

Figure S-1.
General Location Map

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

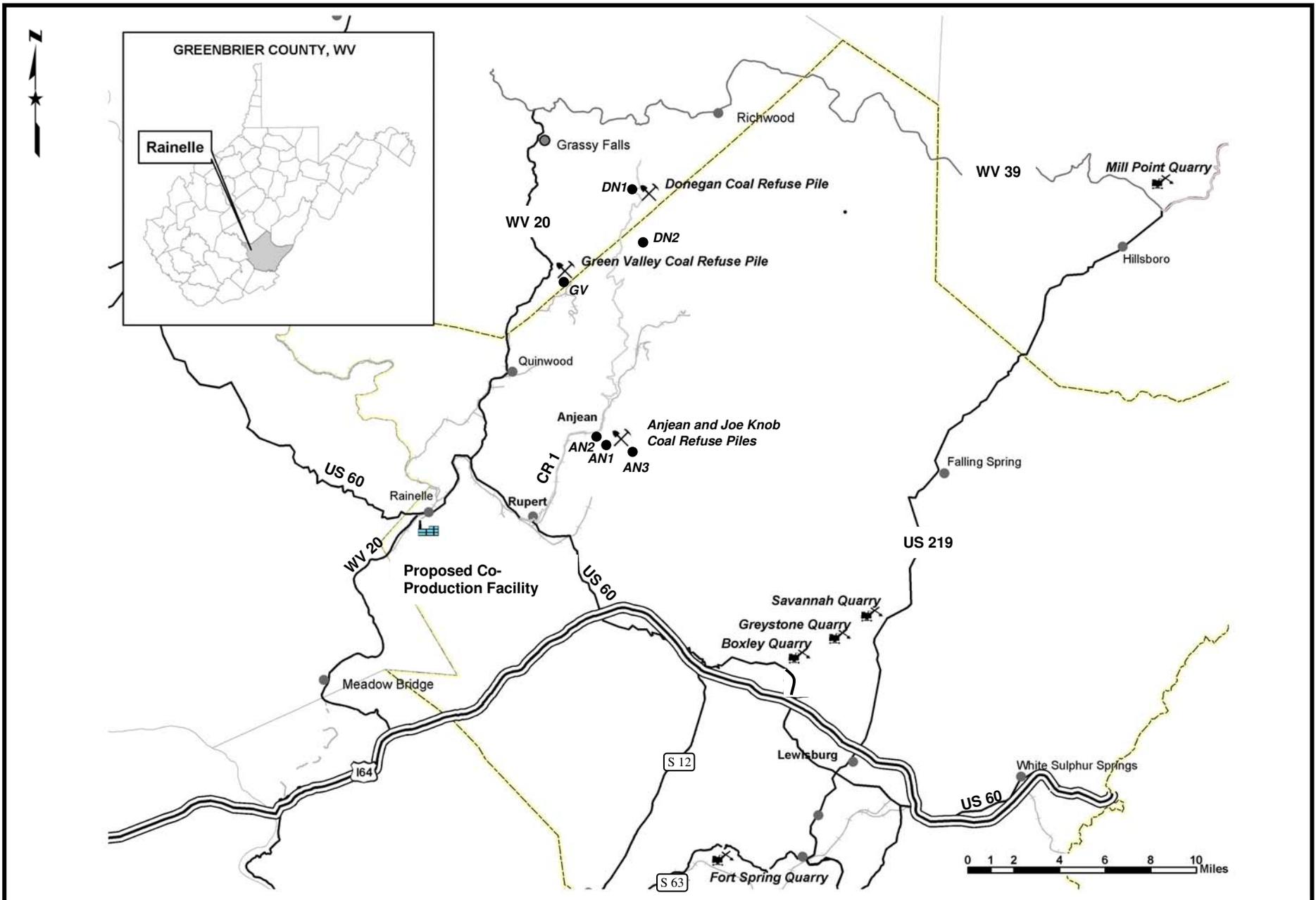


Figure 1-1.
General Location Map

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

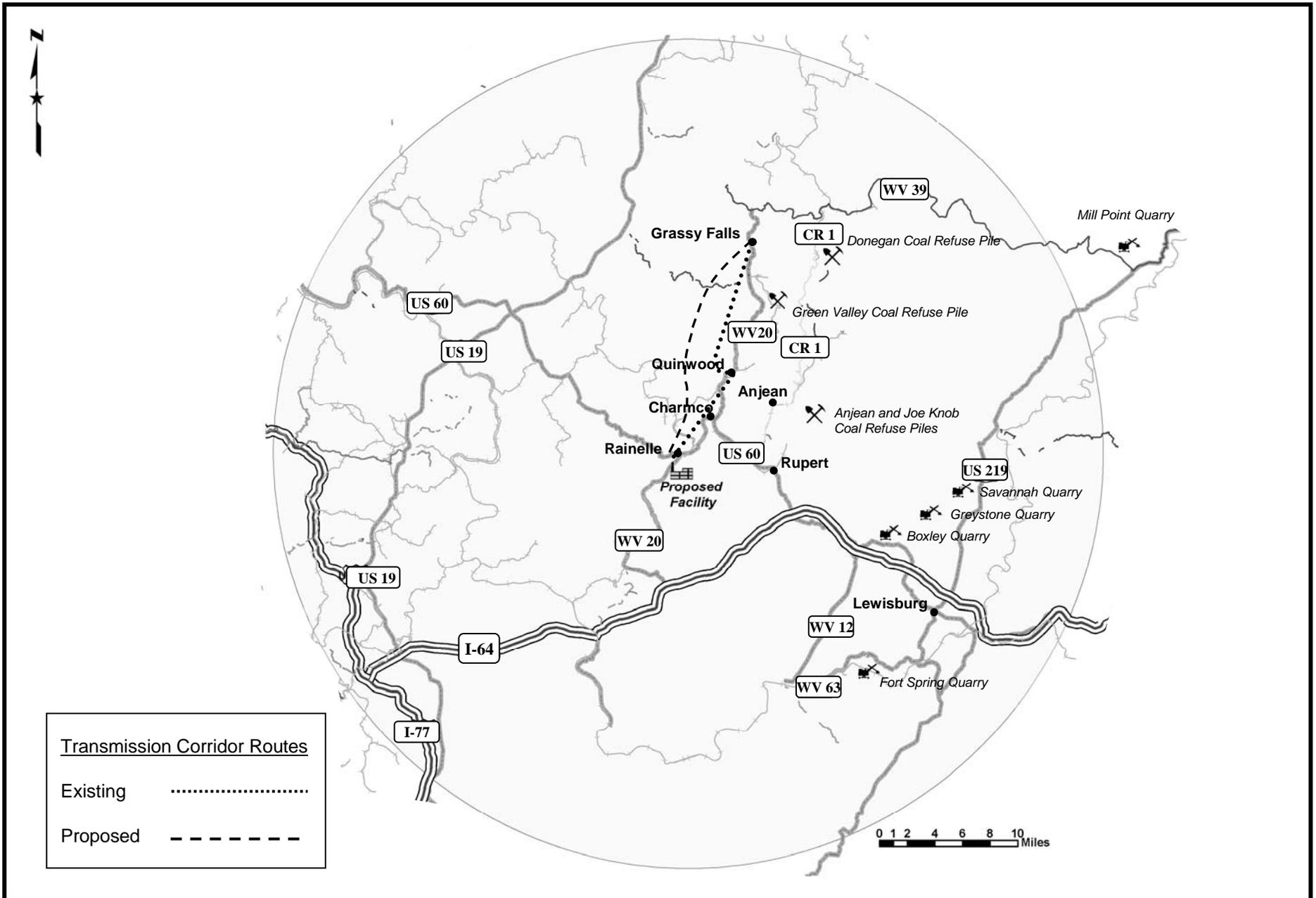


Figure 2.2-1
General Location Map (30-Mile radius)

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

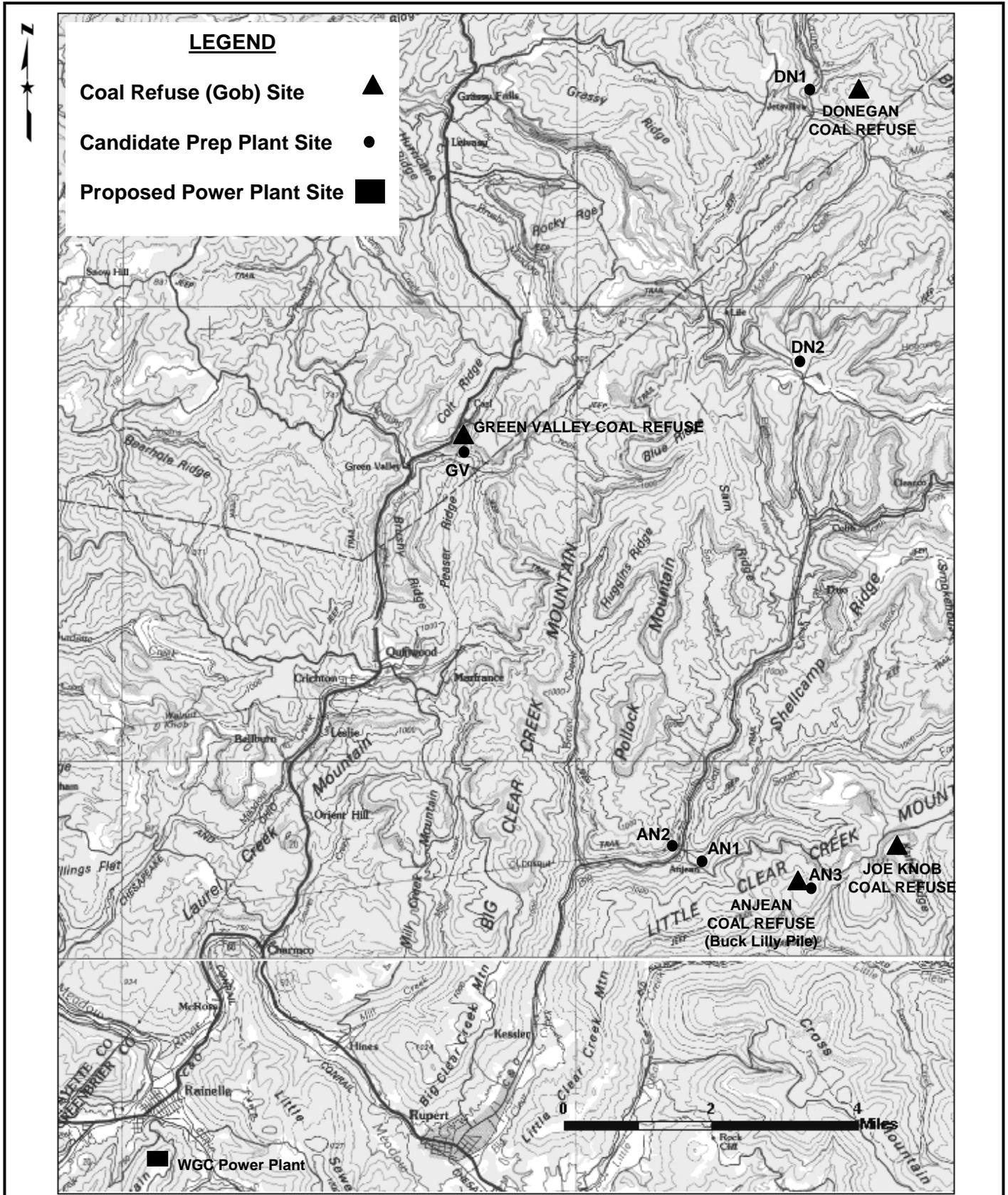


Figure 2.2-15.
 Coal Refuse and Candidate Prep Plant Locations
 Map Source: USGS topo maps (1:100,00) Marlinton (1979)
 and Lewisburg (1984)

U.S. Department of Energy



National Energy Technology Lab

Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

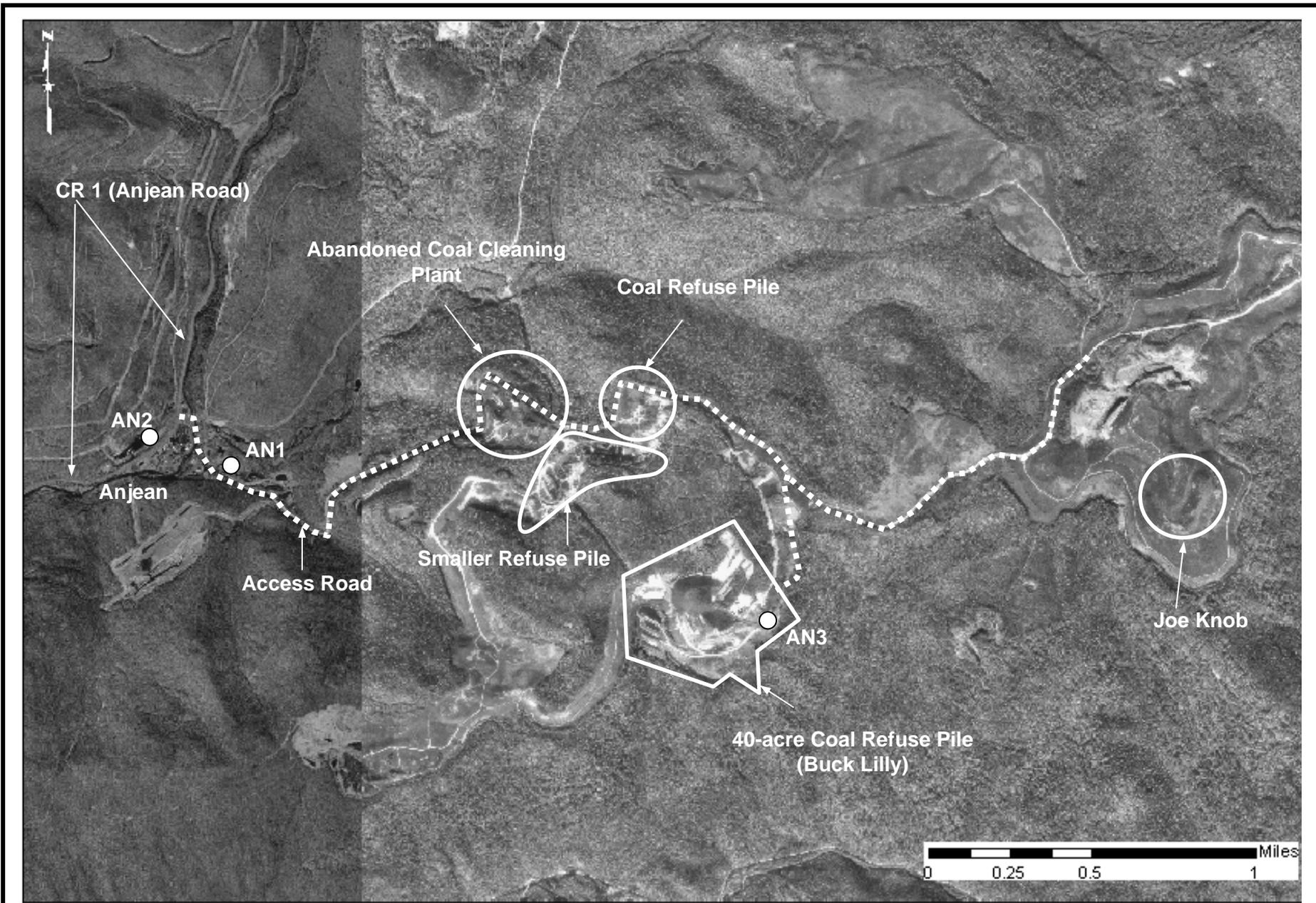


Figure 2.2-16.
Aerial Photo of Anjean/Joe Knob and Site Features

Map Source: USGS orthophoto map (1:12,000) Quinwood SE (1997) and Duo SW (1990)

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

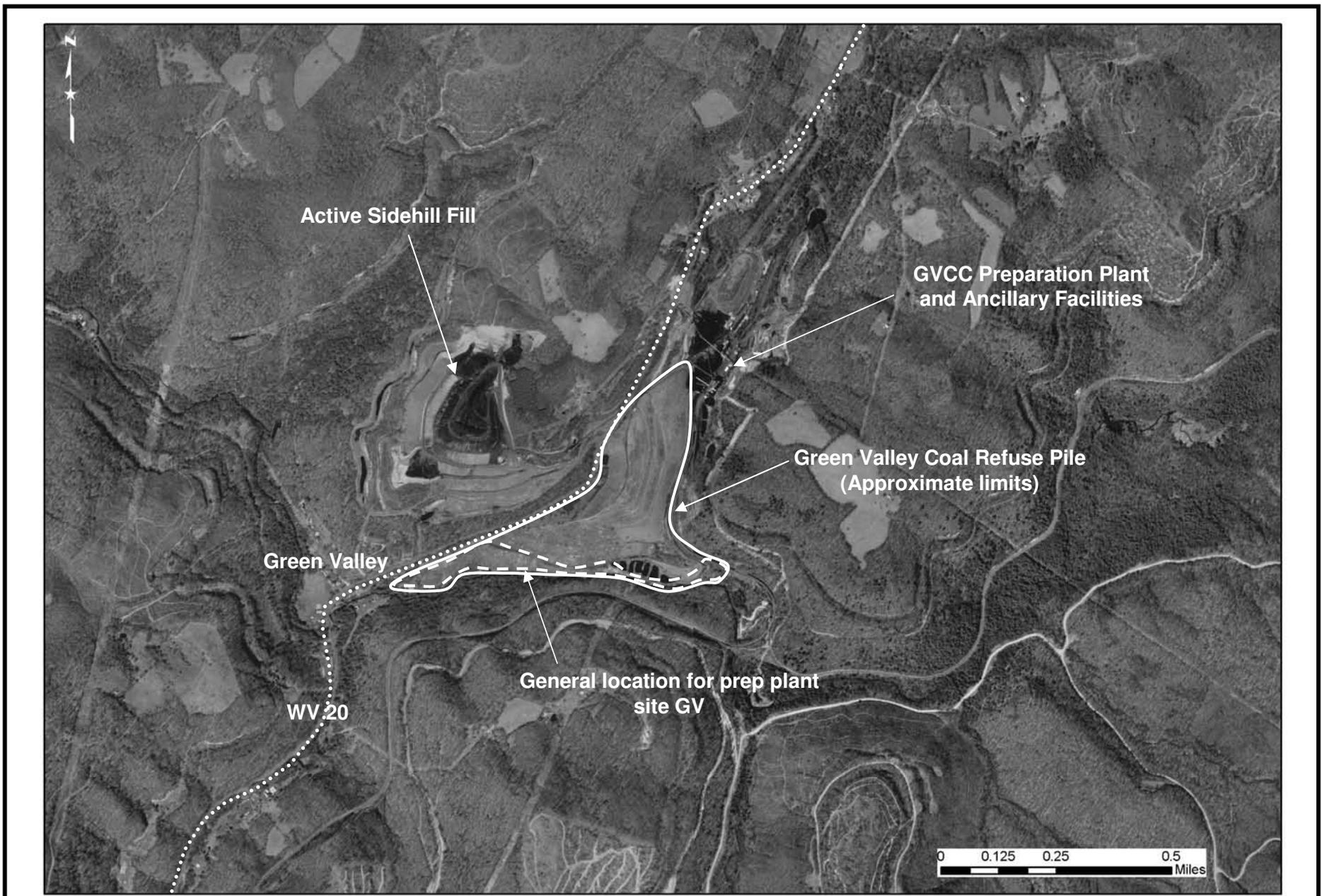


Figure 2.2-17.
 Aerial Photo of Green Valley and Site Features

Map Source: USGS orthophoto map (1:12,000) Quinwood NW and Quinwood NE (1997)

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006



Figure 2.2-18.
Aerial Photo of Donegan Site

Sources: USGS DOQQ map (1:12,000) Richwood SW (1995)

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

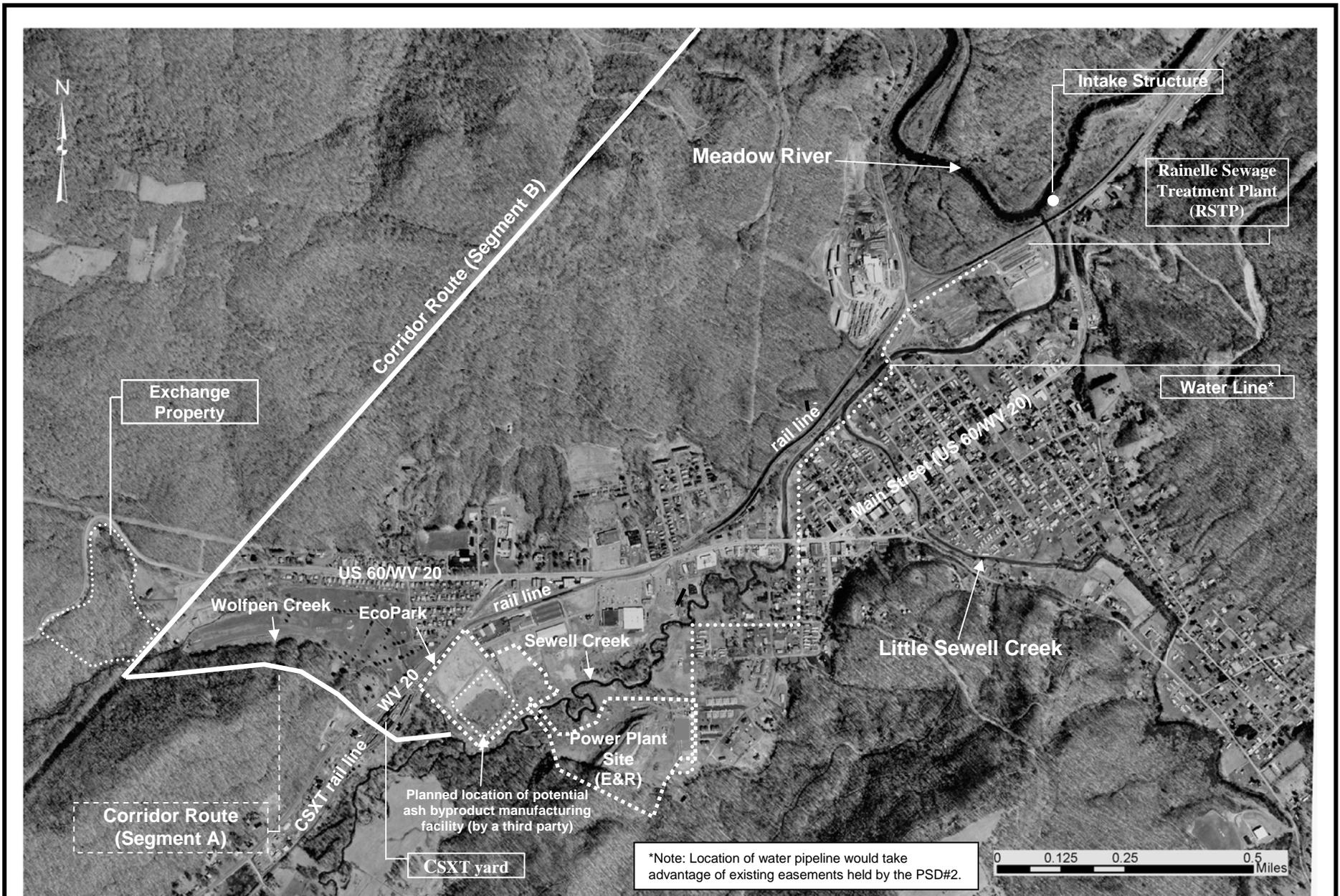


Figure 2.2-3.
 Aerial Photo Depicting Site Boundaries
 Map Source: USGS orthophoto map (1:12,000) Rainelle NE, 1996

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

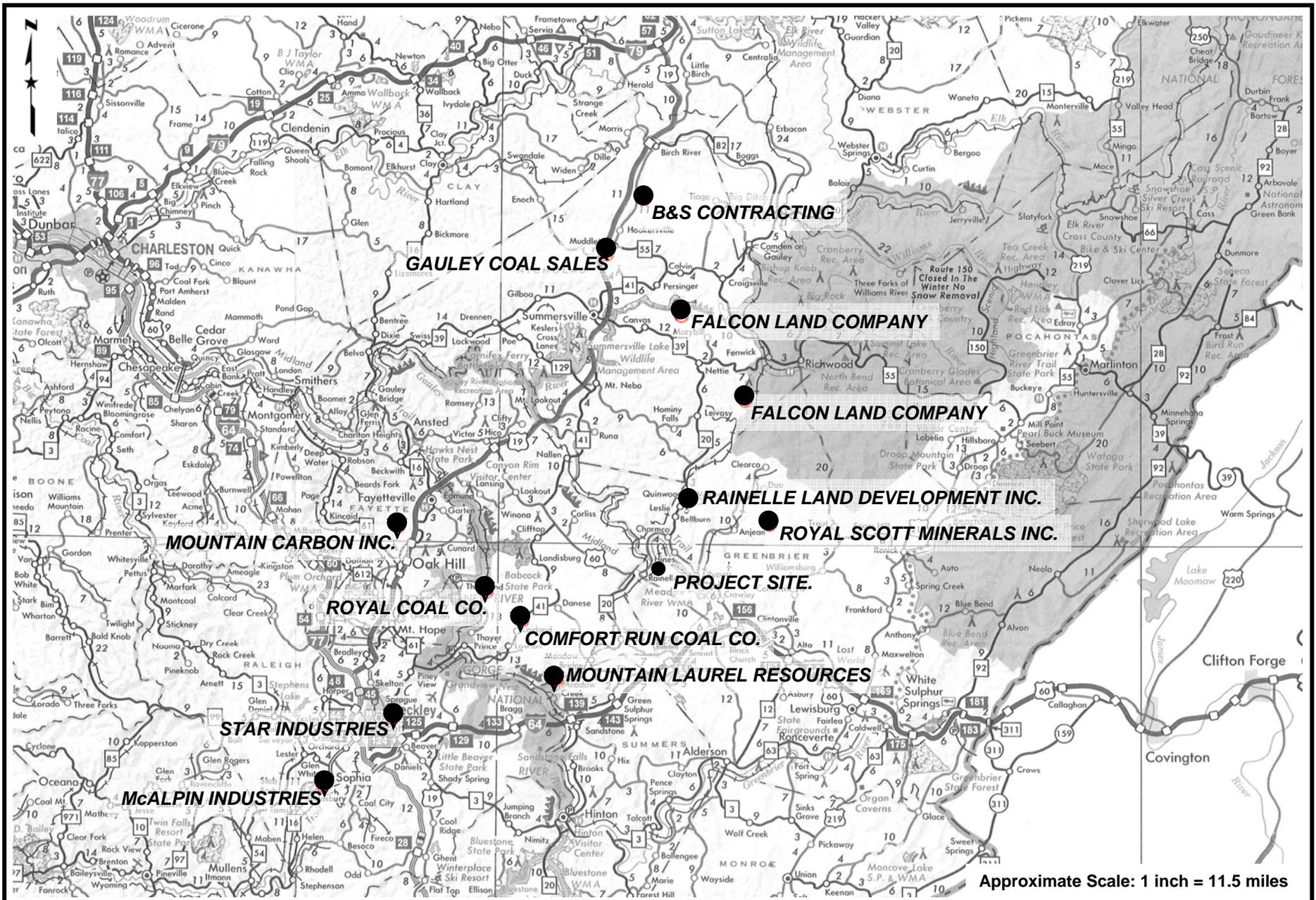


Figure 2.2-4.
 Forfeited Permits With Coal Refuse Within Approximately 30 miles of
 Rainelle
 Map Source: WV DOT Highway Map; Data Source: WV DEP, 2005

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

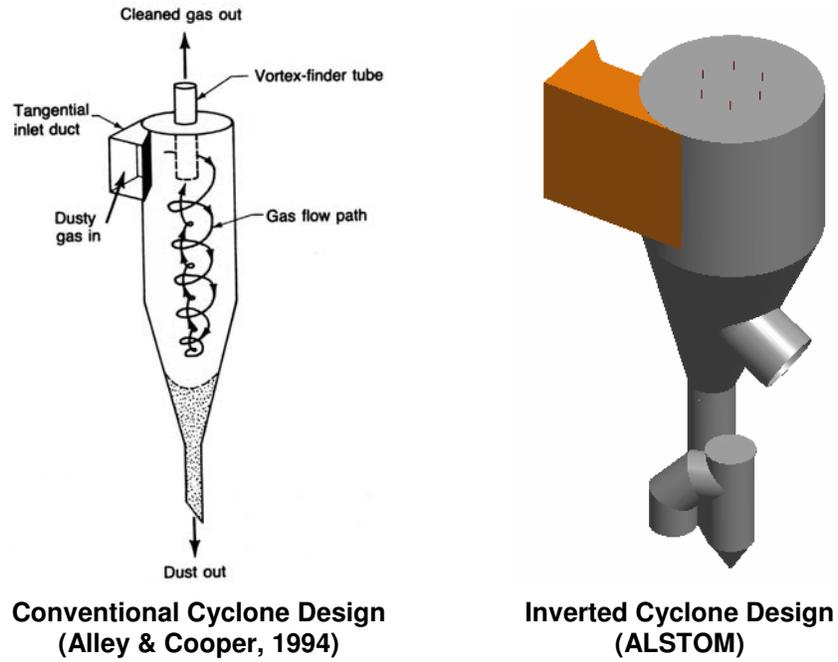


Figure 2.3-2. Comparison of Cyclone Designs

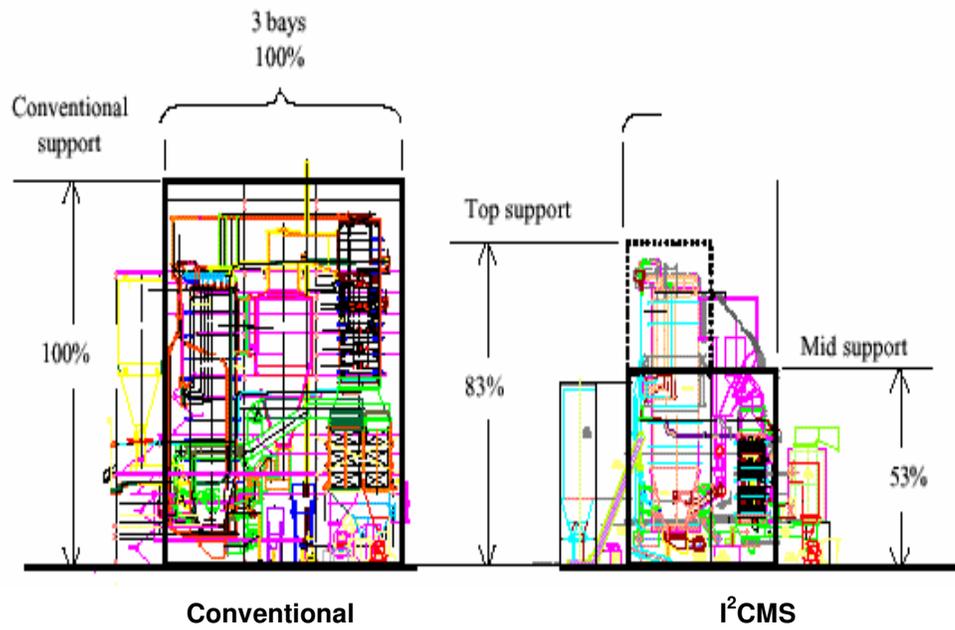


Figure 2.3-3. Comparison of Boiler Profiles

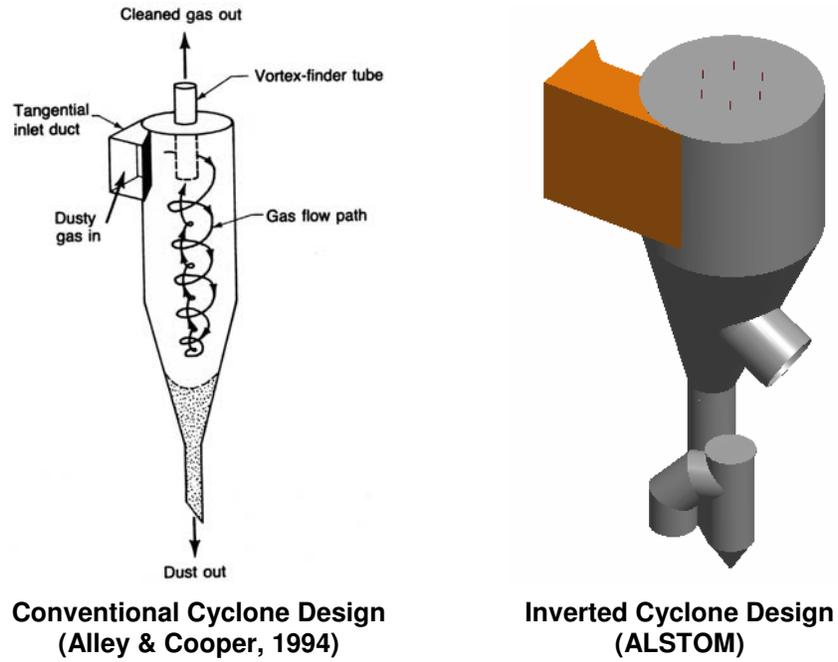


Figure 2.3-2. Comparison of Cyclone Designs

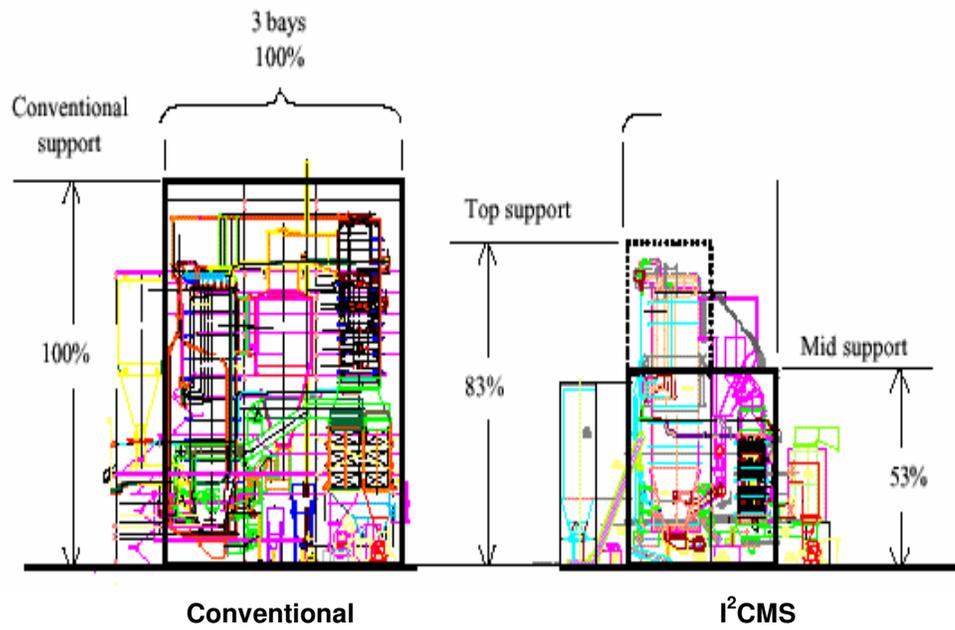


Figure 2.3-3. Comparison of Boiler Profiles

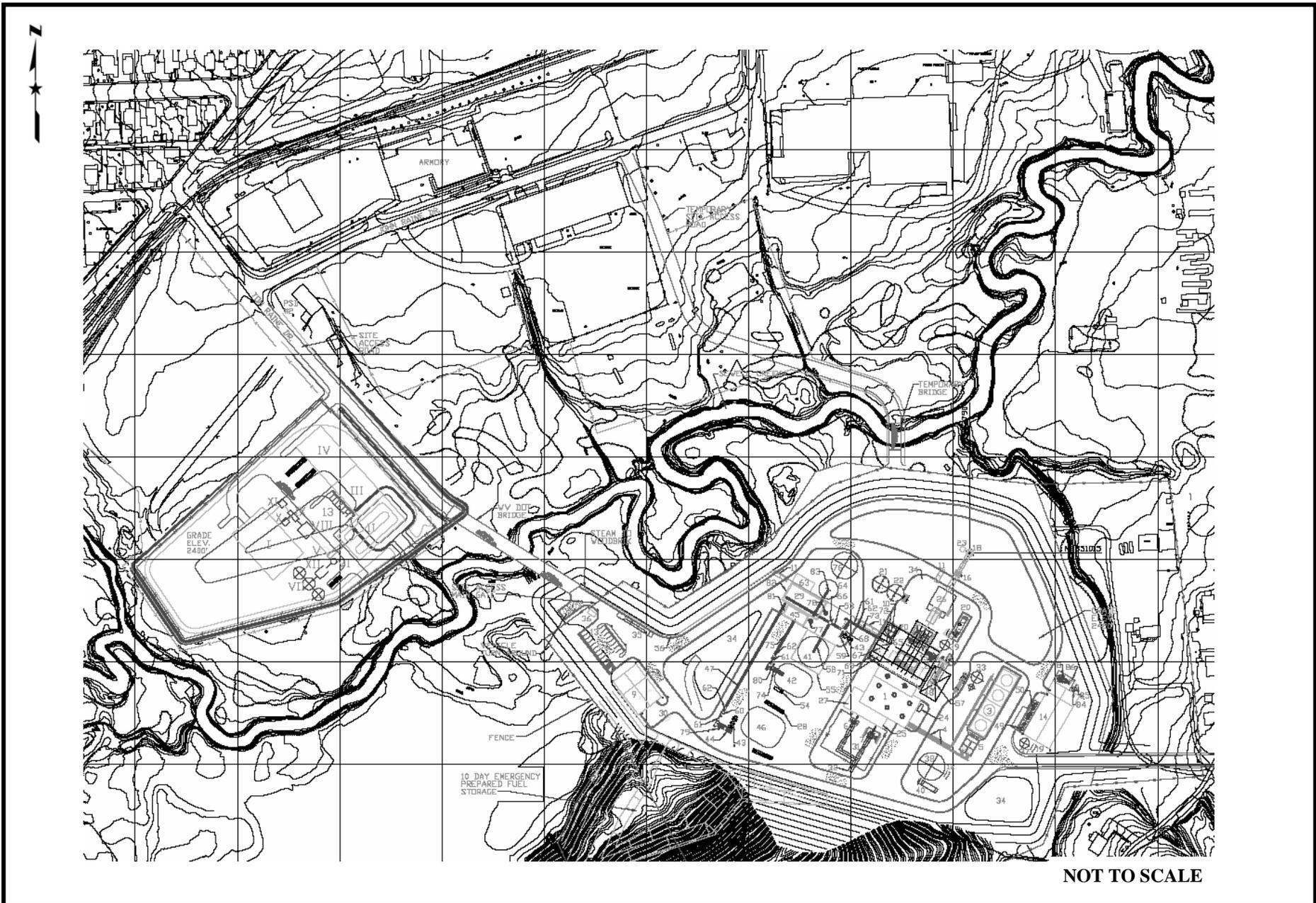


Figure 2.4-1.
Option A – E&R Property with Reduced Footprint

Sources: PEC 2006 Version A

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

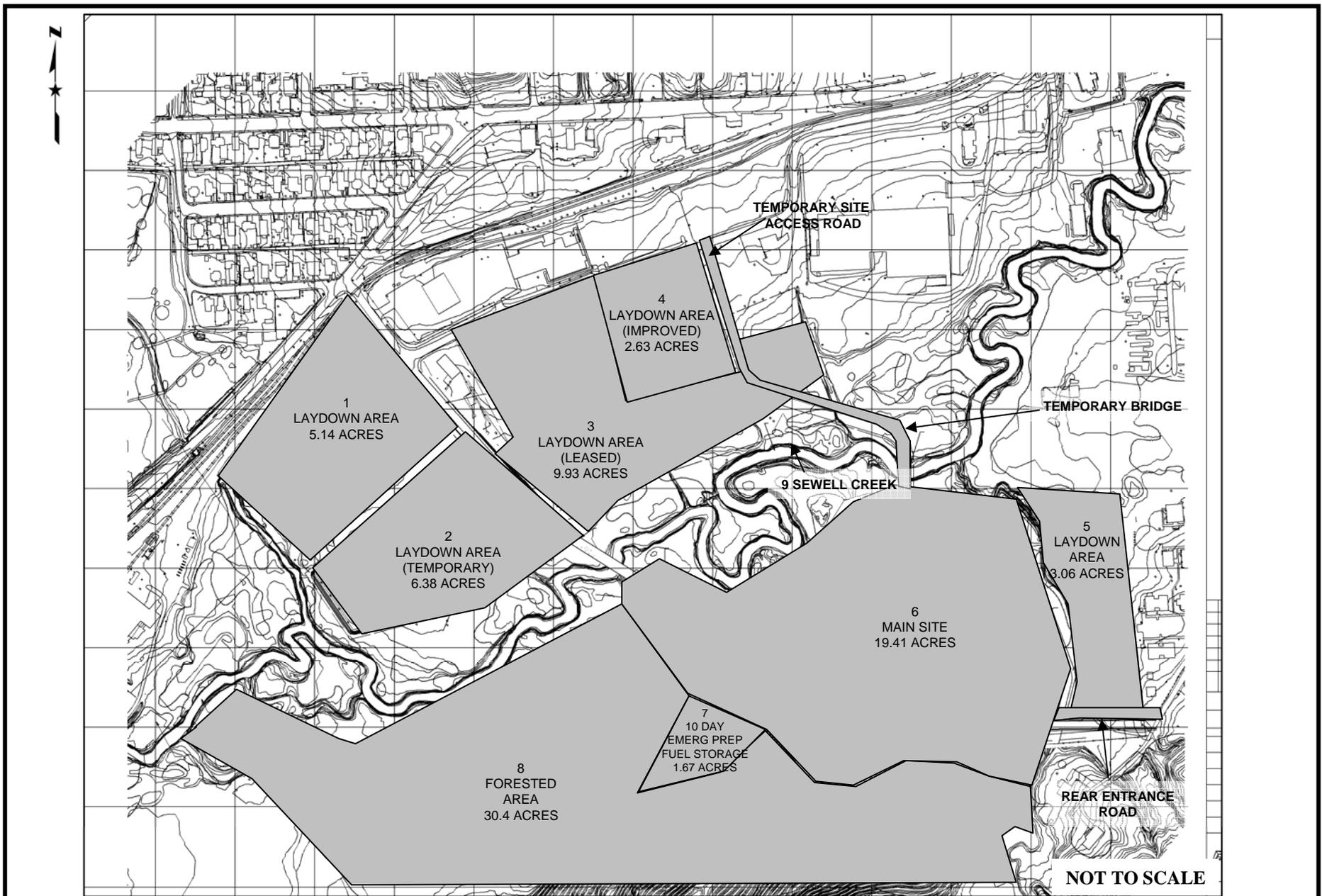


Figure 2.4-11.
Plant Construction and Laydown Areas

Sources: Parsons E&C, 2005

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006



Figure 2.4-2.
 Option B – E&R Property with Reduced Footprint

Sources: PEC 2006 Version A

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

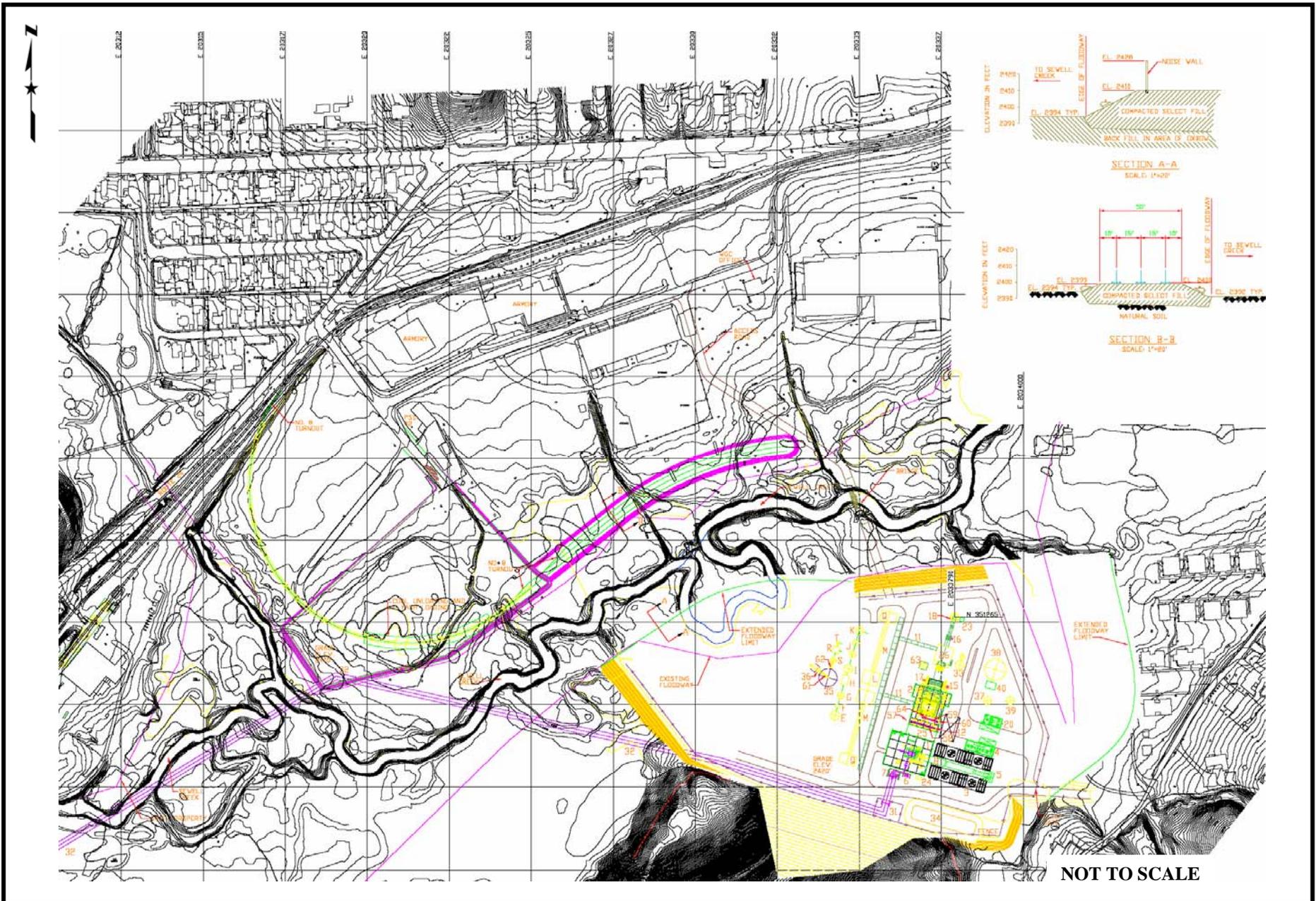


Figure 2.4-3.
Option C – E&R Property with Earthen Berm and Rail Spur

Sources: PEC 2006 Version A

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006



Figure 2.4-4.

Proposed Site Plan

Sources: Rainelle Aerial Map Source (2004); Power Plant Site Plan Rev D – CH2MHill/Lockwood-Greene, May 9, 2006; Kiln Layout – Hazen, 2005

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

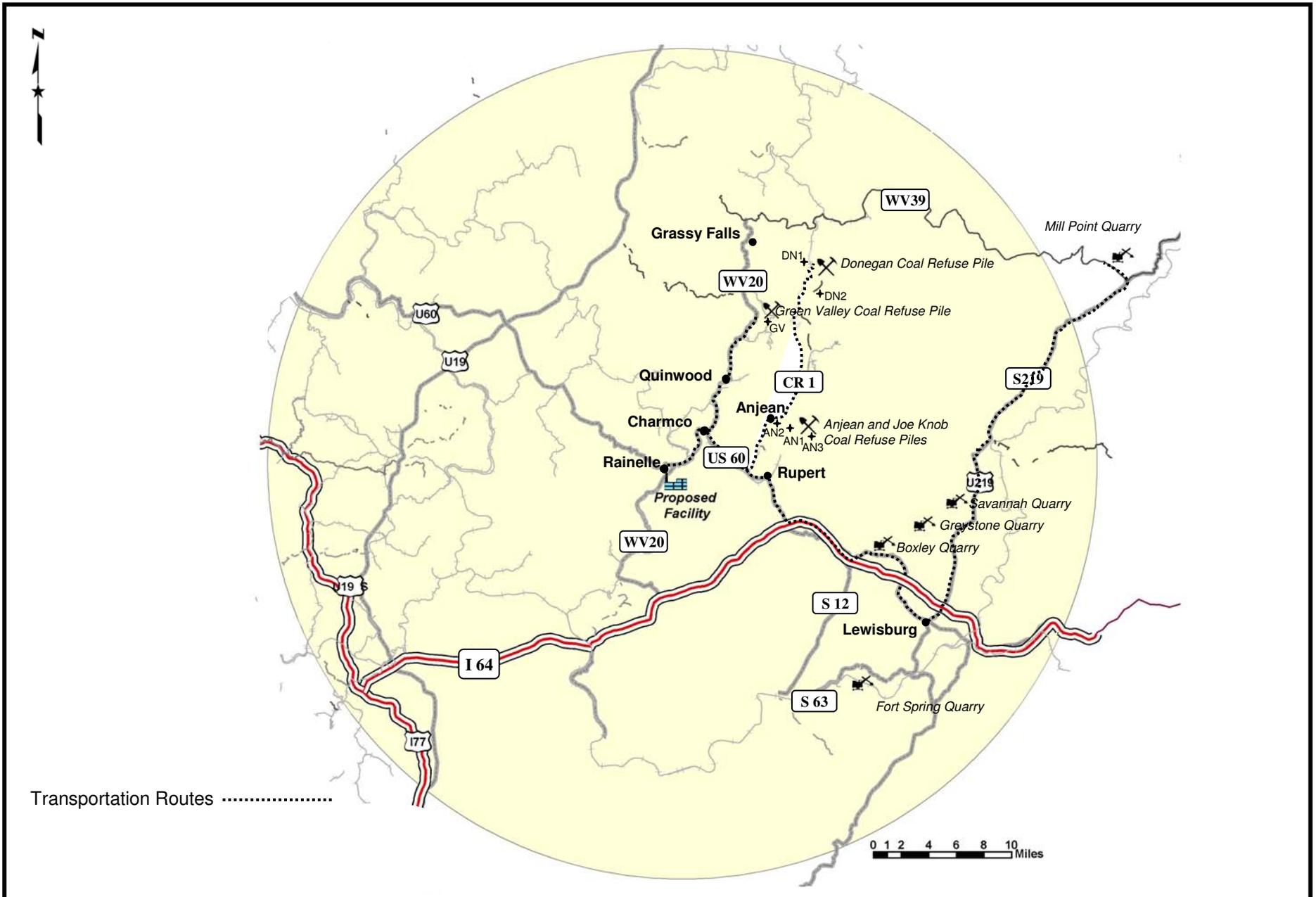


Figure 2.4-6.
 Expected Material Transportation Routes (30-mile radius)

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

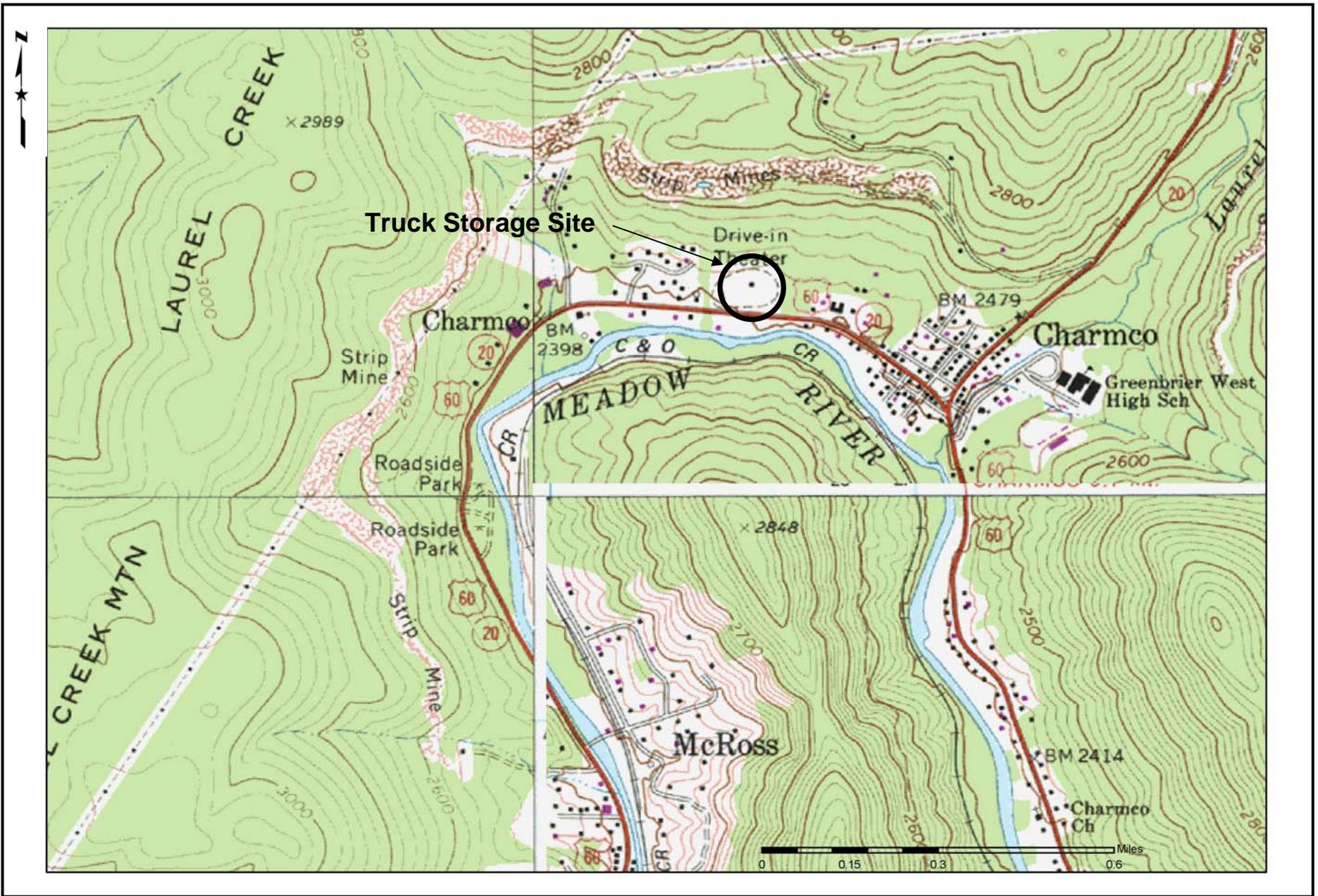


Figure 2.4-8.
 Potential Truck Storage Site (Charmco)
 Map Source: USGS topo (1:24,000) Quinwood (1981)

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

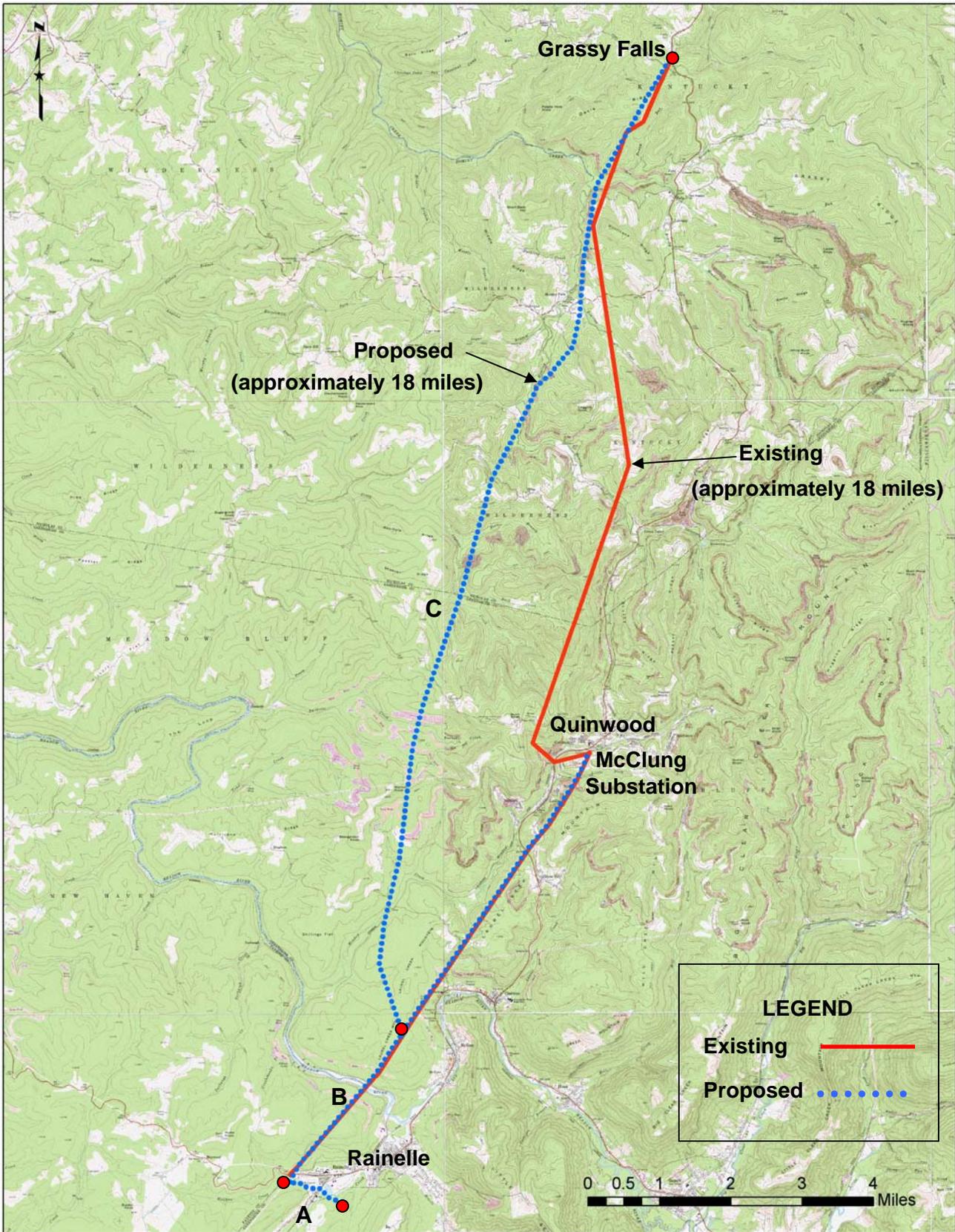


Figure 2.4-9.
Transmission Corridor Options

Sources: USGS topo (1:24,000) - Rainelle (1976), Rupert (1981), Quinwood (1981)

U.S. Department of Energy



National Energy Technology Lab

Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

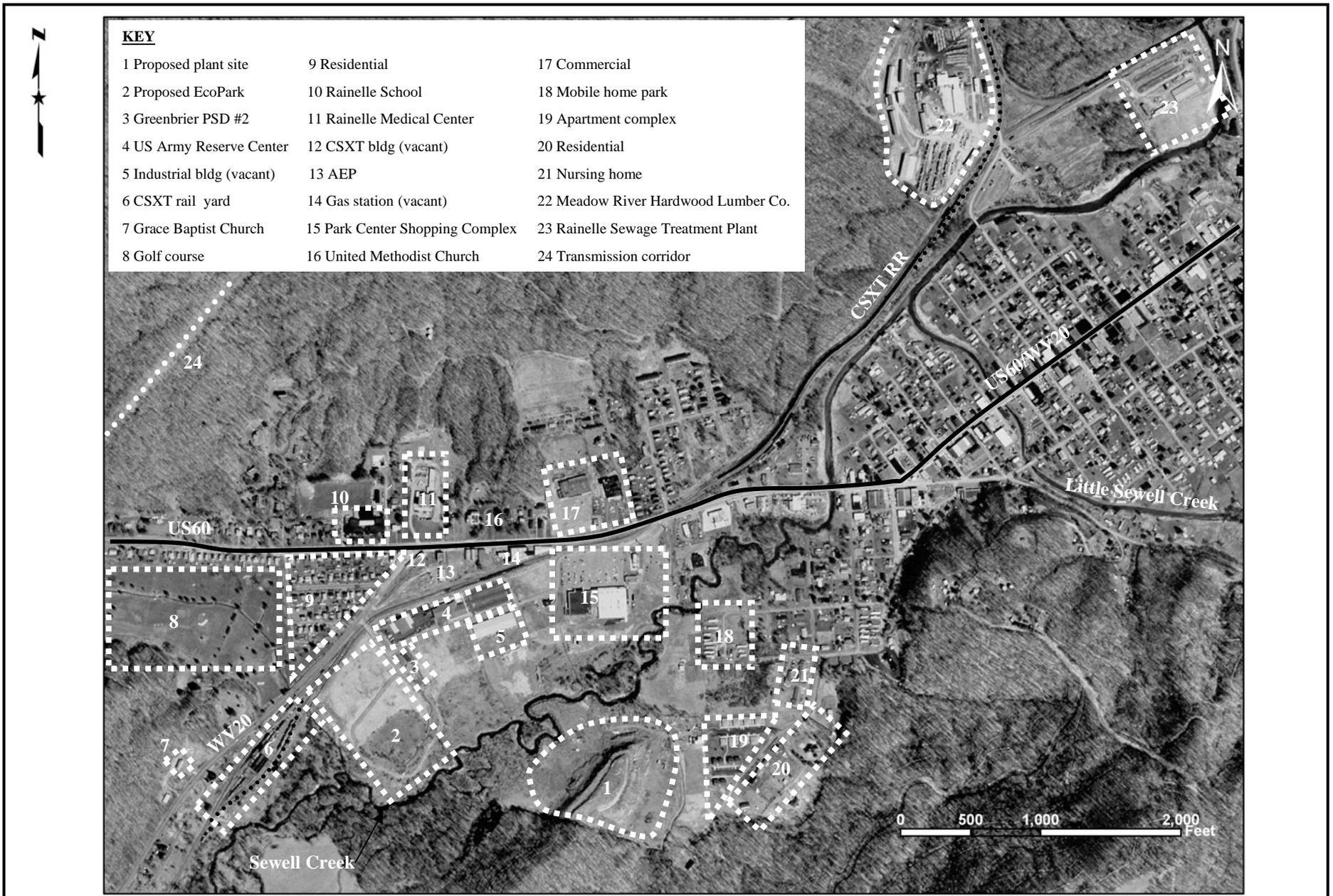


Figure 3.11-1
Land Uses Within the Vicinity of the Project Site

Map Source: USGS orthophoto (1:12,000) Rainelle (1976)

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

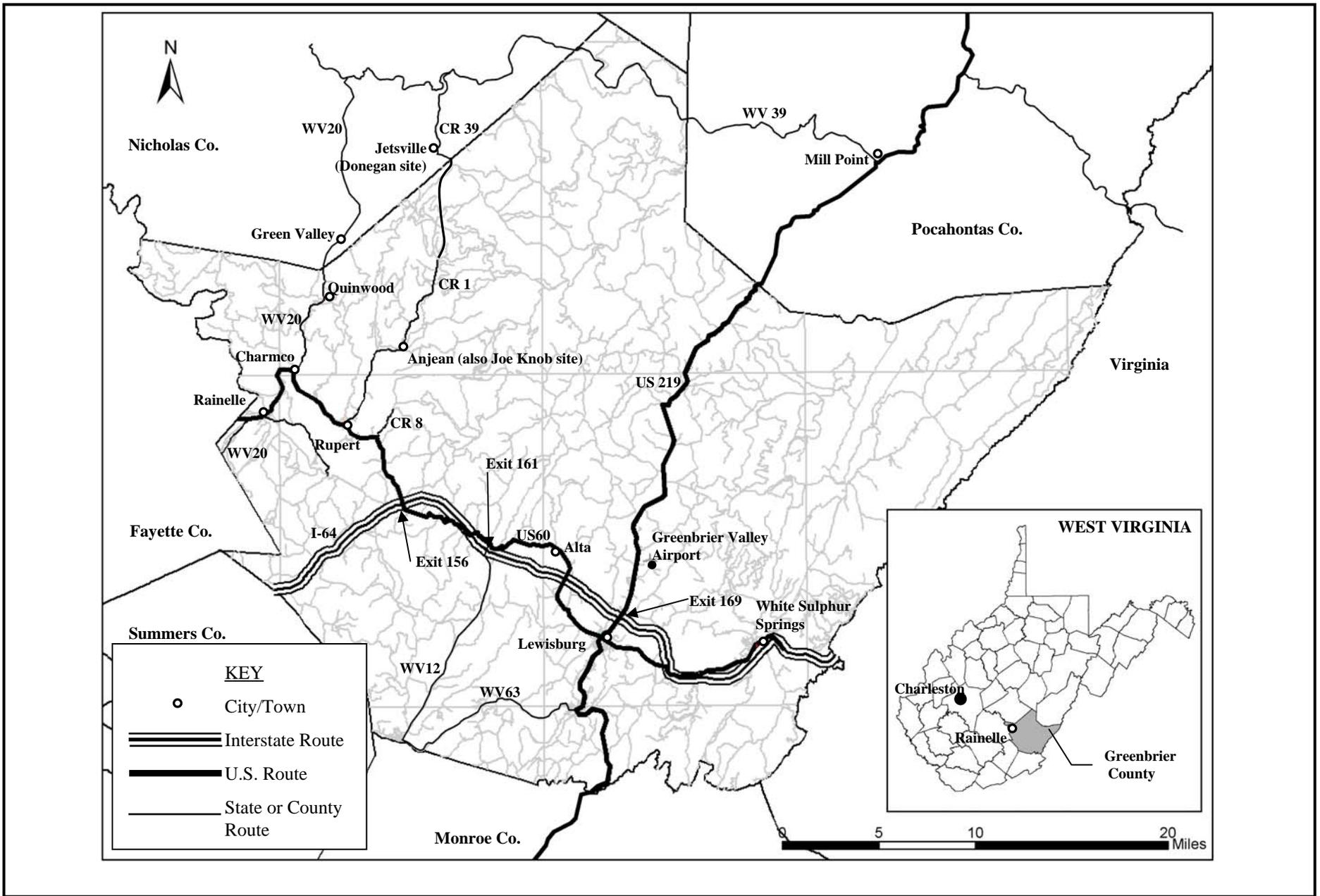


Figure 3.13-1
Regional Transportation System, Greenbrier County, WV



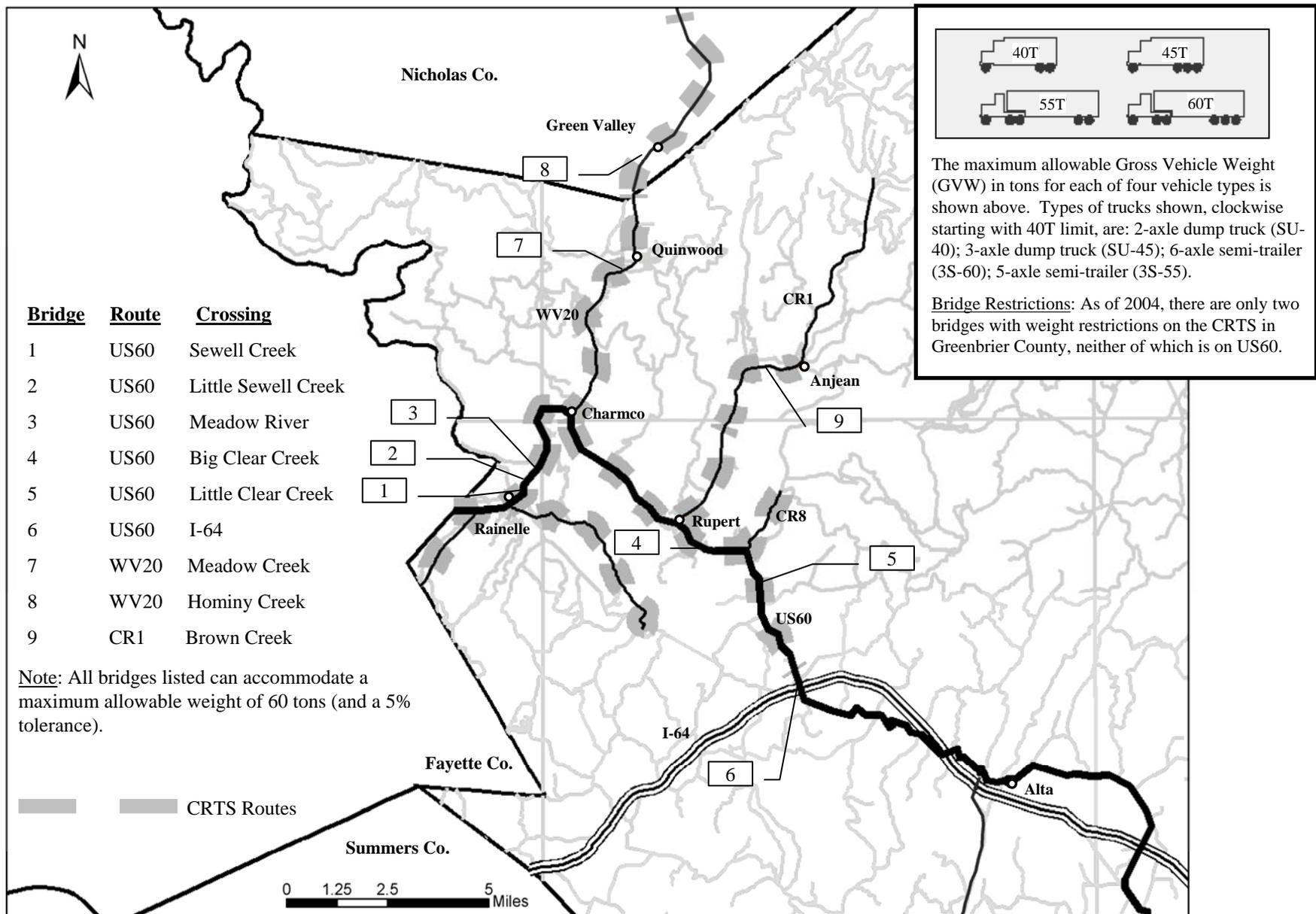


Figure 3.13-2.
Coal Resource Transportation System (CRTS) Along Project Routes

Source: WVDOH, 2005b

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

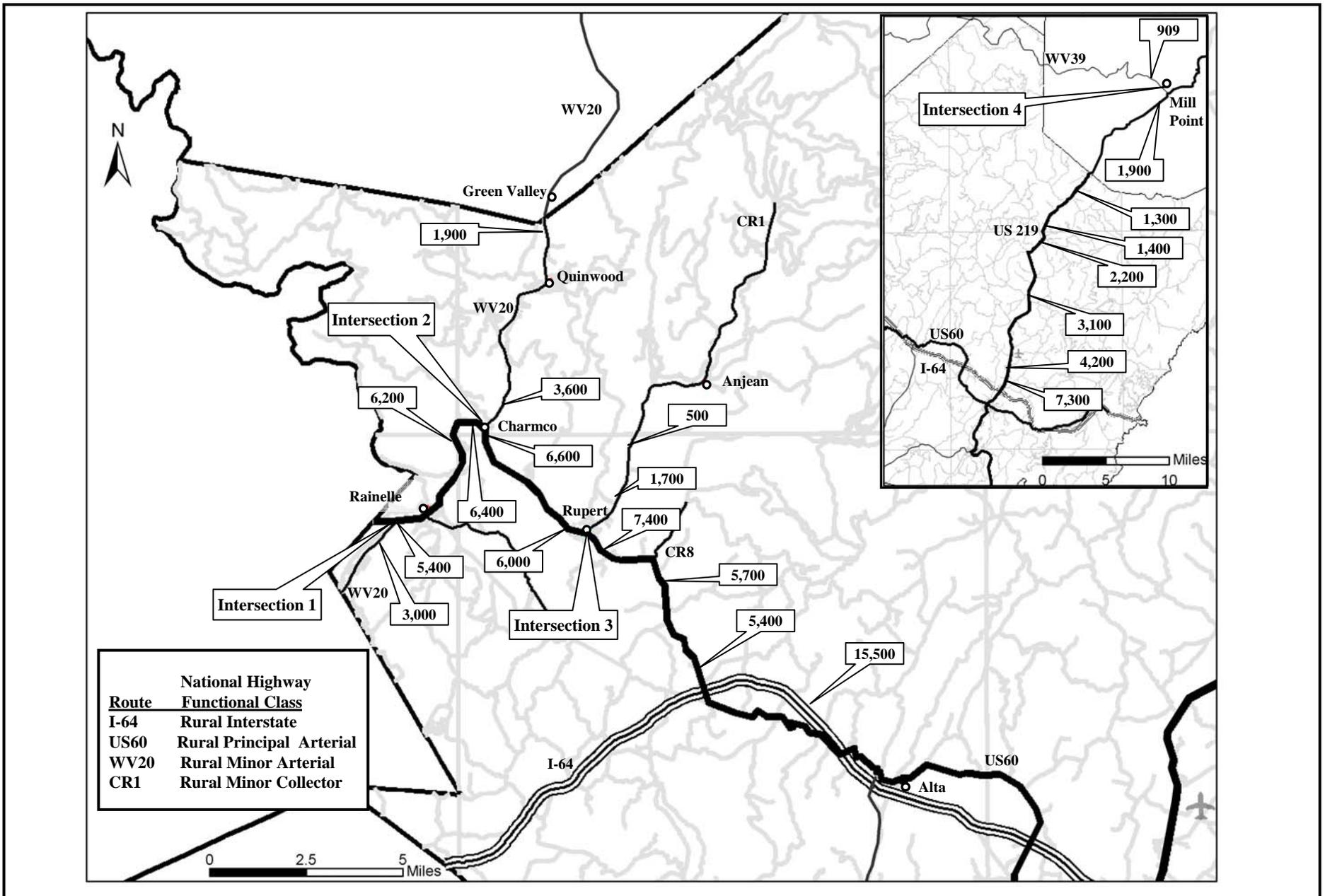


Figure 3.13-3.
 WVDOT's 2003 Average Daily Traffic (ADT)
 for US60 in Greenbrier County, WV
 Source: WVDOT, 2003a

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

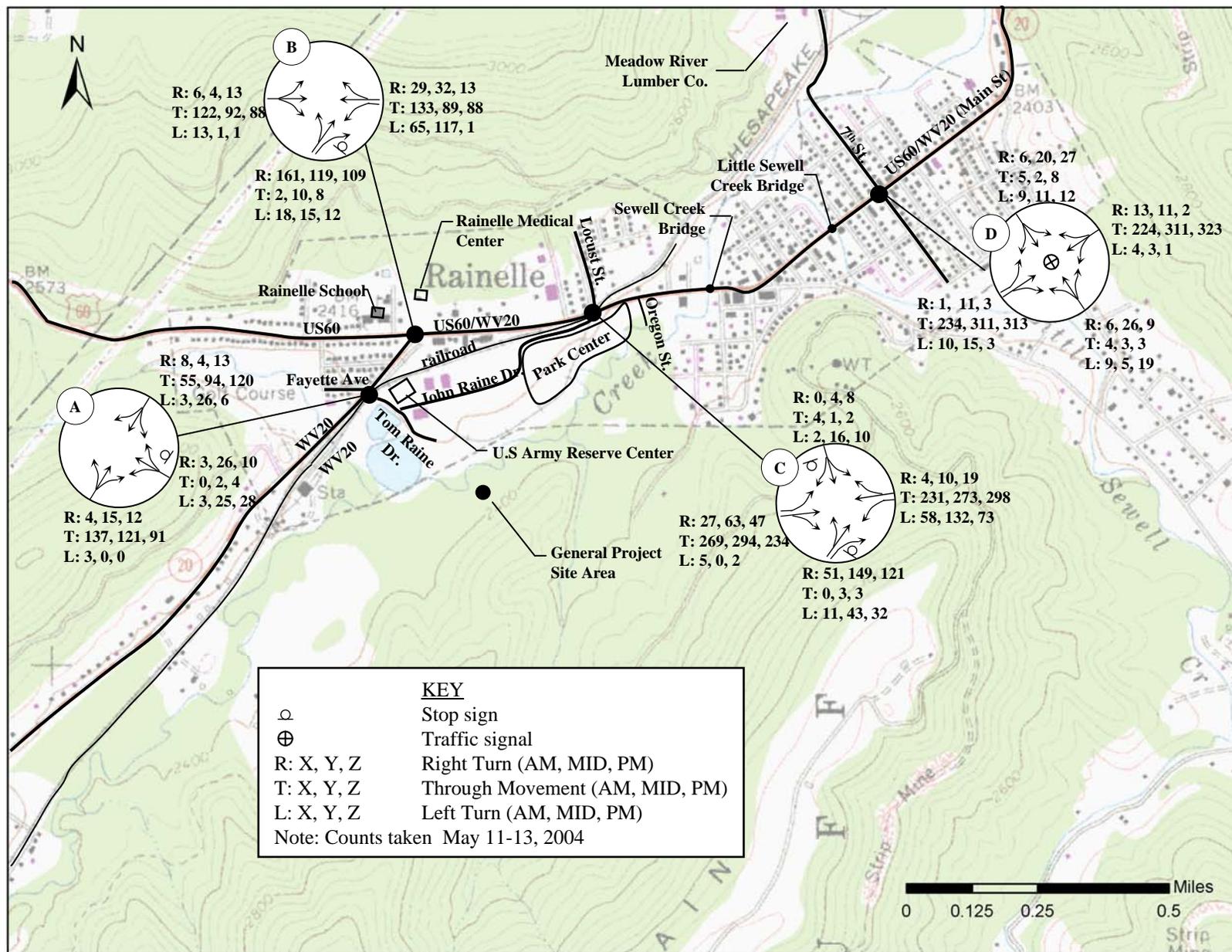


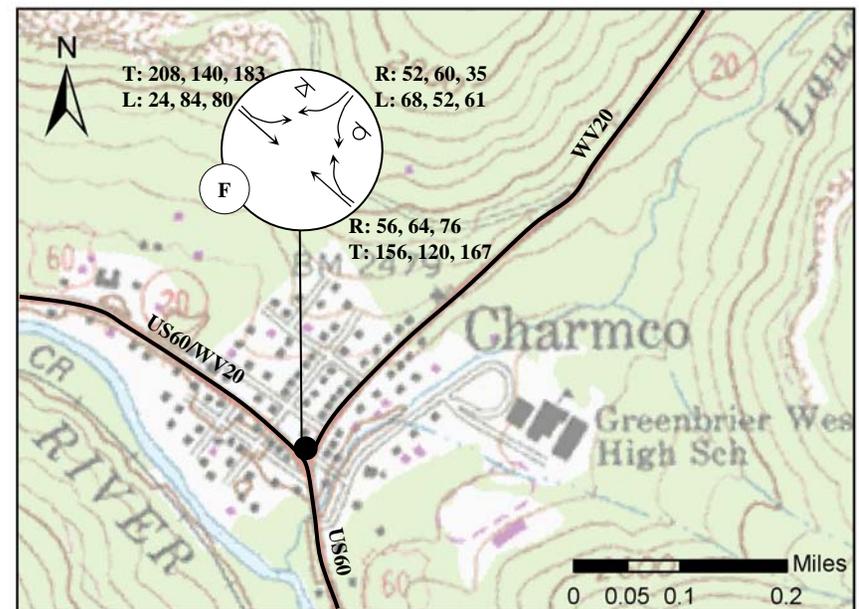
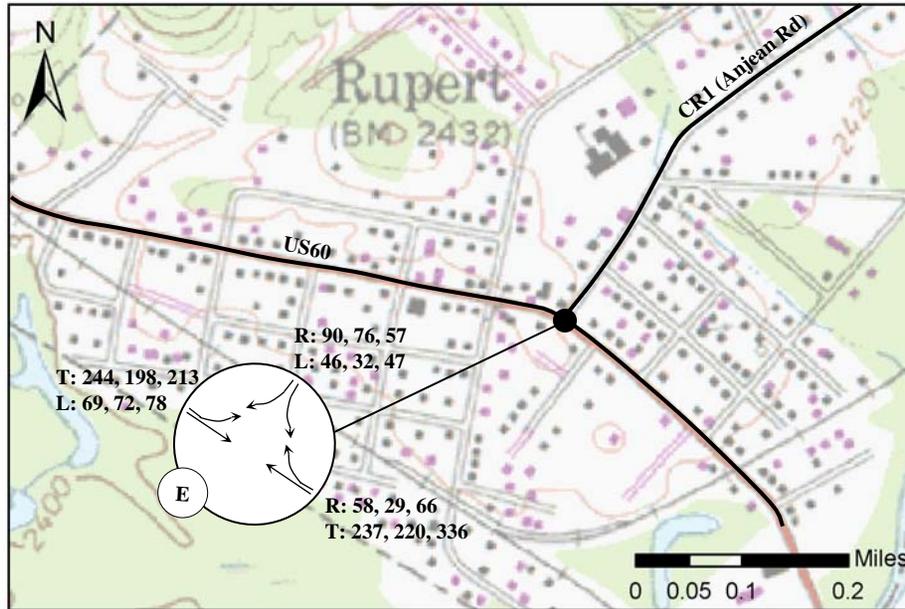
Figure 3.13-4.
 Existing Turning Movements and Peak Hour Volumes
 Intersections A through D (2004)
 Map Source: USGS topo (1:24,000) Rainelle (1976)

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006



KEY	
⊙	Stop sign
▽	Yield sign
R: X, Y, Z	Right Turn (AM, MID, PM)
T: X, Y, Z	Through Movement (AM, MID, PM)
L: X, Y, Z	Left Turn (AM, MID, PM)
Note: Counts taken for E and F taken May 2004 and October 2004, respectively.	

Figure 3.13-5.
 Existing Turning Movements and Peak Hour Volumes
 for Study Intersections E and F (2004)
 Map Source: USGS topo (1:24,000) Rainelle (1976), Quinwood (1981), Rupert (1981)



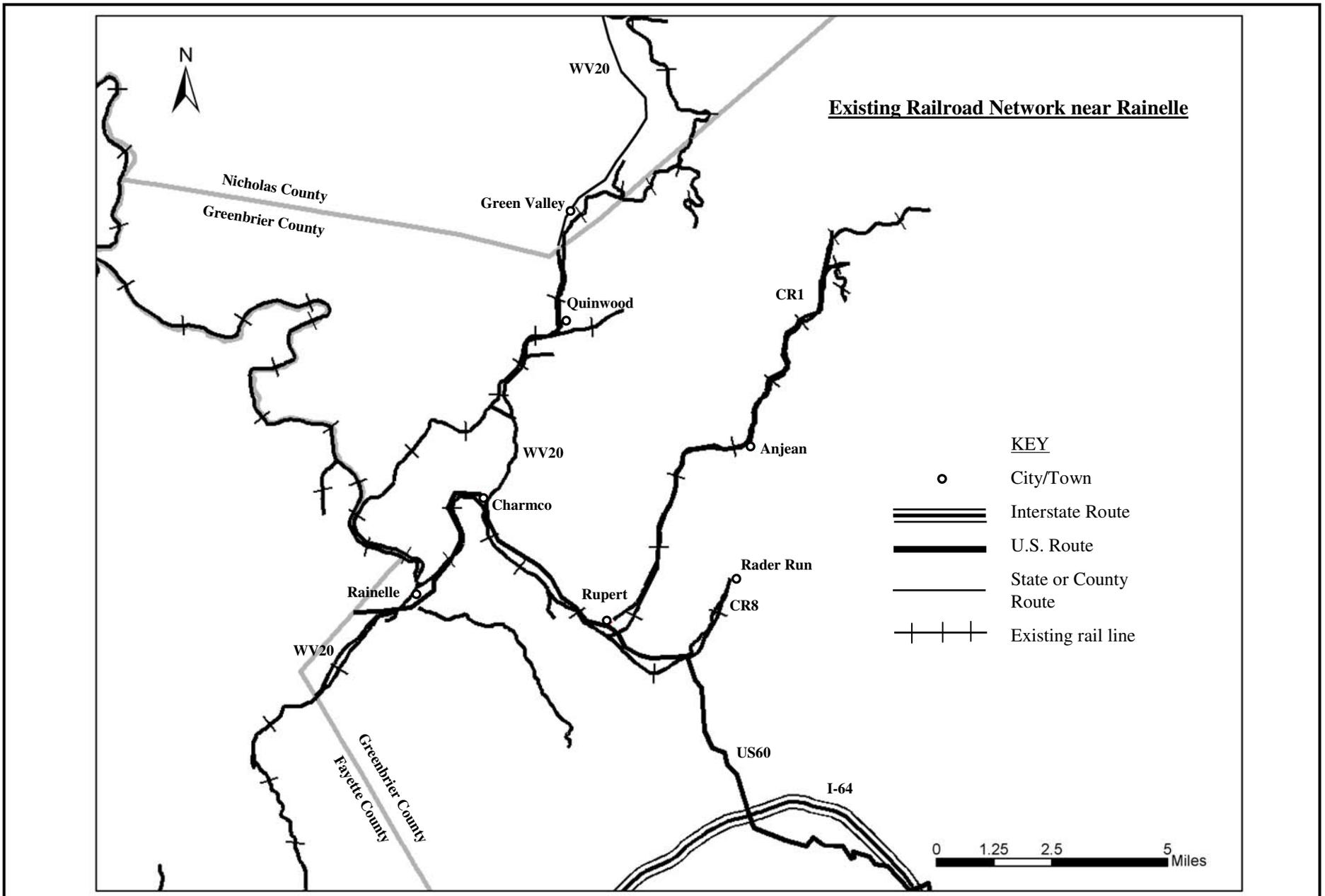


Figure 3.13-6.
Existing Rail System near Rainelle, 2004



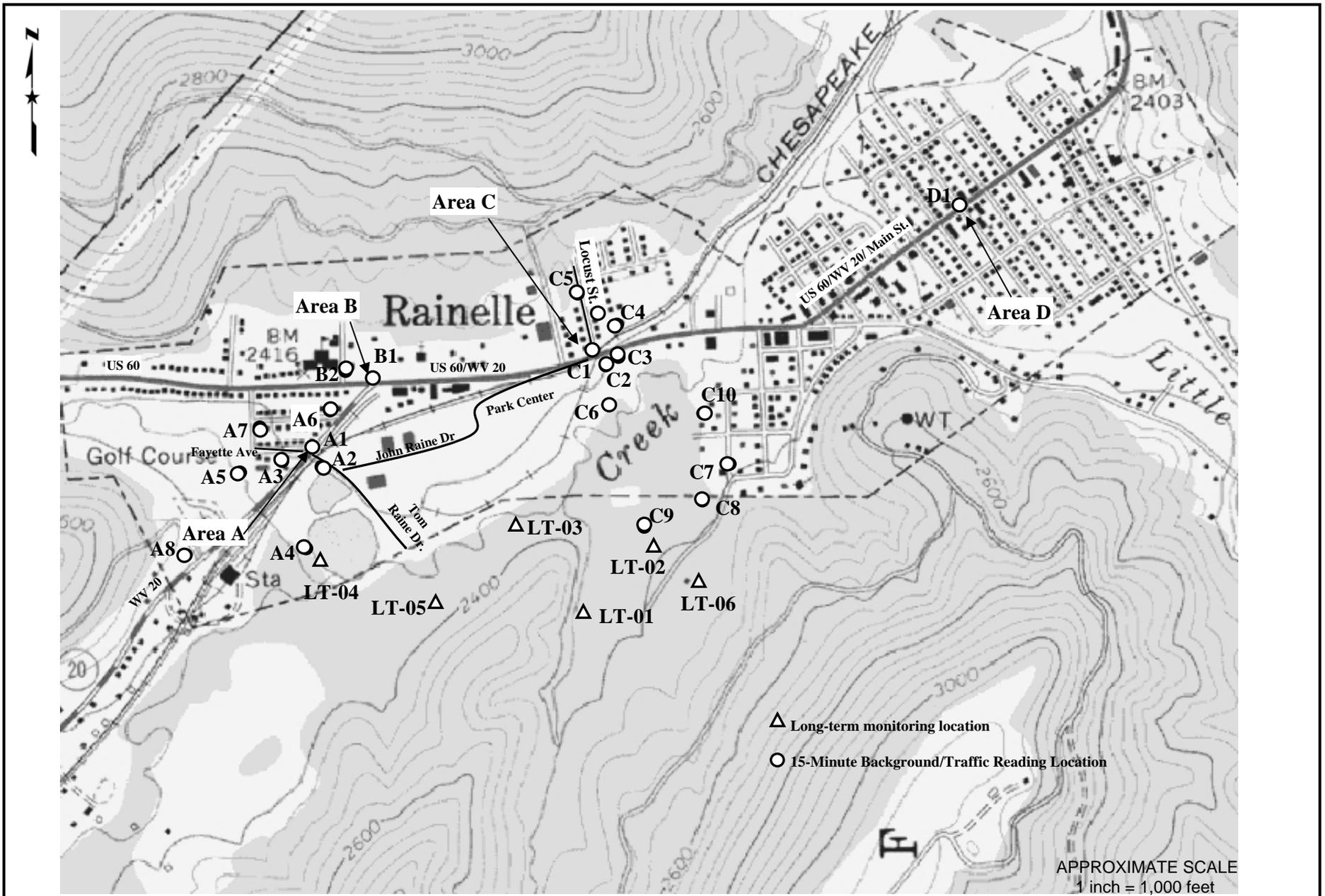


Figure 3.15-1.
 Noise Monitoring Locations – A through D and
 Long-Term (LT)
 Map Source: USGS Topo (1:24,000) Rainelle (1976)

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

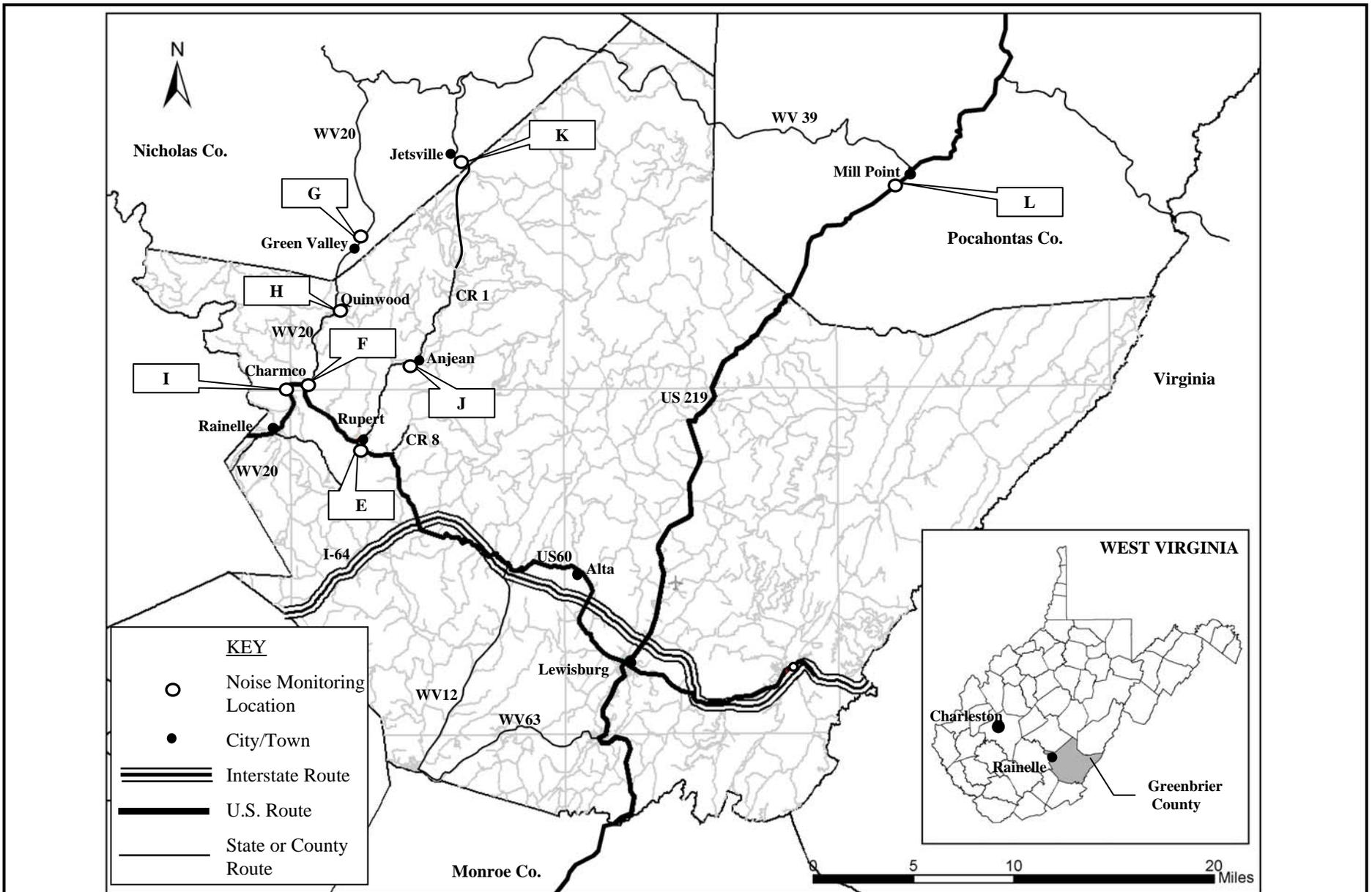


Figure 3.15-2
 Noise Monitoring Locations – Areas E through L
 Map Source: USGS, 1976





Figure 3.2-4. View toward Project Site at Intersection of US 60 and WV 20, Facing South



Figure 3.2-5. View toward Project Area at the Intersection of US 60/Park Center Drive/Railroad, Facing Southwest



Figure 3.2-4. View toward Project Site at Intersection of US 60 and WV 20, Facing South



Figure 3.2-5. View toward Project Area at the Intersection of US 60/Park Center Drive/Railroad, Facing Southwest



Figure 3.2-6. View of Truncated Ridge Crest, Facing North



**Figure 3.2-7. View of Former Log Ponds, Currently Grassy Fields – Facing North
(U.S. Army Reserve Center in Background)**

While Rainelle is predominantly rural in character, it is also an area with a strong history of natural resource extraction and industrial activity, including the associated noise, dust and nighttime light. The area in the vicinity of the proposed Co-Production Facility is largely indistinguishable from large parts of the surrounding area. None of the landscape features would be considered unique within the topographic region. A small golf course and neighborhood park are located northwest of the project site, near the intersection of Fayette Avenue and WV 20. Whereas the south side of the project site faces a wooded



Figure 3.2-6. View of Truncated Ridge Crest, Facing North



**Figure 3.2-7. View of Former Log Ponds, Currently Grassy Fields – Facing North
(U.S. Army Reserve Center in Background)**

While Rainelle is predominantly rural in character, it is also an area with a strong history of natural resource extraction and industrial activity, including the associated noise, dust and nighttime light. The area in the vicinity of the proposed Co-Production Facility is largely indistinguishable from large parts of the surrounding area. None of the landscape features would be considered unique within the topographic region. A small golf course and neighborhood park are located northwest of the project site, near the intersection of Fayette Avenue and WV 20. Whereas the south side of the project site faces a wooded

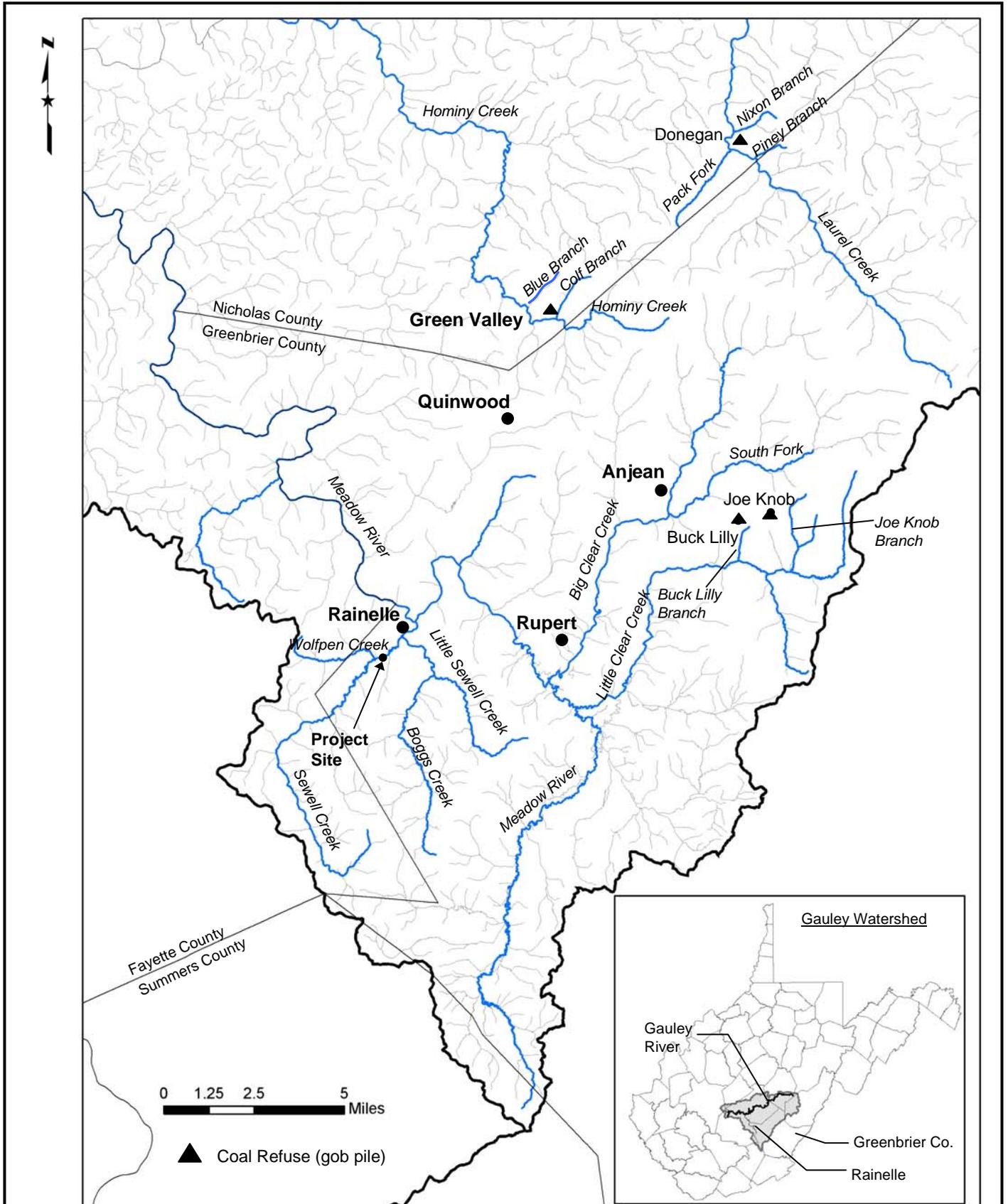


Figure 3.4-1.
Gauley Watershed, West Virginia

U.S. Department of Energy



National Energy Technology Lab

Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006



Figure 3.4-3.
Project Site Hydrological Features - Rainelle, West Virginia

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

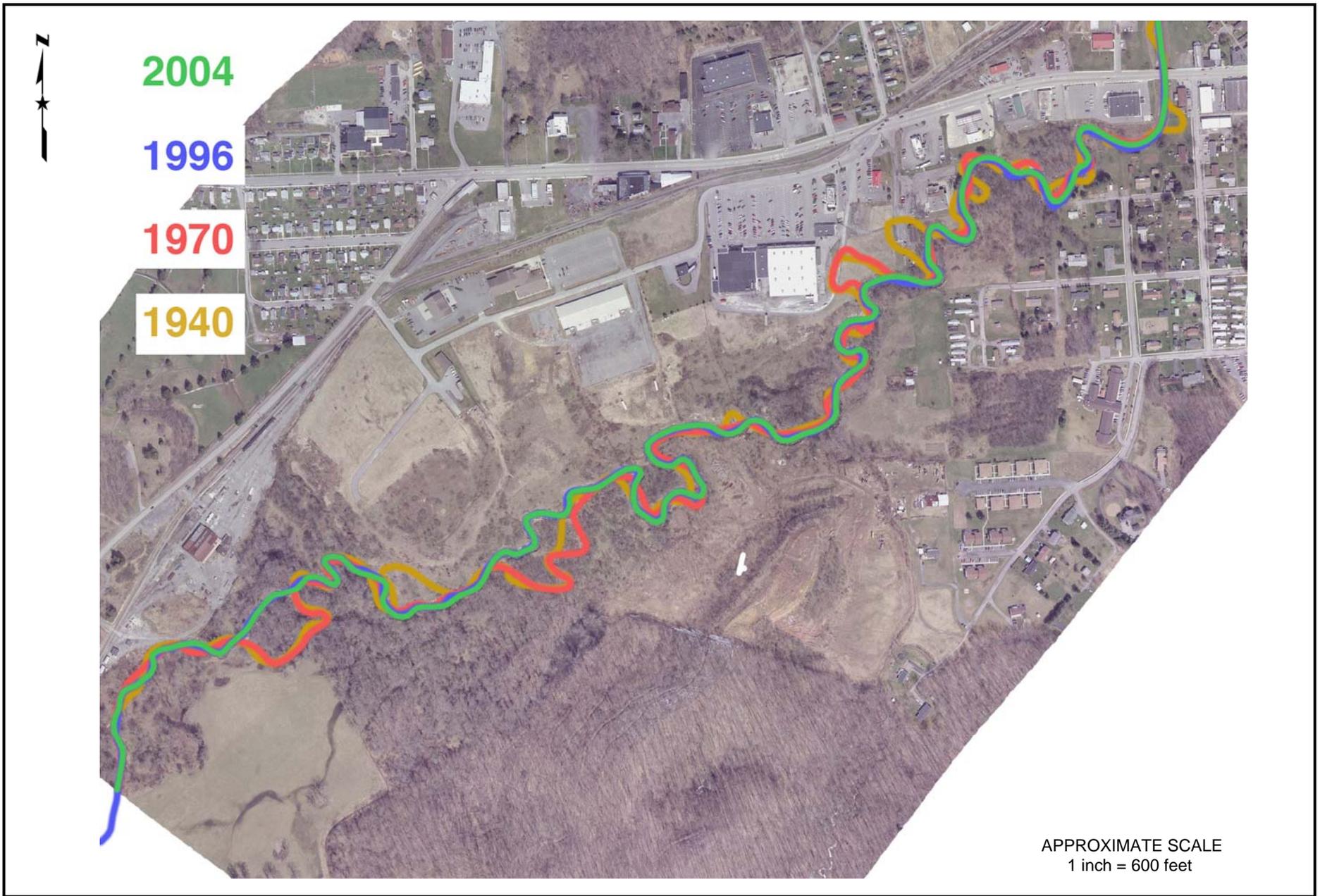


Figure 3.4-4.
Sewell Creek Meander Study
Map Source: Edwards, 2005

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS
November 2006

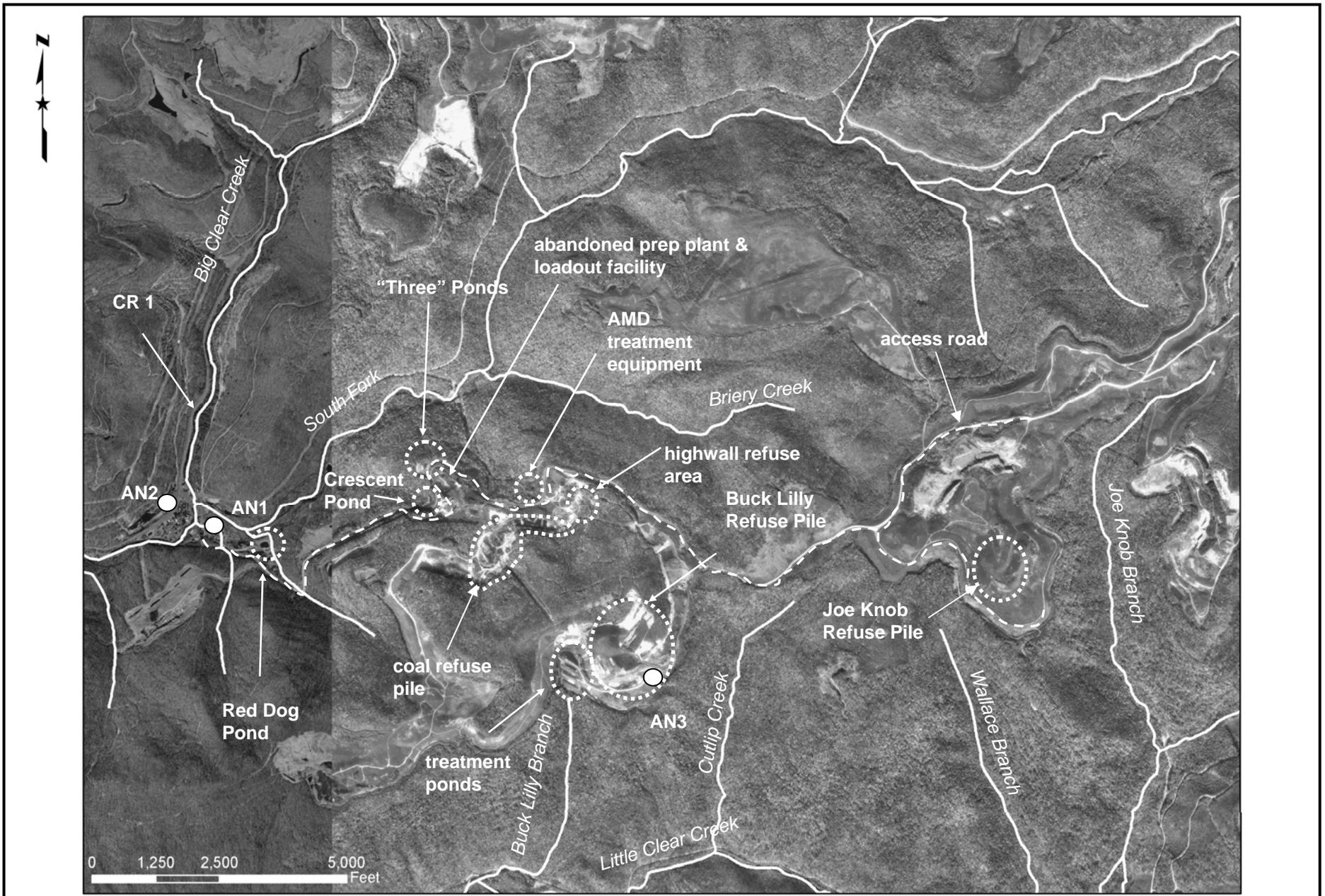


Figure 3.4-5.
Existing Conditions at Anjean and Joe Knob, West Virginia

Map Source: USGS orthophoto (1:12,000) Quinwood SE (1997), Duo (1990)

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

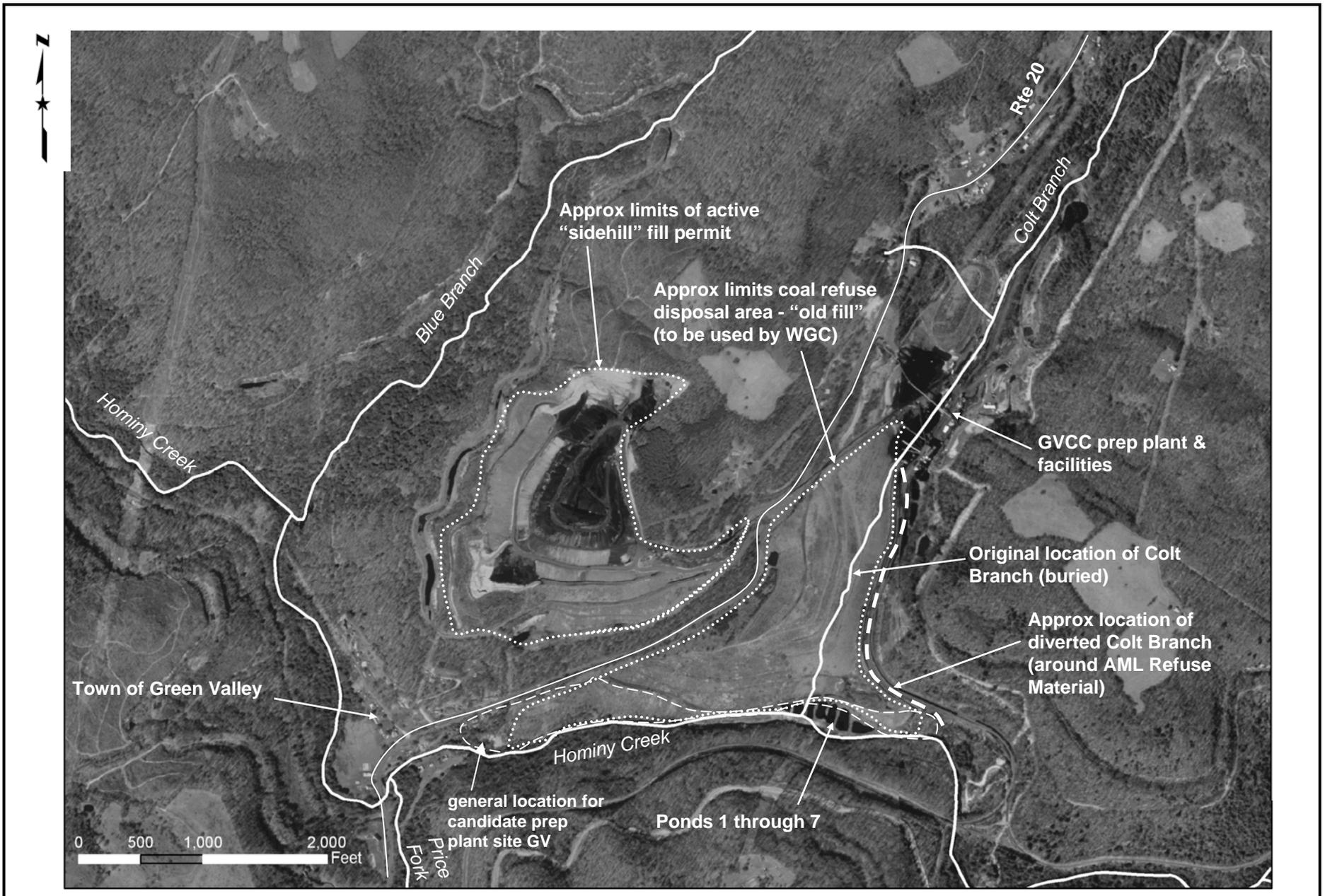


Figure 3.4-6.
Existing Conditions at Green Valley, WV

Map Source: USGS orthophoto (1:12,000) Quinwood NW and NE (1997)

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

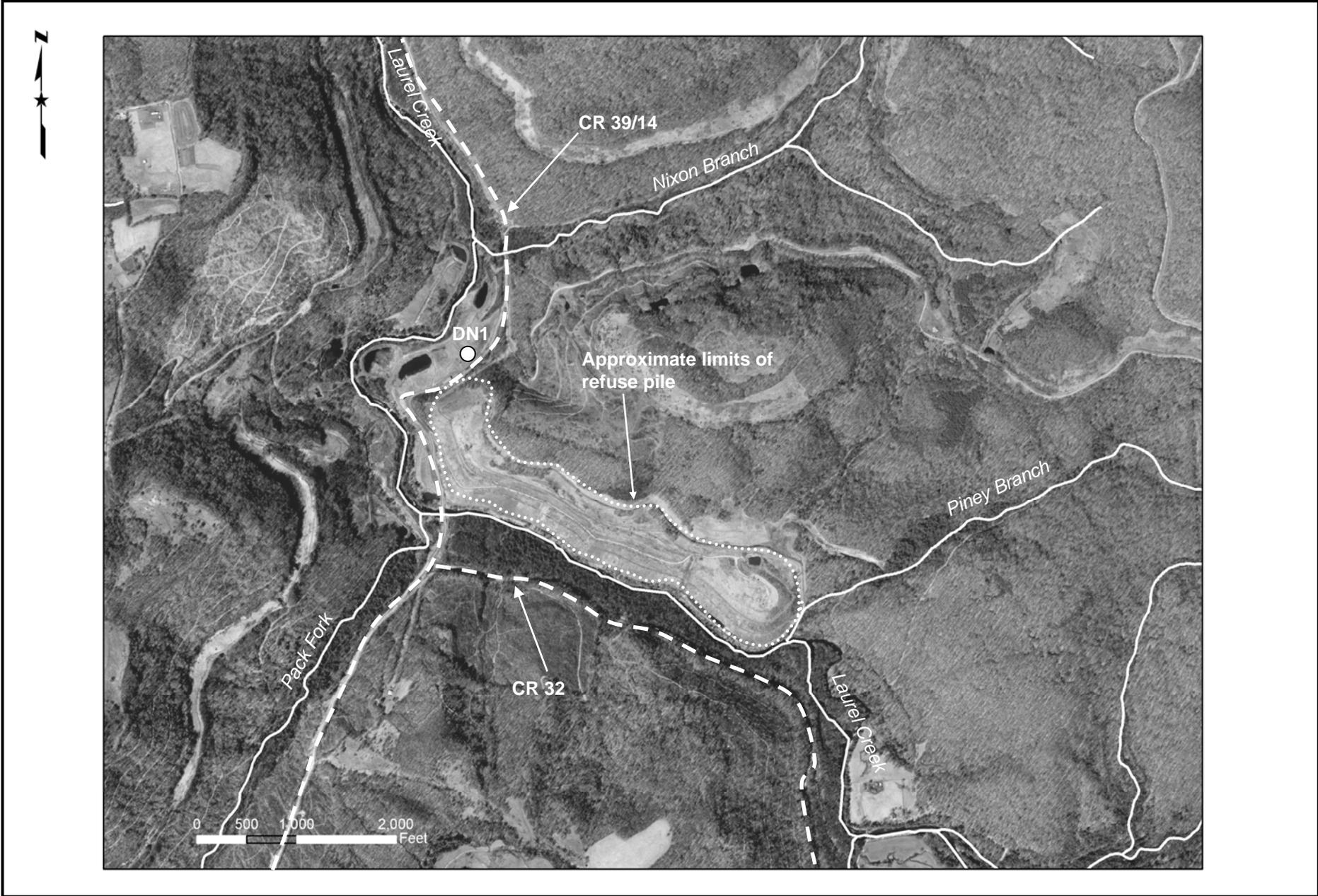


Figure 3.4-7.
Existing Conditions at Donegan Site (Nicholas County)

Map Source: USGS orthophoto (1:12,000) Richwood SE

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006



FLOOD PRONE STREET INDEX

NOTE TO USER

This index provides a list of all streets shown on the Flood Insurance Rate Map (FIRM) that are partially or totally within Special Flood Hazard Areas (SFHAs). This index should not be used as an authoritative source for determining whether specific streets, properties, or buildings are within an SFHA. This index is intended to be used only as a guide for determining the relative location of the street in question on the FIRM panel.

KEY

BAKER STREET (A2)

street name grid location

NAMED STREETS

CENTER STREET (C4)
 FAYETTE AVENUE (B2)
 GREENBRIAR AVENUE (C5)
 GREENBRIAR AVENUE (B2)
 HORTON AVENUE (C4)
 HUGHART STREET (C4)
 KENTUCKY AVENUE (B4)
 MARYLAND AVENUE (B4)
 OHIO AVENUE (B4)
 STATE ROUTE 20 (A2)
 US ROUTE 60/STATE ROUTE 20 (B4)
 VIRGINIA AVENUE (B4)
 WALNUT STREET (B2)
 WEST VIRGINIA AVENUE (B4)

NUMBERED STREETS

1ST STREET (C4)
 2ND STREET (C4)
 3RD STREET (C4)
 4TH STREET (C4)
 5TH STREET (C4)
 6TH STREET (C5)
 7TH STREET (C5)
 8TH STREET (C5)
 9TH STREET (C5)
 10TH STREET (C5)
 11TH STREET (D5)
 12TH STREET (D5)
 14TH STREET (B4)
 15TH STREET (B4)
 16TH STREET (B4)

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

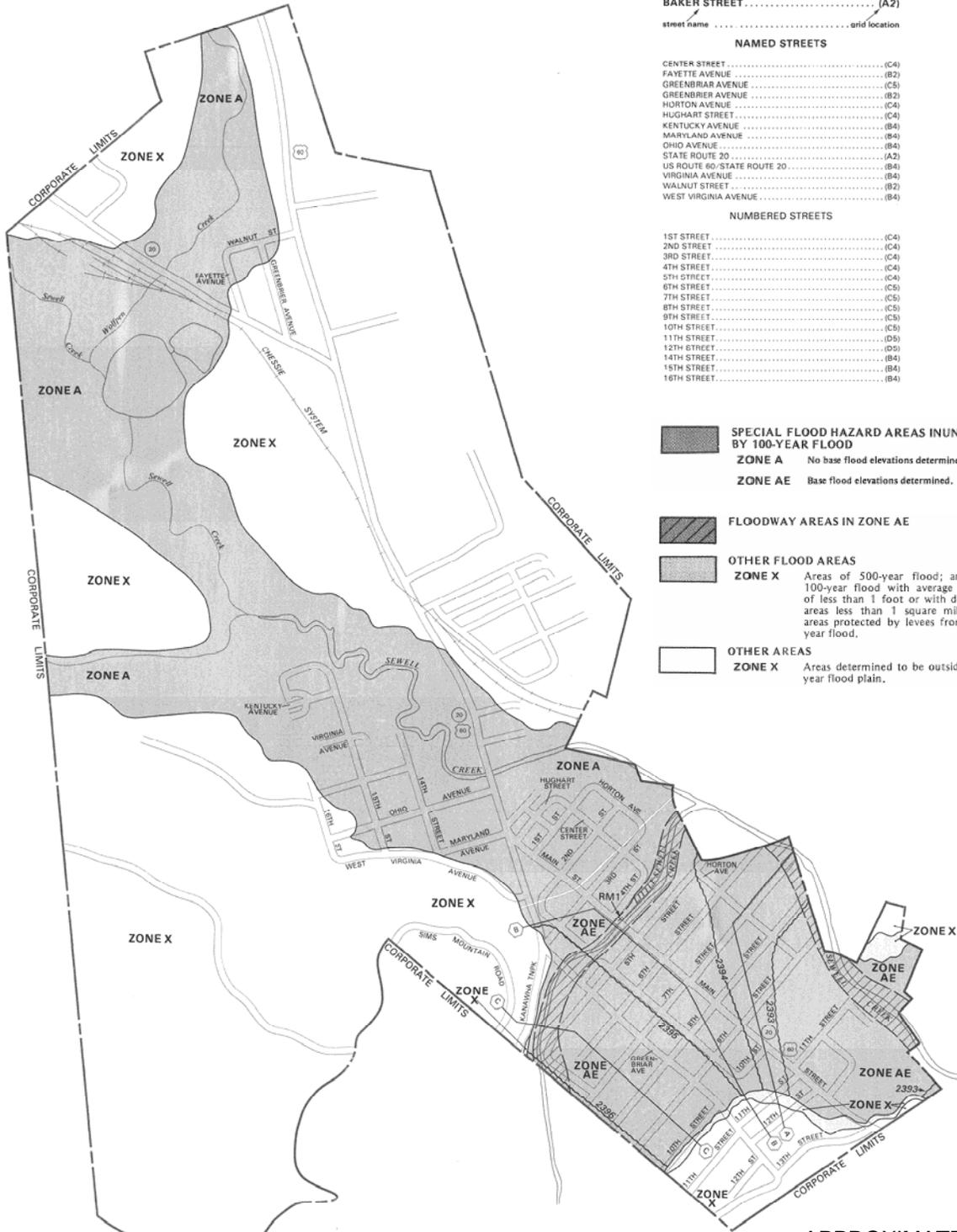
FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

ZONE X Areas determined to be outside 500-year flood plain.



APPROXIMATE SCALE
 1 inch = 2,000 feet

Figure 3.5-2
 Flood Insurance Rate Map (FIRM) of Rainelle

Source: FEMA Community Panel Number 540228 0001 A
 Effective Date: 19 Nov 1987

U.S. Department of Energy



National Energy Technology Lab

Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

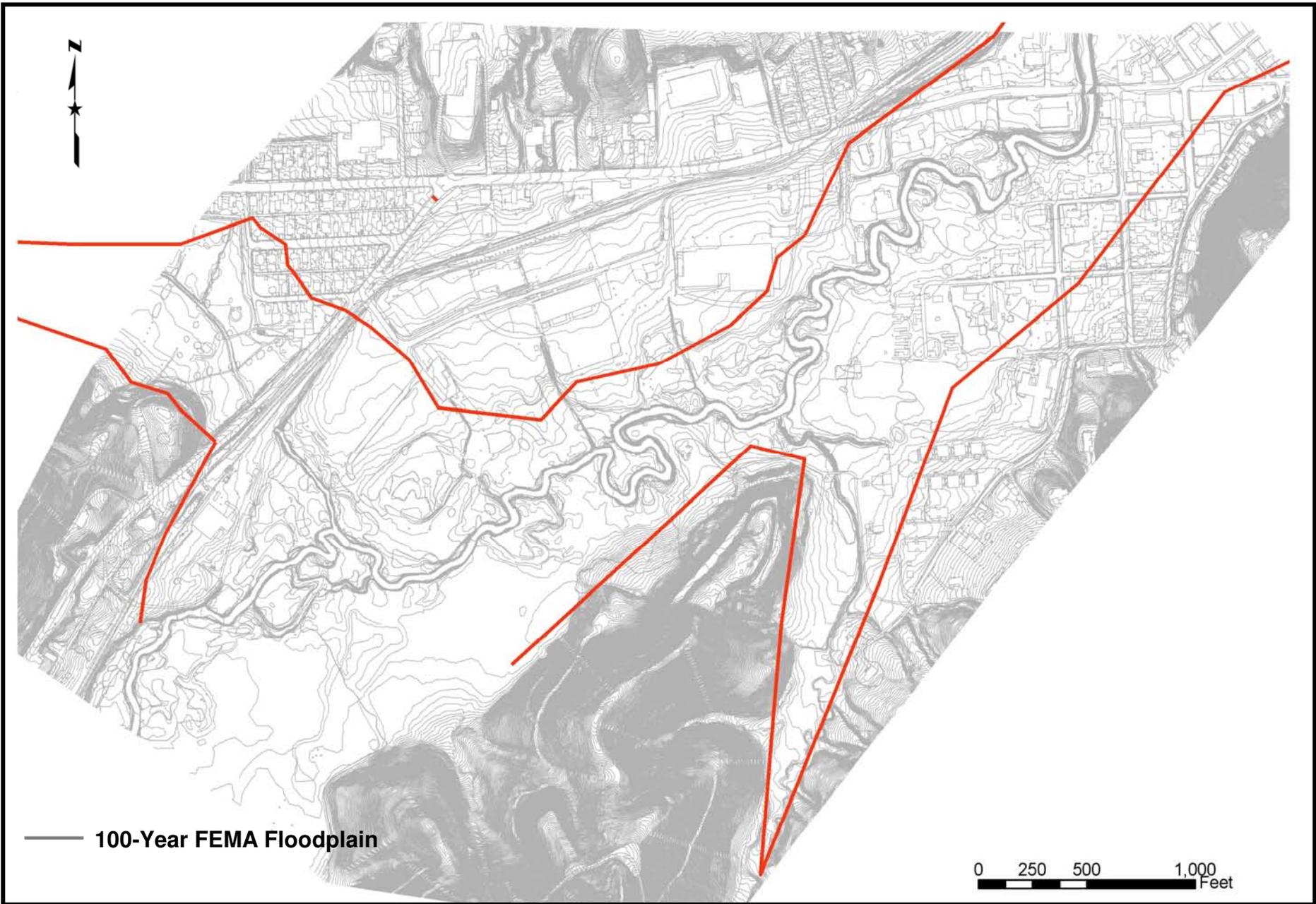


Figure 3.5-3
FEMA 100-Year Floodplain at Project Site
Map Source: Potesta, 2004

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

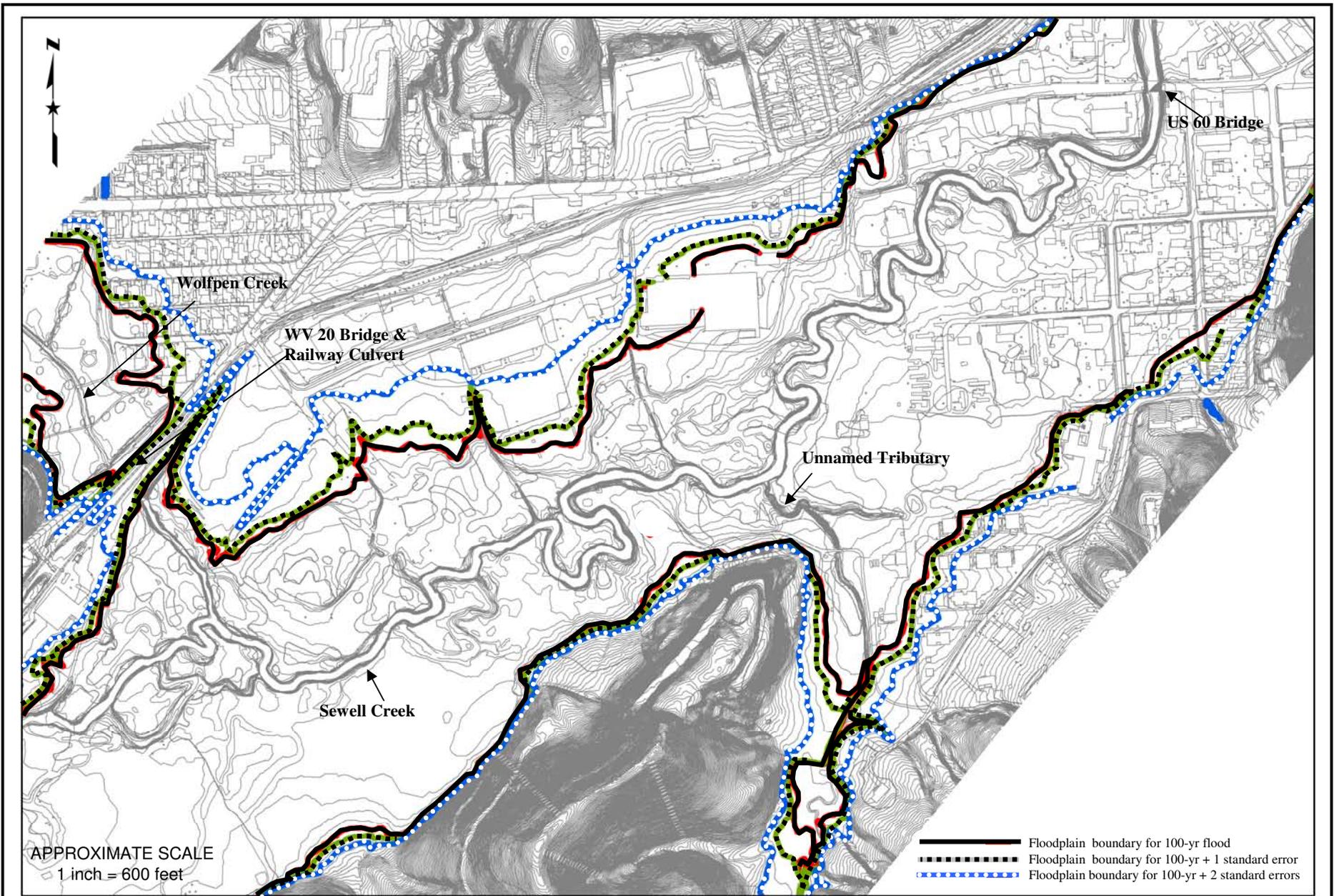


Figure 3.5-4
 Floodplain boundaries for 100-yr, 100-yr + 1SE, and 100-yr + 2SE

Map Source: Potesta, 2004

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006



Figure 3.6-1. Geologic Map of Greenbrier County

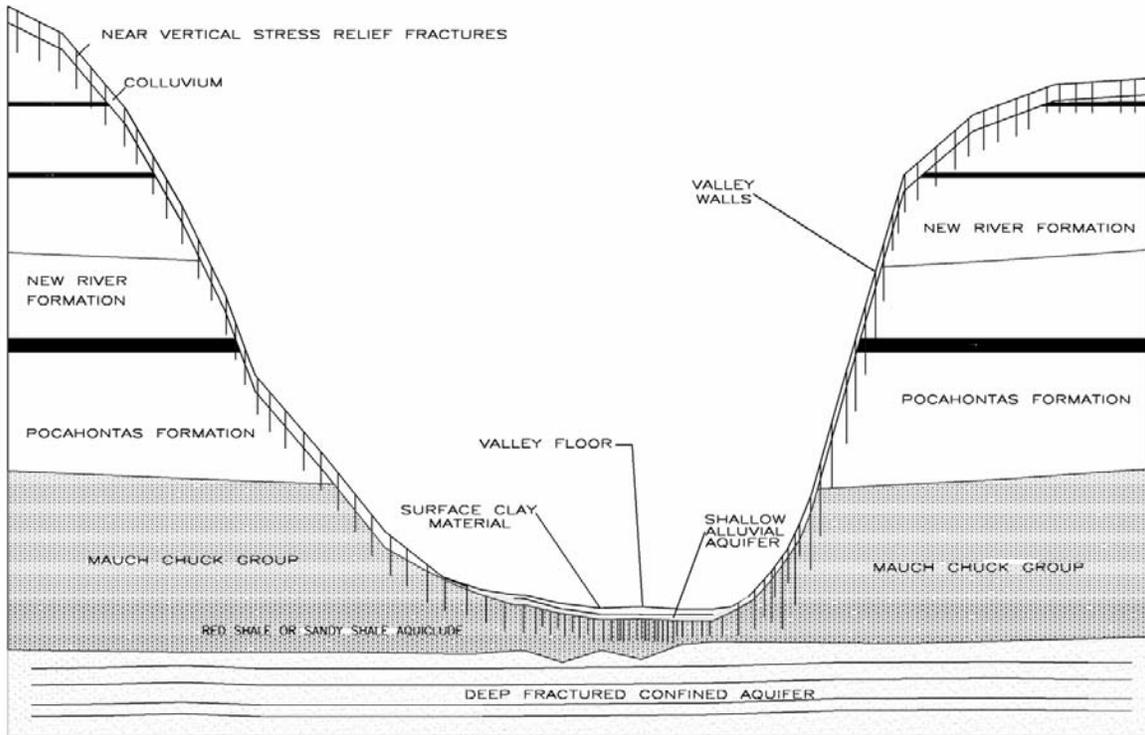


Figure 3.6-2. Site Geology



Figure 3.6-1. Geologic Map of Greenbrier County

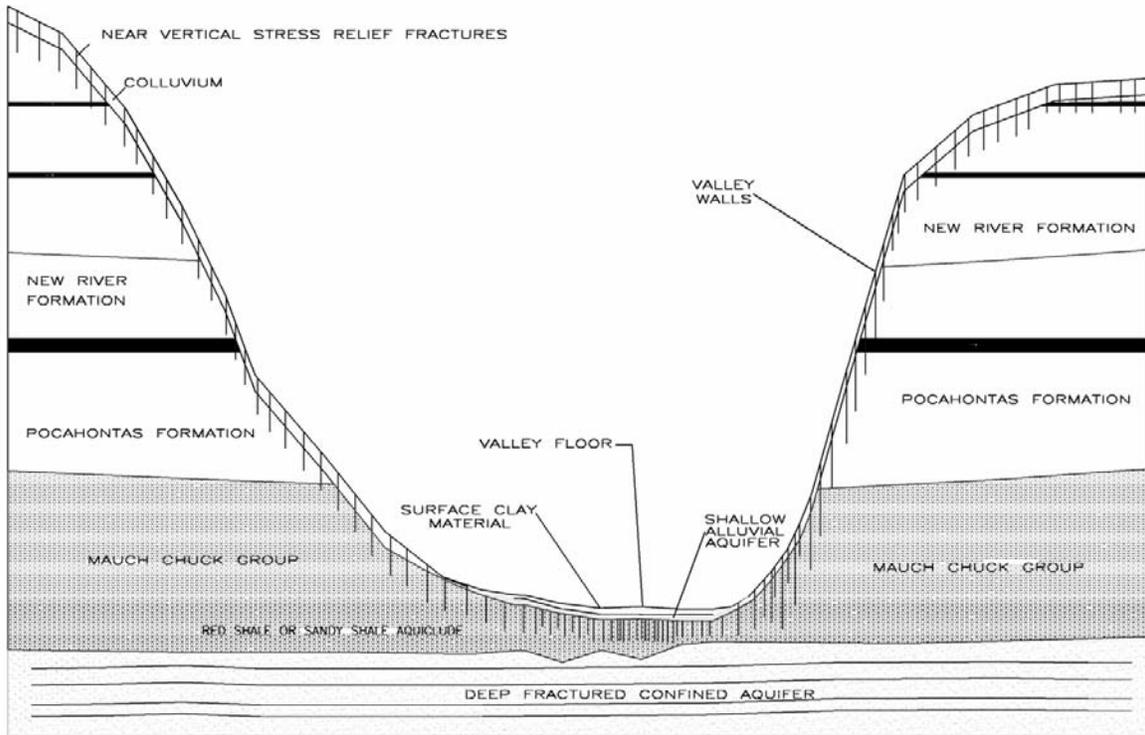


Figure 3.6-2. Site Geology



Figure 3.7-2.
Jurisdictional Wetlands Boundaries

Map Source: Photo Science, 2004

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

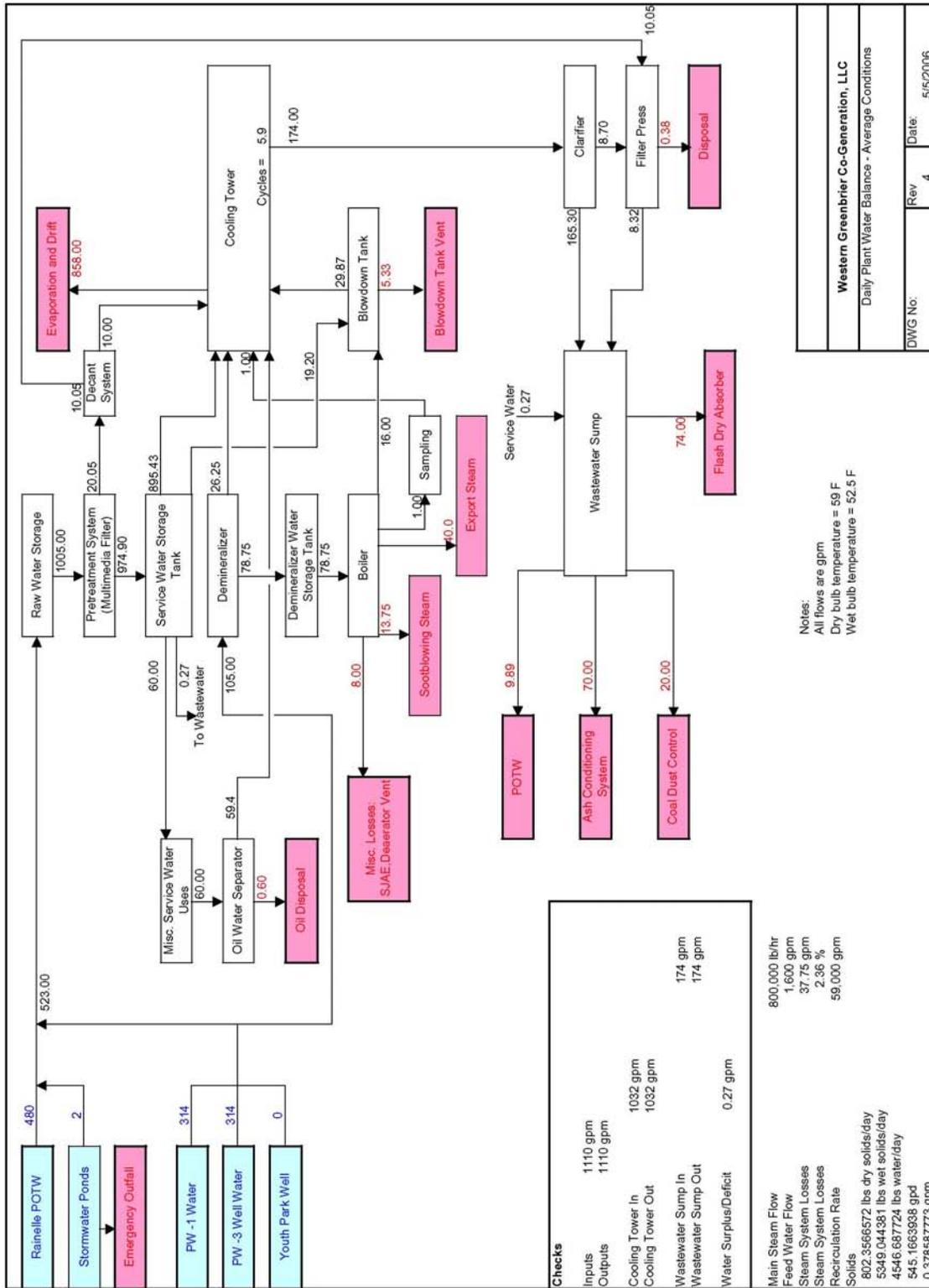


Figure 4.12-1 – Water Supply Requirements for Co-Production Facility Operations During Average Flow Conditions

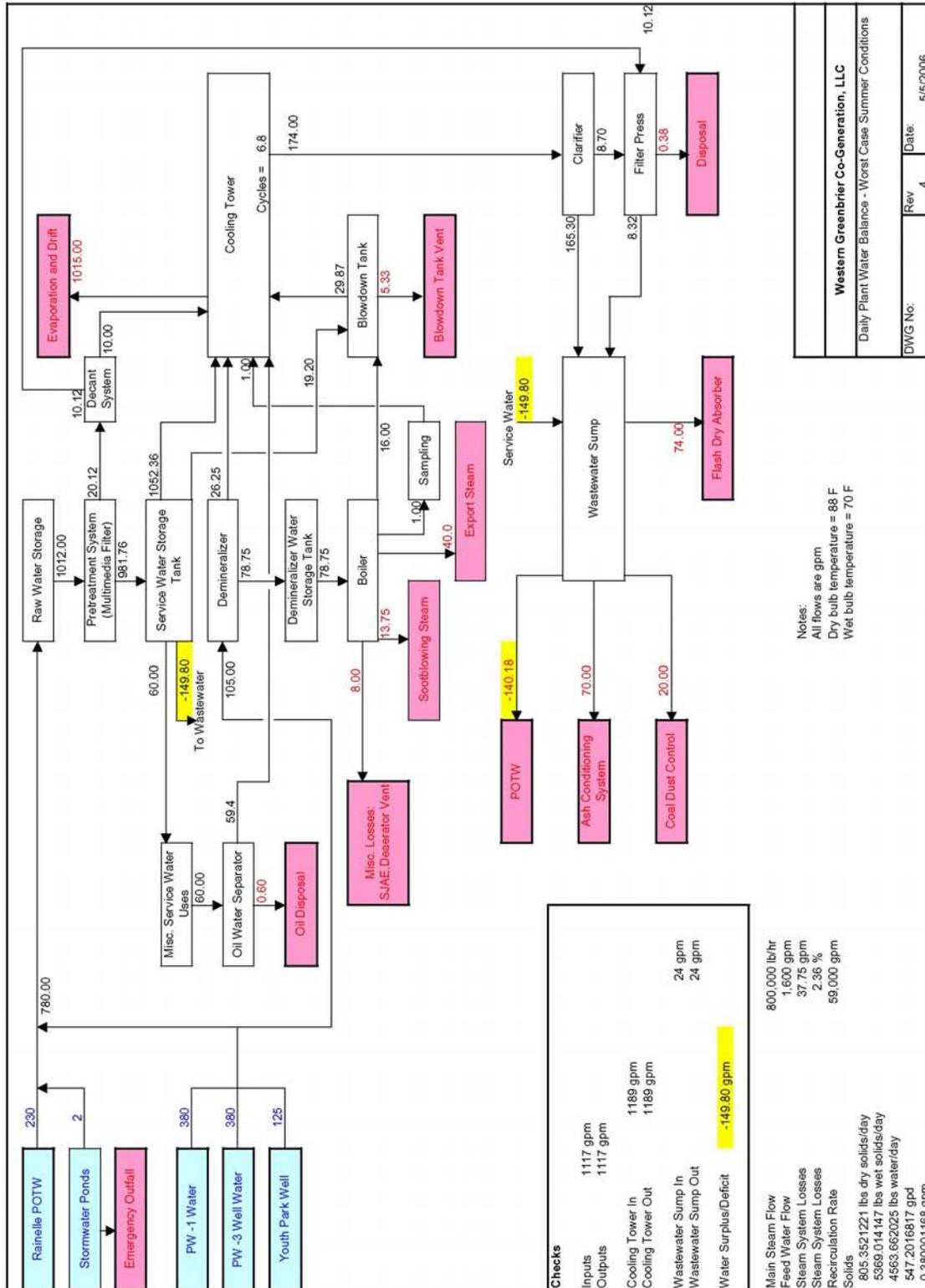


Figure 4.12-1 – Water Supply Requirements for Co-Production Facility Operations During Worst-Case Conditions (Summer)

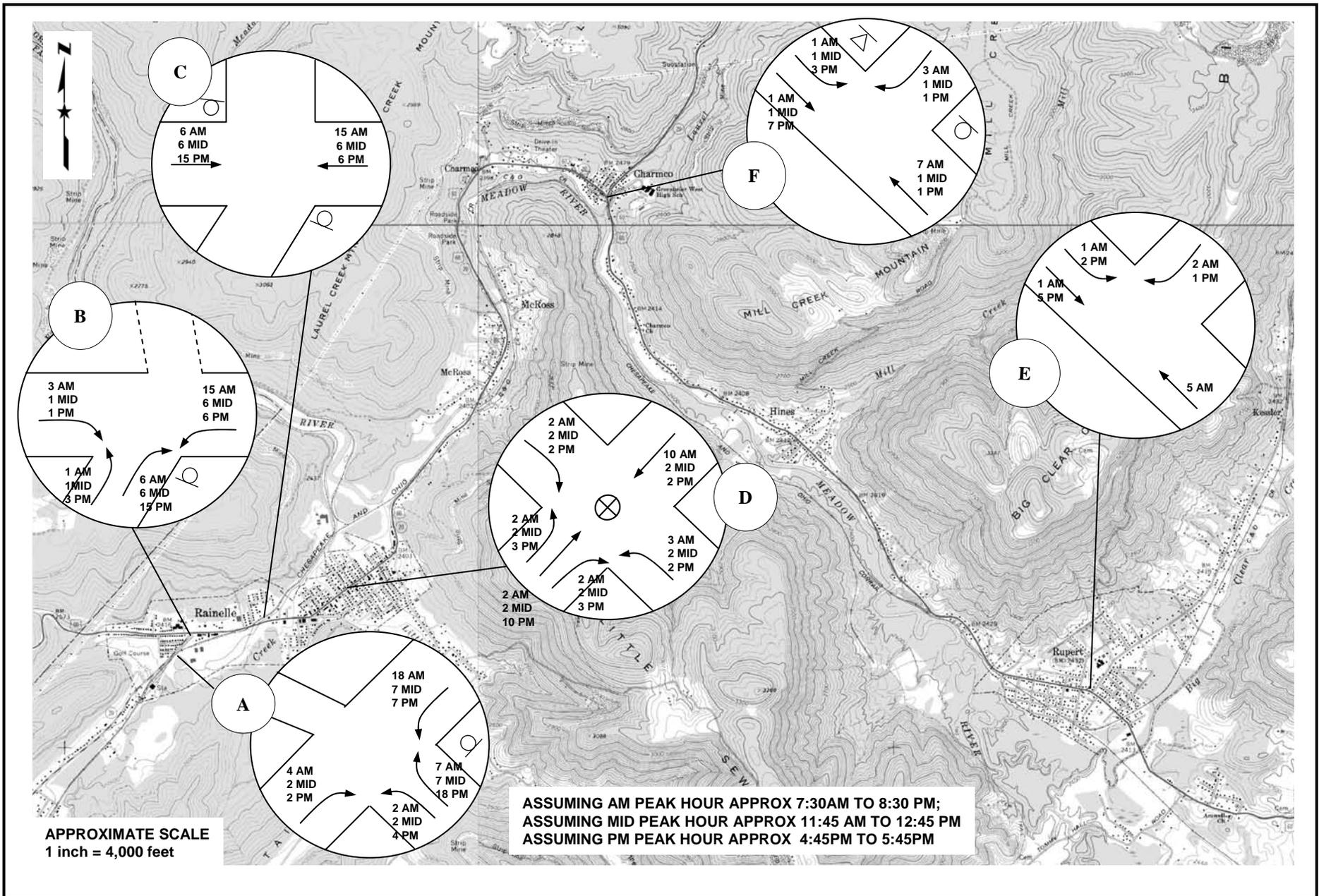


Figure 4.13-1.
Employee-Generated Trips and Distribution
for AM, MID, and PM Peak Hours
Map Source: USGS topo (1:24,000) Rainelle (1976)



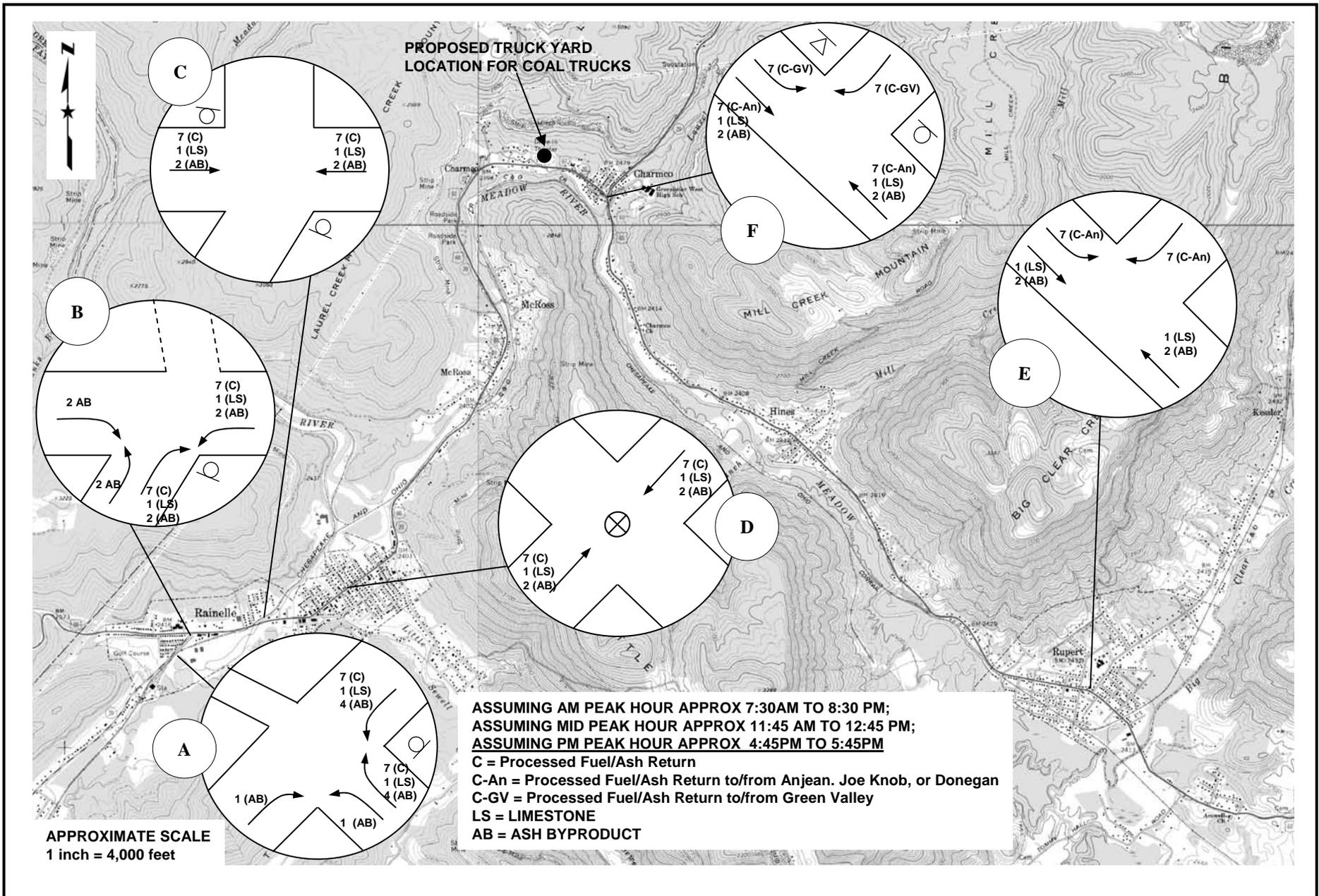


Figure 4.13-2.

Truck-Generated Trips and Distribution
for AM, MID, and PM Peak Hours

Map Source: USGS topo (1:24,000) Rainelle (1976)

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

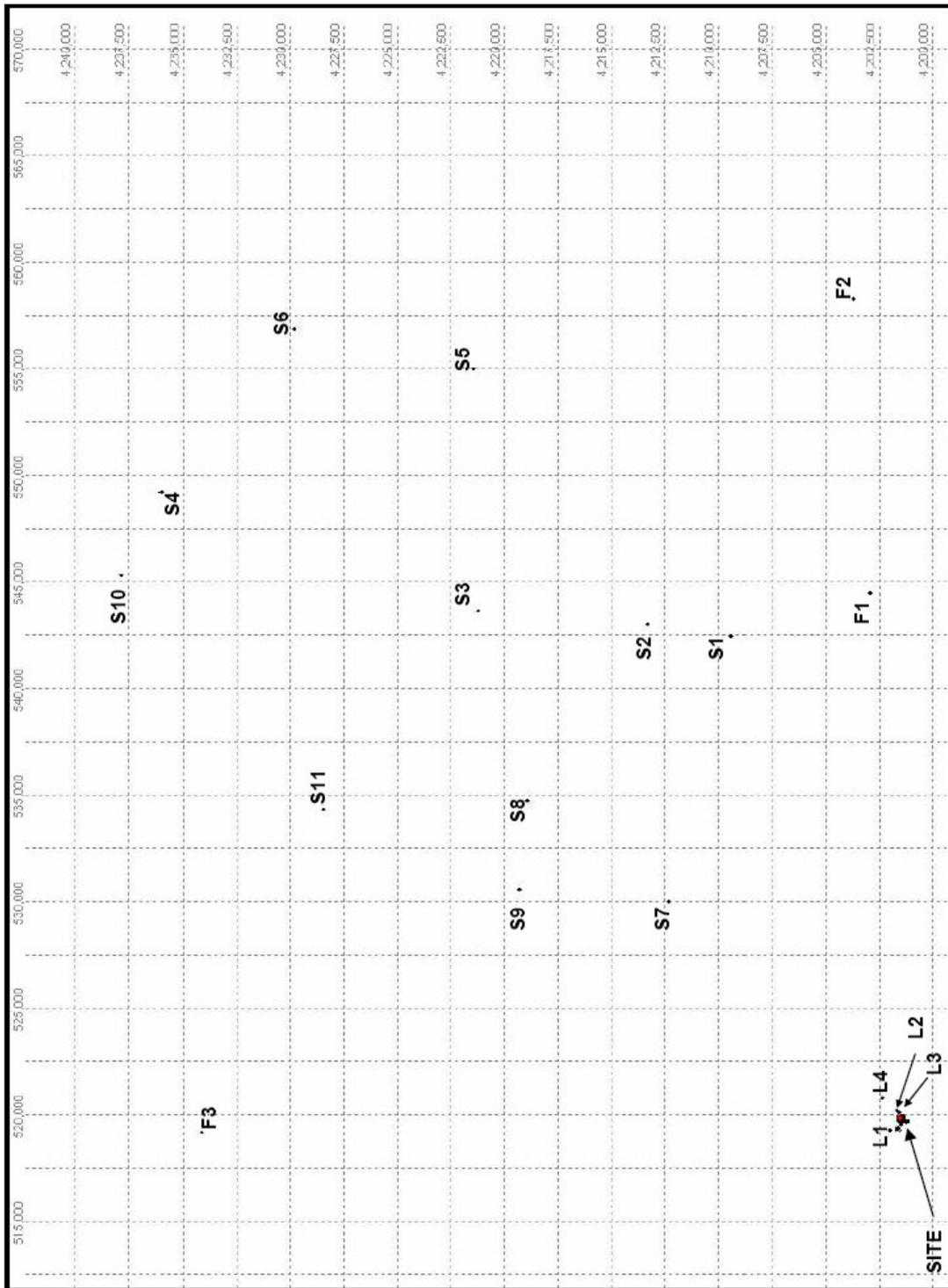


Figure 4.14-1. Relative Location of Receptor Points

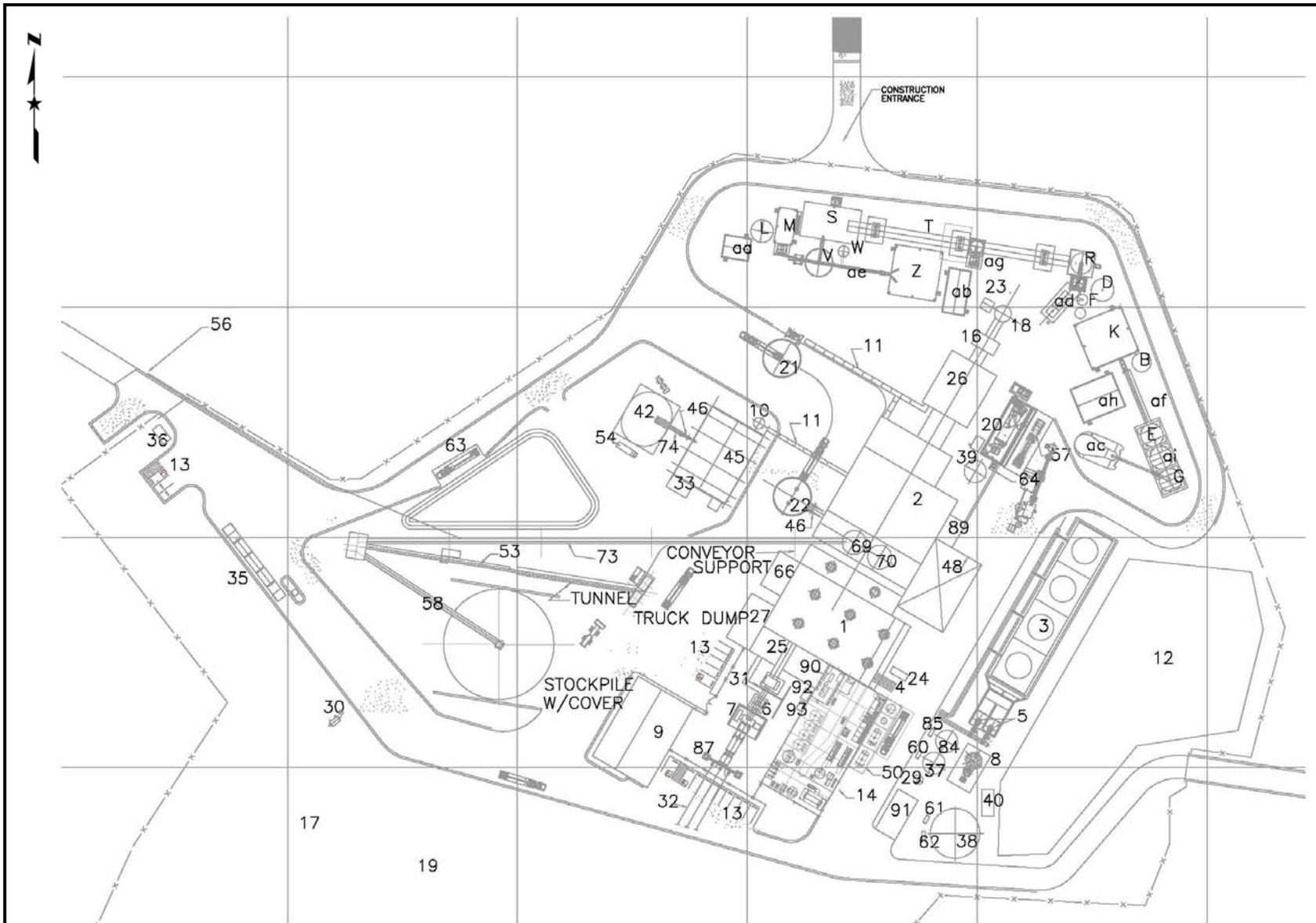


Figure 4.15-1
WGC Power Plant – Buildings and Equipment

Source: CH2MHill/Lockwood Greene, 2006 (Rev D – May 09, 2006)

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006



Figure 4.2-1
Properties Closest to the Proposed Plant Site

Map Source: Photo Science, 2004

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

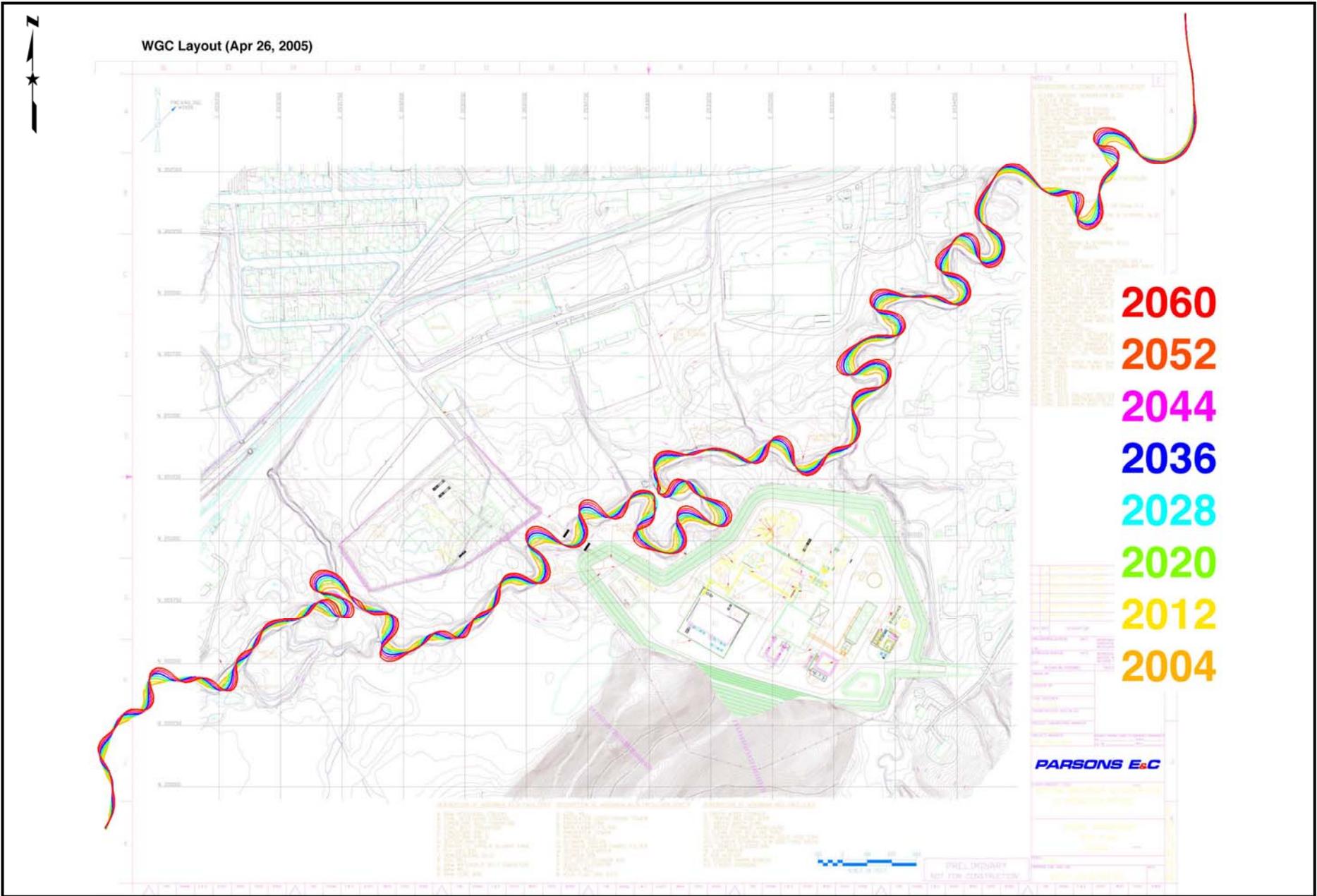


Figure 4.4-3.
 Sewell Creek Meander Prediction
 Source: Edwards, 2005



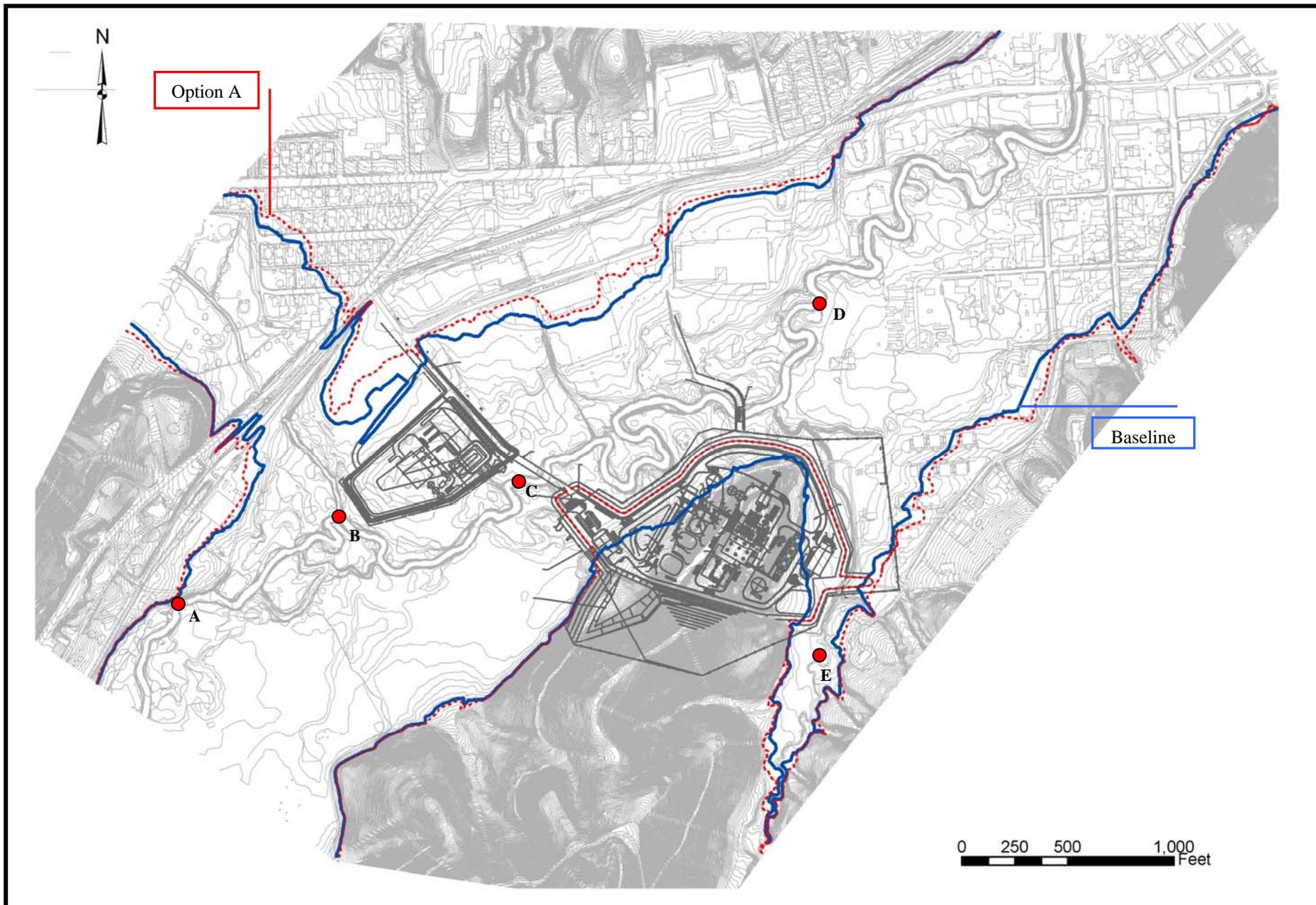


Figure 4.5-1
 Predicted 100-year flood level (Option A)
 Map source: Postesta, 2004; Site Layout: Parsons E&C, 2005

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

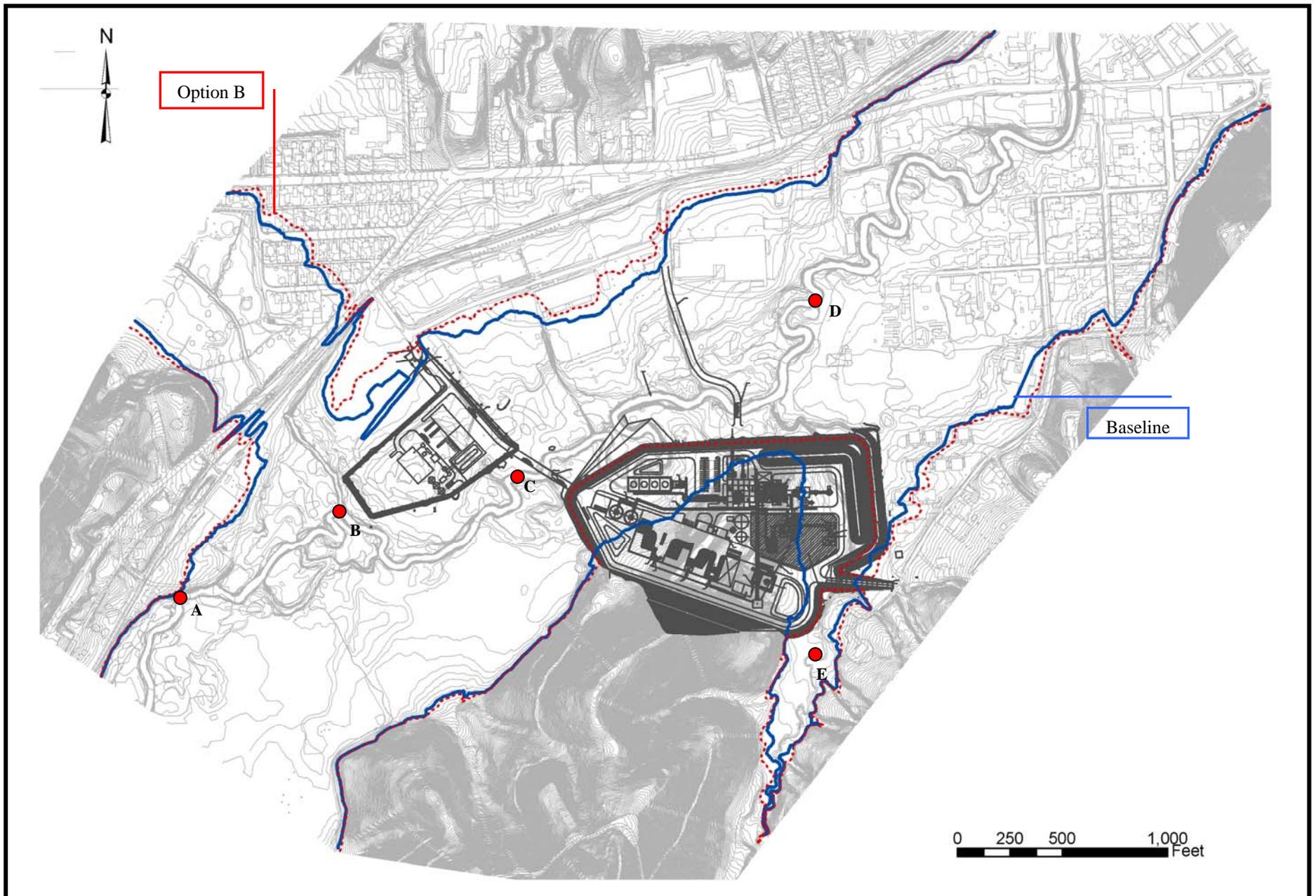


Figure 4.5-2
 Predicted 100-year flood level (Option B)
 Map source: Postesta, 2004; Site Layout: Parsons, 2004

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

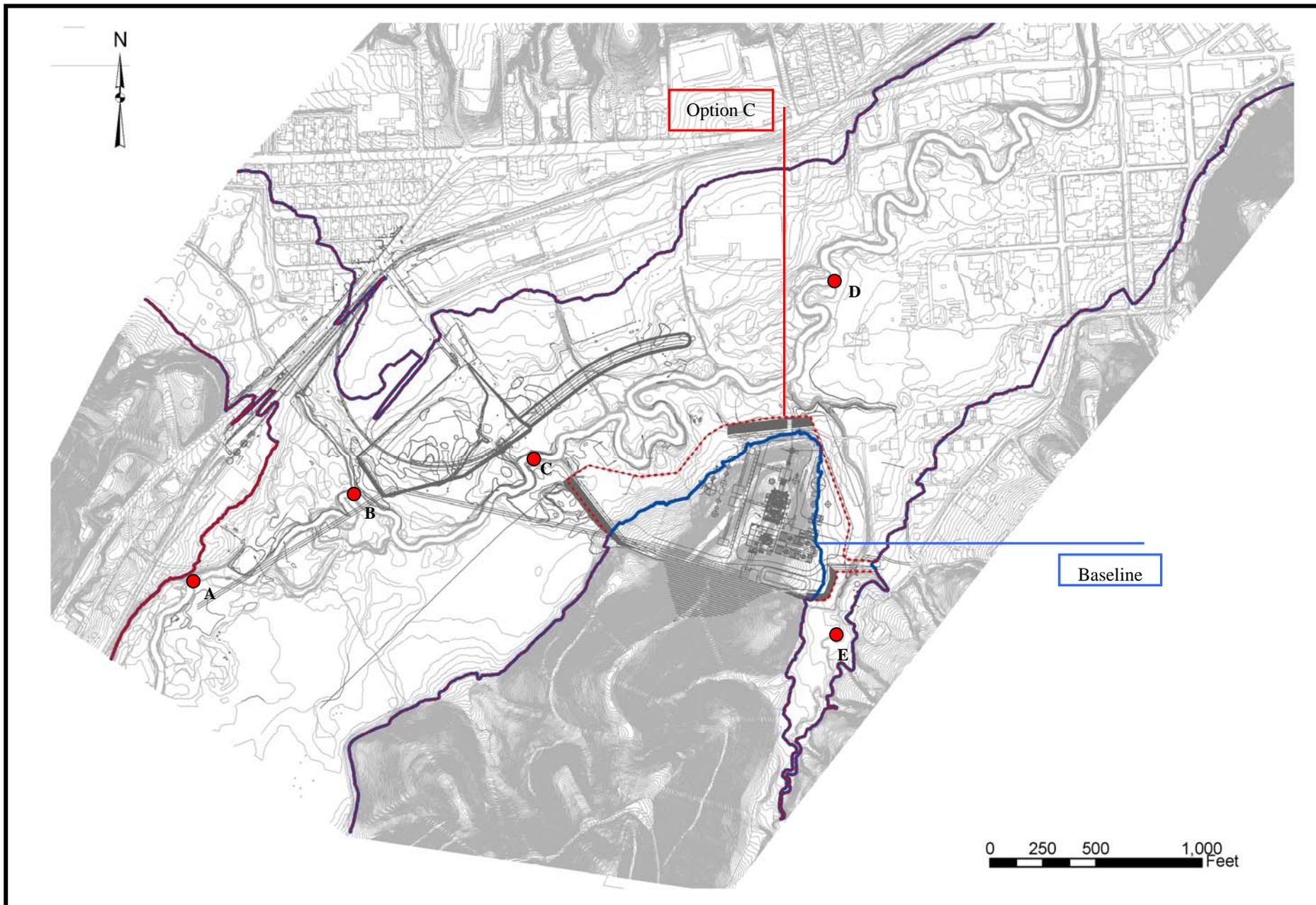


Figure 4.5-3
 Predicted 100-year flood level (Option C)
 Map source: Postesta, 2004; Site Layout: Parsons, 2004

U.S. Department of Energy
 National Energy Technology Lab



Western Greenbrier Co-Production
 Demonstration Project DEIS

November 2006

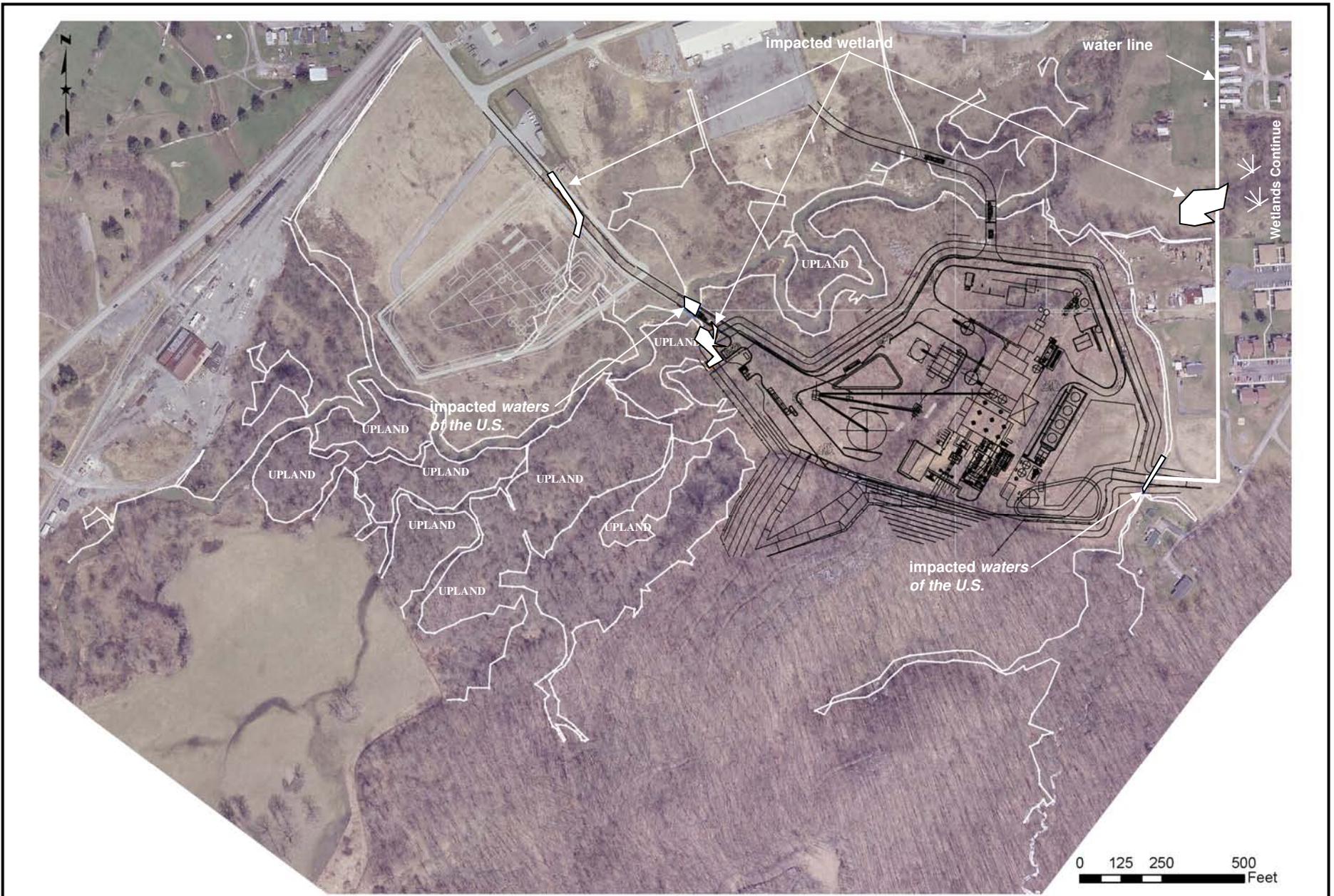


Figure 4.7-1
Jurisdictional Wetlands Boundaries (Option A)

Map Source: Photo Science, 2004; Site Layout: CH2MHill/Lockwood Greene, 2006

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006



Figure 4.7-2
Jurisdictional Wetlands Boundaries (Option B)

Map Source: Photo Science, 2004; Site Layout: Parsons, 2004

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006

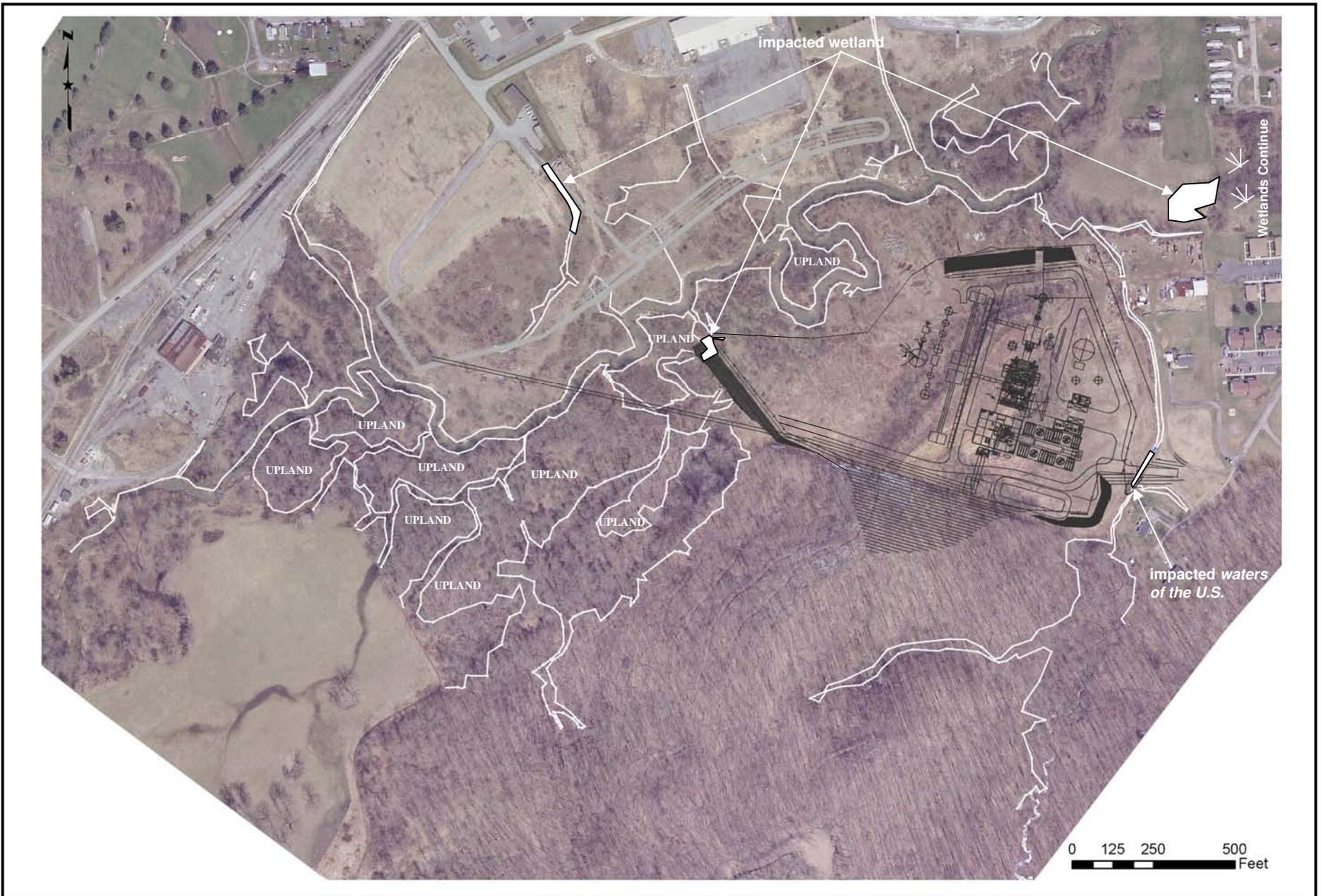


Figure 4.7-3
Jurisdictional Wetlands Boundaries (Option C)

Map Source: Photo Science, 2004; Site Layout: Parsons, 2004

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006



Figure 4.8-1.
Rainelle Historic District

Map Source: Sources: USGS Rainelle NE, WV

U.S. Department of Energy
National Energy Technology Lab



Western Greenbrier Co-Production
Demonstration Project DEIS

November 2006