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NATURAL RESOURCE SURVEYS AND INFORMATION

05/02/95

C:EC(NRM):95-0004
FERMCO OEPA
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LETTER



Restoration Management Corporation

P.O. Box 398704 Cincinnati, Ohio 45239-8704 (513) 738-6200

May 2, 1995

Fernald Environmental Management Project
Letter No. C:EC(NRM):95-0004

Mr. Tim Hull
~~Ohio Environmental Protection Agency~~
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402-2911

Dear Mr. Hull:

NATURAL RESOURCE SURVEYS AND INFORMATION

Enclosed for your information is a copy of the wetland mitigation approach for the Fernald Environmental Management Project (FEMP) recently submitted to the appropriate regulatory agencies. We anticipate having a meeting with these agencies in the near future to establish a path forward.

You have already received copies of the threatened and endangered species survey reports or declined to receive them. These reports were completed for the FEMP property in 1993-94 and were sent to the appropriate regulatory agencies for review and concurrence. I have included two letters of concurrence from the U.S. Fish and Wildlife Service and the Ohio Department of Natural Resources. As you may recall, we agreed during one of the last Trustee teleconferences to forward this information to you once the reports were completed. The points of contact for these areas are Craig Straub at (513) 738-6725 for wetland issues and me at (513) 738-9305 for threatened and endangered species issues.

Sincerely,

A handwritten signature in cursive script that reads "Rebecca Bixby". The signature is written in black ink and is positioned above the typed name.

Rebecca Bixby
Technical Program Specialist II

RB:jes
Attachments

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Mr. Tim Hull
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c: w/ attachments:

D. J. Abbott, FERMCO, MS65-2
J. A. Armstrong, FERMCO, MS52-2
S. S. Gibson, DOE-MTC, MS45
T. D. Hagen, FERMCO, MS65-2
R. V. Holmes, FERMCO, MS3
J. H. Homer, FERMCO, MS65-2
J. K. Mailander, FERMCO, MS65-2
J. S. Oberjohn, FERMCO, MS52-5
C. A. Straub, FERMCO, MS65-2
M. J. Strimbu, FERMCO, MS65-2
A. C. Taylor, FERMCO, MS65-2
K. E. Trapp, Brown and Root
W. K. Wilkerson, FERMCO, MS3
W. E. Woods, FERMCO, MS65-2
NRM File 4.4.1
NRM File 4.7.1
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**WETLAND MITIGATION APPROACH
FOR
THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT (FEMP)**

I. INTRODUCTION

An on-property wetland delineation was conducted at the Fernald Environmental Management Project (FEMP) in late 1992 and early 1993 using the methodology prescribed in the 1987 U.S. Army Corps of Engineer's (ACOE) Wetlands Delineation Manual. On-property waters of the United States were also identified during the course of the delineation in accordance with the criteria outlined in 33 CFR Part 328. A wetland delineation report documenting the extent and location of on-property wetlands and waters of the United States was submitted to and subsequently approved by the ACOE - Louisville District Office in August, 1993.

As a result of this the 1993 wetland delineation, approximately 36 acres of jurisdictional wetlands were identified within the 1050-acre property. As such, impacts to these wetland areas are potentially subject to compensatory wetland mitigation under applicable federal and state regulations (33 CFR Part 320 to 330, 40 CFR Part 230, and OAC 3745-32) promulgated to implement the requirements of Sections 404 and 401 of the Clean Water Act (CWA) (33 U.S.C. 1344 and 1341, respectively) and Chapter 6111 of the Ohio Revised Code (ORC). Although wetland impacts will be avoided and minimized to the maximum extent practicable during remediation of the site, some unavoidable impacts requiring mitigation are anticipated. Given this fact, DOE recognizes that a comprehensive site-wide approach must be developed to address wetland mitigatory requirements as the site moves toward the Remedial Design/Remedial Action (RD/RA) portion of cleanup.

The following paper outlines potential approaches for implementing compensatory mitigation at the Fernald site. The approaches are intended to address impacts sustained under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), along with those associated with non-CERCLA activities. These approaches can be used to implement mitigation for wetland impacts occurring within the 1050-acre property boundary and also to wetlands impacted from remedial activities beyond the Fernald property boundary.

For purposes of this paper, DOE has assumed the total cumulative acreage of the impacts described above will be used as the basis for defining the areal extent of its mitigatory requirements. In addition, DOE has chosen to limit the discussion of compensatory mitigation presented in this paper to wetland enhancement, restoration, construction and banking, since these activities are the most commonly recognized and required activities used to off-set wetland losses under the Section 404 and 401 permitting processes.

Implementation of either on-property or off-property compensatory mitigation, may be feasible from a regulatory, engineering, and ecological perspective. Once agency input on mitigatory requirements is obtained, a formal mitigation plan will be developed to address mitigatory efforts at the site.

II. REGULATORY BASIS FOR COMPENSATORY MITIGATION

Pursuant to Section 404 of the CWA and 33 CFR §323.3, any activity that results in the discharge of dredged or fill material into a wetland or water of the U.S. requires permit authorization by the ACOE. The ACOE generally uses two types of permits to authorize discharges of dredge and fill material. These include Nationwide Permits (33 CFR Part 330) and individual permits (33 CFR Part 323). When making permit determinations under Section 404 of the CWA, the ACOE is required to follow the policies and procedures established under 33 CFR Parts 320 and 325.

In addition, the ACOE is required to assess the proposed discharge against the CWA 404(b)(1) Guidelines promulgated in 40 CFR Part 230. These guidelines--which were developed for the ACOE by USEPA, are intended to ensure that applications for discharges of dredge and fill material are reviewed in a consistent manner and do not cause unavoidable adverse impacts to the aquatic environment.

~~In addition to these requirements, Section 401 of the CWA and 33 CFR §325.2(b)(1)(ii), require that a Section 401 State Water Quality Certification also be obtained to authorize discharges of dredge and fill material under a Section 404 permit. In Ohio, the Section 401 State Water Quality Certification program is administered by OEPA pursuant to Chapter 3745-32 of the Ohio Administrative Code (OAC).~~

Pursuant to 33 CFR §320.4(r), the ACOE may require compensatory wetland mitigation to ensure compliance with the 404(b)(1) Guidelines described above. Some of the specific mitigatory measures mandated under the CWA 404(b)(1) Guidelines are promulgated in 40 CFR 230.70 to 40 CFR 230.77 (Subpart H of the 404(b)(1) Guidelines). The ACOE may require other types of mitigatory measures to offset impacts if deemed necessary under the CWA 404(b)(1) Guidelines. In addition, the Director of OEPA has authority under OAC 3745-32-05(C) to condition a Section 401 State Water Quality Certification with additional requirements, such as compensatory mitigation to ensure proposed discharges are conducted in accordance with applicable state and federal laws and regulations.

Since the FEMP is a CERCLA site, on-property response/remedial actions which impact wetlands will be exempt from the formal ACOE Sections 404 and 401 permitting processes pursuant to CERCLA Section 121(e) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 CFR §300.400. Although exempt from administrative permitting requirements, dredge and fill activities conducted under CERCLA must comply with the substantive permitting requirements of Sections 404 and 401, including any requirements for wetland mitigation. Non-CERCLA dredge and fill projects will be subject to the formal Section 404 and 401 permitting process in its entirety.

The ACOE normally requires wetland mitigation to be implemented in conjunction with the issuance of the Sections 404 and 401 permits for a project. In these instances, mitigation normally takes the form of wetland enhancement, restoration, or construction. The timing of mitigatory efforts and type of mitigation required to offset impacts under CERCLA is a complex regulatory issue, because impacts associated with remedial activities normally occur over a long period of time and are not conducive to the immediate implementation of mitigatory efforts.

The agency review cycle for CERCLA dredge and fill projects is also a complicated process since USEPA, rather than the ACOE, assumes the lead role in defining mitigatory requirements. The ACOE, U.S. Fish and Wildlife Service (USFWS), OEPA and Ohio Department of Natural Resources (ODNR)

provide a supporting role in the review process by consulting with USEPA on technical mitigatory issues.

The complexity of balancing mitigation with long-term remediation is further compounded by the fact that on-property mitigation is considered to be the most beneficial form of mitigation from a regulatory and ecological perspective. This generally presents a problem for CERCLA facilities because sufficient acreage for conducting on-property mitigation is generally not available at the time an impact is sustained and may not become available until sizable portions of the site have been remediated.

Regardless of whether an impact is CERCLA or non-CERCLA related, a comprehensive method for addressing compensatory mitigation in accordance with the regulatory requirements discussed above will be required. DOE is in the process of assessing the areal extent of projected wetland impacts within each operable unit as part of the Remedial Investigation/ Feasibility Study (RI/FS) process. Given that the majority of wetland acreage to be impacted is anticipated during the remediation of Operable Unit 5, DOE plans to implement the majority of its mitigatory efforts in conjunction with activities occurring within Operable Unit 5. Because questions remain concerning the timing and location of mitigatory efforts, DOE proposes that both on-property and off-property mitigation be considered at this time.

CERCLA, the CWA, and the NCP designate DOE as a Trustee for natural resources at DOE facilities. These same statutes also appoint other departments, such as the U.S. Department of Interior (DOI) and state representatives as Trustees for natural resources. The State of Ohio has appointed Ohio EPA to act as the State's Trustee representative. The Trustees' role is to act as guardian for natural resources at or near the site. DOE plans to make a formal presentation on wetland mitigation to the Trustees and solicit their input. Negotiations with the trustees are at an early stage, further inclusion of the Trustees will be determined as negotiations progress.

III. EXTENT AND LOCATION OF ON-PROPERTY WETLANDS REQUIRING POTENTIAL MITIGATORY EFFORTS

As a result of the on-property wetlands delineation, approximately 36 acres of freshwater wetlands have been identified across the five operable units at the FEMP. These areas include approximately 27 acres of forested wetlands and 9 acres of emergent/scrub wetlands. On-site waters of the United States totaled approximately 9 acres. The location of on-property wetlands and waters of the United States are shown in Figure 1. In the event that off-property remedial actions are conducted, the FEMP will be required to conduct a wetland delineation of these areas using the most currently prescribed ACOE delineation methodology.

Based on FERMCO's analysis of projected impacts outlined in the RI/FS documents prepared to date, it is anticipated that 9 acres of on-property emergent wetlands will be impacted during remediation. Currently, no impacts to the approximate 26-acre forested wetlands are projected; however, it is possible that impacts to this area could occur from future activities. DOE and FERMCO will continue to evaluate proposed activities at the FEMP to ensure that any activities which may result in a discharge of dredged or fill material to this area are addressed in accordance with the applicable requirements of Sections 404 and 401 of the CWA. In the event a proposed discharge in this wetland area would require compensatory wetland mitigation, our wetland mitigatory approach would be modified accordingly.

The technical requirements associated with the mitigation of on- and off-property wetland systems will vary depending on the soil, hydrologic, and vegetative conditions of the proposed mitigation location.

Based on DOE's initial evaluation, it appears that suitable areas for conducting on-property mitigation may exist in association with the 100-and 500- year floodplain of Paddys Run.

IV. WETLAND MITIGATION

The Council on Environmental Quality has defined mitigation at 40 CFR 1508.20 to include: avoiding impacts, minimizing impacts, reducing impacts over time, and compensating for impacts.

Types of mitigation include:

- 1) Avoidance - Positioning or eliminating portions of the proposed action so that wetlands are not affected.
- 2) Minimization - Appropriate and practicable steps to minimize impacts through project modifications. Examples include project reconfiguration, placement of silt fences and straw bales, and use of high flotation tires to prevent damage to wetland soils.
- 3) Compensatory Mitigation - Compensation for wetlands lost or damaged as a result of the proposed action. Examples are:
 - Wetland Restoration
 - Wetland Construction
 - Wetland Enhancement
 - Mitigation Banking

The DOE will avoid and minimize impacts to wetland areas to the maximum extent practicable for all CERCLA and non-CERCLA activities. Assessment of total wetland impacts from remedial activities and determination of appropriate wetland mitigation through consultation with regulatory agencies would be performed every five years in conjunction with CERCLA reviews. This interval time period would be responsive to resultant changes transpiring from the three- year wetland delineation update and allow for adequate preparation to address mitigation concerns.

Wetland Restoration

Restoration is the rehabilitation of a degraded wetland or a hydric soil area that was previously a wetland. The goal of restoration is to return the degraded wetland to its pre-existing physical and botanical conditions. A degraded wetland area(s) can be restored to pre-existing condition(s) by removing unwanted vegetation, revegetating with nursery materials, and reestablishing the hydrologic regime.

Wetland Construction

Wetland construction is the conversion of a non-wetland area into a wetland where a wetland has not existed (within the past 100-200 years). Construction is desirable by regulatory agencies because it replaces lost functional wetlands and is in accordance with the "no net loss" policy established under Executive Order 11990, "Protection of Wetlands."

Three methods of wetland construction could be implemented. Each method is comprised of a system which involves removing upland soils, grading, planting schemes, and water retention to establish anaerobic conditions conducive for hydric soils and hydrophytic vegetation. The three methods are: 1) Surface Water System - this system involves the establishment of a hydrologic connection with an existing surface water body or other surface water sources (runoff or precipitation). This wetland system is primarily dependent upon surface water for hydrologic input; 2) Groundwater System - this system involves the hydrologic connection with the groundwater table. Primary dependence is on groundwater for hydrologic input; and 3) Surface/Groundwater System - this system involves the hydrologic connection with both surface and groundwater. A combination of surface water and groundwater provide hydrologic input. Implementation and establishment of these systems are site specific.

Wetland Enhancement

Enhancement of wetlands refers to the physical and/or botanical alteration of an existing wetland to provide improved and/or new functions such that any concurrent changes to the hydrology from alteration will not negate the enhancement objectives. Enhancement of existing wetlands can involve a variety of techniques from diversification (e.g., using specific plant species to optimize wildlife attraction and placement of wood duck boxes) to erosion control (e.g., placing plant soil-stabilizing species along the face of the bank).

Wetland Banking

Wetland banking provides advanced compensation of unavoidable wetland losses. Banking can be achieved through the construction, restoration, or enhancement of other wetland areas of equivalent value generally located outside the immediate area of wetland loss or alteration.

Wetland banks are blocks of wetlands whose estimated credits can be compared to cash deposits in a checking account. As wetland impacts occur, credits equivalent to the estimated unavoidable wetland losses are withdrawn or debited from the bank to compensate for losses incurred.

The methodology most commonly used for valuation and accounting purposes is one which tabulates credits and debits according to acreage of various wetland types. Using this method, compensatory mitigation is implemented by replacing wetland types lost with wetland types contained in the bank on an acreage basis.

V. MITIGATION RATIOS

The ratio of acres for compensation to acres of impacted wetlands is project specific. Compensatory acreage would be negotiated with ACOE, EPA, and OEPA along with timing of mitigation activities. A 1:1 ratio would be required as the minimum.

VI. MONITORING PROGRAM

Monitoring will be necessary to measure wetland mitigation success. Monitoring is usually required to

comply with regulatory requirements, specifically Section 404 permits. Frequently, permits require that a specified density of vegetation or percent survival of plantings be achieved. Monitoring reports would be accompanied with photographs and annually submitted to ACOE and EPA. The duration of monitoring is dependent upon the type of vegetation (herbaceous or woody) and would be negotiated with appropriate regulatory agencies.

VII. RECOMMENDED APPROACH

DOE's recommended approach to mitigation is consideration of both on- and off-property wetland mitigation. The type of wetland mitigation will be determined through consultation with regulatory agencies. These mitigatory efforts will be designed to offset impacts sustained under Section 404 of the CWA during the post-ROD activities.

On-property mitigation would be based on the feasibility of implementation as on-property remedial activities progress. An on-property phased approach to mitigation could be implemented, under which DOE would commit to mitigating impacts in conjunction with five-year CERCLA reviews. This approach provides increased flexibility by allowing the site to fully integrate wetland mitigatory efforts with the FEMP remedial schedule. On-property mitigation could be feasible as a result of depressional areas resulting from remedial activities, but may not be conducive to near-term (next 2-3 years) implementation as a result of adequate acreage availability to compensate wetland losses at the time an impact is sustained.

Off-property mitigation within the same eco-region could allow ample acreage to compensate for wetland losses and could be implemented in the near-term. An evaluation of soil, hydrologic, and vegetative conditions at the proposed mitigation location would be required to determine the extent to which mitigatory efforts can be conducted on-and off-property. Since the mitigation process is dependent upon the dynamics of specific wetland ecosystems and will be defined through consultation with EPA, OEPA, ACOE, USFWS, and ODNR, DOE will contact these agencies to obtain input on this mitigation approach.