

ENGINEERING EVALUATION/COST ANALYSIS (EE/CA) SUPPLY SIDE LANDFILL GREAT LAKES, ILLINOIS

Prepared for

Naval Station Great Lakes

Environmental Department
201 Decatur Avenue
Great Lakes, Illinois 60088-5600

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Project No. 20030322

**Environmental Evaluation/Cost Analysis (EA/CA)
Naval Station Great Lakes**

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List of Acronyms and Abbreviations

ARAR	Applicable or Relevant and Appropriate Requirement
bgs	below ground surface
BOD	Biological Oxygen Demand
CATX	Categorical Exclusion
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COD	Chemical Oxygen Demand
DOT	Department of Transportation
EE/CA	Engineering Evaluation and Cost Analysis
IEPA	Illinois Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GASAI	Graef, Anhalt, Schloemer & Associates, Inc.
IAC	Illinois Administrative Code
HELP	Hydrologic Evaluation of Landfill Performance
LEL	Lower Explosive Limit
LDRs	Land Disposal Restrictions
MSL	Mean Sea Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NAVSTA GL	Naval Station Great Lakes
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
SSL	Supply Side Landfill
SMC	Lake County Storm Water Management Commission
SVOC	Semivolatile Organic Compound
TCLP	Toxic Characteristics Leachate Procedure
US	United States
USEPA	United States Environmental Protection Agency
TACO	Tiered Approach to Corrective Action
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

The purpose of this Engineering Evaluation/Cost Analysis (EE/CA) is to evaluate potential alternatives for reducing the long term environmental impact of the Supply Side Landfill (SSL) and to create a finished surface that is suitable to serve the light recreational needs of the surrounding base community.

The Supply Side Landfill (SSL) covers an area of approximately 15 acres and is located in the Northeast ¼ of Section 18, Township 44 North, Range 12 East on the Naval Station Great Lakes (NAVSTA GL), Lake County, Illinois. The SSL reportedly received a mix of office, residential, food waste and construction waste from 1969 to 1983. The waste was deposited in two cells – one north of the former rail spur, and one south/southeast of the former rail spur. Portions of these cells were located on top of lagoons and filter beds that were presumably used for wastewater treatment. Between 1999 and 2001 NAVSTA GL removed the railroad tracks and filled the area between the two cells, and additional cover was placed on top of the landfill cells. A closure plan consisting of landfill cover, groundwater and gas migration controls, and material specifications was reportedly completed in July, 1985. The methane venting system, consisting of 24 vents, is still in use at the site, although it may not be functional.

Based on the landfill investigations performed to date, the following is a summary of the risks to human health and the quality of the environment associated with the SSL:

Groundwater - Although there is limited documentation on the construction of the landfill cap and thin areas may be present, field-testing indicates that it is generally over two feet thick and has a conductivity of less than 1×10^7 cm/sec. This would indicate limited potential for infiltration. However, the existing landfill surface is apparently not graded to minimize runoff velocity and portions of the cap are subject to erosion in the future, increasing the potential for infiltration. Presently, Class II groundwater standards were exceeded in only two of the wells in the last two sampling rounds, and for only two parameters – iron and chloride. In the vicinity of the SSL, potable water is obtained from Lake Michigan.

Surface Water - Although the IEPA General Use Water Quality Standards were exceeded in some surface water samples, the number of sample parameters that were exceeded in the up-gradient samples was greater than the number exceeded in the down-gradient samples. Based on this, it would be difficult to conclude that the landfill has a significant impact on surface water quality. As noted, long-term erosion of the cap may occur in areas exposed to high surface runoff velocities, and storm water may become exposed to landfill waste in the future causing an increase in surface water contaminant concentrations.

Direct Contact Risk - There is no indication that hazardous waste has been placed in the landfill. As noted, the landfill cap is generally over two feet thick and limits the potential for direct contact. At present, there is some potential for erosion of the cap due to limited vegetation and erosion by storm water. The potential build-up of methane gas could also limit the growth of vegetation in some areas. There are currently no access restrictions, and thin areas of the cap, if present, could become accessible to humans and wildlife.

Air – Based on the recent field investigations, the landfill cap appears to be adequate to prevent airborne exposure to waste debris. Methane concentrations in the existing gas vents were generally less than 2% and only one sample was above the Lower Explosive Limit (LEL) of 5%; however, much higher concentrations were detected in the recent field investigation gas probes, indicating that the existing vents may not be functioning properly.

Four removal action alternatives were evaluated to address these risks and to create an

environment that is suitable to serve the light recreational needs of the surrounding base community. These alternatives include: No Action, Institutional Controls, New Protective Cover, and Excavation and Off-Site Disposal. Conditions at the site meet the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Section 300.415(b)(2) criteria for a non-time critical remedial action, and the evaluation of these alternatives are completed as outlined in EPA Publication 9360.0-32FS *Conducting Non-Time –Critical Removal Actions Under CERCLA*, 1993. A summary of the degree of compliance with these criteria is provided in Table 1. The new landfill cap is a presumptive remedy of containment as listed in the USEPA Presumptive Remedy for CERCLA Municipal Landfill Sites Directive.

Based on the comparative analysis of the removal action alternatives, the New Protective Cover is recommended because it provides the highest overall protection of human health and the environment and it can be implemented at a significantly lower cost than Excavation and Off-Site Disposal. The key aspects of this alternative are as follows:

New Cover System and Contours – The surface of the landfill will be re-graded to a 3% slope across the top of the landfill and a maximum 3 horizontal to 1 vertical along the perimeter to promote better drainage and provide a better surface for recreational use. The existing cover will be replaced with a new cover consisting of an 18-inch compacted clay layer with a conductivity of 1×10^{-7} cm/sec, covered by a six-inch topsoil layer. A minimum thickness of six inches will be maintained for the topsoil cover; however the thickness may be increased or the material modified in certain areas as part of the recreational plan. It is estimated that the new landfill cover will reduce infiltration.

Landscaping – Landscaping consistent with the light recreational use will be incorporated across the landfill. This vegetation will minimize erosion of the topsoil layer and protect the cap as well as provide aesthetic value. The topsoil layer will be thickened as necessary so that plants with deeper root systems do not penetrate into the clay cap.

Gas Management System – A new passive gas venting system will be installed consisting of perforated HDPE horizontal pipes in gravel trenches located within the waste material. The west end of each vent trench will be connected to a riser through the landfill surface that will be equipped with a wind driven rotary ventilator. The east end will be used as a cleanout for any liquids that accumulate in the low points of the trenches.

1 INTRODUCTION

1.1 Purpose

Graef, Anhalt, Schloemer & Associates, Inc. (GASAI) was retained by Engineering Field Activity - Midwest under Contract Number N68950-03-A-3018 to complete an Engineering Evaluation/Cost Analysis (EE/CA) for redesign and reconstruction of the landfill cap at the Supply Side Landfill. The objectives of the redesign and reconstruction are to reduce the long-term environmental impact of the landfill, and provide a finished landfill surface that is suitable to serve the light recreational needs of the surrounding base community. The EE/CA will evaluate potential alternatives for meeting these objectives.

This EE/CA evaluates four alternatives for reconstruction of the Supply Side Landfill: No Action, Institutional Controls, New Protective Cover, and Excavation with Off-Site Disposal. Conditions at the site meet the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Section 300.415(b)(2) criteria for a non-time critical remedial action, and the evaluations are completed as outlined in EPA Publication 9360.0-32FS *Conducting Non-Time –Critical Removal Actions Under CERCLA*, 1993. Based on these evaluations the New Protective Cover Alternative is recommended.

The actions at this site are being performed under the initiative of the Naval Station Great Lakes. Participation and cooperation with State and local authorities and the local residents will be pursued throughout this project. This participation is required as part of an environmental restoration process and assists in ensuring protection of human health and the environment.

1.2 Report and Organization

The remainder of this report is organized as follows.

Section 2 – Site Characterization: This section summarizes background and existing conditions of the site including the extent of the landfill waste, groundwater and methane monitoring, and other investigation data.

Section 3 – Identification of Remedial Action Objectives: This section defines the remedial action scope and schedule, and Applicable or Relevant and Appropriate Requirements (ARARs).

Section 4 – Identification and Analysis of Remedial Action Alternatives: This section describes the four alternatives - No Action, Institutional Controls, New Protective Cover, and Excavation and Off-Site Disposal.

Section 5 – Comparative Analysis of Remedial Action Alternatives: This section compares the four alternatives based on their compliance with the criteria of effectiveness, implementability and cost.

Section 6 – Recommendation: The recommended alternative is selected in this section.

Section 7 – References.

2 SITE CHARACTERIZATION

2.1 Background

The Supply Side Landfill (SSL) covers an area of approximately 15 acres and is located in the Northeast ¼ of Section 18, Township 44 North, Range 12 East on the Naval Station Great Lakes (NAVSTA GL), Lake County, Illinois (Figure 1). Vacant land and warehouses are located to the north of the site. The Skokie Creek is located east of the site and a residential trailer park is located further east beyond the Skokie River. A former wastewater treatment plant, currently a pump station and overflow retention basin, is located to the south, and wetlands, railroad tracks and industrial properties are located to the west.

The elevations across the site vary from 677 to 698 feet above Mean Sea Level (MSL). Storm water on the site currently drains in all directions and ground water flow is estimated to be to the southeast. Reportedly, there are two groundwater zones at depths of 10 and 15 to 30 feet below ground surface (bgs). The site is underlain by glacial till ranging in thickness from 170 to 210 feet.

The SSL reportedly received a mix of office, residential, some food waste and construction waste from 1969 to 1983. The waste was deposited in two cells – one north of the former rail spur, and one south/southeast of the former rail spur. Portions of these cells were located on top of lagoons and filter beds that were reportedly used for wastewater treatment. Between 1999 and 2001 the railroad tracks were removed and the area between the two cells filled, and additional cover was placed on top of the landfill cells.

The depth and volume of waste is difficult to determine from the available documentation. Recent investigation borings indicated that the cover materials ranged in thickness from 2 to 12 feet, and that below the cover materials there appeared to be layers of daily cover separated by refuse or mixtures of soils and refuse. Construction rubble and industrial grit were observed in the borings conducted in the southern part of the landfill, and construction debris was also observed on the landfill surface. Based on the observation of native clay soils at an elevation of approximately 30 feet bgs in the soil borings for a temporary monitoring well, the bottom of the landfill is estimated to be at an elevation of approximately 659 feet MSL.

Additional information on the site background is included in the *Existing Conditions Investigation and Proposed Modifications to Landfill Cover System Supply Side Landfill – Naval Station Great Lakes, Illinois* by Versar, Inc. dated August 2003 (Versar Report).

2.2 Previous Remedial Actions

As noted in the Versar Report, a closure plan consisting of landfill cover, groundwater and gas migration controls, and material specifications was apparently completed in July, 1985. Detailed construction documentation is not available. The methane venting system, consisting of 24 vents, is still in use at the site, although it may not be functional.

2.3 Nature and Extent of Landfill Waste

The area of the landfill is known from historical filling and is shown in Figure 3 from the Versar Report. Versar completed a soil boring investigation to evaluate the depth to the landfill waste (cover thickness) in November 2002, and the results of the investigation indicated the cover material ranged from 2 to 12 feet in thickness. Soil boring and well construction data also indicated the bottom of the landfill is between 654 and 659 feet MSL.

Based on the Figure 3 from the Versar Report and an assumed depth to the bottom to the bottom of the landfill of 659 feet MSL, GASAI estimated the volume of material below the bottom of the existing landfill cap to be approximately 436,000 cubic yards. As noted in the Versar Report, refuse was observed in the investigative borings to be separated by layers of daily cover or was mixed with soil, and this would indicate that the total volume of waste material or refuse is significantly less than 436,000 cubic yards.

2.4 Analytical Data

The most recent analytical data is summarized in the Versar Report. As noted, based on the soil boring investigation, the existing cover thickness ranges from 2 to 12 feet. Several layers of daily cover separated by refuse or refuse mixed with soil were encountered in most of the borings. The southern portion of the landfill primarily contained construction debris.

Geotechnical testing of the cover materials indicated hydraulic conductivity values ranging from 8.0×10^{-9} to 1.4×10^{-8} cm/sec.

Versar installed 33 methane gas-monitoring probes across the landfill. Methane gas was detected at concentrations as high as 73.8%, and the concentrations were generally highest along the west side of the landfill. Methane concentrations were also measured at the existing vents. Of the 24 vents, 18 were sampled, and only one exhibited a methane concentration above the Lower Explosive Limit (LEL) of 5%. Methane was not detected in 14 of the vents. Based on these results, Versar concluded that the existing vents may not be functioning properly.

Surface water samples were collected from 1985 to 1996. Although the IEPA General Use Water Quality Standards were exceeded in some of the samples, the number of sample parameters that were exceeded in the up-gradient samples was greater than the number exceeded in the down-gradient samples. Based on this, it would be difficult to conclude that the landfill has a significant impact on surface water quality.

In the fall of 2002, Versar installed temporary monitoring wells, TMW1 and TMW2 located in the main portion of the landfill, and TMW3 and TMW4 located on the edges of the southern portions of the landfill. According to the Versar Report, the leachate elevations ranged from 676 to 685 feet MSL, and that the groundwater elevations ranged from 667 to 671 feet MSL. Versar also concluded that the results of the laboratory analyses on the leachate/groundwater samples from TMW1 thru TMW4 were within the range of common sanitary landfill leachate. A water sample from TMW1 was also analyzed for VOCs and the results were below the Class I Tiered Approach to Corrective Action (TACO) Groundwater Quality Standards.

Groundwater monitoring has been conducted in the vicinity of the site since the fall of 1983. In the fall of 1998, a new set of wells – MW-A, B, C, D, E, and F – were installed and have been monitored on a quarterly basis up to the time of this report. Data from these wells indicates that there has been a significant decrease in the number of groundwater standards that have been exceeded over the time period of the sampling. In the most recent rounds of sampling in July and October 2003, the Class II groundwater standards were exceeded only in two wells – MW-A and MW-B – and the standards were exceeded only for iron and chloride. In November, 2002, a leachate/groundwater sample was collected from a temporary monitoring well (TMW1), located close to the center of the landfill. The sample was analyzed for Volatile Organic Compounds (VOCs), and VOCs were not detected above the Class I groundwater standards.

Additional details on the analytical results are included in the Versar Report.

2.5 Streamlined Risk Evaluation

Based on the landfill investigations performed to date, the following is a summary of the risks to human health and the quality of the environment associated with the SSL:

Groundwater - Although there is limited documentation on the construction of the landfill cap and thin areas may be present, field-testing indicates that it is generally over two feet thick and has a conductivity of less than 1×10^{-7} cm/sec. This would indicate limited potential for infiltration. However, the existing landfill surface is apparently not graded to minimize runoff velocity and portions of the cap may erode in the future, increasing the potential for infiltration. Presently, Class II groundwater standards were exceeded in only two of the wells in the last two sampling rounds, and for only two parameters – iron and chloride. In the vicinity of the SSL, potable water is obtained from Lake Michigan.

Surface Water - Although the IEPA General Use Water Quality Standards were exceeded in some surface water samples, the number of sample parameters that were exceeded in the up-gradient samples was greater than the number exceeded in the down-gradient samples. Additionally, of the 17 downstream surface samples collected since August 1992, there have been only four samples have exceeded the General Use Water Quality Standards – two iron, one phenolics and one Total Dissolved Solids. Based on this, it would be difficult to conclude that the landfill has a significant impact on surface water quality. As noted, long-term erosion of the cap may occur in areas exposed to high surface runoff velocities, and waste may become expose to storm water.

Direct Contact Risk - There is no indication that hazardous waste has been placed in the landfill. As noted, the landfill cap is generally over two feet thick and limits the potential for direct contact. At present, there is some potential for erosion of the cap due to limited vegetation and potential build-up of methane gas that could limit the growth of additional vegetation. There are currently only limited access restrictions, and thin areas of the cap, if present, could become accessible to humans and wildlife.

Air – Based on the recent field investigations, the landfill cap appears to be adequate to prevent airborne exposure to waste debris. Methane concentrations in the existing gas vents were generally less than 2% and only one sample was above the Lower Explosive Limit (LEL) of 5%; however, much higher concentrations were detected in the recent field investigation gas probes, indicating that the existing vents may not be functioning properly.

3 IDENTIFICATION OF REMEDIAL ACTION OBJECTIVES

3.1 Statutory Limits on Removal Actions

This redesign and reconstruction of the landfill cap at the Supply Side Landfill is being conducted as a voluntary non-time-critical removal action under the National Oil and Hazardous Substance Pollution Contingency Plan (NCP). This removal action is intended to minimize the damage to public health or welfare of the United States or to the environment. Per 40 CFR Part 300.5, a removal action can include actions ranging from the removal of contaminated material to the installation of security fencing for the purpose of limiting public access. This project is not subject to the \$2 million and 12-month statutory limits because it is being conducted on a voluntary basis and funded by the responsible party.

3.2 Determination of Removal Action Scope

The scope of this removal action shall meet the following objectives:

- Reduce the risk of groundwater and surface water contamination through contact with the waste material, and reduce the risk of direct contact with the waste material for humans and wildlife;
- Improve the management of methane gas;
- Comply with Applicable or Relevant and Appropriate Requirements (ARARs);
- Minimize initial construction and long term operating costs; and
- Provide a finished surface that is suitable to serve the light recreational needs of the surrounding base community.

3.3 Determination of Removal Schedule

The estimated start date for this removal action is April or May of 2004. The start date may be adjusted pending review of regulatory and public comments. The construction schedule is estimated to be approximately 14 weeks.

3.4 Planned Remedial Activities

The planned remedial activities that meet the objectives detailed in this section are described in Section 6.

3.5 Applicable or Relevant and Appropriate Requirements (ARARs)

3.5.1 Introduction

The Applicable or Relevant and Appropriate Requirements (ARARs) for the Supply Side Landfill are presented in this section. The proposed alternatives will comply with all chemical specific, location specific, and action specific ARARs. Applicable requirements are described in 40 CFR Part 300.5 as “those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, or other circumstance found at a CERCLA site.” Only those state requirements that are more stringent than the federal requirements may be applicable.

The ARARs are divided into three categories:

- Chemical Specific ARARs generally include limitations on the concentrations of chemical contaminants released to the environment from a landfill;
- Location Specific ARARs generally are limitations on the types of activities that can be performed in specific locations due to the proximity to valuable natural resources, population centers, or the presence of features that create instability in the environment such as floodplains or fault zones; and
- Action Specific ARARs generally are limitations that apply to types of activities such as operating or closing a landfill, or in a much broader sense, the procedures that are followed for any activity that has a significant impact on the environment.

3.5.2 Chemical Specific ARARs

The chemical specific ARARs include the following:

- IEPA General Use Water Quality Standards (IAC Title 35, Part 302) applicable to the storm water runoff from the site;
- Groundwater quality standards for Class II Groundwater (IAC Title 35, Part 742 Appendix B Table E) and Groundwater Quality Standards for landfills (IAC Title 35, Part 811.320); and
- Limitations on organic material emissions and nuisance odors (IAC Title 35, Part 218).

3.5.3 Location Specific ARARs

Faults – The Supply Side Landfill is an existing facility and is not within 200 feet (61 meters) of a fault that may have shifted during Holocene time. The Resource Conservation Recovery Act (RCRA) regulation that governs placement of wastes in fault zones is thereby not an applicable ARAR for this project.

Wetlands and Floodplains – No wetlands are present within the project site. Located east of US HWY 41, north of STATE HWY 175, and beginning 500 feet (152 meters) south of the proposed site is a series of 12 palustrine wetlands. Six of these wetlands are within the 100 and 500 year flood plain associated with the Skokie Creek. Although construction is not expected to affect these wetlands, it is recommended that erosion control measures be taken in association with Best Management Practices (BMP) for working near stream banks. Therefore, Section 401 and 404 of the Clean Water Act would not be identified as ARARs for this project. Portions of the Wetland Inventory Map are shown in Figure 2.

The Flood Hazard Boundary Map and Flood Insurance Rate Map (FIRM), which are maintained by the Federal Emergency Management Administration (FEMA), was obtained and is displayed as Figure 3. Based on the current FIRM, the southern third of the landfill is located within the 100-year flood plain associated with Skokie Creek; however, the landfill is located just outside the floodway of Skokie Creek. The water elevation for the 100-year flood in this area of the landfill is 674 feet MSL. Given that the southeastern edge of the landfill is at 675 feet MSL and the landfill elevations increase to over 680 feet MSL within the area currently shown in the floodplain, it is apparent that the FIRM is out of date and does not reflect current conditions. NAVSTA GL is working with FEMA to update the FIRM to reflect current conditions. Grading activities at elevations near the recorded 100-year floodplain elevation could affect the floodplain boundaries.

Wilderness Areas, Wildlife Refuges, and Scenic Rivers – There are County Forest Preserve lands associated with the Skokie River 1.3 miles (2.0 Kilometers) south of the proposed site. Although the site is a considerable distance from the forest preserve lands, appropriate erosion control measures should be taken to protect the creek at this location to prevent the proposed project from negatively affecting the County Forest Preserve lands.

Cultural and Historical Considerations – After reviewing cultural and historic data, there appears to be no points of interest within and adjacent to the existing landfill site. Additionally, the land associated with this proposed action has been extensively disturbed in the past, and it is unlikely that historic artifacts would be uncovered as

part of the proposed activities. In the event that potential historic artifacts are uncovered, the State Historic Preservation Office will be contacted in compliance with 36 CFR Part 800.

Rare, Threatened or Endangered Species – No federal or state endangered animal or plant species have been identified within or adjacent to the proposed project site. In addition, the proposed actions will not result in an adverse change to the existing environmental conditions of the landfill. Therefore, there are no adverse impacts anticipated by the proposed actions which may affect the survival, reproduction, or recovery of a listed species, and regulations found in the Endangered Species Act of 1973 and the Migratory Bird Treaty Act of 1918 would not be identified as ARARs for this project.

3.5.4 Action Specific ARARs

National Environmental Policy Act (NEPA) - All of the action alternatives evaluated in this report are undertaken by a federal entity and are therefore subject to NEPA. The requirements of NEPA have been satisfied as described in the Categorical Exclusion (CATX) document included in Attachment A. The proposed actions have been Categorically Excluded.

Standards for New Solid Waste Landfills (IAC Title 35, Part 811) - Although the SSL has not received waste since 1983 and is therefore not subject to the standards for new solid waste landfills, these are the closest appropriate standards and NAVSTA GL will evaluate the effectiveness of each alternative within the context of these standards. Specifically, the following sections will be used in the review:

- IAC Title 35, Part 811.110 Closure and Written Closure Plan
 - Section (a) thru (c) – final slopes, contours, and configuration
 - Section (g) – deed notation
- IAC Title 35, Part 811.111 Post-Closure Maintenance
 - Section (c) – maintenance and inspection
 - Section (d) – planned uses
- IAC Title 35, Part 811.311 Landfill Gas Management Systems
- IAC Title 35, Part 811.314 Final Cover System
- IAC Title 35, Part 811.318 Design, Construction, and Operation of Groundwater Monitoring Systems
- IAC Title 35, Part 811.319 Groundwater Monitoring Programs
- IAC Title 35, Part 811.320 Groundwater Quality Standards
- IAC Title 35, Part 811.324 Corrective Action Measures for MSWLF Units (applicability based on groundwater monitoring programs)

Lake County Watershed Development Ordinance - There is an understanding between NSGL and the Lake County Storm Water Management Commission (SMC) that the work will be done in accordance with SMC's Watershed Development Ordinance, where practicable.

Work plans and designs for construction work within 50 feet of the centerline of Skokie Creek shall be submitted to the East Skokie Drainage District for review and approval.

Resource Conservation and Recovery Act (RCRA) – RCRA primarily applies to active facilities that generate and manage hazardous waste. Additionally, household waste and certain construction wastes are exempt from consideration as hazardous

wastes. In the January 2003 meeting with NAVSTA GL and the IEPA, NAVSTA GL received IEPA approval to place waste on site, if exposed during re-grading. All waste would be placed below the proposed new cap.

However, in the event that the solid wastes would be excavated and transported to an off-site landfill, testing for hazardous waste characteristics would be necessary prior to disposal. Based on generator knowledge, hazardous waste has not been disposed at this site, and a minimal number of samples should be sufficient documentation for transferring the waste to a licensed solid waste landfill.

4 IDENTIFICATION AND ANALYSIS OF REMOVAL ACTION ALTERNATIVES

4.1 Alternative 1: No Action

4.1.1 Alternative Description

Under this alternative, no additional action would be taken and the landfill would be maintained in its current state. New uses or development of the landfill would not occur. Groundwater monitoring and current cap maintenance activities would continue.

4.1.2 Effectiveness

Overall Protection to Human Health and the Environment This alternative does not provide additional protection to human health and the environment. Based on groundwater and methane monitoring results and the presence of a landfill cap, the risk to human health and the environment is estimated to be low. However, the construction of the landfill cap has not been documented and the site grading and contours are not designed to minimize erosion of the cap. Additionally, there are indications that the methane venting system may not be functioning.

Compliance with ARARs All of the chemical specific ARARs would apply to this alternative. Based on the trends in the monitoring well sampling results and the results of the recent sampling of the existing methane vents, this alternative would likely comply with the chemical specific ARARs in the near future. Long-term degradation of the cap due to excessive erosion in areas that are not suitably graded may contribute to a decrease in groundwater quality. The location specific ARARs would not apply to this alternative. With the possible exception of IAC Title 35, Part 811.110 Section (a) thru (c) and Part 811.314, this alternative would likely comply with the action specific ARARs. Re-grading would be necessary in order to comply with the slope and configuration requirements in Part 811.110, and in order to comply with Part 811.314, the IEPA would have to review the field data on the existing cover system to determine whether it is acceptable as an alternative Final Cover System.

Long Term Effectiveness and Permanence It is anticipated that the volume of methane and the groundwater contaminant concentrations associated with the landfill will decrease in the long term. However, some portions of the landfill cap may be more likely to degrade due to inadequate cap thickness or exposure to erosive forces, and this degradation may result in exposure of waste material and potential for increased infiltration and contaminated runoff, as well as potential for human exposure.

Reduction of Toxicity, Mobility, or Volume through Treatment There is no active treatment associated with this alternative, hence there would be no reduction of toxicity, mobility or volume through treatment.

Short-Term Effectiveness The existing conditions would not change in the short term if this alternative were implemented.

4.1.3 Implementability

Technical Feasibility There are no technical feasibility issues associated with this alternative.

Administrative Feasibility This site would be included in the Land Use Memorandum of Agreement (LUC MOA) between the Navy and IEPA, and regularly scheduled monitoring and reporting of all land use controls would be required. Inspections by the Lake County Storm Water Management Commission may also be required.

Availability of Materials and Services There are no materials or services associated with this alternative.

State Acceptance State acceptance of this alternative is pending regulatory review and public comment.

Community Acceptance Community acceptance of this alternative is pending regulatory review and public comment.

4.1.4 Cost

The costs associated with this alternative are estimated to be \$2,500 for limited weed control and grass cutting and \$10,000 per year for quarterly groundwater sampling.

4.2 Alternative 2: Institutional Controls/Isolation

4.2.1 Alternative Description

This alternative is similar to Alternative 1 except that access to the site will be restricted with a fence around the site. Areas of existing fencing would be used to the greatest extent possible.

4.2.2 Effectiveness

Overall Protection to Human Health and the Environment This alternative would provide some additional protection to human health and the environment by restricting access and limiting direct contact risk.

Compliance with ARARs All of the chemical specific ARARs would apply to this alternative. Based on the trends in the monitoring well sampling results and the results of the recent sampling of the existing methane vents, this alternative would likely comply with the chemical specific ARARs in the near future. Long-term

degradation of the cap due to excessive erosion in areas that are not suitably graded may contribute to a decrease in groundwater quality. The location specific ARARs would not apply to this alternative. With the possible exception of IAC Title 35, Part 811.110 Section (a) thru (c) and Part 811.314, this alternative would likely comply with the action specific ARARs. Re-grading would be necessary in order to comply with the slope and configuration requirements in Part 811.110, and in order to comply with Part 811.314, the IEPA would have to review the field data on the existing cover system to determine whether it is acceptable as an alternative Final Cover System.

Long Term Effectiveness and Permanence It is anticipated that the volume of methane and the groundwater contaminant concentrations associated with the landfill will decrease in the long term. However, some portions of the landfill cap may be more likely to degrade due to inadequate cap thickness or exposure to erosive forces, and this degradation may result in exposure of waste material and potential for increased infiltration and contaminated runoff.

Reduction of Toxicity, Mobility, or Volume through Treatment There is no active treatment associated with this alternative, hence there would be no reduction of toxicity, mobility or volume through treatment.

Short-Term Effectiveness This alternative would immediately reduce the potential for human exposure to the landfill waste.

4.2.3 Implementability

Technical Feasibility There are no technical feasibility issues associated with this alternative.

Administrative Feasibility This site would be included in the Land Use Memorandum of Agreement (LUC MOA) between the Navy and IEPA, and regularly scheduled monitoring and reporting of all land use controls would be required. Inspections by the Lake County Storm Water Management Commission may also be required.

Availability of Materials and Services The fencing materials and labor associated with installation are readily available.

State Acceptance State acceptance of this alternative is pending regulatory review and public comment.

Community Acceptance Community acceptance of this alternative is pending regulatory review and public comment.

4.2.4 Cost

The estimated cost for labor and material to install and repair a fence around the landfill is \$65,000. The annual operations costs associated with this alternative are estimated to be \$3,000 for limited weed control, grass cutting, and fence maintenance and \$10,000 per year for quarterly groundwater sampling.

4.3 Alternative 3: New Engineered Protective Cover

4.3.1 Alternative Description

This alternative includes the re-grading of the existing landfill surface to create contours that better facilitate drainage and recreational use, installation of a new methane gas management system, and construction of a new final cover system. The final cover system would consist of an 18-inch thick low permeability clay layer covered by a six-inch topsoil layer constructed across the entire landfill surface. Details on this alternative are provided in the Existing Conditions and Proposed Modifications to Landfill Cover System Supply Side Landfill, by Versar, Inc. dated August 2003.

4.3.2 Effectiveness

Overall Protection to Human Health and the Environment This alternative would provide significant additional protection to human health and the environment by improving runoff control. In the long term, the improved runoff control would also reduce erosion of cover system, which would reduce the long-term risk for infiltration and migration of contaminants to the groundwater and direct contact exposure to the contaminants. This alternative would also improve the management of the methane gas.

Compliance with ARARs This alternative would comply with all of the chemical specific, location specific and action specific ARARs. Monitoring and evaluation of the methane emissions from the new gas management system would be conducted in order to verify compliance with the chemical specific limitations on organic material emissions and nuisance odors in IAC Title 35, Part 218. In regard to location specific issues, grading activities at elevations below the recorded 100-year floodplain elevation could affect the floodplain boundaries. Grading activities will be conducted only above the elevation of the floodplain (see Section 3.5.3). In regard to action specific issues, the proposed final cover system would be submitted as an alternative specification under IAC Title 35, Part 811.314.

Long Term Effectiveness and Permanence As noted, this alternative would provide significant additional protection to human health and the environment by improving runoff control. In the long term, the improved runoff control would also reduce erosion of cover system, which would reduce the long-term risk for infiltration and migration of contaminants to the groundwater and direct contact exposure of the contaminants to humans. The new methane management system would also improve the management of methane. Although the waste would remain on site and potential risks to groundwater would be present, they are estimated to be relatively low considering the recent groundwater data that has been collected under the existing landfill conditions.

Reduction of Toxicity, Mobility, or Volume through Treatment The methane management system would reduce the volume of methane in the landfill, and the improved cover would reduce the mobility of the contaminants by limiting the amount of infiltration.

Short-Term Effectiveness This alternative would immediately reduce the potential for human exposure to the landfill waste. However, during construction there would be the potential risk of exposure of construction workers to waste materials, and

nearby residents to airborne debris. These risks could be reduced through the use of good engineering practices during construction.

4.3.3 Implementability

Technical Feasibility The improvements under this alternative can be implemented using standard construction processes.

Administrative Feasibility The new landfill cap is a presumptive remedy of containment as listed in the USEPA Presumptive Remedy for CERCLA Municipal Landfill Sites Directive. This site would be included in the Land Use Memorandum of Agreement (LUC MOA) between the Navy and IEPA, and regularly scheduled monitoring and reporting of all land use controls would be required. Quarterly groundwater report reviews by the IEPA and inspections by the Lake County Storm Water Management Commission may also be required. Review of the construction documents by the IEPA would likely be required.

Availability of Materials and Services Specialized equipment and labor would be required for installation; however, these equipment and labor are readily available through contractors. Sufficient clay cap and top soil materials are stockpiled nearby.

State Acceptance State acceptance of this alternative is pending regulatory review and public comment.

Community Acceptance Community acceptance of this alternative is pending regulatory review and public comment.

4.3.4 Cost

The estimated cost for labor and material to complete the new engineered-protective cover is \$1,416,000. The costs associated with maintenance of this alternative are estimated to be higher than the other alternatives because of the planned recreational use and the methane management system, and are estimated to be \$22,500 for limited weed control, grass cutting, annual maintenance, methane and groundwater monitoring. This assumes that the quarterly groundwater monitoring could be reduced in frequency to twice per year, given that there would be more extensive controls on infiltration. The associated cost of groundwater monitoring would be reduced to \$5,000 per year.

4.4 Alternative 4: Excavation and Off-Site Disposal

4.4.1 Alternative Description

This alternative would include the removal of the existing landfill cover to expose the underlying waste material. The landfill cover materials would be stockpiled nearby and the waste would be excavated, loaded into trucks and transported to a landfill licensed to handle the waste. It is assumed that 250,000 cubic yards of waste would be transported to a landfill licensed to receive construction and municipal waste. The excavation will be backfilled with the stockpiled cover materials and clean borrow soils, if needed, compacted and graded, covered with topsoil and re-vegetated.

4.4.2 Effectiveness

Overall Protection to Human Health and the Environment By removing the solid waste, this alternative would provide the highest level of long-term protection to human health and the environment in the vicinity of the site, and would eliminate the future land use restrictions on site associated with the solid waste. However, the risk associated with the solid waste would essentially be transferred to another site, and the long-term liability would remain with NAVSTA GL. This alternative is also significantly more expensive than the other alternatives and presents the highest short-term exposure risk to human health and the environment.

Compliance with ARARs In the short term, the chemical specific ARARs would apply to the residual groundwater contamination that may be associated with this alternative. The flood plain may also be affected by the removal of the landfill waste. The landfill receiving the waste would have to comply with the applicable regulatory requirements, such as RCRA, and have the required permits. These requirements would include laboratory analysis of the waste prior to transfer.

Long Term Effectiveness and Permanence As noted, this alternative would provide the highest level of long term protection in the vicinity of the site; however, there would be long term risk and liability associated with the waste in the landfill to which it was transferred.

Reduction of Toxicity, Mobility, or Volume through Treatment After removal of the waste, there may be some short-term residual groundwater impacts that would naturally attenuate. Based on the most recent groundwater monitoring results, it is estimated that these residual impacts would not be significant.

Short-Term Effectiveness During construction there would be the potential risk of exposure of construction workers to waste materials, and nearby residents to airborne debris. Construction noise would also be an issue of concern for nearby residents. These risks would be considerably higher than the risk associated with installation of a new protective cover because of the large volume of material that would have to be moved. The truck traffic would also increase the risk of traffic accidents and associated injuries, and the truck exhaust would increase particulate matter pollution. These risks could be reduced through the use of good engineering practices during construction and strict traffic control measures.

4.4.3 Implementability

Technical Feasibility Special precautions would be necessary for dust and odor control, and dewatering of the waste. The lack of construction documentation on the landfill will also present challenges due to unknown conditions.

Administrative Feasibility The IEPA would be involved to ensure compliance with off site disposal permits, and Department of Transportation regulations would be applicable to the waste hauling operations.

Availability of Materials and Services Short-term shortages of trucks and nearby landfill space may increase the duration and cost of this alternative. The materials and labor associated with this alternative are readily available.

State Acceptance State acceptance of this alternative is pending regulatory review and public comment.

Community Acceptance Community acceptance of this alternative is pending regulatory review and public comment; however, the noise and traffic issues may pose a concern for nearby community members.

4.4.4 Cost

For estimating purposes, it is assumed that approximately 400,000 cubic yards of waste material will be hauled off-site to a licensed landfill. It is also assumed that the remaining material, approximately 36,000 cubic yards, would contain little waste and would be used as fill on site. Based on this assumption, the cost to implement this alternative is estimated to be \$8,350,000. The long-term costs associated with this alternative are estimated to be \$2,500 for limited weed control and grass cutting.

5 COMPARATIVE ANALYSIS OF REMOVAL ACTION ALTERNATIVES (Refer to Table 5-1)

5.1 Effectiveness

5.1.1 Overall Protection of Human Health and the Environment

Alternative 1 does not provide any additional protection to human health and the environment.

Alternative 2 does provide additional protection to human health and the environment by reducing the direct contact risk. It does not provide additional protection against other environmental risks.

Alternative 3 provides additional protection to human health and the environment by reducing the direct contact risk, and reducing the risk of storm water and groundwater contamination. It also reduces the risks associated with methane through better management of the landfill gas.

Alternative 4 eliminates the long-term environmental risk in the vicinity of the site, but some of this risk is merely transferred to another landfill site. This alternative also presents significant risks to human health and the environment during excavation and transportation to the landfill.

5.1.2 Compliance with ARARs

Alternatives 1 and 2 may not comply with the chemical specific ARARs in the long-term, especially if there are areas of the existing cap that are thin or poorly constructed. Re-grading would be necessary in order to comply with the slope and configuration requirements in Part 811.110, and in order to comply with Part 811.314, the IEPA would have to review the field data on the existing cover system to determine whether it is acceptable as an alternative Final Cover System.

Alternatives 3 and 4 would likely comply with the chemical specific ARARs in the long term, and if properly implemented, should comply with location and action specific ARARs.

5.1.3 Long-Term Effectiveness and Permanence

Alternative 1 does not provide any additional assurance of long-term effectiveness. Alternative 2 would effectively reduce the long-term direct contact risk. Alternative 3 would provide significant long-term protection to human health and the environment by improving runoff control, providing a long-term reduction in infiltration and reducing the potential for direct contact risk, and improving the management of the methane gas. Alternative 4 would provide the highest level of long term protection in the vicinity of the site; however, there would be long term risk and liability associated with the waste in the new landfill site.

5.1.4 Reduction of Toxicity, Mobility and Volume through Treatment

Alternatives 1 and 2 would not provide any reduction of toxicity, mobility or volume. For alternative 3, the methane management system would reduce the volume of methane in the landfill, and the improved cover would likely reduce the mobility of the contaminants. Alternative 4 eliminates the toxicity associated with the SSL site over the long term by removing the landfill waste; however, there would be corresponding increase in volume at the licensed landfill that would receive the waste.

5.1.5 Short-Term Effectiveness

Alternatives 1 and 2 do not involve any short-term risks because no remedial activities would be conducted. Alternative 3 would generate some construction traffic with associated noise and dust, and because some waste may be handled, exposure to waste, especially to workers, is possible. Alternative 4 would generate an even greater volume of construction traffic because the entire volume of waste would be excavated and transported to another landfill site. The potential exposure to waste to workers and nearby residents is also greater with this alternative.

5.2 Implementability

5.2.1 Technical Feasibility

Alternative 1 has no issues of technical feasibility. Alternative 2 involves only routine construction activities – installation of a new fence and repair of the existing fence. With the exception of the waste handling, Alternative 3 would implement standard site work construction practices. Appropriately trained personnel would be required for excavation and management of the waste material. Additional safety precautions would have to be taken with Alternative 4 because of the higher volume of waste to be handled and transported offsite.

5.2.2 Administrative Feasibility

The only administrative issues related to Alternatives 1, 2 and 3, the site would be included in the Land Use Memorandum of Agreement (LUC MOA) between the Navy and IEPA, and regularly scheduled monitoring and reporting of all land use controls would be required. Quarterly groundwater report reviews by the IEPA and inspections by the Lake County Storm Water Management Commission may also be required. For Alternative 3, review of the construction documents by the IEPA would likely be required. For Alternative 4, the administrative issues include IEPA involvement to ensure compliance with off site disposal permits, and compliance with Department of Transportation regulations applicable to the waste hauling operations.

5.2.3 Availability of Services and Materials

No services or materials are required for Alternative 1, and the fencing materials and installation services required for Alternative 2 are readily available. Specialized equipment and labor would be required for implementation of Alternatives 3 and 4; however, the equipment and labor are readily available through contractors. Short-term shortages of trucks and nearby landfill space may increase the duration and cost of Alternative 4.

5.2.4 State and Community Acceptance

State and community acceptance of these alternatives is pending regulatory review and public comment. However, the noise and traffic issues associated with Alternative 4 may pose a concern for nearby community members.

5.3 Cost

The estimated costs of each of the alternatives are as follows:

<u>Alternative</u>	<u>Capital Cost</u>	<u>Annual Operations and Maintenance</u>
1	\$0	\$12,500
2	\$65,000	\$13,000
3	\$1,416,000	\$22,500
4	\$8,350,000	\$2,500

The Annual Operations and Maintenance costs for all four alternatives are in 2003 dollars. It is anticipated that these costs would decrease for alternatives 1 thru 3 as the monitoring results would indicate stable or decreasing contaminant concentrations, and the frequency of sampling would be reduced. It is estimated that under Alternative 3, the groundwater monitoring would be reduced to once per year after three years and discontinued after six years. Methane monitoring would also be expected to decrease in frequency.

6 RECOMMENDATION

Based on the comparative analysis of the removal action alternatives, Alternative 3 is recommended because it provides the highest overall protection of human health and the environment and it can be implemented at a significantly lower cost than Alternative 4. The key aspects of this alternative are as follows:

New Cover System and Contours – The surface of the landfill will be re-graded to a 3% slope across the top of the landfill and a maximum 3 horizontal to 1 vertical along the perimeter to promote better drainage and provide a better surface for recreational use. The existing cover will be replaced with a new cover consisting of an 18-inch well-compacted clay layer with a conductivity of 1×10^{-7} cm/sec, covered by a six-inch topsoil layer. A minimum thickness of six inches will be maintained for the topsoil cover; however, the thickness may be increased or the material modified in certain areas as part of the recreational plan. It is estimated that the new landfill cover will reduce infiltration.

Landscaping – Landscaping consistent with the light recreational use will be incorporated across the landfill. This vegetation will minimize erosion or the topsoil

layer and protect the cap as well as providing aesthetic value. The topsoil layer will be thickened as necessary so that plants with deeper root systems do not penetrate into the clay cap.

Gas Management System – A new passive gas venting system will be installed consisting of perforated HDPE horizontal pipes in gravel trenches located within the waste material. The west end of each vent trench will be connected to a riser through the landfill surface that will be equipped with a wind driven rotary ventilator. The east end will be used as a cleanout for any liquids that accumulate in the low points of the trenches.

Details of the new cover and gas management system are included in the Versar Report.

7 REFERENCES

40 CFR 300 National Oil and Hazardous Substance Pollution Contingency Plan

USEPA, Conducting Non-Time –Critical Removal Actions Under CERCLA, December, 1993

Versar, Inc., Existing Conditions Investigation and Proposed Modifications to Landfill Cover System, Supply Side Landfill, Naval Station Great Lakes, Illinois, August 2003

IAC Title 35, Part 302 General Use Water Quality Standards

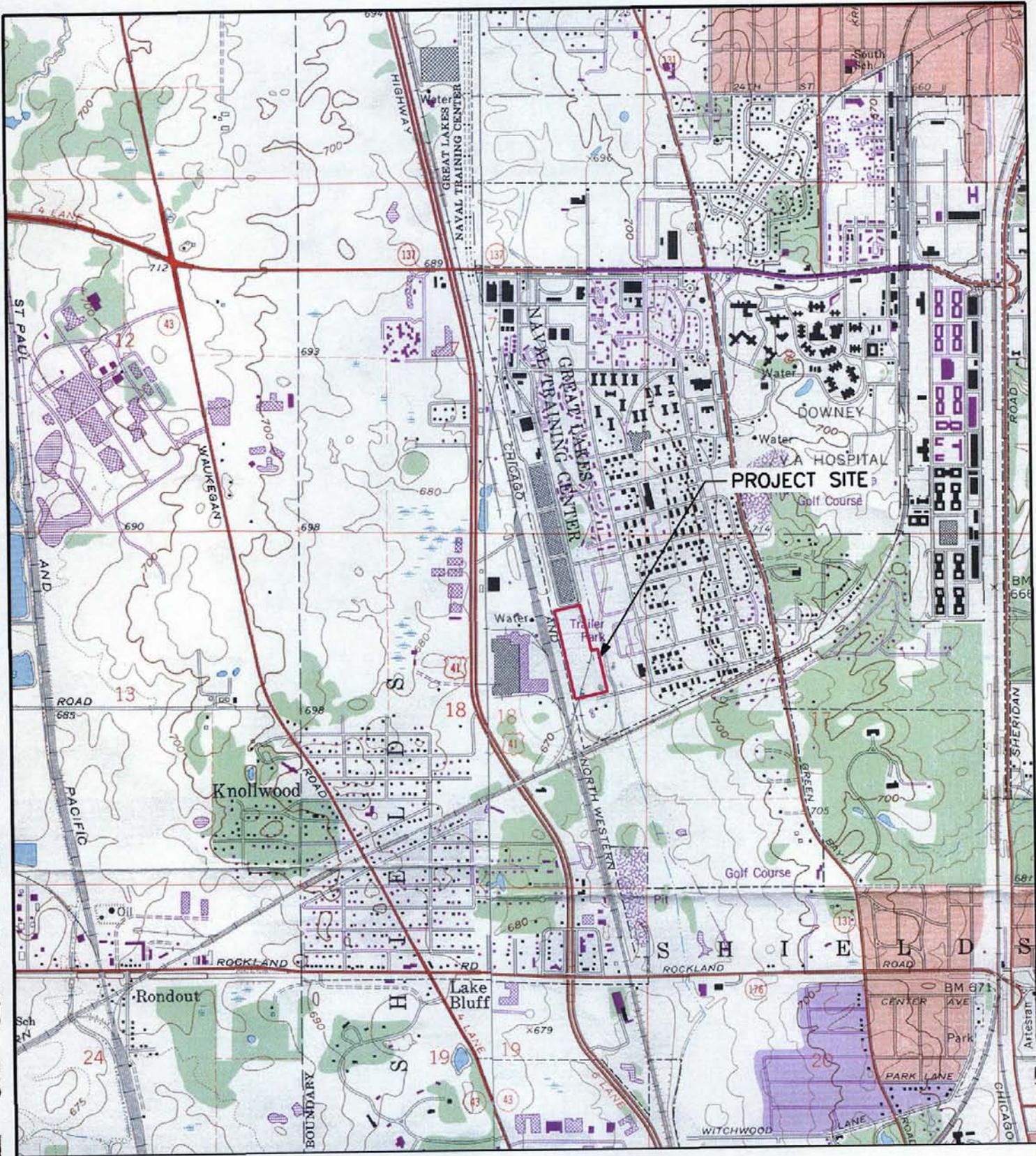
IAC Title 35, Part 742 Appendix B, Table E Groundwater Quality Standards for Class II Groundwater

IAC Title 35, Part 218 Limitations on Organic Material Emissions and Nuisance Odors

IAC Title 35, Part 811, Standards for New Solid Waste Landfills

Lake County, Illinois Lake County Watershed Development Ordinance Last Amended August 14, 2001

FIGURES



SOURCE: USGS, 7.5 MINUTE SERIES, WAUKEGAN AND LIBERTYVILLE QUADRANGLES, WISCONSIN, PHOTOREVISED 1980

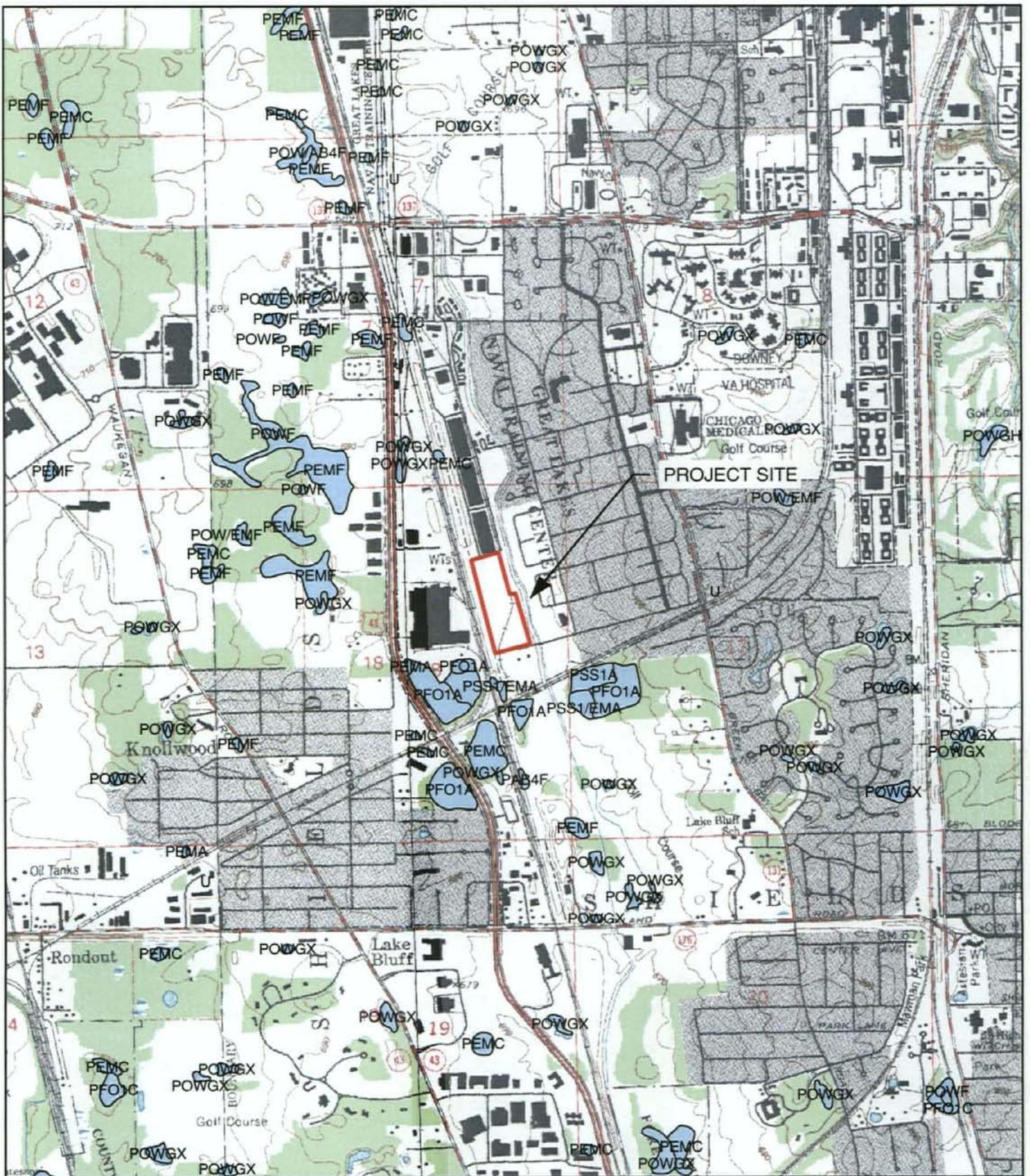


SITE LOCATION MAP
SUPPLY SIDE LANDFILL
NAVAL STATION GREAT LAKES
GREAT LAKES, ILLINOIS

PROJECT NUMBER: 2003 0322
 DATE: 12-09-03
 PROJECT MGR: BWS
 DRAWN BY: JZ
 FILE NAME: quod322.dgn
 SCALE: 1" = 2,000'
 REVISED:



FIGURE 1



SCALE
 0 0.25 0.5 Miles

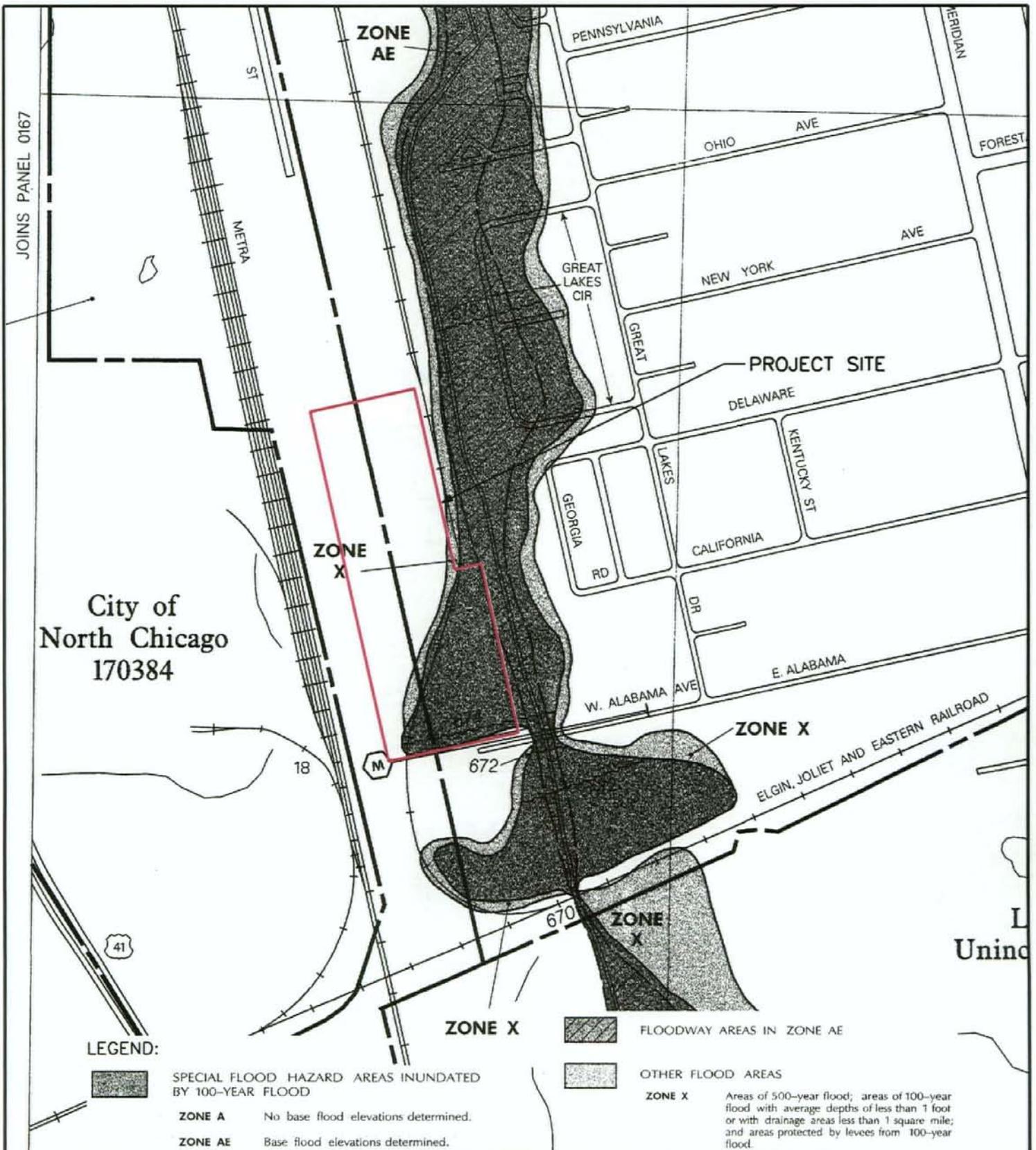
Source: National Wetlands Inventory (1996)

FIGURE 2
 WETLAND INVENTORY MAP
 SUPPLY SIDE LANDFILL
 NAVAL STATION GREAT LAKES
 GREAT LAKES, ILLINOIS

PROJECT NUMBER: 2003 0322
 DATE: 2/6/2004
 PROJECT MGR: BWS
 DRAWN BY: TQ
 SCALE: 1" = 2000'
 REVISED:

**GRAEF
 ANHALT
 SCHLOEMER**
and Associates Inc.

000163EB01X



LEGEND:



SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- ZONE A** No base flood elevations determined.
- ZONE AE** Base flood elevations determined.



FLOODWAY AREAS IN ZONE AE



OTHER FLOOD AREAS

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

SOURCE: FIRM, FLOOD INSURANCE RATE MAP, LAKE COUNTY, ILLINOIS, PANEL 186 OF 295, EFFECTIVE DATE: SEPTEMBER 7, 2000



FEMA FLOODPLAIN MAP
SUPPLY SIDE LANDFILL
NAVAL STATION GREAT LAKES
GREAT LAKES, ILLINOIS

PROJECT NUMBER: 2003 0322
 DATE: 12-15-03
 PROJECT MGR: BWS
 DRAWN BY: JZ
 FILE NAME: fema322.dgn
 SCALE: 1" = 500'
 REVISED:



TABLES

TABLE 5-1 COMPARATIVE ANALYSIS OF ALTERNATIVES
Supply Side Landfill, Naval Training Center Great Lakes, IL

Description	EFFECTIVENESS					FEASIBILITY				COST	
	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Performance	Reduction of Toxicity, Mobility, Or Volume through Treatment	Short-Term Effectiveness	Technical Feasibility	Administrative Feasibility	State and Community Acceptance	Availability of Services and Materials	Capital Cost	Annual O&M Cost
Alternative 1: No Action	This alternative does not improve upon any existing conditions that are protective of human health and the environment.	This alternative may not comply with the chemical or action specific ARARs.	This alternative does not provide any additional assurance of long-term effectiveness.	This alternative will not provide any additional reduction in toxicity, mobility, or volume of the landfill waste.	Not applicable	Not applicable	The site would be included in the Land Use Memorandum of Agreement between the Navy and IEPA, and regularly scheduled monitoring and reporting of all land use controls would be required.	Pending	Not applicable	\$0	\$12,500
Alternative 2: Institutional Controls (Restricting access to the site with a fence)	Provides additional protection of human health and the environment through the use of access restrictions and land-use controls.	This alternative may not comply with the chemical or action specific ARARs.	With the exception of the reduction in direct contact risk, this alternative does not provide any additional assurance of long-term effectiveness.	This alternative will not provide any additional reduction in toxicity, mobility, or volume of the landfill waste.	Not applicable	Minor technical issues associated with the installation of the fence.	Similar to Alternative 1.	Pending	The materials are readily available.	\$65,000	\$13,000
Alternative 3: New Engineered Protective Cover	This alternative would provide additional protection of human health and the environment by improving the integrity of the landfill cap and the management of landfill gas. The cover will also provide a surface suitable for light recreational use.	This complies with the action, location or chemical specific ARARs associated with this alternative.	Provides additional protection to the groundwater by reducing infiltration, improving runoff control and improving management of landfill gas. This alternative also reduces the potential for direct human contact with the landfill waste.	The new methane management system would reduce the volume of methane in the landfill and the new cover would likely reduce the mobility of the contaminants.	Short-term risks include potential construction accidents and exposure to residents and workers to dust and methane gas. This risks can be mitigated through the use of good engineering practices.	Specially trained personnel and procedures would be required for handling of waste material. However, these personnel and procedures are available through	Similar to Alternative 1, except that the IEPA would likely review the construction documents.	Pending	General contractors are generally available to bid on and perform this type of work.	\$1,416,000	\$22,500
Alternative 4: Excavation and Off-Site Disposal	This alternative is estimated to cause an overall reduction in human health and environment because it would relocate the waste and create additional traffic and dust in the process.	This complies with the action, location or chemical specific ARARs associated with this alternative.	This alternative would be effective in the long term at this site, but would transfer the waste management issues to another site.	This alternative would remove the landfill waste which is the source of contaminants.	There would be the potential risk of exposure to contaminated dusts and debris, and there would be a significant increase in the volume of truck traffic during implementation.	Additional precautions would need to be implemented with this alternative due to the increased volume of waste managed and traffic generated.	This alternative would require coordination with the nearby residents and the IEPA during excavation and disposal, and compliance with DOT regulations pertaining to waste transportation.	Pending, although the noise and traffic issues associated with this alternative may concern nearby residents.	General contractors are generally available to bid on and perform this type of work.	8,350,000	\$2,500
Notes:	ARARs = Applicable or Relevant and Appropriate Requirements Illinois EPA = Illinois Environmental Protection Agency										

Notes:
ARARs = Applicable or Relevant and Appropriate Requirements
Illinois EPA = Illinois Environmental Protection Agency

ATTACHMENT A
NAVAL STATION GREAT LAKES CATEGORICAL EXCLUSION (CATX)
DOCUMENT

PROJECT ENVIRONMENTAL REVIEW

TITLE AND DESCRIPTION OF PROPOSED ACTION

Project no.
5302

RECONDITION SUPPLY LANDFILL. This project will provide a compacted soil cover of 22 acres landfill at supply warehouses in accordance with 40 CFR 258 and Illinois Administration Code Title 35 Section 807. Drainage around landfill would be controlled to comply with NEPA, Lake County Drainage Authority U.S. Army Corps of Engineers. Vegetation establishment will be provided over the landfill. Methane gas system would be installed at grade.

SECTION 1: WORKSHEET

ATTRIBUTE		+	0	-	U	ATTRIBUTE		+	0	-	U
W	AQUATIC LIFE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	HAZARDOUS EMISSIONS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A	FLOW VARIATIONS/CIRCULATION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I	PARTICULATES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T	AQUIFER YIELD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R	ODORS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E	WATER QUALITY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NOISE	ON-BASE LEVELS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
R	SEDIMENT DEPOSIT/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		OFF-BASE LEVELS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	STORM WATER RUNOFF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		AICUZ	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B	THREATENED & ENDANGERED	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L	WETLANDS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I	FLORA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	FLOODPLAIN/COASTAL ZONE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O	FAUNA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	HAZARDOUS WASTE DISPOSAL SITE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T	BIRD/AIRCRAFT STRIKE HAZARDS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	HISTORICAL/ARCHEOLOGICAL RESOURCES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A	WILDLIFE MANAGEMENT AREA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		ON-BASE COMPATIBILITY (MASTER PLAN)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S	POPULATION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	U	OFF-BASE COMPATIBILITY (ZONING)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O	EMPLOYMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	FORESTRY MANAGEMENT AREA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C	HOUSING	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	E	EROSION (WIND/WATER)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I	SCHOOLS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	ACCESS TO MINERALS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O	COMMERCIAL/INDUSTRIAL ACTIVITIES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Y	ENERGY SYSTEMS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E	RECREATIONAL ACTIVITIES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	WATER SUPPLY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C	SECURITY/FIRE PROTECTION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	T	SANITARY/STORM SEWER SYSTEMS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O	HEALTH & SAFETY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	E	SOLID WASTE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N	PERSONNEL MORALE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	M	TRAFFIC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS

Must contact and involve East Skokie Drainage District (ESDD), Illinois Environmental Protection Agency (IEPA), Illinois Department of Natural Resources (IDNR), Federal Emergency Management Agency (FEMA), Lake County Stormwater Management Commission (LCSMC) & Army Corp of Engineers (ACOE) regarding: 100 flood plain/watershed/wetland issues/permits. Review and replacement vegetation is required. No identified wetlands within project site, however potential impact on navigable waterways (i.e. Skokie Creek) requires review & comment from ACOE, IDNR, & cognizant agencies.

SECTION 2: CONCLUSIONS

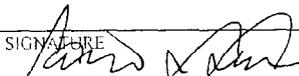
- PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (SEE LIST ON REVERSE SIDE AND DOCUMENT BELOW)
- PROPOSED ACTION REQUIRES AN ENVIRONMENTAL ASSESSMENT.
- PROPOSED ACTION REQUIRES AN IMPACT STATEMENT.

REMARKS

Reconditioning of the Supply Landfill and Installation of Methane Gas System at Grade are Categorically Excluded from further documentation for the following reasons: (f) Routine repair and maintenance of facilities and equipment to maintain existing operations and activities, including maintenance of improved and semi-improved grounds such as landscaping, lawn care, and minor erosion control measures; (i) New construction that is consistent with existing land use and, when completed, the use or operation of which complies with existing regulatory requirements (i.e., a building on a parking lot with associated discharges/runoff that are within existing handling capacities; a bus stop along a roadway; and a foundation pad for portable buildings within a building complex).

ENVIRONMENTAL PLANNER (NAME)
Carlo L. Luciano

SIGNATURE

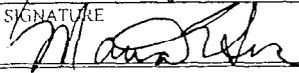


DATE

06 May 03

EFD REVIEWER (NAME)
Maria Sus

SIGNATURE



DATE

06 May 03

06 Mar 03

MEMORANDUM TO FILE

From: Environmental Department

Subj: NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) CATEGORIAL EXCLUSION FOR, RECONDITIONING SUPPLY LANDFILL AND INSTALLATION OF METHANE GAS SYSTEM (5302), GREAT LAKES, ILLINOIS

Ref: (a) OPNAVINST 5090.1B

Encl: (1) Project Environmental Review Sheet
(2) FEMA Flood Insurance Rate Map Panel 186 of 295 Map # 17097C0186 F

1. Based on reference (a), Reconditioning Supply Landfill and Installation of Methane Gas System (5302), Great Lakes, Illinois can be Categorical Excluded from further documentation under the National Environmental Policy Act (NEPA).
2. After careful study of reference (a), the completion of the enclosure (1), and the type of activities that will be taking place it was determined that this project is Categorical Excluded from further documentation requirements under NEPA. Specifically, as listed in reference (a), Reconditioning Supply Landfill and Installation of Methane Gas System (5302), Great Lakes, Illinois is Categorical Excluded from further documentation for the following reasons:
 - (f) Routine repair and maintenance of facilities and equipment to maintain existing operations and activities, including maintenance of improved and semi-improved grounds such as landscaping, lawn care, and minor erosion control measures.
 - (i) New construction that is consistent with existing land use and, when completed, the use or operation of which complies with existing regulatory requirements (i.e., a building on a parking lot with associated discharges/runoff that are within existing handling capacities; a bus stop along a road way; and a foundation pad for portable buildings within a building complex).
3. Must contact and involve East Skokie Drainage District (ESDD), Illinois Environmental Protection Agency (IEPA), Illinois Department of Natural Resources (IDNR), Federal Emergency Management Agency (FEMA), Lake County Stormwater Management Commission (LCSMC) & Army Corp of Engineers (ACOE) regarding: 100 flood plain/watershed/wetland issues/permits.
4. Review and replacement vegetation is required.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) CATEGORIAL
EXCLUSION FOR, RECONDITIONING SUPPLY LANDFILL AND
INSTALLATION OF METHANE GAS SYSTEM (5302), GREAT LAKES, ILLINOIS

5. No identified wetlands within project site, however potential impact on navigable waterways (i.e. Skokie Creek) requires review & comment from ACOE, IDNR, & cognizant agencies.
6. Great Lakes Environmental Office point of contact is Ms. Maria Sus who may be reached at (847) 688-5999 extension 155.



CARLO L. LUCIANO
Environmental Engineer

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
LAKE COUNTY,
ILLINOIS
AND INCORPORATED AREAS

PANEL 186 OF 295

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
LAKE BLUFF, VILLAGE OF	170373	0186	F
LAKE COUNTY	170357	0186	F
NORTH CHICAGO, CITY OF	170384	0186	F

Notice to User: The MAP NUMBER shown below should be used when placing map orders; the COMMUNITY NUMBER shown above should be used on insurance applications for the subject community.

MAP NUMBER
17097C0186 F

EFFECTIVE DATE:
SEPTEMBER 3, 1997



Federal Emergency Management Agency

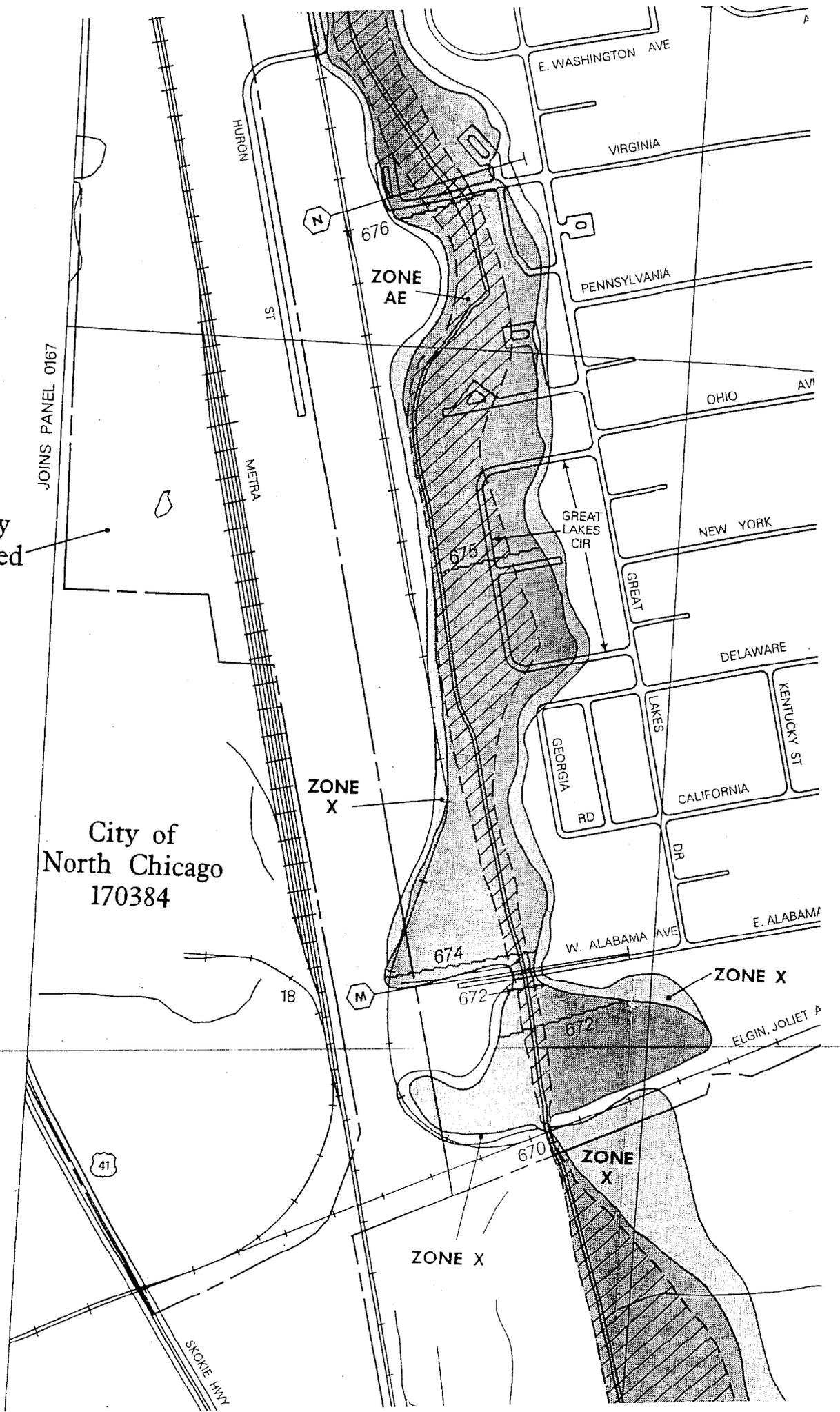
MAP SCALE 600 FT = 1" 4-2-97

*South County
170373
2101
170357
170384*

U.S. Dept. of
Interior
Bureau of
Land Management

Lake County
Unincorporated
Areas
170357

City of
North Chicago
170384



25 February 2003

MEMORANDUM

From: Code 417
To: Code N5

Subj: Special Project M53-02
Ref: Customer Request Number: J04997 Project Number: M53-02
Title: Recondition Supply Landfill
Encl: (X) Site Approval

1. Documents for the above-checked project is forwarded for Site Approval. Site approval is for the reconditioning of the Supply Landfill.

2. Upon receipt of your endorsement, any desired changes will be made and the final project documents will then be revised for submission. Return your comments to Code 417 A.S.A.P

Fred Estilo

F. Estilo (847) 688-2345 X114

FIRST ENDORSEMENT

From: _____
To: Code 417

- 1. Returned. Project is:
 - () Satisfactory as presented
 - () Comments are marked on project documents
 - () Satisfactory subject to the following comments

Reviewing official

Copy to: Project File

SITE ANALYSIS CHECKLIST

PROJECT Recondition Supply Landfill ACTIVITY NTC, Great Lakes REF. NO. M53-02

Project site selection must be based on a comprehensive site analysis. To ensure this analysis has been performed, each project specific question below should be evaluated by appropriate individuals who are knowledgeable about the activity as well as the topics below. In the space provided, the reviewer shall enter (y) yes if statement is correct, (N/A) if statement is not applicable, or (N) no if statement is incorrect. The siting rationale as well as any negative responses in the checklist must be explained in the comments section. The completed checklist must accompany the Site Approval Request (NAVFAC Form 11010/31). Note: If the expertise to answer any of the specific questions is not available at your activity, it is recommended that you call the appropriate point(s) of contact at the Engineering Field Division or Engineering Field Activity. Also, it is strongly recommended that the reviewer walk the site prior to completing the checklist.

PLANNING: Evaluated by Fred Estle Code 417 Date 2/25/03 Phone (847)688-2345 X 114

- Y 1. Site conditions and topography are suitable for proposed construction.
- Y 2. The project is located outside the 100 year floodplain.
- Y 3. The proposed site is consistent with the Master Plan proposed land use.
- Y 4. The project will have no adverse impact on adjacent off-base land.
- Y 5. There are no known off-base structures, functions, physical barriers, or conditions that will adversely affect the function or operation of the proposed project.
- Y 6. There are no offsite projects planned or under construction that would adversely affect the project.
- Y 7. There is sufficient area available for parking, material laydown, stormwater drainage, etc.
- Y 8. There are no known subsurface foundations, structures, utilities, rock, etc. which would adversely affect the project.

UTILITIES: Evaluated by F. Estle for Harris Gradwano Code 417 Date 2/25/03 Phone (847)688-2345 X 114

- Y 1. Existing utility capacities are adequate for this project.
- Y 2. Overall utilities support for the project has been reviewed with recent, site-specific utilities maps of the proposed site.

REAL ESTATE: Evaluated by Fred Estle Code 417 Date 2/25/03 Phone (847)688-2345 X 114

- N/A 1. All necessary land acquisitions (purchases/lease) have been identified.
- N/A 2. All easements/outgrants (road & railroad crossings, utility easements, etc.) that are required have been identified.
- N/A 3. Any required changes, relocations, or cancellations to existing easements/outgrants have been identified.

CULTURAL RESOURCES: Evaluated by M. [unclear] Code N451A Date 2/25/03 Phone 847-688-5999 X 155

- Y 1. The project is not in or adjacent to any historic district.
- Y 2. The project site is not listed on or eligible for the National Register of Historic Places.
- Y 3. The site has no known discovery potential for archeological artifacts.
- Y 4. The project does not propose renovation of a historic building or structure.

ENVIRONMENT: Evaluated by C. Luciani Code N457D Date 3/06/03 Phone 5999 X 150

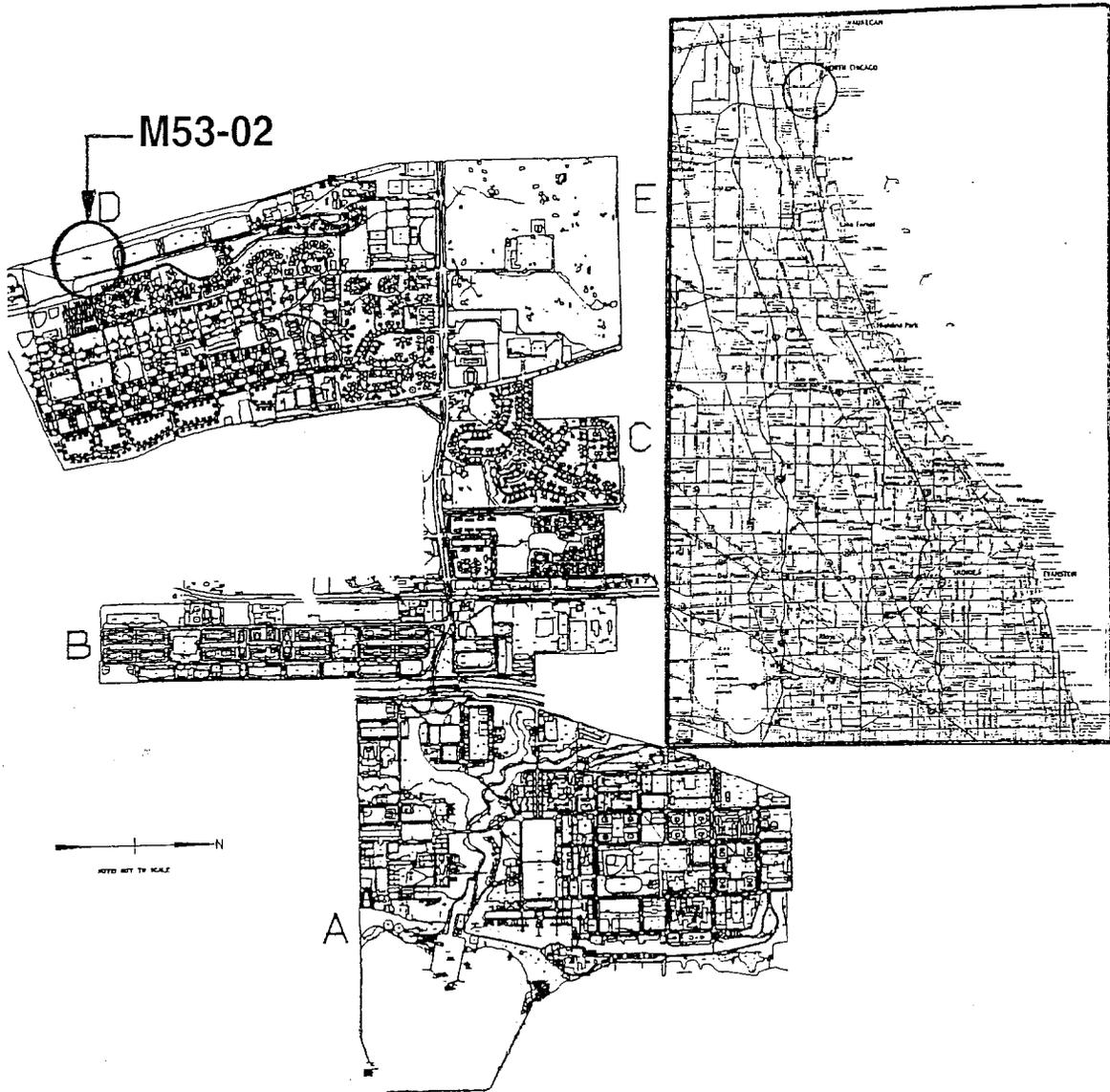
- Y 1. The required environmental documents are complete (CATEX, EA, or EIS).
- Y 2. All required permits have been identified.
- Y 3. A Coastal Zone Consistency Determination (CCD) is not required.
- Y 4. There are no underground storage tanks on the site.
- Y 5. There is no contaminated soil on the proposed site.
- Y 6. This is not an Installation Restoration (IR) site.
- Y 7. There are no existing hazardous materials (asbestos, lead, unexploded ordnance, etc.) that would adversely affect the proposed site.

NATURAL RESOURCES: Evaluated by B. [unclear] Code N457C Date 3/3/03 Phone 5999 X 156

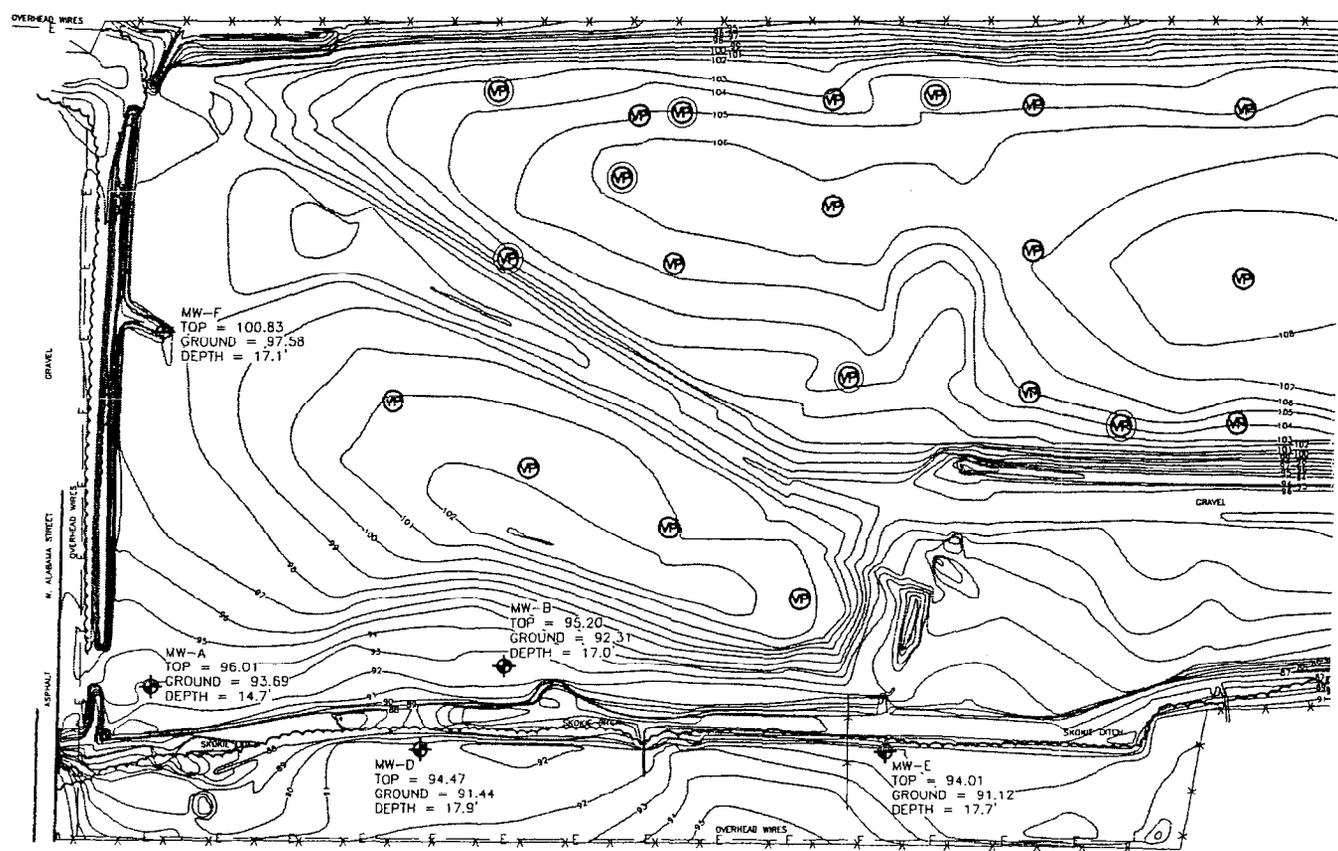
- Below 1. The project is not located in or near a wetland.
- Below 2. Mitigation and wetlands permits are not required.
- Y 3. No known threatened, endangered or sensitive species inhabit the site or adjacent areas.

*100% EMERGENCY
MILITARY
AGENCY*

* COMMENTS/SITING RATIONALE:
Must contact & involve ESDD, TEPA, IDNR, FEMA, LCSMR & ACE re: 100
in flood plain/watershed/wetland issues/permits
Review & approval of replacement vegetation is required.
No identified wetlands within project site, however potential
impact on navigable waterways (i.e. Skokie Creek) requires
review & comment from ACOE, IL-DNR, & other cognizant agencies

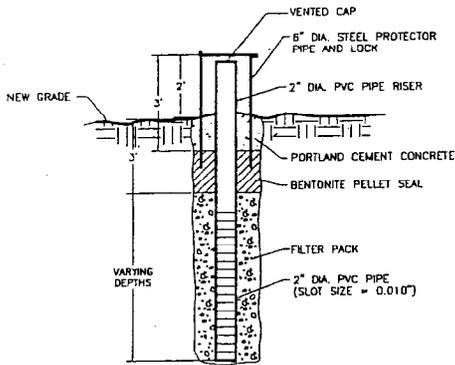


NOT TO SCALE	→ N	LOCATION PLAN	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL TRAINING CENTER GREAT LAKES, IL
PROJECT NUMBER M53-02 RECONDITION SUPPLY LANDFILL NAVAL TRAINING CENTER GREAT LAKES, IL			BASE MAP AREA "D" AREA EAST OF SHERIDAN ROAD
			NAVFAC DRAWING NO.
			CONST. CONTRACT NO.
SCALE			SHEET 1 OF 1



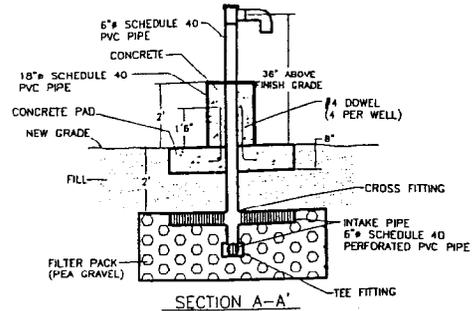
SITE SURVEY

-  VENT PIPE - NEW
-  VENT PIPE - REPAIRED
-  MONITORING WELL
-  TREE LINE

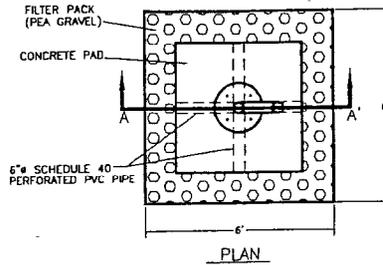


TYPICAL GROUND WATER MONITORING WELL
CONSTRUCTION DETAIL

NOT TO SCALE

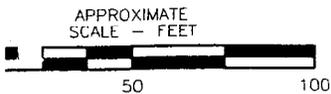
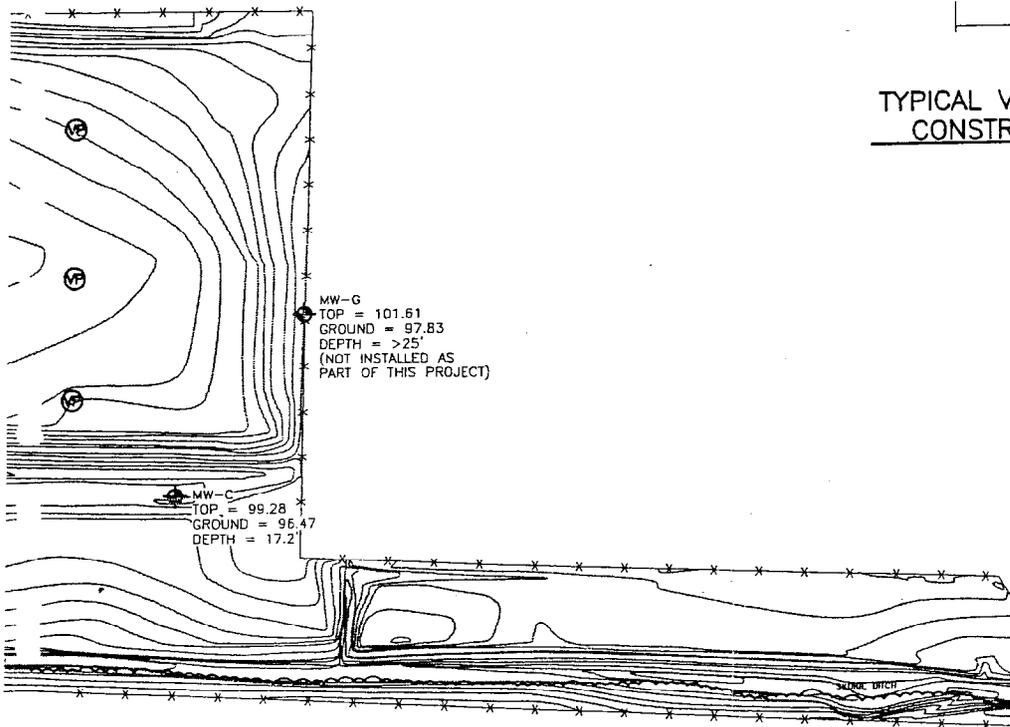


SECTION A-A'



TYPICAL VENTILATION WELL
CONSTRUCTION DETAIL

NOT TO SCALE



REV	DATE	DESCRIPTION	BY	APPROVED
<p>TOLTEST, INC.  United States Navy</p>				
SUBMITTED BY:		NAVAL TRAINING CENTER, GREAT LAKES, ILLINOIS		
DESIGNED BY:		TITLE:		
DRAWN BY:		MONITORING WELL LOCATIONS		
CHECKED BY:		SUPPLY SIDE LANDFILL		
APPROVED BY:		NAVAL TRAINING CENTER, GREAT LAKES, ILLINOIS		
TOLTEST, INC. PROJECT NO:		DATE:	SCALE:	DELIVERY ORDER NO:
42782.01		26 JUN 02	NONE	
ENGINEER		DWG NO:	SIZE:	SHEET NO:
		42782LW	B	1 of 1

FIRE PROTECTION INFORMATION SHEET
Recondition Supply Landfill
M53-02

PROPOSED REPAIR/CONSTRUCTION

PROJECT NUMBER AND TITLE: M53-02, Recondition Supply Landfill

FUNCTION: Maintain landfill to comply with 40 CFR and state regulations

BUILDING DIMENSIONS: N/A

NUMBER OF STORIES AND HEIGHT: N/A

TOTAL AREA: 22 Acres

TYPE OF CONSTRUCTION: Permanent

FIRE PROTECTION SYSTEM: N/A

OTHER FACILITIES WITHIN 100 FEET: None

UTILITY DEMAND SHEET
RECONDITION SUPPLY LANDFILL, M53-02

ELECTRICITY

ANNUAL CONSUMPTION: N/A
MAXIMUM DEMAND: N/A
POINT OF CONNECTION: N/A

SEWAGE

FLOW (MAXIMUM): N/A
FLOW AVERAGE: N/A
POINT OF CONNECTION: N/A

GAS

ANNUAL CONSUMPTION: N/A
MAXIMUM DEMAND: N/A
POINT OF CONNECTION: N/A

CABLE

NO. OF CONNECTIONS: N/A
POINT OF CONNECTION: N/A

WATER

CONSUMPTIONS: N/A
DEMAND: N/A
PRESSURE: N/A
POINT OF CONNECTION: N/A

STEAM

ANNUAL CONSUMPTION: N/A
MAXIMUM DEMAND: N/A
POINT OF CONNECTION: N/A

CABLE

NO. OF VOICE STATIONS: N/A
NO. OF DATA STATIONS: N/A
POINT OF CONNECTIONS: N/A

STORM SEWER

FLOW (MAXIMUM): N/A
FLOW AVERAGE: N/A
POINT OF CONNECTION: N/A

1. Component NAVY	FY 2003 MILITARY CONSTRUCTION PROGRAM				2. Date 8/10/02	
3. Installation and Location/UIC: N00210 NAVAL TRAINING CENTER GREAT LAKES, ILLINOIS			4. Project Title RECONDITION SUPPLY LANDFILL			
5. Program Element NAVY	6. Category Code 91310	7. Project Number 5302	8. Project Cost 930			
9. COST ESTIMATES						
Item		U/M	Quantity	Unit Cost	Cost (\$000)	
RECONDITION SUPPLY LANDFILL		CY	8,000	-	820	
LANDFILL		LS	-	-	(740)	
SITE CLEARING		CY	8,000	10	(80)	
SUPPORTING FACILITIES		LS	-	-	70	
PASSIVE LANDFILL GAS SYSTEM		LS	-	-	(70)	
SUBTOTAL		-	-	-	890	
Contingency (5.0%)		-	-	-	40	
TOTAL CONTRACT COST		-	-	-	930	
Supervision Inspection & Overhead (0.0%)		-	-	-	-	
TOTAL REQUEST		-	-	-	930	
EQUIPMENT FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	-	
Guidance Unit Cost Analysis						
Category	Guidance	Guidance	Project	Area		
Code	U/M Cost	Size	Scope	Size Factor	Cost Factor	
91310	0	0	0	0	0	
Unit Cost						
91310					0	
10. Description of Proposed Construction						
<p>This project will provide a compacted soil cover of 22 acres landfill at supply warehouses in accordance with 40 CFR 258 and Illinois Administration Code Title 35 section 807. Drainage around landfill would be controlled to comply with NEPA, Lake County Drainage Authority and U.S. Army Corps of Engineers. Vegetation establishment will be provided over the landfill. Methane gas system would be installed at grade.</p>						
11. Requirement						
Category	Requirement	U/M	Adequate	Substandard	Inadequate	Deficiency/ Surplus
Code						
91310	22	AC	0	0	0	22/0
SCOPE:						
This project will recondition and maintain landfill south of supply warehouses and comply with 40 CFR and state regulations.						
(Continued On DD 1391C)						

1. Component NAVY	FY 2003 MILITARY CONSTRUCTION PROGRAM	2. Date 8/10/02
3. Installation and Location/UIC: N00210 NAVAL TRAINING CENTER GREAT LAKES, ILLINOIS		
4. Project Title RECONDITION SUPPLY LANDFILL		7. Project Number 5302
<p>(...continued)</p> <p>PROJECT:</p> <p>This project will recodition landfill site at NAVSTA Great Lakes. (Current mission)</p> <p>REQUIREMENT:</p> <p>NAVSTA Great Lakes is to restore and maintain all land at this base and is also required to continue to perform post closure maintenance at the supply side Landfill in accordance with the closure permit, and the requirements of the post closure plan at the approximately 22 acres landfill. Therefore, this project is developed to comply with 40CFR 258 landfill requirements and state of Illinois regulations 35 code IAC. This will satisfy the current NAVSTA mission.</p> <p>CURRENT SITUATION:</p> <p>The NAVSTA is using this land as landfill area, which was filed with waste in early 1980's. No major contamination is cited at this site. However, lake County Department of Health on behalf of the Illinois Environmental protection Agency (IEPA) have informed us that the current landfill cover is deficient of complying Sate and Federal regulations. If not done then state of Illinois may issue a violation for not maintaining and minimizing the exposure of waste to the environment.</p> <p>IMPACT IF NOT PROVIDED:</p> <p>The NAVSTA will be forced to continue leave existing landfill unprotected and subsequently not complying with Federal and State regulations if this remediation is not provided. The existing landfill subsurface will also be in non-compliance of DOD /IEPA and USEPA landfills cover requirements.</p> <p>ADDITIONAL:</p> <p>ECONOMIC ALTERNATIVES CONSIDERED</p> <p>a. Status Quo: Status Quo is not a viable option. Because existing landfill will not eliminate current deficiencies.</p> <p>b. Renovation/Modernization: N/A</p> <p>c. Lease: N/A</p> <p>d. New Construction: This is not viable alternative.</p>		

1. Component NAVY	FY 2003 MILITARY CONSTRUCTION PROGRAM	2. Date 8/10/02																																	
3. Installation and Location/UIC: N00210 NAVAL TRAINING CENTER GREAT LAKES, ILLINOIS																																			
4. Project Title RECONDITION SUPPLY LANDFILL	7. Project Number 5302																																		
<p>(...continued)</p> <p>e. Other Alternative: Maintaining the exterior surface at landfill is the only viable option. Because landfill is required to comply with current 40CFR 258 and IEPA requirements at NAVSTA Great Lakes.</p> <p>f. Analysis Result: Maintenance of exposed surfaces in accordance with 40 CFR 258 and IEPA requirements to weather is recommended that would eliminate future violations. Therefore, maintaining this ground is only viable alternative.</p>																																			
<p>12. Supplemental Data:</p> <p>Site Approval:</p> <p>() Yes, obtained date: (x) No, expected approval date</p> <p>Issues (If yes, please provide discussion under issue):</p> <table border="0"> <tr> <td>Yes</td> <td>No</td> <td></td> </tr> <tr> <td>()</td> <td>(x)</td> <td>DDESB, AICUZ, Airfield, EMR, or wetlands</td> </tr> <tr> <td>()</td> <td>(x)</td> <td>Endangered species/sensitive habitat</td> </tr> <tr> <td>()</td> <td>(x)</td> <td>Air quality</td> </tr> <tr> <td>()</td> <td>(x)</td> <td>Cultural/archeological resources</td> </tr> <tr> <td>()</td> <td>(x)</td> <td>Clearing of trees</td> </tr> <tr> <td>()</td> <td>(x)</td> <td>Known contamination at selected site/ hazardous materials</td> </tr> <tr> <td>()</td> <td>(x)</td> <td>Operational problems</td> </tr> <tr> <td>()</td> <td>(x)</td> <td>Traffic patterns impact</td> </tr> <tr> <td>()</td> <td>(x)</td> <td>Existing utilities upgrade</td> </tr> <tr> <td>(x)</td> <td>()</td> <td>Other</td> </tr> </table> <p style="padding-left: 40px;">This is permitted governmental existing environmental landfill remediation site.</p> <p>Planning</p> <p>Consistent with Master Plan or Base/Regional Development</p> <p>(x) Yes () No, why not:</p> <p>Host Nation Approval:</p> <p>() Required Approval Date: Expected Date: (x) Not Required</p>			Yes	No		()	(x)	DDESB, AICUZ, Airfield, EMR, or wetlands	()	(x)	Endangered species/sensitive habitat	()	(x)	Air quality	()	(x)	Cultural/archeological resources	()	(x)	Clearing of trees	()	(x)	Known contamination at selected site/ hazardous materials	()	(x)	Operational problems	()	(x)	Traffic patterns impact	()	(x)	Existing utilities upgrade	(x)	()	Other
Yes	No																																		
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()	(x)	Existing utilities upgrade																																	
(x)	()	Other																																	

1. Component NAVY	FY 2003 MILITARY CONSTRUCTION PROGRAM	2. Date 8/10/02
3. Installation and Location/UIC: N00210 NAVAL TRAINING CENTER GREAT LAKES, ILLINOIS		
4. Project Title RECONDITION SUPPLY LANDFILL		7. Project Number 5302
<p>(...continued)</p> <p>National Capital Region Approval:</p> <p> <input type="checkbox"/> Required</p> <p> Approval Date:</p> <p> Expected Date:</p> <p> <input checked="" type="checkbox"/> Not Required</p> <p>NEPA Documentation</p> <p>Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Level of NEPA</p> <p> <input type="checkbox"/> Categorical Exclusion</p> <p> <input type="checkbox"/> Environmental Assessment (EA)</p> <p> <input type="checkbox"/> Environmental Impact Statement (EIS)</p> <p>Mitigation issues</p> <p>Yes No</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Wetlands replacement/enhancement</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Hazardous waste</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Contaminated soil/water</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Other</p> <p>Environmental Cleanup</p> <p> <input type="checkbox"/> Required</p> <p> Start Date:</p> <p> Completion Date:</p> <p> <input checked="" type="checkbox"/> Not Required</p> <p>Project issues (If yes, please provide discussion under each issue):</p> <p>Yes No</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> System Safety</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Soils - foundation and seismic conditions</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Construction/operational permits</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Local air quality/ wastewater permits</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Complies with Final Governing Standard (Environmental standard for Spain, Italy and Greece)</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Land Acquisition (i.e., location, quantity)</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Technical Operating Manuals</p> <p> <input type="checkbox"/> <input checked="" type="checkbox"/> Feasibility/Constructibility in FY</p> <p> <input checked="" type="checkbox"/> <input type="checkbox"/> Physical Security</p> <p> <input type="checkbox"/> Shielding</p> <p> <input type="checkbox"/> SCIF</p> <p> <input type="checkbox"/> Fencing</p> <p> <input type="checkbox"/> IDS</p>		

1. Component NAVY	FY 2003 MILITARY CONSTRUCTION PROGRAM	2. Date 8/10/02																										
3. Installation and Location/UIC: N00210 NAVAL TRAINING CENTER GREAT LAKES, ILLINOIS																												
4. Project Title RECONDITION SUPPLY LANDFILL		7. Project Number 5302																										
<p>(...continued)</p> <p style="padding-left: 40px;">(x) Other Type: NA () (x) Other project issues</p> <p>A. Estimated Design Data: (Parametric estimates have been used to develop project costs. Project design conforms to Part II of Military Handbook 1190, Facility Planning and Design guide)</p> <p>(1) Status:</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="padding-left: 20px;">(A) Date Design Started.....</td><td style="text-align: right;">02/03</td></tr> <tr><td style="padding-left: 20px;">(B) Date Design 35% Complete.....</td><td style="text-align: right;">03/03</td></tr> <tr><td style="padding-left: 20px;">(C) Date Design Complete.....</td><td style="text-align: right;">04/03</td></tr> <tr><td style="padding-left: 20px;">(D) Percent Complete As Of September 2001.....</td><td style="text-align: right;">0%</td></tr> <tr><td style="padding-left: 20px;">(E) Percent Complete As Of January 2002.....</td><td style="text-align: right;">0%</td></tr> <tr><td style="padding-left: 20px;">(F) Type of Design Contract.....</td><td style="text-align: right;">NA</td></tr> <tr><td style="padding-left: 20px;">(G) Parametric Estimate used to develop cost.....</td><td style="text-align: right;">N/A</td></tr> <tr><td style="padding-left: 20px;">(H) Energy study/life-cycle analysis performed.....</td><td style="text-align: right;">N/A</td></tr> </table> <p>(2) Basis:</p> <p style="padding-left: 20px;">(A) Standard or Definitive Design: No (B) Where Design Was Most Recently Used: NA</p> <p>(3) Total Cost (C) = (A) + (B) Or (D) + (E):</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="padding-left: 20px;">(A) Production of Plans and Specifications.....</td><td style="text-align: right;">0</td></tr> <tr><td style="padding-left: 20px;">(B) All Other Design Costs.....</td><td style="text-align: right;">0</td></tr> <tr><td style="padding-left: 20px;">(C) Total.....</td><td style="text-align: right;">0</td></tr> <tr><td style="padding-left: 20px;">(D) Contract.....</td><td style="text-align: right;">0</td></tr> <tr><td style="padding-left: 20px;">(E) In-House.....</td><td style="text-align: right;">0</td></tr> </table> <p>(4) Contract Award..... 02/03</p> <p>(5) Construction Start..... 04/03</p> <p>(6) Construction Completion..... 09/03</p>			(A) Date Design Started.....	02/03	(B) Date Design 35% Complete.....	03/03	(C) Date Design Complete.....	04/03	(D) Percent Complete As Of September 2001.....	0%	(E) Percent Complete As Of January 2002.....	0%	(F) Type of Design Contract.....	NA	(G) Parametric Estimate used to develop cost.....	N/A	(H) Energy study/life-cycle analysis performed.....	N/A	(A) Production of Plans and Specifications.....	0	(B) All Other Design Costs.....	0	(C) Total.....	0	(D) Contract.....	0	(E) In-House.....	0
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<p>B. Equipment associated with this project which will be provided from other appropriations: NONE.</p> <p>Activity POC: MR SHIV SANGAR Phone No: (847)-688-2795X110</p>																												

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<p data-bbox="244 350 370 378"><i>(...continued)</i></p> <p data-bbox="211 384 624 411">Budget Estimate Summary Sheet:</p> <table border="1" data-bbox="211 411 1476 924"> <thead> <tr> <th data-bbox="211 443 274 464">Item</th> <th data-bbox="766 443 799 464">UM</th> <th data-bbox="849 443 964 464">Quantity</th> <th data-bbox="1053 411 1108 464">Unit Cost</th> <th data-bbox="1235 443 1306 464">Total</th> </tr> </thead> <tbody> <tr> <td data-bbox="211 506 323 527">LANDFILL</td> <td data-bbox="766 506 799 527">LS</td> <td data-bbox="943 506 954 527">-</td> <td data-bbox="1091 506 1103 527">-</td> <td data-bbox="1207 506 1306 527">740,000</td> </tr> <tr> <td data-bbox="241 537 459 558">SRAPPING/REMOVAL</td> <td data-bbox="766 537 799 558">AC</td> <td data-bbox="926 537 954 558">22</td> <td data-bbox="992 537 1108 558">1,300.00</td> <td data-bbox="1224 537 1306 558">28,600</td> </tr> <tr> <td data-bbox="241 569 541 590">Clay 8" lift, Off Site</td> <td data-bbox="766 569 799 590">CY</td> <td data-bbox="872 569 964 590">26,500</td> <td data-bbox="1042 569 1108 590">14.58</td> <td data-bbox="1207 569 1306 590">386,370</td> </tr> <tr> <td data-bbox="241 600 584 621">RECONDITIONING/vegetation</td> <td data-bbox="766 600 799 621">AC</td> <td data-bbox="926 600 954 621">22</td> <td data-bbox="984 600 1108 621">12,000.00</td> <td data-bbox="1207 600 1306 621">264,000</td> </tr> <tr> <td data-bbox="241 632 431 653">Storm Drainage</td> <td data-bbox="766 632 799 653">SY</td> <td data-bbox="893 632 964 653">8,000</td> <td data-bbox="1058 632 1108 653">7.00</td> <td data-bbox="1224 632 1306 653">56,000</td> </tr> <tr> <td data-bbox="241 663 348 684">Geo Tech</td> <td data-bbox="766 663 799 684">LS</td> <td data-bbox="943 663 954 684">-</td> <td data-bbox="1091 663 1103 684">-</td> <td data-bbox="1224 663 1306 684">10,000</td> </tr> <tr> <td data-bbox="211 737 389 758">SITE CLEARING</td> <td data-bbox="766 737 799 758">CY</td> <td data-bbox="893 737 964 758">8,000</td> <td data-bbox="1034 737 1108 758">10.00</td> <td data-bbox="1224 737 1306 758">80,000</td> </tr> <tr> <td data-bbox="211 800 584 821">PASSIVE LANDFILL GAS SYSTEM</td> <td data-bbox="766 800 799 821">LS</td> <td data-bbox="943 800 954 821">-</td> <td data-bbox="1091 800 1103 821">-</td> <td data-bbox="1215 800 1306 821">70,000</td> </tr> <tr> <td data-bbox="241 831 541 852">Ground Water Monitorng</td> <td data-bbox="766 831 799 852">LS</td> <td data-bbox="943 831 954 852">-</td> <td data-bbox="1091 831 1103 852">-</td> <td data-bbox="1265 831 1306 852">800</td> </tr> <tr> <td data-bbox="241 863 356 884">Load/Haul</td> <td data-bbox="766 863 799 884">LS</td> <td data-bbox="943 863 954 884">-</td> <td data-bbox="1091 863 1103 884">-</td> <td data-bbox="1224 863 1306 884">40,000</td> </tr> <tr> <td data-bbox="241 894 348 915">Cut/Fill</td> <td data-bbox="766 894 799 915">LS</td> <td data-bbox="943 894 954 915">-</td> <td data-bbox="1091 894 1103 915">-</td> <td data-bbox="1224 894 1306 915">30,000</td> </tr> </tbody> </table>					Item	UM	Quantity	Unit Cost	Total	LANDFILL	LS	-	-	740,000	SRAPPING/REMOVAL	AC	22	1,300.00	28,600	Clay 8" lift, Off Site	CY	26,500	14.58	386,370	RECONDITIONING/vegetation	AC	22	12,000.00	264,000	Storm Drainage	SY	8,000	7.00	56,000	Geo Tech	LS	-	-	10,000	SITE CLEARING	CY	8,000	10.00	80,000	PASSIVE LANDFILL GAS SYSTEM	LS	-	-	70,000	Ground Water Monitorng	LS	-	-	800	Load/Haul	LS	-	-	40,000	Cut/Fill	LS	-	-	30,000
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