix to the plan. "Because it was voted on at Town Meeting, we don't think we can make things substantially different," she said. But she added that she thinks it is permissible to attach the appendix and "make minor word changes to clarify."

Rosenzweig said she understood Friedrichs's concerns that the report doesn't sound conceptual enough.

"But it shows where pipes could go, not where they will go," Rosenzweig said.

Rosenzweig said that the committee already held its public hearings and that soliciting input is not the purpose of tonight's meeting. But "if it's just a few people who want to make comments and won't disrupt the flow of the meeting, I will let them," she said.

After the plan is submitted to the state, citizens will still have an opportunity for input during a 30-day public comment period the state will hold, according to Brent Reagor, deputy health department director.

Not everyone is against the plan's sewer recommendations. Some residents of the Spencer/Tuttle/Flint neighborhood, where many homes have septic system problems caused by high ground water, favor the plan.

But Friedrichs is not sure it is a good idea to extend the sewers to West Acton Center. Suppose the sewers go in and affordable housing developments go up and look bad, she said. "Then my beautiful West Acton Village is no longer what we grew up with."

Other critics have different issues. For example, Mitchell-Hardt is concerned that the plan discusses the Wetherbee Conservation Area as a possible site for a large leaching field.

Reagor said that the Wetherbee land was considered, but that a deed restriction requires the land to be returned to the state if it is used for anything other than conservation. Reagor said that the availability of the land will continue to be monitored. "We can't make the fact that we looked at it un-happen," Reagor said. "We still have to report the results."

Mary Michelman, president of Acton Citizens for Environmental Safety, is troubled by the plan's recommendation to test a new technology, Indirect Potable Reuse, in which treated waste water is discharged near well fields so that it can be reused. The plan recommends a small-scale pilot study at the Acton sewage treatment plant, which is near some of the town wells, in cooperation with state and federal regulators.

Michelman said that the Water District does not test for contaminants such as pharmaceutical and personal-care products that might be introduced into drinking water. The water treatment system is not set up to remove such contaminants, she said, and their effect on the drinking water supply is not fully known.

She said the point of the plan is really to protect the drinking water. "I don't want the solution to be worse than the problem," she said.

Reagor said the technology is used in the western United States, Europe, and Australia. "This is a 20-year plan, and technology within the waste-water and drinking-water fields is growing by leaps and bounds every day," he said. "We aren't saying we will go out and do this tomorrow. We looked at the issue and will continue to monitor developments."

Sally Heaney can be reached at heaney@globe.com. ■

THE BEACON

75¢ • SERVING ACTON & BOXBOROUGH • THURSDAY, APRIL 27, 2006 • ESTABLISHED 1950 ~ VOL. 56, NO. 12

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Report calls for W. Acton sewer

Some residents question costs, need

By Robert Burgess
Staff Writer

ACTON — Tapping into town sewer can be a cost-saving boon for property owners. But some residents of West Acton believe a plan currently on the table just plain stinks.

The debate over whether the town's sewer system should be brought into West Acton is expected to be the center of discussion at a April 27 meeting of the Citizen Advisory Committee. The group is putting the final touches to the Comprehensive Water Resources Management Plan report — a 6-inch thick document, which cost $500,000 to make and took five years to complete.

NEXT MEETING
What: Citizen Advisory Committee
When: Thursday, April 27, 7 p.m.
Where: Acton Memorial Library

Town Meeting approved a draft version of the report April 3. But some residents and Finance Committee members have questioned the scope of the plan and the process leading up to its approval. Critics contend the report could lock West Acton residents into paying astronomical fees, while the advisory committee and the Board of Health say its just a planning document.

"We want to make sure West Acton people

Sewer, Page 32

Should a sewer run through it?

Sewer, from Page 1

know this is something they might potentially have to pay for," said Terra Friedrichs, a West Acton resident and community activist. "[The town] is acting like this is a done deal. I have questions about whether it's even needed."

But town officials, including health director Doug Halley, say the report was never meant to serve as the final say on sewer matters.

"It's a planning document," Halley said. "Obviously it's going to change as we move forward. You have to have a framework and that's what this is."

The Comprehensive Water Resources Management Plan was put together in two phases. Phase 1 examined the town's water resources needs, including storm water, wastewater and groundwater. Phase 2 researched "needs areas" and solutions.

The last major town sewer project was completed in 2002 in South Acton. Many business owners, residents and town officials credit the project with the beginnings of a revitalization of South Acton. Friedrichs said the South Acton project raises concerns because the original price tag of $8 million ballooned to $25 million. She fears the same cost increases could happen in West Acton.

Halley said West Acton is the next logical project, because property owners in the neighborhood are limited in implementing on-site sewer solutions if their systems fail. The closeness of the ground water to the surface combined with the soil type prevent major private sewer projects.

The Board of Health, Halley said, is charged with protecting the groundwater resources of Acton, and that the report is specifically designed to examine the town's vulnerable areas. Bringing sewer to West Acton would only increase the town's coverage to 15 percent of the population while 15 percent would remain on private systems, such as apartment complexes, and 75 percent would remain on individual systems of homeowners.

In addition, Lauren Rosenzweig, a selectman and member of the Citizens Advisory Committee, said town sewer connection is needed to make West Acton a true village center as outlined in the town's master plan.

But Friedrichs is concerned the advisory panel has not conducted a more thorough analysis of the costs residents may be saddled with when paying to connect to the system. Estimates for the project — which only includes the side of West Acton east of the MBTA train tracks — are between $8 and 10.6 million. But it's not yet clear how much the school department, residents and business owners would have to pay to fund the work. Friedrichs has done calculations that range from $16,000 per home to $100,000 per home.

"We have to be vigilant in making sure people know that we have not approved any course of action," said Friedrichs, whose home is not included in the plans. "[Residents] need to decide if this is something they want or need."

'We have to be vigilant in making sure people know that we have not approved any course of action.'

Terra Friedrichs, a West Acton resident

In addition to concerns over the process of producing the report and the confusion over potential betterment costs, Finance Committee Chairman David Stone said he isn't sure if residents want town sewer running through West Acton.

"The reality is that in many parts of Acton sewer systems are just not practical," Stone said. "Having sewers would certainly help development of West Acton. Some people want that while others don't."

Rosenzweig said nothing is written into stone, yet.

"It's a very conceptual type of plan," she said. "All the areas need further study before we go forward. We're trying very hard to accommodate the wishes of the residents. We're not that far apart."

According to Halley, other options to cover needs areas such as West Acton include building systems properties can share, building an additional wastewater treatment plan and creating waste water districts.

"For us to start defining the costs of the options before we examine them would be premature," he said.

Stone said he was concerned that his board did not have the chance to review the report until two weeks before Town Meeting.

"Our overall concern was that not many people got a chance to see what was in the report," Stone said, adding that once a plan is approved at Town Meeting it is sometimes considered binding by residents. "Some people feel the public comments are falling on deaf ears."

Rosenzweig said it's not easy to get residents to attend planning meetings.

"You take a board with all the interest groups and try to come to a consensus," Rosenzweig said. "I think we tried our best to publicize the meetings. It's frustrating because we did try to get as many people involved as possible. I'm sorry more people didn't pay attention early on."

The April 27 meeting is scheduled to begin at 7 p.m. at the Acton Memorial Library. Halley said input from residents will be considered in the final document before its sent to the state's Massachusetts Environmental Policy Act office, a division of the state Executive Office of Environmental Affairs.

"The purpose of the meeting is not to receive public comment but to go over the public comment that has been received," said Halley. "The committee will be looking at everything they've gotten up until this point."

Once at the state level, Halley said residents will be notified of a public comment period by mail most likely to occur in June.

Halley acknowledged some "human errors" needed to be fixed in the report. While he welcomes comments from residents, he said drastic alterations to the plan will likely not be included in the final product.

"It's still amendable. But the amendments need to be in the scope of what the report is," Halley said. "It's a document that has to be represented by facts, not feelings."

A copy of the Comprehensive Water Resources Management Plan is available on the town's Web site, town.acton.ma.us.

Robert Burgess can be reached at 978-371-5732 or at beacon@cnc.com.

Mr. Doug Halley
Health Director
Town of Acton
472 Main Street
Acton, MA 01720

March 26, 2006

cc: Sewer Commission / Board of Selectmen

Dear Mr. Halley,

We, the undersigned wish to re-assert an earlier petition dated last May 2005 to the Sewer Commission to allow Sylvia Street to be connected to the Sewer District. The earlier petition was submitted by Paul Gaboury and Glen Kaufman who are developing the Colonial Path extension off of Sylvia Street. Please see their recent March 23, 2006 letter re-asserting their interest in sewer for Colonial Path as well.

3/26/2006
Janice & Joseph Martineau, 3 Sylvia St.

3/26/2006
Susan & David Hipsky, 4 Sylvia St.

3/26/2006
Tim & Debbie Malloy, 8 Sylvia St.

3/27/2006
Dominic & Alice Castelline, 11 Sylvia

3/27/2006
Georgina Gaebel, 12 Sylvia Street

Colonial Path, L.L.C.

12 Assabet Crossing
Acton, MA 01720

To Whom It May Concern:

With regard to a petition by the residents of Sylvia Street to request the Acton Sewer Commission extend the sewer line down Sylvia Street, Colonial Path L.L.C. is in support of the petition at present. This support is contingent on approval of the sewer line extension by June 30th, 2006 as we expect to begin construction of septic systems for the four homes to be constructed by the company at that time.

Paul Gaboury, its Member — March 23, 2006

ITS MEMBER

Glen Kaufmann, its Member — March 23, 2006

ACES Acton Citizens for Environmental Safety

March 26, 2006

To: Mr. Brent Reagor, Acton Health Department
From: Mary Michelman, ACES
Re: ACES Comment for inclusion in CWRMP Phase II Report, March 2006

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"Emerging contaminants" include, but are not limited to: viruses, household cleaning chemicals, personal care products, pharmaceutical waste, and hormonal and endocrine disrupting chemicals. These contaminants, which are not included in current standard detection or treatment programs, and may be part of a complex chemical cocktail in wastewater, have the potential to cause serious health effects. The "Precautionary Principle" should be applied.

For each of these emerging contaminants, full knowledge is needed of their:

- Persistence
- Mobility
- Concentration
- Hazardous breakdown products
- Synergistic effects
- Sampling protocols
- Treatment options
- Potential health effects

Comments by David Stone

I am concerned that Figure 1-2, Maximum Needs Areas Delineation, may be misinterpreted in ways that could harm the interests of property owners and unnecessarily alarm the public. Numerous parcels throughout the Town are coded red, "Off Site Solution Required", leading the reader to believe that either the current system is failing, or that a replacement on-site system cannot be legally constructed in the future. Yet, for the majority of these code-red parcels, an off-site solution is unlikely to be available. Indeed, the CAC recommends continued use of on-site systems as the preferred solution (Wastewater Management Districts) for 6 of the 15 Needs Planning Areas, and some of the code-red parcels are not even included in a Needs Planning Area.

What should a reader of this document conclude about the re-sale value of a house located on a parcel that "requires" an off-site solution, but for which no off-site solution is available? Will this also affect the value of neighboring properties? And what should citizens assume about the protection of Acton's groundwater if numerous parcels throughout the Town "require" an off-site solution that will never be provided? I respectfully request that the CAC modify the report to more clearly explain the purpose and limitations of Figure 1-2.

As you explained during a meeting with the Finance Committee, this figure was prepared by merging several different data sets, many of which are not parcel-specific. These data were extrapolated (or perhaps interpolated), by a process not described in the report, to yield the parcel-specific color coding in Figure 1-2. The purpose of this analysis was to enable the CAC to see clusters of potential needs that would lend themselves to the creation of Needs Planning Areas. In response to my questions, you explained that the actual requirements for any particular solution on a specific parcel could not be determined without an on-site investigation, including digging test holes, marking wetlands boundaries, etc. When a system actually requires replacement, these activities enable the Town staff, the Board of Health and the Conservation Commission to work with the property owner to design the best available solution, which may involve numerous variances from the preferred specifications embodied in our by-laws. Thus, while a septic system replacement may be complicated and expensive, an off-site solution is rarely, if ever, "required".

To address these concerns, the CAC should make two changes to the report. First, the text of Section 1.2.2 should acknowledge that while the analysis of needs was performed on a parcel-by-parcel basis, some of the underlying data are not parcel specific, the conclusions are only intended to assist in identifying potential needs areas, and an actual determination of the needs for a specific parcel would require an on-site investigation. Second, the text and the legend for Figure 1-2 should use the phrase "Off-Site Solution Preferred" rather than "Off Site Solution Required". If something like this change is not made, the report must explain what is meant by "required". What I think it means is that a mound higher than 3.25 feet, and/or one or more variances may be needed to build an on-site system, but this is not the same as actually "requiring" an off-site solution.

The Citizen's Advisory Committee has reviewed the concern expressed regarding the text for Section 1.2.2 and agrees the text should be changed with a note that states "Although the analysis of needs was performed on a parcel-by-parcel basis, some of the underlying data is not parcel specific. The conclusions are only intended to assist in identifying potential needs areas."

The Citizen's Advisory Committee has also reviewed the concern expressed regarding the legend for Figure 1-2 and agrees the legend should be changed from "Off Site Solution Required" to "Alternative Solution Required". This change would be consistent with the language used in Phase I of the CWRMP.

Brent Reagor

From: Terra Friedrichs
Sent: Thursday, April 20, 2006 2:41 PM
To: Brent Reagor
Cc: Terra Friedrichs; Doug Halley; Lauren Rosenzweig
Subject: CWRMP comments

Comments for the CAC:

The report assumes that sewers are the solution for West Acton. It is a report that starts with the conclusion. It does not start with the need, show the options and then analyze the options for each area, and then show why sewers are actually needed.

If you really, truly feel that this is a planning document rather than a concrete plan, then your language should reflect so.

We do not know yet, whether the plans recommended in the report are viable. We do not see that there is an actual need along the Mass Ave Extension (beyond Spencer/Tuttle). We do not see that the schools have an actual need. We do not know if the majority of the properties along the Mass Ave extension have a need. We know that a few places are in need in West Acton Center. But is it more fiscally sound to buy those properties from the owners? Or it is more fiscally sound to spend millions of dollars to sewer them? We don't know yet. As a result, we need to amend this report to truly reflect the state of the analysis, and make it clear to the reader that the recommendations are recommendations for further study, and not suggest that the recommendations are firm.

Lauren has stated in a recent email:

"Many of the âplansâ in the report are conceptualâthey represent a best guess of how things might proceed, but do not necessarily reflect what might happen in real life. Committees will be developed to make decisions on how best to proceed once the planning and implementation stages are begun. "

Here are my detailed comments:

If this is truly a planning document, then it should use words like, "potential needs area", and, "recommended areas of study" and it should use phrases which do not indicate that the analysis is done and the recommendations and plans are firm. It should indicate that the recommendations and plans are preliminary and subject to change once the analysis is complete. Until the technical and fiscal analysis is complete and presented to the public and the public has an opportunity to challenge that analysis, then the designation of "high priority" should really be considered to be "high priority areas of study".

By saying that the Committee recommends sewering is to suggest that the actual needs of the entire area have been studied and alternatives have been analyzed from a technical and a financial perspective. If this has been done, why can't we get the information? It seems that the analysis has been done, but only a very cursory level. And primarily during meetings around a table, rather than analysis which is technical in nature and is backed up by numbers, and committed to paper.

Either you, as a committee, have the analysis and can show justifications for your recommendations. Or the report should be re-worded to reflect the reality of the situation...that these are "suggestions" for further study.

The report assumes that sewers are the solution. It is a report that starts with the conclusion. It does not start with the need, show the options and then analyze the options for each area, and then show why sewers are actually needed.

If you really, truly feel that this is a planning document rather than a concrete plan, then your language should reflect so. Otherwise, you are being hypocritical by saying things like the statement above, and then saying things like the following.

These are examples of statements in the report that indicate the analysis is complete and sewers are the solution.

* 'The Middle Fort Pond Brook sewer system *should* be extended to serve the following areas:
- High Street to Powdermill Plaza (Area 7),
- Spencer/Tuttle/Flint neighborhood (Area 10), and
- West Acton Center (Area 12) including the Gates and Douglas Schools."

This statement implies that the analysis is complete, when the analysis is just beginning. As a result, the statement might be more appropriate if it said something like, "potentially could be extended".

* "Recommendations; Expansion of the Middle Fort Pond Brook sewer system with treatment and disposal at the Adams Street treatment facility to address high priority areas and optimize the operation of system;

This statement clearly recommends sewering to what are called "high priority" areas. The reader should be reminded that the areas that have been designated "high priority" have not been shown to actually *be* high priority. So references to areas being high priority and repeated reference to a recommended plan to sewer these areas because they are high priority is very misleading.

* "As the Town makes the decisions on the menu of recommendations of the Comprehensive Water Resources Management Plan it will be well served by the unique flexibility of the Septage Management Enterprise Fund."

There is only one recommendation for West Acton Center. It's to sewer it.
There is no menu of options. As a result, we the residents of West Acton Center are not very well served by this implied flexibility. If the report was not so strongly committed to West Acton Center being sewered, and did not suggest that the work has already been done to analyze both its needs and the fiscal viability of the options, then this comment could clearly be taken to mean that at the town level the plan has flexibility. But given the many, many places in the report that imply that sewering is the only recommended solution for West Acton Center, and given that the analysis is so very preliminary regarding the needs for West Acton Center, the quoted statement seems in appropriate.

* "The Phase 2 report scope of work is to:
Assess potential disposal site locations
Evaluate wastewater techniques and technologies
Pair candidate technologies/solutions with Needs Areas to create a recommended plan
Prepare conceptual-level designs and program outlines for the recommended plan"

The scope of work assumes that off-site solutions/sewers are THE solution by using the phrase, "asssess potential disposal site locations." Again, I state that starting with a conclusion is a dangerous proposition.

This statement clearly references "the recommended plan". This *is* the Phase 2 document. Because the document will not change, according to the first paragraph of this memo, then we can only assume that the recommended plan is that which is included *in* the report. I refer back to my original comment, that there is no analysis which shows that there is an actual need in West Acton Center. And until there is analysis which shows this and which examines the technical and financial alternatives, then there *should be no plan*. There should only be recommended courses of study.

* "The CWRMP continues the Towns proactive efforts throughout the development of the recommended plan..."

This statement also seems to indicate that there is a single plan already..."the recommended plan".

* "The CAC concluded that implementability meant the ability to convince Town Meeting that the recommended plan is the correct plan, especially considering that residents who were included in the initial plans for an expanded sewer district may not be served under the CWRMPs framework."

This statement implies that the committee will decide ahead of time that there is only one

option. Democracy is best served when TM is brought a series of good, reasonable options. Not a single option, which the committee then tries to "sell" us. The nature of committing to a single option sets the committee up to have to tell us the benefits, while not necessarily tell us about all of the drawbacks. We, as voters seem to get better information about proposals when the committees come to us with several options, and are not so invested in one single option.

This statement quoted above implies that the committee can not possibly make any mistakes. It implies that the committee will have the "correct plan", which does not leave any room for movement.

* "A final recommended solution for each Area was developed and coupled with a menu of other feasible solutions to give the Town flexibility over the 20-year planning period."

This statement clearly suggests that there *is* a solution, and that it *was* developed. This also does not leave much room for movement based on the analysis which is yet to be done. The "menu of other feasible options" does not appear to be offered for West Acton. The committee, as suggested in the statement about "convincing" us of the "correct plan", the committee is pretty invested in a single solution...sewering.

* "Acton has used and will continue to use a variety of mechanisms to finance the recommendations of the Comprehensive Water Resources Management Plan."

This statement clearly states that Acton "will" finance the recommendations laid out in this report. If one believes that the voters actually have a say in this, it seems very preliminary to be so certain that Acton will do anything with the recommendations in the subject report.

* "Therefore, as the CAC discussed and evaluated the needs criteria and potential solutions, the table underwent several revisions. Table 2-7 represents the final version."

Again, much analysis remains to be done. These statements should indicate that the evaluation was done as a preliminary indication of where further study is warranted. The evaluation has been done before the technical analysis of the actual need in the specific areas of question. And before a detailed fiscal analysis of alternatives has been completed. It should be noted that the recommended solutions are "suggested" areas for further study, rather than the results of the analysis. Unless the analysis can be presented, in writing, which leads the reader to see why these solutions are appropriate, the tables and references to all recommendations in the tables should be labelled as "preliminary" and a note indicating that the work, while valuable thinking, has been concluded before the analysis was been presented.

* "An additional example of the Enterprise Funds flexibility will be shown in 2006 when Acton *will* commit its first betterments to onsite wastewater system reconstruction."

This statement does not indicate that the sewer extension is an option. It does not indicate that the report is a suggested plan of action where the voters get to decide.

* "Figure 3-4 presents the visual guide to the final recommendations. It includes West Acton Center in the recommendations for sewer extension."

Again, the analysis has not been presented to show that West Acton Center has a need at all. And the fiscal analysis comparing viable options has not been shown. As a result, it is preliminary to be "presenting" "final recommendations" regarding West Acton Center.

* "Short Term Recommendations; Submit an application for State Revolving Funds for construction of the West Acton sewer extension."

Because the West Acton Center needs analysis has not been presented to the public, this statement of action is very inappropriate.

* "The five high priority areas are all addressed through viable and implementable plans. The Project Team and CAC recommend extension of the Middle Fort Pond Brook sewer along High Street to Powdermill Plaza (Area 7), Spencer Road/Tuttle/Flint neighborhood (Area 10), and West Acton Center (Area 12)."

Just because a plan is viable and implementable, does not mean that it is appropriate, affordable, or needed. Again, the reader should be reminded that the designation of high priority is preliminary in nature and has not been fully justified yet. We do not know yet, whether the plans are viable at all. We do not see that there is an actual need along the Mass Ave Extension. We do not see that the schools have an actual need. We do not know if the majority of the properties along the extension have a need.
We know that a few places are in dire need in West Acton Center. But is it more fiscally sound to buy those properties from the owners? Or it is more fiscally sound to spend millions of dollars to sewer them? We don't know yet. As a result, we need to amend this report to truly reflect the state of the analysis, and make it clear to the reader that the recommendations are recommendations for further study, and not suggest that the recommendations are firm.

Terra

****
Terra Friedrichs
+1 978 266 2778

Comments by Terra Friedrichs

I was told that the Mass Ave/Spruce St extension would just be along Mass Ave and Spruce St. But in the CWRMP, Figure 3-1 West Acton Conceptual Sewer Layout dated February; it shows a sewer line going up Arlington (towards the High School). Is this Arlington extension included in the $8.0 to $10.6 million estimate for design and construction? I know that the figures are preliminary, but it's important to know the scope that was used to develop the estimates. Financial estimates are key in determining the level of need for something. In other words, if something is inexpensive, then you might want to do it anyway, regardless of need.

R. The proposed gravity sewer line shown in Arlington Street in Figure 3-1, is approximately 600' from the railroad line to the intersection with West Road. This design is proposed to fully address the needs parcels within West Acton Center, which include parcels along the West Road cul-de-sac (7 out of 10 total lots). The proposed construction would end prior to Fort Pond Brook, and also allows for the optimal pump station configuration for minimization of required pump stations. This proposed design also fully addresses the entire eastern section of the West Acton Needs Planning Area.

The costs estimated in Table 3-3, which are the 8 - 10.6 million that you reference, do include that 600' length.

I have heard that the folks on West Road have serious septic issues. Is there any way to go along the stream and up to West Road without going along Spruce St? The residents at the corner of Mass Ave and Spruce tell me that they have no need for sewers.

R. Cross-country construction, especially through flood plain and wetlands, can be quite expensive, even more so if it is on private land (as easements must be obtained). These expenses can quickly outpace the equivalent length of construction under a paved road. The construction costs in wetlands/flood plain have to take into account the increased permitting and regulatory filings necessary (ConsCom, DEP, Board of Appeals, MEPA, etc...) along with additional design features that must be included to insure a watertight project that does not negatively impact the wetland area.

If a sewer expansion project were to receive approval from a future Town Meeting for design and construction costs, the design process, per the recommended plan in the CWRMP, would take into account the needs areas to be addressed, the available capacity within the current collection and treatment system, and the potential costs/benefits of providing sewer to individual sections of the needs areas. As a potential design process would progress, all feasible alternatives for placement of sewer lines will be evaluated. This process would include input from the residents of potential areas to be sewered. There would be many opportunities both prior to a potential Town Meeting vote, and during the design process for input from those citizens in a proposed sewer area.

It appears as though the CWRMP recommends sewering cross-country. In Figure 3-13 of the document it looks like there is a link going directly from Mass Ave to West Rd along the stream. Perhaps it's just a "possible" route, rather than a "recommended" route?

Also...how many failed systems are there along Mass Ave/Spruce St/Arlington/West Rd? I count 67 properties (outside of Spencer/Tuttle) that would connect to the sewer along the proposed route. I am wondering how many of them currently have failed systems. I know only of the one at the corner of West Rd and Arlington.

R. To answer your first question:
Yes, figure 3-1 does show construction connecting Mass Ave. with West Road. Please keep in mind that this schematic is, at best, a 10% design. This work was done using nothing more than the 10' topographic contours available from MassGIS to show potential service areas for the recommended solution in the CWRMP Phase II Report. Actual design work for a full 100% design, which would be a significant portion of the 1.4 - 1.8 million dollar engineering line item (Table 3-3) includes instrument survey of the area, borings and test pits to determine the depths to groundwater and ledge, and an examination of structure placement relative to the road surface elevation. These factors together influence any final design. Of course, all of this cannot occur without a future Town Meeting vote authorizing the Town to seek funding for a potential project. The agreed upon scope between MEPA, DEP, and Acton required a conceptual layout for any recommended sewer expansions as part of the final report, and that is what Figure 3-1 is meant to address.

As far as your second question:
As this is a 20-year planning document, development of needs parcels does not just take into account currently "failed" systems only. It takes into account all of the necessary environmental (structural) and other factors (non-structural) that were discussed at length during the CAC process. Some of the factors that influenced the decision in West Acton were: small lot sizes that do not allow for installation of regulatory-compliant systems, wetlands, and high groundwater elevations. In the area east of the RR tracks, greater than 50% of the developed parcels are classified as needs parcels. This is the 2nd largest percentage of all of the 15 needs planning areas.

I am not suggesting that it isn't a 20-year planning document. I am just asking a simple question. On the proposed route, how many failed systems are there?

R. The report did not identify nor did it try to identify currently failing systems anywhere in town. No information was generated nor were there resources available to identify failed systems. There are two ways to define a "failed" system under the regulations, one requires that the owner conduct an Official Title 5 Inspection, and submit those results to the Board of Health, this is only done in the case of a property transfer. Normally, if a system is determined to be in "failure" at the time of a Title 5 Inspection, the system replacement process is commenced. In any event, a "failed" Title 5 Inspection must be corrected within two (2) years. The second means of determining failure is the investigation of a situation injurious to the public health ". This is

accomplished through the official complaint investigation process in the Board of Health office, which is set forth in M.G.L. Ch. 111, Sect 122. This process necessitates a legal enforcement order to the owner of the property, requiring the abatement of the injurious situation within a set period of time.

The report assumes that sewers are the solution for West Acton. It is a report that starts with the conclusion. It does not start with the need, show the options and then analyze the options for each area, and then show why sewers are actually needed.

R. Phase I of the CWRMP identified West Acton as a needs area through the criteria mentioned in above (small lot sizes that do not allow for installation of regulatory-compliant systems, wetlands, and high groundwater elevations) Four options were considered for each needs area, including extension of the existing sewers. Due to its location, its wastewater capacity and density, the eastern portion of West Acton Center was prioritized as a viable area for the sewer extension.

If you really, truly feel that this is a planning document rather than a concrete plan, then your language should reflect so.

R. Noted.

We do not know yet, whether the plans recommended in the report are viable.

R. Viability of each recommendation will be tested as they are further analyzed prior to finalization.

We do not see that there is an actual need along the Mass Ave Extension (beyond Spencer/Tuttle).

R. West Acton Center has been identified as a needs area.

We do not see that the schools have an actual need.

R. Existing state regulations have been identified that show the schools as a need. Further investigation will be done with DEP to confirm the options available to the schools.

We do not know if the majority of the properties along the Mass Ave extension have a need. We know that a few places are in need in West Acton Center. But is it more fiscally sound to buy those properties from the owners? Or it is more fiscally sound to spend millions of dollars to sewer them? We don't know yet. As a result, we need to amend this report to truly reflect the state of the analysis, and make it clear to the reader that the recommendations are recommendations for further study, and not suggest that the recommendations are firm.

R. In keeping with the financial analysis completed for past projects proposed by the Town a financial analysis will be done for each recommendation as they are brought forth to Town Meeting.

Lauren Rosenzweig has stated in a recent email:

"Many of the "plans" in the report are conceptual they represent a best guess of how things might proceed, but do not necessarily reflect what might happen in real life. Committees will be developed to make decisions on how best to proceed once the planning and implementation stages are begun. "

R. Noted

Here are my detailed comments:

If this is truly a planning document, then it should use words like, "potential needs area", and, "recommended areas of study" and it should use phrases which do not indicate that the analysis is done and the recommendations and plans are firm. It should indicate that the recommendations and plans are preliminary and subject to change once the analysis is complete. Until the technical and fiscal analysis is complete and presented to the public and the public has an opportunity to challenge that analysis, then the designation of "high priority" should really be considered to be "high priority areas of study".

R. Noted.

By saying that the Committee recommends sewering is to suggest that the actual needs of the entire area have been studied and alternatives have been analyzed from a technical and a financial perspective. If this has been done, why can't we get the information? It seems that the analysis has been done, but only a very cursory level. And primarily during meetings around a table, rather than analysis which is technical in nature and is backed up by numbers, and committed to paper.

R. Noted.

Either you, as a committee, have the analysis and can show justifications for your recommendations. Or the report should be re-worded to reflect the reality of the situation...that these are "suggestions" for further study.

R. Noted.

The report assumes that sewers are the solution. It is a report that starts with the conclusion. It does not start with the need, show the options and then analyze the options for each area, and then show why sewers are actually needed.

R. The report has identified expansion of the existing sewer system as one of four solutions. The solutions were not discussed nor explored until Phase II began. Phase I documented the needs areas, Phase II analyzed the options.

If you really, truly feel that this is a planning document rather than a concrete plan, then your language should reflect so.

These are examples of statements in the report that indicate the analysis is complete and sewers are the solution.

* 'The Middle Fort Pond Brook sewer system *should* be extended to serve the following areas:
- High Street to Powdermill Plaza (Area 7),
- Spencer/Tuttle/Flint neighborhood (Area 10), and
- West Acton Center (Area 12) including the Gates and Douglas Schools."

This statement implies that the analysis is complete, when the analysis is just beginning. As a result, the statement might be more appropriate if it said something like, "potentially could be extended".

R. The Massachusetts Department of Environmental Protection's Guide to Comprehensive Wastewater Management Planning (which is part of the required scope of this project) requires that a "Reccomended Plan" be developed. The analysis of needs related to the protection of Acton's water resources was completed in Phase I of the CWRMP and was accepted by MEPA on August 26, 2004.

* "Recommendations; Expansion of the Middle Fort Pond Brook sewer system with treatment and disposal at the Adams Street treatment facility to address high priority areas and optimize the operation of system;

This statement clearly recommends sewering to what are called "high priority" areas. The reader should be reminded that the areas that have been designated "high priority" have not been shown to actually *be* high priority. So references to areas being high priority and repeated reference to a recommended plan to sewer these areas because they are high priority is very misleading.

R. The determination of priority status for the 15 needs planning areas was made by the Citizens Advisory Committee during a number of meetings in 2004-2005. These determinations can be followed by reviewing the minutes and associated figures in Appendix B. In determining the priority status for each needs planning area, the CAC took into account the results of the environmental analysis from Phase I, along with many other factors, including implementability, and relationship to the Master Plan/Village Plans.

* "As the Town makes the decisions on the menu of recommendations of the Comprehensive Water Resources Management Plan it will be well served by the unique flexibility of the Septage Management Enterprise Fund."

There is only one recommendation for West Acton Center. It's to sewer it.
There is no menu of options. As a result, we the residents of West Acton Center are not very well served by this implied flexibility. If the report was not so strongly committed to West Acton Center being sewered, and did not suggest that the work has already been done to analyze both its needs and the fiscal viability of the options, then this comment could clearly be taken to mean that at the town level the plan has flexibility. But given the many, many places in the report that imply that sewering is the only recommended solution for West Acton Center, and given that the analysis is so very preliminary regarding the needs for West Acton Center, the quoted statement seems in appropriate.

R. On page 2-32, a chart (Table 2-8), prepared by the CAC ranks each of the four (4) solutions: 1) Connect to Existing Sewers, 2) Construct New Sewers, 3) Cluster System, 4) Wastewater Management District; for each of the 15 needs planning areas. This chart was developed as "the" menu to guide the Town through the next 20 years of water resources decision making. In the chart, the solution ranked first is the "preferred" solution, while the additional solutions are ranked for each area from 2-4. In the section for West Acton Village (Area 12), "Connect to Existing Sewers" is ranked first, followed by "Cluster/Neighborhood System", then by "Wastewater Management District. Section 2 of the CWRMP Phase II report is titled "Assessment of Alternatives", as such, that is where this information is presented. Section 3 of the report is entitled "Development of the Recommended Plan" and takes into account the preferred solutions from Table 2-8 and implementability issues to develop the recommended plan, which is required by the scope of this report.

* "The Phase 2 report scope of work is to:
Assess potential disposal site locations
Evaluate wastewater techniques and technologies
Pair candidate technologies/solutions with Needs Areas to create a recommended plan
Prepare conceptual-level designs and program outlines for the recommended plan"

The scope of work assumes that off-site solutions/sewers are THE solution by using the phrase, "assess potential disposal site locations." Again, I state that starting with a conclusion is a dangerous proposition.

R. One of the priorities of this plan was to not discount any option for any area as this is a 20 year planning document upon which to build future water resources decisions. This includes the evaluation both on paper, and in person, of the potential of property within the Town to receive large quantities of treated wastewater. This evaluation identified four parcels for which further investigation was warranted. That investigation, which was performed as part of Phase II, demonstrated the immediate unavailability of any of those four parcels. Therefore, construct of new sewers (which would require a disposal location) was not part of the Recommended Plan in Section 3.

This statement clearly references "the recommended plan". This *is* the Phase 2 document. Because the document will not change, according to the first paragraph of this memo, then we can only assume that the recommended plan is that which is included *in* the report. I refer back to my original comment, that there is no analysis which shows that there is an actual need in West Acton Center. And until there is analysis which shows this and which examines the technical and financial alternatives, then there *should be no plan*. There should only be recommended courses of study.

R. As stated previously, the needs analysis was completed as part of the Phase I Report, which was approved by MEPA on August 26, 2004.

* "The CWRMP continues the Towns proactive efforts throughout the development of the recommended plan..."

This statement also seems to indicate that there is a single plan already..."the recommended plan".

R. The Recommended Plan charts a course for the Town, while still leaving other options available (Table 2-8). Again, as stated previously, the development of a Recommended Plan is required as part of the scope of this project by the MADEP Guidance for the Development of Comprehensive Wastewater Management Plans.

* "The CAC concluded that implementability meant the ability to convince Town Meeting that the recommended plan is the correct plan, especially considering that residents who were included in the initial plans for an expanded sewer district may not be served under the CWRMPs framework."

This statement implies that the committee will decide ahead of time that there is only one option. Democracy is best served when TM is brought a series of good, reasonable options. Not a single option, which the committee then tries to "sell" us. The nature of committing to a single option sets the committee up to have to tell us the benefits, while not necessarily tell us about all of the drawbacks. We, as voters seem to get better information about proposals when the committees come to us with several options, and are not so invested in one single option.

This statement quoted above implies that the committee can not possibly make any mistakes. It implies that the committee will have the "correct plan", which does not leave any room for movement.

R. As the Town moves forward with the implementation of projects to protect Acton's water resources, using the CWRMP as a guide, it is imperative the citizens get involved in those areas where solutions are proposed to ensure that the plan brought to Town Meeting truly benefits the targeted area while still protecting water resources.

* "A final recommended solution for each Area was developed and coupled with a menu of other feasible solutions to give the Town flexibility over the 20-year planning period."

This statement clearly suggests that there *is* a solution, and that it *was* developed. This also does not leave much room for movement based on the analysis which is yet to be done. The "menu of other feasible options" does not appear to be offered for West Acton. The committee, as suggested in the statement about "convincing" us of the "correct plan", the committee is pretty invested in a single solution...sewering.

R. As stated previously, Table 2-8 presents the menu of options available for each of the 15 Needs Planning Areas.

* "Acton has used and will continue to use a variety of mechanisms to finance the recommendations of the Comprehensive Water Resources Management Plan."

This statement clearly states that Acton "will" finance the recommendations laid out in this report. If one believes that the voters actually have a say in this, it seems very preliminary to be so certain that Acton will do anything with the recommendations in the subject report.

R. Noted

* "Therefore, as the CAC discussed and evaluated the needs criteria and potential solutions, the table underwent several revisions. Table 2-7 represents the final version."

Again, much analysis remains to be done. These statements should indicate that the evaluation was done as a preliminary indication of where further study is warranted. The evaluation has been done before the technical analysis of the actual need in the specific areas of question. And before a detailed fiscal analysis of alternatives has been completed. It should be noted that the recommended solutions are "suggested" areas for further study, rather than the results of the analysis. Unless the analysis can be presented, in writing, which leads the reader to see why these solutions are appropriate, the tables and references to all recommendations in the tables should be labeled as "preliminary" and a note indicating that the work, while valuable thinking, has been concluded before the analysis was been presented.

R. Detailed financial analyses are required when the Town selects an option for each Needs Planning Area. At that time, the proper costs can be calculated based upon actual numbers, not predicted results utilizing inflation calculations.

* "An additional example of the Enterprise Funds flexibility will be shown in 2006 when Acton *will* commit its first betterments to onsite wastewater system reconstruction."

This statement does not indicate that the sewer extension is an option. It does not indicate that the report is a suggested plan of action where the voters get to decide.

R. This statement references the Town of Acton Community Septic Loan Program, which was approved by the voters (Article 21, 1997 Annual Town Meeting). This program, funded by $200,000 of state money, in a revolving account, allows the Town to make loans to homeowners to replace/repair "failed" septic systems.

* "Figure 3-4 presents the visual guide to the final recommendations. It includes West Acton Center in the recommendations for sewer extension."

Again, the analysis has not been presented to show that West Acton Center has a need at all. And the fiscal analysis comparing viable options has not been shown. As a result, it is preliminary to be "presenting" "final recommendations" regarding West Acton Center.

R. See above responses in regards to the analyses.

* "Short Term Recommendations; Submit an application for State Revolving Funds for construction of the West Acton sewer extension."

Because the West Acton Center needs analysis has not been presented to the public, this statement of action is very inappropriate.

R. This analysis was presented as part of the Phase I Report, which was accepted by MEPA on August 26, 2004.

* "The five high priority areas are all addressed through viable and implementable plans. The Project Team and CAC recommend extension of the Middle Fort Pond Brook sewer along High Street to Powdermill Plaza (Area 7), Spencer Road/Tuttle/Flint neighborhood (Area 10), and West Acton Center (Area 12)."

Just because a plan is viable and implementable, does not mean that it is appropriate, affordable, or needed. Again, the reader should be reminded that the designation of high priority is preliminary in nature and has not been fully justified yet. We do not know yet, whether the plans are viable at all. We do not see that there is an actual need along the Mass Ave Extension. We do not see that the schools have an actual need. We do not know if the majority of the properties along the extension have a need.
We know that a few places are in dire need in West Acton Center. But is it more fiscally sound to buy those properties from the owners? Or it is more fiscally sound to spend millions of dollars to sewer them? We don't know yet. As a result, we need to amend this report to truly reflect the state of the analysis, and make it clear to the reader that the recommendations are recommendations for further study, and not suggest that the recommendations are firm.

R. Noted.

CWRMP
COMMENTS AND RESPONSES
EDITS PER E. HILPERT - APPROVED BY CAC

Carol Holley – Pope Road
Ms. Holley requested that additional Phase II copies be made available in the Library, including Phase I report copies which include a lot of important information. She also asked whether irrigation wells were included in the groundwater protection areas.

R. Phase I and Phase II are available at the Acton Memorial Library and the Acton Health Department. At the time of this meeting, Phase I was available at the Town of Acton's website, and Phase II was available soon after the public meeting. Irrigation wells were not included in the groundwater protection zones.

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She also requested that further public education become a priority, not just that which was included in the Appendix. She indicated that this is a necessity.

R. Education will be a key component in the implementation of any part of the recommended solutions, although this component was not described in great detail within the report.

Don Barren – 7 Mallard Road
Mr. Barren stated that he looks forward to his neighborhood connecting to sewers, and is concerned about mounding created by new septic systems going up in his neighborhood. He stated that he wants very much to connect to the sewer that is in such close proximity to this area.

R. Understood.

Terra Freidrichs – Massachusetts Avenue
Ms. Freidrichs stated that she supports the study. She questioned the statistical basis for the findings (% of systems impacted, and % of town land area that is unsuitable). She also questioned the statement that 97% of the systems would be fine? Lauren has said 67%.

R. Tables 6-8 and 6-9 in the Phase 1 report are part of the sensitivity analysis, and are NOT intended to provide the definitive result of the overall analysis. Therefore, they cannot be applied beyond their intended use - to evaluate the sensitivity of the GIS data.

Table 6-8 presents the sensitivity analysis on the data for separation to groundwater analysis only. Table 6-9 presents an analysis related to the impact of I/A systems on setbacks to wetlands buffers and floodplains and lot sizes. The tables are not mutually exclusive.

Neither table includes the other criteria evaluated by the CAC, nor do they reflect the further information gathered in Phase 2 or the anecdotal evidence provided by the CAC. Both tables evaluate Needs Parcels, not areas; therefore, they do not reflect parcels grouped with Needs Parcels to form contiguous areas. Therefore, the number of lots in the Needs Planning Areas in Phase 2 will be greater than the number of Needs Parcels identified in these two tables.

She also asked whether the Selectmen had requested a waiver from DEP to construct the Spencer/ Tuttle area sewers prior to finalizing the CWRMP.

R. The Selectmen have not requested a waiver from DEP to construct sewers for the Spencer/ Tuttle Area. The current Middle Fort Pond Brook Sewer System was constructed through a waiver process on the condition that a CWRMP be completed that defined the wastewater needs of the community.

Ms. Friedrichs disagreed, said she had talked to DEP and they said that they had not been asked about a waiver, and would entertain a waiver request.

R. The waiver process is difficult and lengthy. Submittal of a completed CWRMP is the best avenue to ensure expansion of sewers to the Spencer/ Flint neighborhood.

Ms. Friedrichs asked about the Douglas and Gates Schools, and why, if actual flows are below the 10,000gpd, the requirement to construct a treatment system is not waived.

R. Further clarification has been received from DEP regarding this issue. Based on current policies utilized by DEP, the Douglas and Gates Schools have a combined water usage representative of 12,000 gallons per day. The schools can seek a waiver from the requirements of treatment, but their actual water usage does not support that request.

Ms. Friedrich's concern is why is West Acton otherwise a priority, if not for Douglas and Gates School?

R. A portion of West Acton Center is an independent needs area (Area 12) that needs to be addressed.

Charlie Kadlec, Paul Revere Road
Mr. Kaldec questioned why this report was being put before Town Meeting?

R. The report has been submitted to Town Meeting for three reasons; to have as much public input as possible, to gain surety that the plan has broad public acceptance and to provide a legal mechanism for the Board of Health to grant waivers to properties within a proposed sewer expansion area.

He questioned the financial analysis, and costs for alternatives for each solution. He said financial data in the report was minimal, with no backup, and that it was therefore incomplete.

R. The report is an environmental plan developed within the required State format. The financial data provided is within that format. As recommendations of the CWRMP are examined appropriate financial analysis will be provided for each particular proposal.

Mr. Kadlec stated that the report does not meet the requirements for this Study. He questioned the presentation's use of the term "most cost-effective solution" when only the sewer connection (i.e., for West Acton) was evaluated.

R. Understood.

Mr. Kadlec questioned the betterment charge, and what it would be in the future? On page 3-13, the average cost per property is $34,000, so who is going to pay the difference for properties that cost less?

R. The Town's Sewer Assessment Bylaw does not equally distribute betterments to each property. Properties receive assessments based on their highest potential zoning use or their "avoided cost". Properties with multi-family units or that are zoned at high floor area ratio are generally assessed at higher rates than a single family home. The original sewer area had 760 properties with a construction cost of $25,100,000 ($33,026 cost per property), while achieving a single family betterment of $12,311.52.

Mr. Kadlec stated that he had reviewed data at Town Hall. He questioned what "scientific analysis" has been done to determine Needs Areas? How did they get from the data to the Needs Areas definition?

R. The following criteria were used: screening process, public meetings, consensus of the CAC, groundwater protection zones based upon mapping (GIS) for risks, etc. The planning process was to look at the management of an entire Needs Area, even if specific parcels did not show a need.

The specific criteria for needs - soil maps, groundwater maps, septic failures, mounding requirements, areas where soils were poor, high groundwater, septic problems, etc. created the actual Needs Areas.

Mr. Kadlec stated that he still had a problem with no full evaluation of, or proposed solution options for, each Needs Area.

R. Solution options are detailed in the Phase 2 report. Solutions for each wastewater management district should only be implemented with the input of the neighborhoods impacted.

Mr. Kadlec then asked, "Why will it cost $11 million?"

R. Page 3-17 table delineates the present worth of costs over a 20 year period, including capital expenses, management, software, consulting, etc. This is a method of comparing alternatives. The system evaluated is one alternative for wastewater management districts.

There are over 100 new systems being installed or replaced per year, and the additional wastewater management will have costs associated with them. The centralization of wastewater management will save homeowners costs by bundling services to serve the entire community.

Mr. Kadlec stated that he hoped that the impacted community members were aware of this Plan.

R. Understood.

Andy Munroe - Spencer Road area.
Mr. Munroe requested that the West Acton area receive a letter at Town Meeting that indicates there are other options versus sewer to address groundwater risk issues.

R. Additional information will be provided to the entire community letting property owners know where the report can be accessed and when comments can be made.

Andy indicated that his area has problems with high groundwater, and supports the sewer within his Needs Area.

R. Understood.

Jim O'Neil - Flint Road.

Mr. O'Neil stated that his backyard has a real problem with high groundwater which he feels could create health issues. He questioned the waiver process, the discrepancy with whether Town Meeting approval is needed or required, and whether DEP could issue a waiver without the Town Meeting approval.

R. As noted previously the Town is currently within a waiver process that will be complete when the CWRMP is finished. Until MEPA requirements are met, through the completion of the CWRMP, sewer connection permits cannot be issued by the DEP. Once Town Meeting accepts the plan, it can then be submitted to MEPA, ensuring progress of the sewer expansion.

Allen Nitschelm - Marian Road

Mr. Nitschelm asked why it was important to bring the Plan to Town Meeting?

R. It would be inappropriate to proceed with this significant plan without agreement by the Town.

Eric Hilfer followed up by asking whether the Phase 2 report could be separated to meet the MEPA process? By Needs Area perhaps?

R. The MEPA Special Certificate requires a town-wide assessment which is appropriate under their planning requirements.

Mr. Nitschelm asked whether Flint Road was included in the initial assessment of Middle Fort Pond Brook treatment plant?

R. Flint Road was included in the sewer service area prior to the reduction in capacity of the Sewer Treatment Plant by DEP. The Special Certificate requires that the entire Town, including areas deleted from the original sewer service area, be analyzed by their need.

Mr. Nitschelm questioned the formation of Needs Areas, concerned that his portion of Flagg Hill was included in a wastewater management district by proximity with Ethan Allen Road for a common solution?

R. Throughout the report Area 14 is described as Colonial Acres/ Flag Hill. In Figure 2-2 "Needs Planning Areas", Area 14 is shown as Ethan Allen Road and the side streets that access it. However, in Appendix H Table 7 Forest Glen is listed as part of Area 14. Reviewing the data and the full report it is clear that Forest Glen is <u>not</u> in the Area 14 needs area. It was improperly listed in the Appendix. The CAC regrets that this error in the report was not caught prior to the public presentation. The Area 14 Needs Planning Area, as shown on Figure 2-2, includes Ethan Allen Drive, Betsy Ross Circle, Paul Revere Road, Patrick Henry Circle, Black Horse Drive, Flintlock Drive, Powder Horn Lane, Ticonderoga Road and 154 & 158 Summer Street.

Mr. Nitschelm stated that he did not want to be included in an area that will cost him money unnecessarily.

R. Understood.

Mr. Nitschelm questioned the Title V requirements that fail a system?

R. The criteria for pass/fail is based on whether a system is protective of the environment, even if there are no apparent problems for the homeowner. The most common failure is high liquid levels within the system.

Mr. Nitschelm questioned the timeline and the need to complete the study within a timeline?

R. The CWRMP needs to be in place before sewer expansion can occur. Planning for the sewer expansion may take some time, while properties in the expansion area are sold and systems are replaced. Action at Town Meeting will allow homeowners to seek a waiver from replacing their septic system until sewers are available.

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Carol Holley (again)
Ms. Holley asked what happens if Town Meeting does not approve? She stated that she had called Marty Suuberg (DEP), and asked whether or not the worst case scenario will allow for some relief? DEP's verbal response was that there is potential for a waiver of requirements.

R. Understood.

Dore Hunter
Mr. Hunter applauded the efforts of the Committee. His comment: pending question of school hookups, he supports this in order to protect the town's groundwater resources, so that money can be used for the schools. The schools should be on sewer if at all practical.

R. Understood.

Bob Evans – Old Meadow Lane
Mr. Evans was curious as to costs to taxpayers, the costs to homeowners for the school sewer hookups.

R. The Sewer Assessment Bylaw requires that owners of public land pay a fee based on the avoided cost of construction of sewage disposal facilities.

Mr. Evans also questioned the approval process of the report, and is concerned that the approval will bind the community to all of the recommendations in the report over 20 years.

R. The CWRMP is similar to the Town's Master Plan, in that it is a framework to move forward. Town Meeting votes will be required to implement the recommendations. The need for future approval has been clarified by the wording of the warrant article that was passed at Town Meeting.

Terra Freidrichs – (again)
Ms. Freidrichs is concerned that individuals within a Needs Area will be required to abide by the recommendations, and that Needs Areas people must speak up during the Public Comment period.

R. Understood. The CWRMP is a plan with recommendations for moving forward to address the need for solutions in order to protect the environment, not a final requirement for specific solutions.

Allen Nitschelm (again)

Mr. Nitschelm questioned the analogy of the Master Plan, which was also approved at Town meeting. Mr. Nitschelm asked whether the Master Plan was approved by the state?

R. Yes, since in order to access grant funds, the Master Plan had to be approved and updated every five years. The Master Plan is used in reference to future proposals for planning, and for consistency. The Phase 2 Study can be used in the same way. Ann Chang indicated that for funding requests related to implementing recommendations of this Study, they would have to go back to Town Meeting for 2/3 vote each time a project was proposed.

Mary Michelman
Ms. Michelman pointed out that the Study was trying to not exclude any potential solution in the future, while protecting the groundwater resource. Specifically the indirect potable re-use option for future wastewater treatment plant effluent disposal is of concern, as this part of a "solution" could itself potentially pose a risk to human health, especially due to "emerging contaminants" such as viruses, household cleaning chemicals, personal care products, pharmaceuticals, hormonal and endocrine disrupting chemicals, etc. that may not be detected or removed in current testing and treatment processes. She recommended that this be only a last-resort option, and requested clarification of the language in the Phase 2 regarding any potential disposal near a wellfield, either within a zone II area or within close proximity to it, to include the need to be protective (better testing, etc. and the need for information about contaminant persistence, mobility, concentration, hazardous breakdown products, sampling protocols, treatment options, and potential health effects), if this option is even being considered. It should be clarified that the primary motivation for considering disposal near the Assabet wells is due to a need for disposal capacity, and not recharge of these highly productive wells.

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Deleted: Indirect Potable Re-use as an option, including the need to be protective (better testing, etc.) if this is even being considered.

R. Understood. The Citizen Advisory Committee agrees with the concerns expressed by ACES regarding emergent contaminants and therefore made sure to include a representative of the group as both a member of the Citizens Advisory Committee and the Indirect Potable Reuse Working Group.

Ms. Michelman asked about the best time to comment?

R. During and after the public meeting process. An additional comment period will be available after submittal of the CWRMP to MEPA.

Andy Munroe (again)
Mr. Monroe asked for clarification in the report of consideration of other logical alternatives that may not have been included.

R. Agreed, consideration of all alternatives will be relevant, including options not necessarily in the report.

Mr. Monroe also wanted clarification that the Plan is a general direction, and that changes can occur in the 20 year future.

R. Agreed.

Mr. Monroe asked if the Town Meeting approval is for the Plan, but not for the financial obligation

within it?

R. Agreed. High-priority items would be addressed very soon afterwards in near-future Town Meetings.

David Stone - Liberty Road
Expressed appreciation for 5 years of effort by the Committee. Mr. Stone asked whether 25% of Town Area was within a Needs Area?

R. Yes. The incorporation of proximity parcels increases the Needs Planning Areas to about 40%.

Mr. Stone asked how did half the town escape from being in a Needs Area?

R. The proximity inclusion was driven by the anticipated septic replacement need of a particular area, combined with water resource protection. The application of future solutions could reduce the planning areas.

Andy Magee (again)
Mr. Magee addressed the cost issues raised by others: He stated that this is a planning document, and recognized that it does not have to be a financial management plan. DEP will accept this, because it is a very good wastewater management study. If a waiver was approved by DEP now, DEP would require a wastewater management approval some day. He has experience with this. He felt that the plan was open enough to be able to unbind areas and people if needed. He supports the plan, and it should go forward. He has a problem using the Wetherbee Conservation Land for effluent disposal, but overall wants to see that this gets approved.

R. Understood.

Susan Mitchell-Hardt – Pope Road
Ms. Mitchell-Hardt stated that she was disappointed that the Wetherbee Conservation Land was included as a disposal area in the Plan. She'd like to preserve this area as a gateway to Acton and does not want it to be put at risk through this possible use. Helen Probst said that there were 4 possible solutions. One of the choices included the construction of a sewer. There were only 2 sites identified as available for subsurface disposal in the whole town – Wetherbee is great for disposal, but the deed restrictions on the conservation land are being taken very seriously and will be considered only under last, possible solutions.

R. Understood.

Terra Freidrichs (again)
Ms. Freidrichs, indicating Tables 6-8, and 6-9 of the Phase I report, questioned the statistics used in this report.

R. See previous response on issue.

Jim O'Neil (again)
Mr. O'Neil recognized that MEPA process must happen, but was concerned about the consequences if there was not the Town Meeting support?

R. If the report is not approved at Town Meeting, then it sends a strong signal that there is not support for the Plan overall.

David Trudeau- Mallard Road
Mr. Trudeau stated that this Plan must be a priority, but he wanted the Committee to consider the possibility of taking off the Flint/Spencer/Mallard area from the plan, and initiating a waiver process for it.

R. Without a town-wide plan in place, low-interest loans are unavailable to the Town and they are open to commercial loan options only (more expensive).

Mr. Trudeau wanted to know how to avoid the risk of failure at Town Meeting.

R. It is necessary that people come out and approve it.

David Stone (again)
Mr. Stone indicated concerned that the Plan is all or nothing. What if Town Meeting votes No Action?

R. If it doesn't get approved at this Town Meeting, the CAC would raise it again (at more incremental cost) at a future meeting. This was a comprehensive effort that would be a waste of time and money if it did not get approved.

Andy Magee (again)
Mr. Magee's opinion is that DEP will not allow for segmentation of the Plan. They will not issue Sewer Connection Permits before the MEPA Certificate is issued and complete. His experience with MEPA is that it needs to be addressed as a complete project, and that it will be longer and harder to piece it together instead.

R. Understood.

Dore Hunter (again)
Mr. Hunter commented regarding project financing: If Acton's bylaw requires self-supporting wastewater funding, the Committee needs to consider how the projects will be funded in upfront costs, about $500K.

R. Understood.

Carol Holley (again)
Ms. Holley asked how 40B projects (proposed or future) would tap into the gallons per day of excess WWTP capacity available?

R. 40B projects would be limited by the available capacity of the treatment plant. Capacity for users not connected must be set aside before additional allocations can be made.

Terra Freidrichs (again)
Ms. Freidrichs stated that she'd like to reduce high priority (West Acton) areas to medium priority.

R. Understood.

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APPENDIX C: WWTF NPDES PERMIT AND LETTER

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

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

ELLEN ROY HERZFELDER
Secretary

ROBERT W. GOLLEDGE, Jr.
Commissioner

Don Johnson, Town Manager
Town Hall
472 Main Street
Acton, MA 01729

RE: ACTON-BRPWP12-#W053563
314 CMR 5.00 – Groundwater Discharge
GW#656-1 – Final Permit

Dear Mr. Johnson:

In response to your application for renewal of groundwater discharge permit #656-1 to discharge a treated effluent to the ground from a 299,000 gpd wastewater treatment facility (WWTF) on Adams Street in Acton, MA and after due public notice, I hereby issue the attached final permit.

No comments objecting to the issuance or terms of the permit were received by the Department during the public comment period. Therefore, in accordance with 314 CMR 2.08, the permit becomes effective upon issuance.

Parties aggrieved by the issuance of this permit are hereby advised of their right to request an Adjudicatory hearing under the provision of Chapter 30A of the Massachusetts General laws and 314 CMR 1.00, Rules for the Conduct of Adjudicatory proceedings. Unless the person requesting the adjudicatory hearing requests and is granted a stay of the terms and conditions of the permit, the permit shall remain fully effective. If you have any questions feel free to contact Margo Webber at (508) 767-2738.

Very truly yours,

April 13, 2005
Date

Robert A. Kimball, P.E.
Environmental Engineer V
Bureau of Resource Protection
Mw\gwpfp656
Enc.
Cc: Acton BOH, Town Hall, Acton, MA
Dana Samuleson, PA-DEP
Marybeth Chubb, DEP-Boston

DISCHARGE PERMIT

Name and Address of Applicant: Town of Acton

Town Hall, 472 Main Street, Acton, MA 01720

Date of Application:	August 24, 2004
Application/Permit No.	656-1
Date of Issuance:	April 12, 2005
Date of Expiration:	April 12, 2010
Effective Date:	April 12, 2005

AUTHORITY FOR ISSUANCE:

Pursuant to authority granted by Chapter 21, Sections 26-53 of the Massachusetts General Laws, as amended, the following permit is hereby issued to: The Town of Acton (hereinafter called 'the permittee') authorizing discharges to the ground from the Town of Acton wastewater treatment facility located at 20 Adams Street in Acton, MA such authorization being expressly conditional on compliance by the permittee with all terms and conditions of the permit hereinafter set forth.

Robert A. Kimball — April 13, 2005

Bureau of Resource Protection — Date

I. SPECIAL CONDITIONS

A. Effluent Limits

The permittee is authorized to discharge into the ground from the groundwater treatment facilities for which this permit is issued a treated effluent whose characteristics shall not exceed the following values:

Effluent Characteristics	Discharge Limitations
Flow	299,000 gallons per day
BOD, 5 day, 20°C	20 mg/l
Total Suspended Solids	20 mg/l
Oil & Grease	15 mg/l
Fecal Coliform	200 org/100 ml
Nitrate-Nitrogen	10 mg/l
Total Nitrogen (TKN+NO3+NO2)	10 mg/l
Total Phosphorus	0.5/0.2 mg/l*

*The Total Phosphorus shall be a maximum daily limit of 0.5 mg/l and a monthly average limit of 0.2 mg/l.

a) The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at any time.

b) The discharge of the effluent shall not result in any demonstrable adverse effect on the groundwater or violate any water quality standards that have been promulgated.

c) The monthly average concentration of BOD and total suspended solids in the discharge shall not exceed 15 percent of the monthly average concentrations of BOD and total suspended solids in the influent into the permittee's wastewater treatment facilities.

d) When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the permitted flow limitations, the permittee shall submit to the permitting authorities projected loadings and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

B. Monitoring and Reporting

1) The permittee shall monitor and record the quality of the influent waste stream to the facility according to the following schedule and other provisions:

Parameter	Minimum Frequency of Analysis	Sample Type
BOD	2 x Monthly	24-hour composite
Total Suspended Solids	2 x Monthly	24-hour composite
pH	Daily	Grab
Ammonia Nitrogen	1 x Monthly	24-hour composite
Total Phosphorus	1 x Monthly	24-hour composite

2) The permittee shall monitor and record the quality and quantity of effluent according to the following schedule and other provisions:

Parameter	Minimum Frequency of Analysis	Sample Type
Flow	Daily	Min, Max, Avg
BOD	2 x Monthly	24-hour composite
Total Suspended Solids	2 x Monthly	24-hour composite
Fecal Coliform	2 x Monthly	Grab
UV Intensity	Daily	Reading
pH	Daily	Grab
Nitrate-Nitrogen	2 x Monthly	24-hr composite
Total Nitrogen (TKN+NO3+NO2)	2 x Monthly	24-hr composite
Volatile Organic Compounds (USEPA Method #624)	2 x Annually	Grab
Phosphorus*	2 x Monthly	Grab
Oil and Grease	Quarterly	Grab

* Total and Dissolved

3) The permittee shall monitor, record and report the quality of water from upgradient monitoring well MW-1 and five downgradient wells MW-2, MW-3, MW-4, MW-5 and MW-6 according to the following schedule and other provisions:

Total and Dissolved Phosphorus	1 x quarterly
Nitrate-Nitrogen	1 x quarterly
pH	1 x monthly
Specific Conductance	1 x monthly
Static Water Level	1 x monthly
Volatile Organic Compounds (USEPA Method #624)	2 x annually

4) Any grab sample or composite sample required to be taken less frequently than daily shall be taken during the period of Monday through Friday inclusive. Grab samples shall be taken between 8:00 a.m. and 6:00 p.m. All composite samples shall be taken over the operating day.

5) The permittee shall monitor and record the quality of the surface water from two locations in the adjacent stream (Up-Stream near the road and Downstream near the Assabet River) and from the Assabet River according to the following schedule and other provisions:

Total and Dissolved Phosphorus	1 x Quarterly
Nitrate-Nitrogen	1 x Quarterly

The permittee shall submit all monitoring reports within fifteen days of the last day of the reporting month. Reports shall be on an acceptable form, properly filled and signed and shall be sent to the Bureau of Resource Protection, Department of Environmental Protection, 627 Main Street, Worcester, 01608, and to the Director, Department of Environmental Protection, Wastewater Management Program, One Winter Street, Boston, MA 02108, and to the Acton Board of Health, Town Hall, Main St, Acton, MA 01720.

C. Supplemental Conditions

1. The permittee shall be responsible for the operation and maintenance of Municipally owned sewer lines and pump stations. A Town/Sewer Ordinance should be required to address privately owned sewers and pump stations.

2. The permittee shall maintain a set of local regulations and bylaws that will prohibit the dumping of toxic chemicals to the sewer lines.

3. The WWTF is approved to accept sanitary "tight tank" waste. Subject to submission to and approval by MADEP of a final plan, the WWTF may be authorized to accept limited amounts of septage under special conditions, but not grease.

4. On an annual basis the permittee shall conduct a baseline wetlands determination of the site. A report shall be submitted to the Department for review and approval and any appropriate measures shall be undertaken according to the Department approval.

5. On an annual basis the permittee shall conduct an evaluation of the slope stability and erosion at the site. A report shall be submitted to the Department for review and approval and any appropriate erosion control/stability measures shall be undertaken according to the Department approval.

6. The site shall be fenced and shall have limited access.

This Permit is an action of the Department. Any person aggrieved by this action may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within thirty (30) days of the date the permit is issued. (314 CMR 2.08) Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts which are the grounds for the request, and the relief sought. The hearing request along with a valid check payable to Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory hearing filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

APPENDIX D: EPA FACT SHEETS ON WASTEWATER MANAGEMENT DISTRICTS

MANAGEMENT MODEL 1: HOMEOWNER AWARENESS

Objective: To ensure that conventional onsite systems are sited and constructed properly in accordance with appropriate state, tribal, and local regulations and codes; that they are periodically inspected; and, if necessary, that they are repaired by the Owner. The Regulatory Authority maintains a record of the location of all systems and periodically provides the Owner/User with notices regarding operation and preventive maintenance recommendations.

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY
 PUBLIC EDUCATION AND PARTICIPATION	Regulatory Authority	• Educate Owner/User on purpose, use, and care of treatment system. • Provide public review and comment periods of any proposed program or rule changes.
	Service Provider	• Be informed of existing rules and review and comment on any proposed program and/or rule changes. • Participate in advisory committees established by the Regulatory Authority.
	Owner/User	• Be informed of purpose, use, and care of treatment system. • Be informed of existing rules and review and comment on any proposed program and/or rule changes. • Participate in advisory committees established by the Regulatory Authority.
 PLANNING	Regulatory Authority	• Coordinate program rules and regulations with state, tribal, and local planning and zoning and other water-related programs. • Evaluate potential risks of wastewater discharges to limit environmental impacts on receiving environments during the rule making process. • Limit potential risks of environmental impacts from residuals management program and evaluate available handling/treatment capacities. • Inform local planning authority of rule changes and recommend its evaluation of potential impacts on land use.
	Developer	• Hire planners, certified site evaluators, and designers to ensure that all lots of proposed subdivision plats meet requirements for onsite treatment prior to final plat.
 PERFORMANCE	Regulatory Authority	• Establish system failure criteria to protect public health, e.g., wastewater backups in building, wastewater ponding on ground surface, insufficient separation from ground water or wells.
	Owner/User	• Regularly maintain system in proper working order.
 TRAINING AND CERTIFICATION/ LICENSING	Licensing Board/ Regulatory Authority	• Develop and administer training, testing, and certification/licensing program for site evaluators, designers, contractors, and pumpers/haulers. • Maintain a current certified/licensed Service Provider listing.
	Service Provider	• Obtain appropriate certification(s)/license(s) and continuing education as required. • Obtain training from the manufacturer or vendor regarding appropriate use, installation requirements, and O&M procedures of any proprietary equipment to be installed. • Comply with applicable federal, state, tribal, and local requirements.
	Owner/User	• When using third-party services, contract with only the appropriate certified/licensed Service Providers.
 SITE EVALUATION	Regulatory Authority	• Codify prescriptive requirements for site evaluation procedures. • Codify criteria for treatment site characteristics suitable for permitted designs that will prevent unacceptable impacts on ground and surface water resources.
	Site Evaluator	• Obtain certification/license to practice. • Describe site and soil characteristics, determine suitability of site with respect to code requirements, and estimate site's hydraulic and treatment capacity. • Comply with applicable federal, state, tribal, and local requirements in the evaluation of sites for wastewater treatment and dispersal.
	Owner	• Hire a certified/licensed site evaluator to perform site evaluation.

MANAGEMENT MODEL 1: HOMEOWNER AWARENESS

MANAGEMENT MODEL 1: HOMEOWNER AWARENESS

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY
 DESIGN	Regulatory Authority	• Codify prescriptive, preengineered designs that are suitable for treatment sites that meet the appropriate prescriptive site criteria.
	Designer	• Obtain a certification/license to practice. • Design a treatment system that is compatible with the site and soil characteristics described by the site evaluator. • Comply with applicable federal, state, tribal, and local requirements in the design of wastewater treatment and dispersal systems.
	Owner	• Hire a certified/licensed designer to prepare system design.
 CONSTRUCTION	Regulatory Authority	• Administer a permitting program for system construction, including Regulatory Authority review of proposed system siting and design plans. • Perform final construction inspection for compliance assurance and inventory data collection. • Require that record drawings of constructed system be submitted to the Regulatory Authority by Owner.
	Contractor/ Installer	• Obtain certification/license to practice. • Construct the system in accordance with the approved plans and specifications. • Prepare record drawings of completed system and submit to Owner. • Comply with applicable federal, state, tribal, and local requirements in the design and construction of wastewater treatment and dispersal systems.
	Designer of Record	• Approve proposed field changes and submit to Owner. • Comply with applicable federal, state, tribal, and local requirements in the design and construction of wastewater treatment and dispersal systems.
	Owner	• Hire a certified/licensed contractor/installer to construct system. • Submit final record drawings of constructed system to Regulatory Authority.
 OPERATION & MAINTENANCE	Regulatory Authority	• Provide Owner/User with educational materials regarding system use and care. • Send timely reminder to Owner of when scheduled preventive maintenance is due.
	Pumper/Hauler	• Obtain certification/license to practice. • Inspect and service system as necessary. • Comply with applicable federal, state, tribal, and local requirements in the operation and maintenance of the treatment and dispersal system.
	Owner	• Perform recommended routine maintenance or hire a certified/licensed pumper/hauler to perform maintenance. • Hire a certified/licensed pumper/hauler to periodically inspect, service, and remove septage for proper treatment and disposal.
	User	• Follow recommendations provided by Regulatory Authority, Service Providers, and/or Owner to ensure that undesirable or prohibited materials are not discharged to system.
 RESIDUALS MANAGEMENT	Regulatory Authority	• Administer a tracking system for residuals hauling, treatment, and disposal and review to evaluate compliance with 40 CFR Part 503 (Use and Disposal of Sewage Sludge), 40 CFR Part 257, and applicable state, tribal, and local requirements. • Inventory available residuals handling/treatment capacities and develop contingency plans to ensure that sufficient capacities are always available.
	Pumper/Hauler	• Obtain certification/license to practice. • Comply with applicable federal, state, tribal, and local requirements in the pumping, hauling, treatment, and disposal of treatment system residuals.
 COMPLIANCE INSPECTIONS/ MONITORING	Regulatory Authority	• Conduct final construction inspections to ensure compliance with approved plans and permit requirements. • Perform compliance inspections at point-of-sale, change-in-use of properties, "targeted areas," and systems reported to be in violation. • Conduct compliance inspections of residuals hauling, treatment, and disposal.
	Pumper/Hauler	• Inform Owner of any noncompliant items observed during routine servicing of system.
	Owner	• Periodically perform a "walk-over" inspection of the system and correct any deficiencies.

MANAGEMENT MODEL 1: HOMEOWNER AWARENESS

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY
 CORRECTIVE ACTIONS	Regulatory Authority	• Negotiate compliance schedule with Owner for correcting documented noncompliance items. • Administer enforcement program, including fines and/or penalties for failure to comply with compliance requirements. • Obtain necessary authority to enter property to correct imminent threats to public health if the Owner/User fails to comply.
	Designer	• Provide Owner with documents (drawings, specifications, modifications, etc.) that may be required by Regulatory Authority prior to corrective action.
	Contractor/ Installer	• Perform required repairs, modifications, and upgrades as necessary.
	Owner	• Comply with terms and conditions of the negotiated compliance schedule. • Submit required documents for corrective actions to Regulatory Authority. • Hire appropriate certified/licensed Service Providers to perform required corrective actions.
 RECORD KEEPING, INVENTORY, & REPORTING	Regulatory Authority	• Administer a database inventory (locations, site evaluations, record drawings, permits, performed maintenance, inspection reports) of all systems. • Maintain a residuals treatment and disposal tracking system. • Maintain a current certified/licensed Service Provider listing that is available to the public.
	Pumper/Hauler	• Prepare and submit records of residuals handling as required.
	Owner	• Maintain approved record drawings of system. • Maintain maintenance records of system. • Provide drawings, specifications, and maintenance records to new property owner at time of property transfer.
 FINANCIAL ASSISTANCE & FUNDING	Regulatory Authority	• Provide the legal and financial support to sustain the management program. • Provide a listing of financial assistance programs available to Owner and the qualifying criteria for each program. • Consider implementing a state or local financing program to assist Owners in upgrading their systems.

MANAGEMENT MODEL 2: MAINTENANCE CONTRACTS

Objective: To allow use of more complex mechanical treatment options or small clusters through the requirement that maintenance contracts be maintained between the Owner and maintenance provider to ensure appropriate and timely system component maintenance by qualified technicians over the service life of the system.

MANAGEMENT MODEL 2: MAINTENANCE CONTRACTS

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 PUBLIC EDUCATION AND PARTICIPATION	Regulatory Authority	• Educate Owner/User on purpose, use, and care of treatment system. • Provide public review and comment periods of any proposed program and/or rule changes.
	Service Provider	• Be informed of existing rules, and review and comment on any proposed program or rule changes. • Participate in advisory committees established by the Regulatory Authority.
	Owner/User	• Be informed of purpose, use, and care of treatment system. • Be informed of existing rules, and review and comment on any proposed program or rule changes. • Participate in advisory committees established by the Regulatory Authority.
 PLANNING	Regulatory Authority	• Coordinate program rules and regulations with state, tribal, local planning and zoning and other water-related programs. • Evaluate potential risks of wastewater discharges to limit environmental impacts on receiving environments during the rule making process. • Limit potential risks of environmental impacts from residuals management program and evaluate available handling/treatment capacities. • Inform local planning authority of rule changes and recommend its evaluation of potential impacts on land use.
	Developer	• Hire planners, certified site evaluators, and designers to ensure that all lots of proposed subdivision plats meet requirements for onsite treatment prior to final plat.
 PERFORMANCE	Regulatory Authority	• Establish system failure criteria to protect public health, e.g., wastewater backups in building, wastewater ponding on ground surface, insufficient separation from ground water or wells. • **Establish minimum performance criteria for manufactured component approvals.** • **Establish minimum maintenance requirements for approved systems.**
	Owner/User	• Regularly maintain system in proper working order.
 TRAINING AND CERTIFICATION/ LICENSING	Licensing Board/ Regulatory Authority	• Develop and administer training, testing, and certification/licensing program for site evaluators, designers, contractors, operators, and pumpers/haulers. • Maintain a current certified/licensed Service Provider listing.
	Service Provider	• Obtain appropriate certification(s)/license(s) and continuing education as required. • Obtain training from the manufacturer or vendor regarding appropriate use, installation requirements, and O&M procedures of any proprietary equipment to be installed. • Comply with applicable federal, state, tribal, and local requirements.
	Owner/User	• When using third-party services, contract only with the appropriate certified/licensed Service Providers.
 SITE EVALUATION	Regulatory Authority	• Codify prescriptive requirements for site evaluation procedures. • Codify criteria for treatment site characteristics suitable for permitted designs that will prevent unacceptable impacts on ground and surface water resources. • **Establish alternative site acceptance criteria for approved systems providing enhanced pretreatment.**
	Site Evaluator	• Obtain certification/license to practice. • Describe site and soil characteristics, determine suitability of site with respect to code requirements, and estimate site's hydraulic and treatment capacity. • Comply with applicable federal, state, tribal, and local requirements in the evaluation of sites for wastewater treatment and dispersal.
	Owner	• Hire a certified/licensed site evaluator to perform site evaluation.

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 DESIGN	Regulatory Authority	• Codify prescriptive, preengineered designs that are suitable for treatment sites that meet the appropriate prescriptive site criteria. • **Administer an evaluation program for approving manufactured components for use with pre-engineered designs.**
	Designer	• Obtain certification/license to practice. • Design a treatment system that is compatible with the site and soil characteristics described by the site evaluator. • Comply with applicable federal, state, tribal, and local requirements in the design of wastewater treatment and dispersal systems.
	Owner	• Hire a certified/licensed designer to prepare system design.
 CONSTRUCTION	Regulatory Authority	• Administer a permitting program for system construction, including Regulatory Authority review of proposed system siting and design plans. • Perform final construction inspection for compliance assurance and inventory data collection. • Require that record drawings of constructed system be submitted to the Regulatory Authority by Owner. • **Require Owner to submit a copy of system O&M manual to the Regulatory Authority.**
	Contractor/ Installer	• Obtain certification/license to practice. • Construct the system in accordance with the approved plans and specifications. • Prepare record drawings of completed system and submit to Owner. • **Provide Owner with an O&M manual describing component manufacturer's maintenance and troubleshooting requirements/recommendations.** • Comply with applicable federal, state, tribal, and local requirements in the design and construction of wastewater treatment and dispersal systems.
	Designer of Record	• Approve proposed field changes and submit to Owner. • Comply with applicable federal, state, tribal, and local requirements in the design and construction of wastewater treatment and dispersal systems.
	Owner	• Hire a certified/licensed contractor/installer to construct system. • Submit final record drawings of constructed system to Regulatory Authority. • **Submit a copy of system O&M manual to Regulatory Authority to record required maintenance.**
 OPERATION & MAINTENANCE	Regulatory Authority	• Provide Owner/User with educational materials regarding system use and care. • Send timely reminder to Owner when scheduled preventive maintenance is due. • **Administer a program that requires the Owner to attest periodically that he or she holds a valid contract with a certified/licensed operator to perform scheduled and any necessary maintenance according to the maintenance requirements described in submitted O&M manual.** • **Require Owner to submit a maintenance report signed/sealed by certified/licensed operator immediately following scheduled maintenance.**
	Operator	• **Obtain certification/license to practice.** • **Inspect and service system as necessary in accordance with the submitted O&M manual.** • **Certify to Owner that the required maintenance was performed in a timely manner, describing any system deficiencies observed.** • **Comply with applicable federal, state, tribal, and local requirements in the operation and maintenance of the treatment and dispersal system.**
	Pumper/Hauler	• Obtain certification/license to practice. • Inspect and service system as necessary. • Comply with applicable federal, state, tribal, and local requirements in the operation and maintenance of treatment and dispersal system.
	Owner	• Hire a certified/licensed pumper/hauler to periodically inspect, service, and remove septage or other residuals for proper treatment and disposal. • **Maintain contractual agreement with a certified/licensed operator to perform scheduled maintenance as required.** • **Inform Regulatory Authority of any change in maintenance contract status.**
	User	• Follow recommendations provided by Regulatory Authority, Service Providers, and/or Owner to ensure that undesirable or prohibited materials are not discharged to system.

MANAGEMENT MODEL 2: MAINTENANCE CONTRACTS

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

MANAGEMENT MODEL 2: MAINTENANCE CONTRACTS

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 RESIDUALS MANAGEMENT	Regulatory Authority	• Administer a tracking system for residuals hauling, treatment, and disposal and review to evaluate compliance with 40 CFR Part 503 (Use and Disposal of Sewage Sludge), 40 CFR Part 257, and applicable state, tribal, and local requirements. • Inventory available residuals handling/treatment capacities and develop contingency plans to ensure that sufficient capacities are always available.
	Pumper/Hauler	• Comply with applicable federal, state, tribal, and local requirements in the pumping, hauling, treatment, and disposal of treatment system residuals.
 COMPLIANCE INSPECTIONS/ MONITORING	Regulatory Authority	• Conduct final construction inspections to ensure compliance with approved plans and permit requirements. • Perform compliance inspections at point-of-sale, change-in-use of properties, "targeted areas," and/or systems reported to be in violation. • Conduct compliance inspections of residuals hauling, treatment, and disposal. • **Administer program for confirming that Owners hold valid maintenance contracts with certified/licensed operators and for monitoring timely submittals of certified maintenance reports.**
	Operator or Pumper/Hauler	• Inform Owner of any noncompliant items observed during routine servicing of system.
	Owner	• Periodically perform a "walk-over" inspection of the system and correct any deficiencies. • **Attest to the Regulatory Authority that a valid contract exists with a certified/licensed operator to perform necessary system maintenance.** • **Submit a maintenance report signed/sealed by a certified/licensed Service Provider immediately following scheduled maintenance.**
 CORRECTIVE ACTIONS	Regulatory Authority	• Negotiate compliance schedule with Owner for correcting documented noncompliant items. • Administer enforcement program, including fines and/or penalties for failure to comply with compliance requirements. • Obtain necessary authority to enter property to correct imminent threats to public health if the Owner/User fails to comply.
	Designer	• Provide Owner with documents (drawings, specifications, modifications, etc.) that may be required by Regulatory Authority prior to corrective action.
	Contractor/ Installer	• Perform required repairs, modifications, and upgrades as necessary.
	Owner	• Comply with terms and conditions of the negotiated compliance schedule. • Submit required documents for corrective actions to Regulatory Authority. • Hire appropriate certified/licensed Service Providers to perform required corrective actions.
 RECORD KEEPING, INVENTORY, & REPORTING	Regulatory Authority	• Administer a database inventory (locations, site evaluations, record drawings, permits, performed maintenance, inspection reports) of all systems. • Maintain a residuals treatment and disposal tracking system. • Maintain a current certified/licensed Service Provider listing that is available to the public. • **Administer an Owner/Service Provider maintenance contract compliance and certified maintenance report tracking system.** • **Record maintenance contract requirement on property deed.** • **Administer a certified maintenance report tracking system.**
	Operator	• Provide certified report of all maintenance and observed system deficiencies to Owner.
	Pumper/Hauler	• Prepare and submit records of residuals handling as required.
	Owner	• Maintain approved record drawings and **O&M manual** of system. • Maintain maintenance records of system. • Provide drawings, specifications, **O&M manual**, and maintenance records to new property owner at time of property transfer.
 FINANCIAL ASSISTANCE & FUNDING	Regulatory Authority	• Provide the legal and financial support to sustain the management program. • Provide a listing of financial assistance programs available to Owner/User and the qualifying criteria for each program. • Consider implementing a state or local financing program to assist Owners in upgrading their systems.

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

MANAGEMENT MODEL 3: OPERATING PERMITS

Objective: To issue renewable/revocable operating permits to system Owner that stipulate specific and measurable performance criteria for the treatment system and periodic submittals of compliance monitoring reports. The performance criteria are based on risks to public health and water resources posed by wastewater dispersal in the receiving environment. Operating permits allow the use of clustered or onsite systems on sites with a greater range of site characteristics.

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 PUBLIC EDUCATION AND PARTICIPATION	Regulatory Authority	• Educate Owner/User on purpose, use, and care of treatment system. • Provide public review and comment periods of any proposed program and/or rule changes.
	Service Provider	• Be informed of existing rules, and review and comment on any proposed program or rule changes. • Participate in advisory committees established by the Regulatory Authority.
	Owner/User	• Be informed of purpose, use, and care of treatment system. • Be informed of existing rules, and review and comment on any proposed program or rule changes. • Participate in advisory committees established by the Regulatory Authority.
 PLANNING	Regulatory Authority	• Coordinate program rules and regulations with state, tribal, and local planning and zoning and other water-related programs. • Evaluate potential risks of wastewater discharges to limit environmental impacts on receiving environments during the rule making process. • Limit potential risks of environmental impacts from residuals management program and evaluate available handling/treatment capacities. • Inform local planning authority of rule changes and recommend its evaluation of potential impacts on land use.
	Developer	• Hire planners, certified site evaluators, and designers to ensure that all lots of proposed subdivision plats meet requirements for onsite treatment prior to final plat.
 PERFORMANCE	Regulatory Authority	• Establish system failure criteria to protect public health, e.g., wastewater backups in building, wastewater ponding on ground surface, insufficient separation from ground water or wells. • Establish minimum maintenance requirements for approved systems. • **Establish performance criteria necessary to protect public health and water resources for each defined receiving environment in Regulatory Authority's jurisdiction.**
	Owner/User	• Operate and regularly maintain system in proper working order. • **Operate system to comply with performance criteria stipulated in operating permit.**
 TRAINING AND CERTIFICATION/ LICENSING	Licensing Board/ Regulatory Authority	• Develop and administer a training, testing, and certification/licensing program for site evaluators, designers, contractors, operators, pumpers/haulers, and **inspectors**. • Maintain a current certified/licensed Service Provider listing.
	Service Provider	• Obtain appropriate certification(s)/license(s) and continuing education as required. • Obtain training from the manufacturer or vendor regarding appropriate use, installation requirements, and O&M procedures of any proprietary equipment to be installed. • Comply with applicable federal, state, tribal, and local requirements.
	Owner/User	• When using third-party services, contract with only the appropriate certified/licensed Service Providers.
 SITE EVALUATION	Regulatory Authority	• Codify prescriptive requirements for site evaluation procedures. • Codify criteria for treatment site characteristics suitable for permitted designs that will prevent unacceptable impacts on ground and surface water resources. • **Establish defining characteristics for each receiving environment in the Regulatory Authority's jurisdiction.**
	Site Evaluator	• Obtain certification/license to practice. • Describe site and soil characteristics, determine suitability of site with respect to code requirements, and estimate site's hydraulic and treatment capacity. • Comply with applicable federal, state, tribal, and local requirements in the evaluation of sites for wastewater treatment and dispersal.
	Owner	• Hire a certified/licensed site evaluator to perform site evaluation.

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

MANAGEMENT MODEL 3: OPERATING PERMITS

MANAGEMENT MODEL 3: OPERATING PERMITS

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 DESIGN	Regulatory Authority	• Codify prescriptive, preengineered designs that are suitable for treatment sites that meet the appropriate prescriptive site criteria. • **Administer a plan review program for engineered designs to meet stipulated performance criteria.** • **Require submission of routine operation and emergency contingency plans that will sustain system performance and avoid unpermitted discharges.**
	Designer	• Obtain certification/license to practice. • Certified/licensed designer to design treatment system that is compatible with the site and soil characteristics described by the site evaluator. • Comply with applicable federal, state, tribal, and local requirements in the design of wastewater treatment and dispersal systems.
	Owner	• Hire a certified/licensed designer to prepare system design.
 CONSTRUCTION	Regulatory Authority	• Administer a permitting program for system construction, including Regulatory Authority review of proposed system siting and design plans. • **Require designer of record to certify that completed system construction is in substantial compliance with approved plans and specifications.** • Require that record drawings of constructed system be submitted to the Regulatory Authority by Owner. • Require Owner to submit a copy of system O&M manual to the Regulatory Authority.
	Contractor/ Installer	• Obtain certification/license to practice. • Construct the system in accordance with the approved plans and specifications. • Prepare record drawings of completed system and submit to Owner. • Provide Owner with an O&M manual describing component manufacturer's maintenance and troubleshooting requirements/recommendations. • Comply with applicable federal, state, tribal, and local requirements in the design and construction of wastewater treatment and dispersal systems.
	Designer of Record	• Approve proposed field changes and submit to Owner. • **Certify that construction of the system is substantially in conformance with the approved plans and specifications.**
	Owner	• Hire a certified/licensed contractor/installer to construct system. • Submit final record drawings of constructed system to Regulatory Authority. • Submit a copy of system O&M manual to Regulatory Authority to record required maintenance.
 OPERATION & MAINTENANCE	Regulatory Authority	• Provide Owner/User with educational materials regarding system use and care. • **Administer a program of renewable/revocable operating permits that are issued to Owner stipulating system performance criteria, compliance monitoring reporting schedule, term of permit, and renewal option upon documented compliance with permit.** • **Track and review compliance monitoring reports to ensure that systems are operating in accordance with operating permits.**
	Operator	• Obtain certification/license to practice. • **Inspect and service system as necessary in accordance with the submitted O&M manual and/or operating permit stipulations.** • Certify to Owner that the required maintenance was performed in a timely manner, describing any system deficiencies observed. • Comply with applicable federal, state, tribal, and local requirements in the operation and maintenance of the treatment and dispersal system.
	Pumper/Hauler	• Obtain certification/license to practice. • Inspect and service system as necessary. • Comply with applicable federal, state, tribal, and local requirements in the operation and maintenance of the treatment and dispersal system.
	Owner	• Hire a certified/licensed pumper/hauler or operator to maintain system. • Maintain system in proper working order. • **Operate and maintain the system in accordance with O&M manual and/or operating permit stipulations.** • **Submit compliance monitoring reports to the Regulatory Authority according to the schedule stipulated in the operating permit.**
	User	• Follow recommendations provided by Regulatory Authority and/or Service Providers to ensure that undesirable or prohibited materials are not discharged to system.

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

MANAGEMENT MODEL 3: OPERATING PERMITS

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 RESIDUALS MANAGEMENT	Regulatory Authority	• Administer a tracking system for residuals hauling, treatment, and disposal and review to evaluate compliance with 40 CFR Part 503 Use and Disposal of Sewage Sludge, 40 CFR Part 257, and applicable state, tribal, and local requirements. • Inventory available residuals handling/treatment capacities and develop contingency plans to ensure that sufficient capacities are always available.
	Pumper/Hauler	• Comply with applicable federal, state, tribal, and local requirements in the pumping, hauling, treatment, and disposal of treatment system residuals.
 COMPLIANCE INSPECTIONS/ MONITORING	Regulatory Authority	• Perform inspection programs at point-of-sale, change-in-use of properties, "targeted areas," and/or systems reported to be in violation. • Conduct compliance inspections of residuals hauling, treatment, and disposal. • **Administer a program to monitor timely submittals of acceptable compliance maintenance reports.** • **Notify Owner of impending scheduled submittals of compliance monitoring reports.** • **Perform system inspections randomly and/or at time of operating permit renewal.**
	Operator or Pumper/Hauler	• Inform Owner of any noncompliant items observed during routine servicing of system.
	Owner	• Submit compliance monitoring reports to Regulatory Authority as stipulated in operating permit. • **Submit compliance inspection report signed/sealed by a certified/licensed inspector prior to applying for renewal of operating permit.**
 CORRECTIVE ACTIONS	Regulatory Authority	• Negotiate compliance schedule with Owner for correcting documented noncompliant items. • Administer enforcement program including fines and/or penalties for failure to comply with compliance requirements. • Obtain necessary authority to enter property to correct imminent threats to public health if the Owner/User fails to comply. • **Require system inspection by certified inspector at time of operating permit renewal.**
	Designer	• Provide Owner with documents (drawings, specifications, modifications, etc.) that may be required by Regulatory Authority prior to corrective action.
	Contractor/ Installer	• Perform required repairs, modifications, and upgrades as necessary.
	Inspector	• **Obtain certification/license to practice.** • **Inspect treatment system for compliance with operating permit prior to permit renewal.**
	Owner	• Comply with terms and conditions of the negotiated compliance schedule. • Submit required documents for corrective actions to Regulatory Authority. • Hire appropriate certified/licensed Service Providers to perform required corrective actions.
 RECORD KEEPING, INVENTORY, & REPORTING	Regulatory Authority	• Administer a database inventory (locations, site evaluations, record drawings, permits, performed maintenance, and inspection reports) of all systems. • Maintain a residuals treatment and disposal tracking system. • Maintain a current certified/licensed Service Provider listing that is available to the public. • **Administer a tracking system for operating permits.** • **Administer a tracking database for compliance reports.**
	Operator or Inspector	• Provide certified report of all maintenance and observed system deficiencies to Owner. • **Perform system monitoring as stipulated in Owner's operating permit.**
	Pumper/Hauler	• Prepare and submit records of residuals handling as required.
	Owner	• Maintain approved record drawings and O&M manual of system. • Maintain maintenance records of system. • Submit compliance monitoring reports to Regulatory Authority. • Provide drawings, specifications, O&M manual, and maintenance records to new property owner at time of property transfer.
 FINANCIAL ASSISTANCE & FUNDING	Regulatory Authority	• Provide the legal and financial support to sustain the management program. • Provide a listing of financial assistance programs available to Owner/User and the qualifying criteria for each program. • Consider implementing a state or local financing program to assist Owners in upgrading their systems.

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

MANAGEMENT MODEL 4: RME OPERATION AND MAINTENANCE

Objective: To ensure that onsite/decentralized systems consistently meet their stipulated performance criteria through Responsible Management Entities that are responsible for operation and performance of systems within their service areas.

MANAGEMENT MODEL 4: RME OPERATION AND MAINTENANCE

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 PUBLIC EDUCATION AND PARTICIPATION	Regulatory Authority	• Educate Owner/User on purpose, use, and care of treatment system. • Hold public meetings to inform the public of any proposed program and/or rule changes.
	Service Provider	• Be informed of existing rules, and review and comment on any proposed program or rule changes. • Participate in advisory committees established by the Regulatory Authority.
	Owner/User	• Be informed of purpose, use, and care of treatment system. • Be informed of existing rules and review and comment on any proposed program and/or rule changes. • Participate in advisory committees established by the Regulatory Authority.
	RME	• **Inform Owner/User of care and use of system.** • **Inform Owner/User of RME requirements and prohibited uses of system.**
 PLANNING	Regulatory Authority	• Coordinate program rules and regulations with state, tribal, and local planning and zoning and other water-related programs. • Evaluate potential risks of wastewater discharges to limit environmental impacts on receiving environments during the rule making process. • Limit potential risks of environmental impacts from residuals management program and evaluate available handling/treatment capacities. • Inform local planning authority of rule changes and recommend their evaluation of potential impacts on land use.
	Developer	• Hire planners, certified site evaluators, and designers to ensure that all lots of proposed subdivision plats meet requirements for onsite treatment prior to final plat.
	RME	• **Develop criteria (e.g., site evaluation, design, construction) to be required of systems for acceptance into O&M program and inform Owners.** • **Continuously evaluate existing wastewater treatment needs and forecast future needs.**
 PERFORMANCE	Regulatory Authority	• Establish system failure criteria to protect public health, e.g., wastewater backups in building, wastewater ponding on ground surface, insufficient separation from ground water or wells. • Establish minimum maintenance requirements for approved systems. • Establish performance criteria necessary to protect public health and water resources for each defined receiving environment in the Regulatory Authority's jurisdiction.
	Owner	• Regularly maintain system components in proper working order. • **Comply with any RME requirements regarding care and use of the system.**
	RME	• **Operate systems to comply with performance criteria stipulated in the operating permits.**
 TRAINING AND CERTIFICATION/ LICENSING	Licensing Board/ Regulatory Authority	• Develop and administer training, testing, and certification/licensing program for site evaluators, designers, contractors, operators, pumpers/haulers, and inspectors. • Maintain a current certified/licensed Service Provider listing.
	Service Provider	• Obtain appropriate certification(s)/license(s) and continuing education as required. • Obtain training from the manufacturer or vendor regarding appropriate use, installation requirements, and operation and maintenance procedures of any proprietary equipment to be installed. • Comply with applicable federal, state, tribal, and local requirements in the evaluation of sites for wastewater treatment and dispersal.
	Owner	• When using third-party services, contract only with the appropriate certified/licensed Service Providers.
	RME	• **When using third-party services, contract with only the appropriate certified/licensed Service Providers.** • **Ensure that RME staff who operate and/or maintain systems obtain appropriate certification(s)/license(s) to practice.** • **Arrange for supplemental training as needed for Service Providers and/or staff to manage, operate, and/or maintain systems.**

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

MANAGEMENT MODEL 4: RME OPERATION AND MAINTENANCE

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 SITE EVALUATION	Regulatory Authority	• Codify prescriptive requirements for site evaluation procedures. • Codify criteria for treatment site characteristics suitable for permitted designs that will prevent unacceptable impacts on ground and surface water resources. • Establish the defining characteristics of each receiving environment in the Regulatory Authority's jurisdiction. • **Approve and oversee site evaluation procedures required by RME for system acceptance in the O&M program to ensure that system designs are appropriate for the sites and their stipulated performance criteria.**
	Site Evaluator	• Obtain certification/license to practice. • Describe site and soil characteristics, determine suitability of site with respect to code requirements, and estimate site's hydraulic and treatment capacity. • Comply with applicable federal, state, tribal, and local requirements in the evaluation of sites for wastewater treatment and dispersal.
	Owner	• Hire a certified/licensed site evaluator to perform site evaluation. • **Comply with any additional siting requirements established by RME for system acceptance in the O&M program.**
 DESIGN	Regulatory Authority	• Codify prescriptive, pre-engineered designs that are suitable for treatment sites that meet the appropriate prescriptive site criteria. • Administer a plan review program for engineered designs to meet stipulated performance criteria. • Require submission of routine operation and emergency contingency plans that will sustain system performance and avoid unpermitted discharges.
	Designer	• Obtain certification/license to practice. • Design treatment system that is compatible with the site and soil characteristics described by the site evaluator. • Comply with applicable federal, state, tribal, and local requirements in the design of wastewater treatment and dispersal systems.
	Owner	• Hire a certified/licensed designer to prepare system design. • Comply with any additional design requirements established by the RME for system acceptance in the O&M program.
 CONSTRUCTION	Regulatory Authority	• Administer a permitting program for system construction, including Regulatory Authority review of proposed system siting and design plans. • Require designer of record to certify that completed system construction is in substantial compliance with approved plans and specifications. • Require that record drawings of constructed system be submitted to the Regulatory Authority by Owner. • Require Owner to submit a copy of system O&M manual to the Regulatory Authority and RME.
	Contractor/ Installer	• Obtain certification/license to practice. • Construct system in accordance with the approved plans and specifications. • Prepare record drawings of completed system and submit to Owner. • Provide Owner with an O&M manual describing component manufacturer's maintenance and troubleshooting requirements/recommendations. • Comply with applicable federal, state, tribal, and local requirements in the design and construction of wastewater treatment and dispersal systems.
	Designer of Record	• Approve proposed field changes and submit to Owner. • Certify that construction of the system is substantially in conformance with the approved plans and specifications.
	Owner	• **Comply with any additional construction requirements established by the RME for system acceptance in the O&M program.** • Hire a certified/licensed designer to prepare system design. • Submit final record drawings of constructed system to Regulatory Authority. • Submit a copy of the system O&M manual to the Regulatory Authority and RME to record required maintenance.

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

MANAGEMENT MODEL 4: RME OPERATION AND MAINTENANCE

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 OPERATION & MAINTENANCE	Regulatory Authority	• Provide Owner/User with educational materials regarding system use and care. • Administer a program of renewable/revocable operating permits that are issued to RME, stipulating system performance criteria, compliance monitoring reporting schedule, term of permit, and renewal option upon documented compliance with operating permit stipulations. • Track and review compliance monitoring reports to ensure that systems are operating in accordance with operating permits. • **Consider replacing individual system operating permits with general permits issued to the RME for classes of systems.**
	Operator	• Inspect and service the system as necessary in accordance with the submitted O&M manual and/or operating permit stipulations. • Perform system monitoring as stipulated in RME's operating permit. • Certify to RME that the required maintenance and monitoring was performed in a timely manner and noting any system deficiencies. • Comply with applicable federal, state, tribal, and local requirements in the operation and maintenance of the treatment and dispersal system.
	Pumper/Hauler	• Obtain certification/license to practice. • Inspect and service system as necessary. • Comply with applicable federal, state, tribal, and local requirements in the operation and maintenance of treatment and dispersal system.
	Owner/User	• Follow recommendations provided by Regulatory Authority, Service Providers, and/or Owner to ensure that undesirable or prohibited materials are not discharged to system. • Maintain system components in proper working order. • **Comply with any RME requirements regarding care and use of system.**
	RME	• **Operate and maintain systems in accordance with the stipulated operating permit requirements.** • **Submit compliance monitoring reports to the Regulatory Authority according to the schedule stipulated in the operating permit.** • Hire a certified/licensed pumper/hauler or operator to maintain system.
 RESIDUALS MANAGEMENT	Regulatory Authority	• Administer a tracking system for residuals hauling, treatment, and disposal and review to evaluate compliance with 40 CFR Part 503 Use and Disposal of Sewage Sludge, 40 CFR Part 257, and applicable state, tribal, and local requirements. • Inventory available residuals handling/treatment capacities and develop contingency plans to ensure that sufficient capacities are always available.
	Pumper/Hauler	• Comply with applicable federal, state, tribal, and local requirements in the pumping, hauling, treatment, and disposal of wastewater treatment system residuals.
	RME	• Hire a certified/licensed pumper/hauler to remove, treat, and dispose of residuals. • **Comply with applicable federal, state, tribal, and local requirements in the pumping, hauling, treatment, and disposal of treatment system residuals.** • **Inventory available residuals handling/treatment capacities and develop contingency plans when insufficient capacities are available.**
 COMPLIANCE INSPECTIONS/ MONITORING	Regulatory Authority	• Perform inspection programs at point-of-sale, change-in-use of properties, "targeted areas," and/or systems reported to be in violation. • Conduct compliance inspections of residuals hauling, treatment, and disposal. • Administer a program to monitor timely submittals of acceptable compliance maintenance reports. • Perform system inspections randomly and/or at time of operating permit renewal.
	Inspector	• **Obtain certification/license to practice.** • **Perform system compliance inspections for RME in accordance with prevailing Regulatory Authority requirements.**
	RME	• **Submit compliance monitoring reports to the Regulatory Authority as stipulated in operating permit.** • **Submit compliance inspection report signed/sealed by a certified/licensed inspector prior to applying for renewal of operating permit.** • **Conduct regular reviews of management program with Owner/User and Regulatory Authority to optimize system operation program.** • **Hire a certified/licensed inspector to inspect system compliance status.**

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

MANAGEMENT MODEL 4: RME OPERATION AND MAINTENANCE

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
CORRECTIVE ACTIONS	Regulatory Authority	• Negotiate compliance schedules with RME for correcting documented noncompliance items. • Administer enforcement program including fines and/or penalties for failure to comply with compliance requirements. • Obtain necessary authority to enter property to correct imminent threats to public health if the Owner/User fails to comply. • Require system inspection by certified inspector at time of operating permit renewal. • **Negotiate compliance schedules with RME, Owner/User, or both, for correcting documented noncompliance items.**
	Designer	• Provide Owner/RME with documents (drawings, specifications, modifications, etc.) that may be required by the Regulatory Authority prior to corrective actions.
	Contractor/ Installer	• Perform required repairs, modifications, and upgrades as necessary.
	Inspector	• Inspect treatment system for compliance with operating permit prior to permit renewal.
	Owner	• Comply with terms and conditions of the negotiated compliance schedule for component replacement/repairs. • Submit required documents for corrective actions to Regulatory Authority. • Hire appropriate certified/licensed Service Providers to perform required corrective actions.
	RME	• **Comply with terms and conditions of the negotiated compliance schedule for system performance.**
RECORD KEEPING, INVENTORY, & REPORTING	Regulatory Authority	• Administer a database inventory (locations, site evaluations, record drawings, permits, performed maintenance, and inspection reports) of all systems. • Maintain a residuals treatment and disposal tracking system. • Maintain a current certified/licensed Service Provider listing that is available to the public. • Administer a tracking system for operating permits. • Administer a tracking database for compliance reports. • **Administer periodic financial, management, and technical audits of RME.**
	Operator or Inspector	• Provide certified report of all maintenance and observed system deficiencies to RME. • Provide certified report of all observed system deficiencies to Owner. • Perform system monitoring as stipulated in RME's operating permit.
	Pumper/Hauler	• Prepare and submit records of residuals handling as required.
	Owner	• Maintain approved record drawings and O&M manual of system. • Maintain maintenance records of system. • Provide drawings, specifications, O&M manual, and maintenance records to new property owner at time of property transfer.
	RME	• **Maintain system monitoring and service records.** • **Inventory, collect, and provide permit information to Regulatory Authority.**
FINANCIAL ASSISTANCE & FUNDING	Regulatory Authority	• Provide the legal and financial support to sustain the management program. • Provide a listing of financial assistance programs available to Owner/User and the qualifying criteria for each program. • Consider implementing a state or local financing program to assist Owners in upgrading their systems.
	RME	• **Conduct regular reviews of management program with Owner/User and Regulatory Authority to optimize operations.**

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

MANAGEMENT MODEL 5: RME OWNERSHIP

Objective: To provide professional management of the planning, siting, design, construction, operation, and maintenance of onsite/decentralized systems through Responsible Management Entities that own and manage individual and clustered systems within their service areas.

MANAGEMENT MODEL 5: RME OWNERSHIP

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 PUBLIC EDUCATION AND PARTICIPATION	Regulatory Authority	• Educate Owner/User on purpose, use, and care of treatment system. • Provide public review and comment periods of any proposed program and/or rule changes.
	Service Provider	• Be informed of existing rules, and review and comment on any proposed program or rule changes. • Participate in advisory committees established by the Regulatory Authority.
	RME	• Inform User of care and use of system. • Inform User of RME requirements and prohibited uses of system.
	User	• Be informed of purpose, use, and care of treatment system.
 PLANNING	Regulatory Authority	• Coordinate program rules and regulations with state, tribal, and local planning and zoning and other water-related programs. • Evaluate potential risks of wastewater discharges to limit environmental impacts on receiving environments during the rule making process. • Limit potential risks of environmental impacts from residuals management program and evaluate available handling/treatment capacities. • Inform local planning authority of rule changes and recommend their evaluation of potential impacts on land use.
	Developer	• Hire planners, certified site evaluators, and designers to ensure that all lots of proposed subdivision plats meet requirements for onsite treatment prior to final plat.
	RME	• Continuously evaluate existing wastewater treatment needs and forecast future needs. • **Require developers to submit proposed subdivision plats to RME for review and comment to ensure compatibility with RME requirements.** • **Plan most cost-effective approach to meeting treatment needs through appropriate mix of central sewerage, clusters, and individual onsite systems.**
 PERFORMANCE	Regulatory Authority	• Establish system failure criteria to protect public health, e.g., wastewater backups in building, wastewater ponding on ground surface, insufficient separation from ground water or wells. • Establish minimum maintenance requirements for approved systems. • Establish performance criteria necessary to protect public health and water resources for each defined receiving environment in the Regulatory Authority's jurisdiction.
	RME	• Operate, maintain, and repair systems to comply with performance criteria stipulated in the operating permits.
	User	• Comply with any RME requirements regarding care and use of the system.
 TRAINING AND CERTIFICATION/ LICENSING	Licensing Board/ Regulatory Authority	• Develop and administer training, testing, and certification/licensing program for site evaluators, designers, contractors, pumpers/haulers, inspectors, and operators. • Maintain a current certified/licensed Service Provider listing.
	Service Provider	• Obtain appropriate certification(s)/license(s) and continuing education as required. • Obtain training from the manufacturer or vendor regarding appropriate use, installation requirements, and operation and maintenance procedures of any proprietary equipment to be installed. • Comply with applicable federal, state, tribal, and local requirements in the evaluation of sites for wastewater treatment and dispersal.
	RME	• When using-third party services, contract with only certified/licensed Service Providers. • RME staff who site, **design, construct,** operate, and/or maintain systems must obtain appropriate certification(s)/license(s) to practice. • Arrange for supplemental training as needed for Service Providers and/or staff to manage, operate, and/or maintain systems.

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 SITE EVALUATION	Regulatory Authority	• Codify prescriptive requirements for site evaluation procedures. • Codify criteria for treatment site characteristics suitable for permitted designs that will prevent unacceptable impacts on ground and surface water resources. • Establish the defining characteristics of each receiving environment in the Regulatory Authority's jurisdiction. • Approve and oversee site evaluation procedures used by RME to ensure that system designs are appropriate for the sites and their stipulated performance criteria.
	Site Evaluator	• Obtain certification/license to practice. • Describe site and soil characteristics, determine suitability of site with respect to code requirements, and estimate site's hydraulic and treatment capacity. • Comply with applicable federal, state, tribal, and local requirements in the evaluation of sites for wastewater treatment and dispersal.
	RME	• Hire a certified/licensed site evaluator to perform site evaluation.
 DESIGN	Regulatory Authority	• Codify prescriptive, pre-engineered designs that are suitable for treatment sites that meet the appropriate prescriptive site criteria. • Administer the plan review program for engineered designs to meet stipulated performance criteria. • Require routine operation and emergency contingency plans that will sustain system performance and avoid the submission of unpermitted discharges.
	Designer	• Obtain certification/license to practice. • Design treatment system that is compatible with the site and soil characteristics described by the site evaluator. • Comply with applicable federal, state, tribal, and local requirements in the design of wastewater treatment and dispersal systems.
	RME	• Hire a certified/licensed designer to prepare system design.
 CONSTRUCTION	Regulatory Design	• Administer a permitting program for system construction, including Regulatory Authority review of proposed system siting and design plans. • Require designer of record to certify that completed system construction is in substantial compliance with approved plans and specifications. • Require that record drawings of constructed system be submitted to the Regulatory Authority by RME.
	Contractor/ Installer	• Obtain certification/license to practice. • Construct system in accordance with the approved plans and specifications. • Prepare record drawings of completed system and submit to RME. • Provide RME with an O&M manual describing component manufacturer's maintenance and troubleshooting requirements/recommendations. • Comply with applicable federal, state, tribal, and local requirements in the design and construction of wastewater treatment and dispersal systems.
	Designer of Record	• Approve proposed field changes and submit to RME. • Certify that construction of the system is substantially in conformance with the approved plans and specifications.
	RME	• Hire a certified/licensed designer to prepare system design. • Submit final record drawings of constructed system to Regulatory Authority. • Submit a copy of system O&M manual to the Regulatory Authority to record required maintenance.

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MANAGEMENT MODEL 5: RME OWNERSHIP

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 **OPERATION & MAINTENANCE**	Regulatory Authority	• Provide User with educational materials regarding system use and care. • Administer a program of renewable/revocable operating permits that are issued to RME that stipulate system performance, compliance monitoring reporting schedule, term of permit, and renewal option upon documented compliance with operating permit stipulations. • Track and review compliance monitoring reports to ensure that systems are operating in accordance with operating permits. • Consider replacing individual system operating permits with general permits issued to RME for classes of systems.
	Operator	• Inspect and service system as necessary in accordance with the submitted O&M manual and/or operating permit stipulations. • Perform system monitoring as stipulated in RME's operating permit. • Certify to RME that the required maintenance and monitoring were performed in a timely manner and noting any system deficiencies. • Comply with applicable federal, state, tribal, and local requirements in the operation and maintenance of the treatment and dispersal system.
	Pumper/Hauler	• Obtain certification/license to practice. • Inspect and service system as necessary. • Comply with applicable federal, state, tribal, and local requirements in the operation and maintenance of the treatment and dispersal system.
	User	• Follow recommendations provided by Regulatory Authority, Service Providers, and/or Owner to ensure that undesirable or prohibited materials are not discharged to system. • Comply with any RME requirements regarding care and use of system.
	RME	• Operate and maintain systems in accordance with the stipulated operating permit requirements. • Submit compliance monitoring reports to the Regulatory Authority according to the schedule stipulated in the operating permit. • Hire a certified/licensed pumper/hauler or operator to maintain system.
 **RESIDUALS MANAGEMENT**	Regulatory Authority	• Administer a tracking system for residuals hauling, treatment, and disposal and review to evaluate compliance with 40 CFR Part 503 Use and Disposal of Sewage Sludge, 40 CFR Part 257, and applicable state, tribal, and local requirements. • Inventory available residuals handling/treatment capacities and develop contingency plans when capacities available are insufficient.
	Pumper/ Hauler	• Comply with applicable federal, state, tribal, and local requirements in the pumping, hauling, treatment, and disposal of wastewater treatment system residuals.
	RME	• Hire a certified/licensed pumper/hauler to remove, treat, and dispose of residuals. • Comply with applicable federal, state, tribal, and local requirements in the pumping, hauling, treatment, and disposal of treatment system residuals. • Inventory available residuals handling/treatment capacities and develop contingency plans when capacities available are insufficient.
 **COMPLIANCE INSPECTIONS/ MONITORING**	Regulatory Authority	• Perform inspection programs at point-of-sale, change-in-use of properties, "targeted areas," and/or systems reported to be in violation. • Conduct compliance inspections of residuals hauling, treatment, and disposal. • Administer a program to monitor timely submittals of acceptable compliance maintenance reports. • Perform system inspections randomly and/or at the time of operating permit renewal.
	Inspector	• Obtain certification/license to practice. • Perform system compliance inspections for RME in accordance with prevailing Regulatory Authority requirements.
	RME	• Submit compliance monitoring reports to Regulatory Authority as stipulated in operating permit. • Submit a compliance inspection report signed/sealed by a certified/licensed inspector prior to applying for renewal of operating permit. • Conduct regular reviews of management program with Regulatory Authority to optimize system operation program. • Hire a certified/licensed inspector to inspect system compliance status.

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*

PROGRAM ELEMENT	RESPONSIBLE PARTY	ACTIVITY[1]
 CORRECTIVE ACTIONS	Regulatory Authority	• Negotiate compliance schedules with RME for correcting documented noncompliance items. • Administer the enforcement program including fines and/or penalties for failure to comply with compliance requirements. • Require system inspection by a certified inspector at time of operating permit renewal. • Negotiate compliance schedules with RME for correcting documented noncompliance items.
	Designer	• Provide RME with documents (drawings, specifications, modifications, etc.) that may be required by the Regulatory Authority prior to corrective action.
	Contractor/ Installer	• Perform required repairs, modifications, and upgrades as necessary.
	Inspector	• Inspect treatment system for compliance with operating permit prior to permit renewal.
	RME	• Comply with terms and conditions of the negotiated compliance schedule. • Submit required documents for corrective actions to the Regulatory Authority. • Hire appropriate certified/licensed Service Providers to perform required corrective actions.
 RECORD KEEPING, INVENTORY, & REPORTING	Regulatory Authority	• Administer a database inventory (locations, site evaluations, record drawings, permits, and inspection reports) of all systems within the Regulatory Authority's jurisdiction. • Maintain a residuals treatment and disposal tracking system. • Maintain a current certified/licensed Service Provider listing, which is available to the RMEs. • Administer a tracking system for operating permits. • Administer a tracking database for compliance reports. • Administer financial, management, and technical audits of RME.
	Operator or Inspector	• Provide a certified report of all maintenance and observed system deficiencies to RME. • Provide a certified report of all observed system deficiencies to Owner. • Perform system monitoring as stipulated in RME's operating permit.
	Pumper/Hauler	• Prepare and submit records of residuals handling as required.
	RME	• Maintain system monitoring and service records. • Inventory, collect, and provide permit information to Regulatory Authority.
 FINANCIAL ASSISTANCE & FUNDING	Regulatory Authority	• Provide the legal and financial support to sustain the regulatory program. • Provide a listing of financial assistance programs available to RME and the qualifying criteria for each program. • Consider implementing a state or local financing program to assist RME in upgrading systems.
	RME	• Conduct regular reviews of management program with Regulatory Authority to optimize operations.

MANAGEMENT MODEL 5: RME OWNERSHIP

[1] *Activities in bold are activities added to program elements from the preceding Management Model.*