



Department of Energy

Oak Ridge Office of Environmental Management
P.O. Box 2001
Oak Ridge, Tennessee 37831

PROGRAM	SITE	PROJECT #	FILE SEQUENCE

January 23, 2024

ROUTE TO: RLY
CC/EGS
JAN 23 2024

Ms. Samantha Urquhart-Foster
Superfund and Emergency Response Division
U.S. Environmental Protection Agency
Region 4
Atlanta Federal Center
61 Forsyth Street
Atlanta, Georgia 30303-8960

Mr. Randy C. Young
State of Tennessee
Department of Environment and Conservation
Division of Remediation – Oak Ridge
761 Emory Valley Road
Oak Ridge, Tennessee 37830-7072

Dear Ms. Urquhart-Foster and Mr. Young:

SUBMITTAL OF THE EXPLANATION OF SIGNIFICANT DIFFERENCES FOR THE RECORD OF DECISION FOR THE DISPOSAL OF OAK RIDGE RESERVATION COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 WASTE, OAK RIDGE, TENNESSEE: HAUL ROAD REROUTE (DOE/OR/01-2973&D1)

In accordance with the *Federal Facility Agreement for the Oak Ridge Reservation*, the U.S. Department of Energy submits the subject document for your review and comment. In accordance with the review cycle protocol in the *Federal Facility Agreement for the Oak Ridge Reservation*, Appendix I-6, *Document Scheduling*, for primary documents, your response letter is to be provided within 93 days of the date on this transmittal letter.

The approved *Record of Decision for Comprehensive Environmental Response, Compensation, and Liability Act Oak Ridge Reservation Waste Disposal at the Environmental Management Disposal Facility, Oak Ridge, Tennessee* (DOE/OR/01-2794&D2/R2) requires modification of the existing Haul Road route due to the location of the Environmental Management Disposal Facility site that lies across Haul Road. Therefore, this Explanation of Significant Differences is to modify the remedy to reroute Haul Road away from the Environmental Management Disposal Facility site footprint.

**SUBMITTAL OF THE EXPLANATION OF SIGNIFICANT DIFFERENCES FOR THE
RECORD OF DECISION FOR THE DISPOSAL OF OAK RIDGE RESERVATION
COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY
ACT OF 1980 WASTE, OAK RIDGE, TENNESSEE: HAUL ROAD REROUTE
(DOE/OR/01-2973&D1)**

If you have any questions or if we can be of further assistance, please contact Brian Henry at (865) 241-8340 or Roger Petrie at (865) 316-0463.

Sincerely,

BRIAN HENRY Digitally signed by BRIAN HENRY
Date: 2024.01.19 08:43:52 -05'00'

Brian T. Henry
Portfolio Federal Project Director

Roger B. Petrie Digitally signed by Roger B. Petrie
Date: 2024.01.19 10:28:16 -05'00'

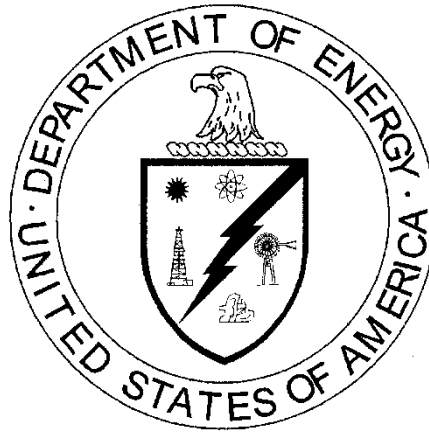
Roger B. Petrie
Federal Facility Agreement Project Manager

Enclosure

cc w/enclosure:

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**Explanation of Significant Differences
for the Record of Decision for the Disposal of
Oak Ridge Reservation Comprehensive Environmental Response,
Compensation, and Liability Act of 1980 Waste,
Oak Ridge, Tennessee: Haul Road Reroute**



This document is approved for public
release per review by:

Leesa K. Laymance
UCOR Classification & Information
Control Office

1/4/2024
Date

DOE/OR/01-2973&D1

**Explanation of Significant Differences
for the Record of Decision for the Disposal of
Oak Ridge Reservation Comprehensive Environmental Response,
Compensation, and Liability Act of 1980 Waste,
Oak Ridge, Tennessee: Haul Road Reroute**

Date Issued—January 2024

Prepared for the
U.S. Department of Energy
Oak Ridge Office of Environmental Management

United Cleanup Oak Ridge LLC
under contract 89303322DEM000067

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Site Name and Location

U.S. Department of Energy (DOE)
Oak Ridge Reservation (ORR)
Oak Ridge, Tennessee
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)
Information System ID TN1890090003

Introduction and Statement of Purpose

The *Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste* (DOE/OR/01-1791&D3) (ROD) documents the selected remedy for the disposal of waste generated from CERCLA cleanup activities performed by DOE on the ORR and associated sites. This remedy includes the design, construction, operation, and closure of a waste disposal facility (named the Environmental Management Waste Management Facility [EMWMF]) located on the ORR (Fig. 1). EMWMF has been receiving ORR CERCLA waste for disposal since May 2002.

The original scope of the ROD did not include a haul road from the Heritage Center to EMWMF. This scope was added to the ROD through *Explanation of Significant Differences for the Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee* in 2005 (DOE/OR/01-2194&D2). The purpose of the haul road was to eliminate the need to use public roadways for transport of Heritage Center (previously referred to as the East Tennessee Technology Park [ETTP]) waste to EMWMF. The approved *Record of Decision for Comprehensive Environmental Response, Compensation, and Liability Act Oak Ridge Reservation Waste Disposal at the Environmental Management Disposal Facility, Oak Ridge, Tennessee* (Environmental Management Disposal Facility [EMDF] ROD) (DOE/OR/01-2794&D2/R2) requires modification of the existing Haul Road route due to the location of the EMDF site that lies across Haul Road. Therefore, the remedy will be modified to reroute Haul Road away from the EMDF site footprint.

In accordance with 40 *Code of Federal Regulations (CFR)* 300.435 (*National Oil and Hazardous Substances Pollution Contingency Plan*, “Remedial design/remedial action, operation and maintenance”), this scope modification is a “significant” change to the ROD. In accordance with CERCLA Sect. 117 (c) and 40 *CFR* 300.435 (c)(2)(i), such a significant change is documented with an Explanation of Significant Differences (ESD). The purpose of this ESD is to make the change described above.

This ESD is part of the Administrative Record file, and it and other information supporting the selected remedy can be found at the DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, Tennessee, 37830, during normal business hours—typically from 8:00 a.m. to 5:00 p.m., Monday through Friday.

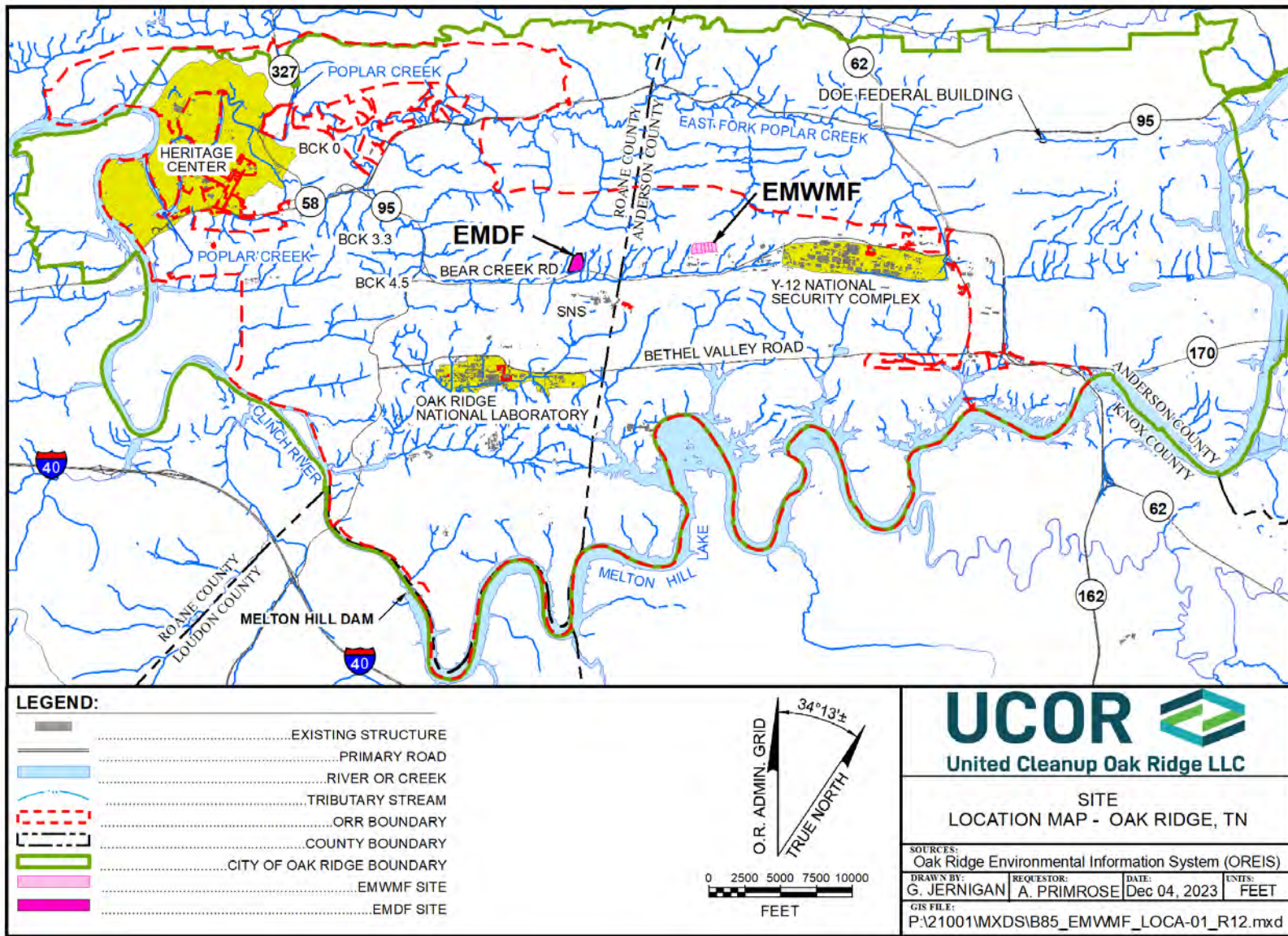


Fig. 1. Location of the Environmental Management Waste Management Facility.

Site History, Contamination, and Selected Remedy

The ORR (Fig. 1), established in 1942 for the research, development, and production of enriched radioactive materials as part of the Federal government's Manhattan Project, currently includes about 35,000 acres of land controlled by DOE and is almost entirely located within the city limits of Oak Ridge, Tennessee. The following three operational areas (Fig. 1) are located on the ORR:

- Oak Ridge National Laboratory (ORNL)—The original mission of ORNL was to research and develop various means of producing enriched radioactive materials. Today, ORNL is the nation's largest multi-program science, technology, and energy laboratory.
- Heritage Center—Enriched uranium was produced at the Heritage Center (previously referred to as ETTP) through the gaseous diffusion process. The enrichment operation ended in 1987; operations shifted to remediation and reindustrialization.
- Y-12 National Security Complex (Y-12)—The original mission of Y-12 was uranium enrichment and nuclear weapons production. The current role is highly sophisticated manufacturing; production, fabrication, and dismantlement of nuclear weapons components; stockpile stewardship for enriched uranium and lithium materials; drawdown and disposition of special nuclear materials; and other complementary missions.

Operation of these areas resulted in the release of contaminants to the environment and the contamination of soil, sediments, groundwater, and surface water. Due to this legacy contamination, the ORR was placed on the National Priorities List in 1989, and remediation activities were initiated pursuant to CERCLA. The *Federal Facility Agreement for the Oak Ridge Reservation* (DOE/OR-1014) documents how CERCLA remedial activities will be performed on the ORR.

In order to dispose of much of the waste generated from CERCLA cleanup activities on the ORR and associated sites, the ROD was signed. The following are the major components of the ROD:

- Construction and operation of an engineered, above-grade, earthen landfill and supporting facilities located in East Bear Creek Valley, including temporary staging of wastes at the facility prior to disposal, for the disposal of most waste generated from CERCLA cleanup activities on the ORR and associated sites that meets waste acceptance criteria (WAC).
- Landfill designed to receive CERCLA low-level waste; hazardous waste as defined under the Resource Conservation and Recovery Act of 1976 (RCRA); waste as defined under the Toxic Substances Control Act (TSCA) of 1976; and mixed waste consisting of combinations of these waste types. The landfill meets all applicable or relevant and appropriate requirements (ARARs), except for the TSCA requirement that the bottom of the landfill liner be 50 ft above the historical high groundwater table for which a waiver was approved in the ROD.
- Development of WAC in accordance with ARARs, risk/performance assessments, and worker protection requirements to determine what waste can be disposed in the facility and a plan to certify that accepted waste meets the WAC.
- Disposal of waste that does not meet the EMWMF WAC at other approved offsite waste disposal facilities.
- Closure of the onsite disposal facility by placing an enhanced RCRA ARAR-compliant cap over the waste.
- Long-term land use controls, environmental monitoring, and surveillance and maintenance.

The ROD has been amended by three ESDs:

- Addition of DOE security waste to the description of waste approved for disposal in EMWMF (DOE/OR/01-1905&D2, *Explanation of Significant Differences from the Remedy in the Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee*)
- Construction of a haul road between Heritage Center and EMWMF for the transportation of CERCLA waste (DOE/OR/01-2194&D2, *Explanation of Significant Differences from the Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee*)
- Expansion of EMWMF to a design capacity of approximately 2,200,000 cubic yards (now 2.331 MCYDs) through the construction of one final disposal cell, designated Cell 6 (DOE/OR/01-2426&D2, *Explanation of Significant Differences from the Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee*).

A separate ESD is in progress to add the Clean Water Act *Explanation of Significant Differences from the Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee: Addition of Clean Water Act* (DOE/OR/01-2972) (in progress).

Basis for the Document

The basis for the significant difference from the selected remedy is the need to reroute Haul Road around the EMDF site, as presented in the approved EMDF ROD.

Description of Significant Differences

Performance of the remedy remains unchanged. No additional ARARs are required. No major change is needed to the ROD or its supporting analyses. A description of the change follows.

Haul Road Reroute

The 5.6-mile-long Haul Road route from the Heritage Center (formerly the ETTP) to EMWMF is shown in Fig. 2. Approximately 4600 ft of Haul Road will be rerouted around the EMDF site as described in the *Remedial Design Report/Remedial Action Work Plan for the Environmental Management Disposal Facility, Oak Ridge, Tennessee: Early Site Preparation Activities (ESP RDR/RAWP)* (DOE/OR/01-2934&D2) (Fig. 3). The ESP RDR/RAWP provides specifics for the reroute, along with sensitive resource impacts and mitigation approach. Future Haul Road reroutes may be required to accommodate EMDF or other projects and are allowed by this ESD.

Additional uses for Haul Road

As described in the 2005 ESD (DOE/OR/01-2194&D2), Haul Road was “a viable option for transporting waste from ETTP to EMWMF.” Since Haul Road was completed, other uses for Haul Road have been identified, for example, transporting waste to EMDF, supporting other Bear Creek Valley CERCLA projects, and for trucks hauling oversized equipment to Y-12 to avoid using Bear Creek Road, which is narrow with greater traffic. Use of Haul Road for these purposes improves project efficiency and worker safety and minimizes the potential for accidents. This ESD documents these added Haul Road uses. In addition, Haul Road provides access to the north side of Bear Creek Valley, if needed, for wildfire response.

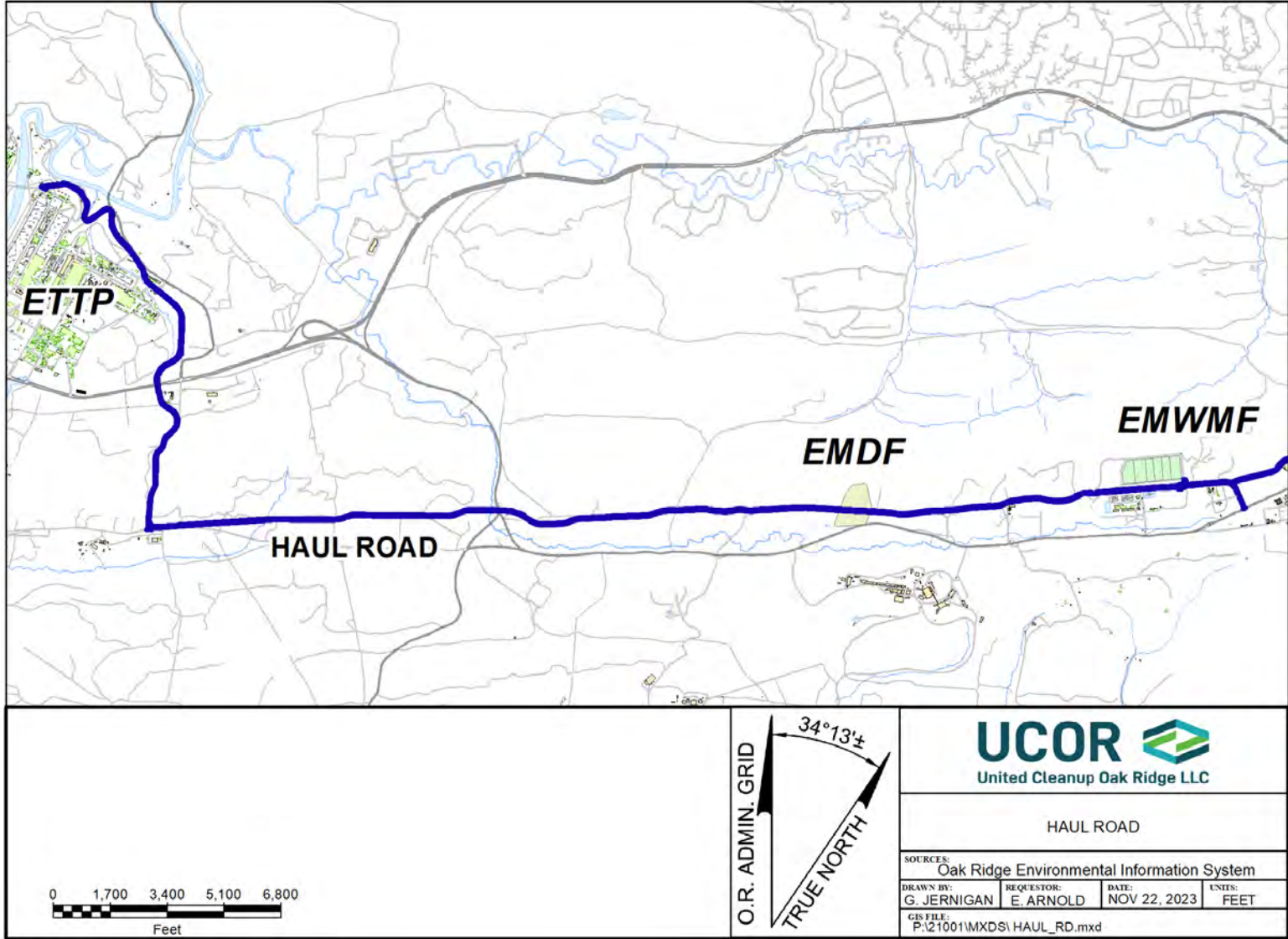


Fig. 2. Original Haul Road route.

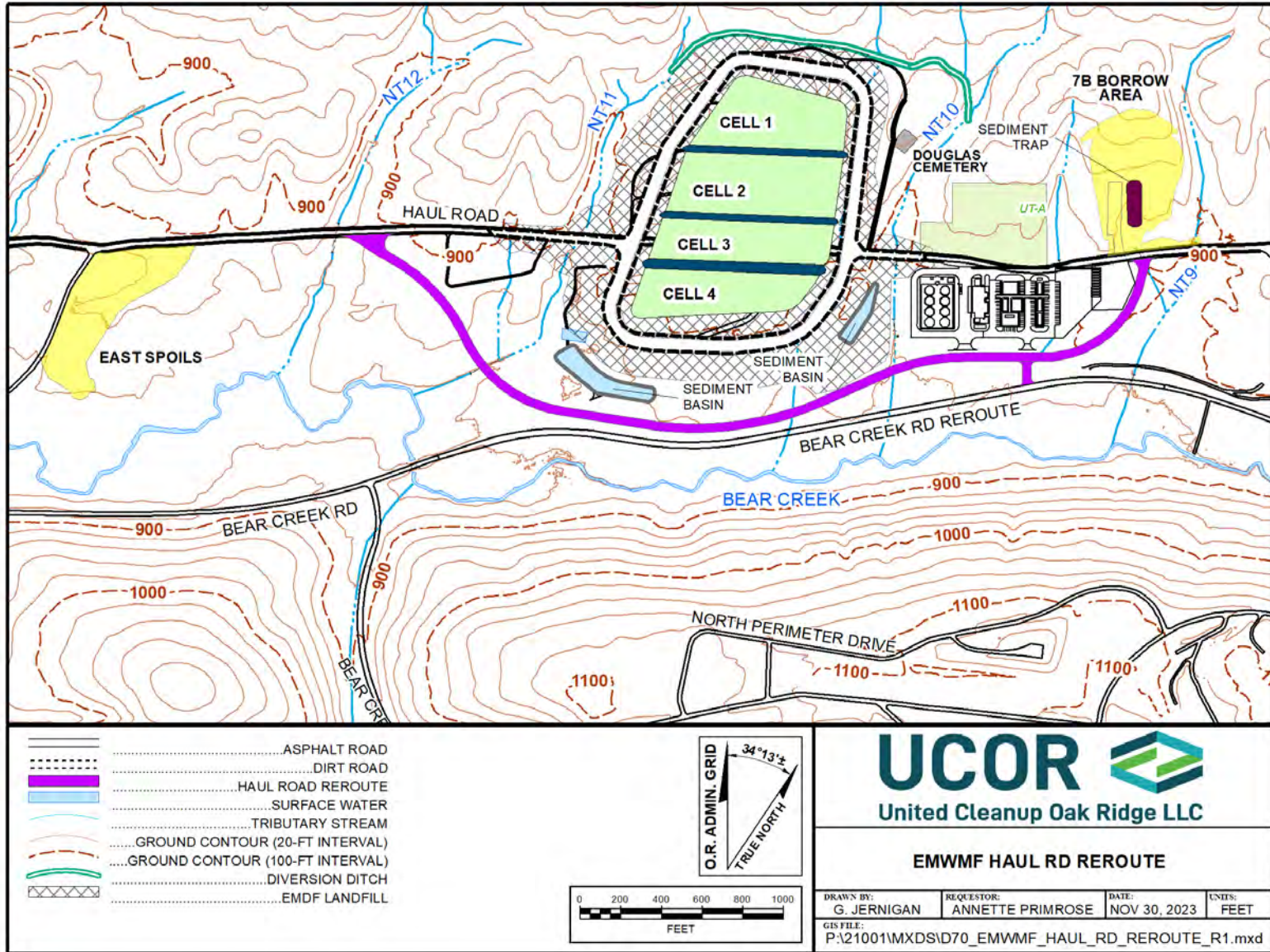


Fig. 3. Haul Road reroute location.

Closure of Haul Road

The 2005 ESD (DOE/OR/01-2194&D2) describes that Haul Road will be closed after waste hauling activities from ETTP to EMWMF are completed. However, based on these additional uses of Haul Road, Haul Road will continue to be used, as necessary, to support other projects and to provide access for wildfire response.

When Haul Road is no longer needed, it is intended to be closed as described in the 2005 ESD:

“...bridges will be removed and minor re-grading of the bridge approaches will be done. Newly constructed road segments will be allowed to revert to natural conditions, with consideration given during design to actions that could accelerate the reversion process.”

Applicable or Relevant and Appropriate Requirements

No additional ARARs are required for this ESD.

EPA and TDEC Comments

The U.S. Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC) have participated with DOE in the development of this ESD. Through signature of this document, EPA and TDEC approve the ESD and endorse the change to the scope of the ROD. This ESD will be implemented upon approval.

Statutory Determinations

As required under CERCLA Sect. 121, the scope change to the remedy continues to protect human health and the environment, complies with federal and state ARARs for the remedial action, is cost-effective, and uses permanent solutions and alternative treatment technologies to the maximum extent practicable. No ARAR waivers are requested or required for this ESD. This ESD does not affect the prior ROD determination that the remedy satisfies the statutory preference for treatment. As required by CERCLA, a review will be conducted no less often than every 5 years after initiation of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

Public Participation Compliance

- The notice has been issued that the contents of the Administrative Record File are available for public review and comment.
- The date(s) of planned public information meeting(s), if applicable. (DOE is not required to hold public meetings on ESDs, but may choose to do so if warranted by public interest.)

DOE has developed a fact sheet explaining the proposed change to the ROD. The fact sheet is available to the public at the DOE Information Center at the Office of Scientific and Technical Information, 1 Science.gov Way, Oak Ridge, Tennessee, 37830, accompanied by public notice of its availability. The Center is open during normal business hours—typically Monday through Friday, from 8:00 a.m. to 5:00 p.m. The telephone number is (865) 241-4780, and the website address is <http://www.energy.gov/orem/services/community-engagement/doe-information-center>.

The public participation requirements set forth in 40 *CFR* 300.435(c)(2)(i) will be met. The approved ESD will be added to the EMWMF Administrative Record file and made available to the public at the DOE Information Center.

References

- DOE/OR-1014. *Federal Facility Agreement for the Oak Ridge Reservation*, 1992, U.S. Environmental Protection Agency Region IV, U.S. Department of Energy, and Tennessee Department of Environment and Conservation, Washington, D.C.
- DOE/OR/01-1791&D3. *Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste*, 1999, U.S. Department of Energy, Office of Environmental Management, Oak Ridge, TN.
- DOE/OR/01-1905&D2. *Explanation of Significant Differences from the Remedy in the Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee*, 2001.
- DOE/OR/01-2194&D2. *Explanation of Significant Differences for the Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee*, 2005.
- DOE/OR/01-2426&D2. *Explanation of Significant Differences for the Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee*, 2010.
- DOE/OR/01-2794&D2/R2. *Record of Decision for Comprehensive Environmental Response, Compensation, and Liability Act Oak Ridge Reservation Waste Disposal at the Environmental Management Disposal Facility, Oak Ridge, Tennessee*, September 2022.
- DOE/OR/01-2934&D2. *Remedial Design Report/Remedial Action Work Plan for the Environmental Management Disposal Facility, Oak Ridge, Tennessee: Early Site Preparation Activities*, 2023.
- DOE/OR/01-2934&D2. *Remedial Design Report/Remedial Action Work Plan for the Environmental Management Disposal Facility, Oak Ridge, Tennessee: Early Site Preparation Activities*, 2023, U.S. Department of Energy, Office of Environmental Management, Oak Ridge, TN.

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