

START

0018240

**NOTICE OF INTENT
FOR EXPANSION UNDER INTERIM STATUS**

222-S LABORATORY COMPLEX--
219-S WASTE HANDLING FACILITY
HANFORD FACILITY,
RICHLAND, WASHINGTON



U.S. DEPARTMENT OF ENERGY FIELD OFFICE, RICHLAND

NOVEMBER 1991

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1.0 INTRODUCTION

The Washington State Department of Ecology (Ecology) *Dangerous Waste Regulations*, Washington Administrative Code (WAC) 173-303-281, require that dangerous waste facility owners and/or operators submit a Notice of Intent (NOI) before submittal of a permit application for new or expanded dangerous waste management units on the Hanford Facility. The following information for this NOI is being filed with Ecology by the U.S. Department of Energy (DOE) Field Office, Richland (RL), the owner and operator. This NOI is to serve notice of the intent to expand the treatment and storage capacity of the 219-S Waste Handling Facility located in the 222-S Laboratory Complex (222-S Complex) on the Hanford Facility, Richland, Washington.

The 222-S Complex provides analytical chemistry services in support of the Hanford Facility treatment, storage, and/or disposal (TSD) units, with emphasis on waste management activities, chemical processing, and environmental monitoring programs for general process development activities. The following Hanford Facility TSD units are served by the 222-S Complex: B Plant, U Plant, Double-Shell Tank System, Single-Shell Tank System, Plutonium-Uranium Extraction Plant, Plutonium Finishing Plant, 242-A and 242-S Evaporators, and the Waste Encapsulation Storage Facility.

The 222-S Complex consists of two units, the 219-S Waste Handling Facility and the Dangerous and Mixed Waste Storage Area. The 219-S Waste Handling Facility has three stainless steel tanks located in belowgrade concrete vaults. These tanks are used for the treatment and storage of liquid mixed waste from the 222-S Complex analytical laboratory before transferring the mixed waste to the Double-Shell Tank System. The Dangerous and Mixed Waste Storage Area consists of two metal storage structures on a concrete pad and is used for the storage of 55-gallon (208-liter) U.S. Department of Transportation-specification drums (labpacks) of mixed waste and nonradioactive dangerous waste. The labpacks are stored at the Dangerous and Mixed Waste Storage Area until the labpacks are transferred to the Hanford Central Waste Complex (mixed waste) or the 616 Nonradioactive Dangerous Waste Storage Facility (nonradioactive dangerous waste) for storage and/or disposal.

The following identifies the owner and operator of the Hanford Facility and the primary contact:

Owner and Operator: U.S. Department of Energy Field Office, Richland

Manager, Field Office, Richland: Mr. John D. Wagoner

Field Office, Richland Contact: Ms. E. A. Bracken

1 **Address:** U.S. Department of Energy
2 Field Office, Richland
3 Post Office Box 550
4 Richland, Washington 99352
5

6 **Telephone:** (509) 376-7277
7
8

9 **2.0 FACILITY DESCRIPTION AND GENERAL PROVISIONS**
10
11

12 The Hanford Facility is defined as a single RCRA facility, identified by
13 the EPA/State Identification Number WA7890008967, that consists of over
14 60 TSD units conducting dangerous waste management activities. These
15 TSD units are included in the *Hanford Facility Dangerous Waste Part A Permit*
16 *Application* (DOE-RL 1988b). The Hanford Facility consists of the contiguous
17 portion of the Hanford Site that contains these TSD units and, for the
18 purposes of the RCRA, is owned and operated by the U.S. Department of Energy
19 (excluding lands north and east of the Columbia River, river islands, state
20 owned or leased lands, lands owned by the Bonneville Power Administration,
21 lands leased to the Washington Public Power Supply System, and the Ashe
22 Substation). The Hanford Facility is a single site for purposes of provisions
23 regulating 'offsite' or 'onsite' waste handling.
24

25 The following sections provide a description of the expanded treatment
26 and storage capacity of the 219-S Waste Handling Facility (located within the
27 222-S Complex), along with other general provisions specified in
28 WAC 173-303-281.
29
30

31 **2.1 LOCATION OF PROPOSED EXPANSION**
32

33 The 222-S Complex is located in the 200 West Area of the Hanford
34 Facility, Benton County, Washington. Small-scale maps depicting the Hanford
35 Facility and the location of the 222-S Complex are provided in Figures 1
36 and 2. Large-scale maps and a topographic map, which meet the 1-inch-
37 (2.54-centimeter-) equals-not-more-than-200-feet (61 meters) requirement, are
38 provided in Appendix A and include the following:
39

- 40 • Overall Hanford Facility (H-6-958)
- 41
- 1 • Topographic map of the 222-S Complex, including surrounding 1,000 feet
2 (305 meters). There are no existing or planned injection or
3 withdrawal wells in the vicinity of the 222-S Complex. There are no
4 barriers planned for drainage or flood control at the 222-S Complex
5 (H-13-000006).
6
7

8 **2.2 DESCRIPTION OF WASTE MANAGEMENT UNIT TO BE EXPANDED**
9

10 The 219-S Waste Handling Facility is located northeast of the
11 222-S Analytical Laboratory Building in the 222-S Complex. The 219-S Waste

1 Handling Facility contains three stainless steel tanks (Figure 3) that are
2 located in belowgrade concrete vaults--tank-101 [4,000 gallon
3 (15,141.6 liter)], tank-102 [4,000 gallon (15,141.6 liter)], and tank-103
4 [1,500 gallon (5,678.1 liter)]. Tank-101 and tank-103 are used for the
5 primary and backup storage of mixed waste from the 222-S Analytical
6 Laboratory. The liquid mixed waste is transferred from tank-101 and tank-103
7 to tank-102 for treatment and storage before transfer to the Double-Shell Tank
8 System. The liquid mixed waste is treated in tank-102 with sodium hydroxide
9 (NaOH) to a pH greater than or equal to 12.0 and with sodium nitrite (NaNO₂)
10 to a concentration of 600 parts per million. This treatment process makes the
11 liquid mixed waste more amenable for storage in the Double-Shell Tank System.
12
13

14 2.3 DESCRIPTION OF EXPANSION OF TREATMENT AND STORAGE TANKS IN 15 THE 219-S WASTE HANDLING FACILITY 16

17 The mission of the 219-S Waste Handling Facility was originally for
18 less-than-90-day treatment and storage of liquid mixed waste from the
19 222-S Analytical Laboratory. Because of the increase in sampling requirements
20 for the various TSD units on the Hanford Facility, and possible delays in
21 transferring the liquid mixed waste to the Double-Shell Tank System, storage
22 of the liquid mixed waste in the storage tanks could be longer than 90 days.
23 Also, because of the increase in liquid mixed waste, the amount of liquid
24 mixed waste treated could possibly increase.
25

26 The total expansion of the process design capacity for the storage
27 of liquid mixed waste in tanks 101, 102, and 103 is 9,500 gallons
28 (35,958 liters). The process design capacity for treatment has been
29 increased to 206 gallons (800 liters) per day or 75,000 gallons
30 (283,875 liters) per year. The increase in design and treatment capacities
31 also will increase the estimated annual quantity of waste to 626,000 pounds
32 (283,949 kilograms).
33
34

35 2.4 COMPLIANCE WITH STATE ENVIRONMENTAL POLICY ACT 36

37 The *State Environmental Policy Act of 1971* Environmental Checklist is
38 provided as Appendix B.
39
40

41 2.5 COMPLIANCE WITH SITING STANDARDS 42

43 The demonstration of compliance with the siting criteria as required
44 under WAC 173-303-282(6) and (7) are addressed in Appendix B, Sections B.1.,
45 B.2., and B.3. The following provides additional compliance information on
46 siting requirements.
47
48

49 2.5.1 Seismic Considerations 50

51 The 222-S Complex is located in Benton County, Washington and has been
52 identified as being in Zone 2B in accordance with the *Uniform Building Code*

1 (ICBO 1991). The 219-S Waste Handling Facility has been reviewed for seismic
2 considerations as detailed in the *219-S Aqueous Waste Disposal Facility*
3 *Tank System Integrity Assessment Report* (WHC 1990). The integrity report
4 stated that the storage tanks and vault structure are adequate to resist a
5 seismic event as defined in the *Hanford Plant Standards, Standards Design*
6 *Criteria - 4.1* (DOE-RL 1988a). This plant standard provides seismic load
7 criteria specific for the Hanford Facility.

10 2.5.2 Floodplain Standard

11
12 Three sources of potential flooding of the area were considered: (1) the
13 Columbia River, (2) the Yakima River, and (3) storm-induced run-off in
14 ephemeral streams draining the Hanford Facility. No perennial streams occur
15 in the central part of the Hanford Facility.

16
17 The Federal Emergency Management Agency has not prepared floodplain maps
18 for the Columbia River through the Hanford Facility. The flow of the Columbia
19 River is largely controlled by several upstream dams that are designed to
20 reduce major flood flows. Based on a U.S. Army Corps of Engineers study of
21 the flooding potential of the Columbia River that considered historical data
22 and water storage capacity of the dams on the Columbia River (COE 1969), the
23 U.S. Department of Energy (ERDA 1976) has estimated the probable maximum flood
24 (Figure 4). The estimated probable maximum flood would have a larger
25 floodplain than either the 100- or 500-year floods. The 222-S Complex is well
26 above the elevation of the Columbia River probable maximum flood and,
27 therefore, is not within the 100- or 500-year floodplain.

28
29 The 100-year floodplain for the Yakima River, as determined by the
30 Federal Emergency Management Agency (FEMA 1980), is shown in Figure 5.
31 The 222-S Complex is not within the floodplain.

32
33 The only other potential source of flooding of the 222-S Complex is
34 run-off from a large precipitation event in the Cold Creek watershed. This
35 event could result in flooding of the ephemeral Cold Creek. Skaggs and
36 Walters (1981) have given an estimate of the probable maximum flood using
37 conservative values of precipitation, infiltration, surface roughness, and
38 topographic features. The resulting flood area (Figure 6) would not affect
39 the 222-S Complex. The 100-year flood would be less than the probable maximum
40 flood.

43 2.5.3 Shoreline Standard

44
45 The 222-S Complex is not located within regulated 'shorelines' of the
46 state or 'wetlands' as defined by the *Shoreline Management Act of 1971*.

1 **2.5.4 Sole Source Aquifer Criteria**
2

3 The 222-S Complex is not located over one of the sole source aquifers of
4 Washington as defined in Section 1424(e) of the *Safe Drinking Water Act of*
5 *1974*.
6

7
8 **3.0 TEN-YEAR NONCOMPLIANCE HISTORY**
9

10
11 The U.S. Department of Energy Field Office, Richland has not received any
12 Notice of Noncompliance since the Waste Receiving and Processing Facility NOI
13 was filed in June 1991.
14

15
16 **4.0 JUSTIFICATION OF NEED**
17

18
19 In May 1989, the U.S. Department of Energy along with Ecology and the
20 U.S. Environmental Protection Agency (EPA) formally entered into an agreement
21 known as the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party
22 Agreement) (Ecology et al. 1990) for the purpose of the Hanford Facility
23 gaining compliance with federal, state, and local laws concerning the
24 management of waste. Included within the Tri-Party Agreement are milestones
25 for the environmental restoration and waste stabilization on the Hanford
26 Facility.
27

28 Because of the increase in sampling requirements and possible delays in
29 transferring the liquid mixed waste to the Double-Shell Tank System for the
30 various Hanford Facility TSD units, it is imperative that the expansion of the
31 treatment and storage capacities and estimated annual quantity of waste be
32 approved.
33

34
35 **5.0 IMPACT ON OVERALL CAPACITY AT THE HANFORD FACILITY AND**
36 **THE STATE OF WASHINGTON**
37

38
39 The current capacity for the storing, treating, and/or disposing of
40 liquid mixed waste is limited within Washington State and the Hanford
41 Facility. The operation of the 222-S Complex provides the means to treat and
42 store the liquid mixed waste retrieved from laboratory samples, and will
43 comply with regulations on dangerous waste. The operation of 222-S Complex
44 supports Tri-Party Agreement milestones by providing a means to identify
45 dangerous waste constituents and prepare the waste for treatment for transfer
46 within the Hanford Facility.
47

6.0 REFERENCES

- 1
2
3
4 COE, 1969, *Lower Columbia River Standard Project Flood and Probable Maximum*
5 *Flood*, U.S. Army Corps of Engineers, North Pacific Division,
6 Portland, Oregon.
7
8 DOE-RL, 1988a, "Design Load for Structures," HPS-SDC-4.1, Revision 11, *Hanford*
9 *Plant Standards*, U.S. Department of Energy-Richland Operations Office,
10 Richland Washington.
11
12 DOE-RL, 1988b, *Hanford Facility Dangerous Waste Part A Permit Application*,
13 DOE/RL-88-21, Vols. 1-3, U.S. Department of Energy-Richland Operations
14 Office, Richland, Washington.
15
16 Ecology, 1991, *Dangerous Waste Regulations*, Washington Administrative Code,
17 Chapter 173-303, Washington State Department of Ecology,
18 Olympia, Washington.
19
20 Ecology, EPA, and DOE, 1990, *Hanford Federal Facility Agreement and Consent*
21 *Order*, Vols. 1 and 2, Washington State Department of Ecology,
22 U.S. Environmental Protection Agency, U.S. Department of Energy,
23 Olympia, Washington.
24
25 ERDA, 1976, *Evaluation of Impact of Potential Flooding Criteria on the Hanford*
26 *Project*, RLO-76-4, U.S. Energy Research and Development Administration-
27 Richland Operations Office, Richland, Washington.
28
29 FEMA, 1980, *Flood Insurance Study: Benton County Washington*, Federal
30 Emergency Management Agency, Federal Insurance Administration,
31 Washington, D.C.
32
33 ICBO, 1991, *Uniform Building Code*, International Conference of Building
34 Officials, Whittier, California.
35
36 *Safe Drinking Water Act of 1974*, as amended, 42 USC 300f et seq.
37
38 *Shoreline Management Act of 1971*, Revised Code of Washington,
39 Chapter 90.58.101 et seq., Olympia, Washington.
40
41 Skaggs, R.L. and W.H. Walters, 1981, *Flood Risk Analysis of Cold Creek Near*
42 *the Hanford Site*, PNL-4219, Pacific Northwest Laboratory, Richland,
43 Washington.
44
45 WHC, 1990, *219-S Aqueous Waste Disposal Facility Tank System Integrity*
46 *Assessment Report*, WHC-SD-CP-DP-004, Westinghouse Hanford Company,
47 Richland, Washington.
48
49 40 CFR 264, *Standards for Owners and Operators of Hazardous Waste Treatment,*
50 *Storage, and Disposal Facilities*, Title 40, Code of Federal Regulations,
51 Part 264, U.S. Environmental Protection Agency, Washington, D.C.

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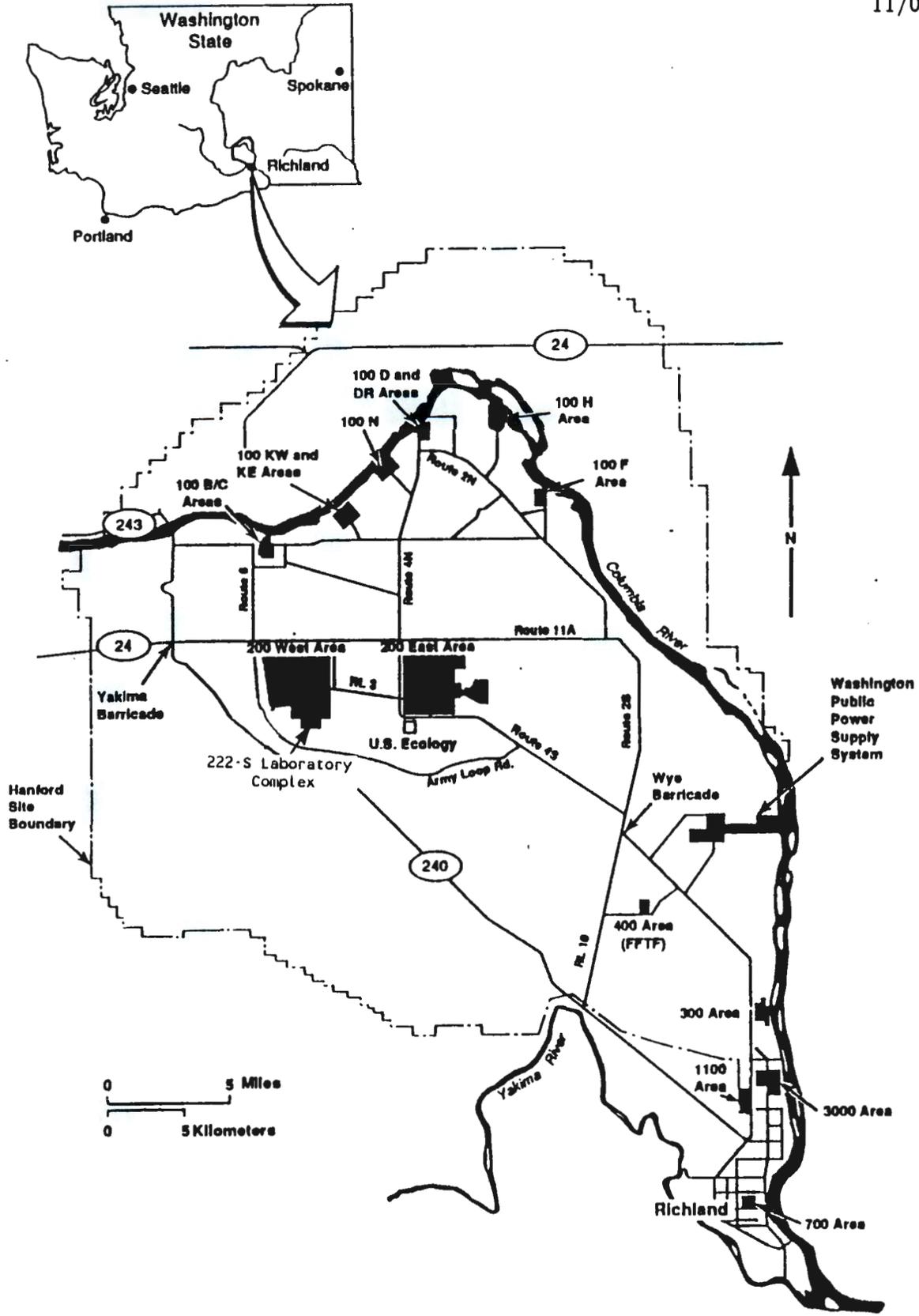
APPENDIX A

HANFORD SITE MAPS

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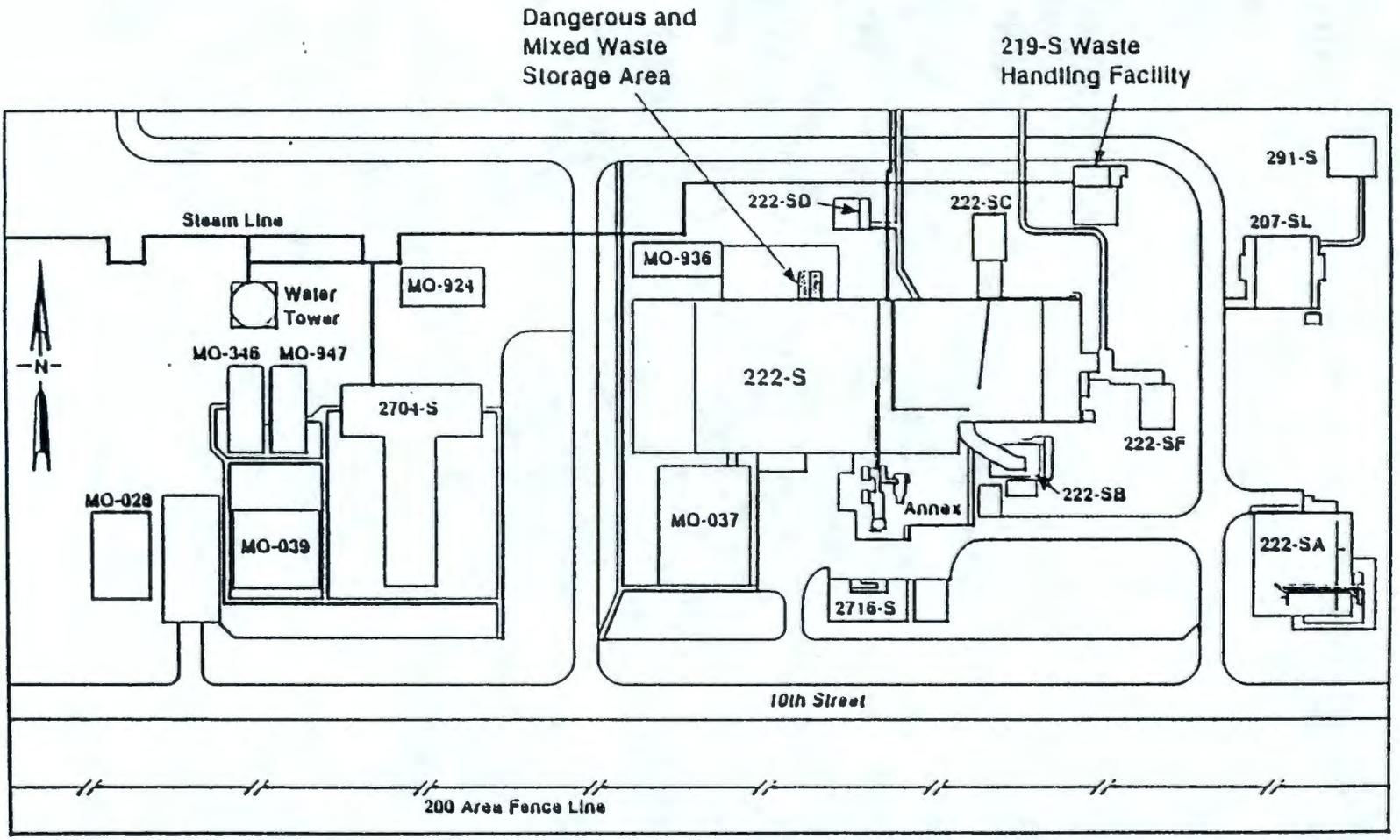


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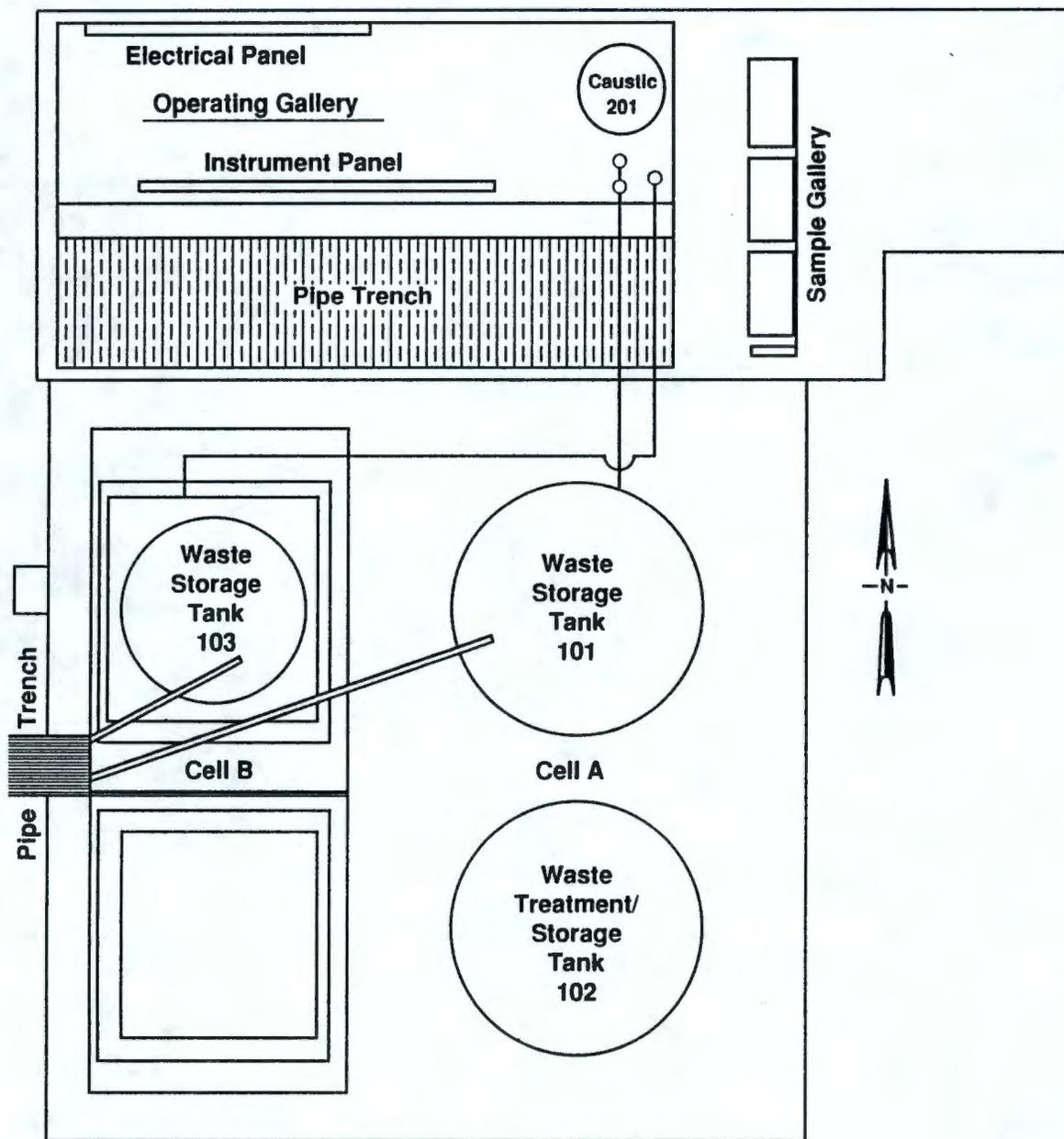
Figure 1. Hanford Site.

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Figure 2. Location of the 222-S Laboratory Complex.



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Figure 3. The 219-S Waste Handling Facility-Treatment and Storage Tanks.

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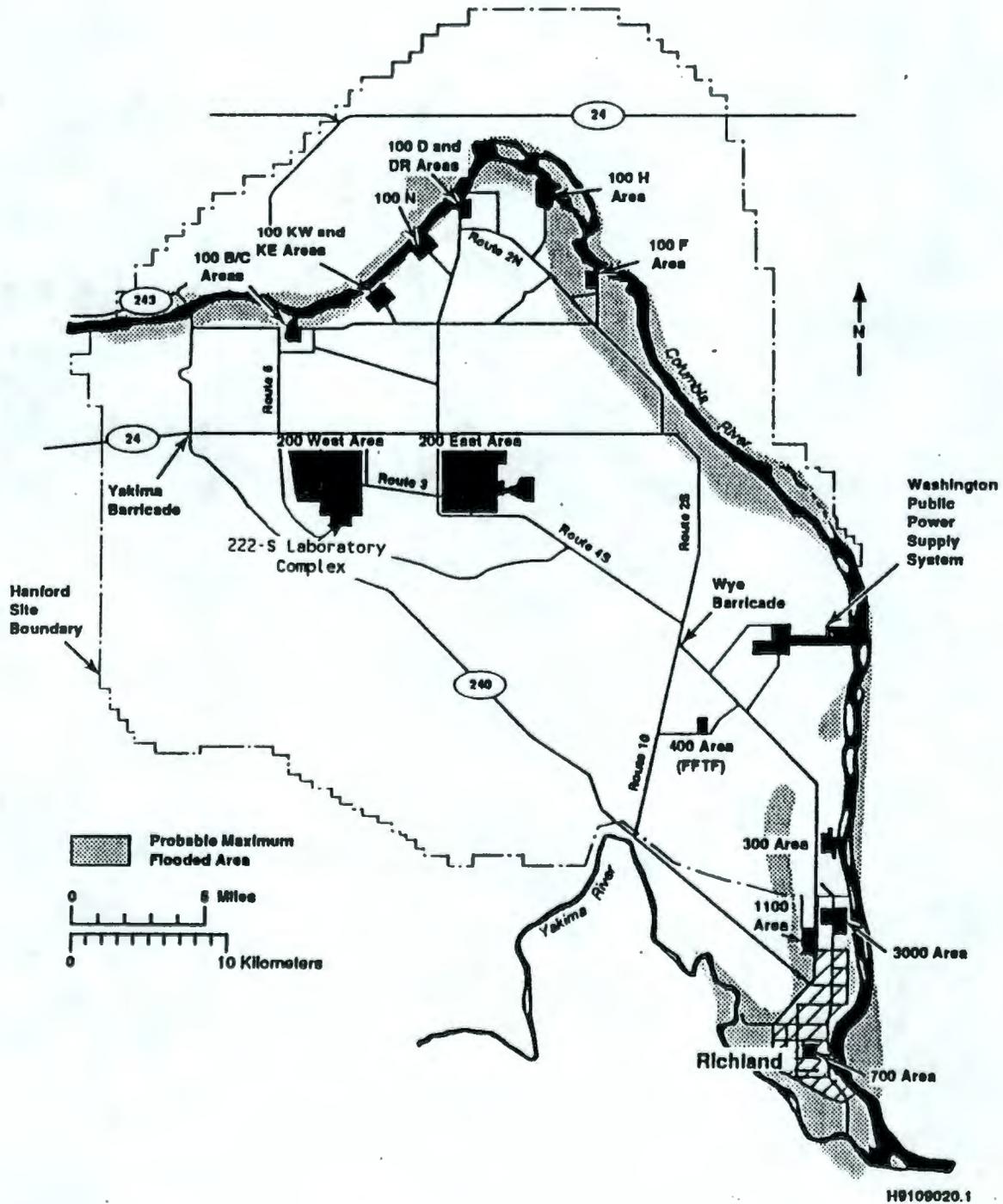
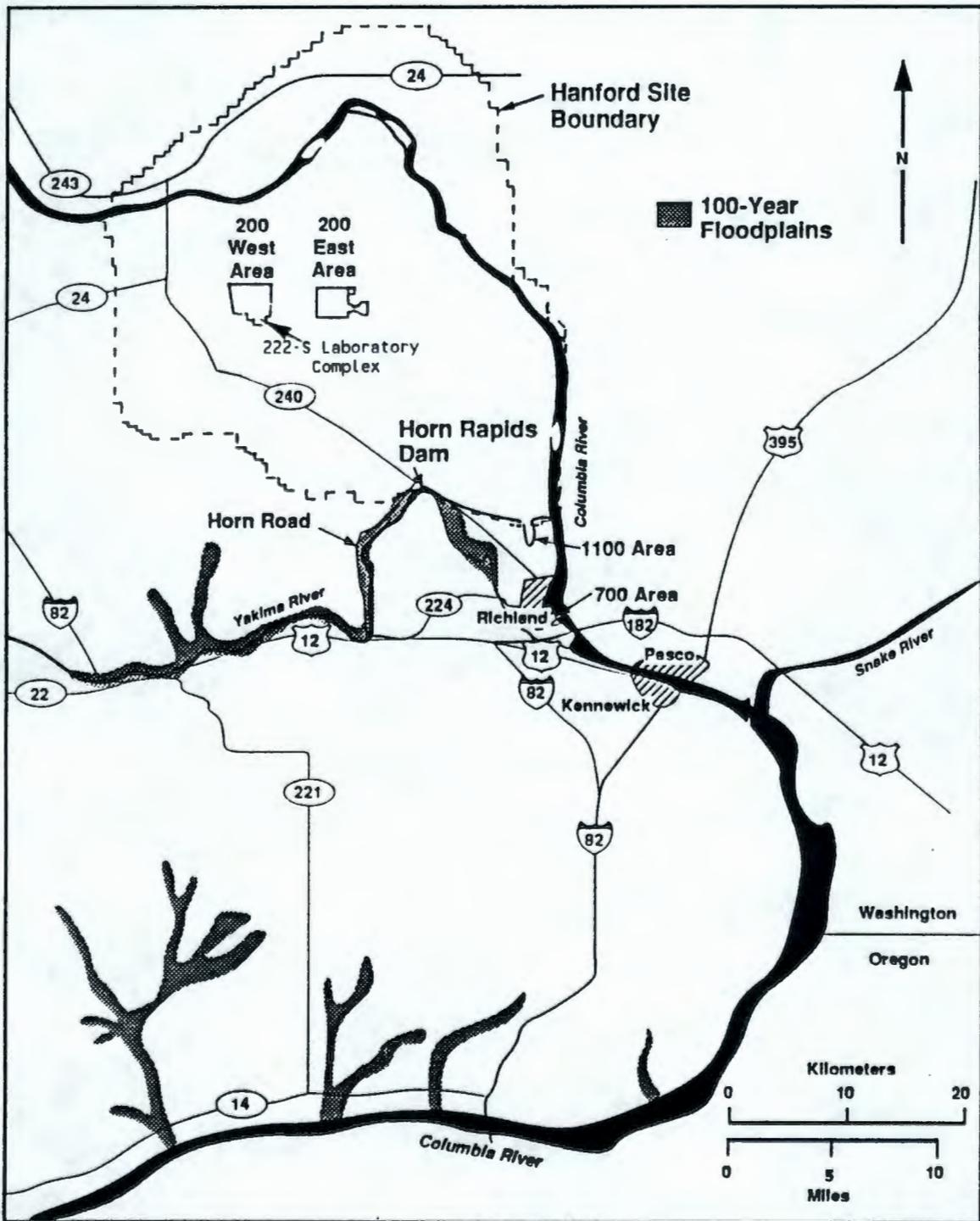


Figure 4. Columbia River Floodplain.

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Figure 5. Yakima River Floodplain.

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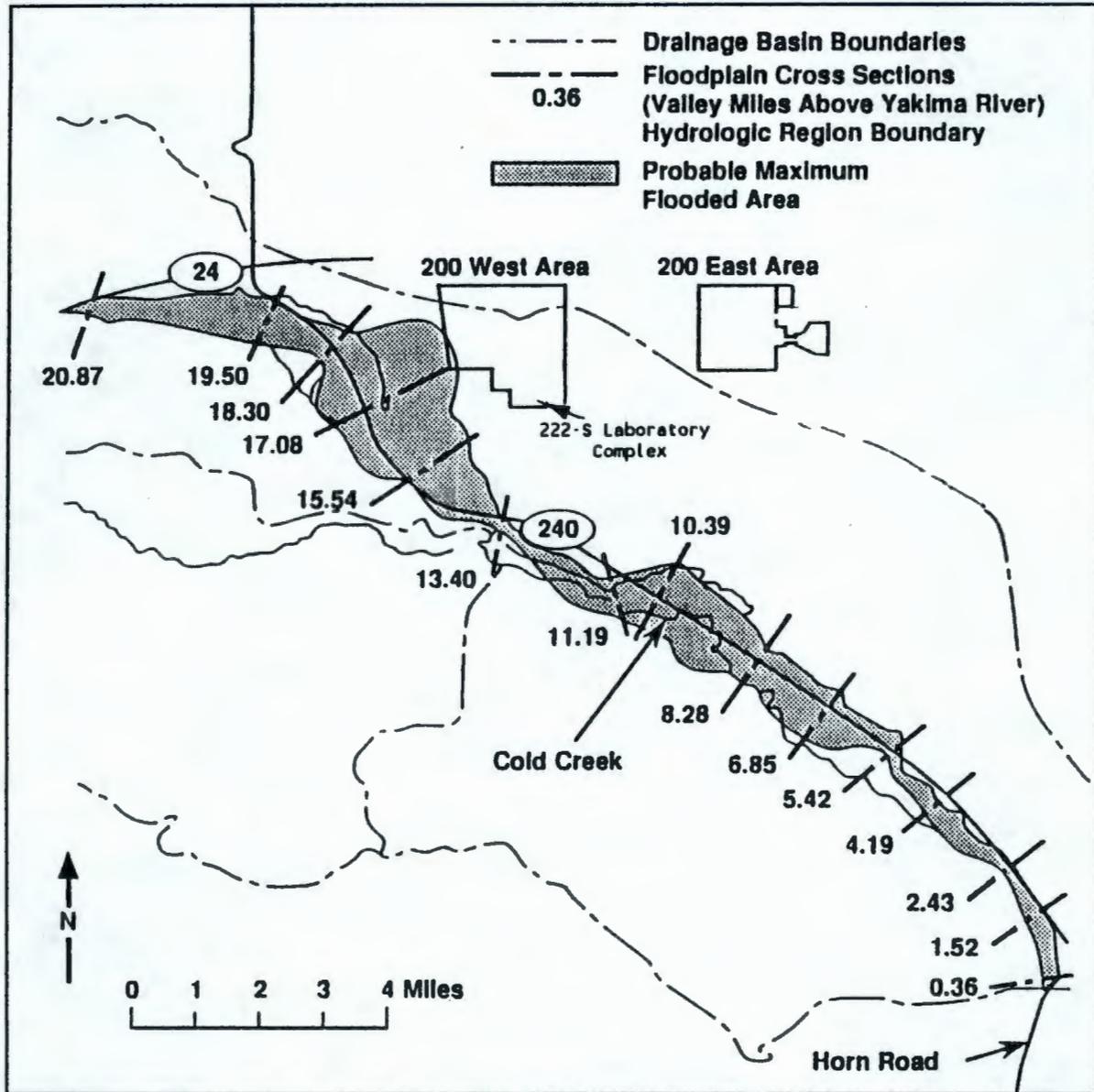
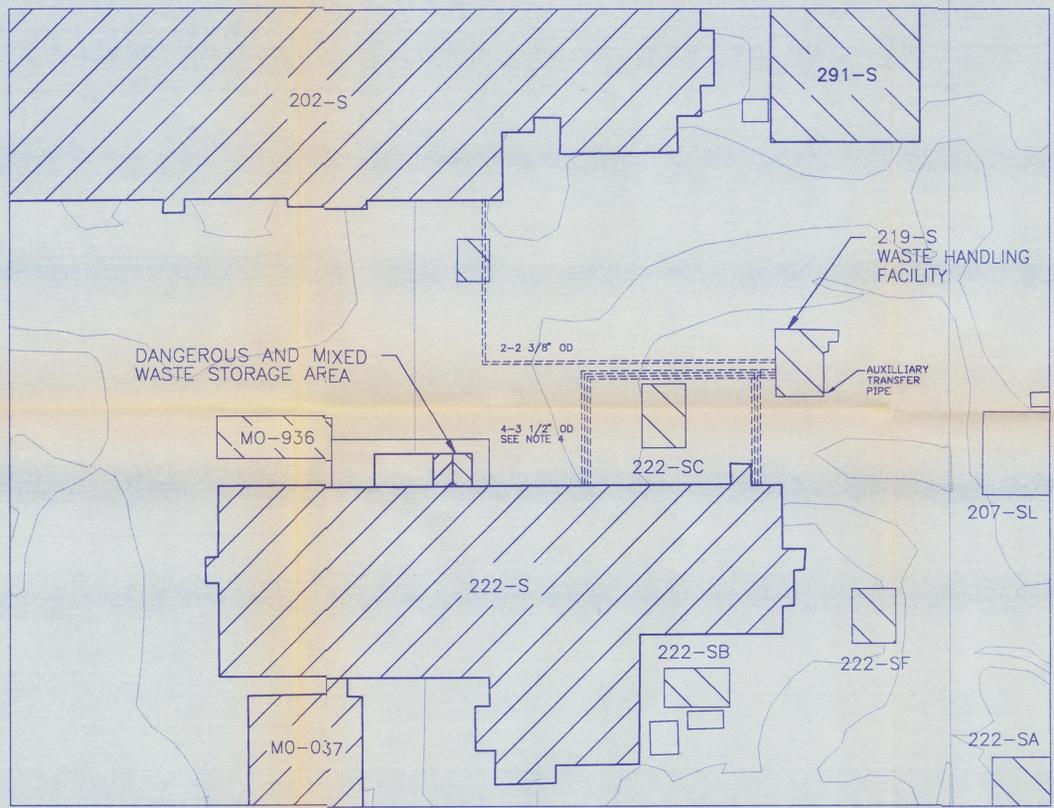


Figure 6. Cold Creek Watershed Floodplain.

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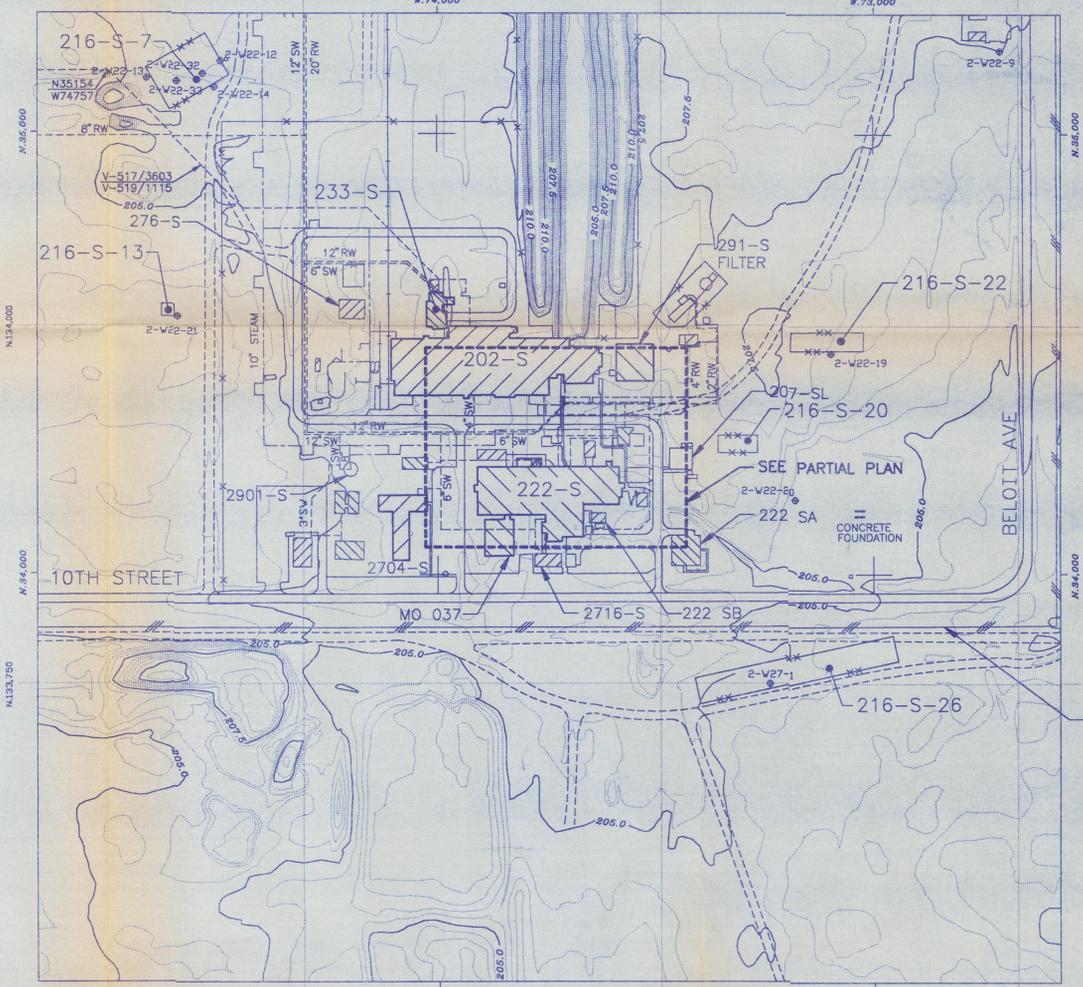
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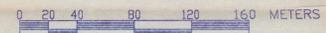
PARTIAL PLAN
SCALE: 1:500



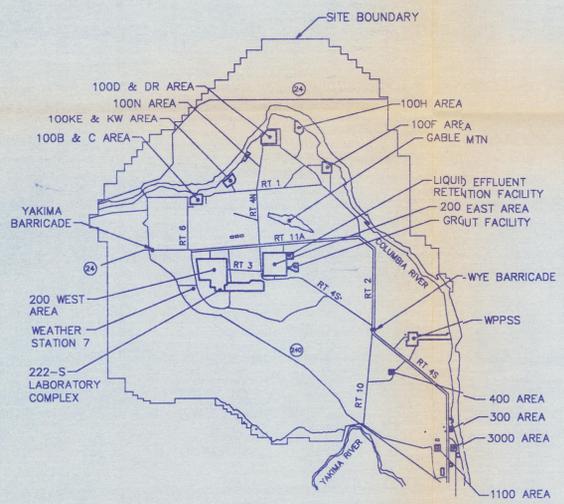
1 cm = 5 meters
PHOTO DATE: 6-24-89
CONTOUR INTERVAL: 0.5 meter



SITE PLAN
SCALE: 1:2000



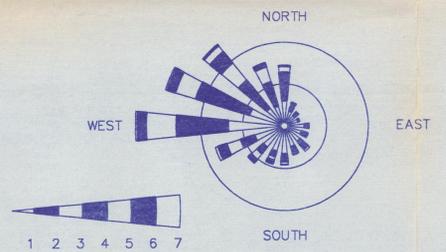
1 cm = 20 meters
PHOTO DATE: 6-24-89
CONTOUR INTERVAL: 0.5 meter



HANFORD AREA MAP
SCALE: NONE

WIND ROSE FOR: 200E AREA
% CALM WINDS = .9

PERIOD COVERED
12/01/85 - 12/31/87
STATION NO.7



PADDLES INDICATE DIRECTION WIND IS COMING FROM.
RADIAL GRIDS REPRESENT 5.0% AND 10.0% OCCURRENCE.

WIND CLASS	MILES/HOUR
1	>1.0 - 3.0
2	4.0 - 7.0
3	8.0 - 12.0
4	13.0 - 18.0
5	19.0 - 24.0
6	25.0 - 31.0
7	32.0 +

WIND ROSE

LEGEND

- | | | | |
|------------------------|---------------------------------------|------------|------------------------|
| W 47,000
N 48,000 | HANFORD PLANT COORDINATES (FEET) | 216-A-42 | CRIB |
| E 576,250
N 136,000 | WASHINGTON STATE COORDINATES (METERS) | 218-E-10 | BURIAL GROUND |
| 233.2 | FIELD CONTROL (METERS) | 242-A | BUILDING |
| 233.2 | INTERMEDIATE CONTOUR | 2-E25-25 | WELL |
| 233.2 | INDEX CONTOUR (METERS) | 239-E25-25 | MANHOLE |
| 233.2 | EDGE OF PAVEMENT | ○ | CATCH BASIN |
| 233.2 | FENCE | ○ | POWER/UTILITY POLE |
| 233.2 | POST & CHAIN FENCE | ○ | MISCELLANEOUS POST |
| 233.2 | PERIMETER FENCE | ○ | TREES |
| 233.2 | DIRT ROAD OR TRAIL | ○ | LIGHT POLE |
| 233.2 | PAVED ROAD | ○ | CONCRETE LINE/SIDEWALK |
| 233.2 | UNIMPROVED PAVED ROAD | ○ | RAILROAD |
| 233.2 | BUILDINGS | ○ | STATE HIGHWAY |
| 233.2 | TANKS | ○ | |

GENERAL NOTES

- THIS MAP IS BASED ON AERIAL PHOTOGRAPHY FLOWN ON 6-24-89. THE TOPOGRAPHIC MAP WAS PREPARED BY MERRICK & COMPANY AND CERTIFIED TO MEET NATIONAL MAP ACCURACY STANDARDS. OFFICIAL COPIES OF THE MERRICK MAPS THAT SHOW THE CERTIFICATE ARE LOCATED IN THE WESTINGHOUSE ENGINEERING FILES AS DRAWING NUMBERS H-2-79476 SHEET 1 AND H-2-79477 SHEET 1 THRU 37. THE NAMES OF PHYSICAL FEATURES AND THE TITLE BLOCK OF THE H-13-000201 THROUGH H-13-000237 MAPS WERE ADDED BY WESTINGHOUSE HANFORD COMPANY.
- WASHINGTON COORDINATE SYSTEM: THE OFFICIAL STATE PLANE COORDINATE SYSTEM AS DEFINED BY THE REVISED CODE OF WASHINGTON (RCW). THE HANFORD SITE LIES WITHIN THE WASHINGTON COORDINATE SYSTEM, SOUTH ZONE. THIS GRID COVERS THE ENTIRE SITE AND USES X (EASTINGS) AND Y (NORTHINGS) COORDINATES.
HORIZONTAL DATUM: NAD-83 LAMBERT PROJECTIONS
VERTICAL DATUM: NATIONAL GEODETIC SURVEY DATUM AS PROVIDED BY KAISER ENGINEERS - HANFORD.
COORDINATES ARE SHOWN AS METERS.
CONTOURS ARE SHOWN AS 1/2 METERS.
- HANFORD PLANT GRID: A LOCAL GRID SYSTEM WITH ITS INITIAL POINT NORTHEAST OF THE 400 AREA. IT COVERS 200-EAST AND 200-WEST AS WELL AS GENERAL SITE WORK SUCH AS WELLS AND BURIAL GROUNDS. COORDINATES ARE SHOWN AS FEET.
- THE PARTIAL PLAN SHOWS THE UNDERGROUND PIPELINES THAT TRANSFER WASTE FROM THE 222-S ANALYTICAL LABORATORY TO THE 219-S WASTE HANDLING FACILITY. THERE ARE TWO 2 INCH UNDERGROUND PIPELINES FROM THE 219-S WASTE HANDLING FACILITY THAT TRANSFERS WASTE TO THE DOUBLE-SHELL TANK SYSTEM.

OFFICIAL RELEASE
BY WHO
DATE OCT 24 1991

H-2-5387 SHEET 1, 2, 3	222S AQUEOUS WASTE DISPOSAL FACILITIES
H-2-45900	PLOT PLAN 202-S VICINITY
H-2-46138	CIVIL PLAN
H-13-000227	200 AREA TOPOGRAPHIC MAP
H-13-000234	200 AREA TOPOGRAPHIC MAP
REF NUMBER	TITLE

REV NO	REV DATE	CHK DATE	DATE	APPROVALS BY/DATE

DRAWN PAT A. NASH	DATE 10-23-91	EST 145753
CHECKED B. TILLEY	DATE 10-23-91	U.S. DEPARTMENT OF ENERGY
DATE APVD	DATE 10-23-91	Richard Operations Office
DESIGNER	DATE	Westinghouse Hanford Company
OTHER	DATE	TOPOGRAPHIC MAP 222-S
OTHER	DATE	LABORATORY COMPLEX
APVD FOR IMPLEMENTATION	DATE	SIZE F
BY	DATE	BLDG NO 222-S
		INDEX NO 0103
		ENG NO H-13-000006
		SCALE 1:2000
		SHEET 1 of 1

APPENDIX B

STATE ENVIRONMENTAL POLICY ACT ENVIRONMENTAL CHECKLIST

1
2
3
4

22124142111

1 This environmental checklist covers the entire 222-S Laboratory Complex--
2 219-S Waste Handling Facility and the 222-S Dangerous and Mixed Waste Storage
3 Area. This environmental checklist is being submitted concurrently with the
4 *Notice of Intent for Expansion Under Interim Status for the 219-S Waste*
5 *Handling Facility*, in accordance with Washington Administrative
6 Code 173-303-281(3)(a)(v).

STATE ENVIRONMENTAL POLICY ACT (SEPA)
ENVIRONMENTAL CHECKLIST
FOR
222-S LABORATORY COMPLEX

NOVEMBER 1, 1991

WASHINGTON ADMINISTRATIVE CODE
ENVIRONMENTAL CHECKLIST FORMS
(WAC-197-11-960)

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A. BACKGROUND

1. Name of proposed project, if applicable:

This proposed project is permitting of the 222-S Laboratory Complex--
219-S Waste Handling Facility and the 222-S Dangerous and Mixed Waste
Storage Area. This *State Environmental Policy Act (SEPA) of 1971*
Checklist is being submitted concurrently with the *Notice of Intent for
Expansion Under Interim Status for the 219-S Waste Handling Facility*.
The Dangerous Waste Permit Application for the 222-S Laboratory Complex
(222-S Complex) will be submitted to the Washington State Department of
Ecology (Ecology) by December 31, 1991.

2. Name of applicants:

U.S. Department of Energy (DOE) Field Office, Richland (RL); and
Westinghouse Hanford Company.

3. Address and phone number of applicants and contact persons:

U.S. Department of Energy	Westinghouse Hanford Company
Field Office, Richland	P.O. Box 1970
P.O. Box 550	Richland, Washington 99352
Richland, Washington 99352	

Contact Persons:

E. A. Bracken, Director	R. E. Lerch, Manager
Environmental Restoration Division	Environmental Division
(509) 376-7277	(509) 376-5556

4. Date checklist prepared:

November 1, 1991

5. Agency requesting checklist:

Washington State
Department of Ecology
Mail Stop PV-11
Olympia, Washington 98504-8711

6. Proposed timing or schedule (including phasing, if applicable):

The NOI is being submitted in accordance with Washington Administrative
Code 173-303-281 "Notice of Intent," Section (2) Item (c) for expansion
of the design capacity of the 219-S Waste Handling Facility treatment and
storage tanks. The NOI will be submitted to Washington State Department
of Ecology (Ecology) by November 1, 1991.

1 The 222-S Complex dangerous waste permit application will be submitted by
2 December 31, 1991, in accordance with *Hanford Federal Facility Consent*
3 *and Agreement Order* (Ecology et al. 1990) Milestone M-20-22.
4

- 5 7. Do you have any plans for future additions, expansion, or further
6 activity related to or connected with this proposal? If yes, explain.
7

8 Plans are being developed to add a new hot cell waste handling facility
9 to the 222-S Complex for sample analysis and characterization of high-
10 level radioactive samples. This hot cell would be attached to the
11 222-S Analytical Laboratory Building and tentatively includes new
12 underground pipelines to the 219-S Waste Handling Facility. Other
13 projects planned are the replacement of the 219-S Waste Handling Facility
14 tanks and underground pipelines. This project will replace the single-
15 shell tanks with double-shell tanks and will replace current underground
16 pipelines with encased pipelines.
17

- 18 8. List any environmental information you know about that has been prepared,
19 or will be prepared, directly related to this proposal.
20

21 This SEPA Checklist is being submitted to Ecology concurrently with the
22 Notice of Intent for the 222-S Laboratory Complex--219-S Waste Handling
23 Facility. The Dangerous Waste Permit Application for the
24 222-S Laboratory Complex (222-S Complex) will be submitted to the
25 Washington State Department of Ecology (Ecology) by December 31, 1991.
26

- 27 9. Do you know whether applications are pending for government approvals of
28 other proposals directly affecting the property covered by your proposal?
29 If yes, explain.
30

31 No other proposals are pending.
32

- 33 10. List any government approvals or permits that will be needed for your
34 proposal, if known.
35

36 A Dangerous Waste Part A and Part B permit application will be submitted
37 to Ecology by December 31, 1991, which includes the increased capacity of
38 the 219-S Waste Handling Facility treatment and storage tanks.
39

- 40 11. Give brief, complete description of your proposal, including the proposed
41 uses and the size of the project and site. There are several questions
42 later in this checklist that ask you to describe certain aspects of your
43 proposal. You do not need to repeat those answers on this page.
44

45 This NOI is for the 219-S Waste Handling Facility located within the
46 222-S Complex in the 200 West Area of the Hanford Facility, Richland,
47 Washington.
48

49 The 219-S Waste Handling Facility consists of three treatment and storage
50 tanks in which liquid mixed waste from the 222-S Analytical Laboratory
51 can be received, treated, and stored. After treatment, the mixed waste
52 is transferred to the Double-Shell Tank System.
53

1 The 222-S Dangerous and Mixed Waste Storage Area, which consists of two
2 storage structures, is used to store dangerous and mixed waste. These
3 two areas currently operate under interim status. At the end of the
4 operational life, these areas will be clean closed. All dangerous waste
5 and dangerous waste constituents will be removed to background levels.
6 Therefore, postclosure monitoring will not be needed.
7

- 8 12. Location of the proposal. Give sufficient information for a person to
9 understand the precise location of your proposed project, including a
10 street address, if any, and section, township, and range, if known. If a
11 proposal would occur over a range of area, provide the range or
12 boundaries of the site(s). Provide a legal description, site plan,
13 vicinity map, and topographic map, if reasonably available. While you
14 should submit any plans required by the agency, you are not required to
15 duplicate maps or detailed plans submitted with any permit applications
16 related to this checklist.
17

18 The 222-S Complex is located on 10th Street in the 200 West Area, which
19 is approximately 30 miles (28 kilometers) north of the city of Richland,
20 Washington. A map and site plans are included with the Part B permit
21 application. The section, township, and range are as follows:
22 Section 1, T12N, R25E.
23

24 B. ENVIRONMENTAL ELEMENTS

25 1. Earth

- 26
27 a. General description of the site (circle one): Flat, rolling, hilly,
28 steep slopes, mountainous, other _____.

29 Flat.

- 30
31 b. What is the steepest slope on the site (approximate percent slope)?

32 The approximate slope of the land at the site of the 222-S Complex
33 is less than two percent. There is no subsidence or soil
34 instability at the 219-S Waste Handling Facility.
35

- 36 c. What general types of soils are found on the site (for example,
37 clay, sandy gravel, peat, muck)? If you know the classification of
38 agricultural soils, specify them and note any prime farmland.
39

40 The soil at the site consists of compacted sand and gravel fill
41 material underlain by sandy gravel with excellent drainage
42 characteristics. No farming is permitted on the Hanford Facility.
43

- 44 d. Are there surface indications or history of unstable soils in the
45 immediate vicinity? If so, describe.
46

47 No.
48
49
50
51
52

1 e. Describe the purpose, type, and approximate quantities of any
2 filling or grading proposed. Indicate source of fill.

3
4 No fill or grading will be required.

5
6 f. Could erosion occur as a result of clearing, construction, or use?
7 If so, generally describe.

8
9 No clearing or construction are required. Erosion will not occur.

10
11 g. About what percent of the site will be covered with impervious
12 surfaces after project construction (for example, asphalt or
13 buildings).

14
15 The existing building will not have any additional surface area
16 covered by construction of any kind.

17
18 h. Proposed measures to reduce or control erosion, or other impacts to
19 the earth, if any:

20
21 No impacts are expected.

22
23 2. Air

24
25 a. What types of emissions to the air would result from the proposal
26 (i.e., dust, automobile, odors, industrial wood smoke) during
27 construction and when the project is completed? If any, generally
28 describe and give approximate quantities, if known.

29
30 Because the 222-S Complex (219-S Waste Handling Facility and the
31 222-S Dangerous Mixed Waste Storage Area) is an existing waste
32 management unit, no construction will be done at this time.

33
34 b. Are there any off-site sources of emissions or odors that may affect
35 your proposal? If so, generally describe.

36
37 No.

38
39 c. Proposed measures to reduce or control emissions or other impacts to
40 the air, if any?

41
42 None at this time.

43
44 3. Water

45
46 a. Surface

47
48 1) Is there any surface water body on or in the immediate vicinity
49 of the site (including year-round and seasonal streams,
50 saltwater, lakes, ponds, wetlands)? If yes, describe type and
51 provide names. If appropriate, state what stream or river it
52 flows into.

53

1 There is no surface water body on or in the immediate vicinity
2 of the 222-S Complex. Two intermittent streams traverse
3 through the Hanford Site. These are Cold Creek and Dry Creek.
4 Water drains through these creeks during the wetter winter and
5 spring months. No perennial streams originate within the Pasco
6 Basin. Primary surface-water features associated with the
7 Hanford Site are the Columbia and Yakima Rivers, and their
8 major tributaries, the Snake and Walla Walla Rivers. West
9 Lake, about 10 acres (4.05 hectares) in size and less than
10 3 feet (0.9 meter) deep, is the only natural lake within the
11 Hanford Site. Waste water ponds, cribs, and ditches associated
12 with nuclear fuel reprocessing and waste disposal activities
13 also are present on the Hanford Site.

- 14
15 2) Will the project require any work over, in, or adjacent to
16 (within 200 feet) the described waters? If yes, please
17 describe and attach available plans.

18 No.

- 19
20
21 3) Estimate the amount of fill and dredge material that would be
22 placed in or removed from surface water or wetlands and
23 indicate the area of the site that would be affected. Indicate
24 the source of fill material.

25 No fill or dredge material will be required.

- 26
27
28 4) Will the proposal require surface water withdrawals or
29 diversions? Give general description, purpose, and approximate
30 quantities if known.

31 No surface water will be affected.

- 32
33
34 5) Does the proposal lie within a 100-year floodplain? If so,
35 note location on the site plan.

36 The 222-S Complex does not lie within a 100-year floodplain.

- 37
38
39 6) Does the proposal involve any discharges of waste materials to
40 surface waters? If so, describe the type of waste and
41 anticipated volume of discharge.

42 There will be no discharge to surface waters.

43
44
45 b. Ground

- 46
47 1) Will groundwater be withdrawn, or will water be discharged to
48 ground water? Give general description, purpose, and
49 approximate quantities if known.

50 Groundwater will not be affected.
51
52

- 1 2) Describe waste material that will be discharged into the ground
2 from septic tanks or other sources, if any (for example:
3 Domestic sewage; industrial, containing the following
4 chemicals; agricultural....; etc.). Describe the general size
5 of the system, the number of such systems, the number of houses
6 to be served (if applicable), or the number of animals or
7 humans the system(s) are expected to serve.

8
9 Waste material will not be discharged into the ground.

10
11 c. Water Run-off (including storm water)

- 12
13 1) Describe the source of run-off (including storm water) and
14 method of collection and disposal, if any (include quantities,
15 if known). Where will this water flow? Will this water flow
16 into other waters? If so, describe.

17
18 The Hanford Facility, which includes the 222-S Complex, has a
19 mild desert climate and receives only 6 to 7 inches (15 to
20 18 centimeters) of annual precipitation. Any precipitation
21 that occurs at the site will run off the existing buildings and
22 seep into the soil on and near the site. No run-off will enter
23 surface waters.

- 24
25 2) Could waste materials enter ground or surface waters? If so,
26 generally describe.

27
28 No waste materials will enter surface waters.

29
30 d. Proposed measures to reduce or control surface, ground, and run-off
31 water impacts, if any:

32
33 No water impacts are expected. There are no proposals at this time.

34
35 4. Plants

36
37 a. Check or circle the types of vegetation found on the site.

- 38
39 deciduous tree: alder, maple, aspen, other
40 evergreen tree: fir, cedar, pine, other
41 shrubs
42 grass
43 pasture
44 crop or grain
45 wet soil plants: cattail, buttercup, bulrush, skunk cabbage,
46 other
47 water plants: water lily, eelgrass, milfoil, other
48 other types of vegetation

49
50 Small amounts of forbes and grasses seasonally might be present.
51

1 b. What kind and amount of vegetation will be removed or altered?
2

3 No vegetation will be removed or altered.
4

5 c. List threatened or endangered species known to be on or near the
6 site.
7

8 No threatened or endangered plant species are known to occur on or
9 near the 222-S Complex.
10

11 d. Proposed landscaping, use of native plants, or other measures to
12 preserve or enhance vegetation on the site, if any:
13

14 None at this time.
15

16 5. Animals
17

18 a. Circle any birds and animals which have been observed on or near the
19 site or are known to be on or near the site:
20

21 birds: hawk, heron, eagle, songbirds, other:

22 mammals: deer, bear, elk, beaver, other:

23 fish: bass, salmon, trout, herring, shellfish, other:
24

25 Starlings, pigeons, and lagomorphs have been observed near the site.
26

27 b. List any threatened or endangered species known to be on or near the
28 site.
29

30 Of the two federal- and state-listed endangered species observed on
31 the Hanford Facility, the bald eagle is a regular winter visitor,
32 occurring principally along the Columbia River, and the peregrine
33 falcon is an accidental visitor. The state listed American white
34 pelican is an uncommon seasonal resident along the Columbia River.
35 No federal or state listed endangered species are known to occur on
36 or near the 222-S Complex.
37

38 c. Is the site part of a migration route? If so, explain.
39

40 No. However, the Columbia River, which is 6 miles (10 kilometers)
41 away, is part of the broad Pacific Flyway for waterfowl migration.
42 Other birds also migrate along the Columbia River.
43

44 d. Proposed measures to preserve or enhance wildlife, if any:
45

46 None at this time.
47

1 6. Energy and Natural Resources
2

- 3 a. What kinds of energy (electric, natural gas, oil, wood stove, solar)
4 will be used to meet the completed project's energy needs? Describe
5 whether it will be used for heating, manufacturing, etc.
6

7 Electricity will be used to provide heating and lighting and to
8 operate the 222-S Complex.
9

- 10 b. Would your project affect the potential use of solar energy by
11 adjacent properties? If so, generally describe.
12

13 No.
14

- 15 c. What kinds of energy conservation features are included in the plans
16 of this proposal? List other proposed measures to reduce or control
17 energy impacts, if any:
18

19 None.
20

21 7. Environmental Health
22

- 23 a. Are there any environmental health hazards, including exposure to
24 toxic chemicals, risk of fire and explosion, spill, or hazardous
25 waste, that could occur as a result of this proposal? If so,
26 describe.
27

28 Possible environmental health hazards from waste treatment and
29 storage activities at the 222-S Complex could come from incompatible
30 waste, combustible waste, accidental liquid spills, radiation
31 exposure, and a criticality incident.
32

- 33 1) Describe special emergency services that might be required.
34

35 Hanford Facility security, fire response, and ambulance
36 services are on call at all times in the event of an onsite
37 emergency.
38

- 39 2) Proposed measures to reduce or control environmental health
40 hazards, if any:
41

42 The 219-S Waste Handling Facility treats and stores liquid
43 mixed before transfer to the Double-Shell Tank System. All
44 personnel are trained to follow proper procedures during these
45 operations to minimize exposure to dangerous waste. The
46 222-S Complex has areas for waste disposal and decontamination,
47 and systems for ventilation, radiation monitoring, and fire
48 protection, including alarms.
49

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52

b. Noise

1) What type of noise exists in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

On a long-term basis, minor amounts of noise from traffic and equipment are expected during operating hours.

3) Proposed measures to reduce or control noise impacts, if any:

Vehicles and equipment meet manufacturer's requirements for noise suppression. Employees are trained in the use of ear protection equipment.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The Hanford Facility is defined as a single RCRA facility, identified by the EPA/State Identification Number WA7890008967, that consists of over 60 treatment, storage, and/or disposal (TSD) units conducting dangerous waste management activities. These TSD units are included in the *Hanford Facility Dangerous Waste Part A Permit Application*. The Hanford Facility consists of the contiguous portion of the Hanford Site that contains these TSD units and, for the purposes of the RCRA, is owned and operated by the U.S. Department of Energy (excluding lands north and east of the Columbia River, river islands, state owned or leased lands, lands owned by the Bonneville Power Administration, lands leased to the Washington Public Power Supply System, and the Ashe Substation). The Hanford Facility is a single site for purposes of provisions regulating 'offsite' or 'onsite' waste handling.

b. Has the site been used for agriculture? If so, describe.

No part of the Hanford Facility, including the 222-S Complex, has been used for agricultural purposes since 1943.

c. Describe any structures on the site.

The 222-S Analytical Laboratory is housed in a two-story, aboveground building, 322 feet (98.1 meters) long and 107 feet (32.6 meters) wide. The building is divided into laboratory support spaces, office spaces, a multicurie wing, and supplemental service areas. The 222-S Analytical Laboratory has areas for waste disposal

1 and decontamination, and systems for ventilation, radiation
2 monitoring, and fire protection, including alarms.
3

4 The first floor of the 222-S Analytical Laboratory Building is
5 divided into three general sections: west, central, and east. The
6 west section contains a lunchroom, offices, and changerooms; this
7 section is kept free of radioactivity and toxic chemicals. The
8 central section has service areas and laboratories where chemicals
9 and low-level radioactive materials are analyzed; radioactive
10 samples also are analyzed occasionally. The east section, commonly
11 known as the multicurie section, has laboratories and cells in which
12 radioactive materials are analyzed; this section also has service
13 areas.
14

15 The 219-S Waste Handling Facility has three storage tanks in which
16 liquid acid waste from the 222-S Analytical Laboratory can be
17 received, treated and stored. The treated mixed waste is
18 transferred to the Double-Shell Tank System. A sodium-hydroxide
19 supply tank, of 700-gallon (2,650-liter) capacity, also is located
20 in this area.
21

22 The 222-S Dangerous and Mixed Waste Storage Area consists of two
23 storage structures located on a concrete pad on the north side of
24 the 222-S Analytical Laboratory Building. The 222-S Dangerous and
25 Mixed Waste Storage Area stores U.S. Department of Transportation-
26 specified 55-gallon (208-liter) drums of mixed and dangerous waste.
27 The drums are stored until the drums are transferred to the Hanford
28 Central Waste Complex (mixed waste) or to the 616 Nonradioactive
29 Dangerous Waste Storage Facility (nonradioactive dangerous waste)
30 for storage and/or disposal.
31

32 d. Will any structures be demolished? If so, what?
33

34 No structures will be demolished.
35

36 e. What is the current zoning classification of the site?
37

38 The Hanford Facility is zoned by Benton County as an Unclassified
39 Use (U) district.
40

41 f. What is the current comprehensive plan designation of the site?
42

43 The 1985 Benton County Comprehensive Land Use Plan designates the
44 Hanford Site as the "Hanford Reservation". Under this designation,
45 land on the Hanford Site may be used for "activities nuclear in
46 nature." Nonnuclear activities are authorized "if and when DOE
47 approval for such activities is obtained."
48

49 g. If applicable, what is the current shoreline master program
50 designation of the site?
51

52 Does not apply.
53

1 h. Has any part of the site been classified as an "environmentally
2 sensitive" area? If so, specify.

3
4 No part of the 222-S Complex or adjacent grounds have been
5 classified as environmentally sensitive.
6

7 i. Approximately how many people would reside or work in the completed
8 project?
9

10 Approximately 20 people will be employed at the 219-S Waste Handling
11 Facility and the 222-S Dangerous and Mixed Waste Storage Area.
12

13 j. Approximately how many people would the completed project displace?
14

15 None.
16

17 k. Proposed measures to avoid or reduce displacement impacts, if any:
18

19 Does not apply.
20

21 l. Proposed measures to ensure the proposal is compatible with existing
22 and projected land uses and plans, if any:
23

24 Refer to answer to Checklist Question B.8.f.
25

26 **9. Housing**
27

28 a. Approximately how many units would be provided, if any? Indicate
29 whether high, middle, or low-income housing.
30

31 None.
32

33 b. Approximately how many units, if any, would be eliminated? Indicate
34 whether high, middle, or low-income housing.
35

36 None.
37

38 c. Proposed measures to reduce or control housing impacts, if any:
39

40 Does not apply.
41

42 **10. Aesthetics**
43

44 a. What is the tallest height of any proposed structure(s), not
45 including antennas; what is the principal exterior building
46 material(s) proposed?
47

48 No construction is proposed.
49

50 b. What views in the immediate vicinity would be altered or obstructed?
51

52 None.
53

- 1 c. Proposed measures to reduce or control aesthetic impacts, if any:
2
3 None.

4
5 **11. Light and Glare**
6

- 7 a. What type of light or glare will the proposal produce? What time of
8 day would it mainly occur?

9
10 None.

- 11
12 b. Could light or glare from the finished project be a safety hazard or
13 interfere with views?

14
15 No.

- 16
17 c. What existing off-site sources of light or glare may affect your
18 proposal?

19
20 None.

- 21
22 d. Proposed measures to reduce or control light and glare impacts, if
23 any:

24
25 Does not apply.
26

27 **12. Recreation**
28

- 29 a. What designated and informal recreational opportunities are in the
30 immediate vicinity?

31
32 None.

- 33
34 b. Would the proposed project displace any existing recreational uses?
35 If so, describe.

36
37 No.

- 38
39 c. Proposed measures to reduce or control impacts on recreation,
40 including recreation opportunities to be provided by the project or
41 applicant, if any?

42
43 Does not apply.
44

45 **13. Historic and Cultural Preservation**
46

- 47 a. Are there any places or objects listed on, or proposed for,
48 national, state, or local preservation registers known to be on or
49 next to the site? If so, generally describe.

50
51 No places or objects listed on, or proposed for, national, state, or
52 local preservation registers are known to be on or next to the
53 222-S Complex.

- 1 b. Generally describe any landmarks or evidence of historic,
2 archaeological, scientific, or cultural importance known to be on or
3 next to the site.
4

5 There are no known archaeological, historical, or Native American
6 religious sites on or next to the 222-S Complex. Additional
7 information on the Hanford Facility environment can be found in the
8 environmental document referred to in the answer to Checklist
9 Question A.8.

- 10
11 c. Proposed measures to reduce or control impacts, if any:

12 Does not apply.
13
14

15 14. Transportation

- 16
17 a. Identify public streets and highways serving the site, and describe
18 proposed access to the existing street system. Show on site plans,
19 if any.
20

21 Does not apply.
22

- 23 b. Is site currently served by public transit? If not, what is the
24 approximate distance to the nearest transit stop?
25

26 The 222-S Complex is not served by public transit. The nearest
27 public transit is 30 miles (48.3 kilometers) away.
28

- 29 c. How many parking spaces would the completed project have? How many
30 would the project eliminate?
31

32 Not applicable.
33

- 34 d. Will the proposal require any new roads or streets, or improvements
35 to existing roads or streets, not including driveways? If so,
36 generally describe (indicate whether public or private).
37

38 No new roads or improvements to existing roads are required.
39

- 40 e. Will the project use (or occur in the immediate vicinity of) water,
41 rail, or air transportation? If so, generally describe.
42

43 No.
44

- 45 f. How many vehicular trips per day would be generated by the completed
46 project? If known, indicate when peak volumes would occur.
47

48 None
49

- 50 g. Proposed measures to reduce or control transportation impacts, if
51 any:
52

53 None.

1 15. Public Services

2
3 a. Would the project result in an increased need for public services
4 (for example: fire protection, police protection, health care,
5 schools, other)? If so, generally describe.

6
7 No.

8
9 b. Proposed measures to reduce or control direct impacts on public
10 services, if any:

11 Does not apply.
12

13
14 16. Utilities

15
16 a. List utilities currently available at the site: electricity, natural
17 gas, water, refuse service, telephone, sanitary sewer, septic
18 system, other:

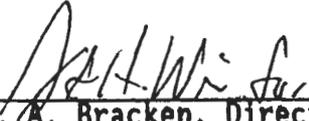
19
20 Electricity, telephone, water, septic system, and Hanford Local Area
21 Network computer link.

22
23 b. Describe the utilities that are proposed for the project, the
24 utility providing the service, and the general construction
25 activities on the site or in the immediate vicinity which might be
26 needed.

27
28 No additional utilities are proposed.
29
30
31

32 SIGNATURES

33
34 The above answers are true and complete to the best of my knowledge. We
35 understand that the lead agency is relying on them to make its decision.
36
37

38
39 
40 _____
41 E. A. Bracken, Director
42 Environmental Restoration Division
43 U.S. Department of Energy
44 Field Office, Richland
45

46
47
48
49 _____
50 11/8/91
51 Date

52
53 
54 _____
55 R. E. Lerch, Manager
56 Environmental Division
57 Westinghouse Hanford Company

58
59 _____
60 10-25-91
61 Date