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Bob Taft, Governor
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October 22, 2003

FILE: _____

Mr. Glen Griffiths
U.S. Department of Energy, Fernald Area Office
P.O. Box 538705
Cincinnati, OH 45253-8705

LIBRARY: _____

Re: Draft Wetland Mitigation Project Phase II NRRDP

Dear Mr. Griffiths:

Ohio EPA has reviewed DOE's submittal, "Transmittal of the Draft Wetland Mitigation Project Phase II Natural Resource Restoration Design Plan" received on September 3, 2003. Ohio EPA's comments on the document are attached.

If you have any questions, please contact me at (937) 285-6466.

Sincerely,



Thomas A. Schneider
Fernald Project Manager
Office of Federal Facilities Oversight

- cc: Jim Saric, U.S. EPA
- Terry Hagen, FDF
- Mark Shupe, HSI GeoTrans
- Michelle Cullerton, Tetra Tech EM Inc.
- Ruth Vandergrift, ODH
- Bill Kurey, USFWS
- Tim Kern, AGO

**WETLAND MITIGATION PROJECT PHASE II
NATURAL RESOURCE
RESTORATION DESIGN PLAN**

1. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: NA Line #: NA Code: C
Original Comment #:
Comment: The water control structures indicated are those that are susceptible to plugging by beaver. It is evident that beaver are already in the area, and if not there, would arrive soon. The text states that water control structures similar to those used in the SWU would be used here, and that is our recommendation as well. That design is less likely to be affected by beaver activity.

2. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: NA Line #: NA Code: C
Original Comment #:
Comment: There is no provision for planting plants that really need to be wet (see Table 3-3) in wet areas. For example, the patches that have buttonbush are either on top of berms, or only come close to wetted areas. Buttonbush has done the best on site where its roots are in saturated areas. Provision should be made for planting these, and other wet loving plants (e.g. winterberry, willow, buttonbush) where they will be wet, perhaps by adding planting patches in the basins themselves.

3. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: C Code:
Original Comment #:
Comment: There is no indication of what water level will be maintained in the basins. It is recognized that some changes will be needed as a function of management, but it is also assumed that there is a "normal" level that will be maintained, but that is not stated. Additionally staff gauges should be added to the basins to monitor water levels and aid in managing the wetland system.

Water elevation is necessary to understand the expected area of open water. Ohio EPA practice is to only count 10% of open water areas toward mitigation acreage.
"The mitigation wetland shall have less than 10% of its total area as "unvegetated open water." "Unvegetated open water" is defined as inundated areas where there is no or minimal emergent, rooted aquatic bed (e.g. *Nuphar advena*, *Nymphaeae odorata*, *Potamogeton* spp.), or submersed or floating non-rooted aquatic bed (e.g. *Utricularia* spp., *Ceratophyllum* spp. excluding species in the Lemnaceae) vegetation growing in the area of inundation."

4. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: C Code:
Original Comment #:
Comment: Considering this plan doesn't result it a sufficient total wetland acreage to meet

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DOE's mitigation requirements, when will the plan for additional mitigation acreage be submitted and where will the mitigation be completed?

5. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: C Code:
Original Comment #:
Comment: Specification 02930 and Note 12 on the drawing conflict with each other. The specification 02930 specifies coir matting for erosion prone areas, and note 12 specifies C350 erosion matting or similar geosynthetic matting. OEPA prefers the use of coir as in specification. If C350 is used, it must be covered with some soil and planted into.
6. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: Code: C
Original Comment #:
Comment: Plants will be healed in to a mulch pile if they need to be stored more than 24 hours, however there is no location for a mulch pile shown on the drawings. Please show its location, indicate its approximate size, and what surface water controls, if any, will be installed for it.
7. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: Code: C
Original Comment #:
Comment: Although the document indicates that implementation monitoring will only be for one year, Ohio EPA has always maintained a three year minimum is required for implementation monitoring of restoration projects and five year minimum for wetland mitigation projects consistent with agency policy. Ohio EPA will not approve a document with such a short implementation monitoring period.
8. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: Code: C
Original Comment #:
Comment: The document does not include a seeding list for either upland seeding or wetland seeding. Obviously a seeding list must be included. Hopefully, DOE is using the data from the reference sites and monitoring data to amend prior seeding lists.
9. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.0 Pg #: 1-1 Line #: 9-10 Code: C
Original Comment #:
Comment: DOE references the NRRP as a 2002 Final document. The other Trustees, Ohio EPA and USFWS, have never received a submittal of this document and obviously have not reviewed it. If DOE insists on continuing to reference it, each reference should

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specifically state the document has not been reviewed by the Trustees.

10. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 1.0 Pg #: 1-1 Line #: 20-24 Code: C
Original Comment #:
Comment: The October 2001 NRRP states in Section 3.1.7 that: "This plan will be used as a sitewide guide to develop invasive plant species management provisions within individual NRRDPs, as appropriate."

This NRRDP has one sentence in this section describing an objective as implementing invasive species control measures, and three sentences in section 4.6.3 describing mechanical removal or glyphosate application to A1P111 planting areas. Ohio EPA does not consider this an invasive species management plan and expects a comprehensive invasive species management plan suitable as a sitewide guide as indicated in the NRRP.

11. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 2.1 Pg #: 2-7 Line #: 8-10 Code: C
Original Comment #:
Comment: The watershed study was performed prior to many modifications made in the topography of this area. Does the current plan include all drainages that were monitored in the 1996 study? The drawing (3-2) appears to show the existing 15" culvert to the east of pond 3 remaining in place and taking flow that could go into pond 3 into the drainage swale. Also, could that drainage swale be diverted into pond 3 to the east of the 15" culvert (e.g. between the twin culverts and the check dam)? Not only would this provide additional flow for the wetland system, it would take flow during rain events and slow their entry to Paddys Run by running them through a wetland system, which is one of the key functions of a wetland system

12. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Section 3.1 Pg #: 3-1 Line #: 24-25 Code: C
Comment: The text suggests that plugs will be used to "jumpstart vegetation" of the basins however, according to the plan planting will not occur for a full year after grading. Such an extended delay will likely result in less desirable species colonizing the basins and presenting a maintenance problem. Plugging should occur in the Spring of 2004 to minimize competition with invasive species and to truly provide a jumpstart to the project.

13. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Section 3.1 Pg #: 3-1 Line #: 23-24 Code: C
Comment: The success of dormant cuttings in the radium hotspot would suggest that they might be useful at other locations within the ponds to help establish woody vegetation. Dormant cuttings should be added to toe of slope on islands and select other areas to

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improve habitat and vegetative cover. Some cuttings such as buttonbush could be placed directly in areas expected to contain standing water.

14. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 3-1 Pg. #: Line #: Code: C
Comment: The table significantly reduces the diversity of cuttings listed in specification 02930 for use in live cutting areas. Additional justification for the reduction should be provided or include additional diversity in the cuttings used on the project.

15. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 3-2 Pg. #: Line #: Code: C
Comment: Spotted joe pye weed has typically been included in site restoration plugging. It should be added back into the list. Additionally, Ohio EPA recommends the addition of pickerel weed as a plant that would help colonize standing water areas thus reducing the amount of open water.

16. Commenting Organization: Ohio EPA Commentor: DSW
Section #: Table 3-2 Pg #: 3-2 Line #: na Code: E
Original Comment #:
Comment: Boneset is *Eupatorium* rather than *Euratorium*

17. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figure 3-1 Pg. #: Line #: Code: C
Comment: Though not noted on the drawings, the slopes around the discharge point from Pond 1 will obviously require coir matting consistent with Specification 02930.

18. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figure 3-1 & 3-2 Pg. #: Line #: Code: C
Comment: As shown the islands are not designed consistent with the cross section 3 requirements. Specifically heights are greater than 2 feet. Island heights should be installed consistent with the cross section 3 requirement. Additional islands would be beneficial. These islands should have less slope and be submerged by 6" under design water levels. They would aid in reducing open water areas.

19. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figure 3-2 Pg #: NA Line #: NA Code: C
Original Comment #:
Comment: The twin 18" pipes should be removed. These are described as being installed to provide access to the other side, however their installation limits the potential size of this basin. There is access to the other side through existing roadways from the north and east. It would be short sighted to reduce the potential size of the mitigated wetlands by providing this access when existing access, although slightly less convenient, already

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exists. Additionally the culverts present a long-term maintenance requirements that would seem unnecessary.

20. Commenting Organization: Ohio EPA Commentor: DSW
Section #: Fig 3-4 Pg #: na Line #: na Code: C
Original Comment #:
Comment: The outline of the northwesterly upland prairie area does not seem to coincide with the open area shown on the most recent aerial photograph. Open area appears to continue along the north fence line between the two upland prairie areas shown on figure 3-4.
21. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 4.2 Pg #: 4-1 Line #: 14-18 Code: C
Original Comment #:
Comment: This describes prairie establishment already performed along the eastern boundary in 2002. No indication of success/failure, issue or problems are given. Did this work? Since there is no indication that Roundup was applied, it is expected that the planting would only have minimal impact on establishing seeded grasses and forbs. What followup is planned?
22. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 4.4 Pg #: 4-2 Line #: 25 Code: C
Original Comment #:
Comment: The maximum slope should be 5:1 with shallower slopes being preferred. The wording here seems to indicate steeper than 5:1 slopes. Slopes of 5:1 to 10:1 with less steep slopes preferred should be specified.
23. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 4.4 Pg #: 4-2 Line #: 33-34 Code: C
Original Comment #:
Comment: Removal of the catch basin and culverts is not clear on the drawings.
24. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.4 Pg #: 4-3 Line #: 6-7 Code: C
Original Comment #:
Comment: There is a large stockpile of topsoil on-site. Topsoil for soil amendment or top coating is readily available and should be utilized.
25. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 4.4 Pg #: 4-3 Line #: 6-10 Code: DSW
Original Comment #:
Comment: Because the application of amendment has been shown to be critical to the

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success of planting, more detail is needed for the amendment application, e.g. which amendment is preferred and why, what is the application rate for that amendment and why, what quality control will be performed to assure that a minimum amount of the amendment is applied in all sections, etc.

- 26. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.4 Pg #: 4-3 Line #: 11-14 Code: C
 Original Comment #:
 Comment: This section refers to a subcontractor to complete seeding separate of the rest of the project. No additional detail is provided. Please clarify who the subcontractor is and what controls will be in place.

- 27. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.4 Pg #: 4-3 Line #: 11-14 Code: C
 Original Comment #:
 Comment: This section refers to a "Grading Plan" though no such document is found in the NRRDP. The grading plan must be provided for review along with the NRRDP. The grading plan should include the use of matting on the berms of the ponds as DOE has had problems establishing vegetation on the slopes of basins historically. Use of matting in the SWU has greatly aided revegetation.

- 28. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.6.1 Pg #: 4-5 Line #: Code: C
 Original Comment #:
 Comment: Plant watering requirements described within this section are inadequate and inconsistent with the Specification 02940 provided with the NRRDP. The number of inconsistencies between specifications and narrative portions of the document seriously effect the Plan's credibility. Watering must be more timely and effective than that provided in this section. Revise the section consistent with the specification.

- 29. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.6.2 Pg #: 4-6 Line #: Code: C
 Original Comment #:
 Comment: It is highly unlikely the deer control measures presented here will adequately protect plants. The lack of success of these measures has been demonstrated on numerous projects to date. The only truly effective control to date has been exclusion. Considering this, DOE should revise the plan to utilize fencing similar to that used in the SWU and NPP restorations along with clumped planting of shrubs.

- 30. Commenting Organization: Ohio EPA Commentor: DSW
 Section #: 4.6.3 Pg #: 4-6 Line #: 13-19 Code: C
 Original Comment #:

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Comment: This section is inadequate. See comment regarding invasive species management plan above. Include *Typha* spp and *Phragmites* spp in the list of invasive species that require management.

31. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.7 Pg #: 4-6 Line #: Code: C
Original Comment #:

Comment: As stated in previous comments on this and other documents, the proposed monitoring period is unacceptable. Additionally, the monitoring section fails to provide specific objectives for the mitigation. The monitoring section should include piezometers to monitor subsurface water levels, photo documentation points, and other monitoring activities similar to the A1P1 wetland mitigation plan.

32. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Specifications Pg #: Line #: Code: C
Original Comment #:

Comment: The interval for watering trees is given in the specification 02940 (section 3.7), but none is given for watering seeded areas. Please include watering specifications for all planted/seeded areas.