FIRE FIGHTING TRAINING UNIT (FFTU)

ENVIRONMENTAL PROTECTION PLAN

GREAT LAKES NAVAL BASE
GREAT LAKES, ILLINOIS

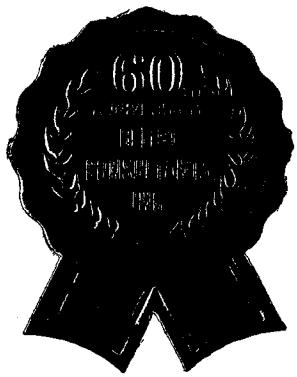
July 31, 1996

Prepared by:

BELING CONSULTANTS

BELING CONSULTANTS

Professional Engineering and Environmental Services



July 31, 1996

Department of the Navy
Engineering Field Activity, Midwest
Building 1-A, Code 920
2703 Sheridan Road, Suite #120
Great Lakes, Illinois 60088-5600

Attn: Michael Hanson, P.E., Environmental Engineer

SUBJECT: ENVIRONMENTAL PROTECTION PLAN - FFTU SITE RESTORATION
GREAT LAKES NAVAL TRAINING CENTER
OUR FILE: 29646-B-15,879-28-1

Dear Mr. Hanson:

The enclosed document, titled "Fire Fighting Unit (FFTU) - Environmental Protection Plan", is submitted in accordance with our contract dated May 1, 1996, Number N68950-95-D-9021.

The development of a written Environmental Protection Plan is required under the National Environmental Protection Act (NEPA). As such, the plan is to address environmental issues which may be affected by the project or encountered during the course of the project.

A final, bound copy should be kept on site and referred to by the PWC. The original should be retained in the Navy files of the Engineer in Charge.

Please contact me if you have any questions, or if the Plan appears to warrant modifications.

Sincerely,

BELING CONSULTANTS, INC.

Molly E. Arp, Geologist, CHMM
Manager - Environmental Compliance

kjy
cc: Tony Andrews, Engineer In Charge - FFTU Restoration Project
H.Mayer, M.K.Flenker - Beling Consultants
File #29646 - chrono

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ATTACHMENTS

- Letter from the Department of the Army to Meg K. Flenker, dated 10 July 1996
- Letter from the Department of the Army to Meg K. Flenker, dated 7 August 1996

INTRODUCTION

This Environmental Protection Plan has been developed as part of the requirements of the National Environmental Policy Act (NEPA). This plan pertains to industrial/remediation activity scheduled for the Fire Fighting Training Unit (FFTU) site under the direction of the Department of the Navy, Midwest Field Activity, Great Lakes, Illinois.

The Department of the Navy operated a Fire Fighting Training Unit (FFTU) at the Great Lakes Naval Training Center in Great Lakes, Illinois between 1942 and 1990. In October, 1990, the use of the site was abandoned, with the exception of the southern portion of the site where two buildings are located. One of the buildings, the administration building, and the adjacent areas to the east and south of it are used by a civilian owned construction company for storage and staging areas. The second building which is located on the southwest corner of the site is used by the Willow Glen Golf Course as a golf cart maintenance shop.

The site is located in parts of Sections 6 and 7, Township 44 North, Range 2 East of the Third Prime Meridian in Lake County, Illinois, at the approximate Latitude of 42 degrees, 18 minutes, 45 seconds and Longitude of 87 degrees, 52 minutes, and 15 seconds. The total size of the project site is approximately 8.5 acres. Access to the site is on the north side of the intersection of Buckley Road (Highway 137) and Great Lakes Drive; the site is located approximately 0.5 miles north of the intersection.

Remediation activities, including construction activities, are planned to take place between July 1996 and December 30, 1997 and will consist primarily of: draining tanks and piping, underground pipe removal, pavement removal, removal of aboveground structures and, if required by regulatory agencies, rerouting of the perimeter ditch and remediation of contaminated soil and groundwater. Sampling and analysis of potential contaminants will be performed, and characterization completed to ascertain appropriate remediation processes.

EMERGENCY TELEPHONE NUMBERS

Following are the names and telephone numbers of key personel to be contacted in case of an emergency:

Tony Andrews	Navy Engineer in Charge	(847)-657-1158
Ed Bickel	Navy NTC-ENC/Engineer Technician	(847)-688-4295
Michael A. Hanson	Navy EFA-MW/Environ. Engineer	(847)-688-5997
Kelly Devereaux	Navy Sr. Environmental Coordinator	(847)-688-2628
Molly Arp	Beling Consultants/Project Manager	(309)-757-9800
Medical Emergency	Fire/Police	(847)-688-3333

PROTECTION OF NATURAL RESOURCES

Federal Law requires Government construction projects to comply with environmental protection laws including, but not limited to, the following:

- The Clean Water Act (CWA)
- The Clean Air Act (CAA)
- The Resource Conservation and Recovery Act (RCRA)
- The Federal Facilities Compliance Act (FFCA)
- All Amendments to the above mentioned Acts

The Navy is aware that the Environmental Protection Agency (EPA) has granted inspection and enforcement authority to state and local governments who may impose fines and penalties for violations of these laws. The Navy is bound by law, to make any adjustments to activities as directed by such governmental officials, and as approved by the Engineer in Charge.

The Navy must support efforts to preserve the natural resources within the project boundaries and outside the limits of the project area. Construction activities will be confined to project limits provided on the plans.

Implementation of this Plan and the Storm Water Pollution Prevention Plan (SWP3) prepared for this project is the responsibility of the Navy Public Works Contractors (PWC), Great Lakes, Illinois under the direction of the Engineer in Charge.

Preconstruction Survey Results:

The preconstruction survey of the project site reveals that the large area of paving which is in the central area of the site is generally dilapidated and has grass, and other vegetation (poplars and various saplings) growing up through it. Long grass and weeds, as well as a few piles of mulched debris (such as wood) "dot" the western side of the "asphalt" area. The site is void of any large trees or shrubs other than on the northern, eastern, and northwestern most boundaries of the site, all of which are outside the project limits. There is a chain link fence that separates the project site from the adjacent Willow Glen golf course.

A preliminary assessment report, written by Frederick E. Goetz, NFESC of Port Hueneme, California dated March 27, 1995, addressing Bio-remediation, states that there is a perched water table below the site. Therefore, the Navy will need to take the proper precautions to prevent or minimize further contamination of the shallow groundwater, assuming it may have been impacted in the past.

Precautions must also be taken to preserve any other natural resources existing below grade and outside the limits of this remediation effort.

Trees and landscape features outside of the project limits that are scarred or damaged as a result of remediation activities, will be replaced with same type and size.

A berm approximately two foot high buffers the remediation area from a drainage ditch that lies adjacent to both the eastern and northern perimeters of the project site. This berm is currently vegetated and is not to be disturbed without authorization from the Engineer in Charge. There is also an existing berm on the north and east side of this perimeter drainage ditch. Each of these berms prevent direct overland surface drainage to the ditch from either the project site or adjacent golf course. Drainage into the perimeter ditch comes from five known culverts which are outletted from the golf course. The surface drainage of the site eventually ends up in Skokie Ditch.

Utilities known to exist at the remediation site have been abandoned although active utility poles are present on the southern and western side of the project site. A construction trailer located north of the administration building (on the eastern side of the site) receives electricity from an adjacent utility pole; there are no other

known utilities on site, however, the PWC will need to verify all utilities prior to beginning construction activities.

Protection of Artifacts:

The PWC will carefully protect in-place and report immediately to the Engineer in Charge any historical and archaeological items or human skeletal remains discovered in the course of work. Work will stop in the immediate area of the discovery until directed by the Engineer in Charge to resume work.

PROTECTION OF WATER RESOURCES

The PWC will take all precautions necessary to prevent any petroleum product or other hazardous substance from entering the ground water, drainage areas, or local bodies of water. All temporary fuel oil or petroleum storage tanks will be protected with a temporary earth berm of sufficient size and strength to contain the contents of the tanks in the event of leakage or spillage.

The PWC will also take all precautions necessary to limit groundwater and stormwater runoff pollution associated with, but not limited to, the following activities:

- Draining pipes and tanks.
- Discharge of sediments from erosion of unprotected areas during remediation activities (denuded areas, excavation activities, and removal of above ground items).
- Discharge of sediments from runoff of unprotected stockpiles of borrow, overburden and excess soils, and overburden paving.
- Toxic and hazardous material spills from construction materials or equipment including, but not limited to: oils, solvents, detergents, cleaners, fuels, etc.. These materials may be stored above ground in containers (drums), and/or in aboveground or below ground tanks and equipment (metal vessels, above ground tanks, etc.).
- Discharge of sediment tracked onto roadways leaving the site.

- Excavation of contaminated materials (if any) and subsequent runoff of exposed materials.

- Possible petroleum runoff of exposed pipe stockpile areas (if pipe is contaminated with petroleum residue).

Wetlands:

On August 6, 1996, a representative of the Corps of Engineers, Chicago District office conducted a field review of the project site in order to determine what, if any, of the water bodies on-site were jurisdictional, as well as wetland. Per this field review, it was determined that the perimeter drainage ditch is a jurisdictional wetland and may require a permit from the Department of the Army if disturbed (refer to attached letter from the Corps of Engineers dated August 7, 1996).

This perimeter ditch may need to be disturbed during remediation activities if hazardous characteristics are determined to be present in, or adjacent to, the ditch, or if a regulatory agency requires cleanup. Field operations will include careful consideration of these areas and consultations with the applicable regulatory agencies. Prior to any disturbances to the ditch, a Joint Application permit will need to be completed detailing the area to be impacted by the disturbance, what the disturbance will consist of, and avoidance and minimization measures to be taken.

The perimeter ditch will be fenced off with construction fence as indicated in the SWP3 in order to prevent unauthorized disturbance to the area during remediation activities. In the event that the wetland is disturbed by unauthorized construction activities, the Navy will, under the direction of the Engineer in Charge, mitigate or repair the wetland.

The Corps of Engineers has determined that the two (2) northern decant ponds, located on-site, are not jurisdictional wetlands; therefore, they may be disturbed without a Section 404 permit (see attached letters from Corps of Engineers).

Drainage Ditch Impact:

The perimeter drainage ditch does not appear to receive any drainage from the project site. An approximately two foot high vegetated berm on both sides of the ditch eliminates direct surface drainage into the ditch from the project site and adjacent golf course. Drainage from the golf course appears to enter the drainage ditch through five known culverts.

While it does not currently appear that any drainage from the project site enters the perimeter ditch, it should be noted that there are some questions as to whether or not some drainage had been previously outleted to the ditch during some point in time when the facilities at the site were in operation.

Prior to determining whether it will be necessary to reroute the ditch, or a portion of it (due to contamination), samples will need to be taken, characterization of the sediment made and a plan of action developed.

Controls:

Erosion and sediment controls, storm water management controls, and other (waste management) controls are incorporated into this project, specifically through implementation of a Storm Water Pollution Prevention Plan (SWP3). The PWC will mechanically retard and control the rate of runoff from the construction site in order to filter and divert runoff to protected drainage courses. This includes construction of silt fences at the base of stockpiles (on the downstream side), on the perimeter of the site downstream from the construction activities and on the upstream side of catch basins, drains, and inlets that will remain throughout part of the project and which are downstream from disturbed areas.

Roadways will be protected from sediment tracking by maintaining a stabilized aggregate surface at the ingress/egress point as necessary; one that will prevent tracking of mud and dirt on the roadway around the site, as well as minimize dust. The stabilized surface will be a minimum of 70 feet between the public roadway and the construction activities. Dump trucks hauling material to and from the construction site will all be covered with a tarpaulin.

Control measures will be maintained throughout the project as required. The PWC will be responsible for maintaining all controls in good and effective operating conditions. Silt fences, inlet protection, and earth berms will be cleaned and replaced/repaired as necessary to ensure effectiveness, as well as to eliminate flooding of the project site, or adjacent areas.

Inspections will be conducted to ensure that the SWP3 requirements are being maintained. The project site will receive weekly inspections and inspections within 24 hours of a 0.5 inch storm (or equivalent snowfall). Inspection reports will need to be maintained for the duration of the project and be kept on file for a minimum of 3 years after the completion of the project.

IDENTIFICATION AND STORAGE OF HAZARDOUS MATERIALS (HM)

As part of this plan, the Navy will need to track and submit a list of hazardous materials (if required) to be brought onto the construction site. These materials will also need to be identified in accordance with 49 CFR 171 and 49 CFR 172. All hazardous material will be shipped in accordance with 49 CFR 178. The list of HM will be updated regularly (bi-monthly) and reviewed by the Engineer in Charge.

All HM will be accompanied by the respective material safety data sheets (MSDS). One (1) copy of the MSDS will be sent to the Engineer in Charge and one (1) copy will be retained for a MSDS Field File to be kept in the Navy field office. This file will be made available to all parties who may come into contact with any HM.

The Navy will account for the quantity of HM brought onto the project site, the quantity expended during construction and the quantity leftover which will be removed from the job site in compliance with 40 CFR 300 and all other applicable federal, state, and local regulations.

Take precautions to prevent the spillage of oils, petroleum, and other hazardous material. If Hazardous Material Accumulation areas are necessary, curbing will be placed around all areas that will be exposed to any precipitation in order to prevent run-off contamination. In the event of a spill, or leak, immediately notify the Engineer in Charge. Spill and leak response will be in accordance with 40 CFR 300 and all applicable federal, state, and local regulations.

IDENTIFICATION, CONTROL AND DISPOSAL OF HAZARDOUS WASTE (HW)

Compile and submit a list identifying potential sources of hazardous waste in compliance with 40 CFR 261 and 40 CFR 262 and all other applicable federal, state, and local regulations.

In the event that hazardous waste is generated or discovered on site, submit written certification that hazardous waste turned in for disposal was generated or discovered on Government property and is identified, packaged, and labeled in accordance with 40 CFR 261, 40 CFR 262, and 40 CFR 263. In addition, the contractor will submit one copy of the applicable EPA and state permits, manifests or licenses for transport, treatment, storage and disposal of hazardous waste by

permitted facilities and one copy of EPA or state permit license or regulation for the transporter who will ship the hazardous waste to the permitted treatment, storage and disposal facility.

Prior to disposal of any hazardous waste, obtain a sample which will be analyzed at an authorized testing laboratory. A copy of the results of this laboratory analysis will be submitted to the Engineer in Charge before the hazardous waste is shipped, stored, or disposed.

Storage of Hazardous Waste (HW):

Storage will be accomplished in accordance with Federal regulations. HW will be stored in containers in accordance with 49 CFR 178 or stockpiled in a manner consistent with IEPA and USEPA requirements.

Permit Requirements:

The Navy will be responsible for notifying and obtaining any required permits in the event that any HW is generated or identified during the course of the construction.

CONTROL AND DISPOSAL OF SOLID NON-HAZARDOUS WASTES AND SPECIAL WASTES

Non-Hazardous:

Pick up solid non-hazardous wastes, such as rubbish, and place in covered containers which will be emptied regularly, or as directed by the Engineer in Charge. The Engineer in Charge will also obtain and post copies of state and local permits, if required by disposal contractor or disposal facility.

Prevent contamination of the project site or other areas when handling and disposing of all waste. At project completion, the project site will be cleaned of all debris and solid waste. Garbage will be placed in approved dumpsters and removed from site. Removal of waste will be accomplished without creating excess litter and disrupting traffic. PWC will maintain the project site in compliance with 29 CFR 1926.25 at all times in order to avoid the unnecessary creation of hazardous waste or conditions.

Special Wastes:

Fuel-contaminated soil and other special wastes identified at the site will be stockpiled or handled separately from other wastes. The Navy's operation of the site will coordinate with State and Federal Agencies, as necessary for remediation or disposal of the materials. For instance, petroleum-contaminated soil may be treated on site with a biodegradation program.

FIRE PROTECTION

Residual flammable material may be present on site; PWC and others on site are to take every precaution to prevent potential fire and explosions. The Navy needs to ensure that all work is completed in compliance with COE-EM-385-1-1, NFPA 241 and activity fire regulations. If main storage systems of flammable and combustible liquids are needed, then they will be constructed and installed in accordance with NFPA 30 and all applicable Federal, state, and local fire prevention codes. Proper precautions will be taken to avoid all risk of fire or explosion which may create an environmental hazard. Flammable or explosive material will not be stored in the vicinity of welding or cutting operations as per BOCA section 1820.2; no open flame will be used in the cutting procedures.

Combustible rubbish will be removed daily and will not be disposed of by burning on the premises or in the immediate vicinity (BOCA 1818.9).

OZONE DEPLETING SUBSTANCES

Class I Ozone Depleting Substances, including CFC's will be prohibited in any form on this contract.

PETROLEUM PRODUCT USAGE

The use of petroleum products and lubricants will be limited to the extent possible to maintain the construction. Any excess oil or gasoline should be stored in accordance with NFPA 30 or should be removed from the site in approved containers and disposed of properly.

CONTRACTORS CONSTRUCTION EQUIPMENT

Equipment used will comply with MIL-S-16155 for internal combustion engines and MIL-STD-461 for other devices capable of producing radiated or conducted interference. Drip pans will be used under construction equipment to prevent oil or any other mechanical fluids from penetrating the soil and causing a potential run-off hazard.

The Navy will test for electromagnetic interference suppression, where applicable and as requested by the Engineer in Charge. The PWC will conduct tests on electric motor and construction equipment in accordance with MIL-STD-461 and MIL-STD-462 as directed by the Engineer in Charge. The test location will be reasonably free from radiated and conducted interference. The Navy will furnish the testing equipment, instruments, and personnel for making the test, a test location, and other necessary facilities.

SITE MAINTENANCE AND CONTROL

Dust Control:

Dust will be kept down at all times in order to avoid the creation of a nuisance or hazard in the surrounding area. Water or sprinkling is permitted as long as it does not result in hazardous or objectionable conditions such as, but not limited to: ice, flooding, or pollution. Dust and erosion from stockpiled paving remnants and soil will be controlled by wetting the stockpiles with a light spray; if soil is stockpiled for greater than 14 days (and won't be used within 21 days of initially being stockpiled) then it needs to be seeded with a temporary seed mixture as specified in the Storm Water Pollution Prevention Plan.

Noise Emission:

The Navy will make the maximum use of low noise emission products as certified by the EPA. Blasting or use of explosives will not be permitted. Ear protection will be used by employees per the U.S. Army Corps of Engineers manual EM-135-1-1.

Golf Course Impact

The Willow Glen Golf Course lays adjacent to all sides of the project site. It is not anticipated that there will be any inconveniences to the golf course. Conditions are not expected to change except for noise and dust generated by the remediation activities. Existing trees and shrubs that border the majority of the golf course

from the project site will provide a visual screen and offer some relief from the noise and dust that may be generated due to the remediation activities. The Navy will take additional measures to control the dust, and will be required to make the maximum use of low noise emission products.

Signage will be posted periodically along the perimeter of the golf course (in areas adjacent to the project site) which alert the public that unauthorized entrance to the site is prohibited, and that hazardous materials and conditions may be present.

Site Drainage

Presently there are catch basins, inlets, and drains located throughout the paved area of the site which were primarily designed and constructed to minimize standing waters after fire fighting training sessions. The drainage collected by these inlets was transported by subsurface drainageways which eventually outlet to the Skokie Ditch. During the remediation process these inlets, drains, catch basins, and subsurface drainageways will be removed. It is not anticipated that this will significantly impact the surface drainage since impermeable surfaces will become permeable as a result of the remediation.

The site will be graded uniformly to flow toward the west (as it presently does). The grading will provide for positive drainage - eliminating any areas where ponding occurs. The two foot berm that separates the site from the perimeter ditch will remain.

Soil Remediation:

Remediation of petroleum contaminated soil (if necessary) is expected to consist of a closed loop ex-situ treatment bio-degradation program yet to be designed. If other soil treatment is required, applicable permits and precautions will be followed to minimize potential from off-site contamination.

Water Remediation:

Remediation of water (if necessary) will be done by a microbial degradation system if possible. If other water treatment is required, applicable permits and precautions will be followed to minimize potential for off-site contamination.

ATTACHMENTS

- **Letter from the Department of the Army to Meg K. Flenker dated 10 July 1996**

- **Letter from the Department of the Army to Meg K. Flenker dated 7 August 1996**

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
111 NORTH CANAL STREET
CHICAGO, ILLINOIS 60606-7206

REPLY TO
ATTENTION OF

Construction-Operations Division
Regulatory Branch
199600654

10 JUL 1996

SUBJECT: Request For A Jurisdictional Determination For Two Man-Made Decant Ponds Located At The Great Lakes Naval Training Center In North Chicago, Lake County, Illinois

Beling Consultants
Attention: Ms. Meg K Flenker
1001 16th Street
Moline, Illinois 61265

Dear Ms. Flenker:

This is in response to your June 21, 1996 request for a jurisdictional determination for two man-made decant ponds on the Department of the Navy's Fire Fighting Training Unit located on the grounds of the Great Lakes Naval Training Center. It has been determined that these decant ponds are not considered "waters of the United States" under Corps of Engineers jurisdiction at the site. Therefore, a Department of the Army permit under Section 404 of the Clean Water Act is not required. It is your responsibility, however, to obtain any required state or local approvals for this project.

If you have any questions please contact Mr. Tom Kehoe of the Regulatory Branch, telephone number (312) 353-6428, extension 4036.

Sincerely,

Mitchell A Isoe

Leesa A. Beal
Chief, Permit Section
Regulatory Branch

MITCHELL A. ISOE
Chief, Regulatory Branch

Copies Furnished:

United States Environmental Protection Agency (Orzehoskie)
United States Fish & Wildlife Service (Rogner)
Illinois Environmental Protection Agency (Yurdin)
Illinois Department of Natural Resources (Schanzle)

Copy to MEB

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
111 NORTH CANAL STREET
CHICAGO, ILLINOIS 60606-7206

REPLY TO
ATTENTION OF

07 AUG 1996

Construction-Operations Division
Regulatory Branch
199600654

SUBJECT: Request For A Jurisdictional Determination For A Drainage Ditch Located At The Great Lakes Naval Training Center In North Chicago, Lake County, Illinois

Beling Consultants
Attention: Ms. Meg K Flenker
1001 16th Street
Moline, Illinois 61265

Dear Ms. Flenker:

This is in response to your June 26, 1996 request that the Corps of Engineers make a jurisdictional determination and wetland delineation at the subject site. A representative of this office inspected the site on August 6, 1996. It was determined that the drainage ditch which exists on the subject property contains wetlands under Corps of Engineers jurisdiction. Two man-made decant ponds located on the project site are not considered to be jurisdictional, reaffirming our previous correspondence directed to you dated July 10, 1996.

Pursuant to Section 404 of the Clean Water Act, the Corps of Engineers regulates the excavation and/or discharge of dredged or fill material into waters of the United States, including wetlands. A Department of the Army permit may be required for proposed work involving the drainage ditch. To initiate the permit process, please submit the enclosed joint permit application form along with detailed plans of any proposed work.

If you would like to discuss your plans prior to submitting a permit application or if you have any questions, please contact Mr. Tom Kehoe of the Regulatory Branch at (312) 353-6428, extension 4036.

Sincerely,

Leesa A. Beal
Chief, Permit Section
Regulatory Branch

Enclosure

Copies Furnished (w/o enclosure):

United States Environmental Protection Agency (Orzehoskie)
United States Fish & Wildlife Service (Rogner)
Illinois Environmental Protection Agency (Yurdin)
Illinois Department of Natural Resources (Schanzle)
Illinois Department of Natural Resources/OWR (Gorman)