

**Responsiveness Summary for the  
Iron Horse Park-Shaffer Landfill  
Superfund Site, Billerica, MA**

**Preface**

The U.S. Environmental Protection Agency (EPA) held a 60-day public comment period from January 16, 1991 to March 16, 1991 to provide an opportunity for interested parties to comment on the Remedial Investigation (RI), Endangerment Assessment (EA), Feasibility Study (FS), and the Proposed Plan prepared for the Shaffer Landfill section of the Iron Horse Park Superfund Site in Billerica, Massachusetts (the Site). EPA made a preliminary recommendation of its preferred alternative for site remediation in the Proposed Plan issued on January 15, 1991 before the start of the comment period. On May 16, 1991, EPA issued a Supplement to the Proposed Plan which recommended a new preferred alternative for site remediation. EPA held an additional 30-day public comment period from May 17, 1991 to June 17, 1991.

The purpose of this Responsiveness Summary is to document EPA responses to the comments and questions raised during the public comment periods. EPA will consider all of the comments summarized in this document before selecting a final remedial alternative to address contamination at the Site.

This responsiveness summary contains the following sections:

- I. Overview of Remedial Alternatives Considered in the Feasibility Study and Proposed Plan - This section briefly outlines the remedial alternatives evaluated in the FS and Proposed Plan, including EPA's preliminary recommendation of a preferred alternative.
- II. Site History and Background on Community Involvement and Concerns - This section provides a brief site history and a general overview of community interests and concerns regarding the Site.
- III. Summary of Comments Received During the Public Comment Period and EPA Responses to these Comments - This section summarizes and provides EPA responses to comments received from residents and other interested parties during the public comment period. In addition, comments received from the Potentially Responsible

Parties (PRPs) and the Massachusetts Department of Environmental Protection (MADEP) are summarized and EPA's responses to these comments are provided.

Attachment A - This attachment provides a list of the community relations activities that EPA has conducted to date at the Site.

Attachment B - This attachment provides a transcript of the February 5, 1991 and February 19, 1991 informal public hearings on the site, both of which were held in Billerica, Massachusetts.

All written comments received by EPA during the comment periods are contained in the Administrative Record for Shaffer Landfill, which can be reviewed at:

EPA Records Center  
90 Canal Street, 1st Floor  
Boston, Massachusetts 02114

OR

Billerica Public Library  
25 Concord Road  
Billerica, MA 01821

### **I. Overview of Remedial Alternatives Considered in the Feasibility Study and Proposed Plan**

On January 16, 1991, EPA released a Proposed Plan for the Shaffer Landfill portion of the Iron Horse Park Superfund Site, identifying a preferred alternative for addressing site contamination. Subsequently, on May 16, 1991, EPA issued a Supplement to the Proposed Plan for the Shaffer Landfill, identifying a modified preferred alternative. For a detailed description of the modified preferred alternative, and other remedial alternatives evaluated, refer to the May 1991 Proposed Plan document, and the Feasibility Study for the Shaffer Landfill. An outline of the major components of the modified preferred alternative, and a list of the other remedial alternatives evaluated for the site in the Feasibility Study, are provided below.

Components of the modified preferred alternative upon which public comment was taken include:

- Reconstruction of the entire Landfill cap.

This will improve its overall stability and its ability to prevent precipitation from leaching through the landfill. Reconstruction would be achieved by removing the existing topsoil layer, adding additional low-permeability soil to; 1) provide a 5% grade on the top of the Landfill lobes, and 2) provide a consistent smooth sub-grade on the Landfill side slopes, installing an impermeable textured membrane liner over the entire Landfill area, installing a 6-inch drainage layer, installing a non-woven filter fabric between the drainage and topsoil layers, reinstalling the topsoil layer to a depth of 12-inches, and reseeding the disturbed areas;

- Construction on necessary surface water drainage system;
- Maintenance of cap, surface drainage system, and landfill gas collection/flare system. If necessary, improvements will be made;
- Monitoring of the gas collection/flare system;
- Construction, operation and maintenance of leachate collection facilities;
- Off-site treatment and disposal of leachate;
- Construction of a site perimeter fence;
- Monitoring of groundwater and surface water quality.

The seven additional cleanup alternatives evaluated in the Feasibility Study were:

- No Action Alternative
- Landfill Cap Completion/Repair
- Landfill Cap Completion/Repair with Leachate Collection
- Landfill Cap Completion/Repair with Leachate Collection and Groundwater Extraction and Treatment
- Partial Reconstruction of Landfill Cap with Leachate Collection and Treatment
- Partial Reconstruction of Landfill Cap with Leachate Collection and Groundwater Extraction and Treatment
- Total Reconstruction of the Landfill Cap
- Total Reconstruction of the Landfill Cap with Groundwater Extraction and Treatment

## **II. Site History and Background on Community Involvement and Concerns:**

The Iron Horse Park site was proposed to the EPA Superfund National Priorities List (NPL) in September 1983. The Site is located in Billerica, Massachusetts, near the Tewksbury town line. It includes both active and inactive industries, waste storage areas and landfills within the Iron Horse Industrial Park complex as well as the Shaffer Landfill, which is adjacent to the Industrial Park.

Several operable units have been identified within the Iron Horse Park Superfund site in addition to the Shaffer Landfill. These operable units are in different stages in the Superfund cleanup process. As part of this cleanup process, the Johns-Manville Asbestos Landfill has been capped and covered and the B&M waste lagoons have had bioremediation selected as a cleanup remedy and the bioremediation process itself is currently being designed. Other contaminated areas of the Iron Horse Park site will be investigated in a later Remedial Investigation. This responsiveness summary is part of the Record of Decision identifying a cleanup for the Shaffer Landfill section of the Iron Horse Park Site.

When the Iron Horse Park site was first proposed as a Superfund site in 1983, several citizen groups that had originally been organized around individual issues merged into the Superfund Action Coalition (SAC). This group has been active in monitoring local, federal and state activities at the site, commenting on cleanup activities, and building coalitions with other groups interested in Superfund.

Media coverage of the Iron Horse Park site has been fairly extensive since the first citizen concerns with the Site were raised in the early 1970s. The addition of the Iron Horse Park Site to the NPL in September 1984 was reported widely by local radio, television and newspapers, including the Lowell Sun, Billerica Minuteman, and Billerica News. Citizens have shown varying levels of concern over the years with the different parts of the Iron Horse Park Site, but concern over the Shaffer Landfill has been relatively consistent and focused. Local residents' interest in the Landfill initially surfaced in 1971 when inspections by the Board of Health revealed that the Landfill was not in compliance with numerous environmental regulations. "Citizens to Enforce Dump Controls" (CEDC) was formed shortly after this discovery to bring pressure on local officials to ensure that the Landfill met all applicable regulations. CEDC has since become part of the SAC, which has remained a strong proponent of Landfill closure and capping due to perceived health and environmental impacts from the Landfill. SAC has met with state, local and federal officials to monitor the progress of the various

activities at Iron Horse Park. The site Remedial Project Manager is in regular contact with the SAC to keep it informed of ongoing site activities.

At public meetings discussing the Remedial Investigation (August 1989) and the Proposed Plan (February 1991) for the Shaffer Landfill section of the Iron Horse Park site, residents have consistently expressed concerns about potential ground and surface water contamination caused by leachate from the Landfill. Odors, destruction of wetlands and site security have also been mentioned as concerns. Local response to EPA's proposed plan is documented in the next section of this Responsiveness Summary.

### **III. Summary of Comments Received during the Public Comment Period and EPA Responses to these Comments**

This Responsiveness Summary summarizes the comments EPA received during the public comment periods held from January 16, 1991 to March 16, 1991, and from May 17, 1991 to June 17, 1991. 133 sets of written comments were received from Town of Billerica officials, representatives of state and federal governments, state agencies, area residents, members of the Superfund Action Committee, representatives and consultants for Graypond Realty - the owner of the Shaffer Landfill, and other interested parties. In addition, oral comments were received at hearings held on February 5, 1991 and February 19, 1991. All of these comments are summarized below.

#### **A. Summary of resident and other interested party comments**

Comments from residents and other interested parties are summarized below, along with EPA responses. Where the same or similar comments have been given by more than one person they have been grouped together for the purposes of providing a complete response. The comments are organized in the following categories: 1) EPA's Preferred Alternative; 2) Groundwater and Surface Water issues; 3) Miscellaneous Comments.

##### **1. EPA's Preferred Alternative**

**Comment a:** Several residents and town officials expressed concern that the long-term maintenance and monitoring of the Landfill required some form of monetary guarantee. Methods recommended by commentators include: citizen monitoring of agreements, contracts with penalties, performance bonds,

trust funds, escrow accounts or other forms of financial commitments.

EPA's Response: If responsible parties undertake implementation of the remedy at the Shaffer Landfill, that implementation would take place under a Consent Decree. A part of that agreement would address financial assurance mechanisms covering all work at the Landfill, including Operation and Maintenance.

Comment b: Several residents said that the existing landfill venting/flare system should not merely be maintained, but should be redesigned and rebuilt. According to these residents the current system does not work properly. One resident said that he had smelled odors from the Landfill on the way to the February 19, 1991 hearing.

EPA's Response: At this time, it does not appear that the existing Landfill venting/flare system needs to be redesigned and rebuilt. Proper operation and maintenance of the existing system will improve its performance. However, EPA will be reviewing the effectiveness of this portion of the remedy to ensure that it is operating properly. If necessary, improvements will be made. Additionally, other sources of release of landfill gas and odor exist that contribute to the problem. These additional sources are leachate outbreaks and gases that permeate through the existing cap surface. The proposed installation of leachate collection facilities and a less permeable, improved cap should help to reduce the problems being encountered.

Comment c: Most of the residents who offered comments at the public hearings, including residents, the local state representative and representatives of the Billerica town government, stated that EPA should require the reconstruction of the entire cap of the Landfill, not just the top portion. Several people who made this point noted that the sides of the cap, not the top, are the places that have experienced the most severe erosion problems, and are the places where leachate breakouts are occurring. One resident noted that EPA's Remedial Investigation for the site showed that the existing cap does not even meet the full requirements of the 1984 consent agreement between the Landfill owners and the state, both on the top and the sides of the Landfill. Other reasons for rebuilding the cap include that the Landfill does not comply with state "flat" requirements and that the side slopes of the landfill are at a 2 to 1 slope when they should be at a 3 to 1 slope.

EPA's Response: Concerns that the side slopes were not being reconstructed and that the entire Landfill was not being capped have been addressed by EPA in the Selected Remedy

wherein the entire Landfill cap will be rebuilt. Slopes in excess of 3 to 1 will remain, however specific measures to enhance the stability of these slopes are included in the Selected Remedy.

Comment d: Several residents and town officials agreed with EPA's plans to collect leachate and treat it off-site. Most of these commentors, expressed concern about trucking leachate through local neighborhoods, however, and said that leachate should be moved by railroad tank car rather than truck.

EPA's Response: Methods for transporting leachate off-site will be examined during remedial design. Depending on the destination of the leachate, rail may or may not be a viable means for leachate transportation.

Comment e: Several residents and the Massachusetts Department of Public Health, said they agreed with EPA's decision to build a site perimeter fence. One resident remarked that it has been 25 years since residents first requested a fence around the site, and she said that she is glad that a site-perimeter fence is finally part of the Landfill clean-up plan.

EPA's Response: EPA feels that restricted site access is necessary in order to protect public health and also to protect the integrity of the Landfill cap.

Comment f: A resident said that EPA's reports should explicitly address all of the leachate breakouts, and leave none of them uncorrected.

EPA's Response: One of the purposes of total reconstruction of the Landfill cap is to address leachate outbreaks.

Comment g: A resident said that 1966/67 state permits for the Landfill, required a liner, which was never installed, but the permit was not revoked. He said that this points to the need for a completely reconstructed cap and greatly improved monitoring of the site.

EPA's Response: The Selected Remedy includes reconstruction of the entire cap. A monitoring program for the Landfill that addresses groundwater, surface water, and air monitoring will be prepared during design of the remedial action.

Comment h: Several residents said that EPA should develop and fund in advance plans to deal with the possibility of leachate spills, either at the site or on any planned transportation routes, or other possible site disasters.

EPA's Response: All applicable requirements relating to the storage, transportation, and treatment of leachate will be met. These requirements may be applicable depending on the results of leachate testing. RCRA Subtitle C requirements for Contingency Plans and Emergency Procedures are relevant and appropriate based on current site specific information.

Comment i: A resident stated that EPA should schedule routine retests of all media to monitor migration of chemicals off-site after implementation of a cleanup alternative. He added that threshold values for pollutants should be set, and that the public should be notified if these values have been met or exceeded and that EPA should have plans in place that will allow it to respond quickly if a problem is revealed by this monitoring.

EPA's Response: As discussed above, a monitoring program will be designed and implemented. Part of EPA's community relations program for the Iron Horse Park Site includes notifying affected residents, officials and news media of any new data regarding actual or potential, current or future site risks. EPA will also send all sampling results to the Billerica Public Library, which is the local information repository for the Site. One of the goals of the selected remedy is to achieve all ARARs for groundwater quality through natural attenuation after implementation of the remedy (reconstruction of the cap, collection and treatment of leachate off-site). If, upon review of monitoring data, it is determined that the remedy is not protective, EPA may determine that additional remedial action is warranted.

Comment j: A resident said that EPA's preferred alternative (Alternative 4) in the January Proposed Plan depended too heavily on maintenance and monitoring, areas that have been a historical weak point at the Shaffer Landfill. She suggested that the best solution for the Landfill is the one that requires the least amount of monitoring, precisely because this is what can be expected from the Landfill owners. She added that total cap reconstruction is her preferred alternative.

EPA's Response: EPA's Selected Remedy includes reconstruction of the entire Landfill cap. Maintenance is a necessary component of any remedy. Additionally, any remedy chosen would depend on monitoring in order to quantitatively evaluate the effectiveness of the remedy as well as the condition of the affected media.

Comment k: A resident expressed concern that the EPA's preferred alternative from the January Proposed Plan would not adequately protect the Town of Tewksbury's wells.

EPA's Response: The Town of Tewksbury's wells have been shown not to be in the migration pathway from the Shaffer Landfill, either with or without implementation of the Selected Remedy. This issue is discussed on pages 2-13 and 2-14 of the January 1991 Feasibility Study. In summary, the Landfill is not considered a threat to the Tewksbury wellfield because the natural direction of groundwater flow from the Landfill is directed away from the wellfield by natural geologic barriers. However, EPA will be monitoring groundwater quality and will take additional response action if it is determined that the remedy is no longer protective.

Comment l: A representative from the Board of Health of the Town of Billerica presented the Board's preferred cleanup alternative for the site. The alternative "must include, but may not be limited to the following issues. EPA must require 1) a total cap reconstruction, 2) repair and, if necessary replace or expand the current methane collection system; 3) containment, collection and treatment of groundwater; 4) leachate collection and treatment; 5) proper operation and maintenance in place and properly funded; 6) a significant contingency fund to cover the cost of any surprises; 7) cleanup of Richardson Pond; 8) we need a significant escrow account for future repairs or work that may need to be performed." (Note: These 8 points are essentially the same as the 8 issues identified in form letters sent to EPA by Billerica Residents during the comment period. EPA received 113 copies of this letter, with a total of 236 signatures.)

EPA's Response: The Selected Remedy includes total cap reconstruction, repair/operation and maintenance of the landfill gas system, leachate collection and treatment, and overall operation and maintenance activities. The items not included in the Selected Remedy are 1) groundwater containment, collection, and treatment and 2) cleanup of Richardson Pond. Regarding item number 3), the need for an escrow account, please see the response to comment l.a., above. The groundwater contamination will be addressed by natural attenuation processes and by implementation of the Landfill cap reconstruction and the leachate collection system which will reduce on-going releases. There are no known off-site receptors currently being exposed to potentially contaminated groundwater. Although Site surface waters are targeted to be studied in the 3rd operable unit at Iron Horse Park, Richardson Pond should benefit significantly by virtue of the total Landfill cap reconstruction and the leachate collection system.

Comment m: Several residents commented that EPA's preferred alternative in the January Proposed Plan was based primarily on cost effectiveness, and they believed EPA should be seeking the most effective solution that provides the

greatest degree of protection for human health and the environment, not "the wallets of the polluters."

EPA's Response: EPA's Selected Remedy must be based upon finding that the remedy is protective of human health and the environment, attains ARARs and is cost effective. All of these factors were fully and carefully evaluated in making a determination that the Selected Remedy is consistent with the intent of CERCLA. A determination of cost effectiveness requires EPA to ensure that costs are proportionate to the overall effectiveness of the remedy. The Selected Remedy is the most cost effective of all remedies considered and provides a high degree of overall protection of human health and the environment.

Comment n: One resident said that the chosen cleanup solution should include continuous community involvement in the monitoring process. Another noted that all information about test results and ongoing monitoring should be made public so that the community can monitor progress at the site. This resident said the information should be available to the Billerica Board of Selectmen, the Board of Health, and the Billerica Public Library. One resident suggested that EPA should send ongoing progress reports to the same list of recipients.

EPA's Response: EPA encourages community involvement throughout the cleanup at the Shaffer Landfill/Iron Horse Park Superfund Site and is committed to a proactive community relations program that will ensure public information is released as it becomes available. With regard to local availability or access to Site information, EPA has established the Billerica Public Library as a local information repository containing all information regarding the Iron Horse Park Superfund Site, and as discussed earlier sampling results will be made available at the Library. EPA also issues site updates periodically or at milestones in the remedial process. EPA also encourages residents to utilize the agency's designated information contacts that appear in all fact sheets and press releases whenever they have questions and comments regarding site activities.

Comment o: During the informal public hearing, Billerica's State Representative Brian M. Cangiamila said that EPA's preferred cleanup option for the Site should address existing arsenic contamination in the groundwater by extracting and treating groundwater. He recommended that EPA consider its alternatives 5 or 5A for cleanup of the Site. In his written comments he applauded EPA, the Town of Billerica and the Superfund Action Committee's work. Rep. Cangiamila's written comments mirrored those of the Town of Billerica and many others in urging for total cap reconstruction, an on-site

leachate and groundwater treatment facility, improvements to the gas venting and flare system, and financial guarantees such as bonds or escrow accounts to assure future site monitoring and cleanup needs can be met.

EPA's Response: Arsenic contamination in groundwater in the vicinity of Iron Horse Park is not limited to the Shaffer Landfill area. Some degree of arsenic may be a natural occurrence in the area, although the Shaffer Landfill may contribute to increases in arsenic downgradient (arsenic has been detected downgradient of the Landfill at higher levels than have been detected upgradient). Improvements to the cap to reduce percolation of precipitation through the refuse would be more effective than groundwater extraction and treatment for addressing what may be a natural presence of arsenic. As discussed earlier, EPA believes that no one is currently consuming this affected groundwater.

Comment p: A resident said that EPA should develop concentric rings of monitoring wells that could precisely locate the speed and direction of any leachate migration. Another resident said that there should be a series of wells adjacent to the Landfill, and another adjacent to property lines.

EPA's Response: EPA's Selected Remedy includes groundwater monitoring. The monitoring system will include a series of wells positioned to provide data on migration of groundwater and potential contamination. The final number, configuration, and depth of monitoring wells to be included in the monitoring network will be addressed during design of the remedial action.

Comment q: A Billerica Town selectman commented that EPA should require before and after stack monitoring of the gas collection/flare system to make sure that no hazardous chemicals are being burned at improper temperatures.

EPA's Response: Monitoring of the gas flare is a part of EPA's Selected Remedy, as well as long-term operation and maintenance of the gas system. EPA agrees that monitoring should be done both before and after combustion to assess the effectiveness of the process as well as monitor for incomplete combustion residuals.

Comment r: A Billerica selectman said that any groundwater treatment should be done off-site because on-site treatment would be too costly and an on-site treatment plant could be damaged by vandalism.

EPA's Response: No groundwater treatment, either on-site or off-site, is proposed. If reference is to leachate treatment, the Selected Remedy requires off-site treatment.

Comment s: A resident said that EPA has assumed that the portions of the cap that won't be reconstructed have been properly installed, an assumption that he believes is not well founded given the Landfill owners past failure to comply with regulatory requirements. He added that there is no information in EPA documents that would back up this assumption. He also said that EPA should be concerned about whether the existing cap can adequately protect against frost damage in the absence of a drainage layer.

EPA's Response: On pages 5-10 and 5-11 of the Feasibility Study, it was explicitly noted that deficiencies in the cap existed, but that the investigations needed to delineate deficient areas would be more detrimental than helpful. In EPA's Selected Remedy the entire Landfill cap is to be reconstructed and will include a drainage layer.

Comment t: A resident suggested that EPA should include some institutional controls to prevent future residents from drinking groundwater near the Landfill and to protect them from exposure to contaminated soils. The Massachusetts Department of Public Health, in its written comments, also suggested institutional controls as a way to restrict future groundwater and surface water use to protect the public against exposure.

EPA's Response: Institutional controls will be placed on the property to prevent future use of groundwater beneath the Landfill as well as throughout the contaminated plume as drinking water and to prevent activities from being conducted on the Landfill surface that would compromise the integrity of the cap or otherwise compromise the protection of human health and the environment.

Comment u: A Billerica selectman suggested that EPA should have given a cost estimate for retrofitting the Landfill with a complete liner. He said that such an estimate would show the true cost of proper disposal at the Landfill and would therefore show that the selected solution is reasonable from a cost perspective.

EPA's Response: The cost for retrofitting the Landfill with a liner would be so large that it would have little meaning. There would be no validity to the cost estimate because the activities required to implement such a remedy would effectively be impossible.

Comment v: One resident sent a written comment to EPA which stated that site neighbors deserve the most thorough and complete cleanup that is technologically feasible.

EPA's Response: EPA feels that the Selected Remedy is the remedy which is most consistent with CERCLA; by being protective of human health and the environment, attaining ARARs, and being cost effective. In addition, the remedy satisfies CERCLA's preference for treatment and utilizes alternative treatment technologies or resource recovery technologies to the extent practicable.

Comment w: In a written comment, Representative Edward J. Markey, U.S. Congressional representative for the Billerica area, agreed with town officials and many other commentors that EPA should recommend total reconstruction of the Landfill cap. In addition, Rep. Markey supports the implementation of a comprehensive monitoring program that includes contingencies for treating groundwater should that be necessary.

EPA's Response: The Selected Remedy includes total reconstruction of the Landfill cap and monitoring of groundwater and surface water. As discussed in the response to comment A.1.i, monitoring data will be evaluated to determine if further remedial action is necessary.

Comment x: The Billerica Board of Selectmen, Board of Health, Conservation Commission and the Superfund Action Committee commented that they supported a total cap reconstruction for the Landfill, implementation of institutional controls to prevent exposure to site contaminants and prevent the future use of on-site groundwater, the implementation of a Natural Resource Damage Assessment as provided for by CERCLA § 107, a groundwater extraction and treatment program, a leachate collection and treatment system complete with extra funding for future potential costs, off-site leachate treatment, on-site disaster recovery procedures and equipment, emergency groundwater containment and treatment plans (in case of spills), the public disclosure of all cleanup plans and procedures, independent testing and monitoring of compliance, full up-front funding which includes an emergency contingency plan, transportation of materials, particularly hazardous materials, by rail, and the cleanup of Richardson Pond. Patricia McGovern, State Senator for the Town of Billerica, supported most of these recommendations in a separate letter to EPA.

EPA's Response: Several of the remedial elements proposed, such as total cap reconstruction, leachate collection and off-site treatment, and monitoring, are included in EPA's Selected Remedy. As noted in the response to comment A.1.1, groundwater extraction and treatment is not included, and the reasons are cited therein. Emergency procedures are discussed in response to comment A.1.h. Institutional controls are discussed in the response to A.1.t.

Transportation of materials for the remedial action by rail will be considered along with other options during the final design. As discussed in the response to A.1.1, Richardson Pond and the rest of the surface water at the Site will be addressed as a part of the 3rd operable unit. The Natural Resource Trustees, which include the Department of the Interior, the Department of Commerce and the Commonwealth of Massachusetts, are the entities that make the determination of whether a Natural Resource Damage Assessment is warranted at a given site, and the Trustees have not indicated that a Damage Assessment is warranted as yet.

Comment y: In addition to its jointly submitted comments, the Billerica Conservation Commission made the following points in their comment letter: the source of contaminants to Richardson Pond needs to be resolved, encroachment of Landfill slopes into wetlands should be a last alternative to slope stabilization (they recommend erosion blankets or other aggressive stabilization measures), on-site leachate collection is necessary, detailed groundwater monitoring should be implemented with contingencies for treatment if groundwater quality exceeds MCLs, and a representative of the Town should participate in review of the remedial design submittal.

EPA's Response: No further encroachment into wetlands by Landfill slopes, on-site leachate collection, and groundwater monitoring are all included in EPA's Selected Remedy. Regarding resolution of the source of contaminants to Richardson Pond, the reconstructed cap in combination with the leachate collection system will address the Landfill as a source of contamination. However, the actions will not resolve other potential groundwater contaminant sources within the industrial park nor possible upgradient surface water sources. As discussed in response to A.1.1, the study of Site surface waters will be a part of the 3rd operable unit. As discussed in the response to comment A.1.n, mechanisms are in place which ensure that information regarding the Shaffer Landfill/Iron Horse Park Superfund Site continues to be made available to the public in a timely manner. In addition, EPA encourages representatives from the town, local residents and other concerned parties to review final remedial design documentation and provide our agency with any comments or concerns they may have.

Comment z: The Billerica Board of Health, in addition to its jointly submitted comments above, identified the following items that it feels need to be addressed in EPA's selected cleanup plan: a groundwater extraction and treatment system should be installed to protect the Tewksbury wellfield, total cap reconstruction should take place, the methane collection system should be upgraded, Richardson Pond should become a

main focus of the Landfill cleanup, and EPA should require an extensive, sufficiently funded operation and maintenance program for at least the next thirty (30) years.

EPA's Response: As discussed in response to A.1.k, it has been shown that Tewksbury's public water supply wellfields are unlikely to become contaminated due to discharges from the Landfill. Total cap reconstruction and operation and maintenance activities are to be included in the EPA's selected remedy. Groundwater extraction and treatment is not currently considered necessary as discussed in the response to A.1.1. Improvements to the landfill gas control system are discussed in response to comment A.1.b. Cleanup of Richardson Pond is discussed in the response to comment A.1.1. As discussed in response to comment A.1.a, financial assurance mechanisms covering all site work would be a part of any agreement with responsible parties. Operation and maintenance are included as part of the Selected Remedy.

Comment aa: In addition to the jointly submitted comments noted above, the Billerica Board of Selectmen submitted copies of correspondence between the Massachusetts Health Research Institute, Inc. and the Agency for Toxic Substances and Disease Registry (ATSDR) dated April and June, 1990. This correspondence discussed a pre-application for funding from ATSDR to conduct a health study regarding "Environmental Exposure to Asbestos and its Impact on Health in the Communities of Billerica and Walpole, Massachusetts". The Board also requested that it be given the opportunity to comment on future phases of the cleanup throughout the 30 year remediation period.

EPA's Response: The correspondence submitted regarding plans for on-site health studies are independent of any Superfund activities at the Shaffer Landfill. Although EPA is required to conduct only one formal public comment period during the Superfund process, EPA's Region I office encourages the public to submit comments and questions at any time throughout the duration of cleanup activities. EPA welcomes any comments or input the Billerica Board of Selectmen and the public would like to provide.

Comment bb: The Billerica Town Finance committee submitted written comments which stated that the Superfund Action Committee's proposed remedial actions would best protect residents and future generations and would save taxpayers money in the long run.

EPA's Response: See response to comment A.1.x.

Comment cc: The Massachusetts Bay Transportation Authority (MBTA) stated in a written comment that it was opposed to any

alternative cleanup plan that interfered with its existing railroad right of ways.

EPA's Response: EPA's Selected Remedy will not interfere with existing railroad right of ways.

Comment dd: One written comment said that EPA's selected alternative for cleaning up the Shaffer Landfill ignored the impacts of the dump on the surrounding environment, specifically the impacts on fish and wildlife in Richardson Pond, groundwater beneath the Landfill which won't be helped by a leachate collection system built above the water table, and downstream receptors of Content Brook - Poms Pond in Andover, Camp Marymeeting (Girl Scout camp in Andover) and Dragoonian Farms.

EPA's Response: The Selected Remedy provides controls to reduce the potential release of additional contaminants into the environment with the reconstruction of the Landfill cap and the installation of the leachate collection system. With these mechanisms in place to minimize further introduction of contaminants into the groundwater, natural attenuation processes will be better able to mitigate any existing groundwater contamination past the point of compliance (the edge of the waste management unit). Because the groundwater and surface water are dynamic systems, natural flushing and degradation of contaminants will occur once the on-going source of contamination has been controlled. Cleanup of Richardson Pond as well as other surface waters is discussed in response to A.1.1.

Comment ee: The Massachusetts Dept. of Public Health said, in its written comments, that EPA's conclusion that contamination of the Tewksbury wells by the Landfill is 'unlikely' is supported by MADEP monitoring results at the wells which show no significant VOC concentrations.

EPA's Response: This statement is a revision of a previous conclusion contained in the 1988 and 1990 (amended) document entitled "Assessment of Public Health for Iron Horse Park". This revised conclusion supports the conclusion documented in the Feasibility Study regarding risk of contamination to the Tewksbury wells.

## 2. Groundwater and Surface Water

Comment a: Several residents and Billerica Town officials commented that the Landfill was originally built by excavating below the pre-existing surface topography, and that materials may have been placed below the water table level in the Landfill. One

resident claimed that the excavation was as much as 15 to 20 feet below the pre-existing level of the wetlands. If landfilled material was placed below the water table, this means that a leachate collection system will not effectively prevent all contaminants from reaching the groundwater.

EPA's Response: Refuse previously placed below the groundwater table was immersed in water upon placement. Soluble contaminants would have begun leaching immediately and, if the material has been in place for several years, there would not be much likelihood for a substantial source to remain. The much greater mass of refuse above the water table in the Landfill may still contain significant volumes of contaminants with the potential to migrate to the groundwater as a result of infiltration of precipitation. The proposed reconstructed landfill cap is intended to significantly reduce infiltration of precipitation and thereby isolate those contaminants within the Landfill mass.

Comment b: Several residents said that EPA should institute a groundwater extraction and treatment program as part of its solution at the Landfill. Reasons cited as justifying such a program were: the placement of some landfilled materials below the water-table, the possibility of future releases from leaking drums or chemical sources, the existence of background levels of arsenic, and the current and potential future use of groundwater wells by Landfill abutters.

EPA's Response: At this time, there does not appear to be justification for groundwater extraction and treatment. Placement of landfilled materials below the water table is discussed in the response to the previous comment. There is very little evidence that suggests that drums were placed in the Landfill. The possibility of future releases from leaking drums is addressed by providing adequate containment with an improved cap, thereby minimizing the infiltration of precipitation which is needed to transport the leaking material through the surrounding refuse to the groundwater. Background levels of arsenic are by definition (i.e. "background") the result of natural conditions, cannot be controlled through extraction and treatment of groundwater and cannot be addressed under Superfund. Potential use of groundwater can be prevented through institutional controls.

Comment c: Several residents noted that leachate breakouts on the Richardson Pond side of the Landfill are contaminating the Pond because leachate is migrating

through existing culverts underneath the railroad. According to one resident, the FS does not address this hydrologic connection between the Landfill and the Pond. EPA should block these culverts, build some containment structure, such as vertical barriers, or do something else to prevent landfill leachate contamination from reaching the pond through this drainage pathway.

EPA's Response: The final design should include permanent interruption of any old railroad culverts buried under refuse that may be acting as conduits for leachate to Richardson Pond. In regard to overland migration of leachate to culverts that are still functional, that migration should be mitigated by the proposed reconstructed cap and addition of the leachate collection system.

Comment d: A resident said that, in light of EPA claims that fractured bedrock underlies part of the site, EPA should make an attempt to stop contaminants from migrating to the Tewksbury wellfield.

EPA's Response: The fractured bedrock is significant in regard to the discussion of possible vertical barriers to groundwater movement. Because the upper portion of the bedrock is fractured, a permanent seal cannot be provided at the base of a vertical barrier, thus making such a barrier ineffective. However, this fracturing of the upper portion of the bedrock does not compromise the effectiveness of the natural geologic barrier to groundwater movement in the direction of the Tewksbury wellfield.

Comment e: One resident said that groundwater should be contained on site.

EPA's Response: Containment of groundwater is not attainable due to the fractured nature of the bedrock in the vicinity of the Landfill. (See previous response)

Comment f: A resident asked that EPA show risks from groundwater at the Landfill in more realistic terms than the risk to someone who drinks two quarts of groundwater every day for seventy years.

EPA's Response: By calculating risk to a person consuming two quarts of water per day for seventy years, EPA has tried to establish a reasonable worst case scenario for this exposure route. Most people would have less exposure, thereby decreasing their risk. This method is standard EPA practice, and is consistent with EPA guidance.

Comment g: A resident said that there are surface waters near the Landfill that have not been tested. Specifically she cited a large pond between 90 and 100 Gray St. and a "good-sized" pond next to 113 Gray St..

EPA's Response: These surface waters are located beyond the boundary of the Site. Because groundwater data does not indicate a likelihood of off-site surface water contamination resulting from a groundwater/surface water interconnection these waters were not investigated.

Comment h: A resident said that a consultant hired by the community found radioactive tritium in pools "near the rear of the test site" in 1989 at levels that were seven times the ambient level for the area. This shows, according to the resident, that something had been dumped in the Landfill that clearly shouldn't have been, and she asked if EPA knew of any such dumping.

EPA's Response: EPA is not aware of a dumping event involving tritium.

Comment i: A resident expressed concern about soil and water testing. He noted that he lived about 1 mile down Content Brook from the Site, and that he had experienced color variations and odor problems from the Brook. He asked if testing of the Brook has been done that far from the Site, and he said that soil testing should be done within a one mile radius of the Site.

EPA's Response: Other than wind and water erosion, there are no other mechanisms to naturally move contaminated soil from the point of release to off-site locations. In regard to the Shaffer Landfill and its associated contamination, there is no reason to expect off-site soil contamination based on wind and water erosion, and there would be no justification for soil testing "within a one mile radius of the site". As such, this testing has not been performed. Regarding color variations and odor problems in the Brook one mile from the Landfill, there may be some connection with the Landfill. However, given the distance from the Landfill, there would be the potential for other sources or causes. Also, for surface water problems to be observed at a distance of one mile from the site, more severe problems would be expected in the vicinity of the Landfill than have been found to date. In addition, as discussed in response A.1.1, Site surface waters are to be studied as a part of the 3rd operable unit.

Comment j: The Massachusetts Department of Public Health noted that elevated benzene levels were detected in

groundwater southwest of the Landfill. The Department suggested that groundwater flow in this area should be determined in order to assess the possibility of environmental exposure to this compound.

EPA's Response: Groundwater flow in this area (well OW-8) is to the northeast, and is clearly upgradient of the Shaffer Landfill.

### 3. Miscellaneous Comments

Comment a: A businessman said that he is attempting to develop a landfill gas recovery system for the Shaffer landfill that will collect methane from the Landfill, pipe it to another site within Iron Horse Park, and use it to produce energy that would be used for industrial processes and to generate electricity. He said that such a system would be environmentally beneficial, and that it would not interfere with any plans for capping the Landfill or collecting leachate. He also said that he would meet all Mass. DEP and EPA permit requirements.

EPA's Response: The primary goal of the Superfund program is to provide remedies that are protective of human health and the environment. Any potential future use or actions would need to support this goal in order to be considered.

Comment b: Several residents requested EPA to initiate a natural resource damage assessment as provided by Section 107 Paragraph D of CERCLA.

EPA's Response: As discussed in the response to comment A.1.x, the Natural Resource Trustees make the determination of whether a natural resource damage assessment is warranted. In addition, during the remedy selection process, EPA has coordinated with the Natural Resource Trustees in order to seek their input on the Landfill remediation.

Comment c: A town selectman from Billerica said that the lack of documentation for what was actually dumped in the Landfill, the absence of a liner and the fact that the Landfill was built some 15 feet below the existing grade all create special problems for the site. He added that the current lack of site security makes it possible for additional unauthorized materials to be brought to the site.

EPA's Response: The absence of documentation for what was dumped at the Landfill has made it difficult to

document the specific items and materials which were disposed of there. There is, however, significant data on area contamination which is a result of the material disposed of in the Landfill. As a result, EPA has been able to select a remedy for the Shaffer Landfill which is protective of human health and the environment. The issue of site security is addressed in the Selected Remedy by the perimeter security fence.

Comment d: One resident commented that local wildlife and neighborhood pets have been effected by contamination in Content Brook, and said that EPA should make an attempt to clean up the area that goes beyond just covering the Landfill.

EPA's Response: As discussed in response to A.1.1., the study of Site surface water will be a part of the 3rd operable unit.

Comment e: A resident commented that EPA must allow construction plans for the Landfill to be reviewed by the town and its engineers, and that there should be citizen monitoring of the cap, maintenance agreements and leachate collection systems and that periodic reports should be made back to the government by citizen monitors.

EPA's Response: As previously stated in the response to comment A.1.y, EPA encourages citizen review of final design plans which will be placed in the information repository. Any information local community members can provide EPA is welcomed by the agency. EPA invites any periodic reports that local citizens wish to submit.

Comment f: Several residents said that there is a need for a new round of groundwater, surface water and air testing. They said that the 1988 and 1987 data, the most recent data cited in the FS, are not adequate for establishing background contaminant levels prior to cleanup, particularly since groundwater at the site is estimated by EPA to be moving at 50 to 100 feet per year. One speaker noted that two-year old data was not adequate for the purpose of designing a cleanup solution. Residents are also concerned that containers of hazardous substances buried in the Landfill may begin leaking over time, causing groundwater contamination to increase.

EPA's Response: Additional sampling will be a component of the final design and ongoing sampling will be part of the long-term monitoring program. The most significant mechanism for allowing migration of contaminants to the

groundwater, is the infiltration of water. The Selected Remedy, through the implementation of a more impermeable cap, will largely remove this mechanism.

Comment g: A resident said that in one of EPA's surface water testing reports, methylene chloride was detected at levels of 1300 parts per billion, and acetone was detected at around 800 parts per billion, and that these levels were considered to be lab or field contamination, and were therefore downplayed or ignored. The resident noted that 1983 testing performed for the community by Cambridge Analytic found levels of 1100 parts per million of methylene chloride and 850 parts per million of toluene and that this result was confirmed by repeating the test. The resident suggested that EPA should review the initial data to make sure that EPA's FS recommendations are based on correct information.

EPA's Response: Review of the test report results from Cambridge Analytic showed that the results were in parts per billion, not parts per million, indicating much lower levels than stated in the comment. As noted in the response to comment A.3,g, additional groundwater sampling will be performed during final design. However, results such as those reported would not change the proposed remedial action.

Comment h: One resident said that he had consumed water from a groundwater well adjacent to the site for 5 years and has now developed kidney failure. While acknowledging that he didn't know if this was caused by drinking groundwater from the well, he said that he wants EPA to make sure that nobody else is exposed to this potential hazard, even if it costs \$50 million dollars to do it.

EPA's Response: As stated in Section VI of this Record of Decision, as well as in other documents, EPA believes that currently groundwater in the area around the Landfill is not being used for drinking water due to the presence of a municipal water supply. Institutional controls will prevent the development of new drinking water wells. The implementation of the Selected Remedy which includes a more impermeable cap and the collection of leachate, will combine to reduce groundwater contamination naturally.

Comment i: A written comment stated that the commentor is exploring plans to use space at the Landfill as a composting facility that accepts leaves, garden and yard waste from surrounding communities. The plan described in the letter envisions covering the Landfill cap with

considerable amounts of compost. The letter also noted that the Landfill, with proper beautification, soil cover and vegetation, could serve as a publicly accessible refuge for wildlife.

EPA's Response: Any future use of the Landfill would have to be reviewed to ensure that it is protective of human health and the environment and is not inconsistent with institutional controls placed upon the property.

Comment j: The MA Department of Public Health (MADPH) said that elevated incidence of lung cancer was detected in the census tract immediately north of the Landfill, and that lung cancer rates for males who live within a one mile radius of the site between 1969 and 1985 were elevated relative to males in the remainder of the town during this period. MADPH suggested that, prior to 1984, residents could have been exposed to hazardous asbestos levels from the inadequately covered asbestos landfill in Iron Horse Park. It also stated that there is no identified ongoing exposure to lung carcinogens at the site. To identify the actual cause of elevated cancer rates, occupational and smoking histories of current and former residents should be considered, radon levels should be measured, and an effort to measure the degree of past asbestos exposure should be made.

EPA's Response: EPA has not identified any hazard from asbestos at the Shaffer Landfill. Additional testing of Landfill gases with regard to composition and the potential for on- and off-site exposure is a part of the Selected Remedy.

Comment k: MADPH suggested that on-site and off-site ambient air monitoring is necessary to assess whether gasses leaking through the Landfill cap pose a health risk. Also, because landfill gasses may migrate laterally, it may be prudent to monitor subsurface methane levels off-site.

EPA's Response: Air monitoring is a part of the selected remedy. Because the Landfill is surrounded by natural surface water barriers (Richardson Pond, Content Brook, and the Middlesex Canal), EPA does not see the necessity for off-site subsurface monitoring of methane levels.

Comment l: MADPH said that barrels with unidentified contents were observed on the Landfill during a recent site visit, and it suggested that the content of these barrels should be characterized and properly disposed.

EPA's Response: The determination was made by an EPA On-

Scene-Coordinator (OSC) that these barrels (in a fenced-in storage area near the property entrance), were stored for use by heavy equipment on site (lubricants or fuel), or were empty, and present no imminent hazard.

**B.) Summary of Comments from Potentially Responsible Parties (PRPs)**

Three sets of comments from PRPs or their representatives were received, including:

- Rick Shaffer (Suffolk Services)
- Balsam Environmental Consultants (for Graypond Realty Corp.)
- Wright & Moehrke, Counselors at Law (for Graypond Realty Corp.)

The main points made by the PRPs are summarized below. The PRP comments are organized by commentor.

1. Comments from Balsam Environmental Consultants, engineering consultants for Graypond Realty Corporation.

Comment a: Characterization of the groundwater flow system does not adequately support the selected alternative. Downgradient monitoring wells may also be downgradient of the Iron Horse Park site as a whole. Therefore, impacts solely attributable to the Shaffer Landfill are not separated from other possible sources. (Balsam comments, pp. 1-2)

EPA's Response: The substance of this comment contends that there is no documentation for or understanding of regional groundwater flow and therefore a valid interpretation of local groundwater flow could not be developed. The Phase 1C Remedial Investigation deals with the Shaffer Landfill specifically. The Phase 1A RI considered the industrial park as a whole, and addressed such topics as regional groundwater flow. Sufficient information is available in the various studies to arrive at the conclusions stated. In addition, CERCLA remedies must be protective of human health and the environment, and must attain all ARARs. The possibility that some contaminants that contribute to risk or violation of ARARs may be attributable to sources other than the Landfill, does not alter the remediation requirements of CERCLA (i.e. MCLs in groundwater must still be met).

Comment b: Characterization of sources of contamination (within Shaffer Landfill) does not adequately support the selected alternative. A comprehensive evaluation of closure activities undertaken at the Landfill through 1990 is not presented in the RI/FS. Such an evaluation would affect assessment of impacts on this operable unit. (Balsam comments, pp. 3-4)

EPA's Response: A number of data points, including well MW-1, and well cluster OW-49, 50, 51, were used to provided hydraulically upgradient conditions reflecting contaminant background levels prior to impacts resulting from the Landfill. The RI/FS does discuss closure activities at the Landfill up through 1990. During this time, observations were made of air quality violations from Landfill gas, Landfill gas percolating through the cap, erosion problems, leachate outbreaks, inadequate slope areas, and unvegetated areas, all of which pointed directly to adverse impacts.

Comment c: The RI/FS overestimates risks associated with potential future use of on-site ground water. (Balsam comments, pp. 5-6)

EPA's Response: Risk computations are based on observed contaminant levels, and are performed in conjunction with standard EPA practice. This practice is conservative by design, and is intended to account for a worst case (i.e. drinking 2 liters of contaminated groundwater per day for 70 years).

Comment d: The RI/FS does not demonstrate that an imminent hazard exists or that future risks beyond the site boundary exist. (Balsam comments, p. 7)

EPA's Response: The NCP requires that ARARs including drinking water requirements, must be met beyond the edge of the waste management unit, which in this case is the boundary of the Landfill. The potential risk associated with consumption of groundwater beyond the edge of the waste management unit (at well GZA-3) is  $2.2 \times 10^{-02}$  which is unacceptable.

Comment e: The Selected Remedy should contain flexibility with respect to leachate collection, transportation and treatment. (Balsam comments, pp. 8-10)

EPA's Response: Assumptions were used in the Feasibility Study to provide a basis for assessing the conceptual feasibility of leachate collection and treatment. Final design of leachate collection facilities will consider

several estimates including the cap design and composition and recalculated estimates of leachate generation. As leachate collection continues following implementation, the quality of the leachate will most likely change over time, and alternate disposal options may become available. However, until a data base of leachate volume and quality has been established, a conservative disposal method has been assumed. Leachate will be tested to determine the applicability of disposal options.

Comment f: The Selected Remedy should contain flexibility with respect to the Landfill cover design. (Balsam comments, pp. 11-14)

EPA's Response: The Selected Remedy does contain flexibility with respect to the Landfill cover design in areas of excessive slope. With regard to closure work undertaken on the cap, additional investigation of the closure work was conducted as part of the RI/FS. The response to comment B.1.b., discusses some of the deficiencies which currently exist in spite of closure activities which have taken place to date. The presence of these deficiencies as well as the requirements in CERCLA necessitates the undertaking of additional remedial action.

Comment g: A decision to implement a groundwater remedy based on the assumption of future on-site groundwater use at the Shaffer Landfill operable unit would be inappropriate for this portion of the Superfund site. (Balsam comments, pp. 15-16)

EPA's Response: Groundwater remediation is not currently proposed. However, if on-going groundwater monitoring indicated that the remedy is no longer protective, then groundwater extraction and treatment may be considered.

2. Comments from Wright & Moehrke, lawyers for Graypond Realty Corporation

Comment a: Challenges to the use of Superfund to deal with this Landfill.

EPA's Response: Section 105(a)(8)(A) of CERCLA requires that the National Contingency Plan (NCP) include criteria for determining priorities among releases or threatened releases throughout the United States for purposes of taking response actions. Section 105(a)(8)(B) requires that these criteria be used to prepare a list of national priorities among the known

releases throughout the United States. This list is the National Priorities List (NPL). The Shaffer Landfill is part of the Iron Horse Park Site that was included on the NPL on September 21, 1984, in accordance with the criteria developed pursuant to the NCP. The opportunity to challenge this listing was at the time the Site was placed on the NPL. 42 U.S.C. 9613(a) Therefore, it is consistent with the NCP that EPA be addressing this problem under Superfund.

Comment b: Use of Superfund is inappropriate because of limited risk off-site and other institutional barriers to land and water use. (Wright & Moehrke comments, pp. 4-7)

EPA's Response: CERCLA requires that all remedial actions at Superfund sites meet applicable and relevant and appropriate requirements (ARARs). At the Shaffer Landfill, Maximum Contaminant Levels under the Safe Drinking Water Act are ARARs at the Site and, therefore, for the remedy to meet the requirements of Superfund, these drinking water standards must be met at the boundary of the waste management unit not just off-site. See 40 C.F.R. 300.430(e)(2)(i), 55 FR 8713, 8753, March 8, 1990. This is also consistent with Superfund requirements that the remedy be protective of human health and the environment. The commentor has also identified a number of institutional type mechanisms that could be used in lieu of EPA's selected remedy to ensure that there is no risk to human health and the environment from the Site. Section 121 of CERCLA states Congress' preference for treatment and permanent remedies as opposed to simply prevention of exposure thru legal controls. Although institutional controls are used by EPA in the appropriate circumstances, institutional controls should not substitute for more active response measures that actually reduce, minimize, or eliminate contamination unless such measures are not practicable, as determined by the nine evaluation criteria in 40 C.F.R. 300.430(f)(1)(ii). See 55 FR 8706, March 8, 1990. Here, EPA has determined that there are active remediation measures that can be taken after full evaluation of the nine criteria.

Comment c: EPA's site characterization overstates the landfill threat by failing to distinguish leachate impacts from site-wide groundwater impacts. (Wright & Moehrke, pg. 7)

EPA's Response: The response to comment B.1.b indicates that a number of valid data points were used to distinguish between groundwater impacts due to the

Landfill and those due to other sources.

Comment d: EPA's proposed plan does not reflect recent significant Landfill upgrades. (Wright & Moehrke, pp. 7-8)

EPA's Response: Additional assessment of the previous closure work was conducted as part of the FS because the RI was finalized while closure activities were still in progress. These additional investigations noted several deficiencies in the closure work, particularly in regard to capping materials used and thickness of materials placed.

Comment e: The DEP approved closure plan as an ARAR. (Wright & Moehrke, pp. 8-9)

EPA's Response: Section 121(d) of CERCLA requires State applicable or relevant and appropriate requirements (ARAR) to apply generally to the regulated community. The Massachusetts closure plan is site-specific in that it is applicable only to the Shaffer Landfill. Because of this, EPA cannot consider this plan to be an ARAR.

Comment f: RCRA is not an ARAR. (Wright & Moehrke, pg. 9).

EPA's Response: EPA has determined that RCRA Subtitle C is not an applicable requirement because RCRA listed or characteristic hazardous waste has not been disposed of at the Landfill, nor has any treatment or storage of hazardous waste occurred at the Landfill since the effective date of RCRA Subtitle C. Portions of RCRA Subtitle C are relevant and appropriate based on current site specific information including: Groundwater Monitoring, Tanks, Contingency Plans and Emergency Procedures, Locational Standards and RCRA Post Closure Requirements. Contingency Plans and Emergency Procedures, Groundwater Protection, Manifesting and Record Keeping, Tanks, Closure and Post Closure and Locational Standards may be applicable depending on the results of leachate testing. The leachate will be tested to determine if any of the RCRA requirements, including land ban are applicable. The offsite leachate treatment and disposal must meet all Federal and State requirements. References to these provisions in Appendix D are to the State hazardous waste regulations that have been approved by EPA pursuant to RCRA.

3. Comments from Rick Shaffer

Comment a: Information used as the basis for the Feasibility Study is obsolete.

EPA's Response: The response to comment B.2.d indicates that assessment of previous Landfill closure work was conducted during the preparation of the FS.

Comment b: All potential sources of contamination at the Iron Horse Park site must be investigated before any final remedial plan is approved.

EPA's Response: As discussed in response to comments B.1.a., and B.1.b., work was performed to characterize both regional groundwater trends, and to isolate contamination attributable to Shaffer Landfill from contamination due to other potential sources. The Iron Horse Park Superfund Site was divided into operable units following the Phase 1A RI precisely because it is a large and complex site. This allows remedies to be selected for specific, distinct contamination problems, and ultimately allows the time prior to the start of remedial action to be lessened.

Comment c: The selected remedy should be flexible in terms of allowing for future use of the Landfill.

EPA's Response: The primary goal of the Superfund program is to provide remedies that are protective of human health and the environment. Any potential future use/actions would need to support this goal in order to be considered.

Comment d: Bioremediation should not be excluded as a potential remedy for groundwater or surface waters. The success of wetlands near the site in treating impacted water indicates that biological treatment of water at the site may be viable.

EPA's Response: As discussed in earlier responses, site-wide surface waters will be addressed during the 3rd operable unit. There is no need to consider bioremediation of groundwater at this time as the Selected Remedy calls for attainment of cleanup levels through natural attenuation.

Comment e: Background groundwater, surface water and sediment contaminants are insufficiently characterized.

EPA's Response: As discussed in response to comments B.1.a., and B.1.b., sufficient characterization of background groundwater, surface water, and sediments has been provided to demonstrate adverse impacts in and

around the Landfill which are specifically related to the Landfill.

**C. Comments of the Massachusetts Department of Environmental Protection (MA DEP)**

The MA DEP submitted comments on EPA's Feasibility Study and Proposed Plan. These comments are grouped by topic and summarized below.

**1. Applicable or Relevant and Appropriate Requirements (ARARs)**

**Comment a:** In its comments, DEP identified the ARARs within its jurisdiction which it believes should be applied when evaluating remedial action at the Shaffer Landfill Operable Unit of the Iron Horse Park Superfund Site.

**EPA's Response:** EPA has met with DEP and agreed upon the State ARARs that are identified in Appendix D of this Record of Decision. EPA disagrees with DEP's identification of the MCP, 310 CMR 19.021, 19.150, and 19.151 as ARARs and has not included them among the ARARs for the Landfill.

**Comment b:** To meet the ARAR for final landfill cover, DEP recommends that the top portion of the Landfill should be upgraded to include 1) a low permeable layer of compacted material 18" deep with a permeability of  $1 \times 10^{-7}$  or a flexible membrane liner and 2) a filter material layer. DEP also recommends that the side slopes of the Landfill should be upgraded to achieve a minimum depth of 12" of compacted low permeability material with the maximum permeability as specified in the 1984 DEP-approved Closure Plan. DEP also recommends upgrading the side slopes to achieve a 12" soil layer to support vegetative cover. DEP believes these upgrades would be an acceptable Alternative Landfill Final Cover System Design as described in 310 CMR 19.113, and would address DEP's concerns about current side slope soil and clay-cover erosion.

**EPA's Response:** The Selected Remedy meets or exceeds the DEP requirements for final landfill cover at the Shaffer Landfill.

**2. Implementation**

Comment a: DEP believes that the requirement to construct a fence and post signs should be implemented immediately after the signature of the ROD. DEP will pursue the construction and posting of the fence independently to try to expedite this segment of the remedy. DEP also suggests that because the adjoining wetlands and canal pose a deterrent to trespassers, EPA should allow for flexibility in fence design and should monitor the effectiveness of a three-sided site fence.

EPA's Response: During remedial design, EPA will evaluate the appropriateness of phasing construction of the remedy. In addition, EPA will evaluate the appropriateness of a three-sided site fence during the design phase of the remedy.

Comment b: DEP believes that treatment and disposal options for landfill leachate should be evaluated and selected during the predesign phase after the leachate's chemical properties and characteristics are determined. On-site leachate treatment should be evaluated for any reliability, health and safety, or cost benefits it may have. The potential for disposal of leachate, with or without pretreatment, directly to a local POTW via sewer connection should also be evaluated. Finally alternative leachate transportation schemes, such as the use of the nearby rail system, should be evaluated.

EPA's Response: Leachate treatment and disposal options were evaluated in the FS. These options will be further evaluated in the design phase of the remedial action. Leachate discharge to the Billerica POTW was not retained for consideration because of a moratorium on sewer hook-ups at that facility. Off-site options for transportation of leachate will be evaluated during design.

### 3. Technical Comments

Comment a: DEP notes that all of the substantive requirements that would be needed for the landfill gas collection/flare system to obtain DEP Division of Air Quality Control (DAQC) final approval should be implemented as part of EPA's selected remedy for the site even though, under CERCLA, no DAQC permit must be obtained.

EPA's Response: Massachusetts has identified its Air Pollution Control laws as ARARs that will be met at the Landfill. In addition, testing of the gas collection/flare system and an air quality study are

part of EPA's Selected Remedy. Proper long-term operation and maintenance of the system is an integral part of the Selected Remedy, and will include activities such as well field balancing on a regular basis. Submittal of as-built drawings, standard operation and maintenance procedures, and design data and calculations for the gas collection/flare system are all considered to be necessary elements for ensuring proper long-term operation of the facility. Obtaining this information will be a part of the design and implementation of the Selected Remedy. Testing of the collection/flare system as well as ambient air quality have been identified as ARARs and will be met.

Comment b: While DEP agrees that the Shaffer Landfill is not a likely threat to the Tewksbury well fields, DEP believes that only well MW-5 may be adequately positioned to actually monitor groundwater quality between the landfill and the wells. In addition, MW-5 is an overburden well and will not be effective in monitoring bedrock groundwater quality. DEP recommends that the 30-year monitoring program include adequate monitoring to assure continued protection of the Tewksbury wells.

EPA's Response: The long-term monitoring program is expected to include some existing wells and several new wells in order to provide a complete monitoring network. Final locations for screen depths for the wells will be determined during the design phase.

Comment c: DEP recommends that the expected leachate volume from the Landfill be evaluated in detail during the pre-design phase in order to design adequate leachate storage capacity. On-site storage volume must allow for several days storage in order to avoid daily truck/railcar transport.

EPA's Response: As noted earlier, further evaluation of anticipated leachate volume will be made as part of the pre-design and design activities. Sufficient storage capacity can be provided to accommodate a reasonable frequency of removal. It should be noted that the leachate collection system will be a passive system with no chance for overflow of storage units if removal is unexpectedly delayed.

Comment d: DEP agrees with EPA's proposal to design a leachate collection system to collect and treat only leachate seeps at this time, however the Department recommends that EPA evaluate the effectiveness of the cap in controlling leachate and protecting groundwater

over time before finalizing any decisions on extraction and treatment of groundwater. DEP also notes that the FS conceptual design should be revised to include an impermeable barrier at the base of the trench for the leachate collection toe drain.

EPA's Response: Part of the purpose of the groundwater monitoring program is to provide data to assess the possible need for additional remedial action. An impermeable barrier will be included in the final design of the leachate collection trench.

Comment e: DEP does not agree that landfill slopes need to be upgraded to meet a 3:1 slope requirement, and references a 7-19-89 memorandum regarding the acceptability of 2:1 slopes on the south and west sides of the Commercial section of the Landfill.

EPA's Response: The selected remedy does not require that all Landfill slopes meet the 3:1 slope requirement, and provisions are made for enhancing the stability of the 2:1 slope areas.

### Attachment A

#### Community Relations Activities at the Shaffer Landfill section of the Iron Horse Park Superfund Site

September 1984 EPA press release announces that \$700,000 has been authorized for a study of the Iron Horse Park Superfund Site

January 1985 EPA press release announces a Remedial Investigation (RI) Workplan for informal public review and comment

June 1985 EPA issues a press release announcing that EPA representatives will be attending upcoming Superfund Action Coalition (SAC) meetings to present information on activities at the Iron Horse Park Superfund site.

August 1985 EPA releases a community relations plan describing citizen concerns about the site and outlining a program to address these concerns and to keep citizens informed about and involved in site activities.

October 1985 At two separate meetings, EPA official briefs the Billerica Superintendent of Public Works and members of the Executive Committee of the SAC on the status of the site.

December 1985 EPA releases a fact sheet to update the public about the initial RI activities occurring at the site.

1985-1986 EPA representatives continue to attend the public meetings of the SAC to update them on the progress of the initial RI.

July 1987 EPA issues a press release and placed a public notice announcing the availability of the Phase 1A RI and an upcoming public meeting to explain the results of the RI.

August 1987 EPA releases a fact sheet on the Phase 1A RI.

August 1987 EPA holds a public meeting to present the results of the Phase 1A RI and to answer questions from the public.

May 1988 EPA press release announces the availability of Technical Assistance Grants (TAGs) for eligible local groups. (The notice was prompted by EPA's receipt of a letter from the SAC indicating an interest in the TAG program. The SAC did not complete the application process for the grant, however)

August 1989 EPA press release and ads in local newspapers announce public meeting on preliminary RI results.

August 1989 EPA produces and distributes a Fact Sheet on the preliminary results of the Remedial Investigation at the Shaffer Landfill.

August 1989 EPA holds a public meeting to discuss the preliminary results of the Shaffer Landfill RI

December 1989 EPA issues a press release announcing the

availability of the RI for the Shaffer Landfill.

July 1990 An EPA press release announces the availability of a TAG for interested local groups (This announcement was made because the SAC did not follow through with it's initial application for a TAG)

December 1990 EPA issues a press release announcing a meeting and hearing to discuss the Proposed Plan and Feasibility Study for the Shaffer Landfill

January 1991 EPA distributes copies of the Proposed Plan to its site mailing list.

January 1991 EPA holds a public meeting on the Shaffer Landfill Proposed Plan/FS.

February 1991 EPA holds two informal public hearings on the Shaffer Landfill Proposed Plan/FS.

May 1991 EPA issues and distributes to its mailing list a Supplement to the Proposed Plan for the Shaffer Landfill, proposing a new preferred alternative for Shaffer Landfill. The Supplement to the Proposed Plan also discusses impacts on floodplains by alternatives considered by EPA. A 30-day comment period on the Supplement to the Proposed Plan is also announced.

**ATTACHMENT B**

ENVIRONMENTAL PROTECTION AGENCY

In Re: Superfund Program  
Shaffer Landfill, Iron Horse Park  
Billerica, MA

HEARING HELD AT THE BILLERICA TOWN HALL  
AUDITORIUM, BILLERICA, MASSACHUSETTS ON  
FEBRUARY 5, 1991.

PANEL:

Margaret Leshen, EPA  
Don McElroy, EPA

Elizabeth M. Brooks  
Court Reporter

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I N D E X

SPEAKER:	PAGE:
Carl Moore	10
Helen Knight	15
John Morris	22
David L. Johnson	26
Tony Bonacci	27

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1 (Hearing convened)

2

3 MS. LESHEN: We're going to get

4 started. Good evening. I'm Maggie

5 Leshen. I'm Section Cheif for the

6 Superfund Section and I'm going to be

7 the moderator for this meeting. I'm

8 going explain the procedure we're going

9 to be following. Basically the meeting

10 is going to be divided into three parts.

11 During the first part, Don McElroy, the

12 site manager, is going to give you a

13 formal presentation about the proposed

14 plan and preferred remedy. Then we will

15 be taking formal comments into the

16 record. If you are going to be making a

17 formal comment this evening, you need to

18 fill out a small index card or if at any

19 time during the hearing portion of this

20 meeting you decide you want to make a

21 formal comment, you need to either go

22 and get a card or let someone know in

23 the back of the room that you want to

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1 make a formal comment and they will get  
2 you a card.

3 After everyone's done, we'll close  
4 the public hearing and we'll open up the  
5 meeting to any questions and we'll try  
6 to respond to any questions you might  
7 have this evening.

8 We have extended the public comment  
9 period until March 16. So what that  
10 means is, if at any time if you have  
11 questions or comments you can contact  
12 the site manager, but we must receive  
13 your written comments in our office by  
14 March 16th and they should be addressed  
15 to Don McElroy. The address is on back  
16 of the proposed plan available at the  
17 desk.

18 We have also made a decision to  
19 hold a public hearing in this very room  
20 at 7:30, February 19th. That is two  
21 weeks from tonight. We are going to be  
22 following the same format as this  
23 evening but normally at that point we

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1 will have more comments entered into the  
2 record.

3 I want you to understand that all  
4 the comments received this evening in  
5 the formal part of the hearing, any  
6 comments received in writing prior to  
7 March 16th in our office and any other  
8 comments received will be responded to  
9 in a Responsiveness Summary which will  
10 be attached to the Record of Decision or  
11 decision document for the remedy at the  
12 Shaffer Landfill site. Copies of this  
13 document will be available at the  
14 library and at the office in Boston, and  
15 the address and information as to when  
16 the building is open are on the proposed  
17 plan.

18 We have with us this evening the  
19 EPA project manager Don McElroy as well  
20 as Dale Young, the state project  
21 manager.

22 Does anyone have any questions on  
23 how the meeting is going to be run this

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evening? If not, I'm going to ask Don McElroy to give a short presentation about the proposed plan.

MR. MCELROY: The United States Environmental Protection Agency has proposed a cleanup plan, referred to as the preferred alternative, to address contamination at the Shaffer Landfill, Iron Horse Park Superfund Site in Bellerica, Massachusetts. The proposed alternative is EPA's preliminary selection of a remedy and may be changed if public comments or new information is presented to EPA during the public comment period that significantly affects EPA's evaluation of the alternatives.

After evaluation of all eight alternatives developed in the Feasibility Study, EPA proposes reconstruction of the top portion of the existing landfill cap and the collection portion of the existing landfill cap and

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1 the collection and off-site treatment  
2 and disposal of leachate. Cap  
3 reconstruction would be achieved by  
4 adding fill and regrading to achieve a  
5 minimum 5% slope on the top, flatter  
6 areas; installing additional low  
7 permeability material; installing a new  
8 6-inch drainage layer; reinstalling the  
9 topsoil layer; and reseeding the  
10 disturbed areas. Leachate collection  
11 facilities would be constructed,  
12 operated, and maintained. Leachate  
13 would be transported off-site for  
14 treatment and disposal. Improvements  
15 would be made to the existing surface  
16 drainage system. The cap, the surface  
17 drainage system, and the landfill gas  
18 collection/flare system would be  
19 maintained and monitored, and any  
20 necessary improvements would be made. A  
21 site perimeter security fence would be  
22 constructed. Groundwater and surface  
23 water quality would be monitored.

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1                   If public comment and further  
2 information change EPA's evaluation of  
3 this or any of the other alternatives,  
4 EPA may decide on another alternative  
5 for its final selection.

6                   I'd like to quickly run through the  
7 other alternatives evaluated in the  
8 Feasibility Study.

9                   Alternative 1 is the no action  
10 alternative under which no further work  
11 at the site would take place

12                   Alternative 2 would complete the  
13 existing cap by adding fill to achieve a  
14 5% grade and reconstructing the  
15 overlying low permeability layer. This  
16 alternative also would include;  
17 maintenance of the cap, surface drainage  
18 system, and landfill gas  
19 collection/flare system; construction of  
20 a site perimeter fence; and monitoring  
21 of the gas collection/flare system and  
22 surface water and groundwater quality.

23                   Alternative 3 contains the same

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1 features as Alternative 2 in terms of  
2 completion and maintenance of the  
3 landfill cap. In addition, Alternative  
4 3 would improve the existing surface  
5 drainage system; construct, operate, and  
6 maintain leachate collection facilities;  
7 and transport leachate off-site for  
8 treatment and disposal.

9 Alternative 3A contains all of the  
10 features of Alternative 3. In addition,  
11 Alternative 3A would construct, operate,  
12 and maintain a groundwater extraction  
13 system along the eastern side of the  
14 landfill; construct, operate, and  
15 maintain an on-site system for treatment  
16 of groundwater and leachate; and  
17 discharge treated groundwater to surface  
18 water.

19 Alternative 4A contains all of the  
20 features of the Preferred Alternative.  
21 In addition, Alternative 4A would  
22 construct, operate and maintain a  
23 groundwater extraction system along the

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1 eastern side of the landfill, construct,  
2 operate, and maintain an on-site system  
3 for treatment of groundwater and  
4 leachate; and discharge treated  
5 groundwater to surface water.

6 Alternative 5 would completely  
7 reconstruct the entire landfill cap to  
8 meet EPA's recommended final cover  
9 design standards for hazardous waste  
10 landfills. This alternative would also  
11 provide the same maintenance,  
12 monitoring, and perimeter fence as the  
13 other alternatives.

14 Alternative 5A contains all of the  
15 features of Alternative 5. In addition,  
16 Alternative 5A would construct, operate,  
17 and maintain a groundwater extraction  
18 system along the eastern side of the  
19 landfill; construct, operate, and  
20 maintain an on-site system for treatment  
21 of groundwater and leachate; and  
22 discharge treated groundwater to surface  
23 water.

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1 MS. LESHEN: We're now going to  
2 start the formal comment portion. We're  
3 going to ask that you come forward.

4 The first person will be Carl  
5 Moore.

6 MR. MOORE: I'd like to ask a  
7 question first. I'd like to ask what  
8 you people based your decision on as far  
9 as selecting a number, a number 4, a  
10 number 5. Was this from an engineering  
11 study that was done here?

12 MS. LESHEN: This is the comment  
13 period. We're not responding to  
14 questions right now.

15 MR. MOORE: Okay. Well, I have  
16 been in contact with this landfill for a  
17 very many years here and I am an abutter  
18 to Content Brook. I'd like to make it  
19 very clear to you people that there have  
20 been people drinking water out of the  
21 aquifer there. There have been fish --  
22 like on my property, which has  
23 deteriorated over a period of years.

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1           There have been -- there has been a  
2           situation on my street where dogs have  
3           gone into convulsions and have died. In  
4           fact, I had a dog that drank water out  
5           of the brook, which I made public some  
6           time ago, that bled through the skin  
7           before it was put away.

8           The effects to the wildlife in the  
9           area, I feel, have been greatly affected  
10          and I feel that any attempt, any attempt  
11          at all, would have to be the best  
12          attempt, as far as cleaning up this site  
13          goes, that we can make, that just a mere  
14          cover over the landfill is not adequate  
15          under these circumstances.

16          Some of the trips to the landfill  
17          that I found -- I found there they had  
18          excavated materials down into the water  
19          table, or surface water, lying  
20          completely visible. We have bottles of  
21          chemicals, of drums which may well have  
22          been chemicals. Therefore I feel that  
23          very strongly that you're going to need

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1 groundwater extraction and just about  
2 everything you've got on your list needs  
3 to be elected.

4 I have done an awful lot of  
5 investigation on the landfill and one of  
6 the things that I have looked at has  
7 been the breakout of leachate into  
8 Richardson Pond, and I have investigated  
9 the B & M Railroad limits, which are  
10 record copies of drawings, as to when  
11 and how that railroad was constructed.  
12 I have found that there has been a  
13 breakout into Richardson Pond.

14 As everybody knows, in the past I  
15 have seen where there has been an  
16 erasure on the linen [sic] and I have  
17 recently visited the B & M and looked at  
18 the particular drawings in the past  
19 week.

20 I feel that a great part of the  
21 decision that you people have made here  
22 has really not been done on the sound  
23 engineering studies. I'm looking at a

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1 bedrock possibility here, where we talk  
2 about fractured bedrock, and on GHR's  
3 report that I have here in front of me,  
4 I believe that on -- I could give you  
5 the page right now -- they say that we  
6 should have bedrock boring back previous  
7 to this, and I have seen -- as far as I  
8 know -- I don't know if there are any  
9 bedrock borings at this point but we do  
10 talk about fractured bedrock. Now, if  
11 we have fractured bedrock, that's all  
12 that much more reason to protect Cook  
13 Street wells. We need to make an  
14 attempt to stop the contaminants from  
15 coming out of the landfill and over into  
16 Cook Street wells.

17 Also I believe that any  
18 construction plans or drawings that are  
19 done must and should be reviewed by the  
20 town and its engineers. Also I believe  
21 that all -- that all of the people  
22 involved here, there should be some  
23 groups made up that -- you know, I'm

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1 being honest with you.

2 After as many as years as I've been  
3 involved, I'm going to talk -- there  
4 should be some people assigned here that  
5 have some public interest in the town  
6 and the landfill to see that this thing  
7 is kept up and all of these, that the  
8 cap is maintained, the leachate system  
9 is installed for extraction, that that  
10 is maintained and periodic reports made  
11 from us back to the government, again,  
12 because I really feel as though ten  
13 years down the road there are a lot of  
14 people that are going to forget this  
15 mess.

16 We have a lot of problems in that  
17 landfill that's got to be settled and  
18 leachate into the groundwater and I feel  
19 it is a must. It's not a question as to  
20 if we should do it, we must do it. Thank  
21 you.

22 MS. LESHEN: The next person I'd  
23 like to call is Helen Knight.

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1 MS. KNIGHT: I want to start by  
2 talking about two of my favorite  
3 subjects, M & M's, monitoring and  
4 maintenance. Both of them have failed  
5 us in the past. Unless we have a  
6 contract with penalties or bonds  
7 attached, it isn't going to be worth  
8 anything. I think we're a part of such  
9 a contract. I believe I am and I want  
10 to know that these things are going to  
11 be monitored and that they are going to  
12 be maintained as the plan says. We have  
13 too many times had things promised to us  
14 that never come about. I agree with the  
15 previous speaker, Carl Moore, about the  
16 groundwater.

17 For fifteen years four families  
18 drank water out of the wells that were  
19 in the aquifer of the landfill. No one  
20 knew anything about it. One of the  
21 problems we have in the town now is a  
22 lot of new people here who do not read a  
23 local newspaper. Three neighbors I have

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1 closest to me do not read a local  
2 newspaper, do not know what is going on.  
3 There is nothing to stop anyone from  
4 coming into the town and driving a well  
5 on the property and drinking water out  
6 of the well. Unless we contain that  
7 groundwater on-site I see no other way  
8 to protect the health of the people of  
9 Billerica if we cannot do that.

10 I'm intrigued by the write-up of  
11 the cancer risk in here. I'm told that  
12 if I drank the water on the dump site  
13 that I'd have two chances in a hundred  
14 to get a cancer, but only if I drank two  
15 quarts for seventy years. Maybe this is  
16 the way these cancer risks are listed, I  
17 don't know. It seems incredible to me  
18 that we have to put down two quarts and  
19 we have to talk about seventy years.  
20 Are we to conclude that if you drank one  
21 quart for seventy years nobody would  
22 have cancer? I think what we're saying  
23 here is that there is a slight risk of

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1 cancer and I think if you got it, you  
2 wouldn't care if you were one in a  
3 million or one in ten thousand or  
4 whatever. This again I think points out  
5 that we do need that groundwater kept  
6 on-site. We cannot -- there are people  
7 who use these wells for their lawns and  
8 for things like that and we cannot keep  
9 children from playing and possibly  
10 drinking it, and although I would like  
11 to see these lists in a little more  
12 realistic terms than two quarts for  
13 seventy years, I think we have to face  
14 the fact that there is a slight cancer  
15 risk, a risk no one wants to take.

16 I'm concerned too about the venting  
17 system. I'm beginning to be very sick  
18 of reading that the venting system  
19 doesn't work because, what a surprise,  
20 it is a dump site. Venting systems are  
21 made for dumps, I think, and dumps  
22 settle and isn't there any reason why we  
23 can't plan for this or correct it or

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1 periodically change it? I'm not  
2 suggesting that it be put on elastic,  
3 but it does seem to me that springs or  
4 something would solve this problem.  
5 Anyone who makes a venting system should  
6 be able to do that. We've had that  
7 venting system now about three years and  
8 it isn't working. I don't understand  
9 why the engineering can't be changed to  
10 make it work.

11 I'm also disturbed too when I read  
12 in here that some of the tests are 1987  
13 and '88, I believe, in the rounds of  
14 testing. We're talking about our lives  
15 and our welfare here. Can we not have a  
16 complete new set of tests?

17 I think we have a problem too that  
18 we're afraid some of the containers of  
19 the materials in that dump are  
20 eventually going to deteriorate and some  
21 of that is going to get into the  
22 groundwater or into the leachate. Can  
23 we not have some tests that are -- that

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1 are final? Now, I'm assuming that over  
2 the years they'll change but at least  
3 we'd get a better picture if we did  
4 that.

5 Now, I'm also concerned there is  
6 surface water that has not been tested.  
7 I've brought a sketch up here in rough  
8 form of Gray Street, right close to the  
9 railroad tracks. On each side of the  
10 street there are two ponds and I see  
11 children playing in one of them all the  
12 time. I don't think these have ever  
13 been tested. Surface water. There is a  
14 large pond in between 90 and 100 Gray  
15 Street that has never been tested.  
16 There is a good-sized pond besides 113  
17 Gray Street that has never been tested,  
18 at least there has never been a record  
19 of it. I think that should be done. We  
20 should know about that, I think.

21 I'm puzzled too about why only the  
22 middle of the cover is going to be  
23 repaired. Engineering is not my

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1 department but it does appear to me that  
2 the problems are on the outside of the  
3 cover, not in the middle. I see  
4 leachate breakouts in different places  
5 and I see it's out of compliance with  
6 state plant limitations on three sides,  
7 I believe, and I cannot really  
8 understand why we would just correct the  
9 middle, which looks pretty good to me.  
10 It seems to me the only way to handle  
11 this is a complete cover.

12 I'm also interested in that  
13 breakout at Upper Middle Pond that I  
14 know Carl Moore spoke about. There's no  
15 question about it. The water is going  
16 under the tracks and into the pond. I'm  
17 sorry, Richardson Pond you call it. I  
18 believe there are culverts there and  
19 that this should be investigated. Under  
20 no conditions should we allow that pond  
21 to be as contaminated as it is.

22 We found -- our consultant found  
23 tritium when he did some testing in

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1 pools at the rear of the test site. We  
2 have the test papers with us. In 1983  
3 he did the testing. I'm suggesting too  
4 that this is something that should be  
5 investigated. Admittedly it was  
6 tritium, which I realize is not very  
7 strong in radioactivity, but it was  
8 seven times the ambient level. There's  
9 no question about it, somebody dumped  
10 something there that shouldn't be there.  
11 Do we know that there is anything else  
12 there in another section of the dump?  
13 I think we should find out.

14 MS. LESHEN: The next person I'd  
15 like to call is John Morris.

16 MR. MORRIS: I understand you won't  
17 answer questions. Is that correct?

18 MS. LESHEN: Yes.

19 THE WITNESS: Then I have no way of  
20 asking if we have actually found  
21 elevations on any map. I do have a map  
22 here that was done in 1971. It's the  
23 town engineering map and it clearly

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1 shows that the landfill is in the  
2 wetlands, as we all know, and that it  
3 was excavated and actually material was  
4 taken out and the landfill base was  
5 extended further into the wetlands, as  
6 these pictures here indicate. I believe  
7 that excavation may have been somewhere  
8 in the order of fifteen to twenty feet  
9 of fill taken out of here, as indicated  
10 by those maps, and that now the  
11 landfill, I believe, is someplace around  
12 elevation 178.

13 As you can see from these pictures  
14 -- I don't know. I got these from Carl.  
15 Do they have copies of these?

16 MR. MOORE: Yes.

17 MR. MORRIS: I think the pictures  
18 probably tell most of the story. Let me  
19 just reiterate a few things.

20 The board of health is very  
21 concerned about -- the first thing that  
22 we would prefer is a total cap  
23 reconstruction. As indicated earlier at

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1 a meeting with the board of health, the  
2 cap that is currently on the landfill is  
3 not in compliance with the 1984 court  
4 order. Secondly, there is nowhere in  
5 the CEM's plan that shows a direct  
6 hydroelectrical connection to keep  
7 Richardson Pond from the landfill. Now,  
8 it's a fact that there are several  
9 culverts along the tracks which connect  
10 the pond with the landfill, I believe,  
11 and I believe that the board of health  
12 would like to see vertical barriers  
13 installed and the containment system in  
14 manipulating and confining and  
15 channeling this groundwater to an  
16 extraction point and a greater in-depth  
17 groundwater system than what is being  
18 proposed under the EPA's alternatives.

19 We should not take any risk at all  
20 which would contaminate Tewksbury's well  
21 water. I don't believe that the current  
22 system being proposed will protect that,  
23 will protect Tewksbury's wells the way

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1 it needs to be protected.

2 Leachate, again, should be treated  
3 off-site, collected and treated  
4 off-site.

5 There are several points that  
6 several other people are going to be  
7 making about the traffic, the use of the  
8 transportation methods the EPA will use.  
9 I prefer we use the rail system.

10 The other things are the venting  
11 system and the flare system. Before we  
12 even begin the total cap reconstruction  
13 that should be in place and working at  
14 100 percent efficiency before we go  
15 toward it. It is obviously not doing  
16 the job now. We should correct that  
17 problem before we go and do the cap.

18 The other thing that I would like  
19 to mention or comment is that I wish  
20 that the EPA had granted us this to be  
21 the first meeting instead of the second  
22 meeting. I understand we have had a  
23 thirty day extension. I think several

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1 town officials indicated to the EPA they  
2 were not happy with that. I don't know  
3 if they are all happy with the  
4 extension. That's about it.

5 MS. LESHEN: The next person is  
6 David L. Johnson.

7 MR. JOHNSON: The statement that  
8 I'd like to make is relatively to the  
9 basic data that you used in arriving at  
10 your solution, and one of those basic  
11 data points was the impact on the  
12 surface water. A lot of the testing of  
13 the surface water which was done was  
14 provided in reports and I read some of  
15 these reports and one of them says  
16 methylene chloride was detected in the  
17 at 1300 parts per billion and was  
18 therefore was considered lab or field  
19 contamination, therefore they didn't  
20 believe them. That was also the case  
21 for acetone, which I think they found  
22 800 parts per billion or something of  
23 that sort.

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I would like to point out to you that we had testing done in 1983, and this was done by Cambridge Analytic, a very well known company, and we had the testing done in accordance with law because we intended to take the state and town and everything to court to get the place cleaned up. What they did was they ran a calibration cycle on their equipment. They ran the sample through and then they re-did their equipment to make sure that they were maintaining calibration during the test. Our results, which I'll give to you, indicated 1100 parts per million of methylene chloride, 850 parts per million of qualine [phonetic].

I think that you've got to go back and look at the very base information that you have made your decision on before you come out with your record of decision and I submit these documents to you which detail our test results.

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1 MS. LESHEN: I'd now like to call  
2 Tony Bonacci.

3 MR. BONACCI: My name is Tony  
4 Bonacci and I'm an abutter of the  
5 landfill and I just more or less would  
6 come up here to reiterate what my  
7 neighbors said, Helen, Carl and Dave,  
8 and because I've been working with Helen  
9 with this going on ten years and trying  
10 to correct the problem and it's been a  
11 ten long years. Fortunately, I'm glad  
12 they have got abreast of it and kept all  
13 the information and kept me in touch.

14 Unfortunately I was one of the  
15 abutters who had a well, and it was  
16 active for five years, that I drank out  
17 of it. My family drank out of it, and  
18 in the past fourteen months I have  
19 developed kidney failure, and I can't  
20 say it is to this or to the drinking of  
21 the five years, but it's something that  
22 I've got to live with for the rest of my  
23 life 'cause I don't know, and is there

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1 other people around who are getting sick  
2 and don't know why?

3 And just again, I'm a concerned  
4 abutter and somebody -- I don't care if  
5 it costs 50 million dollars, we want the  
6 problem done correctly and we want it  
7 done right and right away. Thank you.

8 MS. LESHEN: Would anyone else like  
9 to make formal comments?

10 I want to again mention we are  
11 going to be holding another public  
12 hearing to give you the opportunity to  
13 enter your oral comments into the record  
14 February 19th, two weeks from tonight,  
15 in this room, at 7:30.

16 Any comments that were received  
17 this evening thus far that were read  
18 into the record, any comments to be  
19 received orally on the 19th and any  
20 comments we receive in writing in our  
21 office prior to March 16th will be  
22 responded to in the document called the  
23 Responsiveness Summary attached to the

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1 Record of Decision and will be  
2 considered during our decision-making  
3 process.

4 We do encourage you to submit  
5 written comments, to come back on the  
6 19th and make additional comments and  
7 for the people to make comments at that  
8 time.

9 If you have any questions, we're  
10 going to be staying around this evening  
11 to answer any questions, you can be  
12 called on, and if there is any other way  
13 we can be of help, let us know.

14 If I don't hear anyone wishing to  
15 make any additional formal comments, we  
16 will now close the record. At this  
17 point no further comments will be  
18 entered into the record this evening.  
19 Any comments you want addressed in the  
20 future will have to be entered into the  
21 record on the 19th or submitted in  
22 writing. The record is now closed.  
23

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1 has shown us, and our experience has  
2 taught us, that maintenance and  
3 monitoring are the very areas where Gray  
4 Pond Realty has consistently failed. It  
5 is my opinion that the solution chosen  
6 should be the one with the least amount  
7 of maintenance and monitoring because at  
8 best this is what we will get from Gray  
9 Pond Realty.

10 What is needed to achieve a  
11 community-acceptable solution? One, a  
12 total cap reconstruction. Strewn  
13 throughout the many investigative  
14 reports issued by the EPA, the integrity  
15 of the cap has been considered  
16 questionable, to say the least. The  
17 current cap has never been certified by  
18 the DEP, that it fulfills the closure  
19 compliance. Quite to the contrary,  
20 there have been many shortcomings  
21 pointed out, and I do not see the EPA  
22 addressing these flaws. EPA has told us  
23 that there are obstacles involved. And

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I, ELIZABETH M. BROOKS, Registered Professional Reporter, do hereby certify that the foregoing testimony is true and accurate, to the best of my knowledge and ability.

WITNESS MY HAND, this 22nd day of February, 1991.

  
-----  
Elizabeth M. Brooks

EMB/ed

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ENVIRONMENTAL PROTECTION AGENCY

In Re: Superfund Program  
Shaffer Landfill, Iron Horse Park  
Billerica, MA

HEARING HELD AT THE BILLERICA TOWN HALL  
AUDITORIUM, BILLERICA, MASSACHUSETTS ON  
FEBRUARY 19, 1991.

PANEL:

Margaret Leshen, EPA  
Don McElroy, EPA

Elizabeth M. Brooks  
Court Reporter

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(Hearing convened)

1  
2  
3 MS. LESHEN: Good evening, I'm  
4 Maggie Leshen. I'm chief of the  
5 Connecticut Superfund section, and I'm  
6 going to be running tonight an informal  
7 public hearing for the Iron Horse Park,  
8 Shaffer Landfill Site. I'm going to  
9 explain very briefly how this will be  
10 run, and I will remind you that it will  
11 be run in the same manner as our  
12 February 5 hearing.

13 Basically tonight we will be  
14 dividing the evening into three parts.  
15 During the first part, Don McElroy, the  
16 site manager, will be giving a very  
17 brief presentation about the proposed  
18 plan. We will then be taking formal  
19 comments, which, if you intend to make  
20 one, you need to fill out one of the  
21 cards that we can get you from the back  
22 and I will call on you and we will ask  
23 you at that point in time to come up to

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this mike which is hooked to a recorder as well so we can get your comments entered into the public record. We will not be responding to those comments this evening. The comments that were received February 5, the comments that are received tonight, as well as comments that are received in writing prior to the end of the public comment period, which has been extended due to your interest, to March 16, the comments that are received in writing in our office by March 16, all the comments will be responded to in a Responsiveness Study, which will be attached to a Record of Decision, which will be a decision made on this site based on public and state comments that have been received during the public comment period.

Does everyone understand how this will happen?

I am going to tell you that we will

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1 limit the first round of comments,  
2 'cause I don't really know what people  
3 have, to approximately ten minutes.  
4 That way we can get to all the people  
5 that have requested to make a comment,  
6 so that everyone does have a chance. In  
7 the event someone wants to read a  
8 lengthy comment into the record, we will  
9 stay around for any comments that anyone  
10 has, but I'm going to limit the first  
11 go-around to ten minutes so that  
12 everyone will have a chance to speak  
13 into the record if that's so desired  
14 this evening.

15 As I said earlier, the comments  
16 also can be submitted in writing to our  
17 office in Boston, and the address is on  
18 the proposed plan that was at the front  
19 desk when you came in. If you need one  
20 you can just let us know during the  
21 evening, so that you can submit these  
22 comments in writing by March 16.

23 As I said, Don will give a very

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1 short presentation on the proposed plan,  
2 and then we will get started with these  
3 comments. After we finish the formal  
4 comments, we will stay around for  
5 entertaining the questions that you  
6 might have remaining.

7 Now Don will give you a very short  
8 presentation on the proposed plan.

9 MR. McELROY: Good evening. I just  
10 wanted to run through the process that  
11 we've gone through up to this point and  
12 quickly run through the alternatives in  
13 the proposed plan before we open the  
14 floor for comments.

15 The Environmental Protection Agency  
16 has proposed a cleanup plan referred to  
17 as the Preferred Alternative to address  
18 contamination at the Shaffer Landfill,  
19 Iron Horse Park Superfund Site in  
20 Billerica, Massachusetts. The Preferred  
21 Alternative is EPA's preliminary  
22 selection of a remedy and may be changed  
23 if public comments or new information is

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1 presented to EPA during the public  
2 comment period that significantly  
3 affects EPA's evaluation of the  
4 alternatives.

5 After evaluating all eight  
6 alternatives developed in the  
7 Feasibility Study, EPA proposes  
8 reconstruction of the top portion of the  
9 existing landfill cap and the collection  
10 and offsite treatment and disposal of  
11 leachate. Cap reconstruction would be  
12 achieved by adding fill and regrading to  
13 achieve a minimum five percent slope on  
14 the top, flatter areas; installing  
15 additional, low permeability material;  
16 installing a new, six inch drainage  
17 layer; reinstalling the topsoil layer;  
18 and reseedling the disturbed areas.  
19 Leachate facilities would be  
20 constructed, operated, and maintained.  
21 Leachate would be transported off-site  
22 for treatment and disposal.  
23 Improvements would be made to the

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existing surface drainage system. The cap, the surface drainage system, and the landfill gas collection/flare system would be maintained and monitored, and any necessary improvements would be made. A site perimeter security fence would be constructed. Groundwater and surface water quality would be monitored.

Again, if public comment and further information change EPA's evaluation of this or any of the other alternatives, EPA may decide on another alternative for its final selection.

I'd like to quickly run through the other alternatives evaluated in the Feasibility Study. Alternative 1 is the no-action alternative, under which no further work at the site would take place.

Alternative 2 would complete the existing cap by adding fill to achieve a five percent grade, and reconstructing

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1 the overlying low permeability layer.  
2 This alternative also would include  
3 maintenance of the cap, surface drainage  
4 system, and landfill gas  
5 collection/flare system; construction of  
6 site perimeter fence; and monitoring of  
7 the gas collection/flare system and  
8 surface water and groundwater quality.

9 Alternative 3 contains the same  
10 features as Alternative 2 in terms of  
11 completion and maintenance of the  
12 landfill cap. In addition, Alternative  
13 3 would improve the existing surface  
14 drainage system; construct, operate, and  
15 maintain leachate collection facilities;  
16 and transport leachate off-site for  
17 treatment and disposal.

18 Alternative 3A contains all the  
19 features of Alternative 3. In  
20 addition, Alternative 3A would  
21 construct, operate, and maintain a  
22 groundwater extraction system along the  
23 eastern side of the landfill; construct,

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1 operate, and maintain an on-site system  
2 for treatment of groundwater and  
3 leachate, and discharge through the  
4 groundwater to surface water.

5 Alternative 4A contains all the  
6 features of the Preferred Alternative.  
7 In addition, Alternative 4A would  
8 construct, operate, and maintain a  
9 groundwater extraction system along the  
10 eastern side of the landfill; construct,  
11 operate, and maintain an on-site system  
12 for treatment of groundwater and  
13 leachate; and discharge treated  
14 groundwater to surface water.

15 Alternative 5 would completely  
16 reconstruct the entire landfill cap to  
17 meet EPA's recommended final coverage  
18 design standards for hazardous waste  
19 landfills. This alternative would also  
20 provide the same maintenance,  
21 monitoring, and perimeter fence as the  
22 other alternatives.

23 Alternative 5A contains all the

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1 features of Alternative 5. In  
2 addition, Alternative 5A would  
3 construct, operate, and maintain a  
4 groundwater extraction system along the  
5 eastern side of the landfill; construct,  
6 operate, and maintain an on-site system  
7 for treatment of groundwater and  
8 leachate; and discharge treated  
9 groundwater to surface water.

10 MS. LESHEN: Thank you, Don. And  
11 now we will get started on the formal  
12 hearing part. And we do have the cards,  
13 and I will at this point in time read  
14 them in order for the people that signed  
15 up as they came in. And the first  
16 person is Helen Knight.

17 MS. KNIGHT: First, we are pleased  
18 to have another opportunity to state our  
19 case. I confess that I live on Gray  
20 Street, in the neighborhood that is  
21 severely impacted by the dump. I'm the  
22 third generation in my house. And I  
23 very much doubt that any of my relatives

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1 back in the family ever thought the day  
2 would come when the old blueberry swamp  
3 would be a threat to the neighborhood.  
4 Unfortunately that day has come.  
5 Contaminated surface water flows into  
6 our neighborhood in Content Brook.  
7 Contaminated groundwater probably flows  
8 under our houses, and contaminated air  
9 with the westerly winds blowing into the  
10 neighborhood entertains us periodically.  
11 And this is through no fault of ours.  
12 So we have a few demands, and we think  
13 we have a right to have some demands.

14 First of all, before any of this is  
15 done, let us talk about funds for this.  
16 We need a bond, a financial commitment,  
17 with penalties, some kind of assurance  
18 that the job will be done; and that if  
19 problems occur that they will be  
20 addressed. Too many times individuals  
21 and agencies have failed us.

22 It has been twenty-five years in  
23 November since this odyssey started.

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1 And I'm entertained that we're  
2 congratulating ourselves now that we've  
3 done the paperwork that we're going to  
4 get a fence. Isn't that remarkable, in  
5 this day and age. Twenty-five years  
6 later we're going to put a fence around  
7 it. Congratulations to us.

8 First of all, too, we need  
9 complete, up-to-date testing of surface,  
10 groundwater, air, everything. It is not  
11 enough to base this decision on 1988  
12 testing; and by testing a well here and  
13 a well there. Every well. Surface  
14 water, groundwater, every test we can  
15 give to the air. Then we know where we  
16 stand.

17 When we look at the proposed plan,  
18 there's good news and bad news. The  
19 good news is -- the best of the news is  
20 the leachate collection system with  
21 off-site treatment and disposal. That  
22 answers a real demand. I hope we will  
23 think too of the railroad, possibly tank

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1 cars on the railroad for that purpose,  
2 if it can be worked out. And in spite  
3 of the fact that we waited twenty-five  
4 years, I am glad to hear that the fence  
5 is going to be a reality. I hope it  
6 will be done soon, before the  
7 twenty-five years are up. November is  
8 the cut-off date. Not only that, I hope  
9 it will be sufficiently labeled so that  
10 anyone who comes to it will know that  
11 this is a site they should not be in.

12 I am pleased to hear that there's  
13 going to be maintenance of the cap, the  
14 drainage system, and the venting system,  
15 but the bad news is, I don't think the  
16 venting system is working. So you can't  
17 maintain it until you make it work. Get  
18 it working first. Then maintain it. It  
19 is not working. Tonight there is an  
20 odor problem.

21 Second, I cannot see how we can get  
22 by complete with fixing up just the  
23 center of the cap. The problems are

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1 around the edges, where there are  
2 breakouts of leachate and where it is,  
3 on at least three sides, far out of  
4 compliance with state flat limitations.  
5 I do not know what the federal flat  
6 limitations are, but the state ones are  
7 not met. It's two to one, instead of  
8 three to one. I don't know how we  
9 address that. It should have been  
10 addressed before. It wasn't. It is a  
11 problem. We cannot solve it, we cannot  
12 live with it, unless we have a complete  
13 cap.

14 And as I said before, we cannot  
15 maintain the venting system unless it is  
16 repaired. I don't know what's wrong  
17 with it. That's not my department. But  
18 it isn't working. I cannot believe  
19 either that we're talking about leaving  
20 Upper Mill Pond, Richardson Pond, with a  
21 breakout of leachate, I believe the most  
22 serious breakout of leachate, and not  
23 addressing that problem.

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1 We've been told in elaborate terms  
2 that it is not possible for things like  
3 fragmented base rock and things like  
4 that, when we know that there are  
5 culverts under there. Those must be  
6 straightened out. They must be sealed.  
7 If that poses a problem about drainage,  
8 then there must be some other solution  
9 worked out, but when you have a culvert  
10 and a dump on one side in a swamp, dump  
11 below the surface of the water, and you  
12 have a pond on the other side of the  
13 track, and they're equal in height, you  
14 know where the contaminants are going to  
15 go. So we do need to fix that up.

16 And finally, I'm very concerned  
17 about the groundwater. We found there  
18 were four families drinking water out of  
19 wells in this aquifer. They have since  
20 been hitched up to the town drinking  
21 water supply. One family, however,  
22 drank water for fifteen years out of  
23 that, and incidentally, there are two

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1 cancer cases in that family. I'm  
2 another cancer case, incidentally.  
3 Twice I've had it. But we've not done a  
4 health study, and possibly these are not  
5 connected. I don't know. But I cannot  
6 see this stuff going into the  
7 neighborhood, under the houses, and into  
8 the aquifer of Content Brook and  
9 Shawsheen River and do nothing about it.  
10 It must be addressed somehow.

11 MS. LESHEN: Next I'd like to call  
12 Julie Bonacci.

13 MS. BONACCI: My name is Julie  
14 Bonacci. My husband spoke here last  
15 meeting, and I'm here to represent our  
16 family tonight. We live near the  
17 landfill. We live on Gray Street.  
18 We've been there for ten years. When we  
19 bought the house, we didn't realize  
20 there was a landfill behind us. It  
21 wasn't until we were at the dump, and we  
22 could see the top of the roof of our  
23 house, that we realized the kind of a

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1 situation we were in.

2 We were excited about the house at  
3 first. It had a well and it was good  
4 tasting, which we thought it was. And  
5 we went ahead and kept drinking the  
6 water. I went through two pregnancies  
7 drinking the water. And fortunately my  
8 children are healthy at this point. But  
9 we have had illnesses in the family. My  
10 husband has kidney failure, and so there  
11 are different situations that we have  
12 had to confront thinking about the  
13 landfill and thinking about the  
14 long-term effects that it has had on us.

15 Several times the children wanted  
16 to take walks and we keep telling them  
17 you can't go walking through there.  
18 It's not safe, it's dangerous. And with  
19 the fence, it would be very good to tell  
20 them, and to realize the danger of going  
21 back there, and keeping them out as they  
22 grow older, and being teenagers, and  
23 realizing that they can't go back there.

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1 So the fence is exciting. And I wish it  
2 came a long time ago.

3 We've been on the Super Action  
4 Committee for ten years with Helen and  
5 the neighborhood and it has been a long  
6 process. A lot of anxiety has come  
7 throughout all of this, and we all hear  
8 the news and all the environment  
9 problems, and we have one in our  
10 backyard, and I don't understand why it  
11 takes a community, the government here  
12 in their community, and their problems,  
13 such a long process, and just getting to  
14 the point and getting the job done.

15 I just want to add that this cap  
16 needs to be completely capped. If we do  
17 not do that now, then there are going to  
18 be more problems and we're going to be  
19 facing the same situations and back at  
20 the table again and discussing what we  
21 should have done back when. So the cap  
22 needs to be completely done, and  
23 everything that Helen said about the

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1 drainage and the leach, I also back that  
2 up a hundred percent. And that's all  
3 I'd like to say at the moment. Thank  
4 you for your attention.

5 MS. LESHEN: The next person I'd  
6 like to call is Barbara Morrissey.

7 MS. MORRISSEY: As I left my house  
8 tonight I was also assaulted by the  
9 noxious odors coming from our landfill,  
10 and it made me even more determined to  
11 come and speak tonight.

12 From the beginning, the Shaffer  
13 Landfill has received inadequate  
14 monitoring. In 1966/67, Gray Pond  
15 Realty received a permit from the  
16 Department of Natural Resources for the  
17 operation of the landfill. The permit  
18 required a liner. This was not done,  
19 yet the permit was not revoked. Now we  
20 are here to fix this problem. Maggie  
21 Leshen stated at our last meeting of  
22 February 5 of 1991 that liners are the  
23 norm in landfills, and caps are the

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1 fixes. We are trying to fix a major  
2 problem and should do so doing the most  
3 appropriate means available to us today.  
4 The missing liner has resulted in the  
5 migration of the landfill contaminants,  
6 via the leachate, to groundwater and  
7 surface water. This migration is the  
8 primary threat to human health in the  
9 environment.

10 It seems reasonable that the  
11 reduction and control of this leachate  
12 production should be the number one  
13 priority. Leachate production is  
14 directly proportional to the amount of  
15 water that is able to penetrate the  
16 landfill cap and filter through the  
17 waste. The reduction or elimination of  
18 this infusion through the cap must be  
19 stopped.

20 The existing cap does not even meet  
21 the requirements of the 1984 consent  
22 agreement. I quote, from the Superfund  
23 sheet of August 1989: "The depth of the

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1 cap of the clay layer may not meet the  
2 agreement's requirement, and the  
3 approved specifications on the top and  
4 side slopes of the landfill. In  
5 addition, the permeability of the clay  
6 has not been verified to meet the EP  
7 requirements. It is questionable  
8 whether the topsoil layer is thick  
9 enough to support adequate vegetation."

10 How can this cap reduce the human  
11 and environmental hazards caused by the  
12 leachate production if the current cap's  
13 design is faulty and the cap is  
14 inadequate. The EPA must properly cover  
15 the entire landfill and not just the top  
16 sixteen acres if the inadequacies of the  
17 past are to be corrected. If we are  
18 given the quick fix being proposed by  
19 the EPA, the basic problem will not be  
20 corrected, and the result will be the  
21 continued leachate production and  
22 migration. To stop this continual  
23 pollution, the EPA recommended cover

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1 design, in Figure 5-5 of the Final Draft  
2 Phase Feasibility Study for Hazardous  
3 Waste Landfills, must be applied to the  
4 total area of the Shaffer Landfill.

5 The problems we have today are the  
6 result of lax monitoring by the  
7 responsible agencies and a lack of  
8 proper O & M contracts on the cap and  
9 gas venting systems. Ongoing O & M  
10 contracts are necessary to ensure the  
11 future integrity of the landfill cover  
12 and venting system. Gray Pond Realty  
13 has demonstrated its inability to  
14 provide such contracts. To guarantee  
15 the money is available for the future  
16 maintenance requirements of the  
17 landfill, a trust fund or bond must be  
18 created. With a proper cap, the O & M  
19 contract, and the financial guarantee,  
20 leachate production should be controlled  
21 and leachate migration will be reduced.

22 The leachate that is still being  
23 produced must be collected, contained,

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and treated off-site as proposed in the Feasibility Study. There must be a plan developed in case there is a leachate spill. If possible, the leachate removal should be done by railroad and not over town roads. Truck routes through the neighborhood would have a negative impact and create many potential problems. It has also been discovered that four culverts connect the landfill to Richardson Pond. The remediation must include permanent closure of these culverts to stop their further surface and groundwater contamination. The impact on groundwater will be decreased if the contaminants can be kept on site. Total cap reconstruction would be the most effective means to accomplish this.

Before final closure begins, we need a round of current test samples. This would provide us with initial baseline values of all hazards,

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1 hazardous chemicals, at the landfill.  
2 By routine, scheduled retests the  
3 migration of chemicals will be  
4 monitored. Threshold values must be  
5 set, and public notification should be a  
6 requirement, that these values are met  
7 or exceeded. Predetermined actions must  
8 be designed so appropriate action can be  
9 implemented immediately. If an escrow  
10 account was in place, the money would be  
11 immediately available to start the  
12 appropriate corrective measures.  
13 Without the money, the Shaffer's record  
14 of slow and inappropriate action will  
15 again be the norm.

16 To restate, because the landfill  
17 has no liner, we want the best remedy  
18 available. That includes a total cap  
19 reconstruction, leachate collection and  
20 off-site treatment, and groundwater  
21 monitoring at frequent, regular  
22 intervals. If the primary goal of the  
23 action is to reduce the hazard to human

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1 health in the environment, nothing less  
2 will be appropriate or acceptable.

3 MS. LESHEN: Thank you. The next  
4 person I'd like to call is Robert  
5 Williams.

6 MR. WILLIAMS: Good evening. My  
7 name is Bob Williams, and I own Williams  
8 Energy Systems. I'm in the process of  
9 doing an environmental and energy  
10 project with the Shaffer Landfill. I'll  
11 be using the gas that is currently being  
12 flared on site with all the controversy  
13 and problems associated with the  
14 landfill, that have been ongoing in the  
15 years. I'm going to be stepping into  
16 the middle of this problem to bring an  
17 energy project online that is good for  
18 the environment. In fact, this is one  
19 of the few times when something good can  
20 come from a Superfund site. This might  
21 strike all of you as a bit ludicrous.  
22 It's like talking about the Lebanese  
23 government. It's an oxymoron. It

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1 really doesn't make much sense. But  
2 this is a good project because it can  
3 improve the problems that are already  
4 existing. What will be improved is not  
5 only the environment, but will be the  
6 energy resources that come out of the  
7 gas that's being flared.

8 In case any of you are wondering  
9 what landfill gas is, it is methane, the  
10 same as natural gas. When the landfill  
11 is capped, oxygen-free, anaerobic  
12 bacteria begin eating away at cellulose  
13 products, anything made from wood; and  
14 their waste produce becomes methane.  
15 When you have anaerobic bacteria eating  
16 away at a million tons of rubbish, it  
17 produces a tremendous amount of that  
18 gas. In fact, energy equivalent of  
19 what's packed away in that landfill is  
20 equal to two supertankers. And of  
21 course I need not remind you of the  
22 situation we're in and how an energy  
23 resource like this would do really good

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1 things for both the country as a whole  
2 as well as the environment.

3 There are two problems associated  
4 with landfill gas. Gas migration  
5 through the soil is the most dangerous.  
6 The gas can seep into houses and  
7 basements and cause explosions if  
8 ignited. In Lowell they have this  
9 problem at their capped landfill. There  
10 three businesses on Westford Street have  
11 been closed and vacated because of the  
12 gas migration problem there.

13 The other problem is environmental.  
14 Methane is an ozone destroyer, and in  
15 regards to the greenhouse effect, it  
16 holds twenty times the heat, molecule  
17 for molecule, as carbon dioxide.  
18 Flaring the gas is a good way of  
19 reducing this problem. In fact, an EPA  
20 study on reserve at the Billerica  
21 library lists the results of the  
22 Alliance Technology Report and  
23 Recommendations. The results of the

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1 analysis and testing after the gas is  
2 flared is that it meets DEP and EPA  
3 requirements and recommendations, and it  
4 is recommending that the flaring  
5 continue. I will be taking that one  
6 step further. I will put a slight  
7 vacuum on the well system to suck the  
8 gases out of the ground to prevent the  
9 gas from migrating and odor problem  
10 seeping into the air, causing additional  
11 atmospheric destruction. I will also be  
12 dehydrating the gas so when it burns  
13 it'll burn hotter and cleaner. This gas  
14 is now going to be used on site. It  
15 will be pumped by pipeline for  
16 industrial cogeneration use at Iron  
17 Horse Park. The pipeline will cross  
18 only the industrial property of the  
19 energy users. It doesn't matter to my  
20 project what the final solution to the  
21 capping or leachate problems are. I can  
22 draw on the existing resources without  
23 interfering to the future solution, and

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1 I will be meeting all DEP and EPA  
2 requirements. I cannot fix the  
3 Superfund puzzle, but I can take one  
4 piece of that puzzle and I can make it  
5 much better.

6 If you folks have any questions  
7 regarding my project, I live in  
8 Wilmington, and I'm listed in the yellow  
9 pages under Williams Energy Systems.  
10 Feel free to give me a call, because I'm  
11 going to be going ahead with this  
12 project in the next three to six months  
13 as I receive licensing and permitting.  
14 I should be able relieve a good part of  
15 the problems in regard to odor and  
16 migration of the landfill gas that is  
17 there right now. And I hope to have  
18 your support. Thank you.

19 MS. LESHEN: The next person I'd  
20 like to call is JoAnne Giovino.

21 MS. GIOVINO: 1981. 1981 was a  
22 very significant year for me. It was  
23 the year that I gave birth to my first

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1 child, a daughter. And it also was the  
2 first year I was introduced to Iron  
3 Horse Park. I realized that being a  
4 parent was going to be a lifelong  
5 responsibility. I did not realize that  
6 being a watchdog for Iron Horse Park was  
7 going to become that too. Little did I  
8 think I'd be standing here ten years  
9 later, trying to convince the EPA to do  
10 the right thing. What is the right  
11 thing? Closing the dump the best way  
12 the first time around. This  
13 let's-try-this-first-and-see-what-  
14 happens policy just isn't acceptable.  
15 It seems to me that your preferred plan  
16 is a Bandaid solution to a serious  
17 problem.

18 We hear a lot about maintenance and  
19 monitoring and I agree these are two  
20 essential elements of the closure.  
21 However, Alternative 4 in my opinion  
22 depends too heavily on maintenance and  
23 monitoring. Time and time again history

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1 has shown us, and our experience has  
2 taught us, that maintenance and  
3 monitoring are the very areas where Gray  
4 Pond Realty has consistently failed. It  
5 is my opinion that the solution chosen  
6 should be the one with the least amount  
7 of maintenance and monitoring because at  
8 best this is what we will get from Gray  
9 Pond Realty.

10 What is needed to achieve a  
11 community-acceptable solution? One, a  
12 total cap reconstruction. Strewn  
13 throughout the many investigative  
14 reports issued by the EPA, the integrity  
15 of the cap has been considered  
16 questionable, to say the least. The  
17 current cap has never been certified by  
18 the DEP, that it fulfills the closure  
19 compliance. Quite to the contrary,  
20 there have been many shortcomings  
21 pointed out, and I do not see the EPA  
22 addressing these flaws. EPA has told us  
23 that there are obstacles involved. And

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1 I suggest that you throw out that cookie  
2 cutter solution, use ingenuity,  
3 creativity, and approach this with fresh  
4 new ideas.

5 Number two, I agree with Helen, you  
6 can't fix something when it doesn't  
7 work. A complete redesign of the gas  
8 collection and flare system has to be  
9 done. Maintenance is just not enough.  
10 The design and implementation is  
11 obviously flawed. The design must be  
12 fully reviewed and revamped. DEP has  
13 never accepted this design. It has only  
14 been tentatively accepted, and a grant  
15 has not been permitted -- I mean, a  
16 permit has not been granted. Excuse me.

17 I do agree with the EPA on the  
18 leachate collection and off-site  
19 treatment. I think that's an excellent  
20 idea. And I agree with the EPA on a  
21 site perimeter fence. I think it's  
22 necessary for site security. And I  
23 would also like to see a deed

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1 restriction.

2 Like my fellow SAC members, I am  
3 going to talk about bonding and escrow  
4 accounts. Past experience has taught us  
5 never assume anything. We have to know  
6 that there is money put aside to  
7 complete work and follow through on the  
8 maintenance. Thirty years is a long  
9 time, and I believe the key players will  
10 change. We may still be here, but I  
11 doubt that Gray Pond Realty and you will  
12 be here. Billerica does not want to  
13 inherit this white elephant.

14 And finally, at this time I am  
15 requesting the EPA to initiate a natural  
16 resource damage assessment that's  
17 provided by CERCLA, in Section 107,  
18 Paragraph D, entitled Natural Resource  
19 Liability.

20 MS. LESHEN: And now I'd like to  
21 call on Richard Farren.

22 MR. FARREN: My name is Richard  
23 Farren. I live on Newport Drive, and

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1 I've been a resident of Billerica for  
2 fifteen years. Some friends and  
3 neighbors in my neighborhood have  
4 brought the issue of the landfill and  
5 the EPA work to my attention, and it's  
6 been a concern to myself over the last  
7 several years.

8 I'm a family -- a father of two. I  
9 have two children approaching teen-age  
10 years, and Content Brook runs directly  
11 behind my property. Over the years  
12 we've been plagued with, in our  
13 neighborhood, the odor emanating from  
14 the landfill site. Content Brook has  
15 not been what I would call one of the  
16 most stable bodies of water. There are  
17 several different color variations  
18 coming from the brook, odors coming from  
19 the brook, and this has all been of  
20 concern to me.

21 I've only recently had an  
22 opportunity to review some of the  
23 material, but what I have reviewed is

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fairly disturbing.

Number one, a prior speaker talked about a Bandaid approach, and certainly this reeks of a Bandaid approach. There are opportunities here to solve a problem, not just temporarily fix something that may go away in fifteen to thirty years. And there is a long history, as some of the previous speakers have spoken about. It's not a question where we can monitor or maintain. It's an opportunity where we should eliminate and correct, right from day one.

There's a concern about the cap, where it's a small percentage of the entire landfill. Not being an environmental engineer, but just common sense would tell you that the basic problems aren't necessarily at the top of the cap but certainly at the sides where the groundwater and Content Brook and Richardson Pond are. The sides are

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1 where the biggest problems would be to a  
2 layman.

3 There are some good points in terms  
4 of the fence being constructed. The  
5 collection and transportation of the  
6 leachate is important. But beyond that,  
7 I'm concerned that there may not be  
8 enough testing used during the process  
9 or even at the start of the process. It  
10 does not sound like there are adequate  
11 testing results. Number one, they were  
12 last conducted in 1988, and I'm  
13 concerned about the area of testing.  
14 Content Brook runs -- I'm at least a  
15 mile away from the site, and again I  
16 have concerns with just my observations.  
17 What about further down on the stream?  
18 Is the water being tested that far away  
19 from the landfill? What about the soil  
20 in those areas? Is the soil being  
21 adequately tested, within, I would say,  
22 at least a minimum of a mile's radius?

23 I think there's a big opportunity

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1 here, and it's a crucial opportunity  
2 that we must take advantage of. As the  
3 previous speakers have stated, there  
4 have been dozens of years that have gone  
5 by since this problem has surfaced, and  
6 I'm fearful that dozens of more years  
7 are going to be going by on the calendar  
8 before we actually get to a real  
9 solution. I would urge everybody  
10 involved that they reconsider, take a  
11 look at the best portions of all of the  
12 alternatives and try and correct that  
13 and come up with the best possible  
14 solution that'll start taking care of  
15 the residents of Billerica and Tewksbury  
16 starting from day one, not with the hope  
17 that something may be beneficial thirty  
18 years down the road. Thank you.

19 MS. LESHEN: The next person is  
20 John Morris.

21 MR. MORRIS: My name is John  
22 Morris, director of public health. I've  
23 been a resident of Billerica my entire

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1 life, thirty-one years. At our last  
2 gathering, I mentioned to the EPA about  
3 the excavation of this property and the  
4 direct deposit of refuse into the water  
5 table. Well, since then the board of  
6 health has reviewed your documents, and  
7 we have developed our own preferred  
8 alternative. This alternative must  
9 include, but may not be limited to the  
10 following issues: The EPA must require  
11 (1) a total cap reconstruction; (2)  
12 repair and, if need be, replace or  
13 expand upon the current methane  
14 collection system; (3) containment,  
15 collection, and treatment of  
16 groundwater; (4) leachate collection and  
17 treatment; (5) proper operation and  
18 maintenance in place and properly  
19 funded; (6) a significant contingency  
20 fund to cover the cost of any surprises;  
21 (7) cleanup of Richardson Pond; (8) we  
22 need a significant escrow account for  
23 future repairs or work that may need to

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be performed.

There is one lesson that we should all learn here tonight, and that is that we should learn from our mistakes. During the last ten years, the Superfund Action Committee and several other residents of this town have been trying to properly cap that landfill. Whenever we wanted to spend more money, we kept hearing about this infamous escrow account which had \$700,000, which was to be used for leachate collection. There was no more money. We constantly heard that until we finally applied some pressure to politicians to get the fence up, and that is finally being done.

We should make darn sure that we either appropriate or secure the necessary funds from the responsible parties up front. It seems that the bottom line to this cleanup is the dollar amount. Well, there can be no dollar amount attached to anyone's

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1 health. I am very concerned about the  
2 residents of this town and our neighbor,  
3 the Town of Tewksbury, and their well  
4 water supply. That's why I think that  
5 we need one hundred and ten percent, not  
6 one hundred percent, not fifty percent.  
7 And be sure that we have selected the  
8 best alternative to the cleanup of this  
9 landfill. Thank you.

10 MS LESHEN: The next person is  
11 Arnold Ventresca.

12 MR. VENTRESCA: I'm Arnold  
13 Ventresca, chairman of the Billerica  
14 Board of Health. I'd like to begin by  
15 saying that I think that the EPA should  
16 be the people who would recommend the  
17 most effective possible solution, at  
18 least initially. At least as to going  
19 in position, that's where you should be.  
20 It seems to me, though, that you are  
21 more concerned with cost than  
22 effectiveness. As laypeople, we look to  
23 agencies such as the EPA, the experts,

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1 to seek the one solution that will be  
2 most effective in protecting the health  
3 of the public and the environment. I  
4 thought that was what the "P" in EPA  
5 meant.

6 We are not ready to accept your  
7 proposed solution. We want a complete  
8 reconstruction of the cap; containment  
9 and collection of the groundwater;  
10 extraction and treatment of the  
11 leachate; an effective methane control  
12 system; complete perimeter fencing and  
13 posting at the site and continuous  
14 monitoring; an operation and maintenance  
15 that will provide the necessary  
16 protection; also continuous community  
17 involvement in the monitoring process.  
18 Although at the last meeting you said  
19 that was not possible, I don't believe  
20 it.

21 Richardson Pond must also be part  
22 of the final cleanup of -- I expect the  
23 EPA to concern itself with the health of

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1 the public and the environment, not the  
2 wallet of the polluters. Please  
3 remember that your real responsibilities  
4 are to protect the people and the  
5 environment. We will be the ones left  
6 to live with the situation once a  
7 solution is approved, not the EPA, and  
8 not the polluters.

9 MS. LESHEN: The next person I'd  
10 like to call is Brian Cangiamila.

11 MR. CANGIAMILA: Thank you. As  
12 we've all heard tonight from many  
13 speakers, the many people that have been  
14 involved with the problem up at Iron  
15 Horse Park, the Shaffer Landfill, and  
16 Richardson's Pond for many years, these  
17 people have been fighting for more than  
18 ten years to try to clean this problem  
19 up. Already one stop-gap solution has  
20 been proposed. A cap is in place, a  
21 venting system has been put into place,  
22 and none of these measures has dealt  
23 with the problem effectively.

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I think that we all could agree that the process to introduce change in the future is a lengthy process. Already these people have been working for, as I said, ten years, to try to correct the problem, since the landfill has been shut down, and again we are going back to the process again, to propose just a patch to a solution that never works.

As the board of health spoke, and the director of public health has spoken, the town has set down some reasonable goals for a solution to the problem. As the many residents have expressed, many health hazards have been, have surfaced throughout the years, and the EPA and the Government's just proposing to repair something that's not worked. As Helen Knight mentioned earlier, we're looking at trying to maintain a venting system that doesn't work. We're looking at

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1 repairing a cap that never served the  
2 purpose. And we're completely  
3 overlooking one of the most significant  
4 points that needs to be addressed.

5 In your earlier comment back two  
6 meetings ago, you mentioned that there  
7 were unhealthy levels of arsenic in the  
8 groundwaters. In your preferred plan,  
9 we're not even addressing the fact that  
10 the groundwaters that are migrating  
11 underneath the existing cap are not  
12 going to be extracted and dealt with  
13 properly. We're going to, under the  
14 proposed plan, allow those waters to  
15 continue to migrate and fester with  
16 whatever matter is stored under the  
17 landfill.

18 I don't think anyone in this room  
19 here can testify or certify what truly  
20 is buried underneath that landfill.  
21 Fortunately, I live on the opposite side  
22 of town, but as a state representative,  
23 I'm concerned for all of the people of

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1 the town. Driving through that area at  
2 any point in the year there are horrible  
3 stenchs that these people must live  
4 with. The venting system that's been  
5 proposed does not meet -- does not solve  
6 the problem, does not purify or  
7 eliminate that odor that permeates the  
8 air.

9 I would like to propose to the EPA  
10 to rethink the proposal, to go with one  
11 of the other alternatives, preferably  
12 alternative 5 or 5A, where the  
13 groundwater is addressed, totally a new  
14 cap is placed over the area, and that  
15 the groundwater is taken care of in a  
16 proper manner.

17 Trucking the water off-site by  
18 means of a truck further poses health  
19 hazards to all the residents of  
20 Billerica and any other community which  
21 those trucks pass through. We've seen  
22 in the last year significant,  
23 significant accidents that have, that

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1 have had significant impact on  
2 communities. Some of the other speakers  
3 have spoken about removing the  
4 groundwaters by rail. I would like the  
5 EPA to consider constructing a  
6 groundwater facility on site for  
7 treating the water there, versus  
8 trucking it or removing it from the site  
9 at all.

10 Just to give you a little bit of an  
11 analogy, it would seem to be taking the  
12 proposed Bandaaid approach. It's also  
13 like having a leaky roof and going up on  
14 the roof, and you patch the leak.  
15 Sooner or later, you're back up there  
16 patching another leak. The real problem  
17 is that the cap does not work, it's not  
18 adequate, it needs to be replaced.

19 I would like to ask the EPA to  
20 rethink. The monies are available. The  
21 real people that are responsible for  
22 this problem should be held liable;  
23 they're there now. Ten years from now

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1 when this problem resurfaces, there's no  
2 one in this room can tell who's going to  
3 be there to pay for it. There's no one  
4 to say whether or not there'll be  
5 Superfund monies to address the problem.  
6 The problem's resurfaced. We have a  
7 serious health hazard. And I would like  
8 to ask the EPA to reconsider and address  
9 the problem adequately and address it  
10 once and for all. Thank you.

11 MS. LESHEN: And now I'd like to  
12 call David DeLorey, Jr.

13 MR. DELOREY: My name is David F.  
14 Delorey, Jr. I live at 1 Edgar Road,  
15 and I'm a selectman of the town.

16 I'd like to start off by  
17 identifying what the problem is, and  
18 then working toward the solution. The  
19 problem is two. The problem is that  
20 there is no documentation, and there is  
21 no oversight on the site. Those are the  
22 two problems. All these other issues  
23 that we're talking about are a function

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1 of those two things. I think that all  
2 of the previous speakers, the EPA and  
3 everyone else, have been very polite in  
4 calling the Shaffer Landfill that,  
5 because it is not that.

6 The difference between a landfill  
7 and a dump is that a dump doesn't have  
8 any documentation. A dump does not have  
9 any oversight. This is a dump we're  
10 talking about, not a landfill. So with  
11 regard to that, I think that it is  
12 important to outline that what we really  
13 have here is a problem. What we have is  
14 a landfill that doesn't have a liner.  
15 Nobody would recommend a landfill  
16 without a liner, so it is a dump. In  
17 addition to the absence of a liner,  
18 excavations have been alleged fifteen  
19 feet below the current grade, which  
20 further exacerbates the problem of not  
21 having a liner.

22 In addition, the current landfill  
23 has been presumably capped, but it has

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1 all kinds of problems: flat spots,  
2 depressions, fractures, outbreaks, and  
3 so on. And as a function of that, the  
4 current cap does not seem to be quite  
5 adequate to deal with the problem. The  
6 landfill slopes are not recommended  
7 slopes. There are -- the prescribed  
8 slopes are three to one; these are,  
9 these slopes are much more, much  
10 steeper.

11 A couple of things ought to be  
12 considered when dealing with these  
13 slopes, some corrective measures. One  
14 of them would be that denting would be  
15 put on the surface, that they would be  
16 terraced, or they would put retaining  
17 walls, or they would put traprock or  
18 they would encroach on the wetlands, or  
19 the solution would have to be to shave  
20 the slopes, or remove the material from  
21 the slope back to the top; or they would  
22 do all of these things. But something  
23 must be done toward the three to one

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1 slopes.

2 Because the landfill doesn't have  
3 any manifest records, as I indicated at  
4 our last meeting, this leads to  
5 testimony that this is in fact a dump  
6 and not a landfill. And another idea  
7 that has surfaced, or another constraint  
8 has surfaced. In the last meeting when  
9 discussing the idea of other remedies,  
10 one was that the bedrock was fractured  
11 below the surface; and as a result of  
12 that, that even further exacerbates the  
13 problems, because any leachate will now  
14 get into the bedrock, will get into the  
15 aquifer. So that puts the town at  
16 further risk.

17 In addition, it's been alleged that  
18 the rail bed has subsurface piping that  
19 has not been plugged. Currently the  
20 site security is at a minimum, and there  
21 is a potential for the addition of  
22 unauthorized materials and all sorts of  
23 other problems.

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1                   So as a result of all of these  
2 constraints, I think that we have a  
3 special need to deal with the cap,  
4 because the cap, if not properly put in  
5 place, generates even more and more  
6 leachate and puts all of those issues  
7 that I just mentioned at risk.

8                   What we have now, for a collection  
9 system, is -- Content Brook apparently  
10 serves as a role of disposing of some of  
11 the leachate. That has to be checked.  
12 There has to be something put in the way  
13 of between the dump and the brook.

14                   Benchmark testings must be done in  
15 a tighter time frame and they must be  
16 preservedd, not thrown away. If -- what  
17 we need is the benchmark tests put in  
18 little bottles and we can watch them.  
19 Again, we don't know what's in that  
20 landfill, and our sophistication with  
21 checking chemicals is not geared to  
22 checking the things that we don't know  
23 all the problems right now. So we

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1 should put those bottles away and look  
2 at them as the thirty-year maintenance  
3 cycle goes through.

4 We should put test wells, but not  
5 just one set of test wells. They should  
6 be -- I would call them shells, or onion  
7 skins, that round the, around the site.  
8 Perhaps -- and a minimum of two -- and  
9 to watch the leachate lateral migration,  
10 because the leachate lateral migration  
11 is going to be a problem in the future.  
12 We don't know what's going to happen to  
13 this dump because we don't know what is  
14 in this dump, and we don't know if the  
15 EPA's solution, if it doesn't involve a  
16 total, one hundred percent solution for  
17 a cap, what that will do five years, ten  
18 years, fifteen years, twenty years, and  
19 so on down the cycle.

20 We need to have some control plans  
21 and those control plans should be fully  
22 funded up front, not later. There  
23 should be some assurances.

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1                   The notion of a bond or an escrow  
2 account or some such thing like that  
3 must be put in place so that it can be  
4 paid for, because the third problem,  
5 beyond the documentation and the  
6 oversight, was the finances. It's  
7 already been brought out by a number of  
8 previous people. The finances are not  
9 there when we need them to react to the  
10 problem. As a result, the people in  
11 that area, the town of Billerica, the  
12 town of Tewksbury, are all put at risk  
13 for that third problem, which is  
14 finances.

15                   The stack monitoring. There's a  
16 gentleman previously who spoke of it,  
17 Mr. Williams. The stack monitoring  
18 should be done before and after the -- I  
19 spoke with Mr. Williams and we had a  
20 very interesting discussion about this,  
21 and I would hope that the EPA would  
22 require before and after stack  
23 monitoring. We are not going -- we

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1 should not incinerate chemicals like  
2 PCB's and PVB's at temperatures of four  
3 to six hundred degrees. You need  
4 eighteen hundred degrees for those  
5 particular chemicals. Others need  
6 different temperatures. We should find  
7 out what we're burning before we put it  
8 into the air.

9 The groundwater treatment must be  
10 offsite. It's far too costly to build a  
11 groundwater treatment plant onsite and  
12 defend it. And what I mean is that it  
13 would be subject to vandalism. All it  
14 will take is one vandalism attack to  
15 render our whole operation useless for  
16 long periods of time.

17 There is no way we are going to  
18 reclaim the spillages from an act of  
19 vandalism or a mechanical breakdown on  
20 site. We must have disaster recovery  
21 procedures and event management, and in  
22 no case should the documentation of this  
23 site ever not be a public record. The

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1 problem with this landfill -- again, I  
2 said the two major problems were  
3 documentation and oversight. You cannot  
4 oversee that which you, that which is a  
5 secret. So all of the documentation  
6 should be a matter of public record sent  
7 to the board of selectmen, the board of  
8 health, and to the Billerica Public  
9 Library for those folks that are  
10 interested in finding out the progress  
11 of the maintenance the EPA will put  
12 forward.

13 I'm not going to get into an awful  
14 lot of other details about a couple of  
15 other issues, but I just wanted to leave  
16 the EPA with the notion that we should  
17 have adequate documentation. We should  
18 look to the future so that we can  
19 manage, successfully manage and react in  
20 a timely fashion, to events that we have  
21 no idea will happen at this time because  
22 we have no idea what is in that  
23 landfill.

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1                   And the last remark I'd like to  
2                   make is that, because the town, this is  
3                   the last time the townspeople and the  
4                   town will have an opportunity to comment  
5                   on the details of the EPA's plans and  
6                   remedies, that I plan on filing, and I  
7                   would assume that the board of selectmen  
8                   ultimately will plan on filing, in  
9                   addition to some of the remarks I made,  
10                  other remarks plus some questions for  
11                  the EPA to answer that there are no  
12                  answers for at this time, as we learned  
13                  at the last comment period.

14                 I would like to thank the EPA for  
15                 providing us this opportunity to provide  
16                 comments. I'd also like to thank them  
17                 for extending the comment period to  
18                 allow the townspeople to react to your  
19                 recommendations. In summary, I believe  
20                 we should have a total cap, and we  
21                 should have an adequate groundwater and  
22                 leachate collection system. And I'm not  
23                 an engineer so I don't know what that

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1 is. Other folks can speak to that.

2 Thank you.

3 MS. LESHEN: I'd like to call  
4 Arthur Doyle.

5 MR. DOYLE: Most of it's been said.  
6 I don't like to reiterate, but as a town  
7 selectman and a committee member, I want  
8 to stress the fear that the money will  
9 not be there to complete this job. We  
10 hoped that you would have the money up  
11 front so that when you're fifty percent  
12 or seventy-five percent along with the  
13 job, you won't walk away from the job.  
14 If the money is in an escrow account, we  
15 know it's guaranteed. We know the money  
16 is there, and the job will be completed.  
17 This is a fear of most of us in the  
18 town.

19 Also, too, an ongoing project  
20 report should be sent to the board of  
21 selectmen, the board of health, and even  
22 a coopy to the library, so that we  
23 could, anybody could get their hands on

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1 it, and read it, so there won't be any  
2 surprises, and the work being done on  
3 this project, and we'll know what's  
4 going on on an ongoing -- and there  
5 won't be anything confidential in this,  
6 because there shouldn't be anything  
7 confidential. I want to see everything  
8 kept above board, so that we all know  
9 what's going on during the cleanup.

10 I want to thank the EPA for giving  
11 us this opportunity to stress our  
12 feelings on this. Thank you.

13 MS. LESHEN: If anyone would like  
14 to make additional comments, you can  
15 just put up your hand, and we have  
16 additional cards, but we also have two  
17 people that would like to make a  
18 comment. I'll call Christine Chisholm.  
19 Christine Chisholm.

20 MS. CHISHOLM: I've been living in  
21 Billerica all my life, and I'm an  
22 environmental scientist. I was asked to  
23 look over some of the documents. I

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haven't been with the Superfund Action Committee as long as some other people have, but I was able to make some technical advisory comments to the Superfund Action Committee.

A comment was made at the last meeting, 2/5/91, that the caps are atypical, liners are the norm, and caps are a fix. While in the mid-'60s, the Department of Natural Resources gave a permit to the Shaffer's on the condition that a liner be put in, a liner was never installed into the landfill, and the landfill was actually excavated fifteen feet below the groundwater table. Therefore we want the best fix for this landfill, a total reconstruction of the cap, as other people have mentioned.

The EPA's remedy assumes that over time, contamination levels in the groundwater will decrease. Given the current contamination levels adjacent to

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1 the landfill and the absence of  
2 groundwater treatment, I feel that  
3 detailed and rigorous groundwater  
4 monitoring program is necessary to  
5 ensure that the cap is achieving its  
6 design criteria. It is imperative that  
7 this monitoring program include  
8 contingencies for groundwater treatment  
9 should contamination levels increase  
10 above the maximum contamination levels,  
11 or the MCL's.

12 I suggest that the monitoring  
13 program include a series of monitoring  
14 wells adjacent to the landfill and a  
15 series adjacent to the property lines.  
16 Prior to this, a round of current  
17 groundwater and surface water samples  
18 should be taken in order to adequately  
19 assess current contamination levels.  
20 The last round of samples was taken in  
21 1988, two years ago. With groundwater  
22 movement occurring, according to the  
23 EPA, at 50 to 500 feet per year, a

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1 two-year monitoring gap or sampling gap  
2 seems to be a rather inadequate  
3 assessment of current levels, and  
4 therefore an inadequate basis for  
5 current or design criteria.

6 I agree with EPA regarding the  
7 on-site collection of leachate and the  
8 off-site treatment of this leachate. I  
9 also agree with the perimeter fence and  
10 I'm rather surprised that we are now  
11 just getting this fence. I also want to  
12 reiterate the point that JoAnne made, to  
13 initiate a natural resource damage  
14 assessment as provided by CERCLA. Thank  
15 you.

16 MS. LESHEN: I'd like to call  
17 Robert Donati.

18 MR. DONATI: Hi. I live on 302  
19 Andover Road. I'm also an environmental  
20 engineer who has worked on the Superfund  
21 sites for several years, so I'm familiar  
22 with the activities that take place.

23 The entire effectiveness of the

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1 remedial design that EPA chose is  
2 contingent upon the integrity of the  
3 cap; That is, that the cap would  
4 completely isolate the waste, reducing  
5 the migration of leachate into the  
6 groundwater and resulting in an overall  
7 reduction of groundwater contamination  
8 levels. The remedy also assumes that  
9 the existing cap was properly installed  
10 to begin with. That is, proper  
11 compaction and moisture content  
12 requirements were attained. And given  
13 the past history of the landfill  
14 activities, I think this is a very  
15 generous, if not unfounded, assumption.  
16 In the documents I read there's no  
17 information to indicate that the  
18 landfill cap was installed properly to  
19 begin with.

20 Throughout the remedial  
21 investigation report, there were  
22 concerns raised regarding the integrity  
23 of the existing cap. These concerns

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1 included inadequate and inconsistent  
2 thicknesses of the impermeable clay  
3 layer, topsoil layer in many areas not  
4 thick enough to support vegetation to  
5 prevent erosion, lack of a sufficient  
6 drainage layer, or any drainage layer  
7 for that matter, and I think most  
8 importantly, concerns that the cover may  
9 not adequately protect against frost  
10 damage to the clay layer. There's test  
11 pits and permeability testing  
12 information results that have been  
13 conducted that support that conclusion.

14 I think while the EPA option  
15 addresses some of these problems, I  
16 don't think it addresses the two most  
17 important ones, that is, whether the  
18 existing cap was properly installed and  
19 in the absence of any drainage layer,  
20 with the option that's selected, that  
21 this would prevent frost damage to the  
22 clay layer.

23 Given all the concerns raised and

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1 the RI and other reports, it would  
2 appear obvious to me and apparently to  
3 everybody else that's been up here  
4 tonight that without groundwater  
5 treatment, the only remedy of choice  
6 would be a total reconstruction of the  
7 cap, a cap that includes a liner, a  
8 drainage layer, a filter layer, and a  
9 vegetative cover. This also meets EPA's  
10 recommendations for the design. A cover  
11 design that just satisfies the '84  
12 consent decree does not appear to be  
13 adequate.

14 In addition, along with the  
15 reconstruction, I think it's necessary  
16 that we institute strong institutional  
17 controls to prevent human exposure to  
18 the soils and groundwater, to prevent  
19 any groundwater on that site from being  
20 used for drinking in the future. Thank  
21 you.

22 MS. LESHEN: At this point I would  
23 like to ask, is there anyone else that

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1 would like to make a comment into the  
2 record? You can go again. Is there  
3 anyone else? Is there anyone else that  
4 would like to make a comment into the  
5 record?

6 MR. DELOREY: David Delorey.

7 There's one thing that is very striking  
8 in the EPA's matrix, the recommended  
9 matrix, and that is that one of them is  
10 to do nothing, which is one absurd  
11 solution to the problem. But the other  
12 absurd solution to the problem that is  
13 not priced out, so that we can find out  
14 what the real limits are, is to do right  
15 by what all the regulations are in place  
16 right now; that is to put a liner under  
17 the landfill. No one priced that part  
18 out.

19 Now, I admit it's an exercise, but  
20 so isn't doing nothing. But it does  
21 frame the problem. And, you know, to  
22 really solve the problem, I think, is to  
23 dispose of all the materials in the

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1 proper fashion and convert the dump into  
2 a landfill. So I would appreciate the  
3 EPA just taking a look at that, just to  
4 frame the price, to make sure that when  
5 this goes, it will end up in court in  
6 terms of assessing the costs, that the  
7 courts are apprised of how reasonable  
8 the solution put forth tonight is, in  
9 terms of the current -- of the  
10 recommendation's implementation, which  
11 I, which I would say would be in the  
12 tens of millions, if not in the hundreds  
13 of millions of dollars to do that  
14 solution. And I think that that serves  
15 the responsible parties well. Thank  
16 you.

17 MS. LESHEN: Is there anyone else  
18 that would like to read a comment into  
19 the record this evening?

20 Hearing no further requests, I will  
21 close the hearing this evening. People  
22 are welcome to submit written comments  
23 to our office by March 16. They should

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1 be addressed to Don McElroy, and his  
2 address is on the back of the proposed  
3 plan. The comments received this  
4 evening, February 5, as well as any  
5 comments received in writing prior to  
6 March 16 will be responded to in writing  
7 in a document called a Responsiveness  
8 Summary, which will be attached to a  
9 decision document called a Record of  
10 Decision.

11 The proposed plans, if anyone needs  
12 one, are at the desk coming in, as well  
13 as there is additional information in  
14 terms of the remedial investigation and  
15 feasibility study, which are available  
16 in the Billerica Public Library, as well  
17 as our offices in Boston.

18 Hearing no further comments, I will  
19 close the hearing this evening.

21 (Hearing closed)

22  
23  
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I, ELIZABETH M. BROOKS, Registered Professional Reporter, do hereby certify that the foregoing testimony is true and accurate, to the best of my knowledge and ability.

WITNESS MY HAND, this 22nd day of February, 1991.

  
-----  
Elizabeth M. Brooks

EMB/ed

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