

***Appendix A***  
***Environmental Monitoring Program Maps***

*This page intentionally left blank*

## ***2005 Environmental Monitoring Program Sample Points***

The following maps contain points sampled as part of the West Valley Demonstration Project (WVDP) routine environmental monitoring program for 2005. This program met or exceeded the requirements of U.S. Department of Energy (DOE) Order 450.1, DOE Order 5400.5, and DOE/EH-0173T. Specific methods and recommended monitoring program elements are found in DOE/EP-0096, "A Guide for Effluent Radiological Measurements at DOE Installations," and DOE/EP-0023, "A Guide for Environmental Radiological Surveillance at U.S. Department of Energy Installations," which were the bases for selecting most of the sampling locations. Additional monitoring was mandated by air and water discharge permits (40 CFR 61 and SPDES).

The index on pages A-iv through A-viii is a list of the codes used to identify the various sampling locations, which are shown on Figures A-2 through A-16. The sample location code describes the physical location where the sample is collected. The code consists of seven or eight characters: The first character identifies the sample medium as **A**ir, **W**ater, **S**oil/**S**ediment, **B**iological, or **D**irect Measurement. The second character specifies **oN**-site or **oFf**-site. The remaining characters describe the specific location (e.g., **AFGRVAL** is **A**ir **oFf**-site at **GR**eat **VAL**ley). Distances are measured in a straight line from the on-site main stack to the sampling location. Sampling points located inside buildings (e.g., on-site drinking water) or points that do not have a fixed location (e.g., outdoor ventilated enclosures) are not shown on these maps. Areas labeled as "wetlands" do not depict the WVDP's formally delineated wetlands inventory. As an aid to the reader, these polygons indicate relatively low-lying areas that almost always contain wet surface soils or standing water during years with typical precipitation totals.

### ***List of Maps***

A-1. West Valley Demonstration Project Base Map _____	A-1
A-2. On-Site Surface Water and Soil/Sediment Sampling Locations _____	A-2
A-3. On-Site Storm Water Outfalls _____	A-3
A-4. Rail Spur Storm Water Outfalls _____	A-4
A-5. Off-Site Surface Water and Soil/Sediment Sampling Locations _____	A-5
A-6. On-Site Air Monitoring and Sampling Locations _____	A-6
A-7. Off-Site Air and Fallout Sampling Locations _____	A-7
A-8. Active WVDP Groundwater Monitoring Locations _____	A-8
A-9. North Plateau Groundwater Monitoring Network _____	A-9
A-10. South Plateau Groundwater Monitoring Network _____	A-10
A-11. Near-Site Drinking Water and Biological Sampling Locations _____	A-11
A-12. Location of On-Site Thermoluminescent Dosimeters (TLDs) _____	A-12
A-13. Location of Off-Site Thermoluminescent Dosimeters (TLDs) Within 5 Kilometers of the WVDP _____	A-13
A-14. Environmental Sampling Locations Between 5 and 10 Kilometers From the WVDP _____	A-14
A-15. Environmental Sampling Locations More Than 10 Kilometers From the WVDP _____	A-15
A-16. Population by Sector Within 80 Kilometers of the WVDP (2002 Estimate) _____	A-16

## *List of Sampling Locations*

### **On-Site Surface Water and Soil/Sediment Sampling Locations (Fig. A-2)**

WNSP001	Lagoon 3 Weir Point
WNSP006	Facility Main Drainage
SNSP006	Soil at WNSP006
WNSP116	Pseudo-Monitoring Point in Frank's Creek
WNSP007	Sanitary Waste Discharge
WNSWAMP	Northeast Swamp Drainage Point
SNSWAMP	Soil at WNSWAMP
WNSW74A	North Swamp Drainage Point
SNSW74A	Soil at WNSW74A
WNSDADR	SDA Runoff
WNSP008	French Drain LLWTF Area
WNSP005	South Facility Drainage
WNSCOOLW	Cooling Tower
WNSFRC67	Frank's Creek East
WNSERB53	Erdman Brook
WNSNDADR	Disposal Area Drainage
WNSDCELD	Drum Cell Drainage
WNSNDATR	NDA Trench Interceptor Project

### **Storm Water Outfalls (Figs. A-3 and A-4)**

#### WNSO-Series Storm Water Outfalls

##### GROUP 1

WNSO02	CPC Waste Storage Area Swale
WNSO04	North Swamp Drainage (WNSW74A)

##### GROUP 2

WNSO06	Northeast Swamp Drainage (WNSWAMP)
WNSO33	LAG Storage Drainage

##### GROUP 3

WNSO09	Substation
WNSO12	South Facility Drainage (WNSP005)

##### GROUP 4

WNSO34	Rail Spur Culvert
--------	-------------------

## *List of Sampling Locations (continued)*

### **Storm Water Outfalls (Figs. A-3 and A-4) (concluded)**

#### GROUP 5

WNSO14	NDA Service Road Drainage North
WNSO17	NDA Service Road Drainage South
WNSO28	Drum Cell West Road

#### GROUP 6

WNSO36	Firing Range Wetland Drainage
WNSO37	Pump House Roadway
WNSO38	Lake Two Roadway North
WNSO39	Lake Two Roadway South
WNSO40	Land Between the Lakes (Pending Removal from Permit)
WNSO41	Lake One Roadway
WNSO42	Pre-Railroad Spur Wetland Area (Near WFBCBKG)

#### GROUP 7

WNSO20	Disposal Area Drainage (WNNDADR)
--------	----------------------------------

#### GROUP 8

WNSO27	Drum Cell Drainage West
WNSO35	Drum Cell Drainage East
WNSWR01	Storm Water Precipitation pH Measurement Location Near the Site Rain Gauge

### **Off-Site Surface Water and Soil/Sediment Sampling Locations (Fig. A-5)**

WFBCBKG	Buttermilk Creek near Fox Valley, Background
WBCTCB	Buttermilk Creek at Thomas Corners
WFBIGBR	Cattaraugus Creek at Bigelow Bridge, Background
WFFELBR	Cattaraugus Creek at Felton Bridge
SFSDSED	Cattaraugus Creek at Springville Dam, Sediment
SFCCSED	Cattaraugus Creek at Felton Bridge, Sediment
SFTCED	Buttermilk Creek at Thomas Corners, Sediment
SFBCSED	Buttermilk Creek at Fox Valley Road, Background Sediment
SFRSPRD	Soil at Rock Springs Road Air Sampler
SFRT240	Soil at Route 240 Air Sampler
SFFXVRD	Soil at Fox Valley Road Air Sampler
WNSTAW9	Standing Water

## *List of Sampling Locations (continued)*

### **On-Site Air Monitoring and Sampling Locations (Fig. A-6)**

ANSTACK	Main Plant
ANSTSTK	Supernatant Treatment System
ANCSSTK	01-14 Building
ANCSRFK	Size-Reduction Facility
ANCSPFK	Container Sorting and Packaging Facility
ANVITSK	Vitrification Heating, Ventilation, and Air Conditioning
ANLAGAM	Lag Storage Area (ambient air)
ANNDAAM	NDA Area (ambient air)
ANSDAT9	SDA Trench 9 (ambient air)
ANRGFOP	Rain Gauge Fallout
ANRHWFK	Remote-Handled Waste Facility

### **Off-Site Air and Fallout Sampling Locations (Fig. A-7)**

AFFXVRD	Fox Valley Sampler
AFFXFOP	Fox Valley Fallout
AFTCORD	Thomas Corners Sampler
AFTCFOP	Thomas Corners Fallout
AFRT240	Route 240 Sampler
AF24FOP	Route 240 Fallout
AFBOEHN	Dutch Hill Road Sampler
AFDHFOP	Dutch Hill Fallout
AFRSPRD	Rock Springs Road Sampler
AFBLKST	Bulk Storage Warehouse Sampler

## *List of Sampling Locations (continued)*

### **Active WVDP Groundwater Monitoring Locations (Fig. A-8)**

#### **North Plateau Groundwater Monitoring Network (Fig. A-9)**

#### **South Plateau Groundwater Monitoring Network (Fig. A-10)**

SSWMU #1	Low-Level Waste Treatment Facility Wells
SSWMU #2	Miscellaneous Small Units Wells
SSWMU #3	Liquid Waste Treatment System Wells
SSWMU #4	HLW Storage and Processing Tank Wells
SSWMU #5	Maintenance Shop Leach Field Wells
SSWMU #6	Low-Level Waste Storage Area Wells
SSWMU #7	CPC Waste Storage Area Wells
SSWMU #8	CDDL Wells
SSWMU #9	NDA Units Wells and NDATR
SSWMU #10	IRTS Drum Cell Wells
RHWF	Remote-Handled Waste Facility Wells
SSWMU #11	SDA Unit Wells
North Plateau Seeps	Northeastern Edge of North Plateau
Well Points	Downgradient of Main Plant
WNWNB1S	Former North Plateau Background Well

### **Near-Site Drinking Water and Biological Sampling Locations (Fig. A-11)**

BFFCATC	Cattaraugus Creek Fish, Downstream
BFFCATD	Cattaraugus Creek Fish, Downstream of Springville Dam
BFMREED	North-Northwest Milk, Near-Site
BFMWIDR	Southeast Milk, Near-Site
BFMSCHT	South Milk, Near-Site
BFMBLSY	West-Northwest Milk, Near-Site
BFVNEAR	Produce, Near-Site
BFDNEAR	Venison, Near-Site
FWWEL Series	Private Wells

### **Location of On-Site Thermoluminescent Dosimeters (TLDs) (Fig. A-12)**

DNTLD Series	On-Site Direct Radiation
--------------	--------------------------

### **Location of Off-Site Thermoluminescent Dosimeters (TLDs) Within 5 Kilometers of the WVDP (Fig. A-13)**

DFTLD Series	Off-Site Direct Radiation
--------------	---------------------------

## ***List of Sampling Locations (concluded)***

### **Environmental Sampling Locations Between 5 and 10 Kilometers From the WVDP (Fig. A-14)**

AFSPRVL	Springville Air Sampler
SFSPRVL	Soil at Springville Air Sampler
DFTLD21	TLD at Springville Air Sampler
WFWEL10	Drinking Water at Springville Air Sampler
BFVNEAR	Produce, Near-site
DFTLD22	TLD at West Valley Air Sampler
SFWEVAL	Soil at West Valley Air Sampler
AFWEVAL	West Valley Air Sampler

### **Environmental Sampling Locations More Than 10 Kilometers From the WVDP (Fig. A-15)**

BFMCTLS	Milk, South, Background
BFVCTRL	Produce, Background
BFFCTRL	Cattaraugus Creek Fish, Background
BFDCTRL	Venison, Background
AFGRVAL	Great Valley Air Sampler, Background
SFGRVAL	Soil at Great Valley Air Sampler, Background
DFTLD23	TLD at Great Valley Air Sampler
WFWEL06	Drinking Water at Great Valley Air Sampler

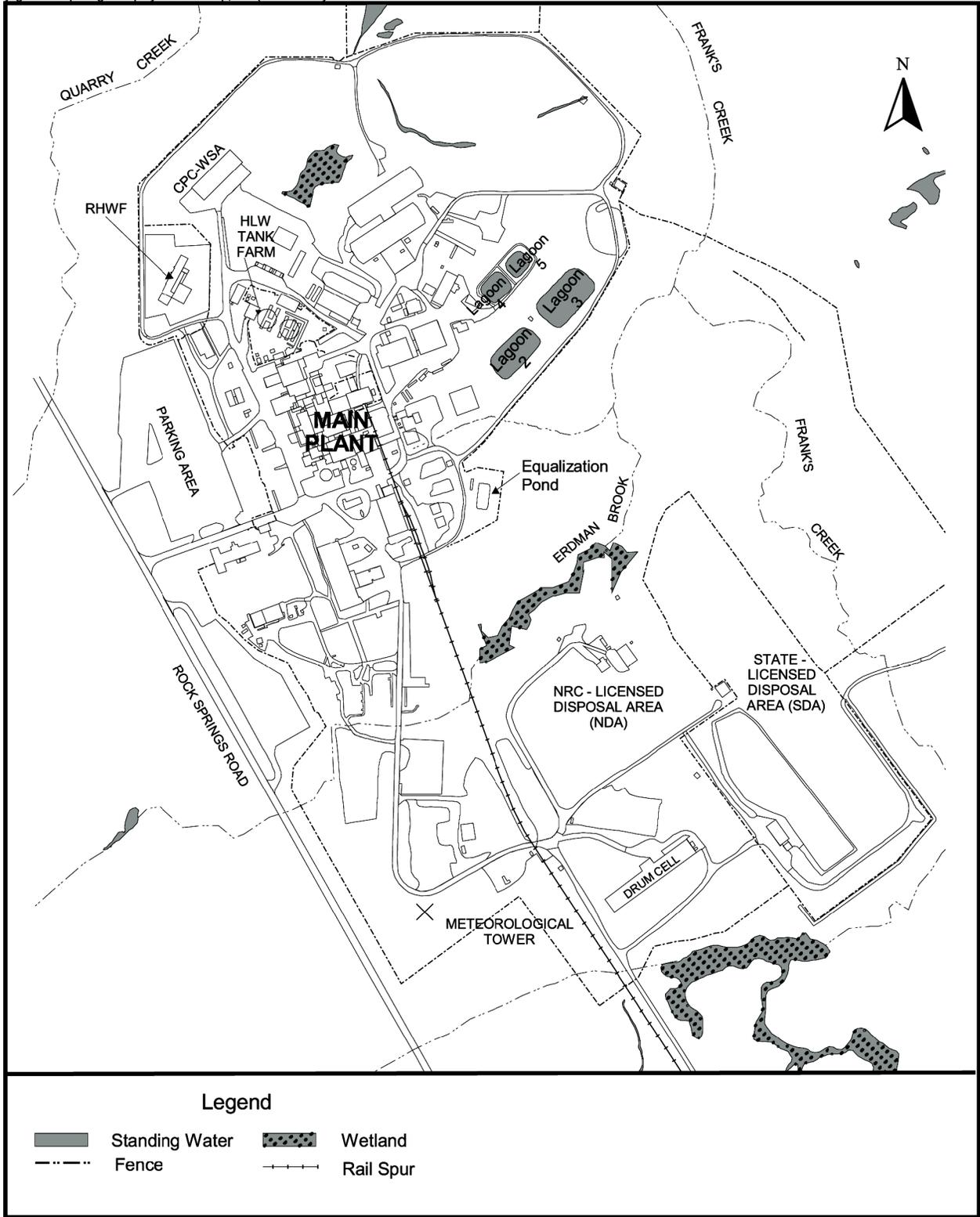


Figure A-1. West Valley Demonstration Project Base Map

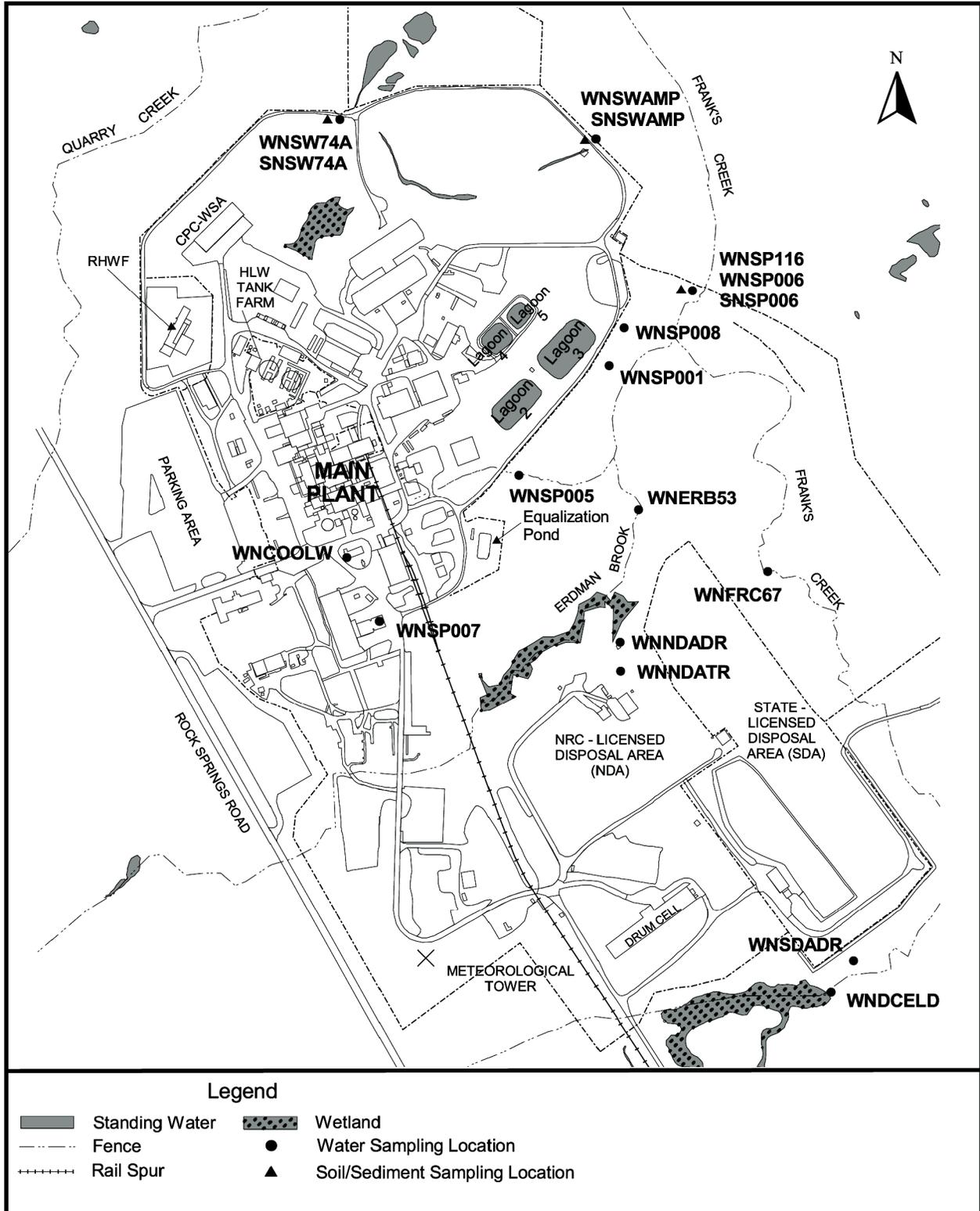


Figure A-2. On-Site Surface Water and Soil/Sediment Sampling Locations

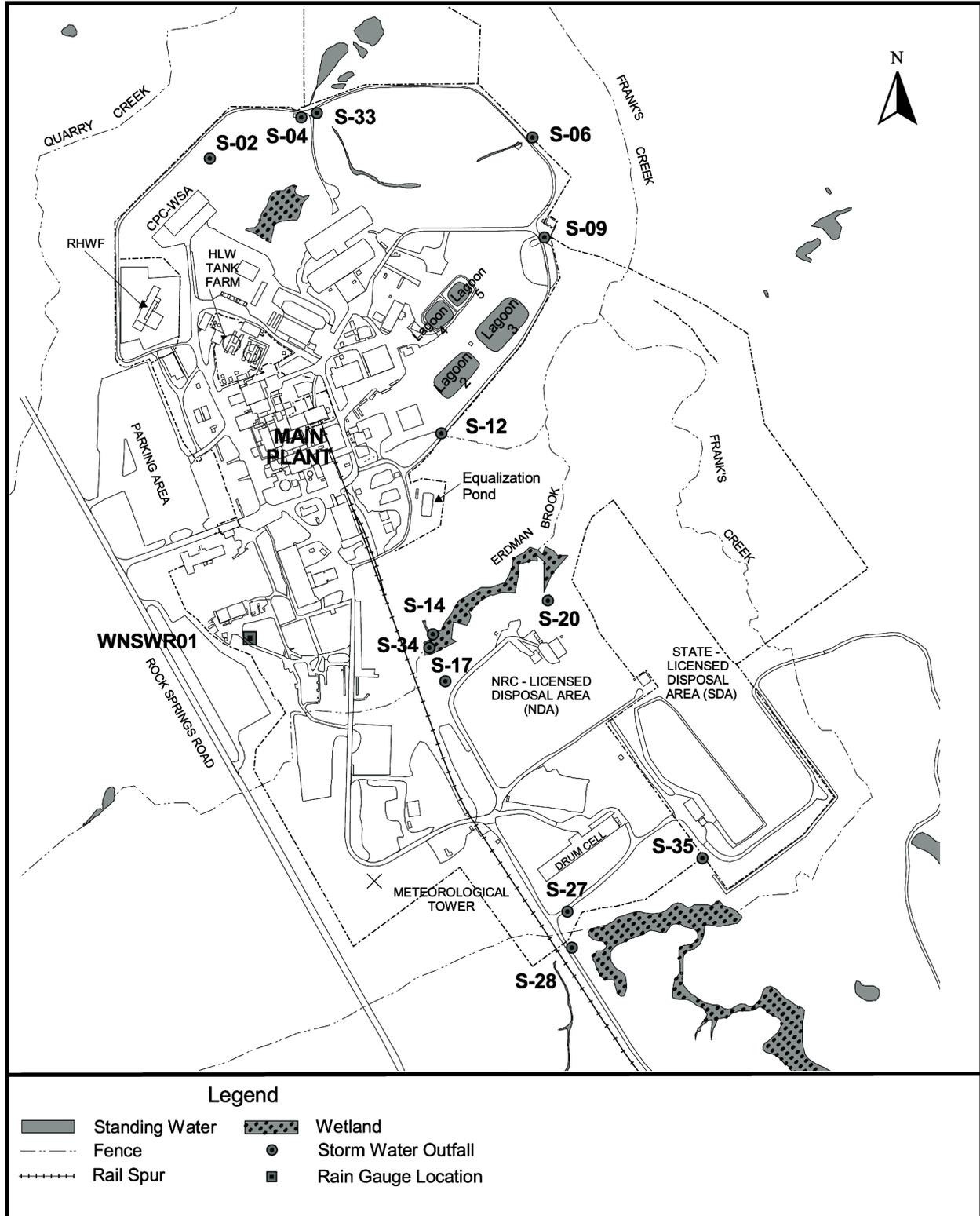


Figure A-3. On-Site Storm Water Outfalls

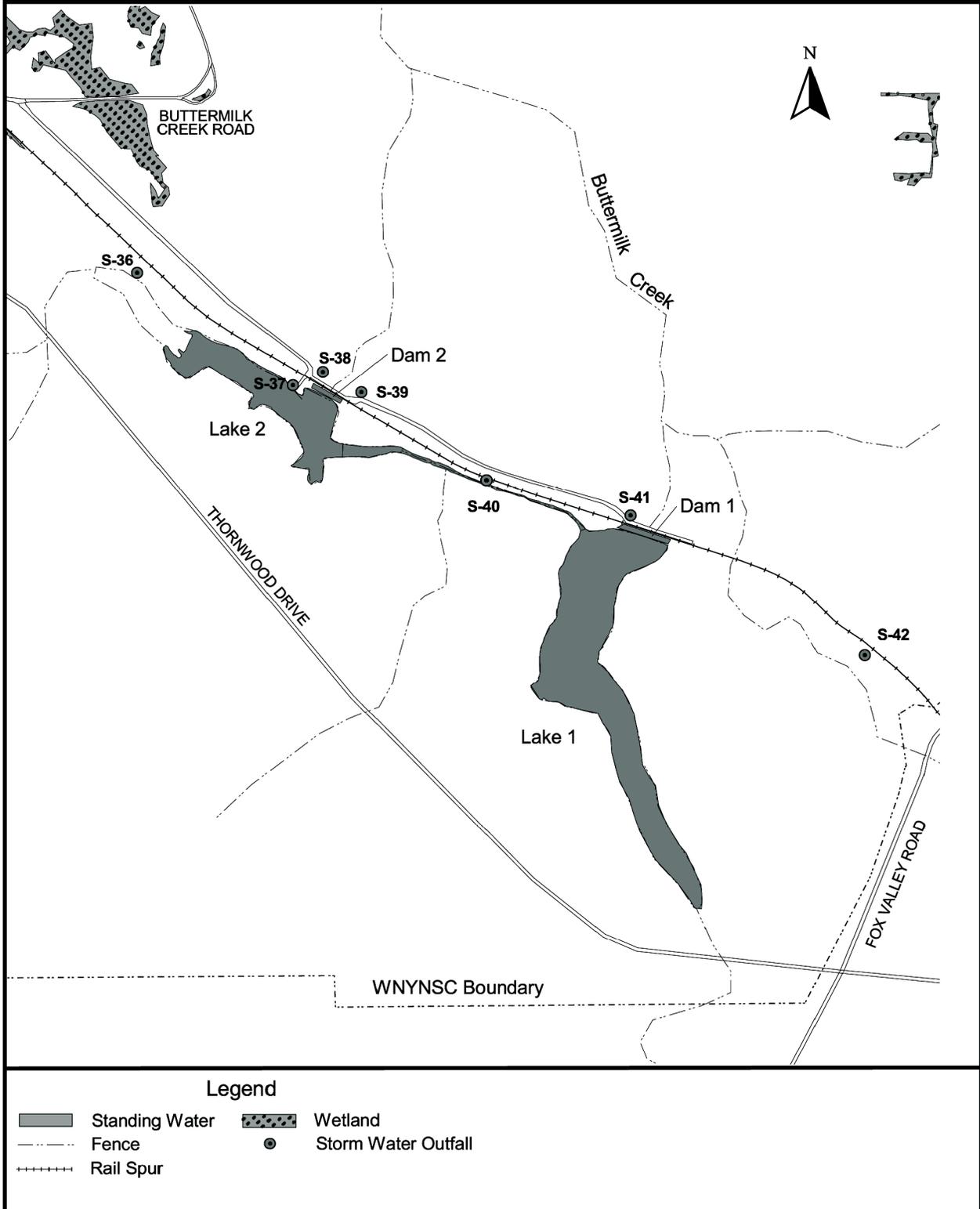


Figure A-4. Rail Spur Storm Water Outfalls

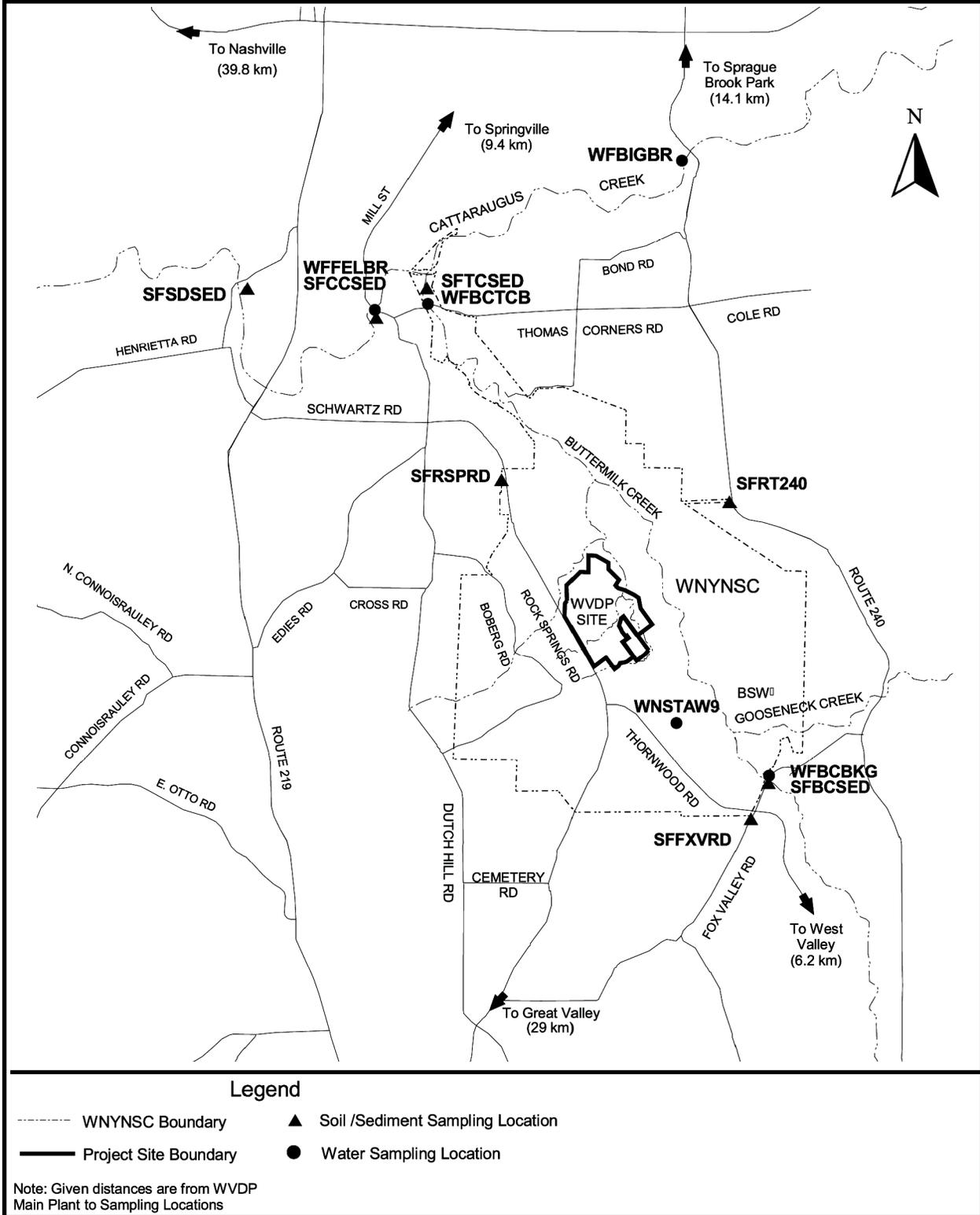


Figure A-5. Off-Site Surface Water and Soil/Sediment Sampling Locations

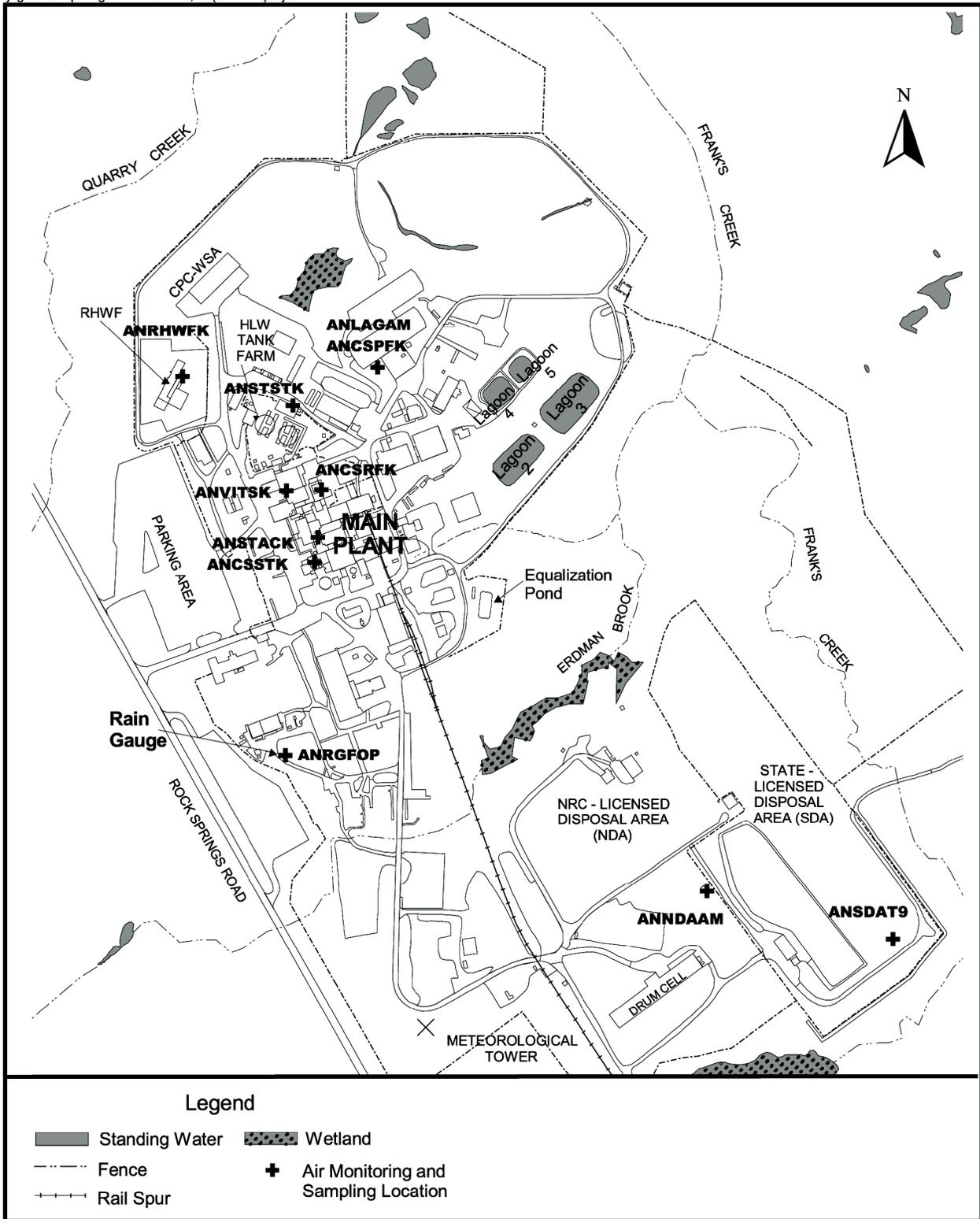


Figure A-6. On-Site Air Monitoring and Sampling Locations

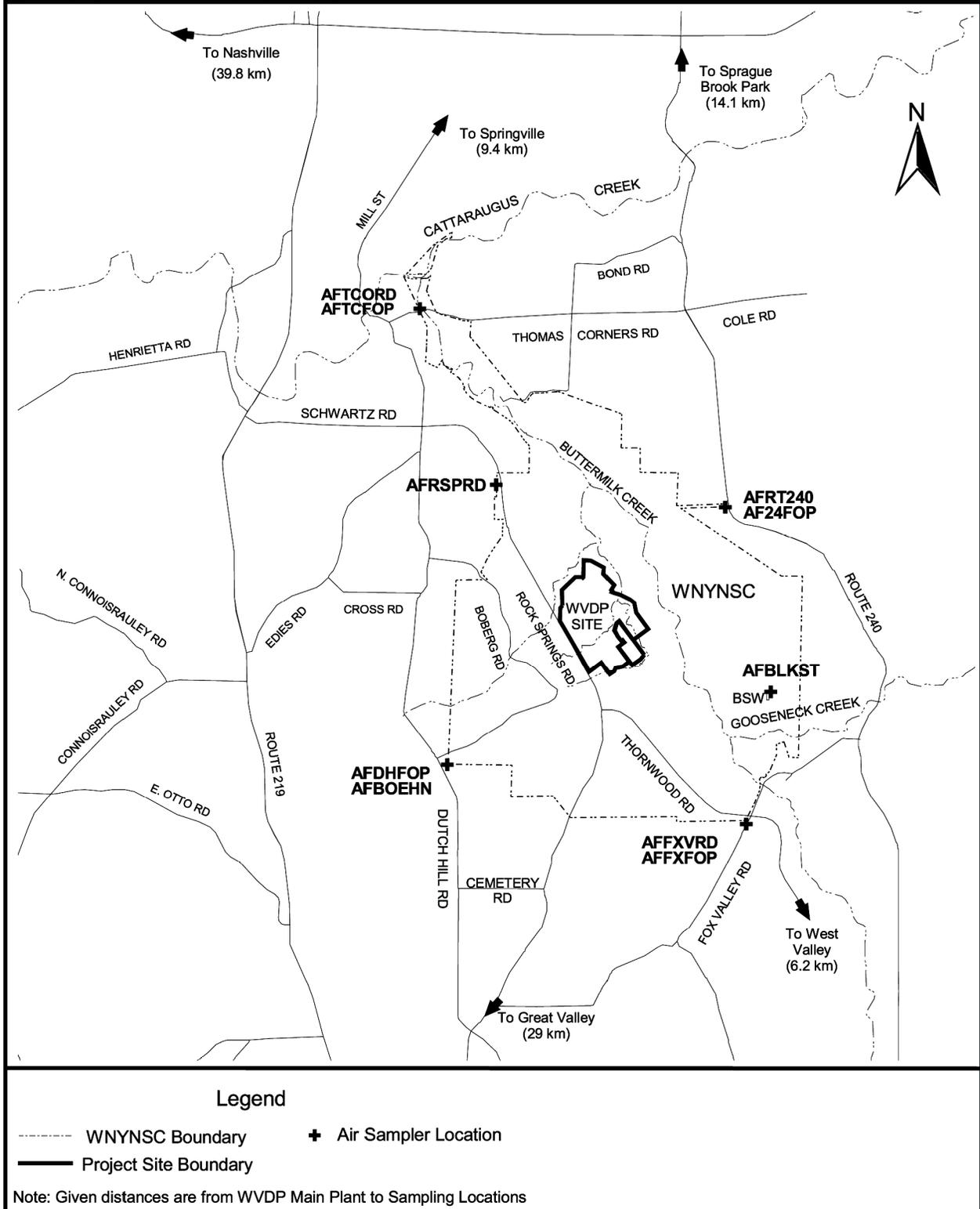


Figure A-7. Off-Site Air and Fallout Sampling Locations





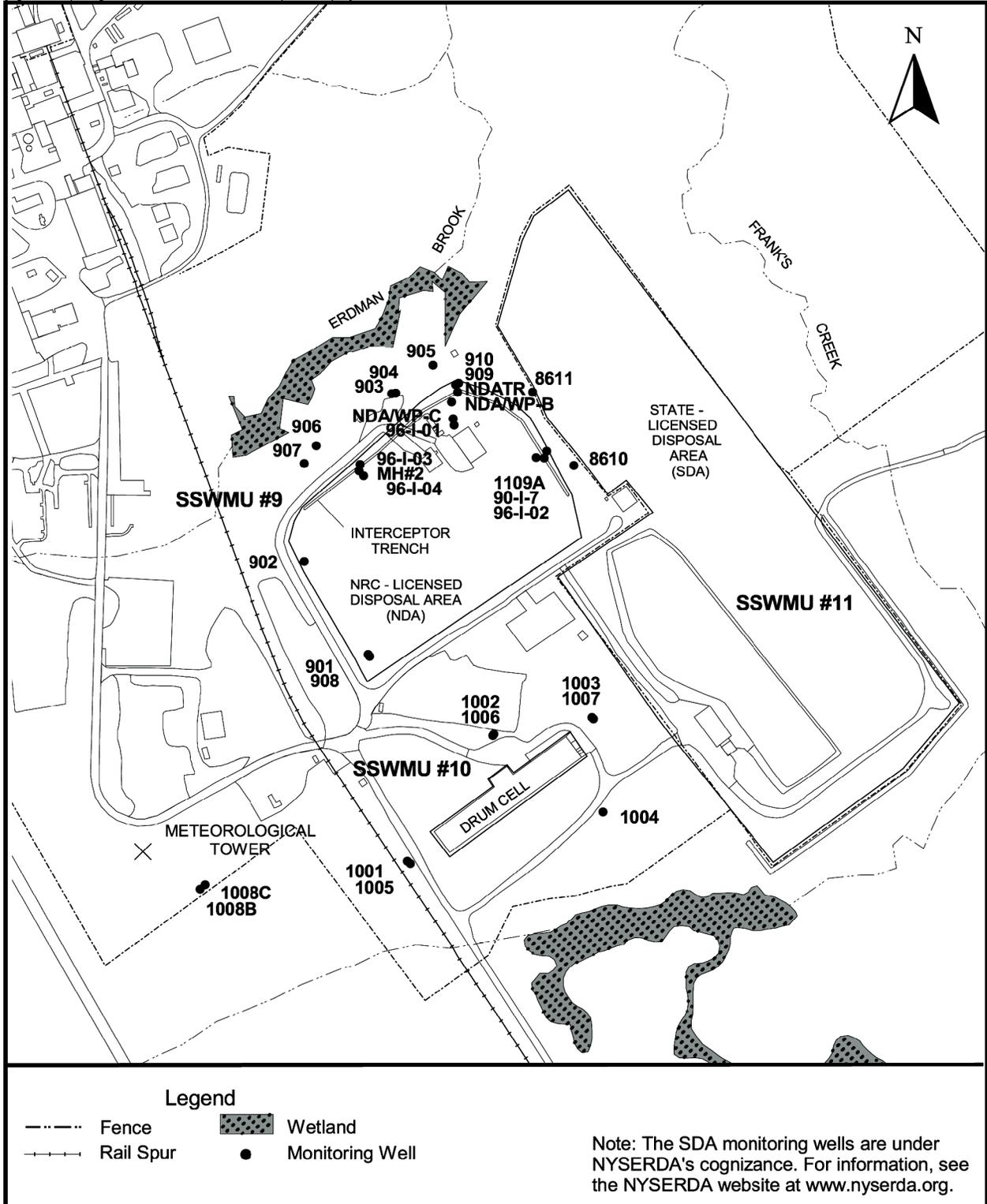


Figure A-10. South Plateau Groundwater Monitoring Network (Includes Wells Used for Water-Level Measurements)

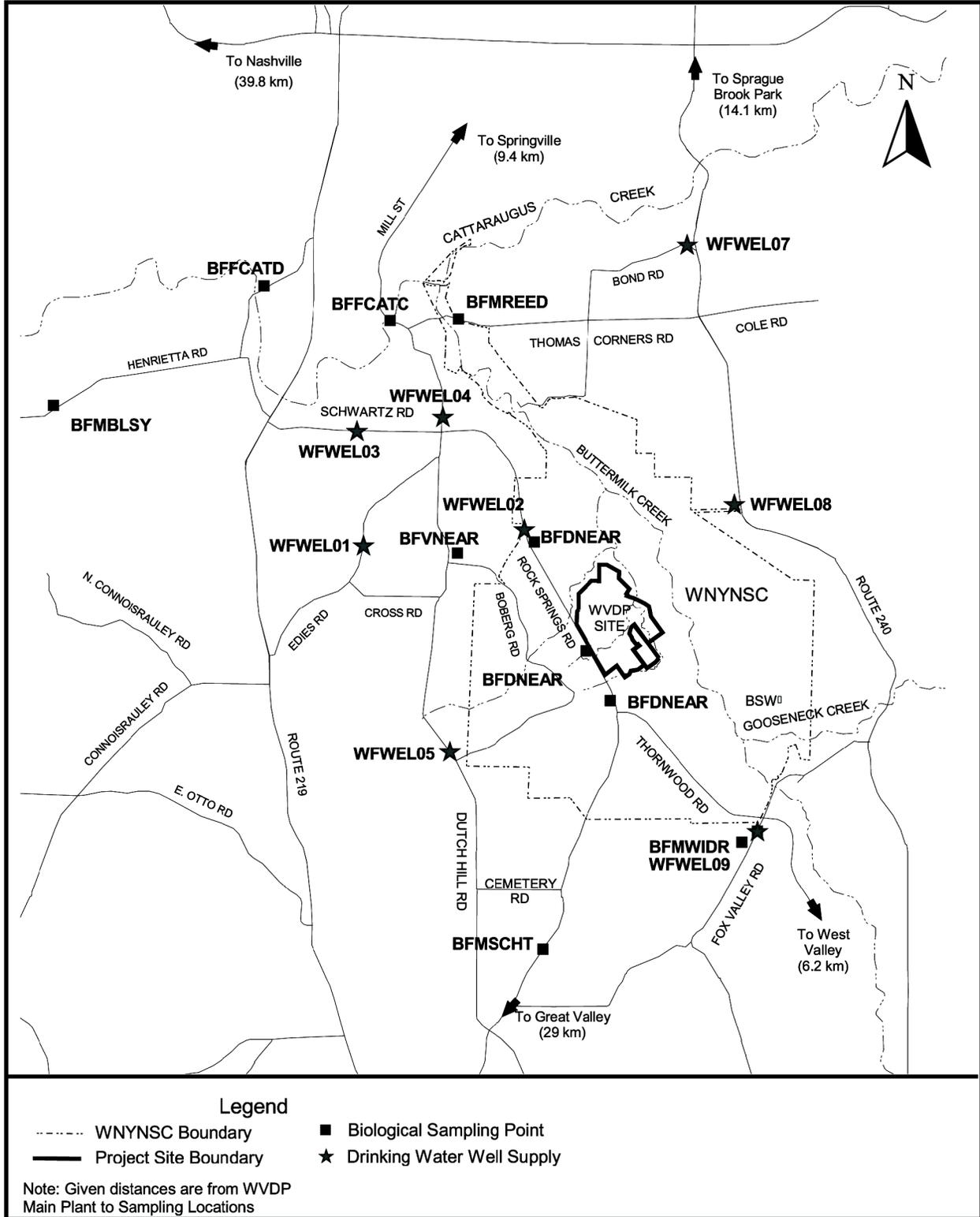


Figure A-11. Near-Site Drinking Water and Biological Sampling Locations

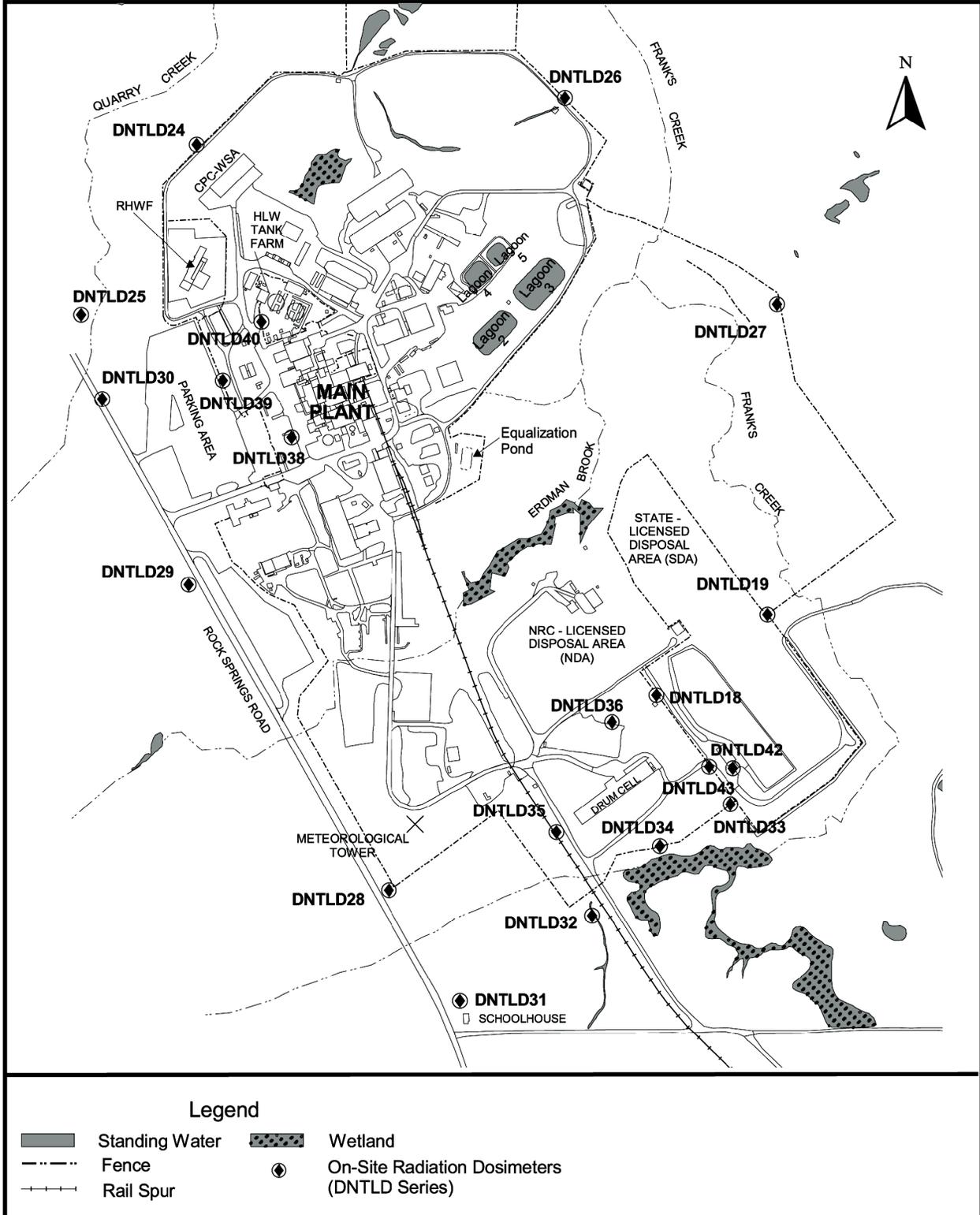


Figure A-12. Location of On-Site Thermoluminescent Dosimeters (TLDs)

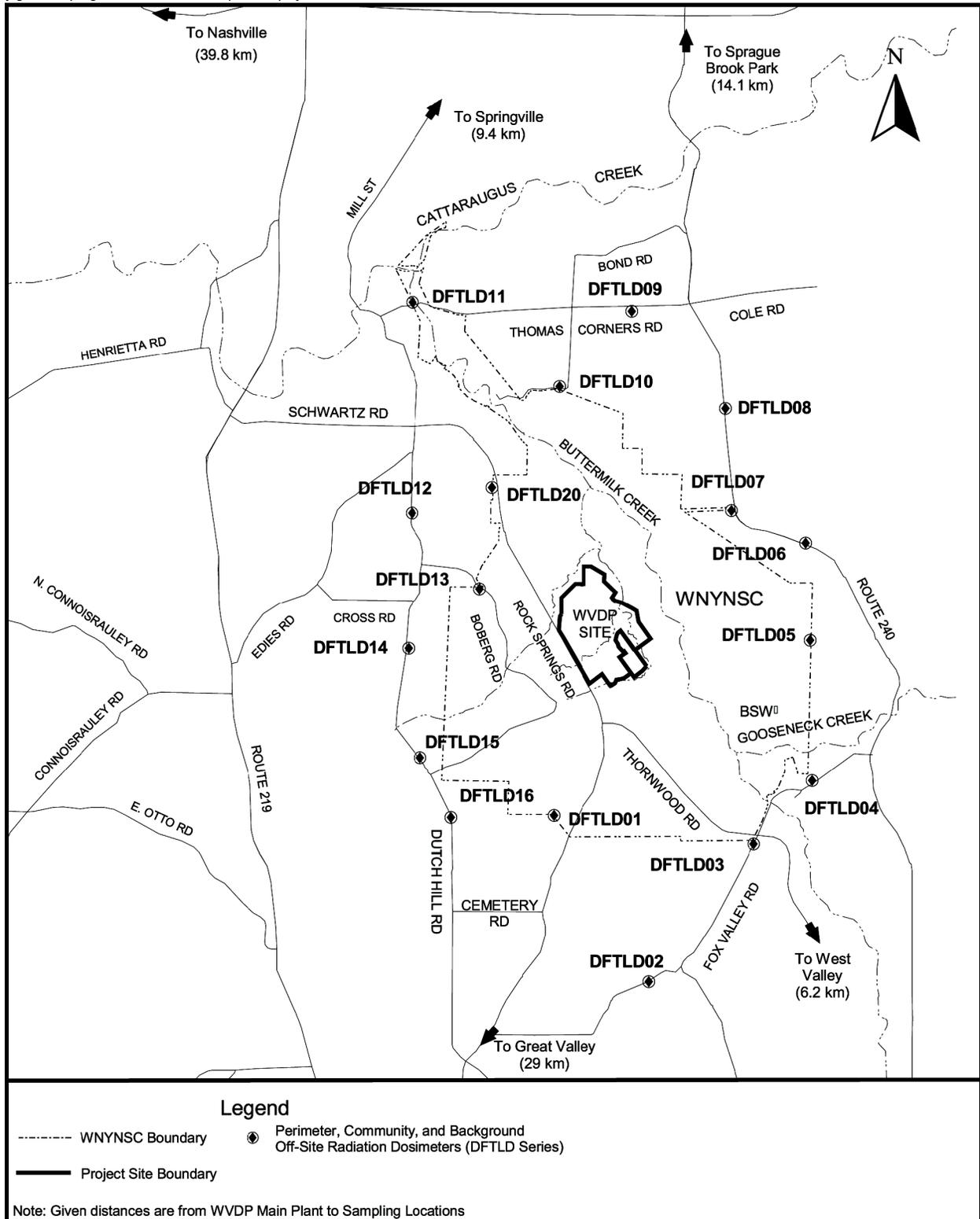


Figure A-13. Location of Off-Site Thermoluminescent Dosimeters (TLDs) Within 5 Kilometers of the WVDP

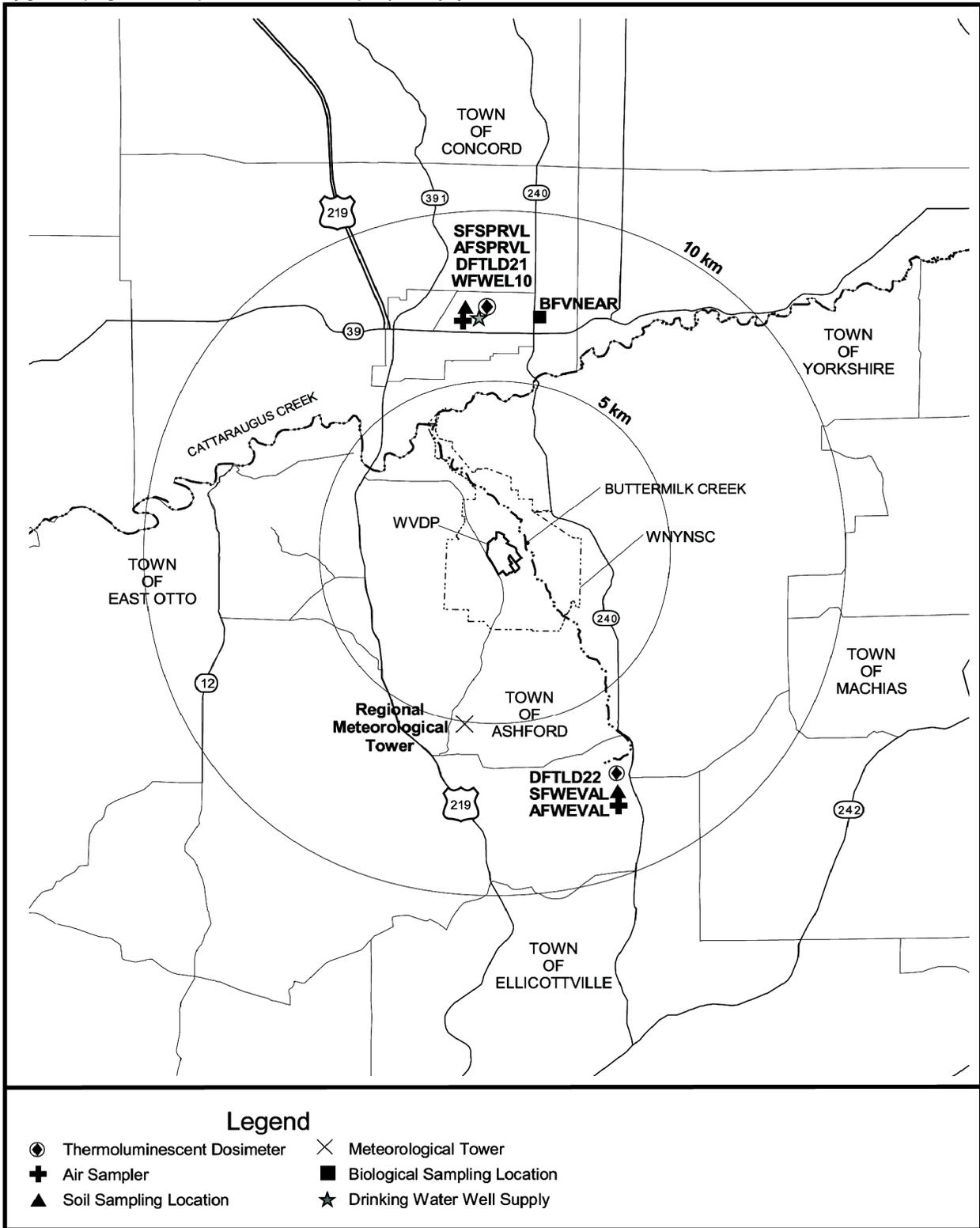


Figure A-14. Environmental Sampling Locations Between 5 and 10 Kilometers From the WVDP



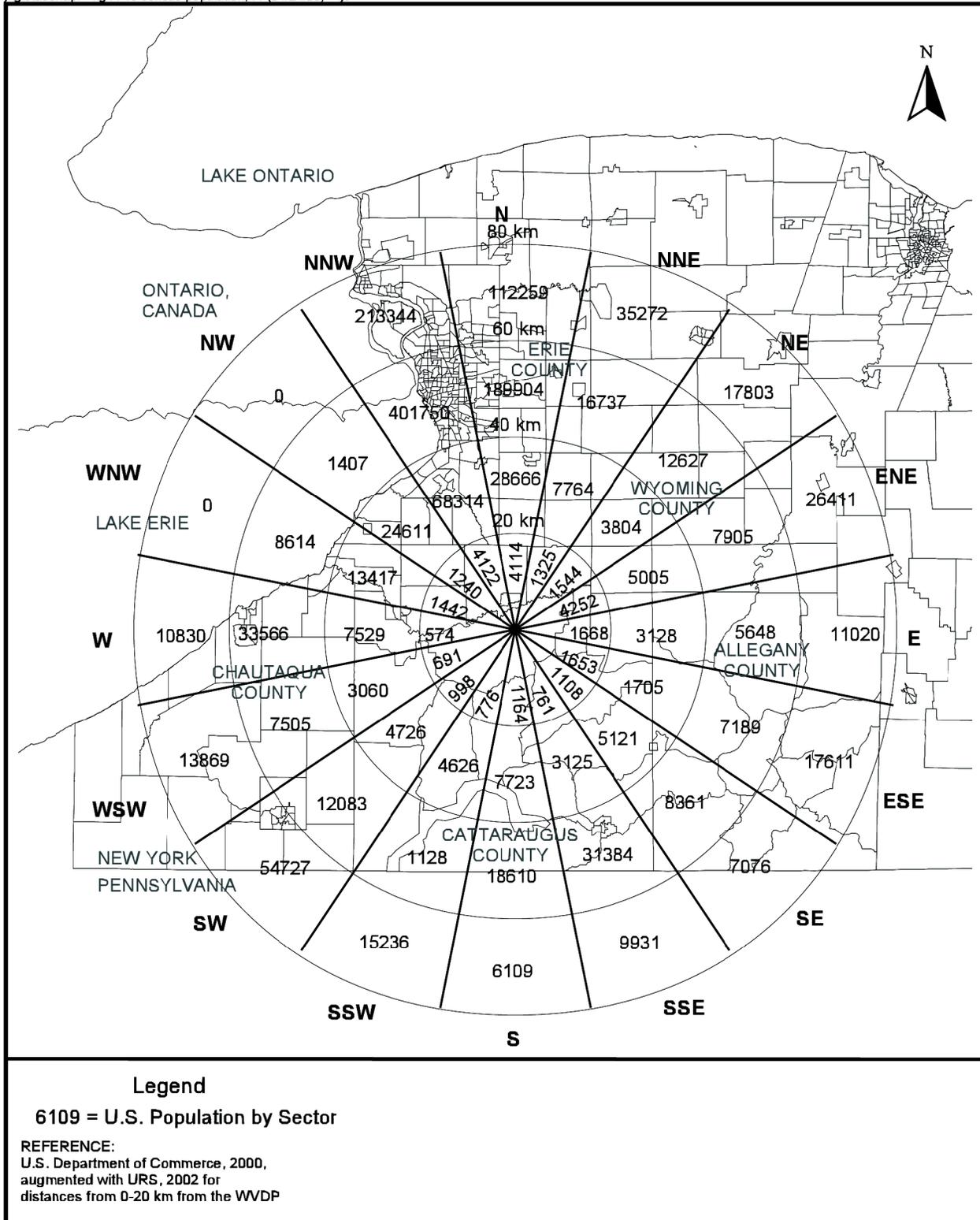


Figure A-16. Population by Sector Within 80 Kilometers of the WVDP (2002 Estimate)