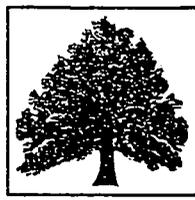


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Department of Energy

**Ohio Field Office
Fernald Area Office**

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JUN 03 1998

DOE-0851-98

**Mr. James A. Saric, Remedial Project Manager
U.S. Environmental Protection Agency
Region V - SRF-5J
77 West Jackson Boulevard
Chicago, IL 60604-3590**

**Mr. Thomas Schneider
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, OH 45402**

Dear Mr. Saric and Mr. Schneider:

**REVISED WORK PLAN FOR ECOLOGICAL RESTORATION RESEARCH GRANTS AND
ASSOCIATED RESPONSES TO U.S. ENVIRONMENTAL PROTECTION AGENCY AND OHIO
ENVIRONMENTAL PROTECTION AGENCY COMMENTS**

Enclosed for your review and concurrence is the revised work plan for Ecological Restoration Research Grants and the associated responses to U.S. Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (OEPA) comments on the subject work plan.

If you have any questions, please contact me at 513-648-3166.

Sincerely,

**Johnny W. Reising
Fernald Remedial Action
Project Manager**

FEMP:Nickel

Enclosure: As Stated

1

cc w/enc:

J. Chapman, USEPA
G. Jablonowski, USEPA-V, 5HRE-8J
R. Beaumier, TPSS/DERR, OEPA-Columbus
T. Schneider, OEPA-Dayton (total of 3 copies)
M. Davis, ANL
F. Bell, ATSDR
M. Schupe, HSI GeoTrans
R. Vandegrift, ODOH
F. Barker, Tetra Tech
D. Henne, USDOJ
B. Kurey, USFWS
D. Sarno, FCAB
K. Paddock, CRO
AR Coordinator, FDF, 78

SPECIFIC COMMENTS

- 1) Commenting Organization: U.S. EPA
 Section #: 3.1.2
 DOE Response #: NA
 Page #: 3
 Commentor: Saric
 Line #: 11 to 13
 Comment: The Revision C of the work plan does not provide a specific citation for the "current forest ecology literature" mentioned. The work plan should be revised to cite a specific reference in order to support the discussion of vegetative density.
 Response: Agree.
 Action: Tree density references will be added in Section 3.1.2, as well as a literature cited section to the work plan.
- 2) Commenting Organization: U.S. EPA
 Section #: 3.2.1
 DOE Response #: 3
 Original General Comment #: 3
 Page #: 5
 Commentor: Saric
 Line #: 2
 Comment: The original general comment requests that the research plots shown in Figure 1 of Revision A of the work plan be more clearly referenced in the text. It is unclear which plot (1, 2, 3, or 4) in Figure 1 of Revision C represents "Establishment of Prairie Vegetation in Undisturbed Areas." Figure 1 should be revised to make the names shown for the ecological research plots match the names presented in the work plan text.
 Response: Agree.
 Action: Text in Section 3.2.1 will be clarified and Figure 1 will be revised accordingly.
- 3) Commenting Organization: U.S. EPA
 Section #: 3.2.2
 DOE Response #: NA
 Page #: 5
 Commentor: Saric
 Line #: 11 and 12
 Comment: Revision C of the work plan indicates that the study area will be disced and then treated with Roundup®. The work plan should be revised to explain the rationale for applying Roundup®, typically a postemergent treatment, after discing.
 Response: The postemergent herbicide will be applied to any weeds that appear after discing has been conducted.
 Action: None required.
- 4) Commenting Organization: U.S. EPA
 Section #: 3.3.1
 DOE Response #: 4
 Original General Comment #: 4
 Page #: 6
 Commentor: Saric
 Line #: 31 and 32
 Comment: Revision C of the work plan indicates that the "Prairie Vegetation in Disturbed Areas" (Area 1, Phase I) is surrounded by the north entrance road, the perimeter fence, State Route 126, and Area 1, Phase II. However, these features are not identified in Figure 2. Figure 2 should be revised to identify these features.
 Response: Agree.

Action: Figure 2 will be revised accordingly.

5) Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 3.5.1

Page #: 12

Line #: 6

DOE Response #: NA

Comment: Revision C of the work plan indicates that the area proposed for identifying invasive plant species is bounded to the west by Paddys Run Road. However, according to Figure 2, the area is bounded to the west by Paddys Run Creek. The work plan should be revised to resolve this discrepancy.

Response: Agree.

Action: Section 3.1.5 will be revised to state "Paddys Run Stream" rather than "Paddys Run Road."

5

**DRAFT RESPONSES TO THE OEPA COMMENTS ON THE
WORK PLAN FOR ECOLOGICAL RESTORATION RESEARCH GRANTS,
OPERABLE UNIT 4 SUPPLEMENTAL PROJECT**

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

Commenting Organization: Ohio EPA
Section #: 3.1.2 Pg #: 3 Line #: 6-14 Commentor: OFFO
Original Comment #: 1 Code: C

Comment: Ohio EPA is concerned with the use of the northern woodlot for as a reference location regarding seedlings/sapling density and composition. The effect of grazing on these measures would be significant. Ohio EPA recommends use of an additional reference location potentially at Whitewater park or at the proposed conservation easement property if acceptable to the landowner. Additionally, a literature search will be important to understanding similar projects and building upon lessons already learned.

Response: The woodlot described in the text is not the northern woodlot, but rather a deciduous/riparian woodlot located west of Paddys Run and immediately north of Area 8, Phase I. This area is not leased to local farmers for grazing, and has been left relatively undisturbed since the mid 1970's. It consists of similar soils, topography, seed sources, surrounding activities, etc., as the location for the revegetation test plots. Also, right of entry will not have to be obtained since the site is located on-property at the FEMP. Therefore, the proposed reference site is ideal for use in the Area 8 revegetation test plots project.

Action: Text will be added to Section 3.1.2 to include the above discussion.

Commenting Organization: Ohio EPA
Section #: 3.1.2 Pg #: 3 Line #: 16-34 Commentor: OFFO
Original Comment #: 2 Code: C

Comment: Ohio EPA is concerned about the effect deer browsing will have planting success. Specifically cultivation of the field may result in making the seedlings being more obvious to deer. A similar effect appears to have occurred in a recent study presented in the March 1998 Restoration Ecology article, "Effects of Deering Browsing, Fabric Mats, and Tree Shelters on *Quercus Rubra* Seedlings." Ohio EPA recommends the task order contain a significant literature search on deer browsing impacts and suggests incorporation of cover crop seeding and tree shelters into the research project.

Response: The effects of deer browsing is of similar concern to DOE-FEMP. As a preliminary step, DOE-FEMP will delete the requirement for plowing and discing prior to tree planting. Seedlings will be planted by hand through existing grass cover. Holes for balled and burlapped saplings will be mechanically dug.

DOE-FEMP will direct Miami University to conduct a literature search of deer control techniques. The work plan presently specifies that all seedlings will be protected with tree tubes and/or odor repellents. If alternative measures are deemed more appropriate, design changes will be implemented.

Action: Text will be added to Section 3.1.2 to include the above discussion.

Commenting Organization: Ohio EPA
Section #: 3.2.2 Pg #: 5 Line #: 11-13 Commentor: OFFO
Code: C
Original Comment #: 3

Comment: Tilling may not be required in undisturbed areas such as this when a seed drill is used. DOE should incorporate a test plot where multiple herbicide applications followed by the use of the seed drill and no tilling is evaluated.

Response: Agree. Discing will not be performed in the undisturbed area for establishing prairie vegetation.

Action: Text in Section 3.2.2 will be revised to remove reference to discing.

Commenting Organization: Ohio EPA
Section #: 3.2.2 Pg #: 5 Line #: 23-27 Commentor: OFFO
Code: C
Original Comment #: 4

Comment: In the response to USEPA comments the use of forbs in seeding is discussed but not referenced within the document. Ohio EPA recommends that the out years in this project include an evaluation of methods to establish forbs within the previously established prairie grasses.

Response: Comment acknowledged. The research conducted on disturbed soils (Area 1, Phase I) will focus on establishing native prairie grasses only. In order to establish native prairie grasses on disturbed soils the first few years would be devoted to the management of undesirable aggressive plants which would also result in extirpation of desired forbs.

The research conducted on undisturbed soils (Area 8, Phase I) will incorporate forbs. The technique of interseeding will allow the use of native prairie grasses and a few aggressive forbs in an effort to eventually outcompete the existing weedy native and non-native plant species.

Action: Text will be added to Sections 3.2 and 3.3 to include the above discussion.

Commenting Organization: Ohio EPA
Section #: 3.2.2 Pg #: 8 Line #: 1-4 Commentor: OFFO
Code: C
Original Comment #: 5

Comment: The use of sewage sludge presents some potential problems with regard to heavy metal content and FRLs. Ohio EPA recommends evaluation of suitable alternatives to this material (e.g., livestock waste, mushroom compost, etc.)

Response: Comment acknowledged. The composted sewage sludge would be obtained from the City of Hamilton Wastewater Treatment Plant. Evaluation of analyses performed on the sewage sludge by the City of Hamilton indicates that heavy metal content is below soil FRLs and soil BTVs. The composted sewage sludge is considered a class 1 compost.

Action: None required.

Commenting Organization: Ohio EPA
 Section #: 3.4.2 Pg #: 11 Line #: 8-11 Commentor: OFFO
 Code: C
 Original Comment #: 6
 Comment: This project specifically references the use of photographic documentation of the project. Ohio EPA recommends a similar requirement be incorporated into all the research projects/task orders.

Response: Agree.

Action: Photographic documentation requirements will be added for all projects.

Commenting Organization: Ohio EPA
 Section #: 3.5.2 Pg #: 13 Line #: 4-8 Commentor: OFFO
 Code: C
 Original Comment #: 7
 Comment: The use of the May/June time frame for field work may limit the possible control methods such as early spring herbicide application to honeysuckle. Ohio EPA recommends field work be based upon the optimum time considering the selected control techniques.

Response: Agree. Time frames for field work will be adjusted based on the results of the first year floristic analysis. Optimum time frames for implementing selected control techniques will be provided in the experimental plan.

Action: Reference to "May/June" will be replaced with "Spring."

Commenting Organization: Ohio EPA
 Section #: 3.5.4 Pg #: 14 Line #: 15 Commentor: OFFO
 Code: C
 Original Comment #: 8
 Comment: Submittal of the experimental plan in May 1999 is not acceptable given field work is planned to start that month. Ohio EPA recommends a significantly earlier submittal date (e.g., Feb. 99) to ensure that adequate reviews by both DOE and the EPAs is possible.

Response: Comment acknowledged. The intent of the text in Section 3.5.2, page 13, line 4, was to convey that the experimental plan would be written and reviewed in February 1999 to enable implementation in May/June 1999.

Action: See action for Comment 7.

8