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OPERABLE UNIT 4; SUBMISSION OF COMMENT RESPONSES AND REQUES
FOR EXTENSION OF RESUBMITTAL PERIOD FOR THE SILO
SUPERSTRUCTURE FINAL (100 PERCENT) DESIGN PACKAGE

07/17/96

DOE-1135-96
DOE-FN EPAS
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OU4

Department of Energy

Ohio Field Office
Fernald Area Office
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155

JUL 17 1996

DOE-1135-96

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

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

OPERABLE UNIT 4; SUBMISSION OF COMMENT RESPONSES AND REQUEST FOR EXTENSION OF RESUBMITTAL PERIOD FOR THE SILO SUPERSTRUCTURE FINAL (100%) DESIGN PACKAGE

Reference: Letter from James A. Saric to Johnny W. Reising, "Pre-Final Design: Silo Superstructure," dated June 28, 1996.

Enclosed are the responses to the U.S. Environmental Protection Agency (U.S. EPA) and the Ohio Environmental Protection Agency (OEPA) comments on the *Operable Unit 4 Silo Superstructure Design for the Fernald Residues Vitrification Plant, May 1996, Revision B, Pre-Final*, for submittal to the U.S. EPA and OEPA in accordance with the *Final Work Plan for the Operable Unit 4 Remedial Design (Rev. O), (RDWP)*. As committed to in the RDWP, the Department of Energy, Fernald Environmental Management Project (DOE-FEMP) will address all comments on the Pre-Final (90%) remedial deisgn review pakages submited by the U.S. EPA and the OEPA through a formal comment response document within 30 days of receipt of comments. Transmittal of the enclosed response document to the agencies will satisfy this commitment.

This letter serves as formal notification that the DOE-FEMP requests additional time for resubmittal of the Silo Superstructure Design Package as Final (100%). This notification is being generated under the provisions of the *Work Plan for the Operable Unit 4 Remedial Design*, Section 5.3.4. The revised submittal schedule is enclosed which identifies a September 16, 1996, submittal date.

In addition to the incorporation of the U.S. EPA and OEPA comment responses into the design package, the extended period will be utilized to perform the following activities

which will facilitate field construction while limiting the extent of design services during construction:

- Provide further modular design of the bridge portion of the superstructure including additional structural steel details for connecting the pre-assembled modules to limit the extent of field welding.
- Specify additional requirements for module assembly and shipment to limit the potential for damage during transport.
- Provide additional design details for lifting and placing the entire pre-assembled bridge section to limit the extent of field welding.
- Separate the design package into both fabrication and remaining work packages.

This resubmittal methodology will result in requiring only one design package revision, while ensuring that U.S. EPA and OEPA concerns are appropriately addressed in a timely manner.

If you have any questions or comments concerning this notification, please contact Nina Akgunduz at (513) 648-3110.

Sincerely,

Johnny W. Reising
Fernald Remedial Action
Project Manager

FN:Akgunduz

Enclosures: As Stated

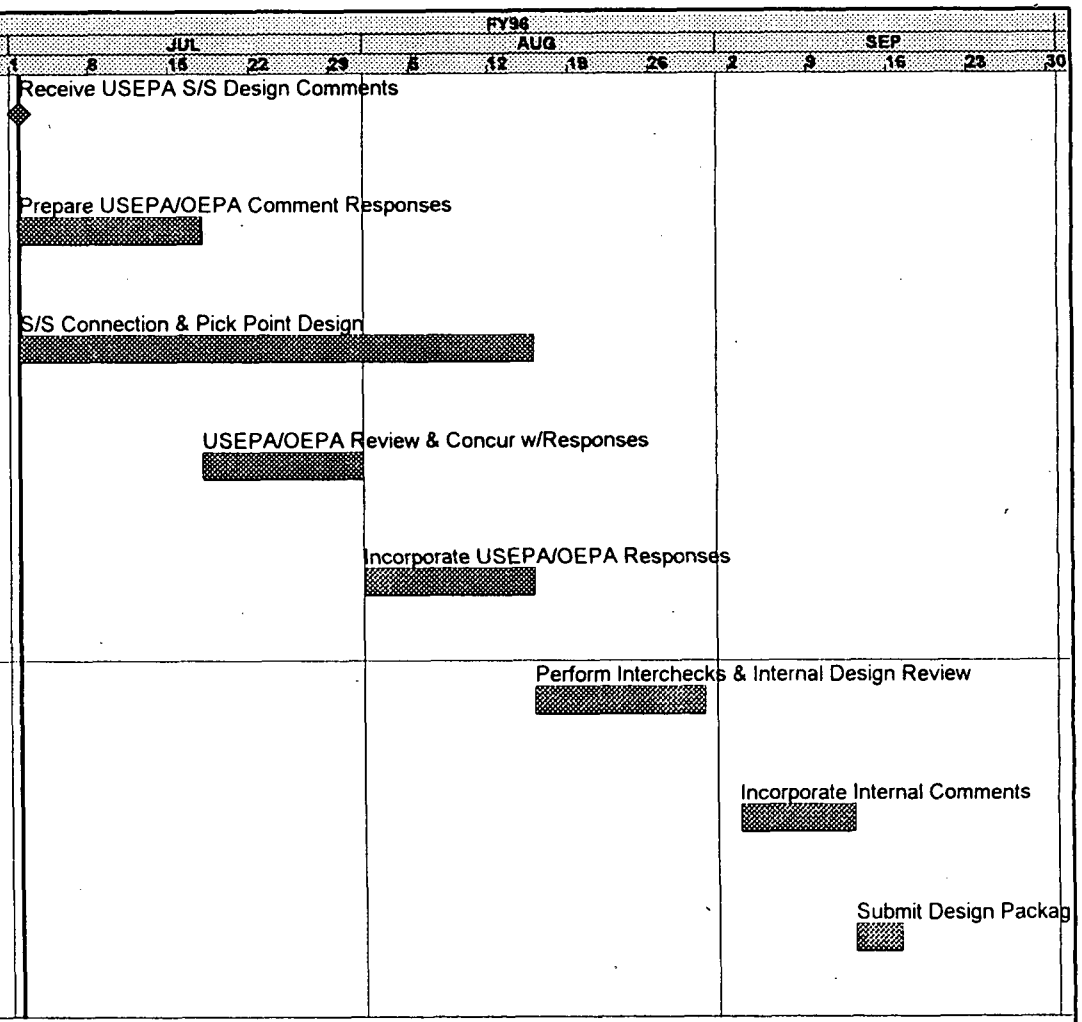
cc w/encs:

R. L. Nace, EM-423/GTN
G. Jablonowski, USEPA-V, 5HRE-8J
R. Beaumier, TPSS/DERR, OEPA-Columbus
F. Bell, ATSDR
D. S. Ward, GeoTrans
R. Vandegrift, ODOH
S. McLellan, PRC
T. Hagen, FERMCO/65-2
J. Harmon, FERMCO/90
AR Coordinator/78

cc w/o encs:

C. Little, FERMCO/2

ACT	Activity Description	Orig Dur	Early Start	Early Finish
SSD1000	Receive USEPA S/S Design Comments	0		01JUL96A
SSD1010	Prepare USEPA/OEPA Comment Responses	11	02JUL96	17JUL96
SSD1040	S/S Connection & Pick Point Design	32	02JUL96	15AUG96
SSD1020	USEPA/OEPA Review & Concur w/Responses	10	18JUL96	31JUL96
SSD1030	Incorporate USEPA/OEPA Responses	11	01AUG96	15AUG96
SSD1050	Perform Interchecks & Internal Design Review	11	16AUG96	30AUG96
SSD1060	Incorporate Internal Comments	8	03SEP96	12SEP96
SSD1070	Submit Design Package to USEPA/OEPA	2	13SEP96	16SEP96



Project Start 03JUN96
Project Finish 16SEP96
Data Date 02JUL96
Plot Date 16JUL96

Early Bar
Progress Bar
Critical Activity

SSDS

OU4 SILO SUPERSTRUCTURE
SCHEDULE FOR PREPARATION
OF FINAL DESIGN

Sheet 1 of 1

SHW 7/9/96

Date	Revision	Checked/Approved

RESPONSE TO USEPA
TECHNICAL REVIEW COMMENTS ON THE "PRE-FINAL DESIGN, SILO SUPERSTRUCTURE FOR THE FERNALD RESIDUES VITRIFICATION PLANT," DATED MAY 1996

SPECIFIC COMMENTS

Drawings

Commenting Organization: U.S. EPA — Commentor: Saric
Section #: Drawing No. G0970 — Page #: NA — Line #: NA
Original Specific Comment #: 1

Comment: The drawing contains a note that refers to Drawing No. G00974 for asphalt paving detail. This detail is not included on Drawing No. G00974. Drawing No. G00974 should be revised to include asphalt paving details.

Response: The reference on Drawing No. G-00970 is incorrect. Gravel paving rather than asphalt paving will be utilized for which a typical detail is provided on Drawing No. G-00973.

Action: See response.

Commenting Organization: U.S. EPA — Commentor: Saric
Section #: Drawing No. G00970 — Page #: NA — Line #: NA
Original Specific Comment #: 2

Comment: Note 4 states that "All monitoring wells shall be protected during construction. The monitoring wells in this area are as follows all others are boring locations: Wells 1032, 2032, . . . 2034 and 3034, and do not need protection." The note should be revised to clarify which wells should be protected.

Response: Note 4 will be revised for clarification as follows: "The following monitoring wells shall be protected during construction: Wells 1032, 2032, 3032, 1893, 1892, 11205, 1891, 11207, 1034, 2034, and 3034." Boring locations will be deleted from the drawing for further clarification.

Action: See response.

Commenting Organization: U.S. EPA — Commentor: Saric
Section #: Drawing Nos. G00970 and G00971 — Page #: NA — Line #: NA
Original Specific Comment #: 3

Comment: The north arrow on these drawings is incorrect. The drawings should be revised to show a vertical FEMP north arrow instead of an angled FEMP north arrow.

Response: The North arrows on drawings G-00970 and G-00971 are correct. The site is oriented as shown based on NAD 83 monuments. The FEMP North arrow is shown only to permit reference between the two coordinate systems. The North arrow on the remaining drawings (Architectural, Structural) will be revised to be consistent with the Civil drawings.

Action: See Response.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: Drawing No. S00987 Page #: NA Line #: NA
Original Specific Comment #: 4
Comment: Section A identifies two sizes, W10 and W14, for a column shown on Line B. Size W10 is incorrect. The drawing should be revised by deleting the reference to size W10.

Response: The reference to a W10 sized column is incorrect. The drawing will be revised accordingly.

Action: See Response.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: Drawing No. S00988 Page #: NA Line #: NA
Original Specific Comment #: 5
Comment: Detail 1 on this drawing references Drawing No. S00986. However, the location of Detail 1 is not shown on Drawing No. S00986. This error should be corrected.

Response: The drawings will be revised to correctly identify and reference Detail 1.

Action: See Response.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: Drawing No. S00988 Page #: NA Line #: NA
Original Specific Comment #: 6
Comment: Detail 5 shows the bottom diagonal member as WT6. Detail 5 is incorrect because the Bottom diagonal member should be shown as WT7. The drawing should be revised accordingly.

Response: Drawing will be revised to accurately define Detail 5.

Action: See Response.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: Drawing No. S00991 Page #: NA Line #: NA
Original Specific Comment #: 7
Comments: In Section A, the top of the pier elevation is noted as 0'-1". This elevation is incorrect and should be changed to -0'-1".

Response: The elevation will be corrected to clarify that the elevation is 1" below the reference elevation (0'-0").

Action: See Response.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: Drawing No. S00994 Page #: NA Line #: NA
Original Specific Comment #: 8

Comment: Note 2 indicated that reference elevation 0'-0" is equal to 569.92. The other drawings indicate that reference elevation 0'-0" is equal to 581.00. Setting a different reference elevation in Drawing No. S00994 creates confusion. This difference in reference elevation should be resolved and corrected. Any affected elevations indicated in this drawing should also be revised.

Response: Drawing S-00994 covers only the structures at Silo 3 which are independent of the structures at Silos 1 and 2, therefore, correspondence of the reference elevations is not considered necessary or beneficial.

Action: No Action required.

RESPONSE TO OEPA COMMENTS ON THE OPERABLE UNIT 4 - SILO SUPERSTRUCTURE FOR THE FRVP PRE-FINAL DESIGN

Assembly and Rigging Concept Plan

1) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Comment Pg #: n/a Line #: n/a Code: C
Original Comment #:
Comment: Will the construction of the Silo Superstructure effect the real-time monitoring of the silo headspace and the real-time monitoring of radon concentrations at the perimeter of the K-65 exclusion area? Real-time monitoring of the ambient concentrations of radon around the silos should be in place prior to Silo Superstructure construction activities. This will enable quick response to any significant breaches of the silo.

Response: As part of the Silo Superstructure erection requirements, site preparation activities will be required to accommodate installation of the foundations and subsequent berm grading and lowering. This will include removal of the K-65 Exclusion fence and relocation of its associated utilities including the radon monitors. However, it should be clarified that radon monitoring will be re-established in the vicinity of the silos (location to be identified under a future FRVP design scope) to continue to monitor ambient conditions and such that downtime is limited to the extent practical. Silo headspace monitoring will also be re-established for Silos 1 and 2 via the existing Data Logging System until such time that the New Radon Treatment System comes on-line which will include in-process radon monitoring of the silo headspace.

Action: No action required at this time.

2) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Comment Pg #: n/a Line #: n/a Code: C
Original Comment #:
Comment: The plan does not emphasize the importance of avoiding accidental contact with silos or the silo domes. The subcontractor should be required to submit a plan to minimize the possibility of inadvertent contact of the silos with equipment (construction or rigging).

Response: As stated in Section 6 of the Assembly and Rigging Concept Plan, the rigging subcontractor shall submit a detailed Rigging Plan for the superstructures for approval. The importance of avoidance of the silos will be emphasized in the Request for Proposal package provided to the subcontractor and will be one of the primary criteria for evaluation and approval of the rigging plan.

Action: No action required at this time.

3) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.3 Pg #: 1-2 Line #: n/a Code: C
Original Comment #:
Comment: How will the determination be made regarding the use of 1-3/4" or 1-1/4" steel plating for shielding in the equipment room and vestibule floor areas? Is there a mechanism in place that will determine which thickness will be used in a particular area?

Response: In accordance with 10 CFR 835, "Occupational Radiation Protection", and International Commission on Radiation Protection (ICRP) 37, Cost Benefit Analysis in the Optimization of Radiation Protection, an ALARA review of the Silo Superstructure design was performed including optimization via cost-benefit analysis of the shielding thickness within the equipment room and vestibule. Preliminary results have identified 1-1/4 inch shielding as the optimal radiation protection for both the equipment room and vestibule.

Action: Finalize the optimization of the shielding thickness in the equipment room and vestibule for incorporation into the next revision of the design.

4) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.2 Pg #: 3-1 Line #: n/a Code: C
Original Comment #:
Comment: Will relocation of the utilities in any way interrupt service to the Vitrification Pilot Plant? If so, how will this interruption be handled?

Response: All Silo Superstructure construction activities will be planned to limit impacts to the Vitrification Pilot Plant operations.

Action: See Response.

5) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.2 Pg #: 3-3 Line #: n/a Code: C
Original Comment #:
Comment: If movement of radiological monitors is necessary for the construction of the Silo Superstructure, the new locations should be reported to the regulatory agencies. The new locations should be operational prior to work beginning on the Silo Superstructure.

Response: See response to comment No. 1. DOE will notify the EPAs of the new locations of the radiological monitors requiring relocation.

Action: Notify the agencies of new locations of the K-65 Exclusion fence radon monitors.

6) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.2 Pg #: 3-3 Line #: n/a Code: C
Original Comment #:
Comment: If some of the existing monitoring wells may be abandoned, it is important to note that every attempt should be made to leave several wells open in the vicinity of the silos to assure that increased liquids in the silos are not leaking into and overflowing the underground collection sump.

Response: DOE will ensure that abandonment of any existing monitoring well as necessary for Silo 1 and 2 Superstructure erection will not compromise the ability to monitor for increased groundwater contamination due to hydraulic residue retrieval operations. It should be noted that the K-65 Decant Sump Tank will be monitored on a regular basis and pumped down as necessary during silo residue retrieval operations to ensure the tank does not overflow.

Action: No action required at this time.

7) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.2 Pg #: 3-4 Line #: n/a Code: C
Original Comment #:
Comment: The information presented in Table 3-1 tends to point toward the use of Option #3 as having the least number of interferences. How much weight will this information have in choosing the preferred option?

Response: All proposed rigging options, assuming acceptable from a safety and technical standpoint, will ultimately be evaluated based on cost. The cost for site preparation, including removal or relocation of interferences, will be factored into the evaluation.

Action: No action required at this time.

Specifications

8) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 02270 Pg #: 2 of 3 Line #: n/a Code: C
Original Comment #:
Comment: The plan states that the "subcontractor shall inspect sediment control measures periodically . . ." The term periodically should be specifically defined, i.e. daily or weekly, as well as after rainfalls of 0.25" or greater.

Response: The term periodically will be defined as weekly and the text will be revised accordingly.

Action: See Response.

Soil Management For FRVP Silo Superstructure Construction

9) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Comment Pg #: n/a Line #: n/a Code: C
Original Comment #:
Comment: During construction activities, how will be (sic) determination between Category I and Category II soils be performed? How long will Category II soils be stockpiled?

Response: See revised text (attached) for clarification of the Soil Management approach during Silo Superstructure construction. "Category I" and "Category II" soil designation was intended as an interim soil management tool for activities and projects other than remedial design/remedial action projects. Since this project is considered a remedial design/remedial action activity, the Category I and Category II designations should not have been used.

Action: See Response.

SOIL MANAGEMENT FOR FRVP SILO SUPERSTRUCTURE CONSTRUCTION
Revision 0, 7/12/96

Approximately 3300 cubic yards (yd^3) of excess soil will be generated during construction of the FRVP Silo 1 and 2 Superstructures and Silo 3 Equipment Enclosures foundation excavations. This soil will be temporarily staged, as necessary until placement into the OSDF, east of Silo 3 and the proposed relocated road and southwest of the biosurge lagoon (see attached figure).

As stated in the Operable Unit 4 ROD, Operable Unit 4 debris and soil disposal will be dispositioned consistent with guidelines set forth in the Operable Units 3 (debris) and 5 (soil) RODs. The Operable Unit 5 ROD states:

Page 9-33:

> "The waste acceptance criteria (WAC) for the OSDF were derived to establish mass-based or activity-based operational limits for soil or sludge contaminant concentrations to ensure the long-term protection of the Great Miami Aquifer underlying and downgradient of the OSDF. The WAC were derived to ensure that the water quality in those portions of the aquifer potentially impacted by the OSDF do not exceed the groundwater final remediation levels over the long term.

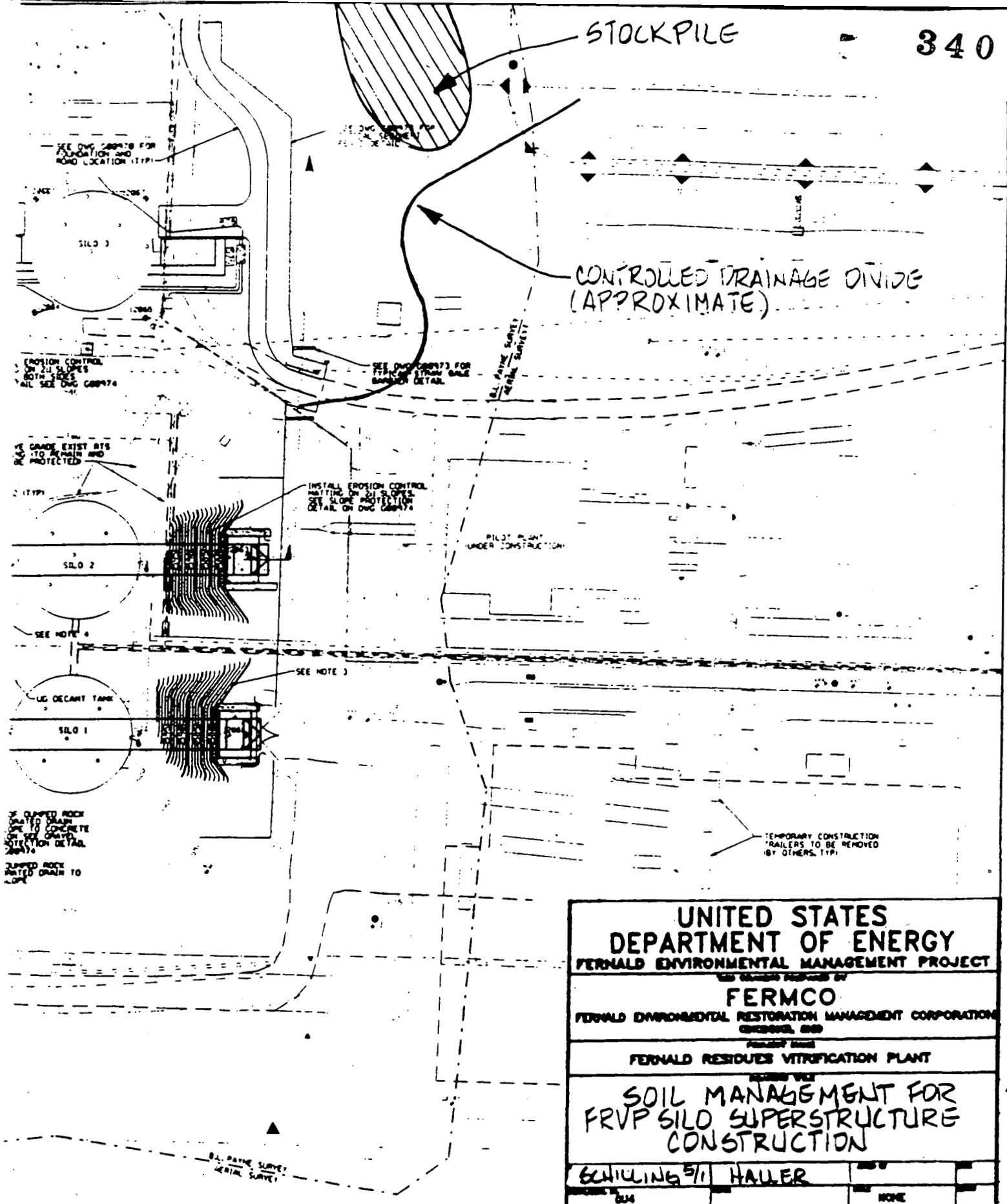
A calculated WAC value (Table 9-7) is not shown for all known FEMP contaminants

> "because the modeling simulations show that these constituents do not have the capability to exceed designated Great Miami Aquifer action levels within the 1000-year simulation period, regardless of the starting concentrations for these constituents in the OSDF."

Page 5-18:

> "Detailed discussions of contaminant mobility are provided in the Operable Unit 5 RI and FS reports (DOE 1995d; 1995a) and in a site-specific contaminant mobility study (Operable Unit 5 K_i Sampling and Analysis Results, DOE 1995b)."

Radium isotopes with final remediation levels were evaluated and were determined to be



UNITED STATES
DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

FERMCO
FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT CORPORATION

FERNALD RESIDUES VITRIFICATION PLANT

SOIL MANAGEMENT FOR FRVP SILO SUPERSTRUCTURE CONSTRUCTION

SCHILLING 5/1	HALLER		
GLH		NONE	
	04424331	SK-1003	1 A

REFERENCE DWG #94X-5900-G-00971, 600002 REV. A (BY PARSONS)

constituents that would not have the capability to exceed designated Great Miami Aquifer action levels within the 1000-year simulation period, regardless of concentration. Therefore, no specific maximum activity-based concentration was designated as a limiting factor for OSDF placement of soil. Based upon this information and the fact that existing data indicate that total uranium in the OU4 soil does not exceed the 1030 ppm OSDF WAC, the soil from this project may be placed into the OSDF. Placement of impacted material into the OSDF is expected to begin in Spring 1998.

To ensure appropriate soil management measures are followed, data from the Operable Unit 4 RI as well as process knowledge and real-time measurements (provided by sodium iodide and/or high purity germanium detection systems) of soil concentrations will be evaluated. If soil exhibiting concentrations above the WAC for total uranium are detected, the soil will be identified and selectively excavated. The above-WAC soil will be segregated and transported to the Operable Unit 1 staging area for blending and off-site disposition.

If it is necessary to temporarily stockpile soil prior to placement into the OSDF, the proposed area is within the limits of the Waste Pit perimeter area runoff controlled boundary previously established by Removal Action 3 such that the runoff from the stockpile will be controlled. Erosion control for the stockpiles will be implemented and maintained and may include a tarpaulin cover, seeding, silt fencing, dust suppressants, or crusting agents.