Department of Environmental Conservation

Division of Hazardous Waste Remediation

Champlain Town Landfill

Site Number 5-10-006
Clinton County, New York

Record of Decision

August 1995

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* MICHAEL D. ZAGATA, *Commissioner*

New York State Department of Environmental Conservation

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Champlain Town Landfill

Site Number 510006

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New York State Inactive Hazardous Waste Site Remedial Program

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GEORGE PATAKI, Governor MICHAEL ZAGATA, Commissioner

DECLARATION STATEMENT - RECORD OF DECISION

Champlain Town Landfill Inactive Hazardous Waste Site
Town of Champlain, Clinton County, New York
Site No. 510006
August 1995

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Champlain Town Landfill inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL) and consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 USC Section 9601, et., sec., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Champlain Town Landfill Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Champlain Town Landfill and the criteria identified for evaluation of alternatives, the NYSDEC has selected a water supply for threatened and impacted homes and the capping of the landfill. The components of the remedy are as follows:

* Municipal Water by extending the water line from the Village of Champlain to the threatened and impacted homes in the vicinity of the landfill. Conditions of the approval of the water system were connection of all residences and abandonment of wells in the water district.

* Landfill Cap, including consolidation of the small remote disposal areas into the main landfill area, a gas venting system, Part 360 Landfill Cap.

* Long-Term Operation, Monitoring and Maintenance of the landfill cap and the water supply system.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the statutory preference for remedies that reduce toxicity, mobility, or volume as a principal element.

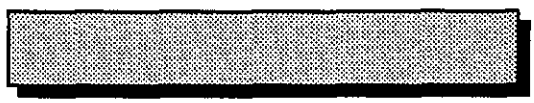
The selected remedy does not fully meet all SCGs as contaminated groundwater is not being treated. A pump and treat system was determined not to be technically practicable due to items such as the low concentration of the contaminants, the type of aquifer, the types of contaminants and other factors. The Cap on the landfill will greatly reduce further contamination of groundwater and allow the aquifer to naturally cleanse itself. In addition, the water supply system will provide a long-term and permanent source of water for those in the affected area.

8/1/95
Date

Michael J. O'Toole, Jr. - Director
Div. of Hazardous Waste Remediation

RECORD OF DECISION

CHAMPLAIN TOWN LANDFILL
Town of Champlain, Clinton County, New York
Site No. 510006
August 1995



RECORD OF DECISION

"CHAMPLAIN TOWN LANDFILL"

Town of Champlain, Clinton County, New York
Site No. 510006
August, 1995

SITE DESCRIPTION

The Champlain Landfill is located on Castine Road in the Town of Champlain, Clinton County, New York (see Figure 1.1). The landfill was owned and operated by the Town of Champlain from approximately 1972 through 1978. The landfill is located on a 36 acre parcel of land owned by the Town of Champlain. The main disposal area is limited to approximately 13 acres in the southwestern portion of the property. The Rouses Point Sportsman's Club formerly owned 3.4 acres in the center of the landfill that was used as a rifle range. The landfill is located in a populated agricultural area approximately two miles south of the Village of Champlain. The landfill is bounded on the west by an extensive NYSDEC regulated wetland; on the north by wooded areas; on the east by wooded areas and private homes along Ridge Road; and to the south by agricultural land, wooded areas and homes along Castine Road.

SITE HISTORY

Operational/Disposal History

The landfill is located in a former gravel pit. Sand and gravel were excavated from the site between July 1960 and July 1966. The Town of Champlain purchased the landfill property on July 29, 1972 and operated the landfill from approximately 1972 through May 1978. Based on sampling conducted in 1986 and information gathered on waste disposal, the NYSDEC listed the site in the New York State Registry of Inactive Hazardous Waste disposal sites as a Class 2 site. The hazardous wastes disposed at the landfill were 1,1,1-trichloroethane, 1,1,2 trichloroethane, and paints and thinners containing acetone, toluene and xylene. These wastes were reportedly disposed in the vicinity of the present location of the Rouses Point Sportsman's Club rifle range.

Remedial History/Interim Remedial Measures

Two remedial projects were determined to be necessary when the consent order for this site was being developed. The need for the projects was based on the findings of preliminary investigations at the site. The first project is construction of a water system to service the threatened and impacted homes (Figure 1.1). The Department of Health determined that homes adjacent to the landfill that were contaminated with organic compounds and/or pharmaceuticals required an alternate supply of water and that a monitoring program was needed for homes at risk. It was determined that a long term permanent source of water was needed for the residents. The decision to provide an alternate water supply was supported by the Department's knowledge of the characteristics of the bedrock aquifer in this area, the distribution and type of contaminants at this site, and the need to provide a source of potable water. Contamination was found in home owner wells and carbon filter treatment systems have been placed in these homes. An ongoing sampling program of the homes in the area has also been established. This sampling program will continue until completion of the water system. The second project is the construction of a cap on the landfill to eliminate direct contact and mitigate releases to the environment (Figure 6.1). This decision is supported by Department of Environmental Conservation and the United States Environmental Protection Agency determinations that a cap will be called for at most municipal mixed waste landfills.

The remedial projects now underway are according to an administrative order on consent among the Town of Champlain, American Home Products Corp. and the Department of Environmental Conservation. Both remedial projects were called interim remedial measures (IRMs) in the order on consent. These remedial projects are scheduled to begin construction during 1995.

CURRENT STATUS

Pursuant to the consent order for this site American Home Products Corp. implemented a Remedial Investigation/ Feasibility Study (RI/FS) in April 1993 to assess the contamination at the site. In addition, the two remedial projects mentioned above 1) landfill cap and 2) municipal water system were required under the consent order and they are in progress. The landfill cap is being built by the Town of Champlain and water system is being built by American Home Products, Inc.

Summary of the Remedial Investigation/Feasibility Study (RI/FS)

The scope of work of the RI/FS was focused based upon the findings of previous investigations and taking into consideration that a landfill cap and a municipal water system were to be constructed pursuant to the consent order. This allowed the use of simplifying assumptions in developing the scope of work for the RI. For example the health evaluation for current residents was developed taking into consideration that carbon filter systems were in place. The primary purpose of the RI was to define the nature and extent of contamination resulting from previous activities at the site.

A report entitled **Remedial Investigation Report for the Champlain Landfill, June 1994** has been prepared describing the field activities and findings of the RI in detail. The previous investigative work also allowed the FS to focus on whether measures in addition to the landfill cap and municipal water were needed. The FS also developed the specific details for consideration during the design of the landfill cap. A report entitled **Feasibility Study Report for the Champlain Landfill, December 1994** has been prepared describing the field activities and findings of the FS in detail.

The RI/FS at the site included a review of existing data, a review of historical aerial photographs, a study of the fractures in the bedrock to predict the groundwater flow pattern, methane gas survey, a metal detector survey, a soil gas survey, a geologic study of the site area, groundwater, surface water, sediment, soil , soil gas, and leachate. A total of 23 groundwater samples, seven surface water and sediment samples, and five leachate samples were collected for chemical analysis during the most recent investigation. These data were used to confirm and/or supplement data collected during previous investigation work and five test pits were excavated during a supplemental field investigation to locate isolated disposal areas.

Silt, sand, fill (refuse), and gravel overlie fractured Potsdam sandstone bedrock at the site. The depth of this overburden material varies from 0 feet at the northeast to approximately 40 feet in the landfill area. The depth of the overburden increases from north to south and east to west.

Groundwater flow in the overburden and shallow bedrock is predominantly westerly and southerly. A groundwater divide exists within the landfill boundary in the deeper bedrock zone. From the divide, groundwater flows southwesterly towards the wetland and southeasterly towards several residential wells.

The main disposal area of the landfill is approximately 13 acres in the southwestern portion of the property. Two small disposal areas exist in the northeastern corner of the property. Fill material ranges in thickness from five to ten feet in the northern and southern portions and may be up to 15 to 20 feet thick in the center of the landfill.

The magnetometer (i.e., metal detector) survey did not detect the presence of any area with a potential large accumulation of drums. The methane survey found that concentrations were highest near the center of the landfill and decreased towards the borders. The soil gas survey indicates that the highest concentration area is located near the center of the rifle range. This corresponds well with the historical record on where the hazardous waste liquids were dumped.

Groundwater at the landfill has been impacted. Thirty-three volatile organic compounds (VOCs) were detected in groundwater samples. The VOC groundwater excellence consisted principally of petroleum hydrocarbons and were detected primarily in shallow monitoring wells located at the western and northwestern edge of the landfill (Figure 4.12). The typical concentration of the petroleum hydrocarbons (i.e., benzene, toluene and xylene) were in the average range of not detectable to approximately 50 parts per billion (50 ppb). The deeper well in each pair on the western side of the landfill contained significantly lower concentrations of VOCs and no groundwater standard exceedences. Only one VOC (i.e. benzene) exceeded the groundwater standards on the eastern and southern sides of the landfill. Seven semivolatile organic compounds (SVOCs) were detected in the monitoring wells and four were at concentrations exceeding groundwater standards (Figure 4.13). The SVOC exceedences showed a similar pattern to the VOCs.

Numerous semivolatile tentatively identified compounds (TICs) were detected in the monitoring wells. TICs included various organic acids and the pharmaceuticals Primidone, Meprobamate, and Phenobarbital. The typical average concentrations of these are in the range of 10 parts per billion to 200 parts per billion. These compounds were detected in higher concentrations on the western and northwestern side of the landfill and in lower concentrations on the eastern and southeastern side.

The groundwater data indicates that contamination on the western side of the landfill is not migrating down to bedrock. Conversely, the groundwater data indicates that contamination on the eastern side of the landfill has migrated into deep bedrock.

Several residential wells to the south and southeast are either impacted or threatened. Low parts per billion levels of VOCs have been detected in the residential wells to the east and southeast of the landfill. VOCs have been most often detected in two residences closest to and downgradient of the landfill. VOCs detected in other residences show no consistent pattern or trend. The SVOC, Primidone, is the contaminant most often detected in elevated concentrations in the residential wells. Meprobamate was not detected above the detection limits in the residential wells. The concentration of Primidone in residential well ranged from low parts per billion to approximately 1,000 parts per billion. The Department of Health regulations do not contain standards for these specific pharmaceuticals. The Department of Health determined that these pharmaceuticals should be considered "unspecified organic contaminants (UOCs)" and not exceed the maximum contaminant level of 50 parts per billion. The contamination does not extend a great distance from the landfill. Attached are figures 4.12, 4.13, and 4.19 which provide a visual representation of the groundwater and residential well results.

Leachate is present along the western toe of the landfill in stagnant or very slow moving pools. Fourteen VOCs were detected and six were present in excess of groundwater standards. Seven SVOCs were detected and four of these were in excess of groundwater standards. In addition, semivolatile TICs and metals were detected in the leachate. The TICs included Primidone, Meprobamate, and Phenobarbital.

Surface water appears to be slightly impacted in localized areas within 150 feet of the western edge of the landfill. No VOC s or SVOCs were detected in the surface water samples. Organic contaminants detected in the surface water were limited to semivolatile TICs. The TICs included Primidone, Meprobamate, and Phenobarbital. Nineteen metals were detected and only iron exceeded the Class D surface water standards.

Sediment is also slightly impacted in the area within 150 feet of the landfill. Five VOCs and one SVOC were detected in the sediments. The SVOC concentration was below applicable health-based guidance values and sediment criteria. The high total organic carbon content of 3.1 to 17.5 percent in the sediments accounts for the lack of significant organics in the surface water samples.

Summary of Human Health and Environmental Risk Assessments

Two risk assessments were completed during the investigation 1) a Baseline Human Health Evaluation (HHE) and 2) Habitat Based Assessment (HBA). The purpose of the human health evaluation was to

assess potential risk to human health which may be caused by chemicals emanating from the site in the absence of any actions to control or mitigate their impact. The habitat based assessment looked at the potential impacts of site-related contaminants on aquatic and wildlife resources.

The human health evaluation (HHE) did not predict any present significant cancer or non-cancer effects for persons living near the landfill from the groundwater. **[NOTE:** The analysis of the "present" or "current residents" uses the simplifying assumption that carbon filters are in place. This simplifying assumption needs to be kept in mind while reading this summary.] For future residents (i.e., scenario without a landfill cap and a water system) the evaluation predicted elevated long-term non-cancer and cancer risks.

The non-cancer risks are predicted by calculating a hazard index. If this hazard index is greater than 1, it indicates a potential non-cancer hazard. The hazard index for the "current residents" (see note above) was 0.1, indicating that exposure of current residents to groundwater in the private wells does not pose a significant health hazard. The hazard index for a hypothetical future resident that lives on top of an unprotected landfill ranges from 7.7 to 11.1. The range exceeds 1, indicating a potential noncarcinogenic hazard in this hypothetical situation.

The USEPA (1989) has established a target risk range for carcinogenic effects of one-in-one million to one-in-ten thousand for Superfund sites. That is, the risks posed by the site should not exceed this target range. If they do, the need for remediation may be indicated. The total risk for the "current residents" (see note above) for groundwater ranged from one-in-one million to five-in-one million. This range falls within the target range. The risks for the current residents were primarily due to the presence of 1,1,2,2 -tetrachloroethane and bis(2-ethylhexyl)phthalate in the private well water. The total carcinogenic risk for the future residents for groundwater ranged from seven -in-one hundred thousand to three-in-ten thousand. The high end of this range exceeded the acceptable target range. This indicates a potential increase in excess carcinogenic risk in a hypothetical future residents from ingestion of groundwater.

In the soil screening evaluation a hazard index of 3.9 was derived for hypothetical future residents. Similarly the carcinogenic risk of soil was estimated at one-in-one hundred thousand. The hazard index indicates that a potential adverse effect may result following soil ingestion. The carcinogenic factor fell within the target risk range.

The habitat based assessment (HBA) predicted that none of the detected contaminants would have a significant effect on wildlife exposed to surface water, sediments, or leachate at the site. No contaminants in surface water were determined to present a significant risk to aquatic life.

To assess the potential effects of site-related contaminants detected in physical media at the Champlain Landfill, a Phase I habitat-based assessment (HBA) was conducted. The completed assessment fulfilled the requirements of the NYSDEC (1991) Technical and Administrative Guidance Memorandum (TAGM), Fish and Wildlife Impact Assessment for Inactive Hazardous Waste Sites.

None of the contaminants detected were determined to be of concern to wildlife exposed to surface water, sediments, or leachate at the site. No contaminants in surface water were determined to be of concern to aquatic life.

ENFORCEMENT STATUS

The NYSDEC, the Town of Champlain and American Home Products Corp. entered into a Consent Order, Index No. A5-0154-88-09 in 1993. The Order obligates the Town to implement a remedial program. This allows the State to reimburse the Town with up to 75 percent of the eligible cost of the remediation. The consent order also obligated the Town to properly close the landfill by placing a cap on the landfill.

The Order obligates American Home Products to build a water system for impacted and threatened homes near the landfill. The order also obligates American Home Products, Inc. to conduct a remedial investigation/feasibility study (RI/FS) and contributes $300,000 toward remediation of the site. Recently, A.M. International, Inc. was obligated by stipulation and consent decree to pay $400,000 to the State to settle its liability in this case. These funds will be used to reduce the project's cost.

SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR 375-1.10. These goals are established under the guideline of meeting all standards, criteria, and guidance (SCGs) and protecting human health and the environment.

The analytical data obtained from the RI was compared to the Standards, Criteria, and Guidance in determining remedial

alternatives. Groundwater, drinking water and surface water SCGs identified are based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. For the evaluation and interpretation of soil and sediment analytical results, NYSDEC soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used to develop remediation goals for soil. The results of the remedial investigation were compared to the SCGs an d potential public health and environmental exposure risks to determine if any areas or media of the site require remediation. At a minimum, the selected remedy should mitigate significant threats to the public health and the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Control the contamination present within the soils/waste on-site.
- Eliminate the threat to surface waters by eliminating any future contaminated surface run-off from the contaminated soils on-site.
- Eliminate the potential for direct human or animal contact with the contaminated soils on-site.
- Mitigate and eliminate the impacts of contaminated groundwater to the environment.
- Prevent, to the extent possible, migration of contaminants in the landfill to groundwater.
- Provide for attainment of SCGs for groundwater quality at the limits of the water district.

SUMMARY OF THE EVALUATION OF ALTERNATIVES

Description of Remedial Alternatives

Potential remedial alternatives for the Champlain Landfill were identified, screened and evaluated in the Feasibility Study. This evaluation is presented in the report entitled "Feasibility Study Report for the Champlain Landfill", December 1994. A summary of the detailed analysis follows.

An alternative including provisions to pump and treat groundwater to restore the aquifer was screened and evaluated as part of the Feasibility Study. This alternative was eliminated

from detailed evaluation since the characteristics of the bedrock aquifer limit the effectiveness of a pump and treat technology. The large variability in hydraulic conductivity and the low hydraulic gradient in the bedrock result in pump and treat technologies having minimal impact on-site conditions. In addition, the low levels of contamination would cause the rate of remediation to be controlled by diffusion. Also, it must be remembered that public health will be protected by the water system that is to be constructed later this year. Based on available data, a groundwater extraction system does not appear to be cost effective or practical at this site.

The project to cap the landfill will essentially prevent precipitation infiltration into and leaching through the landfill waste. As a result, the source of groundwater contamination, i.e., leaching, would be eliminated and site groundwater should become clean over time. During this remediation, periodic groundwater sampling and analysis would be conducted to measure how groundwater quality was improving.

Based on the available data, a groundwater extraction system does not appear to be effective. The level of existing groundwater contamination is relatively low and current human risks, with water treatment systems in the homes, are within USEPA acceptable limits. The levels of contamination would be expected to decrease after installation of the cap because the fill is above the water table and recharge would be significantly reduced.

Remedial Alternative #1 - No Action

The FS and this ROD include a No Action alternative. The purpose of the No Action alternative is to provide a basis for comparison. **[NOTE:** With 20/20 hindsight it would have been less confusing if only the No Further Action alternative was developed; i.e., Remedial Alternative #2]

The No Action alternative does not include the projects to cap the landfill or provide a municipal water system. The No Action alternative requires continued monitoring only, allowing the site to remain in an unremediated state. This is an unacceptable alternative since the site would remain in its present condition, and human health and the environment would not be adequately protected.

Present Worth:	Not Applicable
Capital Cost:	Not Applicable
Annual O&M:	Not Applicable
Time to Implement -	Not Applicable

Remedial Alternative #2 - Landfill Cap/ Water System (No Further Action)

Landfill Cap, Waste Consolidation/Passive Trench Venting/Part 360 Cap/Long- Term Groundwater Monitoring:

Present Worth:	$3,430,000
Capital Cost:	2,610,000
Annual O&M:	42,000
Time to Implement -	1 year

Water System - Water Supply System:

Capital Cost:	$1,200,000
Present Worth:	1,379,000
Annual O&M:	9,118
Time to Implement -	1 year

Evaluation of Remedial Alternatives

Evaluation Criteria

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR Part 375). A brief description of each criteria is provided. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The evaluation criteria are described below:

The first two evaluation criteria are termed threshold criteria an d must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs) - Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

2. Protection of Human Health and the Environment - This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-Term Effectiveness - The potential short-term adverse impacts of the remedial action upon the community, the workers, an d the environment during the construction and implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

4. Long-Term Effectiveness and Permanence - This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

5. Reduction of Toxicity, Mobility or Volume - Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

6. Implementability - The technical and administrative feasibility of implementing each alternative is evaluated. Technically, this includes the difficulties associated with the construction, the reliability of the technology, and the ability t o monitor the effectiveness of the remedy. Administratively, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

7. Cost - Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision.

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance - Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan were evaluated. A "Responsiveness Summary" has been prepared that describes public comments received and how the Department addressed the concerns raised. The Responsiveness Summary is attached as Appendix A.

Comparative Analysis

Two alternatives were fully developed. These alternatives are #1) No Action and #2) Landfill Cap/Water System (No Further Action). A comparative analysis of these alternatives based upon the evaluation criteria noted above follows:

The New York State Part 360 landfill cap is an action specific SCG for landfill closure. Alternative #2 includes provisions for a landfill cap meeting the Part 360 requirements. The landfill cap eliminates potential exposure to contaminants from dust, soils or other means of direct contact. The cap provides for reduction in the volume of contaminated groundwater by reducing the amount of water infiltrating the landfill and should eliminate the leachate seeps. The landfill cap is a containment technology that must be maintained at regular intervals to ensure its integrity.

The chemical specific SCGs for groundwater are not immediately attainable. However, the reduction in leachate production provided by the landfill cap should eventually allow the ground water to naturally restore itself. Alternative #2 provides for compliance with the chemical specific SCGs by providing a permanent water system to nearby users. The water system eliminates risk associated with consumption of contaminated drinking water and provides a long-term dependable source of drinking water.

Soils, sediments and surface water, except those in the area to be capped, are not contaminated in excess of SCGs or are at levels comparable to background. Neither alternative developed provides any treatment process to reduce the toxicity of the waste present in the landfill. Both alternatives require some degree of institutional management and monitoring and maintenance. Alternatives #2 also includes maintenance of the water system and the landfill cap.

The construction procedures, materials and earth working equipment required for implementation of the water system of Alternatives #2 are conventional and are used extensively in standard commercial and industrial applications. Construction methods for the landfill cap are somewhat more difficult to implement. However, construction methods for capping are well established. Alternative #2 involves major construction activities and the use of heavy earth moving equipment and the potential for on-site accidents and worker exposure to contaminated media would increase as the level of construction activity increases. There is a potential for off-site accidents during construction, however, there will be no potential for contaminated media contact.

Potential hazards to the surrounding community during construction could include adverse traffic conditions, airborne dust and particulate emissions, and an increase in noise levels. Construction related risks will be minimized by proper construction techniques and proper health and safety procedures.

Alternative #1, No Action, would not meet any of the SCGs for this site. The no-action alternative would be less protective of human health and the environment since it does not address any of the remedial goals established for this site. No Action does not include any physical construction measures and, therefore, does not present a risk to the community as a result of its implementation. No Action provides no long-term controls for handling the on-site contamination or the ground water contamination.

SUMMARY OF THE SELECTED ALTERNATIVE

Based upon the results of the RI/FS, and the evaluation presented, the NYSDEC is proposing Alternative #2 - Landfill Cap/Water System as the remedy for this site. Alternative #2 is equivalent to a **"No Further Action"** alternative since both the landfill cap and water system projects are now in progress.

The elements of the selected remedy consist of as follows:

LANDFILL CAP

Waste Consolidation/Passive Trench Venting/Part 360 Cap/Long-Term Groundwater Monitoring

Present Worth:	$3,430,000
Capital Cost:	2,610,000
Annual O&M:	42,000
Time to Implement -	1 year

This remedial alternative includes:

- Possible consolidation of wastes from the isolated and shallow disposal areas into the main landfill;
- Restoring the waste removal areas through placement and compaction of clean backfill following excavation:
- Installation of a gas venting system;
- Installing a multi-layer cap (per 6 NYCRR Part 360 regulations) and,

- Long-Term post closure Monitoring and Cap Maintenance (O&M).

WATER SYSTEM

Water Supply System

Present Worth:	$1,379,000
Capital Cost:	1,200,000
Annual O&M:	9,118
Time to Implement -	1 year

This remedial alternative includes:

- Installation of a water supply system to service residents near the Champlain Town Landfill. The water district will be connected to the Village of Champlain distribution system by a 2.1 mile water main.

- Operation and Maintenance (O&M) of the water system.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

The community participation activities carried out for the Landfill complied with the Department's statewide citizen participation plan. Some of the activities for this project exceeded the statewide plan's minimum requirements. Public meetings on workplans and document availability notices were additional activities carried out to increase the public's site knowledge.

A list of the community participation activities include:

April 3, 1990	Mailed Project Fact Sheet
October 11, 1990	Mailed Project Fact Sheet
April 26, 1991	Mailed Project Fact Sheet
July 18, 1991	Mailed Project Fact Sheet
May 5, 1993	Mailed Project Fact Sheet
July 7, 1993	Mailed Project Fact Sheet
July 10, 1991	Public Meeting
May 11, 1993	Public Meeting
July 27, 1993	Public Meeting
August 24, 1993	Public Meeting
September 28, 1993	Public Meeting
August 9, 1994	Public Meeting

- May 3, 1995 Public Meeting
- May 17, 1995 Public Meeting

APPENDIX A

RESPONSIVENESS SUMMARY
CHAMPLAIN TOWN LANDFILL
SITE NUMBER 510006
TOWN OF CHAMPLAIN, CLINTON COUNTY

DATE: MAY 3, 1995

Presented below is the Department's response to comments received at the public meeting for this project held on May 3, 1995, in the Town of Champlain office. No written comments were received during the public comment period.

1. Comment: The Owner of the rifle range (i.e., Rouses Point Sportsman's Club) that is physically located in the center of the landfill asked that they be compensated for loss of their facilities.

   Answer: The issue of compensation must be taken up with the Town. The Town had offered to swap parcels of land with the Sportsman's Club.

2. Comment: Several questions were asked about the water system . The three major issues were formation of the water district, hooking up to the system and abandonment of wells.

   Answer: DEC agreed to hold another public meeting on May 17, 1995, to discuss the details of the water district. At the May 17 meeting it was determined that revisiting the question of formation of the water district was not appropriate since it had followed the formal process when it was created as required under Town law. The issues of hooking up to the system and well abandonment were decided at public meetings in July and August of 1993. In addition, hooking up to the system and abandoning wells are required per County regulations.

3. Comment: Several questions were asked regarding the quality of the water to be provided by the water system versus the quality of the well water.

Answer: In response to similar questions raised in the 1993 public meetings on the water system analyses of both the water system water and well water were compared. From these analysis it was determined that the quality of the water system was slightly better than the well water.

4. Question: There was concern that there might be lead contamination in the Village water. This was questioned because it was known that the Village had in the past sampled several homes to determine lead concentrations in the water.

   Answer: Mr. Snizek of the Clinton County Health Department explained that sampling for lead was part of a program that was being conducted all across the State. The issue is not that lead is in the water being supplied, but rather that it is being stripped off from lead solder joints in copper piping in homes.

5. Question: It was stated that the Village water system had an ongoing problem with sediment in the water.

   Answer: Mr. Snizek of the Clinton County Health Department explained that the possibility of sediment in the water system water was considered unlikely. This is since the problems with sediments had occurred on dead end lines in the Village system and this would not be the case in the water district. Everyone requested that sediment filters be considered for installation in each home. American Home Products was asked to look into this request.

6. Question: Would there be monitoring to determine when the groundwater had cleansed itself? Also, once the groundwater was clean would it be possible for the homeowners to go back to wells?

   Answer: There will be a monitoring program implemented as part of the project to cap the landfill. Once the water was determined to be clean, it would be possible to go back to wells.

7. Question: Will the groundwater ever clean itself? This appeared unlikely since the waste in the landfill is remaining in place.

   Answer: Once the landfill cap is in place this should stop further contaminants from leaching into the groundwater. In time the groundwater should naturally cleanse itself.

8. Question: Will the water system provide adequate pressure?

   Answer: The system is designed to maintain a minimum water pressure of 20 psi at ground level at points in the distribution system under all conditions of flow.

9. Question: How long will the $50,000 water rent subsidy provided by American Home Products for the current residents of the water district last?

   Answer: The metered usage of ten homes with carbon filter systems averaged 48,000 gallons per year. This equates to approximately a $5,000 total charge for the entire water district. Without any interest accrued on the $50,000, the fund would last approximately 10 years. If nothing changes and interest of 5% is earned on the $50,000 the fund would last almost 15 years.

10. Question: How will the $25,000 that is being provided by American Home Products for the inconvenience of abandoning wells be disbursed?

    Answer: The details of this had not been worked out. DEC provided the details to the homeowners by letter of July 13, 1995.

APPENDIX B

ADMINISTRATIVE RECORD
CHAMPLAIN TOWN LANDFILL
SITE NUMBER 510006, CLINTON COUNTY

Public Water Supply Permit Application; prepared for the Town of Champlain by Engineering-Science, Liverpool, NY, dated May 17, 1994

Feasibility Study Report For the Champlain Landfill, prepared for American Home Products by Engineering-Science, Liverpool, NY, dated December 1994

Remedial Investigation Report for The Champlain Landfill, prepared for American Home Products by Engineering-Science, Liverpool, NY, dated June 1994

Administrative Order on Consent; Among NYSDEC, The Town of Champlain and American Home Products Corporation, Index No. A5-0154-89-09, dated March 1993; Appendix A - IRM Plan for Landfill Cap; Appendix B -Residential Well Monitoring Program; Appendix C -Site Location Map; Appendix D - Remedial Investigation and Feasibility Study Work Plan by Engineering Science, dated January 1992 (Appendix D includes the Citizen Participation Plan as its Appendix C)

Geotechnical, Soil & Groundwater Investigation, North Country Gas Pipeline Project, prepared for North Country Gas Line Corporation by Stone & Webster Engineering Corporation, February 1992

Field Investigation of the Champlain Landfill - Final Report, prepared by Huff & Huff, Inc., dated May 1991

Field Investigation Progress Report I, prepared by Huff & Huff, Inc., dated August 1990

Field Investigation Work Plan, prepared by Huff & Huff, Inc., dated August 1989

Proposed Remedial Action Plan "Champlain Town Landfill" prepared by NYSDEC, dated February 23, 1995

Conceptual Proposal for Development and Implementation of a Permanent Alternative Water Supply System Champlain Landfill prepared for American Home Products by Engineering-Science, Liverpool, NY, dated June 1993