Technology section ROD file

Department of Environmental Conservation

Division of Hazardous Waste Remediation

Dutchess Sanitation Waste Disposal Site

Also Known as F.I.C.A. Landfill
I.D. Number 314047
Dutchess County, New York

Record of Decision

March 1993

New York State Department of Environmental Conservation
MARIO M. CUOMO, *Governor* THOMAS C. JORLING, *Commissioner*

RECORD OF DECISION

DUTCHESS SANITATION (FICA)

DUTCHESS COUNTY, NEW YORK

ID NUMBER 314047

PREPARED BY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF HAZARDOUS WASTE REMEDIATION

MARCH 1993

DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Dutchess Sanitation
Town of Poughkeepsie
Dutchess County, New York
Site Code: 3-14-047
Funding Source: J&T Recycling

STATEMENT OF BASIS AND PURPOSE

The selected remedial action for the Dutchess Sanitation site is presented in this decision document. The selection was made in accordance with the New York State Environmental Conservation Law (ECL), and is consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). The factual and legal basis for selecting the remedy for this site is summarized in this decision document.

A list of the documents that comprise the Administrative Record for the site is presented in Exhibit A. The documents in the Administrative Record provide the basis for this Record of Decision.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action described in this Record of Decision (ROD), present a current or potential threat to public health, welfare and the environment.

DESCRIPTION OF THE SELECTED REMEDY

The elements of the selected remedy are as follows: (NOTE: These elements are to be implemented to augment the landfill cap which is part of the Interim Remedial Measures program which is currently being conducted at the site.)

1. **Removal of a pond of orange/yellow surface water and corresponding sediments in the northeast corner of the site.** This pond, which is approximately 20x40 feet in area and 2 to 3 feet deep, has been impacted by leachate seeps which have existed along the northeast face of the landfill. It is expect that these seeps will be eliminated once the landfill cap is installed. This water is to be pumped into the leachate storage tanks located on-site, and will ultimately be transported to a Publicly Owned Treatment Works (POTW) for treatment. In addition, the top two feet of sediments (approximately 60 cubic yards) underneath this pond will be excavated and placed on the landfill prior to capping. Efforts to protect Blanding's Turtles in the vicinity of this pond will be conducted prior to the commencement of field work.

2. **Further examination of the existing odor problem will be conducted.** Landfill gas control technologies will be implemented as required.

3. **Leachate which is collected in the liner system of the new C&D cells of the landfill will continue to be treated at a POTW facility.** Leachate management is expected to continue for approximately 30 years. Very little leachate is expected to be generated once the landfill cap is installed.

4. **Groundwater samples will be collected on a regular basis and analysed for the site specific contaminants of concern.** These analytes include the ionic forms of heavy metals and volatile organic compounds. Initially, sampling will be conducted on a quarterly basis. In time, this may be reduced to semi-annual sampling. **Surface water and sediment samples will be collected from the wetland**

areas on a semi-annual basis. Environmental monitoring will continue for approximately 30 years.

Based on current information, there are four private potable water supply wells within 1/2 mile of the site. These wells will be included in the long-term monitoring program. If other such supply wells are identified in the future, they too will be incorporated into the long-term monitoring program.

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 technologies, to the maximum extent practicable. Because this remedy will not allow for unlimited use and unrestricted exposure within five years after completion of the construction of the remedial action, a five year policy review will be conducted. This evaluation will be conducted within five years after completion of the construction of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

_____
Date

_____
Ann Hill DeBarbieri
Deputy Commissioner
Office of Environmental Remediation
New York State Department of Environmental Conservation

TABLE OF CONTENTS

FIGURES

TABLES

EXHIBITS

RECORD OF DECISION
DUTCHESS SANITATION SITE #314047

I. SITE LOCATION AND DESCRIPTION

The Dutchess Sanitation (FICA) site is an inactive hazardous waste site located at 275 Van Wagner Road in the Town of Poughkeepsie. The site is surrounded by a DEC listed wetlands (PK-13) to the east, open fields to the north and west, and Van Wagner Road to the south. The Schatz Federal Bearing inactive hazardous waste site (#314003) is located along the southwestern boundary of the site. The Dutchess Sanitation site is 36 acres in size; 19 acres of which comprise the landfill.

There are a few residential homes in the vicinity of the site, the closest of which being approximately 1/8 of a mile to the south of the site. Drinking water is supplied to a majority of the surrounding residents by the Town of Poughkeepsie. However, there are several private wells within a one mile radius of the site. These wells were tested during the recently completed Schatz Federal Bearing Remedial Investigation/Feasibility Study (RI/FS), and these wells were found to be uncontaminated.

Surface water generally drains radially off of the landfill. Ultimately, most of the surface water drains into a feeder creek that flows into Casper Creek. This feeder creek flows from north to south along a line near the eastern boundary of the site.

Blanding's Turtle, a threatened species in New York State, is found in the wetlands near the site. This is an isolated population of this species.

II. SITE HISTORY AND ENFORCEMENT STATUS

The Dutchess Sanitation site is a privately owned and operated landfill which was used for the disposal of municipal and commercial wastes from 1971 through 1983. Operations re-opened in June 1984 when construction and demolition (C&D) debris was placed on the southern face of the landfill in order to lessen the slope of this face of the landfill. These operations ceased in October of 1984 after a large fire associated with the C&D fill operation occurred. The landfill re-opened again in July 1991. A subset of C&D debris is being accepted and is being placed along the southern face of the landfill in order to stabilize that slope. This work is being done under the oversight of the New York State Department of Environmental Conservation (NYSDEC) and pursuant to an Order on Consent which was signed by J&T Recycling (site operator) and the New York State Department of Law (NYSDOL). Stringent engineering controls have been implemented in order to reduce to chance of another fire occurring at the site. It is anticipated that the fill operation will continue through June 1993, at which time no more waste will be accepted, and construction of the landfill cap will commence.

In 1980, the site was listed in the NYSDEC's Registry of Inactive Hazardous Waste Sites. The site was designated a Class 2 site (present classification) in December 1986. A Class 2 site is a site which poses a significant threat to public health and the environment.

In October 1989, J&T Recycling signed an Order on Consent with the NYSDOL in which J&T agreed to conduct a Remedial Investigation/Feasibility Study at the Dutchess Sanitation site. The purpose of the RI was to determine the nature and extent of hazardous waste contamination at the site. The purpose of the FS was to identify the best alternative to mitigate the negative impacts created by the

presence of contamination in the affected media.

In addition to agreeing to conduct the RI/FS, J&T agreed to implement an Interim Remedial Measures (IRMs) program at the site. These were further defined in a second Order on Consent which J&T signed with the NYSDOL in April 1991. These IRMs included:

1 - fencing the southern boundary of the site
2 - stabilizing the southern slope of the landfill with C&D debris
3 - capping the landfill

III. HIGHLIGHTS OF COMMUNITY PARTICIPATION

To inform the local community and to provide a mechanism for citizens to make the Department aware of their concerns, a citizen participation program has been implemented. In accordance with the 1988 New York State Citizen Participation Plan developed for remedial projects, the following goals have been accomplished:

1 - Information repositories have been established at the Adriance Memorial Library, the Poughkeepsie Town Hall and the NYSDEC regional office in New Paltz.

2 - Documents and reports dealing with this project have been placed into the aforementioned repositories.

3 - A "contact list" of interested parties (e.g. local citizens, media, public interest groups, government agencies, economic agencies, etc.) has been developed.

4 - A Public Meeting was held on April 2, 1991 during which tasks included in the RI/FS and IRM Work Plans were presented to the public. A responsiveness summary was prepared and issued on May 28, 1991.

5 - A public notice of the completion of the RI/FS and the development of the Proposed Remedial Action Plan was distributed to the contact list on February 18, 1993.

6 - A public comment period was established from February 18, 1993 to March 19, 1993 and a Public Meeting was held on March 3, 1993 to discuss the results of the RI/FS and IRM and to present the Proposed Remedial Action Plan.

A summary of the comments/questions which were received during the March 3, 1993 public meeting and the comment period, as well as the responses to those comments, are included in Exhibit C. Copies of the ROD, the Responsiveness Summary and the transcript of the public meeting will be placed in the document repositories upon completion. A notice announcing the availability of these documents and briefly summarizing the selected remedial program will be issued to the contact list.

IV. SCOPE AND ROLE OF RESPONSE ACTION

The remedial action selected in this decision document addresses the entire site. As discussed in greater detail in Section V, the media which are contaminated include groundwater, surface water, sediments, and air. The sources of the contamination in the surface waters and sediments appear to be from leachate seeps which exist along the eastern face of the landfill. These seeps will be eliminated after the landfill cap is installed. One area of surface water and sediment contamination has been targeted for remediation in order to provide a cleaner habitat for a population of Blanding's Turtles. The contaminant load to

the groundwater is expected to be reduced after the low permeability cap is installed because the volume of precipitation which infiltrates the landfill mass will be greatly reduced. The odors which are emanating from the landfill are expected to be reduced upon completion of the cap. If this does not occur, additional corrective measures will be implemented in order to control these odors.

V. SUMMARY OF SITE CHARACTERISTICS

Summary of the Field Investigations

The components and conclusions of the remedial investigations (RI) performed at the site are summarized in the following paragraphs. For more detailed information regarding the RI, the reader is referred to the RI/FS Report which can be found in one of the document repositories (see Section III).

There were four stages to the RI:

1 - magnetometer survey
2 - soil gas survey
3 - monitoring well installation
4 - collection and analysis of environmental samples

A magnetometer survey was conducted over the entire landfill using a grid spacing of 100 feet. There were two goals for this survey. The primary goal was to determine the extent of the waste mass (landfill boundary). The second goal was to identify areas (if any) where drum nests may exist. No such areas were identified.

A soil gas survey was conducted over the same grid as the magnetometer survey. Approximately 65 samples were collected and analyzed in the field.

Soil gas refers to the air that exists in the pore spaces in the soil above the water table. Organic contaminants (vapor phase) can also be found in these pore spaces. Soil gas surveys are designed to provide qualitative data regarding the organic compounds which exist in the soil and in the groundwater.

The primary organic compounds which were detected in the soil gas were toluene, xylene compounds, benzene, and ethyl benzene. These compounds are common constituents of petroleum-related products. Other compounds which were detected include methyl ethyl ketone, cis-1,2-dichloroethylene, tetrachloroethylene, and chlorobenzene.

Fourteen (14) monitoring wells were installed as part of the RI (see Figure 2). These wells were installed in order to evaluate the groundwater quality and determine if any contaminants are entering the groundwater at the site. (NOTE: In the Approved Work Plan, a total of 20 monitoring wells were proposed. However, due to unexpected conditions at the site (e.g. - little or no saturated overburden at most locations), six of the proposed wells were not installed.)

Two groundwater sampling rounds were conducted in May and October of 1992. The results of these sampling rounds are presented in Table 1 (see also Figure 2). The primary contaminants of concern are xylenes since the concentrations of these compounds (in aggregate) were up to 10 times greater than the drinking water standard of 5 parts per billion (ppb). Other contaminants of concern include benzene, arsenic, barium, chromium, and lead. These contaminants were detected at concentrations at, or slightly above, drinking or groundwater standards.

Two surface water and sediment sampling rounds were conducted in May and October of 1992. These samples were collected from the wetlands area on the east side

of the landfill (Figure 2). The results of these sampling rounds are presented in Tables 2 and 3. Contaminants of concern include copper, lead, chromium, iron, and ammonia.

In response to odor complaints from residents living near the site, gas samples from the gas vents were collected and analyzed. These results were pending at the time this ROD was issued. The primary landfill gas emanating from the vents is methane. Hydrogen sulfide, the gas causing the "rotten egg" odor, is emanating from the side of the new C&D cell.

VI. SUMMARY OF SITE RISKS

Typically in the RI/FS process, an assessment of the risks posed to human health and the environment (Risk Assessment) is conducted. In the case of the Dutchess Sanitation site, significant remedial work (IRM Program) was being conducted concurrent with the RI/FS. It was determined that it would be more beneficial to conduct the Risk Assessment at the conclusion of the IRM Program. This will include assessing the risks posed by gases venting from the landfill.

The environmental risks posed by the site include the degradation of the quality of the adjacent wetland. The specie at greatest risk is Blanding's Turtle. There is a known population of these turtles in the Poughkeepsie area.

VII. INTERIM REMEDIAL PROGRAM

During the development of the RI/FS Work Plan, it was apparent that certain remedial activities would be required at this site. Due to the deteriorated condition of the existing cover, the need for a properly designed and constructed cap was evident.

The southern face of the landfill had a steep slope, which, in places, exceeded 60%. It was determined that it would not be possible to install a cap on this face. There were two factors which led to this decision:

1 - It would be very dangerous, if not impossible, to manoeuvre heavy machinery on this face, and therefore the proper compaction of various components of the cap would not be attained.

2 - Due to the steepness of the slope, any cap which could be installed would not be stable, and in time, may slide off of this face of the landfill.

In addition, it was determined that this face, as it stood, was unstable, and could fail in the future unless it was supported in some way. Numerous tension cracks existed at the top of this face of the landfill, and these were evidence that a portion of the waste mass had begun to slide.

With the above conditions in mind, it was decided early on in this project that certain remedial actions needed to be implemented as soon as possible, and could not wait until the RI/FS was completed and the NYSDEC issued its Record of Decision for this site. These remedial actions, called Interim Remedial Measures (IRMs), were incorporated into the RI/FS Work Plan. Further engineering design was required prior to implementing the IRMs. This work is presented in the IRM Work Plan dated January 1991. Three IRMs were or are currently being implemented:

1 - site security (completed)
2 - stabilization of the southern face of the landfill (nearly complete)
3 - installation of a landfill cap per 6 NYCRR Part 360 (just started)

These IRMs are described in the following sub-sections:

1 - Site Security

In order to prevent unauthorized entry to the site via Van Wagner Road, a chain-link fence was installed. This fence has a gate which will remain locked except for on-going operations and maintenance purposes (post-closure).

2 - Stabilization of the Southern Face of the Landfill

Based on an engineering evaluation, it was determined that the steep southern face of the landfill had to be supported in order to prevent failure of this slope. It was determined that a final slope of 4 horizontal vs. 1 vertical was required to achieve this goal with an adequate degree of safety. A subset of C&D debris was selected for supporting this face. This subset consisted of:

- soil
- stone
- rock dust
- concrete
- brick
- asphalt
- wall board
- masonry products
- tree stumps
- wood chips
- clearing and grubbing materials
- wood
- roofing materials

All incoming loads to the site are inspected by a NYSDEC contractor who rejects any loads which contain unacceptable materials. Approximately 250,000 cubic yards of C&D have been accepted to date.

In order to adequately construct the landfill cap, a second area of concern was identified. The target range (see Figure 2) will be filled in. Approximately 25,000 cubic yards of C&D are required to complete this task.

Engineering controls were implemented in order to reduce the risk of a release to the environment of another fire occurring:

- Liners were installed at the bottom of the two C&D cells described above. These liners consisted of two feet of compacted clay sloped at an angle of 1.5 degrees to facilitate collection of leachate.

- Leachate collection systems were installed on top of the liners. Leachate is pumped to an on-site storage tank, and eventually hauled off-site to a publicly owned treatment works (POTW).

- At the end of each day, two or more inches of cover material (e.g.- soil) were placed over the waste that was placed on the landfill that day. This was done in order to promote surface water run-off and thus reduce the production of leachate at the site.

3 - Landfill Cover

The final cover system for the Dutchess Sanitation Site will consist of the following (from bottom to top - see Figure 3):

- Gas Venting System: the purpose of the gas venting system is to provide a means for gases produced from the decomposition of the waste to escape. Gas vents have been installed in the cracks that existed due to the sloughing of the waste mass. Landfill gas is venting directly into the atmosphere. (NOTE: In response to odor complaints filed by local residents, systems for treating these gases are currently being evaluated.)

Approximately three gas vents will be installed in the new C&D cells. The bottom of these vents will be situated in a 12-inch thick layer of sand which will be placed immediately on top of the waste cells.

- Barrier Layer: The purpose of the barrier layer is to limit the volume of precipitation that infiltrates the waste mass. This layer will consist of a low permeability geomembrane (plastic sheeting).

- Barrier Protection Layer: The purpose of the barrier protection layer is to protect the barrier layer from temperature extremes, root penetration, and, to the extent possible, burrowing animals. This layer will consist of 24 inches of compacted soil.

- Topsoil Layer: The purpose of the topsoil layer is to maintain vegetative growth (grasses) over the landfill. This will inhibit erosion of the cap. This layer will consist of 6 inches of topsoil on which suitable grasses will be planted.

This landfill cap design is consistent with the NYSDEC's regulations (6 NYCRR Part 360). The design of the toe of the cap along the eastern boundary of the site has been changed from the design presented in the January 1991 IRM Work Plan. The toe of the cap along this boundary will not extend into the wetlands. It is conceivable that a small quantity of waste may be left uncovered. It has been concluded that installing a portion of the cap in the wetlands would cause more damage to the wetlands than leaving this waste uncapped. A toe drain inside of the toe of the cap has been added to the design. This is going to be done in order to collect leachate along the eastern boundary of the site.

Due to complaints filed by local residents regarding odors emanating from the landfill, odor control measures are being implemented as quickly as possible. Measures to be implemented include characterizing and collection and treatment (as appropriate) of the gases emanating from the landfill.

VIII. DESCRIPTION OF THE REMEDIAL ALTERNATIVES

The potential alternatives which were developed for remediating the Dutchess Sanitation site involved different methods for achieving the major goals of preventing further impacts to groundwater, surface water, and sediments and potential exposures to humans. The alternatives varied in their approach to these goals. Although a large number of possible alternatives could be defined, eight alternatives were evaluated during the Feasibility Study.

As presented below, present worth is defined as the amount of money needed now (in 1992 dollars at 5% interest) in order to fund the construction, and operation and maintenance (O&M) costs of the alternative. Capital costs mainly reflect construction, rental, and engineering costs, and annual O&M costs reflect average operating and maintenance costs per year over the lifetime of the remedial alternative. All costs are estimates. These estimates are based on information supplied by Dunn Corporation (Albany, NY) on behalf of J&T Recycling. The component with the greatest O&M cost is the leachate management program. In developing their cost estimate, Dunn assumed a that 450,000 gallons of leachate would be collected annually. The Department believes that this estimate is high, and that it is very possible that a lower annual volume of leachate would be collected thus resulting in lower annual O&M costs.

Alternative 1 - No Action, with Groundwater Monitoring

Capital Costs:	$ 12,300
Annual O&M:	$ 131,500
Present Worth:	$2,033,800

No additional remediation would be performed under this alternative. Periodic groundwater sampling would be conducted over a period of 30 years. At the beginning of the post-monitoring program, groundwater sampling would be conducted on a quarterly basis. This in time may be reduced to semi-annual sampling. The

existing monitoring well network would be used for this program.

The landfill cap is expected to prevent leachate from flowing into the wetland. Under Alternative 1, it is expected that the existing contamination in the wetlands would be remediated by nature (biodegradation, dilution, etc.). In order to confirm that this occurs, surface water and sediment samples would be collected and analyzed on a semi-annual basis.

Any leachate collected in the leachate collection system would continue to be sent to a publicly owned treatment works (POTW) for treatment.

NOTE: The sampling and analysis and the leachate collection and treatment components of this alternative are also included in Alternatives 2 through 8.

Alternative 2 - Sediment Removal

Capital Costs:	$ 138,700
Annual O&M:	$ 131,500
Present Worth:	$2,160,200

In this alternative, surface water and sediments at locations SW-3 and Sed-3 would be targeted for remediation. A pond of water, approximately 800 square feet in area and 2-3 feet deep, exists at this location. The water is orange/yellow in color and has been impacted by leachate seeps along the northeast face of the landfill. Under this alternative, this water would be pumped into a tanker and hauled off-site to a POTW for treatment. Approximately 60 cubic yards of sediments which contain metals at concentrations above State guidelines would be excavated and placed on the landfill prior to capping.

Surface water would then be allowed to recharge the pond, thus creating a suitable habitat for Blanding's Turtles.

Alternative 3 - Groundwater Collection and Treatment with an Air Stripper

Capital Costs:	$ 348,300
Annual O&M:	$ 143,100
Present Worth:	$2,548,100

In this alternative, a groundwater collection trench would be installed outside of the anchor trench for the cap along the eastern and southeastern boundaries of the site (Figure 4). This trench would intercept the low water mark of the groundwater table (top of the groundwater column). The groundwater which is collected would be treated with an air stripper in order to remove the volatile organic compounds and discharge the treated water to a surface water body. In order to do this, appropriate air and surface water discharge permitting requirements must be met.

Alternative 4 - Groundwater Collection and Treatment with Activated Carbon

Capital Costs:	$ 325,000
Annual O&M:	$ 141,200
Present Worth:	$2,495,600

This alternative is essentially the same as Alternative 3, except for the method of treating the groundwater. In this alternative, groundwater would be treated in a column containing granular activated carbon (GAC). The permitting requirements mentioned above would need to be met.

Alternative 5 - Groundwater Collection and Treatment at a POTW Facility

Capital Costs: $ 607,100
Annual O&M: $ 2,979,600
Present Worth: $46,411,000

This alternative is essentially the same as Alternative 3, except the method of treating the groundwater. In this alternative, the groundwater which is collected would be temporarily stored in on-site storage tanks. When these tanks are full, a licensed hauler would take this water to a POTW facility. The permitting requirements referred to in the discussion of Alternative 3 would not be needed under this alternative. However, other requirements may need to be met. The costs for treating the water in this manner are based on the current costs for treating the leachate collected at this site.

Alternative 6 - Installation of a Slurry Wall, Collection of Groundwater, and Treatment with an Air Stripper

Capital Costs: $ 497,100
Annual O&M: $ 143,000
Present Worth: $2,696,900

In this alternative, a slurry wall (cement grout) would be installed to the top of bedrock along the eastern and southeastern boundaries of the site (see Figure 5). This would prevent the contaminated groundwater in the overburden from flowing into the wetland, and prevent water from flowing from the wetlands over and below the cap. A groundwater collection trench, similar to Alternatives 3 and 4 would be installed on the landfill side of the slurry wall in order to collect contaminated groundwater. The groundwater which is collected in this trench would be treated in an air stripper as discussed in Alternative 3.

Alternative 7 - Installation of a Slurry Wall, Collection of Groundwater, and Treatment with Activated Carbon

Capital Costs: $ 473,800
Annual O&M: $ 141,200
Present Worth: $2,644,400

This is essentially the same as Alternative 6, except that groundwater would be treated with activated carbon as discussed under Alternative 4.

Alternative 8 - Installation of a Slurry Wall, Collection of Groundwater, and Treatment at a POTW Facility

Capital Costs: $ 755,900
Annual O&M: $ 2,979,600
Present Worth: $46,559,000

This alternative is essentially the same as Alternative 6, except that groundwater will be treated at a POTW facility as discussed under Alternative 5.

IX. SUMMARY OF THE COMPARATIVE ANALYSIS OF THE ALTERNATIVES

The site-specific goals for remediating the Dutchess Sanitation site are the prevention of further impacts to groundwater, surface water and sediments, and exposures to humans. 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). For each of the following criteria, a brief description is given followed by an evaluation of the various alternatives against that criterion.

Threshold Criteria - The first two criteria must be satisfied in order for an alternative to be eligible for selection.

1. Protection of Human Health and the Environment - This criterion is an overall and final evaluation of the health and environmental impacts to assess whether each alternative is protective. This evaluation is based upon a composite of factors assessed under other criteria, especially short/long term effectiveness and compliance with Standards, Criteria, and Guidelines (SCGs).

   All of the alternatives are protective of human health. Access to the site will be limited, and the potential for people to come in direct contact with the waste is minimal. All of the alternatives are protective of the environment; however, Alternative 2 provides a greater level of protection than the other alternatives.

2. Compliance with New York State Standards, Criteria, and Guidelines (SCGs) - Under this criterion, the issue of whether a remedy will meet all of the Federal or State environmental laws and regulations is addressed. If these laws and regulations will not be met, grounds for invoking a waiver(s) are provided.

   It is expected that compliance with SCGs will occur no matter which alternative is implemented. Groundwater standards (including Part 5 Drinking Water Standards) should be met once the landfill cap is installed followed by the expected reduction in leachate production at the site. This reduction in leachate production should reduce the contaminant load to the groundwater. Surface water and sediment quality should improve because the landfill cap will also eliminate leachate seeps which were apparently the cause of the surface water and sediment contamination. SCGs are expected to be met in a shorter time frame if one or more of the action specific alternatives (Alternatives 2 through 8) are implemented.

Primary Balancing Criteria - The next five "primary balancing criteria" are used to weigh major trade-offs among different hazardous waste management strategies.

3. Short-term Impacts and Effectiveness - The potential short-term impacts of the remedial action upon the community, the workers, and the environment are evaluated. The length of time needed to achieve the remedial objectives is estimated and compared with other alternatives.

   Short-term impacts upon the community may occur if a slurry wall and/or trench are constructed. These impacts include noise, dust emissions, and odors emanating from these construction activities. Potential impacts to the environment include releases to the wetlands during construction activities. In each of these instances, sufficient engineering controls exist to mitigate these impacts. The time frame for implementing these alternatives ranges from one day to two to three months. There are no short-term impacts associated with Alternative 1.

4. Long-term Effectiveness and Permanence - If wastes or residuals will remain at the site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude and nature of the risk posed by the remaining wastes; 2) the adequacy of the controls intended to limit the risk presented by the remaining wastes; and 3) the reliability of these controls.

   A risk assessment is to be completed following completion of the landfill cap in order to address landfill gas emissions.

   The long-term monitoring program would be sufficient to detect any migration of contaminants off-site at levels which would be harmful to

human health or the environment. The monitoring data will be evaluated every five years in order to ensure that the selected remedial program is sufficient.

5. Reduction of Toxicity, Mobility, and Volume - Preference is given to alternatives that permanently, and by treatment, reduce the toxicity, mobility, or volume of the wastes at the site. This includes assessing the fate of the residues generated from treating the wastes at the site.

   The mobility of the waste will be reduced by the landfill cap. The volume and toxicity of the waste will remain unchanged under each alternative.

6. Implementability - The technical and administrative feasibility of implementing the alternative is evaluated. Technically, this includes the difficulties associated with the construction and operation of the alternative, the reliability of the technology, and the ability to effectively monitor the effectiveness of the remedy. Administratively, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining special permits, rights-of-way for construction, etc.

   No major technical or administrative difficulties in implementing any of the remaining alternatives have been identified.

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

   A wide range of present worth costs is represented by the eight alternatives. Present worth costs range from $2,033,800 for Alternative 1 to $46,559,000 for Alternative 8.

Modifying Criterion - This final criterion is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Remedial Action Plan (PRAP) have been received.

8. Community Acceptance - Concerns of the community regarding the RI and FS Reports and the PRAP were evaluated. The concerns of the community are presented along with the Department's responses to these concerns in the Responsiveness Summary (Exhibit C).

X. SELECTED REMEDY

The remedy selected for the site by the NYSDEC was developed in accordance with the New York State Environmental Conservation Law (ECL) and is consistent with the Comprehensive Environmental Response, and Compensation, and Liability Act of 1980 (CERCLA), 42 USC Section 9601, et. seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS), and the criteria for selecting a remedy, the NYSDEC has selected Alternative 2, Surface Water and Sediment Removal with Environmental Monitoring, in addition to the ongoing IRM program, for remediating this site. The estimated present worth and capital costs for the selected remedy are $2,160,200 and $138,700 respectively. The costs to conduct the environmental monitoring and leachate management programs are estimated at $131,500 per year.

The elements of the selected remedy are as follows:

1. Removal of a pond of orange/yellow surface water in the northeast corner of

the site. This pond, which is approximately 20x40 feet in area and 2 to 3 feet deep, which has been impacted by leachate seeps which have existed along the northeast face of the landfill. It is expected that these seeps will be eliminated once the landfill cap is installed. This water is to be pumped into the leachate storage tanks located on-site, and will ultimately be transported to a Publicly Owned Treatment Works (POTW) for treatment. In addition, the top two feet of sediments (approximately 60 cubic yards) underneath this pond will be excavated and placed on the landfill prior to capping. Efforts to protect Blanding's Turtles in the vicinity of this pond will be conducted prior to the commencement of field work.

2. Further examination of the existing odor problem will be conducted. Landfill gas control technologies will be implemented as required.

3. Leachate which is collected in the liner system of the new C&D cells of the landfill will continue to be treated at a POTW facility. Leachate management is expected to continue for approximately 30 years. Very little leachate is expected to be generated once the landfill cap is installed.

4. Groundwater samples will be collected on a regular basis and analyzed for the site specific contaminants of concern. These analytes include the ionic forms of heavy metals and volatile organic compounds. Initially, sampling will be conducted on a quarterly basis. In time, this may be reduced to semi-annual sampling. Surface water and sediment samples will be collected from the wetland areas on a semi-annual basis. Environmental monitoring will continue for approximately 30 years.

Must be filtered

Based on current information, there are four private potable water supply wells within 1/2 mile of the site. These wells will be included in the long-term monitoring program. If other such supply wells are identified in the future, they too will be incorporated into the long-term monitoring program.

(NOTE: These elements are designed to augment the ongoing IRM program.)

XI. STATUTORY DETERMINATIONS

In the following paragraphs, descriptions of how the remedy complies with the decision criteria in the laws and regulations are presented:

1. Protection of Human Health and the Environment

The selected remedy is protective of human health and the environment. The landfill cap will greatly reduce the infiltration of precipitation, and thus reduce the contaminant load to the groundwater. The cap will also eliminate the leachate seeps which have impacted surface waters and sediments in the wetlands adjacent to the site. The odor control measures will also be implemented as required.

2. Compliance with SCGs

With the expected reduced contaminant load to groundwater and elimination of leachate seeps, groundwater, surface water, and sediment SCGs are expected to be met within a few years. A monitoring program will be implemented in order to determine if these goals are met. Odor control measures will be implemented, as required, in order to meet air SCGs.

3. Cost-Effectiveness

Of the alternatives that can achieve the remedial goals, the selected remedy has the second lowest cost. The cost associated with the selected

remedy is 6.2% higher than the remedy having the lowest cost.

4. Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable

The NYSDEC has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a cost-effective manner at the site.

5. Preference for Treatment as Principal Elements

Treatment options are limited to the contaminated surface water as well as continued leachate treatment.

GLOSSARY OF ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DL	detection limit
ECL	Environmental Conservation Law
FS	Feasibility Study
mg/kg	milligram/kilogram (ppm)
ND	not detected
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOL	New York State Department of Law
PCE	perchloroethylene (also known as tetrachloroethylene)
ppb	parts per billion
ppm	parts per million
PRAP	Proposed Remedial Action Plan
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SCGs	Standards, Criteria, and Guidance
VOCs	volatile organic compounds

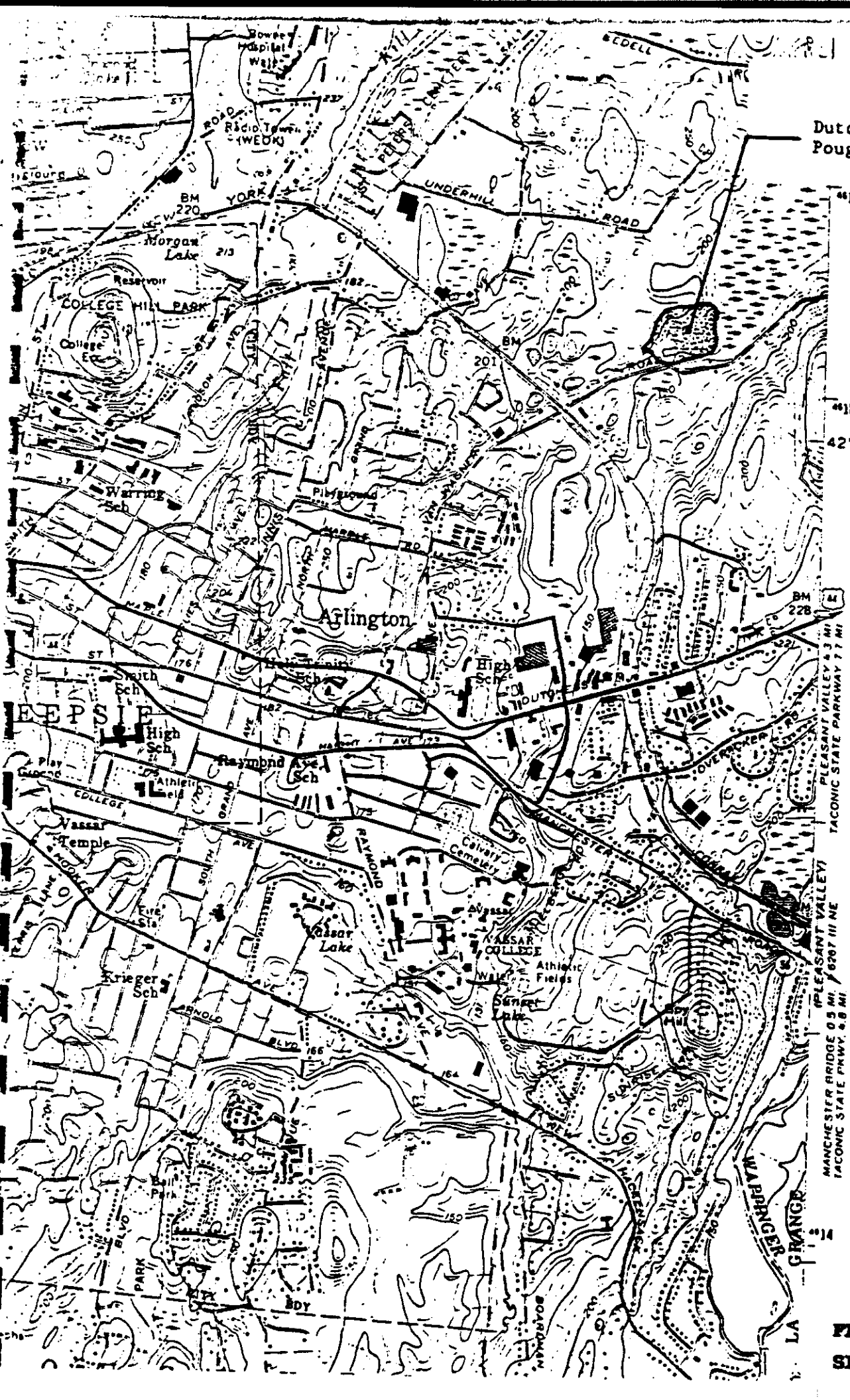
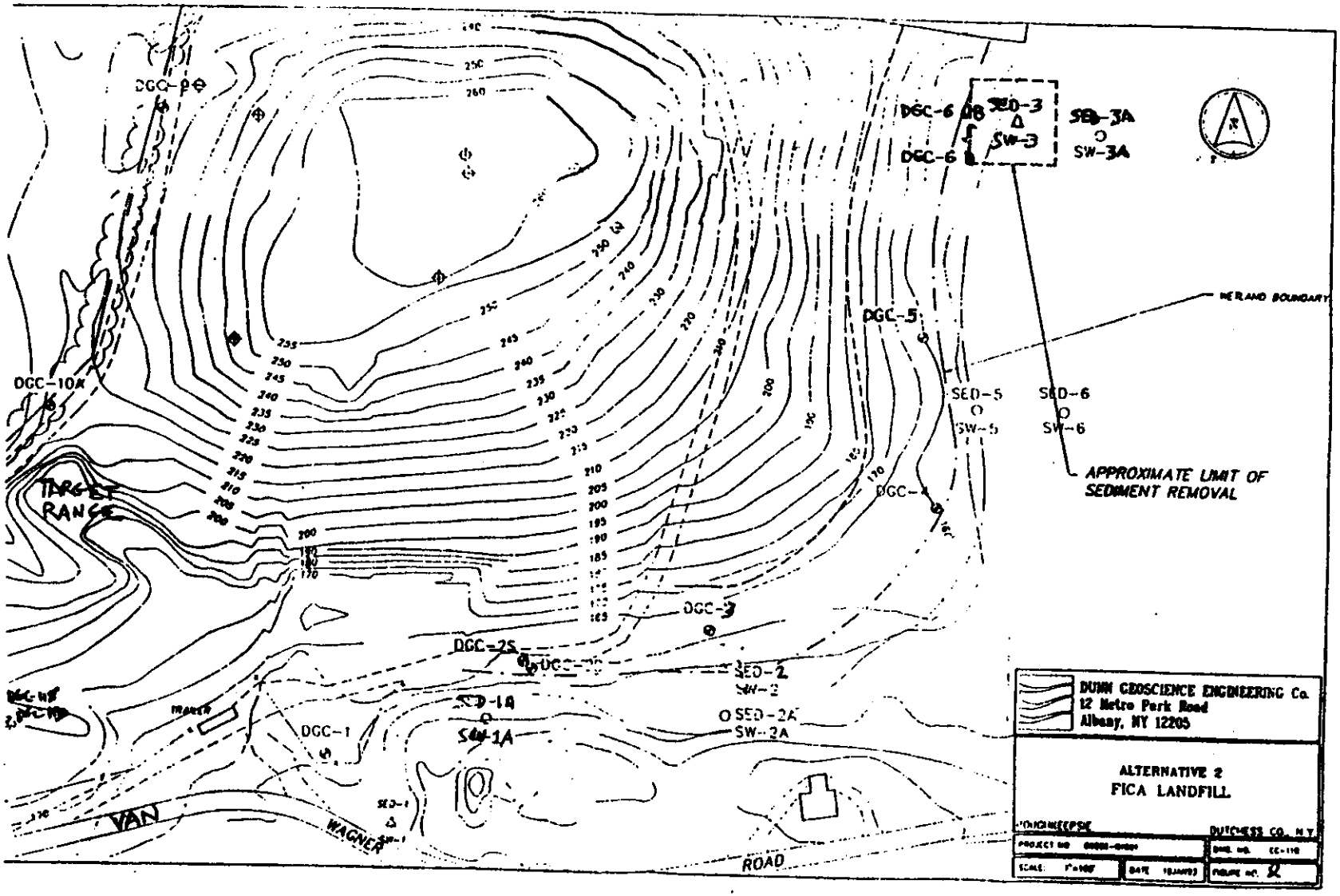
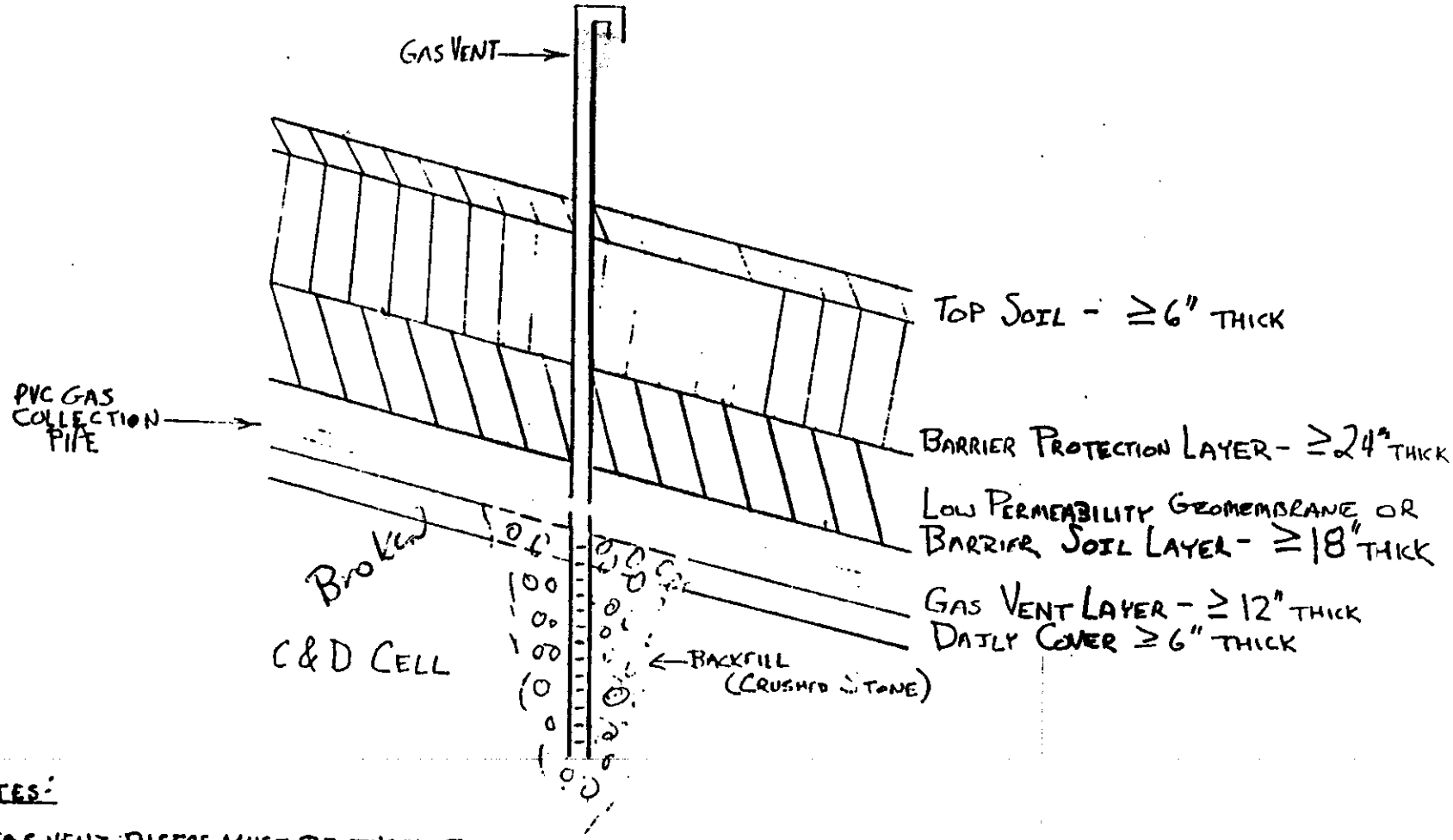


FIGURE 1

SITE LOCATION


DGC-6
SED-3
SW-3
SED-3A
SW-3A
DGC-5
SED-5
SW-5
SED-6
SW-6
APPROXIMATE LIMIT OF SEDIMENT REMOVAL
DGC-10A
TARGET RANGE
DGC-4
DGC-3
DGC-2S
SED-2
SW-2
SED-1A
SW-1A
SED-2A
SW-2A
DGC-1
SED-1
SW-1
VAN
WAGNER
ROAD
DUNN GEOSCIENCE ENGINEERING Co.
12 Metro Park Road
Albany, NY 12205
ALTERNATIVE 2
FICA LANDFILL
DUTCHESS CO. N.Y.



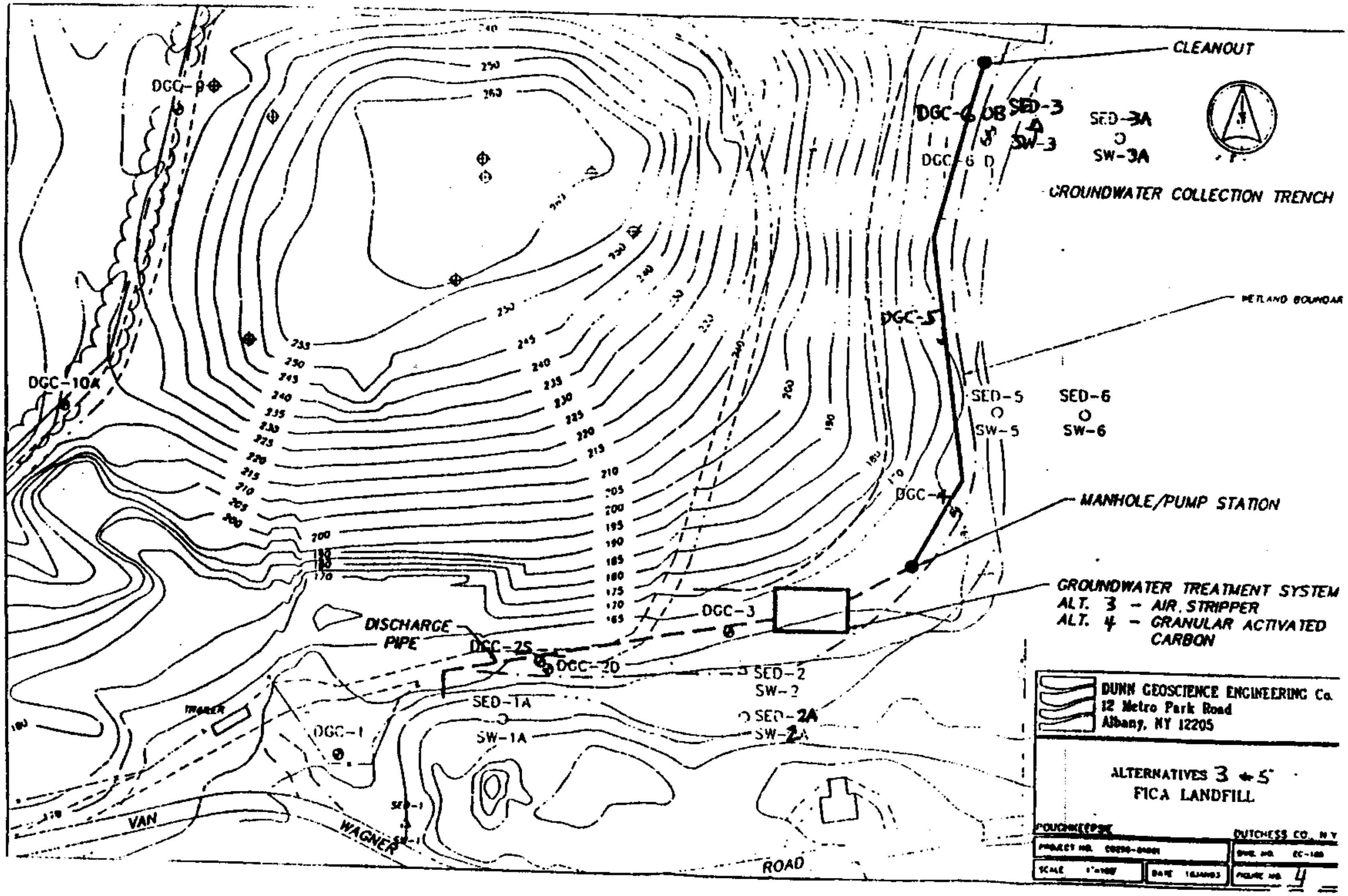
NOTES:

1- GAS VENT RISERS MUST BE INSTALLED AT A DEPTH OF AT LEAST THREE FEET INTO REFUSE.

2- GAS VENT RISERS MUST BE EXPOSED AT LEAST THREE FEET ABOVE THE FINAL ELEVATION OF THE COVER.

FIGURE 3 - FILL AREA COVER DESIGN

NOT TO SCALE



CLEANOUT
DGC-6 OB
SED-3
SW-3
DGC-6 D
SED-3A
SW-3A
GROUNDWATER COLLECTION TRENCH
WETLAND BOUNDAR
DGC-9
DGC-10A
DGC-5
SED-5
SW-5
SED-6
SW-6
DGC-4
MANHOLE/PUMP STATION
GROUNDWATER TREATMENT SYSTEM
ALT. 3 - AIR STRIPPER
ALT. 4 - GRANULAR ACTIVATED CARBON
DGC-3
DISCHARGE PIPE
DGC-2S
DGC-2D
SED-2
SW-2
SED-2A
SW-2A
SED-1A
SW-1A
DGC-1
TRAILER
VAN WAGNER ROAD
DUNN GEOSCIENCE ENGINEERING Co.
12 Metro Park Road
Albany, NY 12205
ALTERNATIVES 3 + 5
FICA LANDFILL
POUGHKEEPSIE
DUTCHESS CO. N.Y.
FIGURE NO. 4

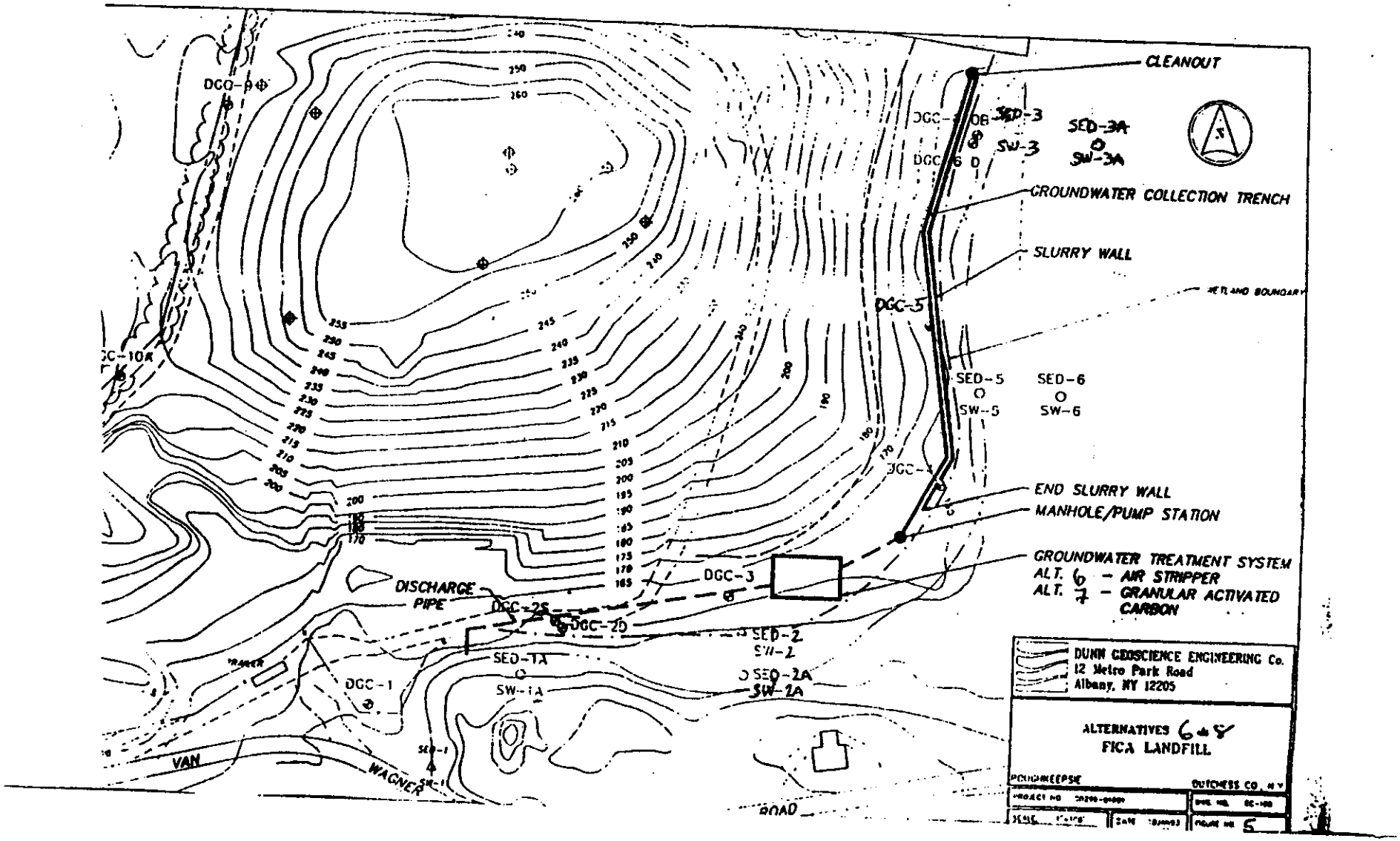

CLEANOUT
DGC-6
SED-3
SW-3
SED-3A
SW-3A
GROUNDWATER COLLECTION TRENCH
SLURRY WALL
WETLAND BOUNDARY
DGC-5
SED-5
SW-5
SED-6
SW-6
DGC-4
END SLURRY WALL
MANHOLE/PUMP STATION
GROUNDWATER TREATMENT SYSTEM
ALT. 6 - AIR STRIPPER
ALT. 7 - GRANULAR ACTIVATED CARBON
DGC-10R
DGC-3
DISCHARGE PIPE
DGC-2S
DGC-2D
SED-2
SW-2
SED-1A
SW-1A
SED-2A
SW-2A
DGC-1
SED-1
SW-1
VAN WAGNER
ROAD
DUNN GEOSCIENCE ENGINEERING Co.
12 Metro Park Road
Albany, NY 12205
ALTERNATIVES 6 & 7
FICA LANDFILL
POUGHKEEPSIE
DUTCHESS CO., N.Y.
5

TABLE 1

GROUNDWATER DATA

Well ID	Benzene	Xylenes[1]	1,1-DCA[2]	Chloro-benzene	Ethyl-benzene	Arsenic	Chromium	Iron	Lead
DGC-01	ND	1	ND	ND	ND	6.9	ND	5,100	5
DGC-2S	ND	ND	ND	ND	ND	45.5	32.6	40,900	18
DGC-2D	4	7	ND	ND	ND	28.0	24.0	16,700	33
DGC-03	7	48	ND	6	9	24.0	14.8	23,300	16.8
DGC-04	ND	1	ND	ND	1	3.7	ND	7,980	13
DGC-05	7	45	ND	ND	14	6.1	13.4	23,300	3.8
DGC-6-OB	2	3	4	ND	3	44.5	66.7	41,300	68.5
DGC-6D	3	18	ND	ND	2	NA	NA	NA	NA
DGC-07	3	ND	14	ND	ND	24.0	19.5	10,100	5.1
DGC-08	ND	ND	ND	ND	ND	3.0	ND	6,100	3.5
DGC-09	ND	ND	ND	ND	ND	ND	14.0	10,000	22
DGC-10A	ND	ND	ND	ND	ND	ND	15.7	893	1
DGC-11S	ND	ND	ND	ND	ND	ND	ND	698	4
DGC-11D	NA	NA	ND	ND	NA	NA	NA	NA	NA
Standard	5 / 0.7	5	5	5	5	25	50	300	25

Highest value detected from either May or October 1992 sampling events are shown. All values in ug/l or ppb.

1. includes ortho -, para-, and meta- isomers
2. 1,1- dichloroethane

ND - Not detected
NA - Not analyzed

Table 2
Surface Water Data

	Iron	Zinc	Ammonia
Location	µg/ℓ	µg/ℓ	mg/ℓ
SW-1	374	31	0.2
SW-1A	2,200	ND	ND
SW-2	95,400	65	16
SW-3	18,500	29	38
SW-4	6,800	29	0.2
Standard	300	30	0.003

ND = not detected

Highest detected concentration shown for each location

Table 3
Sediment Data

Location	PCBs	Barium	Cadmium	Copper	Manganese	Nickel	Zinc
SED-1	ND	66	ND	50	1,240	46	184
SED-1A	359	53	ND	37	559	27	141
SED-2	ND	82	ND	45	745	40	332
SED-3	260	160	1.9	307	1,550	52	372
SED-3A	ND	NA	NA	NA	NA	NA	NA
SED-4	ND	109	ND	54	741	28	165
Standard or Criteria	25.74	-	0.8	1.9	428	22	85

ND = not detected NA = not analyzed

All values of mg/Kg except for PCBs - ppb
Highest detected concentration shown for each location.

EXHIBIT A
ADMINISTRATIVE RECORD - DUTCHESS SANITATION (FICA)
SITE NUMBER 314047

Reports

1. Remedial Investigation/Feasibility Study Work Plan, FICA Landfill dated October 1989.

2. FICA Landfill, Interim Remedial Measures Work Plan dated January 1991.

3. Remedial Investigation/Feasibility Study, FICA Landfill, Site Number 314047 Report dated January 1993.

4. Record of Decision, Dutchess Sanitation Waste Disposal Site, prepared by the New York State Department of Environmental Conservation, dated March 1993.

Miscellaneous Documents

1. Letter from Paul D. Keller to Joseph Milo dated October 1984.

2. Letter from Edward G. Fahrenkopf to Thomas Gibbons dated August 8, 1989.

3. Letter from Thomas Gibbons to Mark Millspaugh dated January 17, 1990.

4. Letter from John Privitera to John Barnes dated February 27, 1990.

5. Citizen Participation Plan, Dutchess Sanitation (F.I.C.A.) by Marilyn Coffey (NYSDEC).

6. Letter from John Barnes to Mark P. Millspaugh dated March 30, 1990.

7. Letter from John S. Munsey to John Barnes dated April 9, 1990.

8. Letter from John S. Munsey to John Barnes dated August 24, 1990.

9. Letter from John J. Privitera to Mark P. Millspaugh dated October 15, 1990.

10. Letter from Mark P. Millspaugh to John Barnes dated March 19, 1991.

11. Letter from John D. Barnes to Mark P. Millspaugh dated April 10, 1991.

12. Letter from John J. Privitera to Steven A. Greenwold dated May 20, 1991.

Enclosures: Amended Complaint dated April 18, 1991
IRM Consent Order dated April 19, 1991

13. Letter from John J. Privitera to Richard Cantor dated June 3, 1991.

14. Letter from Marsden Chen to Mark Millspaugh dated June 19, 1991.

15. Letter from John Barnes to Mark P. Millspaugh dated September 8, 1992.

16. Letter from Mark P. Millspaugh to Joe Yavonditte dated October 2, 1992.

17. Letter from Lloyd Wilson to John Barnes dated November 10, 1992.

18. Letter from Robert C. Knizek to Mark Millspaugh dated December 4, 1992.

19. "Proposed Remedial Action Plan, Dutchess Sanitation (FICA) Site, #314047" prepared by the New York State Department of Environmental Conservation dated February 1993.

20. Letter from Lloyd Wilson to John Barnes dated February 3, 1993.

21. Official transcript from the March 3, 1993 Public Meeting.

22. "Responsiveness Summary" (Exhibit C of the ROD) prepared by the New York State Department of Environmental Conservation, dated March 1993.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION EXHIBIT B
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 2 REGION: 3 SITE CODE: 314047
EPA ID: NYD000517292

NAME OF SITE : Dutchess Sanitation (FICA)
STREET ADDRESS: 275 Van Wagner Road

TOWN/CITY:	COUNTY:	ZIP:
Poughkeepsie	Dutchess	12603

SITE TYPE: Open Dump- Structure- Lagoon- Landfill-X Treatment Pond-
ESTIMATED SIZE: 17 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Dutchess Sanitation Services (FICA)
CURRENT OWNER ADDRESS.: 275 Van Wagner Road, Poughkeepsie, NY
OWNER(S) DURING USE...: Dutchess Sanitation Services
OPERATOR DURING USE...: Joseph & Nicholas Milo
OPERATOR ADDRESS.....: 275 Van Wagner Road, Poughkeepsie, NY
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1971 To 1984

SITE DESCRIPTION:
Dutchess Sanitation Landfill is an inactive municipal waste landfill. The site received municipal waste from 1971 to 1983. The landfill was shut down after a large fire occurred in 1986. Leachate generated from fighting this fire contained volatile organic compounds. Extensive leachate seeps were observed along the east slope of the landfill during a site inspection and leachate runs toward an adjacent wetland. In fact, the wetland is encroaching on the landfill. Several wells have been sampled on site. Limited data for downgradient wells suggest groundwater contamination with arsenic at <0.003 ppm, lead at .015 ppm, and mercury at 1.0 ppb.

A Phase I Investigation has been completed. Analysis of leachate showed that additional investigation was necessary. An AG consent order was signed for an RI/FS and completed in 1992. A second AG consent order has been signed for t he IRM and cap. A slope stabilization Interim Remedial Measure (IRM) is u nderway to stabilize the steep southern slope of the landfill. In addition, a P art 360 cap will be constructed over the entire landfill in 1992-93.

A Record of Decision is scheduled to be issued shortly.

HAZARDOUS WASTE DISPOSED: Confirmed-X TYPE	Suspected- QUANTITY (units)
Volatile organic compounds	unknown
Waste oil/ink (D001)	unknown

ANALYTICAL DATA AVAILABLE:
Air-X Surface Water-X Groundwater-X Soil-X Sediment-X

CONTRAVENTION OF STANDARDS:
Groundwater-X Drinking Water- Surface Water-X Air-

LEGAL ACTION:

TYPE..: Consent order - AG State- X Federal-
STATUS: Negotiation in Progress- Order Signed- X

REMEDIAL ACTION:

Proposed- Under design- In Progress-X Completed-
NATURE OF ACTION: stabilize steep slopes - Mun. Waste cap ,RI

GEOTECHNICAL INFORMATION:
SOIL TYPE: clayey soils, bedrock 5-20 ft. below grade
GROUNDWATER DEPTH: 5-10 feet

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Groundwater and leachate contamination has been confirmed.

ASSESSMENT OF HEALTH PROBLEMS:

Leachate seeps are extensive and are contaminated with many organic compounds. Possible human exposures could result from contaminated groundwater, air particulates, air vapors, surface water runoff to an adjacent wetland and creek, and direct contact. The office building/ garage is acting as a dam for leachate with a large pool ponded against the building's foundation. The proposed RI/FS investigation will have to address all possible exposure pathways from the site. The area is served by public water with isolated homes using wells. On-site monitoring wells are contaminated. Limited sampling of residential wells in the area has not detected any contamination. An IRM will stabilize slopes, cover areas with exposed waste, control leachate, and completely fence the site.

EXHIBIT C

RESPONSIVENESS SUMMARY
PROPOSED REMEDIAL ACTION PLAN
DUTCHESS SANITATION (FICA LANDFILL)
SITE NUMBER 314047

Introduction

The issues addressed below were raised during a public meeting held on March 3, 1993 at the Town of Poughkeepsie Town Hall. The purpose of the meeting was to present the Proposed Remedial Action Plan (PRAP) for the site and receive comments on the PRAP for consideration during the final selection of a remedy. The transcript from the meeting is included in the Administrative Record for the site (see Exhibit A) and is available for public review at the document repositories. No written responses were received during the Public Comment Period which extended from February 18, 1993 to March 19, 1993.

Questions and Responses

1. There were several questions regarding the source and treatment of odors which appeared to be coming from the landfill.

Response: The Department was first advised of citizens' odor complaints in December 1992, at which time a plan to deal with this problem was developed. At first, it was believed that the source of these odors were gas emissions from the then newly installed gas vents on the landfill. A temporary solution was developed and implemented in late-February 1993. This involved raising the outlet of these gas vents 20 feet in order to obtain a more efficient dispersal of the landfill gases which were emanating from these vents. This, however, did not solve the problem.

Samples of the gases emanating from these vents were collected and analyzed in February 1993. Only small amounts of hydrogen sulfide, the gas that is causing the odor problems, were detected. As a result, further testing was conducted to determine the source of the rotten egg odor. This source was finally isolated in March 1993.

The odors are emanating from the steep front slope of the new construction and demolition (C&D) debris cell which is being constructed at the site. The waste on the face of this slope has not been covered with soil as called for in the plans and specifications presented in the IRM Work Plan.

The Department has ordered J&T Recycling to complete and cover this part of the waste cell by April 15, 1993. In addition, engineering controls for filling in the target range area (see

Figure 2 of the Record of Decision) must be completed and approved by the Department by April 15, 1993, or else the Department will shut down the C&D fill operation.

It is hoped that an interim soil cover, followed by the landfill cap, will solve the odor problem at the site. If this problem is not rectified, additional control measures (treatment) will be undertaken.

Any resident who smells these odors is encouraged to contact the Department at 1-800-342-9296 or the New York State Department of Health at 1-800-458-1158 as soon as possible so that the Department can take appropriate action on the resident's behalf. Any records residents may keep regarding these odors will be helpful to the Department.

2. If it turns out that the gases coming out of the vents are unhealthy to breathe, are there any plans for the State to buy the property?

Response: No. As stated above, the Department will require that a treatment system be installed and operated to treat these gases, if necessary.

3. Can all of the gases emanating from the vents be treated?

Response: Yes, there are technologies available to treat landfill gases.

4. Is there a possibility that the landfill could blow up?

Response: In the opinion of the Department, this is highly unlikely. The gas vents which have been installed are allowing a means for landfill gases to exit the waste mass, thus reducing the pressure within the landfill, and reducing the risk of an explosion or fire.

5. Are the gases emanating from the landfill water soluble? Could they enter a vegetable garden during a rain storm?

Response: Some of the gases are water soluble. Hydrogen sulfide is quite soluble in cold water, for example. ((2nd part of question to be answered by DOH))

6. Who is J&T Recycling?

Response: They were the operators of the landfill. J&T Recycling signed the Consent Order with the New York State Department of Law.

7. Who are the principles of J&T Recycling?

Response: Nicholas Milo signed the aforementioned Consent Order on behalf of J&T Recycling.

8. Are the waste haulers and generators still liable for the costs of remediating this site?

Response: Yes, potentially.

The State has not brought any haulers or generators into this action, and to date, has not set out to identify them. Since J&T Recycling has been under two court orders regarding investigation and remediation of this site, the State has had no need to pursue other parties. The statute in this matter states that one party may be held responsible for the whole costs of remediating a site. This is referred to as joint and several liability.

Even though the State has not pursued any action against waste haulers or generators, this does not preclude J&T Recycling from doing so.

9. Is there any possibility of public access to this landfill once the cap is installed?

Response: This is ultimately up to the owners of the site. However, the New York State Department of Health and the NYSDEC must be notified of any change in the use of the site.

The use of this site by the public (e.g. - model airplane clubs) in the near future is doubtful. Significant quantities of methane and other landfill gases are still being produced. These gases pose health risks to potential site users.

10. Are there any Blanding's Turtles on this site?

Response: Yes. Prior to undertaking the remedial action at the SW-3 location, the NYSDEC's Division of Fish and Wildlife will remove any Blanding's Turtles (a threatened species in New York State) from the work area.

11. Is there a plan to improve the appearance of the entrance to the site?

Response: No formal plan exists as such; however, the Department expects that some form of "clean-up" will occur at the completion of the cap construction.

12. Is there any monitoring being done in the wetlands across the street from the site?

Response: No. Surface water and sediment samples were collected

and analyzed at locations downgradient from the landfill on the landfill side of Van Wagner Road. Samples were not collected from the opposite side of Van Wagner Road due to man-made influences. For example, if we found elevated metal concentrations (e.g. - lead), we would not be able to determine if the source of the contamination was the landfill or vehicular traffic along Van Wagner Road. Elevated levels of barium, cadmium, copper, manganese, nickel, and zinc as well as low levels of PCBs were detected in the sediment samples collected near Van Wagner Road. Surface water samples collected at these locations contained iron, zinc, and ammonia. The levels of these contaminants were not high enough to pose a significant risk, and therefore no remedial action will take place in this area.