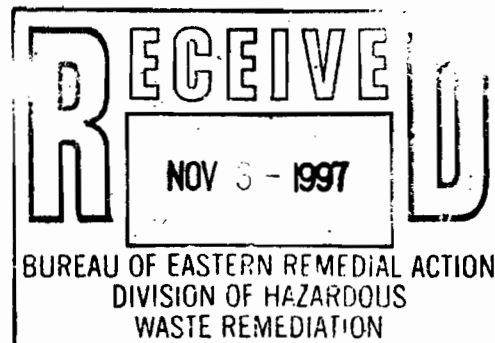


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**RECORD OF DECISION AMENDMENT**

**Haviland Complex**

**Hyde Park, NEW YORK**



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION II**

**NEW YORK, NEW YORK**

**DECLARATION STATEMENT  
RECORD OF DECISION AMENDMENT**

**SITE NAME AND LOCATION**

Haviland Complex  
Hyde Park, New York

**STATEMENT OF BASIS AND PURPOSE**

This decision document presents the selected modification to the original remedial action for the Haviland Complex site (the Site), located in Hyde Park, New York. The original remedial action was selected in the Record of Decision (ROD) issued by the United States Environmental Protection Agency (EPA) on September 28, 1987.

The modification to the original remedy was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision document explains the fundamental changes to the remedy previously selected for the Site.

The New York State Department of Environmental Conservation (NYSDEC) concurs with the modification to the selected remedy. A letter of concurrence from the NYSDEC is attached to this document (Appendix 1).

The information supporting this remedial action decision is contained in the administrative record for the Site. The index for the administrative record is attached to this document (Appendix 2).

**ASSESSMENT OF THE SITE**

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response actions selected in the September 28, 1987 ROD, as revised by this Record

of Decision Amendment, may present an imminent and substantial threat to the public health, welfare, or the environment.

#### DESCRIPTION OF MODIFICATION TO THE SELECTED REMEDY

The modification to the selected remedy addresses the provision of a public water supply to site residents and the extraction and treatment of contaminated groundwater within the study area.

The major components of the modification to the selected remedy include:

- . Continued use of existing whole-house groundwater treatment systems on affected residences to prevent exposure to low level groundwater contamination.
- . Maintenance of filters and semi-annual monitoring of homes affected by low level contamination present in the aquifer until three consecutive years of sampling indicate that the well water meets Federal and State drinking water standards.
- . Elimination of the public water supply system portion of the 1987 selected remedy.
- . Natural attenuation of contaminants in the aquifer to below Federal and State drinking water standards.
- . Elimination of the groundwater extraction and treatment system portion of the 1987 selected remedy.
- . Implementation of a groundwater monitoring program.

The remaining component of the original remedy as selected in the September 1987 ROD is not affected by this modification. This component is:

- . Removal and disposal of the contents of four septic tanks in the study area which represent the source control portion of the remedy. This action was completed in 1990.

#### EXPLANATION OF FUNDAMENTAL CHANGE

This ROD Amendment describes the fundamental changes to the September 1987 ROD issued by EPA for the Haviland Complex Superfund Site and concurred on by NYSDEC.

The remedy specified in the 1987 ROD included: the removal of the source of contamination, i.e., contaminated septic systems (completed in 1990), the remediation of the aquifer through extraction and treatment of contaminated groundwater and discharge to surface water, and the provision of public water to the study area. The aquifer was to be remediated to Federal and State drinking water standards.

The levels of contamination observed in the aquifer in 1987 have now diminished to levels near or below Federal and State drinking water standards in both monitoring wells and affected residential wells. As a result, the extraction and treatment of groundwater and the provision of a public water supply system, do not need to be implemented to ensure the protection of human health and the environment.

The modified remedy will rely on natural attenuation to reduce contaminant levels in the groundwater to Federal and State drinking water standards; modeling indicates these standards will be achieved in one to six years. The presently installed whole-house potable water filtration systems will be maintained until three consecutive years of semi-annual sampling demonstrates that the influent (untreated) water is below drinking water standards. The aquifer will also be monitored to ensure that no other homes become impacted by site-related contamination.

#### DECLARATION STATEMENT

This modification to the selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable, or relevant and appropriate to the remedial action, and is cost-effective. This

water standards in both monitoring wells and affected residential wells. As a result, the extraction and treatment of groundwater and the provision of a public water supply system, do not need to be implemented to ensure the protection of human health and the environment.

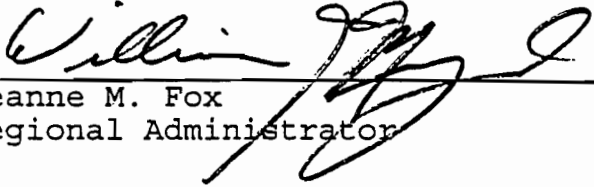
The modified remedy will rely on natural attenuation to reduce contaminant levels in the groundwater to Federal and State drinking water standards; modeling indicates these standards will be achieved in one to six years. The presently installed whole-house potable water filtration systems will be maintained until three consecutive years of semi-annual sampling demonstrates that the influent (untreated) water is below drinking water standards. The aquifer will also be monitored to ensure that no other homes become impacted by site-related contamination.

#### DECLARATION STATEMENT

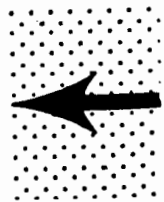
This modification to the selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable, or relevant and appropriate to the remedial action, and is cost-effective. This modified remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for the Site.

Because the selected remedy will result in hazardous substances remaining on the Site above health-based levels, a review will be conducted within five years after commencement of the remedial action to ensure that the selected remedy continues to provide adequate protection of human health and the environment.

EPA has determined that its future response at this Site does not require additional physical construction. Therefore, the site now qualifies for inclusion on the Construction Completion List.

  
\_\_\_\_\_  
Jeanne M. Fox  
Regional Administrator

8/1/97  
\_\_\_\_\_  
Date

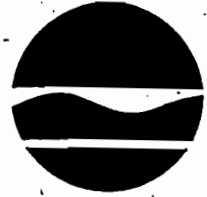


**APPENDIX 1**

Concurrence Letter from the NYSDEC

JOHN L.

New York State Department Of Environmental Conservation  
50 Wolf Road, Albany, New York 12233-7010



John P. Cahill  
Acting Commissioner

MAY 19 1997

Mr. Richard Caspe  
Director  
Emergency & Remedial Response Division  
U.S. Environmental Protection Agency  
Region II  
290 Broadway  
New York, NY 10007-1866

Dear Mr. Caspe:

Re: Draft Record of Decision  
Haviland Complex Site ID No. 314059

The New York State Department of Environmental Conservation and the New York State Department of Health have reviewed the above-referenced document. The amendment calls for reducing the current remedy of a) installation of a public water supply and b) pumping/treating of the contaminated groundwater as specified in the original ROD of September 1987. The only remedy under the amendment will be natural attenuation of residual contamination in the aquifer and continued use of carbon filter systems at homes with affected wells.

We concur with the amendment as proposed. If you have any questions, please contact Sal Ervolina at (518) 457-4349.

Sincerely,

Michael J. O'Toole, Jr.  
Director  
Division of Environmental Remediation

RECEIVED  
MAY 21 1997

## APPENDIX 2

### Index for the Administrative Record



HAVILAND COMPLEX SITE  
ADMINISTRATIVE RECORD FILE AMENDMENT  
INDEX OF DOCUMENTS

4.0 FEASIBILITY STUDY

4.3 Proposed Plan

- P. 005 0051- Plan: Superfund Post-Decision Proposed Plan.  
005 0058 Haviland Complex, Hyde Park, Dutchess County, New  
York, prepared by U.S. EPA, Region II, August  
1996.

5.0 REMEDIAL DESIGN/REMEDIAL ACTION

5.7 Reports

- P. 005 0059- Report: Haviland Wells Site, Hyde Park, New York.  
005 0368 Groundwater Flow and Transport Modeling Final  
Report, prepared for U.S. EPA, Region II, prepared  
by Ebasco Services Incorporated, September 13,  
1989.
- P. 005 0369- Report: Haviland Complex Wells Site, Summary  
005 0400 Report of Groundwater Investigations, prepared by  
Ebasco Services Incorporated, March 1991.
- P. 005 0401- Letter to Mr. Kevin Willis, Remedial Project  
005 0444 Manager, U.S. EPA, Region II, from Mr. Frank A.  
Cavacini, Site Manager, Ebasco Constructors Inc.,  
re: ARCS II Program - EPA Contract No. 68-W8-0110,  
Work Assignment No. 033-2RE5, Haviland Wells  
Complex-Hyde Park, New York, Final Report,  
September 23, 1991. (Attachments: Attachments 1 -  
3).
- P. 005 0445- Report: Haviland Complex Site, Hyde Park, New  
005 0478 York, Groundwater and Water Level Data Report,  
prepared for U.S. EPA, Region II, prepared by  
Environmental Response Team, Environmental  
Response Branch, U.S. EPA, June 1992.

- P. 005 0479- Report: Groundwater Modeling at the Haviland  
005 0541 Complex Site, Hyde Park, New York, prepared by  
Milovan S. Beljin, Ph.D., HydroLink, and Randall  
R. Ross, EPA Robert S. Kerr Research Laboratory,  
December 1992.
- P. 005 0542- Memorandum to Mr. Kevin Willis, Remedial Project  
005 0649 Manager, U.S. EPA, Region II, from Royal J.  
Nadeau, Ph.D., Environmental Response Team,  
Environmental Response Branch, U.S. EPA, Region  
II, re: Report on Groundwater Chemistry and Water  
Level Determinations at Haviland Complex NPL Site  
- Hyde Park, New York - November Sampling, January  
19, 1993.
- P. 005 0650- Letter to Mr. Kevin Willis, U.S. EPA, Region II,  
005 0681 from Mr. Richard Rienzo, Site Manager, Ebasco  
Environmental, re: Haviland Complex Site Remedial  
Design, Summary Report of Groundwater Investi-  
gation, September 28, 1994. (Attachment: Haviland  
Complex Wells Site, Hyde Park, New York, Summary  
Report of Groundwater Investigation, prepared by  
Ebasco Services Incorporated).

## 10.0 PUBLIC PARTICIPATION

### 10.4 Public Meeting Transcripts

- P. 005 0682- Public Meeting Transcript: U.S. EPA, Public  
005 0796 Meeting, Haviland Complex Superfund Site, Haviland  
Middle School, Hyde Park, New York, Wednesday,  
September 4, 1996.

## APPENDIX 3

### Responsiveness Summary

## APPENDIX 3

### RESPONSIVENESS SUMMARY

#### HAVILAND COMPLEX SUPERFUND SITE

##### INTRODUCTION

A responsiveness summary is required by Superfund regulation. It provides a summary of citizens' comments and concerns received during the public comment period, and the United States Environmental Protection Agency's (EPA's) and the New York State Department of Environmental Conservation's (NYSDEC's) responses to those comments and concerns. All comments summarized in this document have been considered in EPA's and NYSDEC's final decision for the selected remedy for the Haviland Complex site (Site).

##### SUMMARY OF COMMUNITY RELATIONS ACTIVITIES

Community involvement at the Site has been strong. EPA has served as the lead Agency for community relations and remedial activities at the Site.

The Post-Decision Proposed Plan (PDPP) for the Site was released to the public for comment on August 24, 1996. This document, together with the Remedial Investigation/Feasibility Study reports, two reports entitled "Summary of Groundwater Investigations," "Groundwater Modeling Report for the Haviland Complex Site," and others were made available to the public in the Administrative Record file at the EPA File Room in Region II, New York, in the information repository at the Hyde Park Town Hall, Route 9, Hyde Park, New York and in the Hyde Park Free Library, Hyde Park, New York. The notice of availability for the above-referenced documents was published in the Poughkeepsie Journal on August 24, 1996. The public comment period on these documents was open from August 24, 1996 to September 23, 1996. At the public meeting, Paul Prentice, a citizen, requested a thirty (30) day extension to the public comment period. This extended the comment period until October 23, 1996.

EPA conducted a public meeting on September 4, 1996 at the Haviland Middle School, Hyde Park, New York to discuss the Post-Decision Proposed Plan for the site and to provide an opportunity for the interested parties to present oral comments and questions to EPA.

Attached to the Responsiveness Summary are the following Appendices:

Appendix A - Post-Decision Proposed Plan

Appendix B - Public Notices

- Appendix C - September 4, 1996 Public Meeting Attendance Sheets
- Appendix D - September 4, 1996 Public Meeting Transcript
- Appendix E - Letters Submitted During the Public Comment Period

#### **SUMMARY OF COMMENTS AND RESPONSES**

Comments expressed at the September 4, 1996 public meeting and written comments received during the public comment period have been organized as follows:

- . Post-Decision Proposed Plan
- . Hydrogeology/Computer Model
- . Residential Well Sampling Data
- . Monitoring Well Sampling Data
- . Future Aquifer and Residential Well Monitoring Program
- . Miscellaneous

A summary of the comments and EPA's responses to the comments is provided below:

#### **I. Post-Decision Proposed Plan**

##### **A. Groundwater Remedy**

The community generally accepted the proposed No Further Action Remedy for the Site groundwater. For the most part, the comments raised with respect to this portion of the PDPP did not focus on the remedy itself, but rather on the analytical results and computer modeling activities which supported the proposed remedy; these comments are addressed in Sections II and IV below.

##### **B. Alternate Water Supply Remedy**

**Comment #1:** Many commenters, particularly representatives from the Town of Hyde Park and the local water providers/districts, expressed concern that the preferred remedy of No Further Action did not provide a permanent solution to the problem. They expressed a preference for a connection to a public water supply (i.e., Alternative AW-2) and indicated that it would be more

protective and would eliminate the need for groundwater monitoring.

**EPA's Response:** Since the issuance of the ROD, EPA has conducted several widespread groundwater investigations of the study area to reestablish a baseline of groundwater quality data. Monitoring data showed that the levels of contamination in the aquifer have exhibited a dramatic decrease to the present levels near or below State and Federal drinking water standards. In addition to groundwater monitoring of the affected homes and approximately 15 other wells in the Site area, three successive groundwater computer modeling efforts have been conducted to predict the future concentrations of contaminants in the aquifer. The groundwater monitoring data support the computer modeling predictions which estimate that the contamination in the aquifer will decrease to levels below standards in 1 to 6 years; as the sources of these contaminants have been remediated, this decrease in contaminant concentrations will represent a permanent reduction in contaminant levels.

Given the fact that the existing activated carbon filters reliably protect the seven serviced residences from the Site contamination, and the fact that modeling predicts that contaminant levels will reach drinking water standards within a few years, EPA and New York State believe that the levels of contamination observed in the aquifer no longer warrant the implementation of the public water supply and groundwater extraction portions of the 1987 ROD. Therefore, EPA has decided to amend the ROD and rely on the activated carbon filters, until it is confirmed that the levels of contaminants in the groundwater have permanently declined to levels below drinking water standards. This approach will provide an equivalent level of protection to the residents at far less cost than the remedy specified in the ROD.

It should be noted that although the officials from the Town and various water districts which serve the Town were in favor of the installation of a public water supply, it was apparent at the public meeting that there is a difference of opinion among the local residents in their desire to have a public water system. EPA received only two letters, both form letters, from residents which indicated a preference for public water. Some residents at the meeting indicated that they were not in favor of the public water, citing increased costs to them and possible elevation of the water table which could impact their residences. EPA's own door-to-door survey of residents whose homes are supplied with carbon filters also indicated that they were split on their desire for an alternate water supply.

**Comment 2:** The consulting engineer for the Harbourn Hills Water District stated that the emphasis of the 9/6/96 presentation was centered on seven homes along Haviland Road and wanted to know what assurances would be made to ensure the protection of other

entities in the study area, including the Haviland Middle School, and the Haviland Shopping Center and Haviland Complex Apartments.

**EPA's Response:** Alternative AW-1 is considered to be fully protective of all entities currently impacted or potentially impacted by the limited contamination present at the Site. The levels of contamination in the plume have naturally attenuated to the present levels which are near or below drinking water standards. Monitoring of the plume for the past 10 years has shown little deviation from the originally determined pathway. It should be noted that any further migration of the plume would result in further dilution of the contaminant levels in the plume.

Systems are or will be in place to ensure that each of the entities continue to have a potable water supply. Site-related contamination has never been observed in the Haviland Middle School water supply and none is expected to be observed in the future as the school's supply well is located in a separate and distinct aquifer than the aquifer which supplies the affected residents. Also, the school is required to perform annual sampling of its water supply. The Haviland Complex has been providing potable water to its residents and businesses since 1985, via its own water supply and its own water treatment facility, which is required to be sampled on a quarterly basis. The sampling of both facilities is required under New York State Sanitary Code Subpart 5-1, Public Water Systems, Public Health Law Sec. 225. The more frequent monitoring of the Haviland Complex Supply is due to the continued presence of trace organic contamination.

Finally, the modified selected remedies require the implementation of a routine monitoring program; homes along Haviland Road and Wright Avenue will be monitored as part of this aquifer monitoring.

**Comment 3:** Numerous commenters stated that they felt that the decision to not install the public water system was purely economically based. One commenter acknowledged that EPA has spent approximately \$1.3 billion on environmental cleanups in New York State, but wanted to know why such a relatively small sum as the approximately \$3 million could not be spent putting in the public water system.

**EPA's Response:** EPA utilizes nine criteria, one of which is cost to evaluate remedial alternatives. Two of the nine criteria, overall protection of human health and the environment, and compliance with applicable or relevant and appropriate requirements, must be satisfied before an alternative can be given further consideration; these two criteria are called the threshold criteria. Alternatives AW-1 and AW-2 both satisfy the threshold criteria and provide an equivalent level of protection of human health and the environment. The comparison of the two

alternatives provided in the PDPP and the Decision Summary of this ROD Amendment indicates that they are also similar with respect to most of the other criteria, however, Alternative AW-1 is much less expensive to implement than Alternative AW-2 and was therefore identified as EPA's preferred alternative. Furthermore, as stated previously, EPA did try to implement Alternative AW-2 for many years without success.

**Comment 4:** The Dutchess County Water and Wastewater Authority expressed their preference for the installation of the public water system, stating that the water pressure would be better, there would be no need for monitoring, and that a clean water supply would be available for all.

**EPA's Response:** Under the Superfund program, EPA must evaluate risks posed by a site and determine the best means of protecting human health and the environment from any risks deemed to be unacceptable. As noted above, EPA uses nine criteria to evaluate various options for remediating sites; in this case, the evaluation indicated that Alternative AW-1 is fully protective of human health and the environment and provides the best balance of trade-offs with respect to the evaluation criteria.

**Comment 5:** The Dutchess County Water and Wastewater Authority stated that the Hyde Park Fire and Water System has a significant excess of capacity which is creating a financial hardship to its district residents which would be somewhat relieved by expanding its district into the Haviland Complex area.

**EPA's Response:** As mentioned previously, EPA is required under the Superfund statute and the NCP to utilize nine specific criteria in evaluating remedial alternatives. As such, EPA is precluded from considering the Dutchess County Water and Wastewater Authority's development of excess capacity in its evaluation.

**Comment 6:** Two commenters stated that they were distressed as to the length of time it has taken to come to this decision.

**EPA's Response:** Since the ROD was issued, efforts to implement the design of the alternate water supply have been interrupted or delayed for a number of reasons, including some internal EPA contractual issues. The primary reasons for delays, however, were a result of the changes in the Town's desire as to the source of public water for the affected area. Since the ROD was signed, different administrations have indicated a desire to use water supply sources other than the HHWD supply wells, as well as recurring requests to reconsider HHWD. In fact, EPA has received eight written requests to change the source of water since the preparation of the 1987 ROD. These other sources included the Hyde Park Fire and Water District and the City of Poughkeepsie.



As explained in the response to comment #1, during the 10 years since the ROD has been signed, EPA has continued to monitor groundwater quality. Because contaminant levels have decreased to near or below drinking water standards, EPA has determined that no further remedial action is necessary at the Site to protect human health and the environment.

**Comment 7:** One commenter expressed that in October 1995, the Town of Hyde Park had held a public meeting and said that there was a firm plan to install the public water system into the study area and was wondering why this plan was not being carried out.

**EPA's Response:** At that time, EPA was still intending to implement the public water supply portion of the 1987 Record of Decision. EPA attempted for many years to implement the installation of the public water supply, but was unable to do so for many reasons, the most important being the frequent requests by the Town of Hyde Park to consider various and changing sources for the potable water. Also see EPA's response to Comment 1 for an explanation of EPA's decision not to install the public water system.

**Comment 8:** One commenter was concerned with the situation where his home at 16 Haviland Road was located between homes with State-maintained filters but his well was not augmented. He wanted to know how his well was to be protected.

**EPA's Response:** All homes with potable wells where VOC contamination was detected above drinking water standards were fitted with activated carbon filters. The well at 16 Haviland Road is unique relative to the other wells in that it has never been contaminated. This well is deeper than the wells at neighboring homes and is not drawing water from the contaminant plume.

Additionally, occasional sampling of this well will continue in the future as part of the monitoring program conducted by NYSDEC.

**Comment 9:** One commenter inquired as to what guarantee will be provided to the residents that their government-installed home filters be maintained in the future.

**EPA's Response:** The ROD Amendment requires that EPA and NYSDEC maintain the filters until three years of consecutive semi-annual sampling shows that contaminant levels in the affected wells are below drinking water standards. EPA and NYSDEC could only be relieved of this obligation through a subsequent amendment to the ROD; such an amendment would require notification of homeowners and other parties in the area, as well as a public meeting for citizens to comment on the proposed amendment.

**Comment 10:** The Harbourd Hills Water District Engineer inquired if there would be an impact to the selected remedy if the community insisted on being connected to the Hyde Park Fire and Water District.

**EPA's Response:** As noted above, EPA utilizes nine criteria to evaluate remedial alternatives, one of which is community acceptance. EPA fully considers community opinions and concerns before selecting or modifying a remedial action. Community acceptance was given full consideration during this process.

## **II. Hydrogeology/Computer Model**

**Comment 11:** One commenter inquired as to the accuracy of the pathways of contaminant migration depicted as output from the computer modeling of the study area.

**EPA's Response:** The flow-migration pathways shown during the public meeting were produced as part of the last computer modeling effort done by EPA in 1993. The flow lines drawn on the map were computer-generated and were calculated utilizing water-level measurements taken on one day. Together, they depict the general flow patterns within the aquifer.

The pathways shown approximate the path a molecule of water would likely follow in a system with invariable conditions. The pathway would fluctuate slightly in response to changing conditions within the aquifer (seasonal, precipitation, etc.), but would generally follow the projected path. EPA believes that the model's projected path is reasonably reliable and accurate because the model has been verified by comparing actual site conditions to what was generated by the computer.

**Comment 12:** One commenter expressed the opinion that the number of samples collected within the contamination plume needs to be increased to more accurately define the leading edge of the plume.

**EPA's Response:** EPA believes that the number of monitoring locations is more than adequate. The number of monitoring locations for this plume is actually greater than is typically the case for a plume of this size and levels of contaminants.

**Comment 13:** A commenter expressed concern that there could be a change in the direction of groundwater flow in the future, thus redirecting the flow of contamination into areas which were previously uncontaminated and opening up liabilities for entities performing development.

**EPA's Response:** EPA does not expect any significant change in the direction of groundwater flow. The direction of flow has not

changed significantly in the 10 years during which EPA has been observing the groundwater contamination at the Site. In the unlikely event that the direction of flow does change, EPA will be able to observe this change through its monitoring program and could take appropriate action, if any were required.

**Comment 14:** One commenter wanted to know how close the modeled degradation of the contaminant plume compared to the actual degradation of the plume.

**EPA's Response:** A computer model is verified by comparing the calculated results to data from the Site. If the anticipated computer-generated numbers correspond with actual field conditions, the model is considered to be accurate.

The results of the computer modeling were compared to the data gathered from potable and monitoring wells. The contamination in the aquifer appears to be attenuating at a more rapid rate than was anticipated by the computer model. EPA has continued to use the time frames described by the computer model, as a conservative means of predicting the attenuation of the plume.

**Comment 15:** One commenter referred to Figure 20 in the December 1992 report "Groundwater Modeling at the Haviland Complex Site, Hyde Park, NY" noting the following statement, "Figure 20 indicates that even after 10 years, concentration levels of Tetrachloroethene will not decrease below 10 ppb level" and asked if EPA believed in this computer prediction.

**EPA's Response:** As is often the case in modeling efforts, several retardation factors were evaluated. The retardation factor used in Figure 20 was more conservative than others used in the same modeling effort. Consequently, this retardation factor predicted higher levels of residual contamination than were predicted when using the other less conservative retardation factors. The text from which the commenter extracted the quote continues on to describe the relation of the retardation factors used in the modeling effort: "If the value of the retardation factor was reduced to a more reasonable factor of 6, after 10 years the concentration of Tetrachloroethene would significantly decrease (figures 24 through 26)". The data gathered since the modeling effort indicates that the contamination in the aquifer is attenuating at an even more rapid rate than was projected by the model and that retardation factors utilized to generate figures 24 through 26 are more representative of actual conditions than the retardation factors used to generate figure 20. Data collected from the potable well water also supports and confirms the model's accuracy.

### III. Residential Well Sampling Data

**Comment 16:** One commenter inquired if the data used in determining the trends of contaminant concentrations in the residential well samples were from filtered or unfiltered samples.

**EPA's Response:** All of the residential well data used in determining the trends were of water collected prior to, or upstream of, home filtration units.

**Comment 17:** Numerous commenters expressed concern with the fluctuations of contaminant concentrations in the raw (pre-filtered) potable water samples.

**EPA's Response:** Fluctuations of the magnitude observed in the semi-annual residential well sampling data are not unusual. This variation is due to the dynamic conditions which occur in an aquifer, such as seasonal changes or annual rainfall differences.

Although minor fluctuations have occurred, the sampling results from 1987 to date indicate that the concentrations of contaminants in the study-area aquifer have dropped by an order-of-magnitude to concentrations near or below drinking water standards. Given this significant decrease in contaminant concentrations, and the fact that the sources of contamination have been addressed, EPA feels confident that this trend will continue, and that a significant increase in contaminant levels will not be observed in the future.

**Comment 18:** A commenter raised concern that the homes along the western end of Haviland Road weren't tested between 1990 and 1992.

**EPA's Response:** NYSDOH sampled potable wells along the western end of Haviland Road in October 1996 and confirmed that there is no Site-related contamination in this area. This study confirmed the results of the last comprehensive study in the Site area conducted by NYSDOH in 1993. The outcome of that effort showed no Site-related contamination. Additional sampling of these wells will be performed by NYSDOH in mid-1997.

**Comment 19:** Three commenters raised the concern that the Haviland Middle School water supply well may be contaminated by Site-related contamination.

**EPA's Response:** The Haviland Middle School maintains its own potable water supply well and samples this well on an annual basis in accordance with New York State requirements. This well has never shown any indication of Site-related contamination. It is important to note that unlike the shallow wells in homes along Haviland Road which have been impacted by contamination in the

shallow aquifer, the Middle School well is a very deep bedrock well which draws water from a different aquifer than the aquifer utilized by the homes along Haviland Road.

**Comment 20:** The Dutchess County Water and Wastewater Authority expressed concern that the fluctuations in the potable well sampling results may have impacted the reliability of the computer modeling effort.

**EPA's Response:** The fluctuations in semi-annual sampling data for the residential wells are not unusual. The general trend of the contaminant levels in the aquifer is a more accurate indicator of the fate of contaminants in the aquifer. Computer modeling is used to predict a future trend given an initial set of conditions. Field data are collected and compared to the predicted trends in order to verify the model. The minor fluctuations in the home sampling data have no impact on the reliability of the computer model.

**Comment 21:** One commenter inquired as to why the graphs of residential well data presented at the meeting on September 4, 1996 were more recent than those published in the August 1996 report.

**EPA's Response:** The graphs presented at the public meeting did contain some new information. New York State monitors the affected residential wells on a semi-annual basis, typically every January and July. The week before the September 1996 public meeting, EPA received data from the July 1996 sampling of the residential wells. In order to make the latest information available to the public, EPA incorporated these data into its presentation that evening. These latest data represent a small addition to the previously existing data compiled from twelve rounds of sampling over six years, and are important in that they confirm the continuing decline of volatile organic contaminants in the groundwater underlying the Site.

#### IV. Groundwater Monitoring Well Data

**Comment 22:** A commenter expressed concern that EPA has apparently discontinued the sampling of some of the monitoring wells in the study area.

**EPA's Response:** EPA has only discontinued sampling of those monitoring wells which are no longer suitable for sampling; most of these wells were damaged by vehicles. During the development of the monitoring plan for the Site, EPA will assure that the aquifer is sampled in appropriate locations. If the integrity of a well has been compromised at any of these locations, or if a well was never present in one of these locations, new monitoring wells will be constructed in these locations. Any compromised wells will be appropriately decommissioned at that time.

**Comment 23:** The Harbours Hills Water District Engineer inquired as to the status of VOC contamination in the remainder of the study area aquifer outside of the plume.

**EPA's Response:** Only one well outside of the defined plume has shown groundwater VOC contamination above drinking water standards; this well is located immediately north of the affected homes (MW-24). MW-24 showed contamination decreasing to near or below drinking water standards up until the time the well was destroyed in the winter of 1992-1993. A replacement well will be installed at an appropriate location immediately upgradient of the effected homes as part of the future monitoring program.

**Comment 24:** Three commenters expressed concern that levels of chromium and nickel detected in 1992 were in excess of NYSDEC standards and wanted to know how EPA had addressed this contamination.

**EPA's Response:** In an effort to reestablish a baseline of groundwater quality data at the Site, EPA sampled existing monitoring wells in June 1992 and observed elevated levels of inorganic constituents in two wells in the aquifer immediately south of the Middle School. EPA had requested that the New York State Department of Health (NYSDOH) sample local residential wells to assure that there was no human exposure to these metals. NYSDOH sampling of the residential wells showed that there were no Site-related elevated levels of inorganic contamination in these residential wells. EPA resampled the monitoring wells in November 1992 and the results indicated that the inorganic contamination was a natural artifact of the aquifer itself. In June 1994, a comprehensive sampling of monitoring wells was conducted by EPA's contractor Ebasco, Inc. utilizing state-of-the-art sampling techniques (low-flow environmental sampling pumps to minimize induced turbidity). The results from this investigation were documented in the September 1994 "Summary Report of Groundwater Investigations," and indicated that the levels of all inorganic compounds in the groundwater were either not detectable or were below safe drinking water levels. This study again determined that the metals previously detected in the 1992 study were related to naturally occurring substances which were mobilized into the groundwater by the agitation from the sampling method. This report is available in the Site repository established at the local library.

#### **V. Future Aquifer and Residential Monitoring Program**

**Comment 25:** Commenters inquired about the scope of the monitoring program; one commenter wanted to know if all the homes in the study area would be sampled prior to the delisting of the Site in the future.

**EPA's Response:** NYSDOH has agreed to conduct a comprehensive sampling of homes throughout the study area in the near future. In addition, EPA and the State have already initiated discussions regarding the scope of the monitoring program and expect that this plan will be completed in the next few months. As indicated in the PDPP, the seven residences which have whole-house treatment units will be sampled on a semi-annual basis, until each round of sampling results over the course of three years indicates that all Site-related contaminants are below federal and State drinking water standards. Additional residential wells in the area will be monitored on a less frequent basis. A series of monitoring wells, some of which are existing and some which may be added as necessary to provide adequate information on the fate of contaminants in the aquifer, will also be sampled on an annual basis.

**Comment 26:** Two commenters inquired as to what would happen if contamination was released into the aquifer in the future. They insisted that the residential wells are vulnerable to contamination from future releases.

**EPA's Response:** As a result the elimination of the original discharges of hazardous substances to the aquifer, as well as EPA's 1990 remediation of the septic systems (these septic systems served as a continuing source of contamination of the aquifer) the levels of contamination in the aquifer have declined to close to drinking water standards. EPA has no reason to believe that the Site-related contaminant levels will increase in the future; however, if additional Site-related contamination were observed, EPA could install additional whole-house treatment units or move forward with additional investigation of the contamination, or if necessary, amend the ROD to allow for alternative remedial measures.

If non-Site related contamination were observed, for example originating from a residential septic system, EPA would work with the other appropriate government agencies such as the NYSDOH, NYSDEC or the County Health Department to determine the most appropriate course of action.

## VI. Miscellaneous

**Comment 27:** One commenter wanted to know if the "Haviland Complex Site" will be reduced in size considering that the contamination appears to be isolated to the southeastern quadrant of the study area.

**EPA's Response:** Although EPA is capable of deleting portions of sites, EPA has no current plans to do so at this site. Due to the characteristics of this site, it is likely that the Site would be deleted in its entirety, rather than in a piecemeal fashion.



**Comment 28:** A commenter inquired if EPA was trying to recover its expenditures from the Potentially Responsible Parties (PRPs) and whether a settlement was being sought with the school district and its governing State agencies.

**EPA's Response:** EPA is attempting to recover its expenditures at the Site from the PRPs who own the Haviland Complex. EPA had issued notice letters to the PRPs at the Site offering them the opportunity to implement the remedies specified in the 1987 ROD; the PRPs declined this offer. As is the case on most sites where PRPs decline to implement remedial activities, EPA is attempting to reach a settlement with the PRPs for recovery of the Agency's past costs by engaging in settlement discussions whereby the PRPs would voluntarily offer to reimburse EPA. It is anticipated that these negotiations will come to closure in the near future. If the settlement negotiations fail, EPA is prepared to refer the case to the U.S. Department of Justice for litigation.

EPA is not currently seeking a settlement with the school district.

**Comment 29:** One commenter stated that the Harbour Hills Water District has spent in excess of \$29,000 because of EPA involvement at the Haviland Site which would not have otherwise been spent and inquired about reimbursement.

**EPA's Response:** EPA acknowledges that HHWD may have expended as much as \$29,000 during the last few years of this project. Because of the difficulty in selecting the water source, EPA has also utilized considerable resources in an attempt to implement the public water supply portion of the ROD. As discussed previously, however, we believe that significant additional funds will not be required to ensure that the residents have a potable supply of water.

EPA cannot reimburse Harbour Hills for its past expenditures because such costs are not reimbursable under the Superfund statute.

**Comment 30:** The Harbour Hills Water District Engineer asked for an accounting for the funding spent at the Haviland Site.

**EPA's Response:** Approximately \$2.1 million has been expended at the Site. Over \$1.4 million was expended for the following contracted services: the RI/FS; the design and implementation of the septic tank cleanout and associated site restoration; the preliminary design for the provision of a public water supply; and groundwater sampling, analysis, and modeling, and associated reports. In addition, over \$600,000 was expended for EPA services including payroll, groundwater sampling, analysis, and modeling, NYSDEC oversight, and indirect costs.



**Comment 31:** One commenter expressed concern that the public comment period started on August 24, 1996 for a report that was not available until two days later on August 26, 1996.

**EPA's Response:** EPA had expected to have the PDPP available to the public on August 24. During the public meeting, EPA acknowledged that the PDPP was not available in the Town Hall until Monday, August 26. EPA considered this in the Agency's decision to extend the public comment period an additional 30 days, allowing sixty days in all for public comment.

**Comment 32:** A commenter wanted to know why all of the appropriate documents were not available at the designated repository (Hyde Park Free Library).

**EPA's Response:** Following the public meeting, EPA contacted the library and was informed that most of the information was in the repository with the exception of a few documents; EPA forwarded the additional documents and confirmed that they were received by September 20, 1996. The fact that these documents were not available at an earlier date was considered by EPA in its decision to extend the public comment period an additional 30 days to October 23, 1996.

**Comment 33:** One commenter was concerned with the fact that the notice of the 9/4/96 public meeting which was published in the Poughkeepsie Journal was placed in the middle of the sports section.

**EPA's Response:** EPA cannot always control the location of its newspaper notices. EPA had, in fact, requested that the Public Notice be put in the front section of the newspaper. Unfortunately, the notice did not appear in EPA's preferred location, and there was insufficient time to meet the newspaper's deadline for republication prior to the public meeting. It should be noted that EPA used other mechanisms to make the community aware of the comment period and meeting date including a press release, and mailing notices to each addressee on EPA's extensive mailing list for the Site.

**Comment 34:** A commenter wanted to know if a ROD expires.

**EPA's Response:** A ROD does not expire. A ROD describes the remedial activities required to be performed at a Site in order to protect human health and the environment. These activities must be implemented unless it is documented through a ROD amendment that the actions are no longer necessary to protect human health and the environment, or that other measures are more appropriate to achieving protection of human health and the environment.

**Comment 35:** A commenter inquired as to the source of the information stated on page 5 of the PDPP - "...the Town recently

passed a resolution stating that the Harboured Hills Water District facilities not be upgraded."

**EPA's Response:** Although the October 13, 1995 Town Resolution (10:13-1) did not specifically state that HHWD facilities should not be upgraded, it is implied as the following excerpt from the resolution indicates:

"...Whereas, the upgrade to the Harboured Hills Water District needed to supply potable water to the Haviland Complex will result in an undue financial burden on the residents of the Harboured Hills Water District" and,

"Therefore, be it resolved, that this Board urgently requests that the United States Environmental Protection Agency immediately proceed with the design and construction of the water mains and appurtenances needed to provide a reliable, potable water supply to the Haviland Complex a connection to the Hyde Park Fire and Water District."

**Comment 36:** A commenter inquired if the NYSDOH and NYSDEC both concurred with the PDPP.

**EPA's Response:** NYSDEC and NYSDOH had reviewed and concurred with the PDPP prior to its release to the public. The first paragraph of the PDPP indicates that NYSDEC concurred on the PDPP; the last page of the PDPP indicates that the State of New York concurs on the proposed modified remedy. During the public meeting Geoff Lacetti, a representative from NYSDOH, reiterated NYSDOH's concurrence with the PDPP.

**Comment 37:** The Harboured Hills Water District Engineer inquired as to what economic impact the "site" designation has upon properties within the study area.

**EPA's Response:** While EPA does not have information as to the specific impact the designation of a Superfund site has had on the community, in general, the value of property in the vicinity of many Superfund sites depreciates prior to site remediation. Fortunately, the elimination and remediation of the sources of contamination at the Haviland Complex Site has resulted in levels of contaminants declining to levels which approach drinking water standards; modeling predicts that all contaminant levels will meet drinking water standards within 1 to 6 years. As a result, EPA will also be able to move forward with the deletion of the Site from the NPL in the next few years. The fact that EPA and NYSDEC are specifying in this ROD amendment that no further remedial action is warranted at the Site, and that the Site should be deleted in the next few years should have a positive impact in restoring property values, assuming they had been affected.

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## ATTACHMENTS

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RECORD OF DECISION AMENDMENT SUMMARY  
Haviland Complex Site  
Hyde Park, New York

I. INTRODUCTION

The 275-acre Haviland Complex site consists of the Haviland Complex Apartments, the Hyde Park Middle School, the Smith School, the Haviland Shopping Center, and approximately 35 residences and small businesses located east of Route 9G in Hyde Park, New York. Hyde Park has an estimated population of 21,000 people. Approximately 20% of the population are connected to a public sewer system, and over 50% are served by a public or private water supply system. The remaining population, including the 35 residences and small businesses previously mentioned, obtain water from residential wells. Groundwater in the study area flows southeasterly and discharges into Fall Kill Creek.

The Dutchess County Health Department (DCHD) began to receive complaints concerning the groundwater quality in the site area in October 1981. A sampling program and septic system survey of the Haviland Complex area was initiated by DCHD in December 1981, which indicated that the Haviland Laundromat and Dry Cleaner and the Haviland Car Wash septic systems were failing. Subsequently, the car wash installed a new septic tank and the laundromat installed a pre-treatment system and a new tile field to handle its wastewater.

In December 1982, the New York State Department of Health (NYSDOH) began sampling the Haviland area groundwater. The sampling data indicated that levels of tetrachloroethylene (PCE) and dichloroethene (DCE) in the septic discharge from the laundromat exceeded New York State Department of Environmental Conservation (NYSDEC) discharge standards. As a result, in 1983, the laundromat was ordered to disconnect the dry cleaning operation from the septic system and to dispose of all spent dry cleaning fluids at a permitted disposal facility. All residents in the area were advised to use bottled water. Water treatment units were installed on the wells servicing the Haviland Complex Apartments and the

laundromat in 1984 and 1985, respectively, to remove organic contaminants. In February 1989, NYSDEC installed water treatment systems on homes with well water which exceeded State or Federal Maximum Contaminant Levels (MCLs), i.e., safe drinking water standards.

The site was proposed for inclusion on the National Priorities List (NPL) in October 1984, and placed on the NPL in June 1986. NYSDEC was designated as the lead agency for the Remedial Investigation and Feasibility Study (RI/FS).

Based on the results of the RI/FS, a Record of Decision (ROD) was signed on September 30, 1987, identifying the following: 1) clean the contaminated septic systems identified as the source of contamination; 2) extend public water from the nearby Harbourside Hills Water District (HHWD) to ensure a potable supply of water to the residents on private wells (EPA would enter into an agreement with the Town of Hyde Park to upgrade this system to meet New York State drinking water standards); and 3) extract and treat contaminated groundwater.

The cleaning of the septic systems, which represented the source control portion of the selected remedy, was completed by EPA on November 4, 1990. A sampling survey of the septic systems in the study area had identified four septic tanks at the Haviland Complex and the Hyde Park Middle School which were contaminated. These tanks were cleaned out and the sludges were sent off-site for treatment and disposal.

Since the signing of the ROD, there has been difficulty in agreeing on the source of the alternate water supply. On numerous occasions, Town of Hyde Park officials have requested that EPA evaluate sources of water other than the HHWD. In its latest request, the Town proposed that water from the Hyde Park Fire and Water District (HPFW) be utilized. It is also noted that since the signing of the ROD, the levels of groundwater contamination as measured in the monitoring wells have decreased significantly. Residential well sampling data also indicate that levels of contaminants entering impacted residential wells are decreasing. Consequently, EPA and NYSDEC decided to reevaluate the need for an

alternate supply of public water in the Site study area and the need for an active groundwater extraction and treatment system.

## II. HIGHLIGHTS OF COMMUNITY PARTICIPATION

The Post-Decision Proposed Plan (PDPP) for the Site was released to the public on August 26, 1996. The PDPP, along with all other Site-related documents, is available to the public at both the administrative record and the information repository locations. A notice to announce the public comment period on the PDPP, the public meeting to present the PDPP and the availability of the technical documents at the repositories was published in the *Poughkeepsie Journal* on August 24, 1996.

The public comment period began on August 24, 1996, and was scheduled to end on September 23, 1996. However, EPA granted a request to extend the comment period; the comment period closed on October 23, 1996. A public meeting was held on September 4, 1996 at the Haviland Middle School located in Hyde Park, New York. The purpose of the public meeting was to discuss the proposed amendment to the September 1987 ROD.

The responses to the comments received during the public comment period as well as those expressed verbally at the public meeting, are summarized in the Responsiveness Summary, which is an attachment to this Record of Decision Amendment.

This Record of Decision Amendment, presents the selected remedial action for the contaminated aquifer and contaminated residential wells at the Site, chosen in accordance with CERCLA as amended by SARA, and, to the extent practicable, the NCP, 40 CFR Part 300. The decision as made for the Site, is based upon the administrative record. An index for the administrative record is included as an attachment to this document. This Record of Decision Amendment will become a part of the administrative record file.

The administrative record file, containing the information upon which the modification to the original remedy is based, is available at the following locations:

Hyde Park Free Library  
2 Main Street  
Hyde Park, NY 12538  
914-229-7791

U.S. Environmental Protection Agency  
290 Broadway - Records Center  
New York, New York 10007-1866  
212-637-4308

Hours: Monday - Friday: 9:00 a.m. to 4:30 p.m.

### III. REASONS FOR ISSUING THE RECORD OF DECISION AMENDMENT

Site conditions have changed significantly since the issuance of the 1987 ROD; the sources of contamination have been remediated, the contaminant levels in the aquifer and at the impacted residential wells have decreased dramatically as have the risks associated with the site contamination. The following summary explains the changed contaminant levels and site risks.

#### Improvement in groundwater quality

Based on sampling data obtained from 18 monitoring wells, the RI report documented the presence of a low-level groundwater contamination plume, consisting of numerous volatile organic compounds (VOCs) (e.g., PCE concentrations ranging from 2.0 to 42.0 parts per billion (ppb)) and metals (e.g., lead and chromium at concentrations above drinking water standards). The contaminants were believed to be emanating from septic systems connected to the Haviland Shopping Center (Laundromat), Haviland Complex Apartments, and Haviland Middle School. It was determined that the plume generally migrated from the sources in a south-southeasterly direction and discharged into Fall Kill Creek. The RI also documented that several residential wells in this area were contaminated with VOCs.

Since the RI report was issued, residential and monitoring wells in the study area have been sampled on numerous occasions, and

computer modeling of the groundwater regime has also been conducted. These efforts were conducted to better define the nature and extent of groundwater contamination, and to quantify the benefits the groundwater treatment system would provide that would not be realized if this portion of the remedy were not implemented.

Additional sampling of the RI monitoring wells was conducted by EPA's contractor, Ebasco Services, in October 1988 and July 1990. These sampling results were summarized in a March 1991 report entitled the "Summary of Groundwater Investigations." The report documented the presence of a low-level volatile plume underlying the Site, flowing toward the Fall Kill Creek to the southeast. Localized PCE, PCE-breakdown products, and chlorobenzene plumes were documented in the southeastern portion of the main plume.

In June and November 1992, EPA's Environmental Response Team sampled the study area monitoring wells to provide a baseline of the levels of contamination in the aquifer at that time. Low-level VOCs above MCLs were only observed in MW-24 (8.1 ppb PCE, 6.8 ppb dichloroethene (DCE)) and MW-27B (7.8 ppb DCE), which are located immediately upgradient and downgradient of the affected homes. The drinking water standard for each of these contaminants is 5.0 ppb. Although, chromium was detected above standards in two wells during the June 1992 sampling event; the November 1992 sampling and additional results described below indicated that the inorganic contamination was a natural artifact of the aquifer itself.

Also, in June 1994, a confirmatory round of groundwater sampling data was collected by Ebasco which confirmed the continued presence of very low-level VOC concentrations in the shallow aquifer underlying the Site. All volatile concentrations were close to or below the New York State MCLs of 5 ppb for PCE, DCE, and chlorobenzene. These data indicated that the VOCs were still present but occurred at lower concentrations than what were observed previously. Levels of all inorganic compounds were either not detectable or were well below safe drinking water levels. The spreading of the plume described in the RI/FS and ROD had not occurred and the plume appears to be naturally attenuating. This information was documented by Ebasco in its September 1994 report entitled "Summary of Groundwater Investigations."



In order to monitor and maintain the effectiveness of the individual home water treatment units, NYSDEC has contracted for the sampling of the private potable wells for organic contaminants semiannually since 1989. NYSDOH reviews and tabulates the data, and then sends the results to the residents. Analyses of the well samples have demonstrated the trend of diminishing organic contamination in the aquifer. While maximum concentrations of 79 ppb of PCE, 190 ppb of chlorobenzene, and 27 ppb of DCE, were measured in some residential wells in 1985, 1983, and 1988, respectively, the contaminant concentrations observed in all of the private wells have diminished to levels near or below MCLs. At the September 1996 PDPP public meeting, some residents raised concerns that although residential wells with home water treatment units had been sampled frequently, other residences in the vicinity of the site had not been sampled recently. As a result, in October 1996 NYSDOH sampled selected residential potable wells which had not been sampled in over five years. The results of this sampling event, which were provided to the residents in November 1996, revealed that none of their homes had been impacted by contamination from the Site. Additional sampling of the homes with water treatment units in January and June of 1997 further supported the trend of diminishing contaminant levels in the aquifer. Maximum concentrations from the January 1997 sampling event of untreated water were 15 ppb of PCE and 12 ppb of chlorobenzene with no detectable concentrations of DCE or TCE. Results from the June 1997 sampling event showed maximum concentrations of 14 ppb of PCE, 9 ppb of chlorobenzene, 8 ppb of TCE, and 7 ppb DCE. In addition, Site-related metals contamination has not been observed in any of the potable wells in the study area.

#### IV. SUMMARY OF SITE RISKS

During the conduct of the RI/FS, a baseline risk assessment was conducted to estimate the risks associated with current and future site conditions. The baseline risk assessment, which was based on data obtained during the RI, estimated the human health risk which could result from the contamination at the Site, if no remedial action were taken. A summary of the baseline risk assessment and a recalculation of the risk using current data is presented below.

### Human Health Risk Assessment

The baseline risk assessment evaluated the health effects which could result from exposure to contamination as a result of ingestion. An apartment complex, a middle school, a shopping center, and approximately 35 private homes are contained within the site boundaries. All are occupied and use private wells for provision of potable water.

EPA's acceptable cancer risk range is  $10^{-4}$  to  $10^{-6}$ , which can be interpreted to mean that an individual may have one in ten thousand to one in a million increased chance of developing cancer as result of site-related exposure to a carcinogen over a 70-year lifetime under the specific exposure conditions at the Site.

The results of the baseline risk assessment conducted as part of the 1987 RI/FS indicated that, if used as a supply of household water, the groundwater at the Site posed unacceptable risks to human health and the environment. The risk assessment was indicative of a worst case total lifetime exposure to maximum organic concentrations at an assumed constant rate (drinking 2 liters of water daily for 30 years in an adult living to the age of 70 years). It was determined that the total cancer risk exceeded  $1 \times 10^{-3}$ , or 1 case in 1000. Most of this risk was due to the presence of vinyl chloride which has not been detected since 1987. Eliminating vinyl chloride from the risk assessment results in a calculated carcinogenic risk that is within EPA's acceptable risk range. Using current data, and applying these data to present standards (which are more stringent than those of 1987), the carcinogenic risk is calculated to be  $1.1 \times 10^{-5}$ , which is within EPA's acceptable range.

To assess the overall potential for noncarcinogenic effects posed by more than one contaminant, EPA has developed a hazard index (HI). This index measures the assumed exposures to several chemicals simultaneously at low concentrations which could result in an adverse health effect. When the HI exceeds one, there may be concern for potential noncarcinogenic effects.

In 1987, the concentrations all noncarcinogenic contaminants were compared with their respective subchronic and chronic intake levels and were found to be within acceptable intake levels. Using current data, and applying these data to present toxicological standards (which are more stringent than those of 1987), results in a noncarcinogenic risk Hazard Index of 1.

It is noted that the only exposure routes to humans at the Site are through ingestion and inhalation of VOCs via the contaminated groundwater. However, those residential wells which did exceed MCLs have been supplied with whole-house water treatment units. Furthermore, the levels of contamination observed in 1987 have now diminished to levels near or below MCLs in both monitoring wells and residential wells.

On three successive occasions, computer modeling was used to better understand the transport and fate of the groundwater contamination in the study area. The first effort, conducted as part of the RI, concluded that groundwater flowed from the identified sources through the area of contaminated residential wells to the Fall Kill. The second modeling event, which was conducted by Ebasco in 1989 to determine the optimum groundwater extraction rate for implementation of the remedy, identified declining levels of contamination in the aquifer.

The third modeling event was performed by EPA's Robert S. Kerr Environmental Research Laboratory in 1992. This effort, which focused on determining the fate and transport of the aquifer contamination, was documented in a report entitled "Groundwater Modeling Report for the Haviland Complex Superfund Site." Using 1987 and 1990 data, the report concluded that site contamination would be below MCLs within 5 to 10 years without pumping and treating the contaminated groundwater. The modeling also predicted, however, that, if implemented, extraction and treatment of the groundwater would result in the contamination declining to concentrations below State and Federal drinking water standards within about the same time frame of about 5 to 10 years. Since the modeling was done in 1992, the expected range of aquifer cleanup would be within about 1 to 6 years from today.

As a result of the significantly diminished groundwater contamination and site risks, as well as the computer modeling effort which indicates that the active groundwater extraction and treatment remedy called for in the 1987 ROD would not remediate the aquifer significantly more quickly than naturally occurring processes, EPA determined that the active groundwater treatment system was not cost-effective nor necessary to protect human health and the environment. Similarly, due to these changing conditions it was determined that the provision of a permanent alternate water supply was not cost-effective and that the maintenance of the existing whole-house treatment units would provide similar levels of protection at less cost.

#### V. DESCRIPTION OF REMEDIAL ALTERNATIVES

CERCLA requires that each selected site remedy be protective of human health and the environment, be cost-effective, comply with other statutory laws, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. In addition, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

This ROD Amendment evaluates two alternatives for addressing groundwater contamination, namely, Alternatives GW-1 and GW-2, and two alternatives addressing the alternate water supply identified as AW-1 and AW-2. Consistent with ROD amendment guidance, the components of the original remedy to be amended (Alternatives GW-2 and AW-2) have been updated and are being compared to new preferred alternatives (Alternatives GW-1 and AW-1) which were developed based upon existing site circumstances, including the groundwater monitoring and modeling data presented above. It should be noted that the time to implement reflects only the time required to construct, or implement the remedy and does not include the time required to design the remedy, negotiate with the potentially responsible parties, or procure contracts for design and construction.

The remedial action objectives for addressing groundwater contamination are to (1) protect human health by ensuring residents are not exposed to contaminated groundwater, and (2) reduce groundwater contamination levels to drinking water standards. The remedial action objective for the alternate water provision portion of the remedy is to protect human health by ensuring residents are not exposed to contaminated residential well water.

The alternatives for addressing the site groundwater contamination are:

**Alternative GW-1 - No Further Action/Natural Attenuation**

Capital Cost: \$0  
O & M Cost: \$5000/year (for 7 years)  
Present Worth Cost: \$24,873  
Time to Implement: 0

This alternative does not include active treatment of the aquifer; it relies upon natural attenuation to reduce the contamination below State and Federal drinking water standards. Based on groundwater modeling, it is estimated that natural attenuation processes would reduce levels of contamination in the aquifer to State and Federal drinking water standards within 1 to 6 years.

This alternative would include an annual groundwater monitoring program. Five monitoring wells located in the area would be utilized to monitor the aquifer upgradient and downgradient of the affected homes. Analytical data obtained from these wells would serve to demonstrate the progress of the aquifer remediation. Groundwater samples would be analyzed for inorganic and volatile organic parameters.

**Alternative GW-2 (Existing Remedy) - Groundwater Extraction, Treatment, and Discharge to Surface Waters**

Capital Cost: \$626,500  
O & M Cost: \$116,375/year (for 7 years)  
Present Worth Cost: \$1,205,439  
Time to Implement: One year

This alternative includes aquifer restoration through hydraulic containment and interception of the identified contaminant plume. Interception of contaminated groundwater would be accomplished using four stainless steel extraction wells, screened in the surficial aquifer, each pumping continuously at 20 gpm. Proper sizing and location of these wells would result in containment of the plume through modification of the groundwater gradient caused by the cones of depression around each well. Small areas of the plume which are already near the Fall Kill would continue to migrate until they enter the creek.

This alternative assumes that the extracted groundwater would require some treatment prior to discharge. Treatment technology for metals removal would consist of pH adjustment and precipitation. After metals treatment, the groundwater would be treated through an air stripper and then would be discharged to the Fall Kill. Worst-case emissions from the stripper were calculated to be insignificant in comparison to New York State standards. The design of the groundwater treatment system would be based on SPDES requirements which would be the more stringent of the effluent limitations for a class C water body or the water quality limitation for the Fall Kill.

Groundwater extraction and treatment offers long-range public health protection against consumption of contaminated groundwater. Based on site hydrogeologic conditions, the time required to rehabilitate the aquifer to acceptable State and Federal drinking water standards is estimated to be within 1 to 6 years.

Aquifer rehabilitation would be accompanied by an annual groundwater monitoring program. The sampling and analysis would utilize selected monitoring wells located in the study area. Analytical data obtained from these wells would serve to demonstrate the progress of the aquifer remediation. Groundwater samples would be analyzed for inorganic and volatile organic parameters.

The alternatives identified for an alternative water supply are:

**Alternative AW-1 - No Further Action/Continue to Maintain Whole-House Water Treatment Units**

Capital Cost: \$0  
 O & M Cost: \$27,053/year (for 10 years)  
 Present Worth Cost: \$166,082  
 Time to Implement: 0

This alternative would continue to address the low-level contamination present in the seven affected homes by maintaining the existing whole-house filters presently installed in these homes. The units consist of a sediment filter, an ultra-violet treatment unit and twin activated-carbon filtration cylinders. These homes have been sampled semi-annually by the NYSDEC; the sampling results indicate that the units are working quite effectively and have provided a safe reliable source of water for residential use while requiring minimal maintenance.

Water in these seven homes would continue to be monitored on a semi-annual basis. The units would be maintained by NYSDEC until three years of consecutive semi-annual rounds of sampling demonstrate that the well water meets Federal and State drinking water standards indicating that treatment will no longer be necessary.

**Alternative AW-2 (Existing Remedy) - Provision of Public Water to Study Area**

Capital Cost: \$3,147,969  
 O & M Cost: \$0  
 Present Worth Cost: \$3,147,969  
 Time to Implement: 18 months

This alternative provides for the extension of a local public water system into the study area. The ROD originally envisioned that EPA would enter into an agreement with the Town of Hyde Park to share in the costs to upgrade the Harbours Hills Water District Well water treatment system to meet NYSDOH standards. It is noted, however, because of residents' concerns about incurring costs associated with upgrading the HHWD treatment facilities, the Town

passed a resolution stating that the HHWD facilities not be upgraded. Furthermore, the Town of Hyde Park has requested that the HPFW be utilized as the water source. The water distribution network would be the same as that described in the ROD. The distribution system would be installed along the Haviland Road and Wright Avenue, and connections would be made by EPA from this distribution system to residences in the study area. This network would be connected to HPFW at a point approximately one-half mile away.

## VI. SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

During the detailed evaluation of remedial alternatives, each alternative is assessed against nine evaluation criteria, namely, overall protection of human health and the environment, compliance with applicable or relevant and appropriate requirements, long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short-term effectiveness, implementability, cost, and state and community acceptance.

The evaluation criteria are described below.

- o Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
- o Compliance with applicable or relevant and appropriate requirements (ARARs) addresses whether or not a remedy will meet all of the applicable or relevant and appropriate requirements of other Federal and State environmental statutes and requirements or provide grounds for invoking a waiver.
- o Long-term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met.



- o Reduction of toxicity, mobility, or volume through treatment is the anticipated performance of the treatment technologies a remedy may employ.
- o Short-term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.
- o Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
- o Cost includes estimated capital and operation and maintenance costs, and net present worth costs.
- o State acceptance indicates whether, based on its review of the RI/FS reports and Post-Decision Proposed Plan, the State concurs, opposes, or has no comment on the preferred alternative at the present time.
- o Community acceptance is assessed by reviewing the public comments received on the RI/FS reports, during the public meetings and the Post-Decision Proposed Plan.

A comparative analysis of these alternatives based upon the evaluation criteria noted above follows.

#### Groundwater Contamination

- o Overall Protection of Human Health and the Environment

Both Alternatives GW-1 and GW-2 would provide full protection to human health and the environment. Modeling predicts that the active extraction and treatment of the Site groundwater would result in contaminant levels being reduced to State and Federal groundwater and drinking water in 1 to 6 years. Modeling of the natural attenuation alternative also predicts that the ARARs would be achieved in 1 to 6 years. Nonetheless, the extraction and

treatment of the groundwater under Alternative GW-2 may provide a slightly more rapid removal of contamination from the aquifer than the natural attenuation process of Alternative GW-1. The exposure route to the people at the Site is through ingestion of groundwater or the inhalation of volatile contaminants from the groundwater. Private wells which contain levels of contaminants above drinking water standards have been fitted with individual water-treatment units, thereby ensuring a safe supply of potable water. The levels of contaminants entering these wells has been decreasing, and sampling of the water prior to and after treatment from these units indicates that the units are working effectively.

- o Compliance with ARARs

Both alternatives would comply with ARARs in approximately the same time frame. Modeling predicts that the no further action/natural attenuation Alternative GW-1 and the active groundwater extraction and treatment Alternative GW-2 would result in contaminant levels being reduced to State and Federal groundwater and drinking water standards in 1 to 6 years.

- o Long-Term Effectiveness and Permanence

Alternatives GW-1 and GW-2 would be equal in providing long-term effectiveness and permanence in that the groundwater contamination would be reduced below State and Federal drinking water standards within 1 to 6 years.

Alternative GW-2 would potentially result in greater long-term exposure to contaminants by workers who could come into direct contact with the concentrated sludges from the treatment system. However, proper health and safety precautions would be implemented to minimize exposure to the sludges.

- o Reduction in Toxicity, Mobility, or Volume Through Treatment

Under both alternatives, the volume and toxicity of the groundwater contaminants above ARARs would be reduced at approximately the same rate and would ultimately be eliminated in approximately the same time frame.

The mobility of the contamination plume would be reduced by actively extracting the groundwater under Alternative GW-2. It is assumed that even with the active groundwater extraction, some contamination would migrate into the Fall Kill, but a lesser amount than under the natural flushing conditions of Alternative GW-1. It is noted that sampling of the Fall Kill indicates that levels of the contaminants reaching the creek do not pose a threat to human health and the environment.

o Short-Term Effectiveness

There would be virtually no short-term impacts on human health and the environment by continuing to maintain the residential water treatment units under Alternative GW-1. Also, because the residential water treatment units are already installed, no time would be required to implement this alternative. However, construction activities associated with Alternative GW-2 (e.g., installation of extraction wells and underground piping, and construction of the treatment unit) would have potentially negative impacts on residents in the study area. While efforts would be made to minimize these impacts, some disturbances to residents would result from disruption of traffic, excavation activities on public and private land, noise, and fugitive dust emissions. It is estimated that the construction activities for Alternative GW-2 would take approximately one year to complete.

o Implementability

The technologies proposed for extracting and treating contaminated groundwater in Alternative GW-2 are proven and reliable in achieving the specified cleanup goals, however, Alternative GW-2 would be much more complex than Alternative GW-1 to implement. The design and construction of the groundwater extraction system would take approximately 2 years to complete. Alternative GW-2 would require that property be acquired/leased for the treatment unit and that access/easements be obtained from private and public property owners for the installation of piping and extraction wells. The operation and maintenance of the system would include the monitoring of the aquifer for system effectiveness, monitoring of the system emissions to determine compliance with permit equivalencies,

and the handling and disposal of the concentrated contaminated treatment residuals.

Alternative GW-1 would be more easily implemented, as it would only require the sampling of selected monitoring wells already in place once a year.

- o Cost

Alternative GW-1 has no direct costs associated with its implementation. The present worth of this alternative of \$24,873 is for implementation of an annual groundwater monitoring program. The capital and present worth costs of Alternative GW-2 are estimated to be approximately \$625,500 and \$1,205,439, respectively.

Both alternatives would provide a similar level of protection in a similar time frame, however, Alternative GW-1 would do so at a much lower cost.

- o State Acceptance

The State of New York concurs on the modified selected remedy.

- o Community Acceptance

The community generally seemed to be in favor of the modified selected remedy.

### **Alternate Water Supply**

- o Overall Protection of Human Health and the Environment

Both Alternatives AW-1 and AW-2 would provide full protection of human health. Both alternatives would prevent the potential exposure of residents at the Site through ingestion or inhalation of contaminants present in selected residential wells. Data from the sampling of the impacted residential wells has shown that the whole-house treatment units installed at these residences are fully effective and provide sustained protection with minimal maintenance.

The provision of public water to the site area described in Alternative AW-2 would not be more protective to the residents than what presently exists, but would preclude the need for future sampling of the impacted wells and maintenance of the whole-house treatment units.

- o Compliance with ARARs

Alternatives AW-1 and AW-2 would both comply with ARARs, the primary ARARs of concern being State and Federal drinking water standards. Neither Alternative AW-1 nor AW-2 would provide a significant advantage over the other with respect to ARARs.

Compliance with ARARs under Alternative AW-1 would be demonstrated via the home sampling and filter maintenance program. Compliance with ARARs under Alternative AW-2 would be demonstrated by the water supplier via regular sampling of the water distribution system as required by the State of New York.

- o Long-Term Effectiveness and Permanence

Because groundwater contamination is estimated to be completely attenuated within 1 to 6 years, Site-related contaminants would not be expected to impact the residential wells over the long term. Therefore, both alternatives would provide long-term protectiveness and permanence.

- o Reduction in Toxicity, Mobility, or Volume Through Treatment

A comparison of the two alternatives' abilities to satisfy this criterion is not necessarily applicable since the goal of the alternate water supply is to provide a potable supply of water and does not require that the toxicity, mobility or volume of contaminants be reduced to do so. Nonetheless, Alternative AW-1 would reduce the toxicity, mobility and volume of contaminants in the residential well water, and to a limited extent the aquifer. Alternative AW-2 would not provide any reduction of contaminants.

- o Short-Term Effectiveness

There would be virtually no short-term impacts to human health and the environment by continuing to maintain the residential water treatment units under Alternative AW-1. Also, because the residential water treatment units are already installed, no time would be required to implement this alternative. However, construction activities associated with Alternative AW-2 (e.g., installation of an underground water distribution system) would have potentially negative impacts on residents in the study area. While efforts would be made to minimize these impacts, some disturbances to residents would result from disruption of traffic, excavation activities on public and private land, noise, and fugitive dust emissions. It is estimated that the construction activities for Alternative AW-2 would take approximately 18 months to complete.

- o Implementability

Alternative AW-2 would require the design and construction of a public potable water distribution system and its connection to HPFW. The system would take approximately 18 months to construct. The technologies necessary for implementing this alternative are proven and reliable.

The implementation of Alternative AW-1 would require the continued monitoring and maintenance of the home filtration units.

- o Cost

Alternative AW-1 provides a similar level of protection as Alternative AW-2 but at a much lower cost. AW-1 has no direct capital costs associated with its implementation. The present worth cost of AW-1 is \$166,082 is based on annual costs of \$27,053 per year for the semi-annual sampling and maintenance of the whole-house treatment systems.

The total cost of Alternative AW-2 is estimated to be approximately \$3,147,969. The capital cost is based on the cost of connecting to HPFW which is estimated to be \$848,969 and construction of the

distribution system which is estimated to be \$2,299,000. While EPA and the NYSDEC would not incur any operating or maintenance expenditures under Alternative AW-2, residents connected to the system would have to pay for the water received, which is estimated to be approximately \$200 to \$400 per year.

- o State Acceptance

The State of New York concurs on the modified selected remedy.

- o Community Acceptance

While local officials clearly favored the original remedy, Alternative AW-2 (Provision of Public Water to the study area), residents in the area seemed to be divided in their preferences.

## VII. SELECTED REMEDY

Based upon an evaluation of the various alternatives, EPA and NYSDEC have determined that Alternative GW-1, No Further Action/Natural Attenuation, and Alternative AW-1, No-Further Action/Continue to Maintain Whole-House Filter Systems are the appropriate modified remedies for the Site.

These alternatives provide the best balance of trade-offs among alternatives with respect to the evaluating criteria in that they are protective of human health and the environment, comply with ARARs, are cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

## VIII. STATUTORY DETERMINATIONS

Under its legal authorities, the EPA's primary responsibility at Superfund sites is to undertake remedial actions that achieve adequate protection of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences that the selected remedy must meet. Section 121 of CERCLA specifies that when complete, the selected

remedial action for the Site must comply with ARARs established under Federal and State environmental laws unless a statutory waiver is justified. The selected remedy also must be cost-effective and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Finally, the statute includes a preference for remedies that employ treatment that permanently and significantly reduce the volume, toxicity, or mobility of hazardous wastes as their principal element. The following sections discuss how the selected remedy meets these statutory requirements.

Protection of Human Health and the Environment:

The modified selected remedy ensures that affected residences are protected from contaminants in the aquifer through the maintenance and monitoring of the whole house treated systems and is fully protective of human health and the environment.

Compliance with Applicable, or Relevant and Appropriate Requirements (ARARs):

Groundwater modeling predicts that the modified selected remedy for groundwater contamination will achieve ARARs, specifically the Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (40CFR 141.11-141.16), 6NYCRP Groundwater Quality Regulation (Parts 703.5, 703.6, 703.7) and NYS Sanitary Code 10 NYCRR Part 5 for contaminants in drinking water within six years.

Cost-Effectiveness:

The modified selected remedy is cost-effective and provides the greatest overall protectiveness proportionate to costs.

Utilization of Permanent Solutions and Alternative Treatment Technologies (or Resource Recovery Technologies) to the Maximum Extent Practicable:

The modified selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a cost-effective manner at the Site.



Preference for Treatment as a Principal Element:

The modified selected remedy utilizes point-of-use treatment of the Site groundwater. Treatment of the aquifer-at-large is determined to not be cost-effective at this Site.

## APPENDIX 3

### RESPONSIVENESS SUMMARY

#### HAVILAND COMPLEX SUPERFUND SITE

##### INTRODUCTION

A responsiveness summary is required by Superfund regulation. It provides a summary of citizens' comments and concerns received during the public comment period, and the United States Environmental Protection Agency's (EPA's) and the New York State Department of Environmental Conservation's (NYSDEC's) responses to those comments and concerns. All comments summarized in this document have been considered in EPA's and NYSDEC's final decision for the selected remedy for the Haviland Complex site (Site).

##### SUMMARY OF COMMUNITY RELATIONS ACTIVITIES

Community involvement at the Site has been strong. EPA has served as the lead Agency for community relations and remedial activities at the Site.

The Post-Decision Proposed Plan (PDPP) for the Site was released to the public for comment on August 24, 1996. This document, together with the Remedial Investigation/Feasibility Study reports, two reports entitled "Summary of Groundwater Investigations," "Groundwater Modeling Report for the Haviland Complex Site," and others were made available to the public in the Administrative Record file at the EPA File Room in Region II, New York, in the information repository at the Hyde Park Town Hall, Route 9, Hyde Park, New York and in the Hyde Park Free Library, Hyde Park, New York. The notice of availability for the above-referenced documents was published in the Poughkeepsie Journal on August 24, 1996. The public comment period on these documents was open from August 24, 1996 to September 23, 1996. At the public meeting, Paul Prentice, a citizen, requested a thirty (30) day extension to the public comment period. This extended the comment period until October 23, 1996.

EPA conducted a public meeting on September 4, 1996 at the Haviland Middle School, Hyde Park, New York to discuss the Post-Decision Proposed Plan for the site and to provide an opportunity for the interested parties to present oral comments and questions to EPA.

Attached to the Responsiveness Summary are the following Appendices:

Appendix A - Post-Decision Proposed Plan

Appendix B - Public Notices

- Appendix C - September 4, 1996 Public Meeting Attendance Sheets
- Appendix D - September 4, 1996 Public Meeting Transcript
- Appendix E - Letters Submitted During the Public Comment Period

#### **SUMMARY OF COMMENTS AND RESPONSES**

Comments expressed at the September 4, 1996 public meeting and written comments received during the public comment period have been organized as follows:

- . Post-Decision Proposed Plan
- . Hydrogeology/Computer Model
- . Residential Well Sampling Data
- . Monitoring Well Sampling Data
- . Future Aquifer and Residential Well Monitoring Program
- . Miscellaneous

A summary of the comments and EPA's responses to the comments is provided below:

#### **I. Post-Decision Proposed Plan**

##### **A. Groundwater Remedy**

The community generally accepted the proposed No Further Action Remedy for the Site groundwater. For the most part, the comments raised with respect to this portion of the PDPP did not focus on the remedy itself, but rather on the analytical results and computer modeling activities which supported the proposed remedy; these comments are addressed in Sections II and IV below.

##### **B. Alternate Water Supply Remedy**

**Comment #1:** Many commenters, particularly representatives from the Town of Hyde Park and the local water providers/districts, expressed concern that the preferred remedy of No Further Action did not provide a permanent solution to the problem. They expressed a preference for a connection to a public water supply (i.e., Alternative AW-2) and indicated that it would be more

protective and would eliminate the need for groundwater monitoring.

**EPA's Response:** Since the issuance of the ROD, EPA has conducted several widespread groundwater investigations of the study area to reestablish a baseline of groundwater quality data. Monitoring data showed that the levels of contamination in the aquifer have exhibited a dramatic decrease to the present levels near or below State and Federal drinking water standards. In addition to groundwater monitoring of the affected homes and approximately 15 other wells in the Site area, three successive groundwater computer modeling efforts have been conducted to predict the future concentrations of contaminants in the aquifer. The groundwater monitoring data support the computer modeling predictions which estimate that the contamination in the aquifer will decrease to levels below standards in 1 to 6 years; as the sources of these contaminants have been remediated, this decrease in contaminant concentrations will represent a permanent reduction in contaminant levels.

Given the fact that the existing activated carbon filters reliably protect the seven serviced residences from the Site contamination, and the fact that modeling predicts that contaminant levels will reach drinking water standards within a few years, EPA and New York State believe that the levels of contamination observed in the aquifer no longer warrant the implementation of the public water supply and groundwater extraction portions of the 1987 ROD. Therefore, EPA has decided to amend the ROD and rely on the activated carbon filters, until it is confirmed that the levels of contaminants in the groundwater have permanently declined to levels below drinking water standards. This approach will provide an equivalent level of protection to the residents at far less cost than the remedy specified in the ROD.

It should be noted that although the officials from the Town and various water districts which serve the Town were in favor of the installation of a public water supply, it was apparent at the public meeting that there is a difference of opinion among the local residents in their desire to have a public water system. EPA received only two letters, both form letters, from residents which indicated a preference for public water. Some residents at the meeting indicated that they were not in favor of the public water, citing increased costs to them and possible elevation of the water table which could impact their residences. EPA's own door-to-door survey of residents whose homes are supplied with carbon filters also indicated that they were split on their desire for an alternate water supply.

**Comment 2:** The consulting engineer for the Harbour Hills Water District stated that the emphasis of the 9/6/96 presentation was centered on seven homes along Haviland Road and wanted to know what assurances would be made to ensure the protection of other

entities in the study area, including the Haviland Middle School, and the Haviland Shopping Center and Haviland Complex Apartments.

**EPA's Response:** Alternative AW-1 is considered to be fully protective of all entities currently impacted or potentially impacted by the limited contamination present at the Site. The levels of contamination in the plume have naturally attenuated to the present levels which are near or below drinking water standards. Monitoring of the plume for the past 10 years has shown little deviation from the originally determined pathway. It should be noted that any further migration of the plume would result in further dilution of the contaminant levels in the plume.

Systems are or will be in place to ensure that each of the entities continue to have a potable water supply. Site-related contamination has never been observed in the Haviland Middle School water supply and none is expected to be observed in the future as the school's supply well is located in a separate and distinct aquifer than the aquifer which supplies the affected residents. Also, the school is required to perform annual sampling of its water supply. The Haviland Complex has been providing potable water to its residents and businesses since 1985, via its own water supply and its own water treatment facility, which is required to be sampled on a quarterly basis. The sampling of both facilities is required under New York State Sanitary Code Subpart 5-1, Public Water Systems, Public Health Law Sec. 225. The more frequent monitoring of the Haviland Complex Supply is due to the continued presence of trace organic contamination.

Finally, the modified selected remedies require the implementation of a routine monitoring program; homes along Haviland Road and Wright Avenue will be monitored as part of this aquifer monitoring.

**Comment 3:** Numerous commenters stated that they felt that the decision to not install the public water system was purely economically based. One commenter acknowledged that EPA has spent approximately \$1.3 billion on environmental cleanups in New York State, but wanted to know why such a relatively small sum as the approximately \$3 million could not be spent putting in the public water system.

**EPA's Response:** EPA utilizes nine criteria, one of which is cost to evaluate remedial alternatives. Two of the nine criteria, overall protection of human health and the environment, and compliance with applicable or relevant and appropriate requirements, must be satisfied before an alternative can be given further consideration; these two criteria are called the threshold criteria. Alternatives AW-1 and AW-2 both satisfy the threshold criteria and provide an equivalent level of protection of human health and the environment. The comparison of the two

alternatives provided in the PDPP and the Decision Summary of this ROD Amendment indicates that they are also similar with respect to most of the other criteria, however, Alternative AW-1 is much less expensive to implement than Alternative AW-2 and was therefore identified as EPA's preferred alternative. Furthermore, as stated previously, EPA did try to implement Alternative AW-2 for many years without success.

**Comment 4:** The Dutchess County Water and Wastewater Authority expressed their preference for the installation of the public water system, stating that the water pressure would be better, there would be no need for monitoring, and that a clean water supply would be available for all.

**EPA's Response:** Under the Superfund program, EPA must evaluate risks posed by a site and determine the best means of protecting human health and the environment from any risks deemed to be unacceptable. As noted above, EPA uses nine criteria to evaluate various options for remediating sites; in this case, the evaluation indicated that Alternative AW-1 is fully protective of human health and the environment and provides the best balance of trade-offs with respect to the evaluation criteria.

**Comment 5:** The Dutchess County Water and Wastewater Authority stated that the Hyde Park Fire and Water System has a significant excess of capacity which is creating a financial hardship to its district residents which would be somewhat relieved by expanding its district into the Haviland Complex area.

**EPA's Response:** As mentioned previously, EPA is required under the Superfund statute and the NCP to utilize nine specific criteria in evaluating remedial alternatives. As such, EPA is precluded from considering the Dutchess County Water and Wastewater Authority's development of excess capacity in its evaluation.

**Comment 6:** Two commenters stated that they were distressed as to the length of time it has taken to come to this decision.

**EPA's Response:** Since the ROD was issued, efforts to implement the design of the alternate water supply have been interrupted or delayed for a number of reasons, including some internal EPA contractual issues. The primary reasons for delays, however, were a result of the changes in the Town's desire as to the source of public water for the affected area. Since the ROD was signed, different administrations have indicated a desire to use water supply sources other than the HHWD supply wells, as well as recurring requests to reconsider HHWD. In fact, EPA has received eight written requests to change the source of water since the preparation of the 1987 ROD. These other sources included the Hyde Park Fire and Water District and the City of Poughkeepsie.

As explained in the response to comment #1, during the 10 years since the ROD has been signed, EPA has continued to monitor groundwater quality. Because contaminant levels have decreased to near or below drinking water standards, EPA has determined that no further remedial action is necessary at the Site to protect human health and the environment.

**Comment 7:** One commenter expressed that in October 1995, the Town of Hyde Park had held a public meeting and said that there was a firm plan to install the public water system into the study area and was wondering why this plan was not being carried out.

**EPA's Response:** At that time, EPA was still intending to implement the public water supply portion of the 1987 Record of Decision. EPA attempted for many years to implement the installation of the public water supply, but was unable to do so for many reasons, the most important being the frequent requests by the Town of Hyde Park to consider various and changing sources for the potable water. Also see EPA's response to Comment 1 for an explanation of EPA's decision not to install the public water system.

**Comment 8:** One commenter was concerned with the situation where his home at 16 Haviland Road was located between homes with State-maintained filters but his well was not augmented. He wanted to know how his well was to be protected.

**EPA's Response:** All homes with potable wells where VOC contamination was detected above drinking water standards were fitted with activated carbon filters. The well at 16 Haviland Road is unique relative to the other wells in that it has never been contaminated. This well is deeper than the wells at neighboring homes and is not drawing water from the contaminant plume.

Additionally, occasional sampling of this well will continue in the future as part of the monitoring program conducted by NYSDEC.

**Comment 9:** One commenter inquired as to what guarantee will be provided to the residents that their government-installed home filters be maintained in the future.

**EPA's Response:** The ROD Amendment requires that EPA and NYSDEC maintain the filters until three years of consecutive semi-annual sampling shows that contaminant levels in the affected wells are below drinking water standards. EPA and NYSDEC could only be relieved of this obligation through a subsequent amendment to the ROD; such an amendment would require notification of homeowners and other parties in the area, as well as a public meeting for citizens to comment on the proposed amendment.

**Comment 10:** The Harbours Hills Water District Engineer inquired if there would be an impact to the selected remedy if the community insisted on being connected to the Hyde Park Fire and Water District.

**EPA's Response:** As noted above, EPA utilizes nine criteria to evaluate remedial alternatives, one of which is community acceptance. EPA fully considers community opinions and concerns before selecting or modifying a remedial action. Community acceptance was given full consideration during this process.

## II. Hydrogeology/Computer Model

**Comment 11:** One commenter inquired as to the accuracy of the pathways of contaminant migration depicted as output from the computer modeling of the study area.

**EPA's Response:** The flow-migration pathways shown during the public meeting were produced as part of the last computer modeling effort done by EPA in 1993. The flow lines drawn on the map were computer-generated and were calculated utilizing water-level measurements taken on one day. Together, they depict the general flow patterns within the aquifer.

The pathways shown approximate the path a molecule of water would likely follow in a system with invariable conditions. The pathway would fluctuate slightly in response to changing conditions within the aquifer (seasonal, precipitation, etc.), but would generally follow the projected path. EPA believes that the model's projected path is reasonably reliable and accurate because the model has been verified by comparing actual site conditions to what was generated by the computer.

**Comment 12:** One commenter expressed the opinion that the number of samples collected within the contamination plume needs to be increased to more accurately define the leading edge of the plume.

**EPA's Response:** EPA believes that the number of monitoring locations is more than adequate. The number of monitoring locations for this plume is actually greater than is typically the case for a plume of this size and levels of contaminants.

**Comment 13:** A commenter expressed concern that there could be a change in the direction of groundwater flow in the future, thus redirecting the flow of contamination into areas which were previously uncontaminated and opening up liabilities for entities performing development.

**EPA's Response:** EPA does not expect any significant change in the direction of groundwater flow. The direction of flow has not



changed significantly in the 10 years during which EPA has been observing the groundwater contamination at the Site. In the unlikely event that the direction of flow does change, EPA will be able to observe this change through its monitoring program and could take appropriate action, if any were required.

**Comment 14:** One commenter wanted to know how close the modeled degradation of the contaminant plume compared to the actual degradation of the plume.

**EPA's Response:** A computer model is verified by comparing the calculated results to data from the Site. If the anticipated computer-generated numbers correspond with actual field conditions, the model is considered to be accurate.

The results of the computer modeling were compared to the data gathered from potable and monitoring wells. The contamination in the aquifer appears to be attenuating at a more rapid rate than was anticipated by the computer model. EPA has continued to use the time frames described by the computer model, as a conservative means of predicting the attenuation of the plume.

**Comment 15:** One commenter referred to Figure 20 in the December 1992 report "Groundwater Modeling at the Haviland Complex Site, Hyde Park, NY" noting the following statement, "Figure 20 indicates that even after 10 years, concentration levels of Tetrachloroethene will not decrease below 10 ppb level" and asked if EPA believed in this computer prediction.

**EPA's Response:** As is often the case in modeling efforts, several retardation factors were evaluated. The retardation factor used in Figure 20 was more conservative than others used in the same modeling effort. Consequently, this retardation factor predicted higher levels of residual contamination than were predicted when using the other less conservative retardation factors. The text from which the commenter extracted the quote continues on to describe the relation of the retardation factors used in the modeling effort: "If the value of the retardation factor was reduced to a more reasonable factor of 6, after 10 years the concentration of Tetrachloroethene would significantly decrease (figures 24 through 26)". The data gathered since the modeling effort indicates that the contamination in the aquifer is attenuating at an even more rapid rate than was projected by the model and that retardation factors utilized to generate figures 24 through 26 are more representative of actual conditions than the retardation factors used to generate figure 20. Data collected from the potable well water also supports and confirms the model's accuracy.

### III. Residential Well Sampling Data

**Comment 16:** One commenter inquired if the data used in determining the trends of contaminant concentrations in the residential well samples were from filtered or unfiltered samples.

**EPA's Response:** All of the residential well data used in determining the trends were of water collected prior to, or upstream of, home filtration units.

**Comment 17:** Numerous commenters expressed concern with the fluctuations of contaminant concentrations in the raw (pre-filtered) potable water samples.

**EPA's Response:** Fluctuations of the magnitude observed in the semi-annual residential well sampling data are not unusual. This variation is due to the dynamic conditions which occur in an aquifer, such as seasonal changes or annual rainfall differences.

Although minor fluctuations have occurred, the sampling results from 1987 to date indicate that the concentrations of contaminants in the study-area aquifer have dropped by an order-of-magnitude to concentrations near or below drinking water standards. Given this significant decrease in contaminant concentrations, and the fact that the sources of contamination have been addressed, EPA feels confident that this trend will continue, and that a significant increase in contaminant levels will not be observed in the future.

**Comment 18:** A commenter raised concern that the homes along the western end of Haviland Road weren't tested between 1990 and 1996.

**EPA's Response:** NYSDOH sampled potable wells along the western end of Haviland Road in October 1996 and confirmed that there is no Site-related contamination in this area. This study confirmed the results of the last comprehensive study in the Site area conducted by NYSDOH in 1993. The outcome of that effort showed no Site-related contamination. Additional sampling of these wells will be performed by NYSDOH in the fall of 1997.

**Comment 19:** Three commenters raised the concern that the Haviland Middle School water supply well may be contaminated by Site-related contamination.

**EPA's Response:** The Haviland Middle School maintains its own potable water supply well and samples this well on an annual basis in accordance with New York State requirements. This well has never shown any indication of Site-related contamination. It is important to note that unlike the shallow wells in homes along Haviland Road which have been impacted by contamination in the

shallow aquifer, the Middle School well is a very deep bedrock well which draws water from a different aquifer than the aquifer utilized by the homes along Haviland Road.

**Comment 20:** The Dutchess County Water and Wastewater Authority expressed concern that the fluctuations in the potable well sampling results may have impacted the reliability of the computer modeling effort.

**EPA's Response:** The fluctuations in semi-annual sampling data for the residential wells are not unusual. The general trend of the contaminant levels in the aquifer is a more accurate indicator of the fate of contaminants in the aquifer. Computer modeling is used to predict a future trend given an initial set of conditions. Field data are collected and compared to the predicted trends in order to verify the model. The minor fluctuations in the home sampling data have no impact on the reliability of the computer model.

**Comment 21:** One commenter inquired as to why the graphs of residential well data presented at the meeting on September 4, 1996 were more recent than those published in the August 1996 report.

**EPA's Response:** The graphs presented at the public meeting did contain some new information. New York State monitors the affected residential wells on a semi-annual basis, typically every January and July. The week before the September 1996 public meeting, EPA received data from the July 1996 sampling of the residential wells. In order to make the latest information available to the public, EPA incorporated these data into its presentation that evening. These data represent a small addition to the previously existing data compiled from twelve rounds of sampling over six years, and are important in that they confirm the continuing decline of volatile organic contaminants in the groundwater underlying the Site.

#### IV. Groundwater Monitoring Well Data

**Comment 22:** A commenter expressed concern that EPA has apparently discontinued the sampling of some of the monitoring wells in the study area.

**EPA's Response:** EPA has only discontinued sampling of those monitoring wells which are no longer suitable for sampling; most of these wells were damaged by vehicles. During the development of the monitoring plan for the Site, EPA will assure that the aquifer is sampled in appropriate locations. If the integrity of a well has been compromised at any of these locations, or if a well was never present in one of these locations, new monitoring wells will be constructed in these locations. Any compromised wells will be appropriately decommissioned at that time.

**Comment 23:** The Harbour Hills Water District Engineer inquired as to the status of VOC contamination in the remainder of the study area aquifer outside of the plume.

**EPA's Response:** Only one well outside of the defined plume has shown groundwater VOC contamination above drinking water standards; this well is located immediately north of the affected homes (MW-24). MW-24 showed contamination decreasing to near or below drinking water standards up until the time the well was destroyed in the winter of 1992-1993. A replacement well will be installed at an appropriate location immediately upgradient of the effected homes as part of the future monitoring program.

**Comment 24:** Three commenters expressed concern that levels of chromium and nickel detected in 1992 were in excess of NYSDEC standards and wanted to know how EPA had addressed this contamination.

**EPA's Response:** In an effort to reestablish a baseline of groundwater quality data at the Site, EPA sampled existing monitoring wells in June 1992 and observed elevated levels of inorganic constituents in two wells in the aquifer immediately south of the Middle School. EPA had requested that the New York State Department of Health (NYSDOH) sample local residential wells to assure that there was no human exposure to these metals. NYSDOH sampling of the residential wells showed that there were no Site-related elevated levels of inorganic contamination in these residential wells. EPA resampled the monitoring wells in November 1992 and the results indicated that the inorganic contamination was a natural artifact of the aquifer itself. In June 1994, a comprehensive sampling of monitoring wells was conducted by EPA's contractor Ebasco, Inc. utilizing state-of-the-art sampling techniques (low-flow environmental sampling pumps to minimize induced turbidity). The results from this investigation were documented in the September 1994 "Summary Report of Groundwater Investigations," and indicated that the levels of all inorganic compounds in the groundwater were either not detectable or were below safe drinking water levels. This study again determined that the metals previously detected in the 1992 study were related to naturally occurring substances which were mobilized into the groundwater by the agitation from the sampling method. This report is available in the Site repository established at the local library.

## **V. Future Aquifer and Residential Monitoring Program**

**Comment 25:** Commenters inquired about the scope of the monitoring program; one commenter wanted to know if all the homes in the study area would be sampled prior to the delisting of the Site in the future.

**EPA's Response:** NYSDOH has agreed to conduct a comprehensive sampling of homes throughout the study area in the near future. In addition, EPA and the State have already initiated discussions regarding the scope of the monitoring program and expect that this plan will be completed in the next few months. As indicated in the PDPP, the seven residences which have whole-house treatment units will be sampled on a semi-annual basis, until each round of sampling results over the course of three years indicates that all Site-related contaminants are below federal and State drinking water standards. Additional residential wells in the area will be monitored on a less frequent basis. A series of monitoring wells, some of which are existing and some which may be added as necessary to provide adequate information on the fate of contaminants in the aquifer, will also be sampled on an annual basis.

**Comment 26:** Two commenters inquired as to what would happen if contamination was released into the aquifer in the future. They insisted that the residential wells are vulnerable to contamination from future releases.

**EPA's Response:** As a result the elimination of the original discharges of hazardous substances to the aquifer, as well as EPA's 1990 remediation of the septic systems (these septic systems served as a continuing source of contamination of the aquifer) the levels of contamination in the aquifer have declined to close to drinking water standards. EPA has no reason to believe that the Site-related contaminant levels will increase in the future; however, if additional Site-related contamination were observed, EPA could install additional whole-house treatment units or move forward with additional investigation of the contamination, or if necessary, amend the ROD to allow for alternative remedial measures.

If non-Site related contamination were observed, for example originating from a residential septic system, EPA would work with the other appropriate government agencies such as the NYSDOH, NYSDEC or the County Health Department to determine the most appropriate course of action.

## VI. Miscellaneous

**Comment 27:** One commenter wanted to know if the "Haviland Complex Site" will be reduced in size considering that the contamination appears to be isolated to the southeastern quadrant of the study area.

**EPA's Response:** Although EPA is capable of deleting portions of sites, EPA has no current plans to do so at this site. Due to the characteristics of this site, it is likely that the Site would be deleted in its entirety, rather than in a piecemeal fashion.

**Comment 28:** A commenter inquired if EPA was trying to recover its expenditures from the Potentially Responsible Parties (PRPs) and whether a settlement was being sought with the school district and its governing State agencies.

**EPA's Response:** EPA is attempting to recover its expenditures at the Site from the PRPs who own the Haviland Complex. EPA had issued notice letters to the PRPs at the Site offering them the opportunity to implement the remedies specified in the 1987 ROD; the PRPs declined this offer. As is the case on most sites where PRPs decline to implement remedial activities, EPA is attempting to reach a settlement with the PRPs for recovery of the Agency's past costs by engaging in settlement discussions whereby the PRPs would voluntarily offer to reimburse EPA. It is anticipated that these negotiations will come to closure in the near future. If the settlement negotiations fail, EPA is prepared to refer the case to the U.S. Department of Justice for litigation.

EPA is not currently seeking a settlement with the school district.

**Comment 29:** One commenter stated that the Harbours Hills Water District has spent in excess of \$29,000 because of EPA involvement at the Haviland Site which would not have otherwise been spent and inquired about reimbursement.

**EPA's Response:** EPA acknowledges that HHWD may have expended as much as \$29,000 during the last few years of this project. Because of the difficulty in selecting the water source, EPA has also utilized considerable resources in an attempt to implement the public water supply portion of the ROD. As discussed previously, however, we believe that significant additional funds will not be required to ensure that the residents have a potable supply of water.

EPA cannot reimburse Harbours Hills for its past expenditures because such costs are not reimbursable under the Superfund statute.

**Comment 30:** The Harbours Hills Water District Engineer asked for an accounting for the funding spent at the Haviland Site.

**EPA's Response:** Approximately \$2.1 million has been expended at the Site. Over \$1.4 million was expended for the following contracted services: the RI/FS; the design and implementation of the septic tank cleanout and associated site restoration; the preliminary design for the provision of a public water supply; and groundwater sampling, analysis, and modeling, and associated reports. In addition, over \$600,000 was expended for EPA services including payroll, groundwater sampling, analysis, and modeling, NYSDEC oversight, and indirect costs.

**Comment 31:** One commenter expressed concern that the public comment period started on August 24, 1996 for a report that was not available until two days later on August 26, 1996.

**EPA's Response:** EPA had expected to have the PDPP available to the public on August 24. During the public meeting, EPA acknowledged that the PDPP was not available in the Town Hall until Monday, August 26. EPA considered this in the Agency's decision to extend the public comment period an additional 30 days, allowing sixty days in all for public comment.

**Comment 32:** A commenter wanted to know why all of the appropriate documents were not available at the designated repository (Hyde Park Free Library).

**EPA's Response:** Following the public meeting, EPA contacted the library and was informed that most of the information was in the repository with the exception of a few documents; EPA forwarded the additional documents and confirmed that they were received by September 20, 1996. The fact that these documents were not available at an earlier date was considered by EPA in its decision to extend the public comment period an additional 30 days to October 23, 1996.

**Comment 33:** One commenter was concerned with the fact that the notice of the 9/4/96 public meeting which was published in the Poughkeepsie Journal was placed in the middle of the sports section.

**EPA's Response:** EPA cannot always control the location of its newspaper notices. EPA had, in fact, requested that the Public Notice be put in the front section of the newspaper. Unfortunately, the notice did not appear in EPA's preferred location, and there was insufficient time to meet the newspaper's deadline for republication prior to the public meeting. It should be noted that EPA used other mechanisms to make the community aware of the comment period and meeting date including a press release, and mailing notices to each addressee on EPA's extensive mailing list for the Site.

**Comment 34:** A commenter wanted to know if a ROD expires.

**EPA's Response:** A ROD does not expire. A ROD describes the remedial activities required to be performed at a Site in order to protect human health and the environment. These activities must be implemented unless it is documented through a ROD amendment that the actions are no longer necessary to protect human health and the environment, or that other measures are more appropriate to achieving protection of human health and the environment.

**Comment 35:** A commenter inquired as to the source of the information stated on page 5 of the PDPP - "...the Town recently



passed a resolution stating that the Harbours Hills Water District facilities not be upgraded."

**EPA's Response:** Although the October 13, 1995 Town Resolution (10:13-1) did not specifically state that HHWD facilities should not be upgraded, it is implied as the following excerpt from the resolution indicates:

"...Whereas, the upgrade to the Harbours Hills Water District needed to supply potable water to the Haviland Complex will result in an undue financial burden on the residents of the Harbours Hills Water District" and,

"Therefore, be it resolved, that this Board urgently requests that the United States Environmental Protection Agency immediately proceed with the design and construction of the water mains and appurtenances needed to provide a reliable, potable water supply to the Haviland Complex a connection to the Hyde Park Fire and Water District."

**Comment 36:** A commenter inquired if the NYSDOH and NYSDEC both concurred with the PDPP.

**EPA's Response:** NYSDEC and NYSDOH had reviewed and concurred with the PDPP prior to its release to the public. The first paragraph of the PDPP indicates that NYSDEC concurred on the PDPP; the last page of the PDPP indicates that the State of New York concurs on the proposed modified remedy. During the public meeting Geoff Lacetti, a representative from NYSDOH, reiterated NYSDOH's concurrence with the PDPP.

**Comment 37:** The Harbours Hills Water District Engineer inquired as to what economic impact the "site" designation has upon properties within the study area.

**EPA's Response:** While EPA does not have information as to the specific impact the designation of a Superfund site has had on the community, in general, the value of property in the vicinity of many Superfund sites depreciates prior to site remediation. Fortunately, the elimination and remediation of the sources of contamination at the Haviland Complex Site has resulted in levels of contaminants declining to levels which approach drinking water standards; modeling predicts that all contaminant levels will meet drinking water standards within 1 to 6 years. As a result, EPA will also be able to move forward with the deletion of the Site from the NPL in the next few years. The fact that EPA and NYSDEC are specifying in this ROD amendment that no further remedial action is warranted at the Site, and that the Site should be deleted in the next few years should have a positive impact in restoring property values, assuming they had been affected.



APPENDIX 4

1987 Record of Decision

# Superfund Post-Decision Proposed Plan

## Haviland Complex



Hyde Park  
Dutchess County, New York

EPA  
Region 2

August 1996

### PURPOSE OF POST-DECISION PROPOSED PLAN

This Post-Decision Proposed Plan describes proposed fundamental changes to the September 1987 Record of Decision (ROD) issued by the United States Environmental Protection Agency (EPA) with respect to the Haviland Complex Superfund Site and concurred on by the New York State Department of Environmental Conservation (NYSDEC).

The remedy specified in the 1987 ROD included the removal of the source of contamination, i.e., contaminated septic systems, extraction and treatment of contaminated groundwater and the provision of public water to the study area. The source control portion of the remedy was completed in 1990.

As described in this Post-Decision Proposed Plan, EPA is proposing that the extraction and treatment of groundwater, and the provision of a public water system do not need to be implemented to ensure the protection of human health and the environment.

### COMMUNITY ROLE IN SELECTION PROCESS

EPA and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. Similarly, EPA and NYSDEC also rely on public input when proposing fundamental changes to a remedy previously selected. To this end, this Post-Decision Proposed Plan, the EPA Groundwater Modeling Report for the Haviland Complex Superfund Site, and the May 1995 Summary of Groundwater Investigations Report have been made available to the public for a public comment period which begins on August 16, 1996 and concludes on September 16, 1996.

A public meeting will be held during the public comment period at the Haviland Middle School on August 28, 1996 at 7:00 PM to present the basis for the proposed amendment to the ROD and to receive public comments.

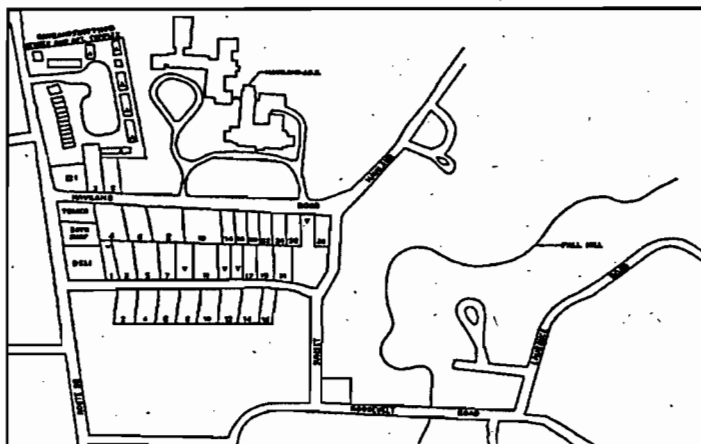


Figure 1 - Haviland Site Map

Comments received at the public meeting, as well as written comments, will be documented and addressed in the Responsiveness Summary Section of the ROD amendment

All written comments should be addressed to:

Kevin Willis  
U.S. Environmental Protection Agency  
290 Broadway 20th Floor  
New York, NY 10007-1866

Dates to remember:  
**MARK YOUR CALENDAR**

**August 24, 1996 - September 23, 1996**  
Public comment period on this Post-Decision Proposed Plan, and remedies considered

**September 4, 1996**  
Public meeting at the Haviland Middle School at 7:00 PM

## **SITE BACKGROUND**

The 275-acre Haviland Complex site (see Figure 1) consists of the Haviland Complex Apartments, the Hyde Park Junior High School, the Smith School, the Haviland Shopping Center, and approximately 35 residences and small businesses located east of Route 9G in Hyde Park, New York. Hyde Park has an estimated population of 21,000 people. Approximately 20% of the population are connected to a public sewer system, and over 50% are served by a public or private water supply system. The remaining population, including the 35 residences and small businesses previously mentioned, obtain water from residential wells. Groundwater in the study area flows southeasterly and discharges into Fall Kill Creek.

The Dutchess County Health Department (DCHD) began to receive complaints concerning the groundwater quality in the site area in October 1981. A sampling program and septic system survey of the Haviland Complex area was initiated by DCHD in December 1981, which indicated that the Haviland Laundromat and Dry Cleaner and the Haviland Car Wash septic systems were failing. Subsequently, the car wash installed a new septic tank and the laundromat installed a pre-treatment system and a new tile field to handle its wastewater.

In December 1982, New York State Department of Health (NYSDOH) began sampling the Haviland area groundwater. The sampling data indicated that levels of tetrachloroethylene (PCE) and dichloroethene (DCE) in the septic discharge from the laundromat exceeded NYSDEC discharge standards. As a result, in 1983, the laundromat was ordered to disconnect the dry cleaning operation from the septic system and to dispose of all spent dry cleaning fluids at a permitted disposal facility. All residents in the area were advised to use bottled water. Water treatment units were installed on the wells servicing the Haviland Apartments and the laundromat in 1984 and 1985, respectively, to remove organic contaminants. In February 1989, NYSDEC installed water treatment systems on homes with well water which exceeded State or Federal Maximum Contaminant Levels (MCLs), i.e., safe drinking water standards.

The site was proposed for inclusion on the National Priorities List (NPL) in October 1984, and placed on the NPL in June 1986. NYSDEC was designated as the lead agency for the Remedial Investigation and Feasibility Study (RI/FS).

Based on the results of the RI/FS, a ROD was signed on September 30, 1987, identifying the following: 1) clean the contaminated septic systems identified as the source of contamination 2) extend public water from the nearby Harbourside Hills Water District (HHWD) to ensure a potable supply of water to the residents on private wells (EPA would enter into an agreement with the Town of Hyde Park to upgrade this system to meet New York State drinking water standards) and 3) extract and treat contaminated groundwater.

The septic systems' cleaning, which represented the source control portion of the selected remedy, was completed by EPA on November 4, 1990. A sampling survey of the septic systems in the study area had identified six septic tanks at

the Haviland Complex and the Hyde Park Junior High School which were contaminated. These tanks were cleaned out and the sludges were sent off-site for treatment and disposal.

Since the signing of the ROD, there has been difficulty in agreeing on the source of the alternate water supply. On numerous occasions, Town of Hyde Park officials have requested that EPA evaluate sources of water other than the HHWD. Most recently, the Town requested that water from the Hyde Park Fire and Water district (HPFW) be utilized. It is also noted that since the signing of the ROD, the levels of groundwater contamination as measured in the monitoring wells have decreased significantly. Residential well sampling data also indicates that levels of contaminants entering impacted residential wells are decreasing. It was determined that additional sampling and modeling of the groundwater regime was warranted. Consequently, EPA and NYSDEC decided to reevaluate the need for an alternate supply of public water in the site study area and the need for an active groundwater extraction and treatment system.

## **SUMMARY OF SITE INVESTIGATIONS**

Based on sampling data obtained from 18 monitoring wells, the RI report documented the presence of a low-level groundwater contamination plume, consisting of numerous volatile organic compounds (VOCs) (e.g., PCE concentrations ranging from 2.0 to 42.0 parts per billion (ppb)) and metals (e.g., at concentrations above drinking water standards). The contaminants were believed to be emanating from septic systems connected to the Haviland Shopping Center (Laundromat), Haviland Complex Apartments, and Haviland Junior High School. It was determined that the plume generally migrated from the sources in a south-southeasterly direction and discharged into Fall Kill Creek. The RI also documented that several residential wells in this area were contaminated with VOCs.

Since the RI report was issued, residential and monitoring wells in the study area have been sampled on numerous occasions, and computer modeling of the groundwater regime has also been conducted. These efforts were conducted to better define the nature and extent of groundwater contamination, and to quantify the benefits the groundwater treatment system would provide that would not be realized, if this portion of the remedy were not implemented.

Additional sampling of the RI monitoring wells was conducted by EPA's contractor, Ebasco Services, in October 1988 and July 1990. These sampling results were summarized in a March 1991 report entitled the "Summary of Groundwater Investigations." The report documented the presence of a low-level volatile plume underlying the site, flowing toward the Fall Kill Creek to the southeast. Localized PCE, PCE-breakdown products, and chlorobenzene plumes were documented in the southeastern portion of the main plume.

In 1992, EPA's Environmental Response Team sampled the study area monitoring wells on two additional occasions to provide a baseline of the levels of contamination in the aquifer at that time. Low-level VOCs above MCLs were only observed in MW-24 (8.1 ppb PCE, 6.8 ppb dichloroethene (DCE)) and MW-27B (7.8 ppb DCE). The drinking water

standard for each of these contaminants is 5.0 ppb. Also, in June 1994, a confirmatory round of groundwater sampling data was collected by Ebasco which confirmed the continued presence of very low-level VOC concentrations in the shallow aquifer underlying the site. All volatile concentrations were close to or below the New York State MCLs of 5 ppb for PCE, DCE, and chlorobenzene. These data indicated that the VOCs were still present but occurred at lower concentrations than what were observed previously. The occurrence of the spreading of the plume described in the RI/FS and ROD had not occurred and the plume appears to be naturally attenuating. This information was documented by Ebasco in its September 1994 report entitled "Summary of Groundwater Investigations."

On three successive occasions, computer modeling was used to better understand the transport and fate of the groundwater contamination in the study area. The first effort, conducted as part of the RI, concluded that groundwater flowed from the identified sources through the area of contaminated residential wells to the Fall Kill. The second modeling event, which was conducted by Ebasco in 1989 to determine the optimum groundwater extraction rate for implementation of the remedy, identified declining levels of contamination in the aquifer.

The third modeling event was performed by EPA's Robert S. Kerr Environmental Research Laboratory in 1992. This effort, which focused on determining the fate and transport of the aquifer contamination, was documented in a report entitled "Groundwater Modeling Report for the Haviland Complex Superfund Site." Using 1987 and 1990 data, the report concluded that site contamination would be below MCLs within 5 to 10 years without pumping and treating the contaminated groundwater. The modeling also predicted, however, that, if implemented, extraction and treatment of the groundwater would result in the contamination declining to concentrations below State and Federal drinking water standards within the same time frame of about 5 to 10 years. Since the modeling was done in 1992, the expected range of aquifer cleanup would be within about 2 to 7 years from today.

In order to monitor and maintain the effectiveness of the individual home water treatment units, NYSDEC has contracted the sampling of the private potable wells for organic contaminants semiannually since 1989. NYSDOH reviews and tabulates the data, and then sends the results to the residents. Analyses of the well samples have demonstrated the trend of diminishing organic contamination in the aquifer. While maximum concentrations of 79 ppb of PCE, 190 ppb of chlorobenzene, and 27 ppb of DCE, were measured in some residential wells in 1985, 1983, and 1988, respectively, the contaminant concentrations observed in all of the private wells have diminished to levels near or below MCLs. The residential well data from 1990 to the present are summarized in Figure 2. Maximum concentrations from the January 1996 sampling event were 15 ppb of PCE and 12 ppb of chlorobenzene with no detectable concentrations of DCE. In addition, site-related metals contamination has not been observed in any of the potable wells in the study area.

## SUMMARY OF SITE RISK

During the conduct of the RI/FS, a baseline risk assessment was conducted to estimate the risks associated with current and future site conditions. The baseline risk assessment, which was based on data obtained during the RI, estimated the human health risk which could result from the contamination at the site if no remedial action were taken. A summary of the baseline risk assessment and a recalculation of the risk using current data is presented below.

### Human Health Risk Assessment

The baseline risk assessment evaluated the health effects which could result from exposure to contamination as a result of ingestion. An apartment complex, a junior high school, a shopping center, and approximately 35 private homes are contained within the site boundaries. All are occupied and use private wells for provision of potable water.

EPA's acceptable cancer risk range is  $10^{-4}$  to  $10^{-6}$ , which can be interpreted to mean that an individual may have one in ten thousand to one in a million increased chance of developing cancer as result of site-related exposure to a carcinogen over a 70-year lifetime under the specific exposure conditions at the site.

The results of the baseline risk assessment conducted as part of the 1987 RI/FS indicated that, if used as a supply of household water, the groundwater at the site posed unacceptable risks to human health and the environment. The risk assessment was indicative of a worst case total lifetime exposure to maximum organic concentrations at an assumed constant rate (drinking 2 liters of water daily for 30 years in an adult living to the age of 70 years). It was determined that the total cancer risk exceeded  $1 \times 10^{-3}$ , or 1 case in 1000. Most of this risk was due to the presence of vinyl chloride which has not been detected since 1987. Eliminating vinyl chloride from the risk assessment results in a calculated carcinogenic risk that is within EPA's acceptable risk range. Using current data, and applying these data to present standards (which are more stringent than those of 1987), the carcinogenic risk is calculated to be  $1.1 \times 10^{-5}$ , which is within EPA's acceptable range.

To assess the overall potential for noncarcinogenic effects posed by more than one contaminant, EPA has developed a hazard index (HI). This index measures the assumed exposures to several chemicals simultaneously at low concentrations which could result in an adverse health effect. When the HI exceeds one, there may be concern for potential noncarcinogenic effects.

All noncarcinogenic contaminants were within acceptable intake levels in 1987, based on their respective subchronic and chronic intakes. Using current data, and applying these data to present standards (which are more stringent than those of 1987), results in a noncarcinogenic risk Hazard Index of 1.

It is noted that the only exposure routes to humans at the site are through ingestion and inhalation of VOCs via the contaminated groundwater. However, those residences which did exceed MCLs have been supplied with whole-house water treatment units. Furthermore, the levels of contamination observed in 1987 have now diminished to levels near or below MCLs in both monitoring wells and residential wells.

### **REMEDIAL ACTION OBJECTIVES**

Remedial action objectives are specific goals to protect human health and the environment. These objectives are based on available information and standards such as applicable or relevant and appropriate requirements (ARARs) and risk-based levels established in the risk assessment.

The objective of the feasibility study was to identify and evaluate a cost-effective remedial action alternative which would minimize the risk to public health and the environment resulting from groundwater contamination at the site. The FS report had evaluated in detail 5 remedial alternatives for addressing the contamination associated with the site. The remedy which EPA selected included contaminant source control, provision of public water to the site area, and extraction and treatment of contaminated groundwater. As noted above, the source control portion of the remedy was completed in January 1990.

Given the decrease in site-related groundwater contaminant levels, EPA has decided to reevaluate components of the remedy specified in the 1987 ROD. This Post-Decision Proposed Plan addresses the groundwater extraction and treatment and the provision of an alternate water supply portions of the remedy. The remedial action objectives for the groundwater remedy are to (1) protect human health by ensuring residents are not exposed to contaminated groundwater, and (2) reduce groundwater contamination levels to drinking water standards. The remedial action objective for the alternate water provision portion of the remedy is to protect human health by ensuring residents are not exposed to contaminated residential well water.

### **SUMMARY OF REMEDIAL ALTERNATIVES**

CERCLA requires that each selected site remedy be protective of human health and the environment, be cost-effective, comply with other statutory laws, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. In addition, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

The alternatives for addressing groundwater contamination are provided below and are identified as GW-1 and GW-2. These alternatives are followed by the alternate water supply alternatives which are identified as AW-1 and AW-2. Consistent with ROD amendment guidance, the components of the original remedy proposed for amendment (alternatives

GW-2 and AW-2) have been updated and are being compared to new preferred alternatives (alternatives GW-1 and AW-1) which were developed based upon existing site circumstances, including the groundwater monitoring and modeling data presented above. It should be noted that the time to implement reflects only the time required to construct, or implement the remedy and does not include the time required to design the remedy, negotiate with the responsible parties, or procure contracts for design and construction.

The alternatives developed for the site groundwater (GW) are:

#### **Alternative GW-1 - No further action/natural attenuation**

Capital Cost: \$0  
O & M Cost: \$5000/year (for 7 years)  
Present Worth Cost: \$24,873  
Time to Implement: immediate

This alternative does not include active treatment of the aquifer; it relies upon natural attenuation to reduce the contamination below State and Federal drinking water standards. Based on groundwater modeling it is estimated that natural attenuation processes would reduce levels of contamination in the aquifer to State and Federal drinking water standards within 2 to 7 years.

This alternative would include an annual groundwater monitoring program. Five monitoring wells located in the area would be utilized to monitor the aquifer upgradient and downgradient of the affected homes. Analytical data obtained from these wells would serve to demonstrate the progress of the aquifer remediation. Groundwater samples would be analyzed for inorganic and volatile organic parameters.

#### **Alternative GW-2 - Groundwater extraction, treatment, and discharge to surface waters**

Capital Cost: \$626,500  
O & M Cost: \$116,375/year (for 7 years)  
Present Worth Cost: \$1,205,439  
Time to Implement: One year

This alternative includes aquifer restoration through containment and interception of the identified contaminant plume. Interception of contaminated groundwater would be accomplished using four stainless steel extraction wells, screened in the surficial aquifer, each pumping continuously at 20 gpm. Proper sizing and location of these wells would result in containment of the plume through modification of the groundwater gradient caused by the cones of depression around each well. Small areas of the plume which are already near the Fall Kill would continue to migrate until they enter the creek.

This alternative assumes that the extracted groundwater would require some treatment prior to discharge. Treatment technology for metals removal would consist of pH adjustment and precipitation. After metals treatment, the groundwater would be treated through an air stripper and then



would be discharged to the Fall Kill. Worst-case emissions from the stripper were calculated to be insignificant in comparison to New York State standards. The design of the groundwater treatment system would be based on SPDES requirements which would be the more stringent of the effluent limitation for a class C water body or the water quality limitation for the Fall Kill.

Groundwater extraction and treatment offers long-range public health protection against consumption of contaminated groundwater. Based on site hydrogeologic conditions, the time required to rehabilitate the aquifer to acceptable State and Federal drinking water standards is estimated to be within 2 to 7 years.

Aquifer rehabilitation would be accompanied by an annual groundwater monitoring program. The sampling and analysis would utilize selected monitoring wells located in the study area. Analytical data obtained from these wells would serve to demonstrate the progress of the aquifer remediation. Groundwater samples would be analyzed for inorganic and volatile organic parameters.

The alternatives developed for an alternative water supply (AW) are:

#### **Alternative AW-1 - No Further Action/Continue to Maintain Whole-House Water Treatment Units**

Capital Cost: \$0  
O & M Cost: \$27,053/year (for 10 years)  
Present Worth Cost: \$166,082  
Time to Implement: immediate

This alternative would continue to address the low level contamination present in the seven affected homes by maintaining the existing whole-house filters presently installed in these homes. The units consist of a sediment filter, an ultra-violet treatment unit and twin activated-carbon filtration cylinders. These homes have been sampled semi-annually by the NYSDEC; the sampling results indicate that the units are working quite effectively and have provided a safe reliable source of water for residential use. These units have operated effectively while requiring minimal maintenance.

Water in these seven homes would continue to be monitored on a semi-annual basis. The units would be maintained by NYSDEC until three years of consecutive semi-annual rounds of sampling demonstrate that the well water meets Federal and State drinking water standards indicating that treatment will no longer be necessary.

#### **Alternative AW-2 - Provision of Public Water to Study Area**

Capital Cost: \$3,147,969  
O & M Cost: \$0  
Present Worth Cost: \$3,147,969  
Time to Implement: 18 months

This alternative provides for the extension of a local public water system into the study area. The ROD originally envisioned that EPA would enter into an agreement with the Town of Hyde Park (THP) to share in the costs to upgrade the Harbourside Hills Water District Well water treatment system to meet NYSDOH standards. It is noted, however, because of residents' concerns about incurring costs associated with upgrading the Harbourside Hills Water District (HHWD) treatment facilities, the Town recently passed a resolution stating that the HHWD facilities not be upgraded. Furthermore, the Town of Hyde Park has requested that the Hyde Park Fire and Water district (HPFW) be utilized as the water source. The water distribution network would be the same as that described in the ROD. The distribution system would be installed along the Haviland Road and Wright Avenue, and connections would be made by EPA from this distribution system to residences in the study area. This network would be connected to HPFW at a point approximately one-half mile away.

### **EVALUATION OF ALTERNATIVES**

During the detailed evaluation of remedial alternatives, each alternative is assessed against nine evaluation criteria, namely, overall protection of human health and the environment, compliance with applicable or relevant and appropriate requirements, long-term effectiveness and permanence, reduction of toxicity, mobility, or volume, short-term effectiveness, implementability, cost, and state and community acceptance.

The evaluation criteria are described below.

- o Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
- o Compliance with applicable or relevant and appropriate requirements (ARARs) addresses whether or not a remedy will meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes and requirements or provide grounds for invoking a waiver.
- o Long-term effectiveness and permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met.
- o Reduction of toxicity, mobility, or volume through treatment is the anticipated performance of the treatment technologies a remedy may employ.
- o Short-term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

- o Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
- o Cost includes estimated capital and operation and maintenance costs, and net present worth costs.
- o State acceptance indicates whether, based on its review of the RI/FS reports and Post-Decision Proposed Plan, the state concurs, opposes, or has no comment on the preferred alternative at the present time.
- o Community acceptance will be assessed in the Record of Decision (ROD) following a review of the public comments received on the RI/FS reports and the Post-Decision Proposed Plan.

A comparative analysis of these alternatives based upon the evaluation criteria noted above follows.

## Groundwater

- o Overall Protection of Human Health and the Environment

Both Alternatives GW-1 and GW-2 would provide full protection to human health and the environment. Modeling predicts that the active extraction and treatment of the site groundwater would result in contaminant levels being reduced to State and Federal groundwater and drinking water in 2 to 7 years. Modeling of the natural attenuation alternative also predicts that the ARARs would be achieved in 2 to 7 years. Nonetheless, the extraction and treatment of the groundwater under Alternative GW-2 may provide a slightly more rapid removal of contamination from the aquifer than the natural attenuation process of Alternative GW-1. The exposure route to the people at the site is through ingestion of groundwater or the inhalation of volatile contaminants from the groundwater. Private wells which contain levels of contaminants above drinking water standards have been fitted with individual water-treatment units, thereby ensuring a safe supply of potable water. The levels of contaminants entering these wells has been decreasing, and sampling of the water prior to and after treatment from these units indicates that the units are working effectively.

- o Compliance with ARARs

Both alternatives would comply with ARARs in approximately the same time frame. Modeling predicts that the no further action/natural attenuation Alternative GW-1 and the active groundwater extraction and treatment Alternative GW-2 would result in contaminant levels being reduced to State and Federal groundwater and drinking water standards in 2 to 7 years.

- o Long-Term Effectiveness and Permanence

Alternatives GW-1 and GW-2 would be equal in providing long-term effectiveness and permanence in that the

groundwater contamination would be reduced below State and Federal drinking water standards within 2 to 7 years.

Alternative GW-2 would potentially result in greater long-term exposure to contaminants by workers who could come into direct contact with the concentrated sludges from the treatment system. However, proper health and safety precautions would be implemented to minimize exposure to the sludges.

- o Reduction in Toxicity, Mobility, or Volume

Under both alternatives, the volume and toxicity of the groundwater contaminants above ARARs would be reduced at approximately the same rate and would ultimately be eliminated in approximately the same time frame.

The mobility of the contamination plume would be reduced by actively extracting the groundwater under alternative GW-2. It is assumed that even with the active groundwater extraction, some contamination would migrate into the Fall Kill, but a lesser amount than under the natural flushing conditions of Alternative GW-1. It is noted that sampling of the Fall Kill indicates that levels of the contaminants reaching the creek do not pose a threat to human health and the environment.

- o Short-Term Effectiveness

There would be virtually no short-term impacts on human health and the environment by continuing to maintain the residential water treatment units under Alternative GW-1. Also, because the residential water treatment units are already installed, no time would be required to implement this alternative. However, construction activities associated with Alternative GW-2 (e.g., installation of extraction wells and underground piping, and construction of the treatment unit) would have potentially negative impacts on residents in the study area. While efforts would be made to minimize these impacts, some disturbances to residents would result from disruption of traffic, excavation activities on public and private land, noise, and fugitive dust emissions. It is estimated that the construction activities for Alternative GW-2 would take approximately one year to complete.

- o Implementability

The technologies proposed for extracting and treating contaminated groundwater in Alternative GW-2 are proven and reliable in achieving the specified cleanup goals, however, Alternative GW-2 would be much more complex than Alternative GW-1 to implement. The design and construction of the groundwater extraction system would take approximately 2 years to complete. Alternative GW-2 would require that property be acquired/leased for the treatment unit and that access/easements be obtained from private and public property owners for the installation of piping and extraction wells. The operation and maintenance of the system would include the monitoring of the aquifer for system effectiveness, monitoring of the system emissions to determine compliance with permit equivalencies, and the handling and disposal of the concentrated contaminated treatment residual.

Alternative GW-1 would be more easily implemented, as it would only require the sampling of selected monitoring wells once a year.

- o Cost

Alternative GW-1 has no direct costs associated with its implementation. The present worth of this alternative of \$24,873 is for implementation of an annual groundwater monitoring program. The capital and present worth costs of Alternative GW-2 are estimated to be approximately \$625,500 and \$1,205,439 respectively.

Both alternatives would provide a similar level of protection in a similar time frame, however, Alternative GW-1 would do so at a much lower cost.

- o State Acceptance

The State of New York concurs on the proposed modified remedy.

- o Community Acceptance

Community acceptance of the preferred alternative will be assessed in the ROD amendment following review of the public comments received on this Post-Decision Proposed Plan.

## **Alternate Water Supply**

- o Overall Protection of Human Health and the Environment

Both Alternatives AW-1 and AW-2 would provide full protection of human health. Both alternatives would prevent the potential exposure of residents at the site through ingestion or inhalation of contaminants present in selected residential wells. Data from the sampling of the impacted residential wells has shown that the whole-house treatment units installed at these residences are fully effective and provide sustained protection with minimal maintenance.

The provision of public water to the site area described in Alternative AW-2 would not be more protective to the residents than what presently exists, but would preclude the need for future sampling and maintenance of the impacted wells.

- o Compliance with ARARs

Alternatives AW-1 and AW-2 would both comply with ARARs, the primary ARARs of concern being State and Federal drinking water standards. Neither Alternative AW-1 nor AW-2 would provide a significant advantage over the other with respect to ARARs.

Compliance with ARARs under Alternative AW-1 would be demonstrated via the home sampling and filter maintenance program. Compliance with ARARs under Alternative AW-2 would be demonstrated by the water supplier via regular

sampling of the water distribution system as required by the State of New York.

- o Long-Term Effectiveness and Permanence

Because groundwater contamination is estimated to be completely attenuated within 2 to 7 years, site-related contaminants would not be expected to impact the residential wells over the long term. Therefore, both alternatives would provide long-term protectiveness and permanence.

- o Reduction in Toxicity, Mobility, or Volume

A comparison of the two alternatives' abilities to satisfy this criterion is not necessarily applicable since the goal of the alternate water supply is to provide a potable supply of water and does not require that the toxicity, mobility or volume of contaminants be reduced to do so. Nonetheless, Alternative AW-1 would reduce the toxicity, mobility and volume of contaminants in the residential well water, and to a limited extent the aquifer. Alternative AW-2 would not provide any reduction of contaminants.

- o Short-Term Effectiveness

There would be virtually no short-term impacts to human health and the environment by continuing to maintain the residential water treatment units under Alternative AW-1. Also, because the residential water treatment units are already installed, no time would be required to implement this alternative. However, construction activities associated with Alternative AW-2 (e.g., installation of underground piping) would have potentially negative impacts on residents in the study area. While efforts would be made to minimize these impacts, some disturbances to residents would result from disruption of traffic, excavation activities on public and private land, noise, and fugitive dust emissions. It is estimated that the construction activities for Alternative AW-2 would take approximately one year to complete.

- o Implementability

Alternative AW-2 would require the design and construction of a public potable water distribution system and its connection to HPFW. The system would take approximately 18 months to construct. The technologies necessary for implementing this alternative are proven and reliable.

The implementation of Alternative AW-1 would require the continued monitoring and maintenance of the home filtration units.

- o Cost

Alternative AW-1 provides a similar level of protection as Alternative AW-2 but at a much lower cost. AW-1 has no direct capital costs associated with its implementation. The present worth cost of AW-1 is \$166,082 is based on annual costs of \$27,053 per year for the semi-annual sampling and maintenance of the whole-house treatment systems.

The total cost of Alternative AW-2 is estimated to be approximately \$3,147,969. The capital cost is based on the



cost of connecting to HPFW which is estimated to be \$848,969 and construction of the distribution system is estimated to be \$2,299,000. While EPA and the NYSDEC would not incur any operating or maintenance expenditures under Alternative AW-2, residents connected to the system would have to pay for the water received, which is estimated to be approximately \$200 to \$400 per year.

- o State Acceptance

The State of New York concurs on the proposed modified remedy.

- o Community Acceptance

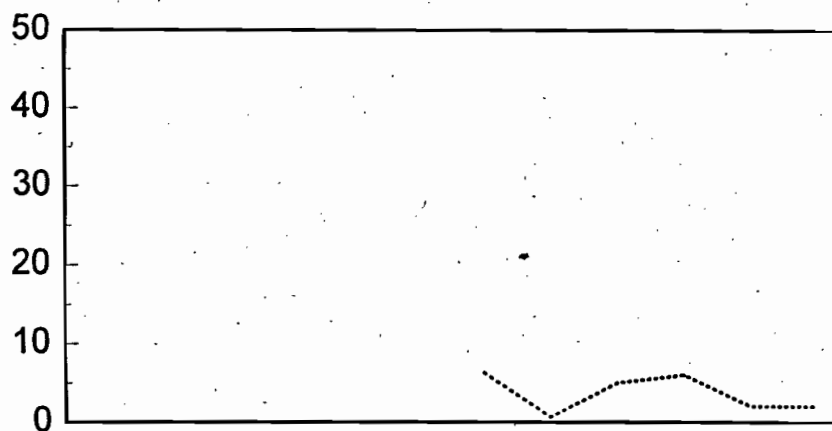
Community acceptance of the preferred alternative will be assessed in the ROD amendment following review of the public comments received on this Post-Decision Proposed Plan.

### ***PREFERRED ALTERNATIVE***

Based upon an evaluation of the various alternatives, EPA and NYSDEC recommend Alternative GW-1, No Further Action/Natural Attenuation, and AW-1, No-Further Action/Continue to Maintain Whole-House Filter Systems.

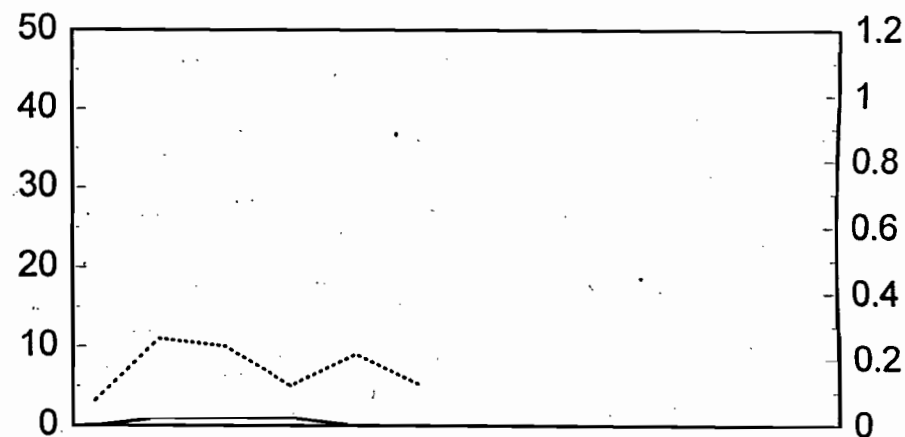
The Post-Decision preferred alternative provides the best balance of trade-offs among alternatives with respect to the evaluating criteria. EPA and the NYSDEC believe that the preferred alternative will be protective of human health and the environment, will comply with ARARs, will be cost-effective, and will utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

### 8 Haviland Road



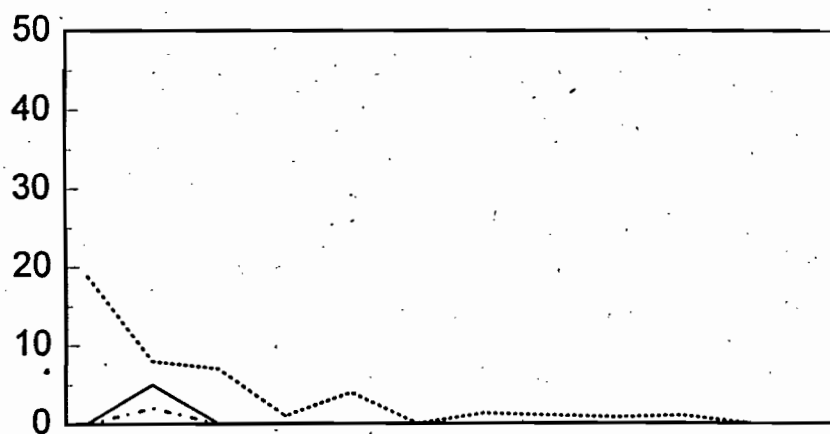
	1/90	5/90	9/90	1/91	10/91	1/92	7/93	1/94	7/94	1/95	7/95	1/96
DCE	—						0.0	0.0	0.0	0.0	0.0	0.0
PCE	....						6.4	0.7	5.0	6.0	2.0	2.0
CBZene	—						0.0	0.0	0.0	0.0	0.0	0.0

### 10 Haviland Road



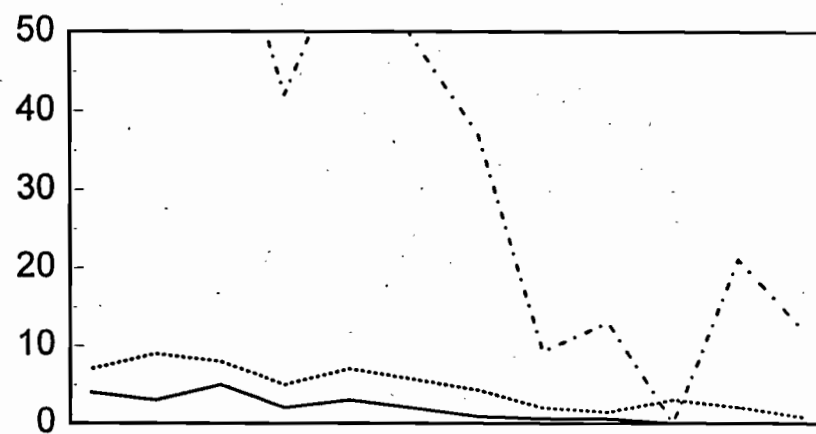
	1/90	5/90	9/90	1/91	10/91	1/92	7/93	1/94	7/94	1/95	7/95	1/96
DCE	—	0.0	1.0	1.0	0.0	0.0						
PCE	....	3.0	11.0	10.0	5.0	9.0	5.0					
CBZene	—	0.0	0.0	0.0	0.0	0.0						

### 12 Haviland Road



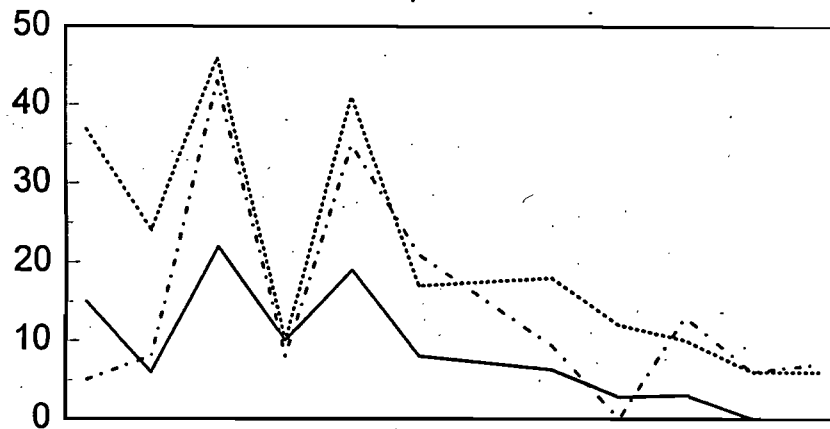
	1/90	5/90	9/90	1/91	10/91	1/92	7/93	1/94	7/94	1/95	7/95	1/96
DCE	—	0.0	5.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
PCE	....	19.0	8.0	7.0	1.0	4.0	0.0	1.3	0.8	1.0	0.0	
CBZene	—	0.0	2.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	

### 14 Haviland Road



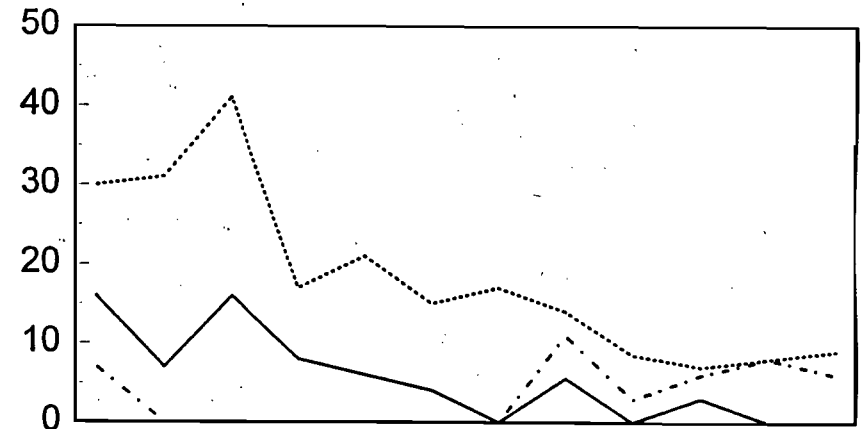
	1/90	5/90	9/90	1/91	10/91	1/92	7/93	1/94	7/94	1/95	7/95	1/96
DCE	—	4.0	3.0	5.0	2.0	3.0		0.9	0.6	0.6	0.0	0.0
PCE	....	7.0	9.0	8.0	5.0	7.0		4.3	2.0	1.5	3.0	2.0
ChB'zene	—	89.0	87.0	70.0	42.0	61.0		37.0	9.3	13.0	0.0	21.0

### 20 Haviland Road



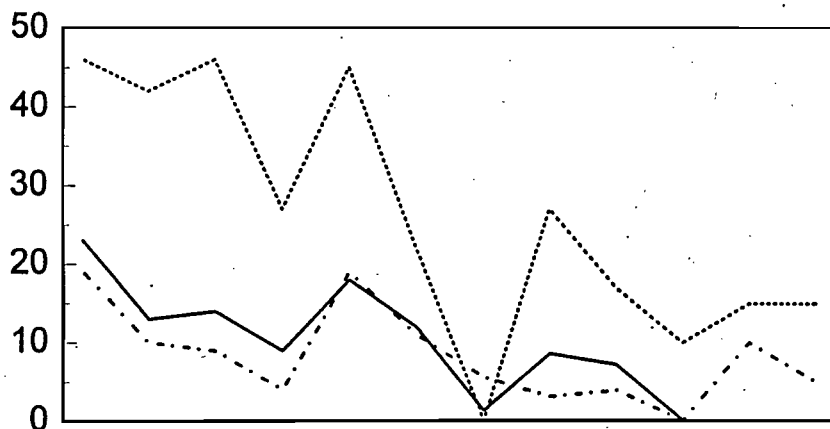
	1/90	5/90	9/90	1/91	10/91	1/92	7/93	1/94	7/94	1/95	7/95	1/96
DCE —	15.0	6.0	22.0	10.0	19.0	8.0		6.3	2.8	3.0	0.0	0.0
PCE ....	37.0	24.0	46.0	10.0	41.0	17.0		18.0	12.0	10.0	6.0	6.0
CBZene - -	5.0	8.0	43.0	8.0	35.0	21.0		9.3	0.0	13.0	6.0	7.0

### 22 Haviland Road



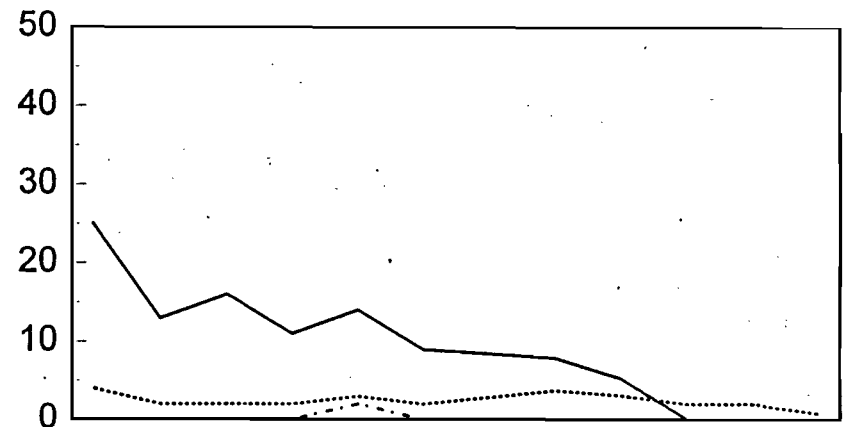
	1/90	5/90	9/90	1/91	10/91	1/92	7/93	1/94	7/94	1/95	7/95	1/96
DCE —	16.0	7.0	16.0	8.0	6.0	4.0	0.0	5.6	0.0	3.0	0.0	0.0
PCE ....	30.0	31.0	41.0	17.0	21.0	15.0	17.0	14.0	8.5	7.0	8.0	9.0
CBZene - -	7.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	2.9	6.0	8.0	6.0

### 24 Haviland Road



	1/90	5/90	9/90	1/91	10/91	1/92	7/93	1/94	7/94	1/95	7/95	1/96
DCE —	23.0	13.0	14.0	9.0	18.0	12.0	1.3	8.6	7.2	0.0	0.0	0.0
PCE ....	46.0	42.0	46.0	27.0	45.0	22.0	0.0	27.0	17.0	10.0	15.0	15.0
CBZene - -	19.0	10.0	9.0	4.0	19.0	11.0	5.6	3.1	3.9	0.0	10.0	5.0

### 26 Haviland Road



	1/90	5/90	9/90	1/91	10/91	1/92	7/93	1/94	7/94	1/95	7/95	1/96
DCE —	25.0	13.0	16.0	11.0	14.0	9.0		7.9	5.3	0.0	0.0	0.0
PCE ....	4.0	2.0	2.0	2.0	3.0	2.0		3.7	3.1	2.0	2.0	0.8
CBZene - -	0.0	0.0	0.0	0.0	2.0	0.0		0.0	0.0	0.0	0.0	0.0

P.N. Prentice  
29 Lawrence Rd.  
Hyde Park, NY 12538-2429

August 30, 1996

Mr. Kevin Willis  
US-EPA 20th Floor  
290 Broadway  
New York, NY 1007-1866

Dear Sir:

The Harbourn Hills Water Advisory Committee is composed of 8 members who live in the district and are appointed to the committee by the Hyde Park Town Board. The members monitor the affairs of the district and advise the Town Board on matters related to the operation of the district when the occasion demands that.

The notice for the 9/4 [Haviland Area in Hyde Park] meeting appeared in the Poughkeepsie Journal on 8/26 in the middle of the sports section. The committee feels that this was a poor choice of location [some people don't read the sports section] and asks that the notice be repeated before the 9/4 meeting to insure that residents and other interested parties are properly notified.

The committee also noted that there has been previously published data on heavy metals in the water samples, but no information appeared in your report at a detail level given to VOC's. We ask that a graphical representation of heavy metals over time be given the same presentation as VOC's were given.

It was also interesting to note that your report appeared in the Hyde Park Town Clerk's office late in the day on 8/26 and announced that the comment period started on 8/24.

Sincerely yours,



P. N. Prentice

Executive Secretary to the Committee  
914-229-2995 Fax by prior arrangement [I have to turn the computer on]

cc/ Hyde Park Town Board..

P.N. Prentice  
29 Lawrence Rd.  
Hyde Park, NY 12538-2429

September 5, 1996

Mr. Kevin Willis  
US-EPA 20th Floor  
290 Broadway  
New York, NY 1007-1866

Dear Sir:

Following the advice you gave last night I went to the Hyde Park Free Library to search out the documents you said were deposited there. With the help of the Librarian we found the large report dated 1987 (I think July) and the report which was a copy of that given to the Hyde Park Town Clerk on 9/26/96.

Where is the information for the period between 1987 and 1996? Please advise soonest as the comment period ends 9/23.

Sincerely yours,



P. N. Prentice

Executive Secretary to the Committee

cc/ Hyde Park Town Board..

Mr. Soya

Mr. Cain

HPF&W

Hyde Park School District Buildings and Grounds

P.N. Prentice  
29 Lawrence Rd.  
Hyde Park, NY 12538-2429

September 7, 1996

Mr. Kevin Willis  
US-EPA 20th Floor  
290 Broadway  
New York, NY 1007-1866

Dear Sir:

Please include this letter and my letter of 9/5/96 in the matter of record on the Haviland site Hyde Park NY.

When your 8 page report became available at the Hyde Park Town Clerk's office I obtained a copy and noted what I then believed to be an inaccurate statement on page 5 [copy enclosed] which I quote in part... "... the Town recently passed a resolution stating that the HHWD facilities not be upgraded."

I faxed a request to the Hyde Park Town Hall on 8/29/86 [copy enclosed] and received pages from the official minutes of the meetings on 10/13/96 [page 245 - note resolution 10:13-1 of 1995] and meeting 2/26/96 [page 63 - note resolution 2:26-14 of 1996]. These resolution do not support your statement.

This is all of the record I am aware of which would have any relevance to your statement quoted above. I continue to believe your statement is inaccurate. Can you support your statement "... the Town recently passed a resolution stating that the HHWD facilities not be upgraded?"

Sincerely yours,



P. N. Prentice

Executive Secretary to the Committee

cc/ Hyde Park Town Board..

Mr. Soya

Mr. Cain

HPF&W

Hyde Park School District Buildings and Grounds

HH Advisory Committee

P.N. Prentice  
29 Lawrence Rd.  
Hyde Park, NY 12538-2429

September 15, 1996

Mr. Kevin Willis  
US-EPA 20th Floor  
290 Broadway  
New York, NY 1007-1866

Dear Sir:


Got your notice about comment period being extended until Oct. 23rd in the matter of the Haviland Area of Hyde Park, NY. Thank you.

Would you please advise when you will place additional materials in the Hyde Park Free Library so that I will not have to bother the library every day to find out when these "new" materials are available?

914-229-2995

Thank you.

Sincerely yours,



P. N. Prentice

Executive Secretary to the Committee

cc/ Hyde Park Town Board..

Mr. Soya  
Mr. Cain  
HPF&W  
Hyde Park School District Buildings and Grounds

P.N. Prentice  
29 Lawrence Rd.  
Hyde Park, NY 12538-2429

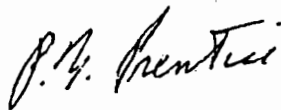
added September 24, 1996

Note my letter of Sept. 15, 1996 following.

I visited the library today and was told no information has been added to the 1987 material discovered before.

What are your intention and when are your intentions. I note the comment period ends 10/23/96

Please add all of this to the record as a comment.



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September 15, 1996

Mr. Kevin Willis  
US-EPA 20th Floor  
290 Broadway  
New York, NY 1007-1866

Dear Sir:

Got your notice about comment period being extended until Oct. 23rd in the matter of the Haviland Area of Hyde Park, NY. Thank you.

Would you please advise when you will place additional materials in the Hyde Park Free Library so that I will not have to bother the library every day to find out when these "new" materials are available?

914-229-2995

Thank you.

Sincerely yours,



P. N. Prentice



Harbour Hills Water Advisory Committee  
Hyde Park, NY 12538-2429

October 9, 1996

Mr. Kevin Willis  
US-ERA 20th Floor  
290 Broadway  
New York, NY 1007-1866

Dear Sir:

RE: Your report titled **"Superfund Post-Decision Proposed Plan Haviland Complex Hyde Park Dutchess County, NY"** dated "August 1996."

The Harbour Hills Water Advisory Committee is composed of 8 members who live in the district and are appointed to the committee by the Hyde Park Town Board. The members monitor the affairs of the district and advise the Town Board on matters related to the operation of the district when the occasion demands that.

When the Harbour Hills Water District was formed [and the Harbour Hills Water Advisory Committee established] it did not include the Haviland Road and Haviland Shopping center. A short time later, the discovery of pollution in that area caused the Town of Hyde Park to expand the Harbour Hills Water District to include these two areas in anticipation of providing water to these residents.

The ROD [Record of Decision] when published established the EPA as a source of help and funding to expand water system distribution and refurbish the water plant to accommodate the new area. The committee hired [[with the approval of the Town of Hyde Park] an engineer to work with the district and the EPA on the best method to accomplish this task. Since the existing well/plant site was too small to accommodate the needed water treatment facility other alternatives were investigated and this finally culminated in the concept of an association [a tenant would be accurate] with Hyde Park Fire and Water (HPF&W) as a source of supply. This was also the least expensive.

Part of this decision was predicated on the late understanding of the restrictions on the EPA funding which would have placed a considerable burden on the existing 250 families in our district who would have to sustain the bond debt of the expansion while exempting the Haviland Road expansion. The most reasonable course of action to our district would have been to take advantage of the connection to Hyde Park Fire and Water at the Haviland Road area and build supporting facilities in our district such as a storage tank. Haviland Road would also benefit from this improvement as it would level the demand for water which would also make the water less costly to our district as well as the Haviland Road area.

Harbour Hills Water Advisory Committee  
Hyde Park, NY 12538-2429

A water supply from Hyde Park Fire and Water would also enable the Haviland Middle School to purchase water rather than sustain a significant capital expense to replace and refurbish equipment in the school which is at or near the end of life. Further a public supply would enable the school district to avoid the expense of maintenance and testing of its supply. The existing school well furnished not only Haviland Middle School, but also Ralph R. Smith Elementary School [near by] and the bus garage complex [also near by]. It should be noted that the well used by the school is deep, and while historically isolated from the pollution above, the school officials still worry about possible future contamination. (The undersigned is an ex- member of the Hyde Park School Board whose three year term expired last July 1st and thus has knowledge of this subject.)

The committee has noted that if the present Harbour Hills water district is required to service our existing service area as well as the Haviland Road, possibly some Wright Ave., Haviland Apartments and shopping center, and the Haviland school complex then **our well yield capacity would be strained. An alternate source would be much preferred. The yield test for Harbour Hills Wells has not been recently done to establish safe yield plus reserve. The wells are close together with one shallow and one deep. There has been observed interaction between them in that pumping one causes the cone of depression on the other to draw down. No tests have been done to establish the safe yield when both are pumping at maximum capacity.**

The committee notes there has been a long history of reports, letters, meetings, which have all been supportive in a general way of EPA funding for this area. Our district has formulated our plans and done our engineering work with the underlying assumption of EPA funding and involvement. Our Engineer estimates our district has spent something in excess of \$29,000 because of EPA involvement that would have otherwise not been spent or spent for other work. Can we be reimbursed? It was noted at the meeting on Sept. 4th that the \$2.1 million dollars you claim to have spent would have been sufficient to connect to HPF&W and thus end the matter.

The committee has several questions:

- The graphs [pollution levels at various Haviland Road houses] presented at the meeting on 9/4 were more recent than those published in the August 1996 report. Why were these not made available to our committee and the public?
- The heavy metals report circa 1992 had elevated levels of Cr. and Ni. in excess of NYS DOH standards. At the meeting you claimed to have done later analysis. Where are those reports? If heavy metals are in the background soil why not sample the soil to determine if this is so and clear up the matter regarding heavy metals?

Harbour Hills Water Advisory Committee  
Hyde Park, NY 12538-2429

- Why did the comment period start on 8/24 for a report that was not available until two days later on 8/26?
- The Hyde Park Free Library was announced at the 9/4 meeting as being a source of information. When we visited the library the most recent information was 1987 and the report caption above. Where is the rest of the data?
- The statement on page 5 of the above captioned report which I quote in part... "...the Town recently passed a resolution stating that the Harbour Hills Water District facilities not be upgraded." The official minutes of the meetings on 10/13/96 [page 245 - note resolution 10:13-1 of 1995] and meeting 2/26/96 [page 63 - note resolution 2:26-14 of 1996] do not support your statement. Where did you get your information from?
- Why was the EPA notice of the 9/4 meeting published in the Poughkeepsie Journal placed in the middle of the sports section [not read by all] and why did you not publish a second notice when this was brought to your attention? The announcement should have been placed in the legal notices.
- When the Town councilman for our district and the secretary to the committee visited all the homes on Haviland Road and Wright Ave. we were informed that some of the houses had not been tested in years. This is curious because your foil of the computer model showed the pollution plume extending to Wright and yet there were no plans to test again. What plans do you have for a comprehensive test before electing to abandon support for the area? Further, we obtained selected pages from a report titled "Groundwater Modeling at the Haviland Complex site, Hyde Park, NY" prepared by Milovan S. Beljin, Ph.D. and dated Dec. 1992. The Hyde Park Free Library was not the source of this report access. Page 14 of this memo states, "Figure 20 indicates that even after 10 years, concentration levels of tetrachloroethene will not decrease below 10 ppb level." [this was for one set of assumptions] Figures 20-31 show projections of various other organic compounds at contour levels of 5 and 10 ppb after 2, 5, and 10 year intervals. All tend to show concentrations near or at the east end of Haviland and Wright Ave. [just before Bill Reynolds Blvd.] Do you believe this computer simulation and if so why have you not tested in this area?
- The NYS DOH and the DEC all signed the ROD. The committee has not seen any documentation from those parties relative to your information that they support the EPA position. Can you supply this?
- At the 9/4/96 EPA meeting in response to the question about the ROD, EPA claimed that it did not expire. The ROD itself has language suggesting it expires in 1997. Please explain this apparent discrepancy?

Harbour Hills Water Advisory Committee  
Hyde Park, NY 12538-2429

- Why did you fail to respond to the secretary's letters of 8/25/96 [[newspaper notice], 8/30/96 [request for recent analysis data] , 9/5/96 [Hyde Park Free Library not a source], and 9/7/96 [inaccurate statement in above captioned matter]?
- It would be reasonable to provide interested parties with up-to-date documentation and hold another information meeting before a final decision is made.

You must have learned from the meeting on 9/4/96 that the residents of Haviland Road and Wright Ave. are still concerned about their water. Their concern could be closed by a connection to HPF&W with your support. The remaining part of the district would also benefit.

**Please reconsider your pending action.**

Sincerely yours,



P. N. Prentice

Executive Secretary to the Committee

cc/ Hyde Park Town Board..

Mr. Soyka District Engineer

Mr. Cain System Operator

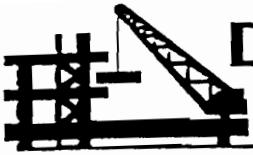
Hyde Park Fire and Water District

Hyde Park School District Buildings and Grounds

Scott Chase Dutchess County Water and Waste Water

NYS DEC

NYS DOH



# D. F. WHEELER ENGINEERS, P.C.

CONSULTING ENGINEERS

53 NORTH BROADWAY Red Hook, New York 12571 (914) 758-3926 FAX (914) 758-3768

September 19, 1996

Kevin Willis  
US-EPA  
290 Broadway, 20th Floor  
New York, NY 10007-1866

RE: Haviland Superfund Site  
96-200.3

Dear Mr. Willis:

This office in its capacity as a Town Engineer for several municipalities and as a former Town Engineer for the Town of Hyde Park, has some viable experience with this site. There are, however, several issues that in our opinion remain open. They are:

- \* The heavy metal question. This area was a very significant question from the inception of the project inception, through the ROD development, and up until several months ago. This office would recommend split-spoon soil sampling to determine the accuracy of the statement of the pre-existence of heavy metals. A soil analysis would be required in our opinion to eliminate any doubt about the existence of the heavy metals.
- \* Small statistical sampling population. The sample population for the pollution plume needs to be expanded to find the real edge of the pollution plume. It is our opinion that the sample size needs to be substantially increased.
- \* The question of the contribution of the Haviland Road School to the pollution. It is our understanding that the School District has been formally notified that it is a PRP. Has the EPA changed it's view of the responsibility of the School District.

Finally, while there has been a certain amount of avoidance of responsibility on all sides of this issue, we believe it would be fair to say that the Town of Hyde Park in the past several years has taken the lead in addressing and attacking

D.F. WHEELER ENGINEERS, P.C.  
Haviland Superfund Site

this problem. Also, we feel that while nature has remediated some of the materials (i.e. VOC's), the heavy metals remain a serious and enduring health concern. We also feel that a cursory review of the metals question does not support the contention that they are pre-existing.

It is our position that the situation has not changed substantially at the Haviland complex and that the obligation to the residents remains. Therefore, the ROD should be executed.

Should you have any questions, please do not hesitate to contact this office.

Very truly yours,  
D.F. WHEELER ENGINEERS, P.C.

  
Daniel F. Wheeler, P.E.  
Consulting Engineer

DFW\cb

cc: Supervisor Spence and Town Board

DUTCHESS COUNTY

WATER AND  
WASTEWATER AUTHORITY



October 22, 1996

27 High Street  
Poughkeepsie  
New York 12601  
(914)486-3601  
Fax (914)486-3610  
E-mail: dc2@mhv.net

Mr. Kevin Willis  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, NY 10007-1866

RE: Haviland Complex  
Superfund Post-Decision Proposed Plan

Dear Mr. Willis:

Authority Board Members

Daniel J. Donovan  
Chairman

Edward E. Downey  
Vice Chairman

Nicholas S. Johnson  
Treasurer

Peter N. Anagnos, P.E., L.S.  
Secretary

Vincent C. Pangia, CPA

Ex officio Members

Barbara Kendall, Executive Director  
Environmental Management Council

Ed Hoxsie, District Manager  
Soil and Water Conservation District

Roger P. Akeley, Commissioner  
D. C. Dept. of Planning & Development

Staff

Scott G. Chase  
Executive Director

The Dutchess County Water and Wastewater Authority is a public benefit corporation formed in 1992 by the New York State Legislature and the Dutchess County Legislature. The Authority's charge is to address issues of adequacy of water supply and wastewater treatment throughout the County.

Authority staff has reviewed available materials regarding the Haviland Complex Superfund Post-Decision Proposed Plan, and attended the EPA's Public Hearing on this proposed plan, held on September 4, 1996. Our key concern with the proposed plan is to what degree the proposed alternatives (GW-1 and AW-1) provide adequate protection for small businesses and homes east of Route 9G which are not currently supplied with whole house treatment systems, particularly the additional homes on Haviland Avenue and those homes on the eastern end of Wright Ave.

The evaluation of the alternatives and the justification for selecting Alternatives AW-1 and GW-1, focus on the homes with whole house treatment system, to the exclusion of those homes with out treatment systems:

The evaluation of Alternative GW-1 regarding "Overall protection of human health and the environment" assumes actual human exposure will not occur in the 2-7 years until groundwater meets MCL's due to presence of treatment units. The evaluation does not address the possibility of contamination of other wells in residences not presently equipped with treatment systems.

The evaluation of Alternative AW-1 regarding "Overall protection of human health and the environment" would "...prevent the potential exposure of residents at the site through ingestion of contaminants present in selected residential wells" (emphasis added), based on

effectiveness of whole house treatment units. Once again, the evaluation appears to not address the residences with out treatment systems.

The exclusion of the additional residences within the Haviland Complex site seems to be based on an assumption that, since these residential wells did not show contamination in the past, they will not do so in the future. The validity of this assumption seems open to question for the following reasons; lack of current sampling data, variability of the sampling data, accuracy of modeling and the lack of future monitoring.

**Lack of monitoring data for additional residences:** If a low level volatile plume is in fact moving south easterly from the Haviland Shopping Center and Haviland Complex Apartments area, it seems possible that additional homes on Haviland Avenue and homes on Wright Avenue may be at risk of contamination. It is unclear when the last time residential wells of homes without treatment units were sampled, but it appears that many have not been sampled in over three years.

**Variability in sampling data:** The concern regarding the lack of recent sampling data for residential wells without treatment units is heightened by the high variability in sampling results for the residential wells on Haviland Road, which have been sampled semi-annually since 1989. Specifically:

- At 10 Haviland Road PCE levels went from 3 ppb to 11 ppb in 4 months (1990),
- At 14 Haviland Road CBZ levels went from 0 to 21 ppb in 6 months (1995),
- At 20 Haviland Road PCE level went from 10 to 41 ppb in 9 months (1991), and CBZ levels went from 8 to 35 ppb in 9 months (1991) and from 0 to 13 ppb in 4 months (94-95),
- At 22 Haviland Road DCE levels went from 0 to 5.6 ppb in 4 months (93-94), and CBZ levels went from 0 to 11 ppb in 4 months (93-94),
- At 24 Haviland Road PCE levels went from 0 to 27 ppb in 4 months (93-94), and CBZ levels from 0 to 10 ppb in 6 months (1995).

It appears from this data that distribution of contamination levels within the plume are far from uniform, and that levels of contamination at any particular point can easily vary from non-detectable to above MCLs in a relatively short time period. This raises questions as to whether the limited testing done on additional residential wells is adequate to support an assumption that they are not currently, and will not in the future, be impacted by contamination.

In contrast to the amount of sampling data upon which EPA is basing a decision to take no further action on homes without treatment units, Alternative AW-1 anticipates maintenance of the



treatment units until 3 years of consecutive semi-annual rounds of sampling (i.e. 6 samples over 3 years) meet MCLs.

**Accuracy of modeling:** Modeling based on 1987 and 1990 data predicts that the contamination plume will not impact additional residential wells. However, modeling is not an exact science; it predicts a range of future outcomes based on current conditions. But conditions can change; for example, changes in water table conditions or water withdrawals could change the direction of groundwater flow. As stated above, there is a great deal of variability in the sampling results; how might this impact the reliability of the modeling?

For these reasons, it would seem prudent for EPA to conduct at least one more round of testing of all of the residential wells within the Haviland Complex site and downgradient of the source prior to making a final decision regarding appropriate remedies.

In the event that EPA determines to select remedies GW-1 and AW-1, we recommend ongoing monitoring, at least annually, of residential wells which do not have home treatment units as part of the monitoring plan. Currently, Alternative AW-1 anticipates semi-annual monitoring of all homes with treatment units, and maintenance of units, until 3 years of consecutive semi-annual rounds of sampling meet MCLs. No additional monitoring is recommended for the "non-treatment" homes.

In addition, monitoring wells should be sited both upgradient and down gradient of homes on Haviland Avenue and Wright Avenue to insure the detection of any contaminant plume that may impact the non-treatment homes. Alternative GW-1 calls for 5 monitoring wells upgradient and downgradient of "affected" homes - it is not clear whether "affected" homes includes all 35 homes in site area, or just the homes with treatment units. If the latter, EPA should evaluate whether 5 monitoring wells is adequate to cover the entire area.

**Benefits of providing public water supply:** There are overall benefits to the community of providing public water to the Haviland Area (Alternative AW-2). These issues are relevant to the issue of "Community Acceptance":

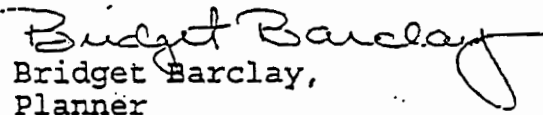
- a greater guarantee of clean water for all businesses and residents in the Haviland Complex,
- the elimination of the need for ongoing monitoring of all water supply wells in the impacted area,
- the elimination of the inconveniences and impacts on water pressure currently being experienced by those residents with whole home treatment systems,

- the resolution of the area residents' concerns that the water contamination problems (real and perceived) are negatively impacting their property values, and
- the ability of the Haviland Middle School and Ralph R. Smith Elementary School to purchase water rather than continue to bear the ongoing operation, maintenance and monitoring expenses, and future capital improvement expenses for their on site supply system.

There are additional benefits to the community at large of providing public water. A connection to the Hyde Park Fire and Water District would also benefit the other residents of the Harbourside Hills Water District who are outside of the Haviland Complex Area. The Hyde Park Fire and Water District currently has significant excess capacity compared to its service population. This has created a financial hardship on district residents (regarding both operation and capital costs) that can only be resolved by expanding the service area.

Connection of the Haviland Complex area to the Hyde Park Fire and Water District would be an effective alternative that would satisfy the criteria of; Overall Protection of Human Health and the Environment, Compliance with ARAR's, Long-Term Effectiveness and Permanence, Implementability, and Community Acceptance. EPA should reconsider this alternative.

Respectfully Submitted,

  
Bridget Barclay,  
Planner

cc: Thomas Spence, Supervisor, Hyde Park  
Paul Prentice, Harbourside Hills Water Advisory Board

# HYDE PARK FIRE AND WATER DISTRICT

Chartered . . . 1860

P. O. Box 2007 588 Albany Post Road Hyde Park, New York 12538-0707 (914) 229-2686

12 September 1996

RECEIVED  
SEP 13 1996  
SUPERVISOR'S OFFICE

Kevin Willis, Project Manager  
Eastern New York Remediation Section  
United States Environmental Protection Agency  
Region 2  
290 Broadway 20th Floor  
New York, N.Y. 10007-1866

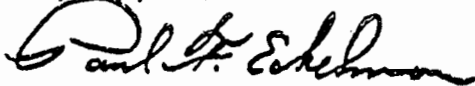
Re: Haviland Complex Superfund Site in Hyde Park, New York

Dear Mr. Willis:

The Superfund Post-Decision Proposed Plan, dated August 1996, has come to the attention of the Hyde Park Fire and Water District and wishes that this letter be considered by you as part of the public record on this matter. The Hyde Park Fire and Water District wishes to again reiterate to all parties concerned, that the District is ready, able, willing and interested in supplying the quantity, quality and reliability of water that the residents of the above mentioned site desire. The District, having just completed its own major water improvement project and being located near this Superfund Site, also, believes that it is in the best position to provide the quantity, quality and reliability of water at a competitive cost that the residents so rightly expect.

I and District representatives are very willing to met and discuss the availability of high quality water with the Environmental Protection Agency, the Town of Hyde Park and representatives of the interested affected residents so as to inform all of them of what is available from the District to help provide relief to the residents of the Haviland Complex Superfund Site.

Very truly yours,



Paul F. Eckelman  
President

cc: Thomas Spence, Town of Hyde Park Supervisor ✓  
Robert Kampf, Hyde Park Councilman  
Paul Prentice, Harbourside Hills Advisory Committee Secretary

# ROHDE, SOYKA & ANDREWS

*Consulting Engineers, P.C.*

40 Garden Street  
Poughkeepsie, NY 12601

(914) 452-7515  
Fax: (914) 452-8335

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*Wilfred A. Rohde, P.E. • Michael W. Soyka, P.E. • John V. Andrews, Jr., P.E.*

---

September 13, 1996

Kevin Willis  
US Environmental Protection Agency  
290 Broadway 20th Floor  
New York, NY 10007-1866

Re: Superfund Post-Decision Proposed Plan  
Haviland Complex

Dear Mr. Willis:

As you know, I am the Engineer who represents the Harboud Hills Water District for the Town of Hyde of Park. The Advisory Board to the District has requested that I contact you about their concerns regarding the subject matter. Therefore, I offer the following comments for your consideration:

1. The emphasis of the presentation and the subject plan was placed on the seven homes which have been identified in the past as having contaminated wells, and have subsequently received treatment systems for their water supply. However, the Haviland Complex also consists of a school campus with up to 1,300 students and staff; 86 homes and apartments; and over 15 businesses. These entities represent a probable water consumption of about 37,000 gallons per day. There was very little information presented as to the size and potential consumption for this important part of the Haviland Complex. What assurance is there that contamination of these remaining parcels is not a problem? During my discussion with Mr. John Glass of the Dutchess Count Health Department on September 4, 1996, I was informed that the system supplying the 61 apartments is still using their air stripper to treat the water being provided to these people. Please provide test data that shows the condition of the water quality for each and every potential user within the Haviland Complex.
2. A graphical representation of the decrease in the VOC's was shown for selected properties on Haviland Road. What is the data from all of the remaining monitoring wells concerning the status of VOC's? Show this information in the same graphic format.
3. The subject plan states on page 3: "In addition, site-related metals contamination has not been observed in any of the potable wells in the study area." Does metals contamination exist within any of the monitoring wells? If so, what is the potential for migration to the potable wells? Please prepare a graphical presentation of the change in metals contamination for all wells tested, similar to that for the eight wells on Haviland Road.

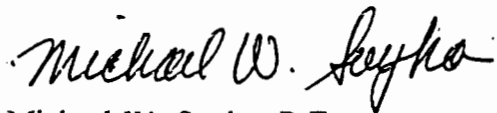
Kevin Willis  
September 13, 1996  
Page 2 of 2

4. The subject plan states that community acceptance of the preferred alternative will be assessed in the ROD amendment. What is the impact if the community still insists on a connection to the Hyde Park Fire and Water District?
5. At the public meeting held on September 4, 1996, it was stated that the EPA has spent \$2.1 million on this project. Please provide an accounting of these expenditures.
6. If the subject plan is accepted, will the Haviland Complex be reduced in size? If the Haviland Complex is not reduced in size by an official declaration, what will the economic impact be on properties that are deemed to be safe, yet are still located within a declared Super Fund site?

I thank you for the time given to me during the public comment period at the September 4th public meeting, and for your consideration of the above matters.

Very truly yours,

**ROHDE, SOYKA & ANDREWS  
CONSULTING ENGINEERS, P.C.**

  
Michael W. Soyka, P.E.

cc: Thomas Spence, Supervisor  
Town Board Members  
Town Clerk  
Harbour Hills Advisory Committee  
96-069-06

# HYDE PARK FIRE AND WATER DISTRICT

Chartered . . . 1860

P. O. Box 2007 588 Albany Post Road Hyde Park, New York 12538-0707 (914) 229-2686

12 September 1996

Kevin Willis, Project Manager  
Eastern New York Remediation Section  
United States Environmental Protection Agency  
Region 2  
290 Broadway 20th Floor  
New York, N.Y. 10007-1866

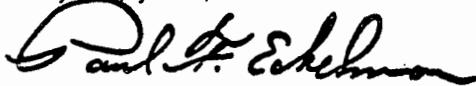
Re: Haviland Complex Superfund Site in Hyde Park, New York

Dear Mr. Willis:

The Superfund Post-Decision Proposed Plan, dated August 1996, has come to the attention of the Hyde Park Fire and Water District and wishes that this letter be considered by you as part of the public record on this matter. The Hyde Park Fire and Water District wishes to again reiterate to all parties concerned, that the District is ready, able, willing and interested in supplying the quantity, quality and reliability of water that the residents of the above mentioned site desire. The District, having just completed its own major water improvement project and being located near this Superfund Site, also, believes that it is in the best position to provide the quantity, quality and reliability of water at a competitive cost that the residents so rightly expect.

I and District representatives are very willing to met and discuss the availability of high quality water with the Environmental Protection Agency, the Town of Hyde Park and representatives of the interested affected residents so as to inform all of them of what is available from the District to help provide relief to the residents of the Haviland Complex Superfund Site.

Very truly yours,



Paul F. Eckelman  
President

cc: Thomas Spence, Town of Hyde Park Supervisor  
Robert Kampf, Hyde Park Councilman  
Paul Prentice, Harbour Hills Advisory Committee Secretary

# HYDE PARK CENTRAL SCHOOL DISTRICT

Building and Grounds Department

Haviland Road  
Hyde Park, New York 12538

Douglas R. Mayen, C.D.F.  
Director of Facilities & Operations

Tel. (914) 229-4064  
Fax. (914) 229-4033

September 25, 1996

Mr. Kevin Willis, Project Manager  
U.S. Environmental Protection Agency  
Emergency & Remedial Response Division  
290 Broadway 20th Floor  
New York, New York 10007

Dear Mr. Willis:

I would like to reiterate, for the written record, the Hyde Park Central School District's position as I stated in your meeting at the Haviland Middle School on September 04, 1996.

The School District takes exception to your "Superfund Post-Decision Proposed Plan" statement, Page 2, Paragraph 1, under *Summary of Site Investigations*. The Haviland Junior High School never emitted contaminants into the ground water, thereby, contributing to the contamination of the shallow residential wells on Haviland Road.

As a matter of fact, the only contaminants found in our septic tanks were heavy metals which, by your own admission on Page 3 of the Post-Decision Plan, you state that "site-related metals contamination has not been observed." It has never been proven that the heavy metals have ever left our septic tanks, contaminating any soil or water.

Furthermore, your Figure 33, dated September 1992, of Ebasco's *Summary Report of Groundwater Investigations* is erroneous and misleading. This shows the "Path Lines from Potential Pollution Sources" which, again, says the District is a potential source when the known pollutants of the residential wells do not exist in our septic systems. Also, the third point from the left on this figure is not a septic system but a rock ledge, and your sampling point there has always been dry.

To: Mr. Kevin Willis, Project Manager  
Re: Superfund Post-Decision Proposed Plan

September 25, 1996

The District would also like to go on record as being in favor of alternate AW-2, the installation of a Public Water System. The Haviland (Middle) Junior High School's *deep* well has never been polluted and, hopefully, will not be anytime in the future. But, our fifty-year old system is at the end of its useful life, and we would like to get out of the water supply business. It seems inefficient and uneconomical for the School District to maintain a water plant when the Hyde Park Fire and Water and Harbour Hills Water Systems could serve our needs, as well as, the residents of the area.

Thank you again for taking these facts under consideration in your final analysis.

Yours truly,



Douglas R. Mayen

DRM/jam

cc: Mr. Paul F. Eckelman, Hyde Park Fire and Water  
Mr. Clifford J. Ong, Support Services Administrator, HPCSD  
Mr. Paul N. Prentice, Harbour Hills Advisory Committee Secretary  
Mr. Daniel W. Stone, Chazen Engineering  
Dr. Stephen H. Urgenson, Superintendent of Schools, HPCSD

Dk.9.SprfndPrpsdPln





*The Historic Town of  
Hyde Park, New York*

Thomas Spence  
Supervisor

627 Albany Post Road  
Hyde Park, New York 12538  
Phone (914) 229 - 5111  
Fax (914) 229 - 0349

August 26, 1996

Kevin Willis  
US-EPA 20th Floor  
290 Broadway  
New York, NY 10007-1866

RE: Haviland Road Tests

Dear Mr. Willis:

I ask that you comply with Mr. Prentice's request. In addition  
please send an additional copy to this office.

I thank you.

Sincerely,

Tom Spence  
Supervisor

cc: Town Board  
P. Prentice



## *The Historic Town of Hyde Park, New York*

Thomas Spence  
Supervisor

627 Albany Post Road  
Hyde Park, New York 12538  
Phone (914) 229 - 5111  
Fax (914) 229 - 0349

September 16, 1996

Kevin Willis, Project Manager  
US-EPA Emergency & Remedial Response Division  
290 Broadway, 20th Floor  
New York, NY 10007-1866

Re: Haviland Road Site

Dear Mr. Willis:

The town takes issue with the EPA's proposal which was presented in a public hearing in Hyde Park on September 4, 1996.

The ROD had three signatories; the EPA should not unilaterally have the power to declare that its provisions have been satisfied or to nullify it.

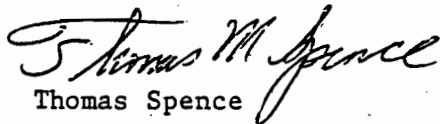
For at least nine years, heavy metal contamination was considered to be a serious problem. Now it is decreed that this is no longer a problem. There should be extensive test boring of the soil near to the existing wells to ensure that traces of heavy metals are not present. I saw no evidence presented at the public hearing to indicate that such tests have been performed.

The amount of sampling is not sufficient to justify the abandonment of a plan to connect the Haviland area to an assured water source. It appears that the only consistent ongoing sampling has been at the faucets of seven afflicted homes. This modest list of points has been used to drive a computer model, the results of which is used to project that all will be fine in a few years. At a bare minimum EPA should sample all the houses on Haviland Road and Wright Avenue in addition to sampling the schools and the shopping center.

Remarks from the floor indicated that the water in the schools may not be safe for drinking. There should be no question about this before EPA decides to abandon the idea of connecting to a good water source.

The previous town board passed a resolution in the fall of 1995 asking that the EPA adopt a solution of connecting the Haviland Road site to the Hyde Park Fire & Water District. The present town board passed a similar resolution in January of this year; the intent of this second resolution was to demonstrate that the town's position on this question is grounded in reason, not politics. I call to your attention Mr. Eckelman's letter to you of September 12, 1996.

Sincerely,

  
Thomas Spence

cc: Town Board  
T. Mahar  
P. Eckelman  
D. Wheeler

178 11.0012

# TOWN OF HYDE PARK, NEW YORK

Robert Clearwater  
Councilman - 1st Ward

James. Stuart  
Councilman - 2nd Ward



Hyde Park

Thomas Spence  
Supervisor

Robert Kampf  
Councilman - 3rd Ward

Margarëta Anderson  
Councilwoman - 4th Ward

8 Putnam Road  
Hyde Park, N.Y. 12538  
October 15, 1996

Mr. Kevin Willis  
US-EPA 20th Floor  
290 Broadway  
New York, New York 10007-1866

Dear Mr. Willis,

I thank you for the opportunity to respond to the Environmental Protection Agency's Post-Decision Proposed Plan concerning the Haviland Complex Superfund site in Hyde Park. As the Third Ward Councilman, I represent this area on our Town Board.

Several years ago, in 1984, I was on the Town Board when the subject of Superfund support originated. During the past twelve years, we waited patiently for a proper solution to the pollution problems affecting the residents of the Haviland Road area.

By October, 1995, it appeared that the AW-2 Alternative in the EPA report was ready to be implemented. The Town Board, at that time, held a public hearing and advised the community that EPA would assist the Haviland Road area by funding a water distribution network connection to the Hyde Park Fire and Water District to the north along Route 9G.

Then, in August, 1996, the EPA, in its Proposed Plan advises the community that Alternative AW-1, No Further Action, is its preferred alternative. In spite of the drop in tested pollutants, this Alternative does not provide a permanent solution for the residents of Haviland. It is my feeling, and the expressed desire of the residents of Haviland, that the EPA should reconsider Alternative AW-2, as previously proposed in October, 1995, since it is a more viable permanent solution to the problem, which could become a concern in the future.

Secondly, if the Town indicates its support, as our Board has done by resolution in early 1996, and if funding is still available for this project in order to insure environmental protection into the long-range future, why not make the hook-ups to the Hyde Park Fire and Water District now and eliminate future concerns?

All parties involved in this project have been guilty of some lapses. Had all parties done their jobs over the past decade, we would have been looking at the proper AW-2 solution as a completed act. It is now time to implement AW-2 in order to finalize what all of us originally set out to do. In doing so, we will also benefit the Hyde Park Central School District, which could hook up to this new source of water. You have heard from our Engineer and our ADVISORY BOARD IN HARBOURD HILLS. We all agree that this is the better alternative. Thank you once again and I look forward to working with you, and the EPA, in order to create this more positive solution in our area.

Sincerely yours,

Robert Kampf, Councilman 3rd Ward Hyde Park



## *The Historic Town of Hyde Park, New York*

Thomas Spence  
Supervisor

627 Albany Post Road  
Hyde Park, New York 12538  
Phone (914) 229 - 5111  
Fax (914) 229 - 0349

October 23, 1996

Mr. Kevin Willis, Project Manager  
U.S. Environmental Protection Agency  
Emergency & Remedial Response Division  
290 Broadway 20th Floor  
New York, N.Y. 10007

Dear Kevin,

We are sending this letter on the EPA Post-Decision Proposed Plan to you in full support of the Harbours Hills Water District Advisory Committee comments and letters sent to you recently by its Secretary, Paul Prentice.

We understand that the public comment period concludes today, October 23, 1996, and we await your response to the concerns of our residents in the Haviland Road area. It was our understanding that the EPA would assist in providing the necessary funding for the expansion of water lines to the Haviland Road complex based on open discussions and decisions made in October, 1995.

The Harbours Hills Advisory Board, and its Engineer, Michael Soyka, have addressed many of their concerns with you. They have also shared these concerns with the Town Board. Our Board representative in the 3rd Ward, Robert Kampf, has also submitted a letter to your office.

As we indicated in January 1996, the EPA has the full cooperation and support of our entire Board in correcting and addressing the problems with pollution and water control in this Superfund area.

We are on record as of our Monday, October 21, 1996 meeting as being in complete agreement with our Advisory Committee. We urge your full consideration of their concerns, and the concerns of the residents of Haviland Road and its immediate vicinity.

Thank you. We stand ready to work with EPA in order to enhance the best possible, permanent solution at the Haviland Complex site.

Sincerely yours,

Thomas Spence, Supervisor  
Robert Clearwater, Councilman  
Peg Anderson, Councilwoman  
James Stuart, Councilman  
Robert Kampf, Councilman

Kevin Willis  
U.S. Environmental Protection Agency  
290 Broadway 20th Floor  
New York, NY 10007-1866

Dear Mr. Willis,


September 22, 1996

At the September 5th Superfund Post-Decision Proposed Plan informational meeting on the Haviland Complex, held at the Haviland Middle School, I and other concerned residents were informed that the "Preferred Alternative" to the ongoing water problem was to continue with the plan already in place. I strongly oppose this decision. I feel the testing has been insufficient, with the test wells not being tested as frequently as needed or not at all. Our home was the first to have pollution in the water supply. As a result we were left to ensure our own personal safety by installing a water purifier filter at our own expense, and have been maintaining this system throughout the years that this problem has been on the negotiating table. I feel the Preferred Alternative Plan is inefficient, short and long term, and consider this problem to be a major health concern for all the residents involved.

Furthermore on October 13, 1995 during the special meeting of the Hyde Park Town Board, the Resolution 10:13-1 if 1995 was put forth and voted upon requesting "The United States Environmental Protection Agency immediately proceed with the design and construction of the water mains and appurtenances needed to provide a reliable, potable water supply to the Haviland Complex a connection to the Hyde Park Fire and Water District.", with the roll call vote unanimously in favor. During the February 26, 1995 Public Hearing and Regular Meeting of the Hyde Park Town Board another Resolution (2:26-1 of 1996) was carried unanimously and states as follows: "BE IT RESOLVED, that the current Town Board does hereby reaffirm the Town's commitment to cooperate and work with the United States Environmental Protection Agency toward the goal set forth in the Hyde Park Resolution Number One of October 13, 1995."

In conclusion it is my belief that the EPA, NYSDEC, and the public officials that represent my district need to be more conscious of the seriousness and urgency of this matter. There are also two public schools involved, one of which the children are instructed NOT to drink the tap water! I am outraged at the slow progress that has been taken to rectify this situation to ensure all residents have clean healthy water. I appreciate your prompt attention to this matter.

Sincerely,



Mr. & Mrs. Frank Guglielmo  
3 Haviland Rd.  
Hyde Park, NY 12538

★  
Kevin Willis  
U.S. Environmental Protection Agency  
290 Broadway 20th Floor  
New York, NY 10007-1866

Dear Mr. Willis,

September 12, 1996

At the September 5th Superfund Post-Decision Proposed Plan informational meeting on the Haviland Complex, held at the Haviland Middle School, I and other concerned residents were informed that the "Preferred Alternative" to the ongoing water problem was to continue with the plan already in place. I strongly oppose this decision. I feel the testing has been insufficient, with the test wells not being tested as frequently as needed or not at all. In the past six years my well has not been tested by the County or State at all, leaving me no alternative but to personally take on this responsibility. I feel the Preferred Alternative Plan is inefficient, short and long term, and consider this problem to be a major health concern for all the residents involved.

Furthermore on October 13, 1995 during the special meeting of the Hyde Park Town Board, the Resolution 10:13-1 of 1995 was put forth and voted upon requesting "The United States Environmental Protection Agency immediately proceed with the design and construction of the water mains and appurtenances needed to provide a reliable, potable water supply to the Haviland Complex a connection to the Hyde Park Fire and Water District.", with the roll call vote unanimously in favor. During the February 26, 1995 Public Hearing and Regular Meeting of the Hyde Park Town Board another Resolution (2:26-1 of 1996) was carried unanimously and states as follows: "BE IT RESOLVED, that the current Town Board does hereby reaffirm the Town's commitment to cooperate and work with the United States Environmental Protection Agency toward the goal set forth in the Hyde Park Resolution Number One of October 13, 1995."

In conclusion it is my belief that the EPA, NYSDEC, and the public officials that represent my district need to be more conscious of the seriousness and urgency of this matter. There are also two public schools involved, one of which the children are instructed NOT to drink the tap water! I am outraged at the slow progress that has been taken to rectify this situation to ensure all residents have clean healthy water. I appreciate your prompt attention to this matter.

Sincerely,

Mr. & Mrs. Horton Tucker  
4 Haviland Road  
Poughkeepsie, NY 12601

*Horton E. Tucker*  
*Susan M. Tucker*

cc: Sen. Alfonse M. D'Amato  
Sen. Daniel Patrick Moynihan  
Rep. Gerald B. Solomon  
Sen. Stephen Saland  
Assemblyman Joel Miller  
Thomas Spence, Hyde Park Supervisor  
Geoffrey J. Tacietti & G. Anders Carlson, NYS EPI, NYSDOH  
Douglas Gaborini, USEPA  
Dutchess County Health Commissioner



DUTCHESS COUNTY

WATER AND  
ASTEWATER AUTHORITY



October 22, 1996

Mr. Kevin Willis  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, NY 10007-1866

27 High Street  
Poughkeepsie  
New York 12601  
(914)486-3601  
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E-mail: dc2@mhv.net

RE: Haviland Complex  
Superfund Post-Decision Proposed Plan

Dear Mr. Willis:

Authority Board Members

Daniel J. Donovan  
Chairman

Edward E. Downey  
Vice Chairman

Nicholas S. Johnson  
Treasurer

Peter N. Anagnos, P.E., L.S.  
Secretary

Vincent C. Pangia, CPA

Ex officio Members

Barbara Kendall, Executive Director  
Environmental Management Council

Ed Hoxsie, District Manager  
Soil and Water Conservation District

Roger P. Akeley, Commissioner  
D. C. Dept. of Planning & Development

Staff

Scott G. Chase  
Executive Director

The Dutchess County Water and Wastewater Authority is a public benefit corporation formed in 1992 by the New York State Legislature and the Dutchess County Legislature. The Authority's charge is to address issues of adequacy of water supply and wastewater treatment throughout the County.

Authority staff has reviewed available materials regarding the Haviland Complex Superfund Post-Decision Proposed Plan, and attended the EPA's Public Hearing on this proposed plan, held on September 4, 1996. Our key concern with the proposed plan is to what degree the proposed alternatives (GW-1 and AW-1) provide adequate protection for small businesses and homes east of Route 9G which are not currently supplied with whole house treatment systems, particularly the additional homes on Haviland Avenue and those homes on the eastern end of Wright Ave.

The evaluation of the alternatives and the justification for selecting Alternatives AW-1 and GW-1, focus on the homes with whole house treatment system, to the exclusion of those homes with out treatment systems:

The evaluation of Alternative GW-1 regarding "Overall protection of human health and the environment" assumes actual human exposure will not occur in the 2-7 years until groundwater meets MCL's due to presence of treatment units. The evaluation does not address the possibility of contamination of other wells in residences not presently equipped with treatment systems.

The evaluation of Alternative AW-1 regarding "Overall protection of human health and the environment" would "...prevent the potential exposure of residents at the site through ingestion of contaminants present in selected residential wells" (emphasis added), based on

effectiveness of whole house treatment units. Once again, the evaluation appears to not address the residences with out treatment systems.

The exclusion of the additional residences within the Haviland Complex site seems to be based on an assumption that, since these residential wells did not show contamination in the past, they will not do so in the future. The validity of this assumption seems open to question for the following reasons; lack of current sampling data, variability of the sampling data, accuracy of modeling and the lack of future monitoring.

**Lack of monitoring data for additional residences:** If a low level volatile plume is in fact moving south easterly from the Haviland Shopping Center and Haviland Complex Apartments area, it seems possible that additional homes on Haviland Avenue and homes on Wright Avenue may be at risk of contamination. It is unclear when the last time residential wells of homes without treatment units were sampled, but it appears that many have not been sampled in over three years.

**Variability in sampling data:** The concern regarding the lack of recent sampling data for residential wells without treatment units is heightened by the high variability in sampling results for the residential wells on Haviland Road, which have been sampled semi-annually since 1989. Specifically:

- At 10 Haviland Road PCE levels went from 3 ppb to 11 ppb in 4 months (1990),
- At 14 Haviland Road CBZ levels went from 0 to 21 ppb in 6 months (1995),
- At 20 Haviland Road PCE level went from 10 to 41 ppb in 9 months (1991), and CBZ levels went from 8 to 35 ppb in 9 months (1991) and from 0 to 13 ppb in 4 months (94-95),
- At 22 Haviland Road DCE levels went from 0 to 5.6 ppb in 4 months (93-94), and CBZ levels went from 0 to 11 ppb in 4 months (93-94),
- At 24 Haviland Road PCE levels went from 0 to 27 ppb in 4 months (93-94), and CBZ levels from 0 to 10 ppb in 6 months (1995).

It appears from this data that distribution of contamination levels within the plume are far from uniform, and that levels of contamination at any particular point can easily vary from non-detectable to above MCLs in a relatively short time period. This raises questions as to whether the limited testing done on additional residential wells is adequate to support an assumption that they are not currently, and will not in the future, be impacted by contamination.

In contrast to the amount of sampling data upon which EPA is basing a decision to take no further action on homes without treatment units, Alternative AW-1 anticipates maintenance of the

treatment units until 3 years of consecutive semi-annual rounds of sampling (i.e. 6 samples over 3 years) meet MCLs.

**Accuracy of modeling:** Modeling based on 1987 and 1990 data predicts that the contamination plume will not impact additional residential wells. However, modeling is not an exact science; it predicts a range of future outcomes based on current conditions. But conditions can change; for example, changes in water table conditions or water withdrawals could change the direction of groundwater flow. As stated above, there is a great deal of variability in the sampling results; how might this impact the reliability of the modeling?

For these reasons, it would seem prudent for EPA to conduct at least one more round of testing of all of the residential wells within the Haviland Complex site and downgradient of the source prior to making a final decision regarding appropriate remedies.

In the event that EPA determines to select remedies GW-1 and AW-1, we recommend ongoing monitoring, at least annually, of residential wells which do not have home treatment units as part of the monitoring plan. Currently, Alternative AW-1 anticipates semi-annual monitoring of all homes with treatment units, and maintenance of units, until 3 years of consecutive semi-annual rounds of sampling meet MCLs. No additional monitoring is recommended for the "non-treatment" homes.

In addition, monitoring wells should be sited both upgradient and down gradient of homes on Haviland Avenue and Wright Avenue to insure the detection of any contaminant plume that may impact the non-treatment homes. Alternative GW-1 calls for 5 monitoring wells upgradient and downgradient of "affected" homes - it is not clear whether "affected" homes includes all 35 homes in site area, or just the homes with treatment units. If the latter, EPA should evaluate whether 5 monitoring wells is adequate to cover the entire area.

**Benefits of providing public water supply:** There are overall benefits to the community of providing public water to the Haviland Area (Alternative AW-2). These issues are relevant to the issue of "Community Acceptance":

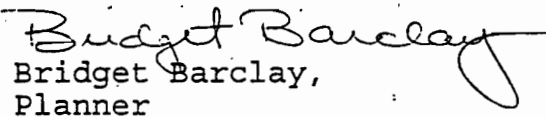
- a greater guarantee of clean water for all businesses and residents in the Haviland Complex,
- the elimination of the need for ongoing monitoring of all water supply wells in the impacted area,
- the elimination of the inconveniences and impacts on water pressure currently being experienced by those residents with whole home treatment systems,

- the resolution of the area residents' concerns that the water contamination problems (real and perceived) are negatively impacting their property values, and
- the ability of the Haviland Middle School and Ralph R. Smith Elementary School to purchase water rather than continue to bear the ongoing operation, maintenance and monitoring expenses, and future capital improvement expenses for their on site supply system.

There are additional benefits to the community at large of providing public water. A connection to the Hyde Park Fire and Water District would also benefit the other residents of the Harbour Hills Water District who are outside of the Haviland Complex Area. The Hyde Park Fire and Water District currently has significant excess capacity compared to its service population. This has created a financial hardship on district residents (regarding both operation and capital costs) that can only be resolved by expanding the service area.

Connection of the Haviland Complex area to the Hyde Park Fire and Water District would be an effective alternative that would satisfy the criteria of; Overall Protection of Human Health and the Environment, Compliance with ARAR's, Long-Term Effectiveness and Permanence, Implementability, and Community Acceptance. EPA should reconsider this alternative.

Respectfully Submitted,

  
Bridget Barclay,  
Planner

cc: Thomas Spence, Supervisor, Hyde Park  
Paul Prentice, Harbour Hills Water Advisory Board

## APPENDIX 3

### Responsiveness Summary