



U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
and  
VIRGINIA DEPARTMENT OF TRANSPORTATION

## **ENVIRONMENTAL ASSESSMENT**

### **COALFIELDS EXPRESSWAY, SECTION II**

State Project No. 0121-013-772, PE-101; UPC 85126

Federal Project No. NH-962-2(004)  
Wise, Dickenson, and Buchanan Counties

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Date

John Dimkins

For Division Administrator  
Federal Highway Administration

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## **1.1 PROJECT DESCRIPTION**

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating changes to Section II of the proposed Coalfields Expressway (CFX, U.S. Route 121) between the proposed Pound Bypass and the proposed Route 460 Connector. The Final Environmental Impact Statement (FEIS) and Record of Decision (ROD), for the CFX – a four-lane, limited access primary highway to be constructed through Wise, Dickenson, and Buchanan Counties – were completed in 2001. Since that time, under provisions of the Virginia Public-Private Transportation Act (PPTA), VDOT’s PPTA private partners have proposed revisions to the selected corridor that was presented in the 2001 FEIS and ROD. VDOT is now proposing those revisions.

Section II of the proposed Coalfields Expressway is approximately 26 miles long and would extend from the east end of the proposed Pound Bypass (also referred to now as CFX Section I), near its connection with Route 83 in Wise County, to the proposed Route 460 Connector in Buchanan County (where CFX Section IIIA begins), as shown on **Figures 1 and 2**. Design efforts on the new proposed corridor, referred to in this document as the “PPTA Alternative” have identified approximate construction and right of way limits. The proposed changes are within the study area of the FEIS, and the terrain and land uses crossed are generally comparable to those crossed by the original corridor.

This Environmental Assessment (EA) serves as a reevaluation of the previous NEPA documentation as it pertains to Section II of the Coalfields Expressway. It assesses potential changes in environmental impacts resulting from changes to the project components, changes in the affected environment, and changes in regulatory requirements and guidance since the ROD was issued. In addition, in accordance with 23 CFR 771.130(c), the EA was prepared to help determine if 1) changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS, or 2) new information or new circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS.

## **1.2 HISTORY**

In 1991, Congress enacted the Intermodal Surface Transportation Efficiency Act (ISTEA), one purpose of which was to establish a “National Highway System which consists of the National System of Interstate and Defense Highways and those principal arterial roads which are essential for interstate and regional commerce and travel, national defense, intermodal transfer facilities, and international commerce and border crossings.” In 1995, the National Highway System Designation Act of 1995 was signed into law. This legislation designated the Coalfields Expressway in Virginia as a congressional High Priority Corridor and included it in the National Highway System. In 1998, Congress approved the Transportation Efficiency Act for the Twenty-First Century (TEA 21), which appropriated an additional \$1 million for planning and design of the Coalfields Expressway in Virginia.

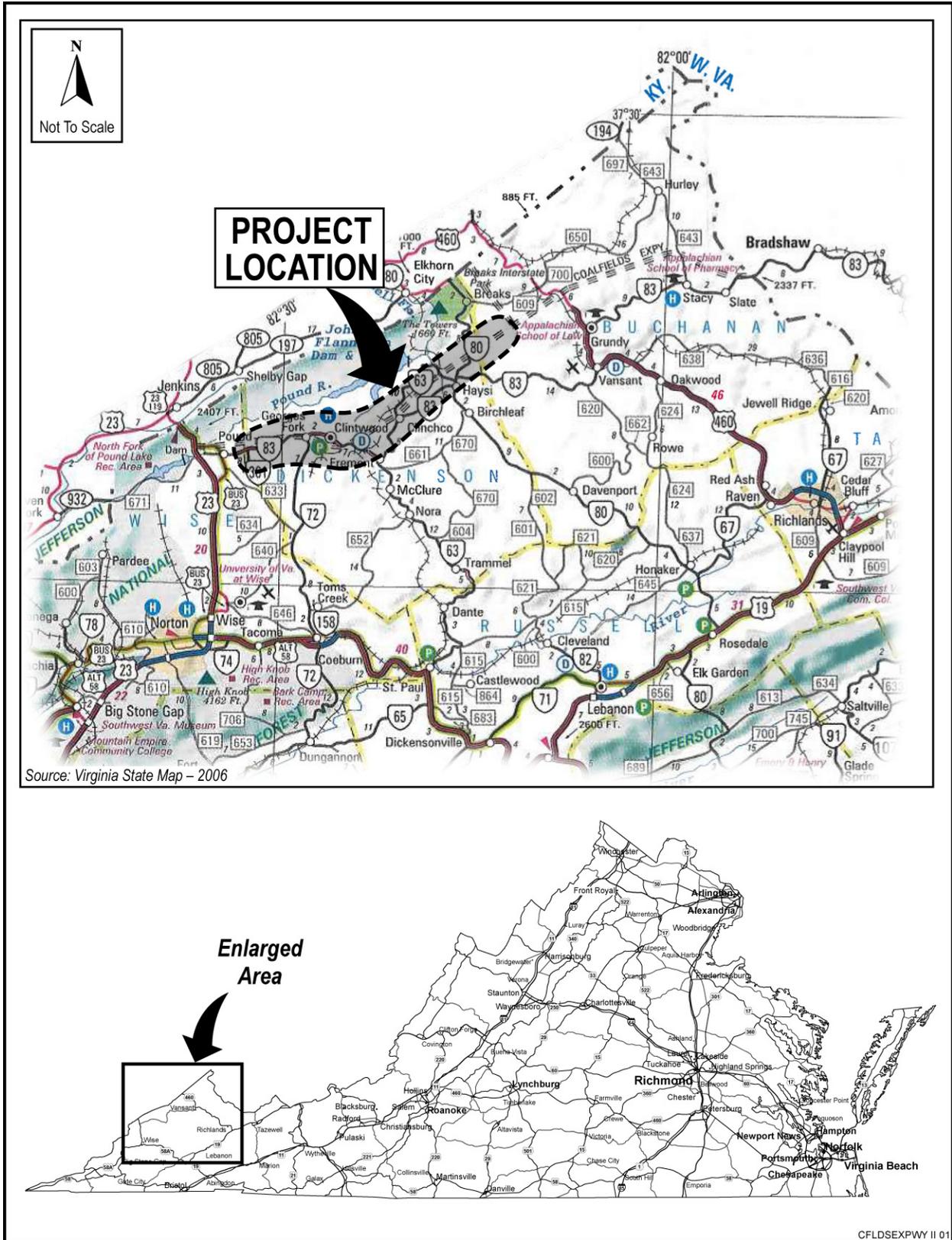
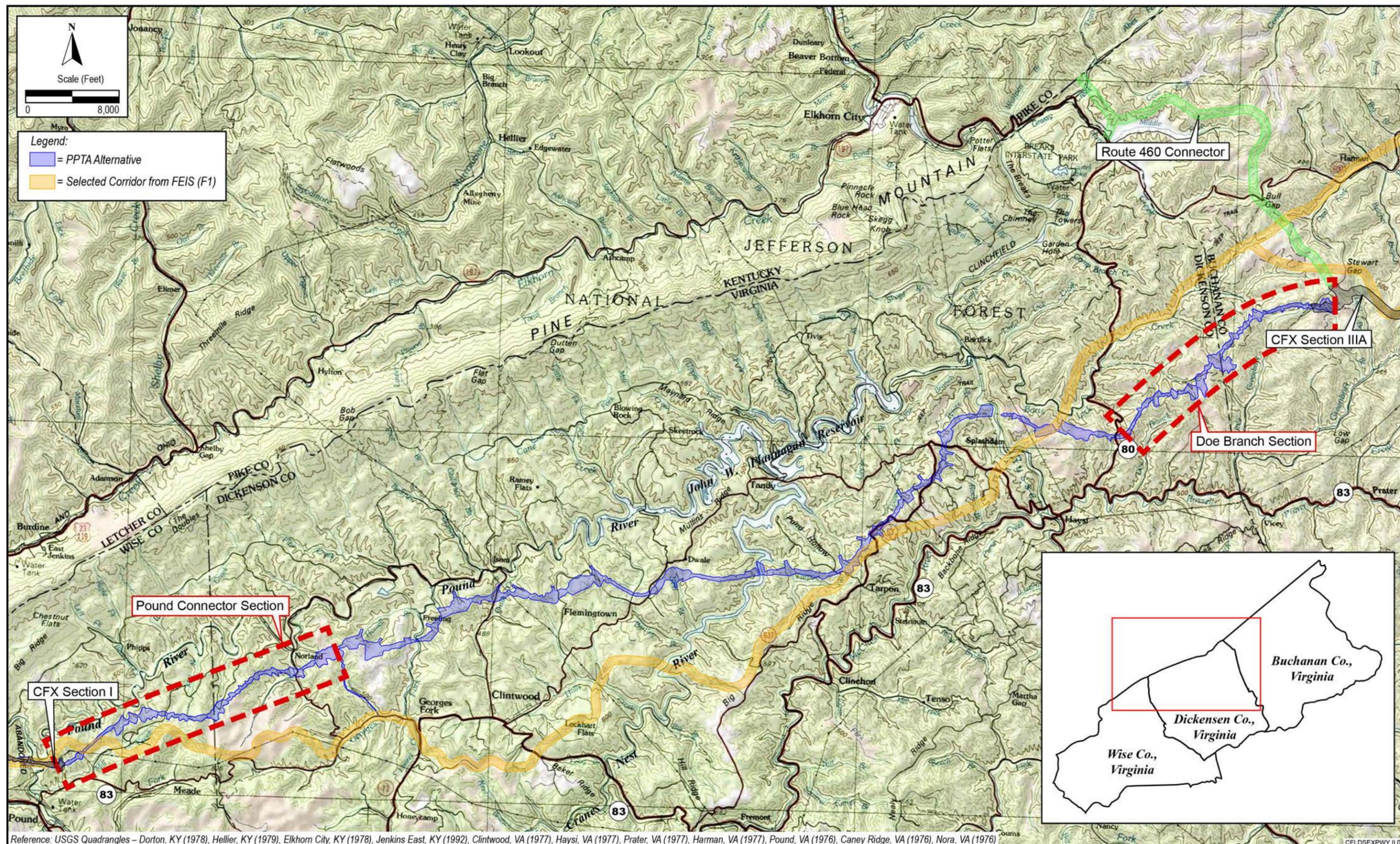


FIGURE 1: PROJECT LOCATION, PROPOSED COALFIELDS EXPRESSWAY, SECTION II  
Wise, Dickenson, and Buchanan Counties



**FIGURE 2: PROJECT CORRIDOR, PROPOSED COALFIELDS EXPRESSWAY, SECTION II**  
Wise, Dickenson, and Buchanan Counties

VDOT initiated corridor location and environmental studies and published and circulated a Draft EIS in March 2000. Following a series of location public hearings in April 2000, the Commonwealth Transportation Board (CTB) endorsed Alternative F1 in August 2000 and designated the future CFX as U.S. 121 in Virginia. The FEIS was published in September 2001. The ROD issued by FHWA in November 2001 identified F1 as the selected alternative. The ROD also noted that the project would be designed and constructed in numerous phases.

On January 11, 2002, VDOT entered into a Comprehensive Agreement and a Design-Build Contract (collectively referred to throughout this EA as “Agreement”) with PPTA private partners. Several amendments to the Agreement also have been executed to reflect changes to the PPTA partners and changes to various other terms and conditions. Under the Agreement, VDOT would acquire title to lands needed for project rights of way and provide funds for costs of design and construction. The PPTA partners would design and build the project and would also provide equity contributions toward the costs of the project. Additionally, the Agreement provided for adjustments to the proposed alignment of the roadway in order to take advantage of the potential value of the PPTA partners’ coal reserves and expertise in recovering said reserves to offset a portion of CFX construction costs.

VDOT’s PPTA private partners have investigated the feasibility of accessing marketable coal reserves within the study area in conjunction with the construction of Section II of the CFX. The PPTA Alternative would take advantage of coal recovery within the proposed right of way to substantially reduce the amount of public funds needed to complete Section II of the CFX. Coal companies would extract the coal and leave mined locations graded and suitable for roadway construction, thereby saving considerable roadway construction costs.

The Virginia General Assembly and local governing bodies have supported the CFX throughout its development. The General Assembly, the Boards of Supervisors of each county in the study area, planning commissions, chambers of commerce, and Planning District Commissions all have passed resolutions supporting the CFX.

### **1.3 NEEDS – EXISTING CONDITIONS**

As described in greater detail in the FEIS, the needs for the CFX can be categorized into three major themes:

- Satisfy legislative initiatives.
- Improve mobility and safety.
- Support regional economic development including tourism.

**Legislative Initiatives:** As described in Section 1.2, Congress has on multiple occasions expressed its desire and interest in implementing the Coalfields Expressway. Congress has designated the Coalfields Expressway in Virginia as a Congressional High Priority Corridor, included it in the National Highway System, identified Route 83 as the general location of the corridor, and authorized funding for planning and design of the CFX.

**Mobility and Safety:** Due to the steep terrain within the study area, the current transportation network exists almost exclusively along the relatively level, but narrow, valley floors. This network limits system linkage within the study area and limits the road connections to outside of the study area. In developed areas, posted speeds are reduced, pedestrian activity is higher, and more turning vehicles are present. When using the existing network, local residents, businesses, and emergency services experience low speeds, prolonged travel times, and inadequate access to the regional highway network.

Route 83 is the study area's primary east-west highway. It is a two-lane rural road with numerous changes in grade, design speeds, horizontal curves, and shoulder widths. These characteristics of the roadway result in changes in the driving conditions that affect travel time. In Dickenson County, nine miles of Route 83 have grades exceeding 8%. Other roads within the locale also have steep grades: Route 63 has several three-mile stretches of roadway with greater than 10% grades. Four miles of Route 72 have grades exceeding 11%, and a three-mile stretch of Route 80 has grades over 13%. In comparison, the PPTA alternative has a maximum grade of 6% with a 60 mph design speed. The terrain affects not only the grades but also the amount of horizontal curvature along the roadway. Route 83 has many no-passing zones due to horizontal curves. Both steep grades and sharp curves reduce speeds, increase travel times, and decrease sight distance. The system linkage and roadway deficiencies described above reduce mobility both within and through the region.

The existing road conditions also raise safety concerns. The typically narrow pavement, narrow or nonexistent shoulders, prevalent curvature, steep grades, and limited sight distance leave little tolerance for driver error. The corridor-wide accident rate is approximately 13% higher than the state average.

**Economic Development:** For decades, coal mining has formed the foundation of the regional economy. However, the long-term viability of coal mining is declining due to depletion of coal deposits, competition from foreign and western U.S. coal producers, and shifts to other energy sources such as oil and gas. Moreover, increasing mechanization of coal mining operations has compounded declines of employment in the industry. Consequently, the study area and the region in general have experienced changes in the economy as the coal industry has evolved. The *Coalfields Expressway Economic Development Overview* and FEIS extensively document the social and economic changes that have taken place in the past 30 years. In comparison to other parts of Virginia, unemployment is higher, per capita income is lower, and the portion of the population in poverty has been increasing. Limited transportation system linkage, poor access, prolonged travel times, lack of multilane high-speed highways, and limited developable land (due to the steep terrain) are all limitations to attracting new employers to the region. Moreover, several tourist and recreational attractions in the region, such as Breaks Interstate Park (site of the longest and deepest gorge east of the Mississippi River) cannot develop to their potential without better transportation linkage and mobility through the region. Local economic development officials cite the lack of safe and efficient access to the region's network as a major impediment to recruitment efforts to attract new industry and tourism.

#### 1.4 NEEDS – FUTURE CONDITIONS

The needs described above will persist into the future. Barring Congressional action that would rescind previous authorizations, the Congressional desire for construction of the Coalfields Expressway will remain in place. The deficiencies in transportation system linkage and roadway geometry will continue to hinder mobility through the corridor and perpetuate safety concerns. The continuing lack of a modern high-speed highway will continue to restrict the ability to attract employers to the region, to promote tourism, and to otherwise support the economy of the region.

## **1.5 SUMMARY**

In summary, the purpose of the Coalfields Expressway is to address the following needs:

- Satisfy Congressional desires.
- Improve mobility and safety.
- Support regional economic development, including tourism.

## **2.1 INTRODUCTION**

This section describes the selected Alternative F1 corridor documented in the FEIS and ROD and the PPTA Alternative that has been identified by the PPTA partners and now proposed by VDOT. As indicated earlier, the PPTA private partners have investigated the feasibility of accessing marketable coal reserves within the study area in conjunction with the construction of the project. The PPTA Alternative would take advantage of coal recovery within the proposed right-of-way to substantially reduce the amount of public funds needed to complete the project. Coal companies would extract the coal and leave mined locations graded and suitable for roadway construction, thereby saving considerable roadway construction costs. The no action or No-Build Alternative is also discussed as it is under consideration and it serves as a baseline for comparison.

## **2.2 ALTERNATIVE DEVELOPMENT AND SCREENING PROCESS**

As part of the Coalfields Expressway Location Study and EIS, a range of reasonable alternatives was considered. The alternatives were evaluated based on their ability to meet criteria based on the project's objectives. These criteria included environmental impacts, conformance with design standards, right of way and displacements, land use and economic development, and construction costs. The alternatives all generally paralleled the Route 83 corridor, but had sufficiently different features and characteristics that allowed them to be evaluated and compared with each other and the No-Build Alternative in the DEIS. Alternatives eliminated from detailed study in the EIS because they did not meet purpose and need included transportation system management, mass transit, and improvements to existing roads. The FEIS evaluated the impacts of seven Build Alternatives: Build Alternatives A through E, Alternative F1, and Alternative F2. The CTB endorsed Alternative F1. The ROD identified Alternative F1 as the Selected Alternative.

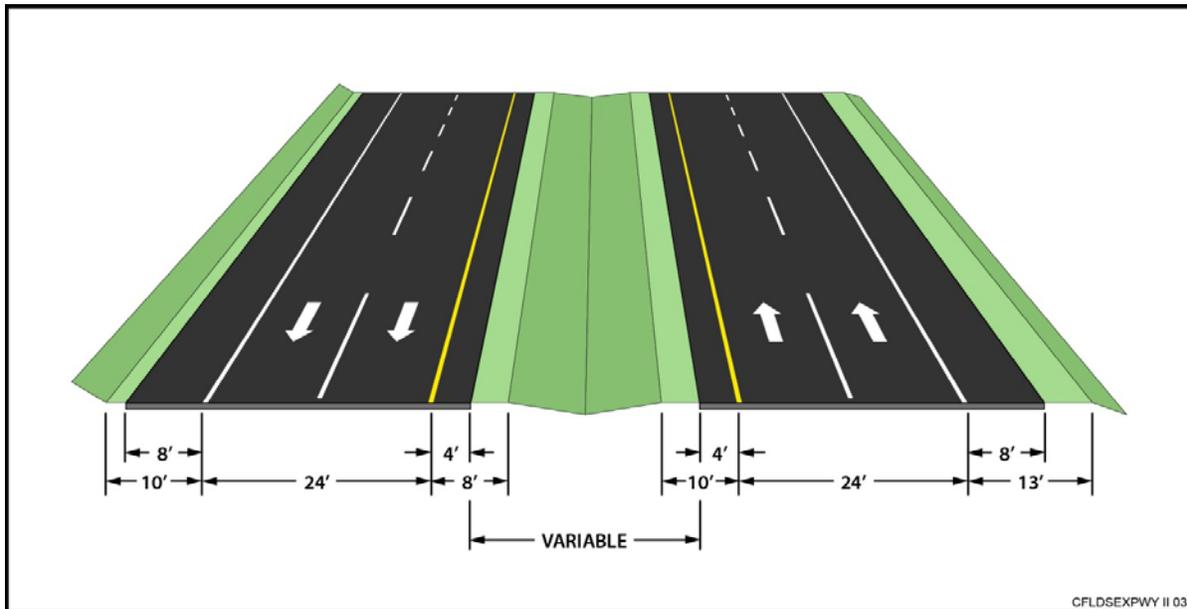
## **2.3 NO ACTION OR NO-BUILD ALTERNATIVE**

Under the No Action or No-Build Alternative, existing roads generally would remain in their present configuration. The No-Build Alternative is reflective of the expected corridor conditions during the design year if no improvements were made beyond those currently programmed in VDOT's most recent version of the Six-Year Improvement Program. The No-Build Alternative would not displace any families, businesses, farms, or nonprofit organizations, and would not directly affect any natural, ecological, cultural, or scenic resources. However, this alternative would not satisfy the identified transportation needs. Notwithstanding, the No-Build Alternative is under consideration and it can be used as a benchmark to assess environmental impacts attributable to the proposed project.

## **2.4 ALTERNATIVE F1 (SELECTED ALTERNATIVE)**

Within the study limits for this EA, the selected Alternative F1 would involve the construction of approximately 26 miles of four-lane divided roadway from the east end of the Pound Bypass near its connection with Route 83 to the proposed Route 460 Connector approximately six miles west of the Town of Grundy. As shown on Figure 2, the corridor generally parallels Route 83 to a point west of the Town of Clintwood. It then swings around the south side of Clintwood before turning in a northerly direction, and then continues easterly across the Cranes Nest River

and passes north of Haysi. Just west of the proposed Route 460 Connector, Alternative F1 splits, with the southern fork extending to the Buchanan County Industrial Access Connector and then rejoining the northern fork near Harman Junction beyond the limits of the area mapped in Figure 2. The section beyond the southern fork is now designated as CFX Section IIIA (CFXIII A) (Hawks Nest), where the rough grade for the CFX roadway already has been constructed in concert with coal mining activities and where Phase II of the Route 460 Connector will connect with the Coalfields Expressway. The typical cross section for the new roadway would be as shown in the graphic below.



## 2.5 PPTA ALTERNATIVE

The PPTA Alternative for CFX Section II (CFXII) begins at the approved Pound Bypass (CFX Section I)<sup>1</sup> and connector road to Route 83, approximately one mile northeast of the Town of Pound (Figure 2). Under this alternative, the CFX would then continue east generally north of and parallel to the F1 corridor, passing north of Clintwood instead of south, and crossing the Cranes Nest River at a point farther north than the F1 crossing. It then briefly rejoins the F1 corridor before diverting northward again. It then would cross the F1 corridor east of Russell Fork and continue eastward to the south of and generally parallel to the F1 corridor. The eastern terminus of the PPTA Alternative for CFXII connects to CFXIII A at the approved location for the Route 460 Connector.<sup>2</sup> The Route 460 Connector is part of Corridor Q of the Appalachian Development Highway System that was created by Congress in 1965.

Although the PPTA Alternative shifts the proposed CFXII alignment as much as two to three miles, it is still within the study area considered in the FEIS and crosses similar terrain and involves substantially similar environmental and social conditions as the selected Alternative F1 while also providing a somewhat straighter alignment (Figure 2). And while the typical cross section of the proposed roadway would remain the same, design efforts since the completion of the FEIS have shown that, because of the terrain, construction limits (cut and fill limits) and right of way limits could not be constrained within a 750-foot-wide corridor as presented for the

<sup>1</sup> A reevaluation for the Final EIS for CFXI was completed in 2009.

<sup>2</sup> Phase I of the Route 460 Connector currently is under construction.

alternatives in the FEIS. Accordingly, the PPTA Alternative has a variable width to account for sharp changes in topography, which in turn results in a greater project “footprint.”

The limits of CFXII include two smaller sections referred to as the "Pound Connector" and "Doe Branch." The Pound Connector would include a 5-mile-long section from CFXI in Wise County to a point in Dickenson County just west of Route 721. An improved Rte 721 would provide access to Rte 83. The Doe Branch section would include a 4.8-mile-long section from Route 80 northeast of Haysi in Dickenson County to CFXIIIA and the Route 460 Connector in Buchanan County.<sup>3</sup> The grading for CFXIIIA is complete and when paved will provide connection between the Doe Branch section and Buchanan County’s completed industrial access road from Route 83 to CFXIIIA. Phase I of the Route 460 Connector is under construction and VDOT is currently evaluating an unsolicited proposal to construct a rough grade road bed for Phase II of the Route 460 Connector. Accordingly, both the Pound Connector and Doe Branch sections could function and operate independently. Figure 2 shows the locations of these sections.

## **2.6 ABILITY OF PPTA ALTERNATIVE TO MEET NEEDS**

The PPTA Alternative would meet the identified transportation needs in the project area.

**Legislative Initiative.** An expressway constructed along the PPTA Alternative corridor would satisfy the Congressional desire for a major new highway in the general location of existing Route 83.

**Mobility and Safety.** The PPTA Alternative would provide an east-west four-lane divided expressway that would facilitate travel between population and employment centers within and beyond the corridor. The design standards to be used would reduce vertical and horizontal alignment variations common to existing highways due to the topography. Additionally, the lane widths, shoulders, and the median would provide an inherently safer roadway. Travel speeds would be higher and travel times would be lower, which would also enhance mobility within the study area.

**Economic Development.** Notwithstanding ongoing reductions in production and employment in the coal mining industry, coal mining remains an important component of the regional economy and substantial coal deposits can still be economically extracted. Indeed, the alignment changes proposed by VDOT’s PPTA partners would facilitate access to coal resources, the mining and sale of which would generate revenue for the coal companies, income for employees, expenditures of income locally on goods and services, and tax revenue for localities to support public services such as education. The road would improve the regional transportation infrastructure, which is a key element in facilitating other economic development opportunities. Better mobility within the region would enhance the ability to promote tourism and recreational activities and to attract new job-creating industries.

The synergy between coal mining activities by the PPTA partners along the CFX corridor and road building would substantially reduce the overall cost of construction of the road compared with traditional roadway construction methods. While both Alternative F1 and the PPTA Alternative would meet the purpose and need, the PPTA Alternative would reduce costs approximately 45% compared to VDOT’s traditional design-bid-build process.

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<sup>3</sup> A reevaluation of the Final EIS for CFXIIIA was completed in 2008, and a Finding of No Significant Impact was issued for Phase II of the Route 460 Connector in 2010.

**Section 3**  
**ENVIRONMENTAL CONSEQUENCES**

**3.1 OVERVIEW OF ENVIRONMENTAL ISSUES**

The environmental conditions and their relevance to the project are summarized in **Table 1**. **Table 2** quantifies impacts of the current proposed corridor, which are then discussed in further detail in the subsequent sections.

**Table 1. Summary of Environmental Issues**

RESOURCE	REMARKS
Traffic/Transportation	The existing transportation network and travel patterns have not changed. Traffic volume forecasts have been updated.
Land Use	Much of the land within the study area is uninhabited due to the terrain. Residential and commercial activities generally are clustered along existing roads. Existing land cover to be converted to transportation purposes is mostly forested, or lands that have been previously mined. Most of the study area does not have zoning ordinances and future land use patterns generally are expected to be similar to existing patterns. Although the PPTA Alternative shifts most of the alignment away from the original selected Alternative F1 corridor, the land uses that would be converted to highway right of way are similar in character within the two alternatives.
Environmental Justice	Analysis of census data did not reveal any minority populations or low income populations in concentrations higher than their respective counties. Therefore, there are no Environmental Justice populations that would be disproportionately affected by the project.
Relocations	The PPTA Alternative would require approximately 53 relocations. The comparable section of Alternative F1 was estimated to have 95 relocations.
Visual and Aesthetics	The study area is characterized by steep valleys and ridges which are primarily forested. Viewsheds are limited due to the rugged terrain and winding valleys. While the locations of visual effects would be different under the PPTA Alternative as compared to Alternative F1, the character of the effects would be substantially similar. Viewers of the road would see a four-lane divided highway with relatively large cuts and fills. Viewers from the road would be able to see over relatively long distances on some sections due to the location of much of the new road along ridgetops. Views from existing roads are somewhat limited due to their locations primarily in the valleys.
Topography, Geology, Soils, Mines and Minerals	Designs would take into account the mountainous terrain. Under the PPTA Alternative, through the agreement with the PPTA partners, much of the alignment will have been mined and left graded in preparation for the expressway infrastructure. Coal seams can produce low levels of acid drainage which can prematurely degrade infrastructure.
Farmlands	During preparation of the EIS, the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) reviewed the study area and determined that it did not contain prime farmland. Therefore, none of the Build Alternatives had impacts to prime farmland. However, soils information was limited at that time. Notwithstanding, lands used for grazing and forage were counted as farmland and impacts to such lands amounted to approximately 99 acres for Alternative F1. A review of NRCS online soils mapping and information shows that approximately 98 acres of prime farmland soils are within the limits of the PPTA Alternative. No response was received from the U.S. Department of Agriculture during scoping activities for this EA.
Noise	A noise analysis for the PPTA Alternative indicates that Design Year Build (2035) noise levels are anticipated to create a substantial increase impact at one location, representing one residence. However, due to the mountainous terrain of the project corridor, noise abatement is not considered to be feasible at this time. Within the limits of CFXII, Alternative F1 also would have one noise impact location.
Air Quality	The results of air quality modeling done for the FEIS show that no violations of National Ambient Air Quality Standards are expected. Since the area and expected

	use of the facility have not changed, and since the updated traffic volumes are well below the threshold for consideration of quantitative analyses of carbon monoxide and other pollutants, the project is not expected to interfere with the attainment or maintenance of the National Ambient Air Quality Standards.
Federal Lands, John W. Flannagan Reservoir	Alternative F1 and the PPTA Alternative both would cross the Cranes Nest River arm of the John W. Flannagan Reservoir and federal lands associated with it owned by the U.S. Army Corps of Engineers. This is a multiple-use public land holding. Built primarily for flood control, the Reservoir water surface is kept at an elevation of 1,396 feet above sea level during the summer. During the fall, the level is lowered 16 feet to hold additional water from winter and spring runoff. The Reservoir encompasses approximately 1,145 acres; the Corps-owned land surrounding it encompasses approximately 8,274 acres. There are 11 recreation areas designated within the Flannagan Reservoir property, none of which would be affected by either the PPTA Alternative or Alternative F1. When applying Section 4(f) to multiple-use public land holdings, only those portions of such lands that function for, or are designated in the plans of the administering agency as being for, significant park, recreation, or wildlife and waterfowl refuge purposes are subject to the provisions of Section 4(f). (23 CFR 774.11(d)). Accordingly, none of the right of way through Flannagan Reservoir lands would constitute a Section 4(f) use.
Parks and Recreational Resources	The Cranes Nest River Trail along the east side of the Cranes Nest River would be bridged by either alternative as part of the bridging across the Cranes Nest River. Accordingly, there would be no Section 4(f) use of the trail.
Open Space Easements	According to the Virginia Department of Conservation and Recreation online database, there are no lands located in the vicinity of the project area that are considered Virginia Outdoors Foundation resources.
Historic Properties	No historic properties would be affected by either Alternative F1 or the PPTA Alternative. This determination has been confirmed by architectural and archaeological surveys conducted within the area of potential effects and coordination with the Virginia Department of Historic Resources.
Habitat and Wildlife	Primary impacts to wildlife would be the elimination of habitat and the displacement of wildlife utilizing such habitat. The new road would also contribute to fragmentation of wildlife habitat and potential interruption of wildlife movements. Other impacts may occur in the form of road kills as animals migrate or wander across the roadway in search of food and cover. The majority of the alignment, > 96%, is forested. According to a survey done in 1993, by the Cumberland Plateau Planning District Commission, Dickenson and Buchanan Counties collectively have over 475,000 acres of forestland. This project would result in the impact of less than one half of one percent of the forest in these two counties.
Threatened and Endangered Species	The U.S. Fish and Wildlife Service (USFWS) has identified six federally listed threatened or endangered species for the counties within which the project is located or in adjacent counties. See Section 3.8 for additional information. A separate technical memorandum provides details on investigation and evaluation efforts with respect to threatened and endangered species.
Waters of the U.S., including Wetlands	Surface waters in the study area consist of two rivers, named streams, unnamed tributaries, wetlands, and ponds. These comprise approximately 63,624 linear feet of streams and 34.53 acres of wetland.
Floodplains	The current proposed corridor crosses three water bodies that have 100-year floodplains associated with them, as designated by the Federal Emergency Management Agency.
Water Quality	Several streams crossed by the alignment have been identified by the Virginia Department of Environmental Quality as "impaired" under provisions of Section 303(d) of the Clean Water Act for water quality supporting wildlife, fish consumption, recreation, and aquatic.
Invasive Species	In accordance with Executive Order 13112, <i>Invasive Species</i> , the potential for the establishment of invasive terrestrial or aquatic animal or plant species during construction would be minimized by following provisions in VDOT's <i>Road and Bridge Specifications</i> . These provisions require prompt seeding of disturbed areas with mixes that are tested in accordance with the Virginia Seed Law and VDOT's standards and specifications to ensure that seed mixes are free of noxious species. While the right-of-way would be vulnerable to colonization by invasive plant species from other portions of the site and from adjacent properties, implementation of the

	stated provisions will reduce the potential for establishment and proliferation of invasive species (Section 3.11).
Wild and Scenic Rivers	According to the US Park Service's list of Federal Wild and Scenic Rivers, there are no designated rivers within Virginia or the Study Corridor. In addition, according to a list published by VDCR, there are no state scenic rivers within the project vicinity.
Hazardous Materials Sites	<p>According to a review of available databases and observations during site visits, there are no National Priority List hazardous material sites or solid waste disposal sites located in the project vicinity for either alternative. None of the sites located within the vicinity of the project pose any special risks or concern and mostly consist of fuel spills that have been closed or remediated.</p> <p>All solid waste material resulting from clearing and grubbing, demolition, or other construction operations will be removed from the project area and disposed of according to regulations. Undocumented hazardous materials may be uncovered during construction; if contaminated soils, water, or other hazardous materials are discovered, construction will stop and VDOT will assess the situation. Notification of appropriate authorities and proper removal, disposal, treatment, and/or remediation of the material will be evaluated and suitable measures taken, as necessary.</p>

**Table 2. Summary of Impacts**

CATEGORY	ALTERNATIVE F1	PPTA ALTERNATIVE
Total Area within Alternative (acres within the limits of disturbance)	1,135	2,075
Homes	95	53
Businesses	5	0
Schools	0	0
Churches	0	2
Cemeteries	1	3
Other Community Facilities (rescue squads, fire stations, etc.)	0	0
Prime and Unique Farmland (acres)	0*	98
Other Farmland (acres)	99	0
Forest (acres)	720	2008
Section 4(f) Property (acres)	0	0
Parks and Recreational Resources	0	0
Historic Properties affected	0	0
Length of Streams (miles)	4	12
Wetlands (acres)	2	34
Floodplains Crossed (acres)	0	14
Noise Impacts (Number of Receptors Impacted)	1	1
Hazardous Material Sites Impacted (number of sites)	0	0
* Based on input from Natural Resources Conservation Service and limited availability of soils data.		

## 3.2 LAND USE, COMMUNITY FACILITIES, AND RELOCATIONS

### 3.2.1 Land Use

The alignment traverses mainly rural forested areas with scattered residences. Small communities are located to either side of the corridor and are connected by state roads. Existing land use in the area is predominantly rural residential; existing land cover is almost completely forested. Most of the study area does not have zoning policies and future land use is generally residential along existing roadways and limited to those areas with existing or proposed water and sewer service. Future land use is expected to remain in valleys and along transportation corridors.

In the hopes of attracting new businesses and diversifying the economy, the counties have been working on developing new industrial and information parks. One development located near the project is the Dickenson County Technology Park, north of VA 83 just east of Clintwood. In addition, in the FEIS, thirteen potential industrial growth areas were identified through coordination between the Virginia Coalfield Economic Development Authority (VCEDA) and the counties. Three of these areas are adjacent to the project: a 127-acre site on VA 83 west of Clintwood, a 68-acre site on VA 607 at Flemington, and a 163-acre site on VA 613 north of Haysi. Providing a new expressway in this area could provide greater mobility across the study area, which could enhance opportunities for economic development.

### 3.2.2 Community and Emergency Facilities

The Coalfields Expressway would serve as a major corridor connecting Buchanan, Dickenson, and Wise Counties with West Virginia and Kentucky. As a limited-access roadway, this expressway would connect to communities through designated interchanges. Primary access would predominantly occur through interchanges with existing major roadways on the outskirts of larger communities.

Due to the rural nature of the area the alignment passes through, there are very few community facilities near or within the project vicinity. One religious facility, Big Ridge Presbyterian Church, and possibly a related building under construction are located along Hwy 63 within the proposed right-of-way for the PPTA Alternative. In addition, three cemeteries are located within the proposed right-of-way.

Sheriffs' offices, state troopers, and officers from town governments provide law enforcement to this area. Rescue services and volunteer fire departments provide emergency services. Hospitals which serve the area include: Buchanan General Hospital and Dickenson Community Hospital. The new infrastructure would allow for additional and faster service to the communities along the alignment. Existing roads that the alignment crosses would be bridged allowing for continued access for emergency services (fire, police, EMT) within the vicinity of the project.

### 3.2.3 Relocations

Many of the residences in the study area are located along VA 83, VA 63, and VA 80 away from the project. Field observations indicate that there are approximately 53 occupied residences within the proposed right-of-way of the PPTA Alternative. VDOT would develop a detailed relocation plan to ensure that orderly relocation of all displaced residents can be accomplished in a satisfactory manner. The acquisition of right of way and the relocation of displaced residents would be in accordance with the *Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970*, as amended. Assurance is given that relocation resources would be available to all residential, business, farm, and nonprofit displacees without discrimination.

### **3.3 ACID DRAINAGE**

Research associated with coal mining indicates that the majority of soils encountered while road building in the Appalachian Plateau would exhibit low acidic conditions. These soils include: Wise, Kanawha, New River, Lee and Pocahontas formations. In Wise County, Chattanooga shale has also been associated with acid drainage.

Several of the formations in this region are rich with coal seams which are known for producing acidic materials. Coal seams can produce substantial amounts of acidity, however the conditions are generally limited to the seam and can be removed. As a part of the agreement with local coal companies, recoverable coal will be mined as practicable to offsite construction costs. The acid producing coal seams will be removed and the alignment prepared for roadway construction. Management plans will be developed with proper procedures for methods to control acidic conditions which may be uncovered during construction. Treatment of acidic soils can include: lime remediation, addition of organic materials to help with vegetation, and removal of an acidic layer (Daniels 2002, 2006).

### **3.4 PRIME AND UNIQUE FARMLANDS**

Under the federal Farmland Protection Policy Act (FPPA), the U.S. Department of Agriculture defines “farmland” as:

- Prime farmland – land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses.
- Unique farmland – land other than prime farmland that is used for production of specific high-value food and fiber crops.
- Farmland other than prime or unique farmland that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops.

The land may be in cultivation, forest, pasture, or other uses except for urban or built-up land or water uses.

Soils data from Dickenson and Buchanan Counties indicate that there are soil map units present in the proposed right-of-way which are listed by the USDA Natural Resources Conservation Service (NRCS) as either Prime Farmland or Farmland of Statewide Importance for those counties. Wise County does not have soils data at this time. A total of 11.34 acres (0.55% of the right-of-way) of Prime Farmland and 86.72 acres (4.18% of the right-of-way) of Farmland of Statewide Importance are mapped within the proposed right-of-way. Most of these soils are on slopes in excess of 15%, well above regular management practices for keeping soil erosion within tolerable levels. In addition, these areas are forested and not easily accessible. Disruption of the land in such areas is unlikely to affect lands with the probability of future agricultural development. According to available information for Buchanan, Dickenson, and Wise counties, there are no agricultural or forestal districts located in the project vicinity.

### **3.5 PARKS AND RECREATION**

An inventory of all parks, trails, playgrounds, and recreation areas in the proximity of the proposed alignment was conducted as part of the project’s scoping and data gathering efforts. The alignment crosses one proposed recreational trail in Dickenson County.

**Flannagan Reservoir:** The John W. Flannagan Reservoir is a 1,143 acre flood control and drinking water reservoir built by the U.S. Army Corps of Engineers (USCOE). Approximately

8,000 acres of federal land surround the reservoir. This area of land and water provides boating, fishing, camping, hunting and many other recreational activities and served an estimated 400,000 visitors in 1998.

The proposed right-of-way encompasses approximately 120 acres of the John W. Flannagan Dam and Reservoir. The PPTA Alternative would cross USCOE land in two places, in the northern portion of the Cranes Nest arm of the reservoir and between Jerry Branch and Brush Creek. The 23-mile-long Cranes Nest Trail planned by the County would begin at Hwy 83 and follow the Cranes Nest River north to connect with the Haysi-Breaks Trail near the John W. Flannagan Dam. Due to the winding nature of the trail, the proposed alignment for the PPTA Alternative would cross the Cranes Nest Trail perpendicularly in three places: once along the east side of the Cranes Nest River and on both sides of Tarpon Branch (a tributary of the Cranes Nest River). Approximately 0.64 miles of this trail would occur within the proposed right-of-way, but would be bridged by the proposed project. No other recreational facilities or designated recreational lands would be impacted by the project.

According to its 2008 Comprehensive Plan, Dickenson County intends to obtain additional leases from the USCOE and develop recreation facilities in the John W Flannagan Dam vicinity, and has two proposed trails that the alignment would cross. These trails have not been constructed and the exact alignments of them are not known at this time.

### **3.6 AQUATIC RESOURCES**

The project area is located in the Upper Levisa hydrologic unit code (HUC) 05070202, and in the Big Sandy River Basin which drains to the Ohio and Mississippi Rivers into the Gulf of Mexico. Surface waters in the study area consist of two major rivers, named streams, unnamed tributaries, wetlands, and ponds. Section 404 of the Federal Water Pollution Control Act, also referred to as the Clean Water Act, provides protection for waters of the US (WOUS).

Water resources are regulated by the EPA, the State Water Control Board, and the Virginia Department of Environmental Quality (DEQ) according to the Water Pollution Control Act of 1972 (Clean Water Act), the Water Quality Act of 1987, and the Resource Conservation and Recovery Act (RCRA) as amended in 1984.

Estimated areas of wetlands and lengths of streams within the proposed right-of-way are calculated from field observations following the 1987 *Corps of Engineers Wetlands Delineation Manual* guidance for hydrology and plants, and the Unified Stream Methodology, respectively. Detailed assessments of streams, wetlands, and other water resources will be required following appropriate protocol prior to permitting to determine precise impacts and mitigation requirements.

This EA considers all WOUS located within the proposed right-of-way as impacted. This results in high estimates as some impacts noted will be temporary, or will be situated outside the limits of disturbance. Impacts to wetlands are considered separately from other WOUS for permitting processes. For this reason, existing wetlands and open waters are addressed independently of streams.

#### **3.6.1 Wetlands**

Executive Order 11990, *Protection of Wetlands*, mandates that each Federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance their natural values. Wetlands are defined by the presence of surface and/or groundwater hydrology,

hydric soils (soils that develop under wet conditions), and hydrophytic vegetation (plants that are favored by wet conditions).

This report uses an abbreviated version of the classification system developed by the United States Fish and Wildlife Service (USFWS), also known as the Cowardin System. This system is also used to describe waters for regulation under the USCOE’s Section 404 permitting. Wetlands found in the study area include palustrine, unconsolidated-bottom (PUB), palustrine emergent (PEM), palustrine scrub-shrub (PSS), and palustrine forested (PFO) systems. To simplify matters, all open water systems are designated PUB for this report, even though they may not meet the USCOE’s wetland vegetation or soils criteria. These categorizations and impacts may change when a more detailed analysis is performed for the permitting process.

Wetlands were generally found in valleys, adjacent stream beds, in depressions, and associated with seeps and springs (Table 3). Their functions include: groundwater discharge, nutrient removal, sediment/toxin retention, and wildlife habitat. Many of the PUBs and some of the PEMs have developed as a result of areas which were leveled off during previous mining or forestry activities, or are farm ponds. A few may also be sediment and/or treatment basins abandoned by the mining companies.

**Table 3. Wetlands in Project Corridor**

WETLAND CLASS	DESCRIPTION	ACRES
PEM	Palustrine Freshwater Emergent Wetland	7.7
PSS	Palustrine Freshwater Scrub-Shrub	11.2
PFO	Palustrine Freshwater Forested	10.2
PUB	Palustrine Freshwater Pond	5.4
Total Wetlands		34.5

All available measures will be taken to avoid wetland impacts and to minimize effects where practicable. These measures could involve modifications to later designs such as: minor alignment shifts to avoid or minimize impacts to wetlands, temporary and permanent stormwater management measures, and crossing linear systems at perpendicular angles where possible. Due to the scale of the project and the natural environment of the area, construction will result in unavoidable impacts.

Compensation for unavoidable and necessary wetland impacts from the project will be provided by VDOT where required. The exact form and amount of compensation will be developed in cooperation with the federal and state water quality permitting agencies during the permitting process. Because of previous mining and forestry activities in the area and abandoned sediment basins, there are many local systems that could potentially be enhanced through additional grading and plantings of indigenous hydrophytic species.

### **3.6.2 Streams**

Drainage takes place through the many creeks and streams which form in and carve out the extensive valley system in the region. The named streams crossed by the alignment include: Slick Branch, Mill Branch, Cane Branch, Camp Creek, Howell Branch, George’s Fork, Brush Creek, Jerry Branch, Neel Branch, Tarpon Branch, Rocky Branch, Doe Branch, Rough Branch, Deel Branch, and Cindy Fork. These are mainly small upper intermittent and perennial streams with enough flow to support crayfish, macro-invertebrates, and amphibians, however most are not large enough to support fish.

The two larger bodies of water crossed by the alignment, and listed as navigable according to the Section 10 determinations of the Rivers and Harbors act include: the Cranes Nest arm of the John W. Flannagan Reservoir and Russell Fork, a lower perennial stream large enough to provide habitat for fish.

The current proposed alignment contains approximately 63,624 linear feet of stream within the right-of-way (Figure 7). All practicable measures will be taken to avoid and minimize impacts to streams and other water bodies, however due to the linear nature and size of this project, unavoidable impacts are anticipated. Minimization measures could include modifications during final design such as: minor alignment shifts to avoid or minimize impacts, the use of bridges instead of culverts, the use of retaining walls, temporary and permanent stormwater management measures, and open bottom culverts to retain natural stream bottoms and avoid excess erosion. Unavoidable stream relocations will be performed using natural stream design, which means that the channel should mimic the dimension, pattern, and profile of a representative reference stream reach.

At this stage of project development, detailed hydraulic studies have not been done to conclusively determine the sizes and types of drainage structures that would be needed. Compensation requirements will be determined as a part of the permitting process with the USCOE and the DEQ. Stream mitigation requirements vary by length and level of disturbance, and compensation type: restoration, creation, enhancement, and preservation. A detailed assessment of each crossing will be made and impairment type and amount will be analyzed to calculate mitigation.

### **3.6.3 Floodplains**

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the proposed alignment crosses three streams (approximately 13.81 acres) with 100-year floodplains (Figure 8). These streams include the Cranes Nest River, Tarpon Branch, and the Russell Fork. Crossings will be designed to minimize floodplain encroachments and possible flood level increases to the extent practicable. Restoration and preservation of the natural and beneficial value of floodplains in the project area will be considered and incorporated wherever feasible. Any construction occurring within the 100-yr floodplain will follow proper permitting procedures and guidelines in accordance with Executive Order 11988, Floodplain Management.

Sections 107 and 303 of VDOT's specifications require the use of stormwater management practices to address concerns such as post-development stormflows and downstream channel capacity. These standards require that stormwater management be designed to reduce stormwater flows to preconstruction conditions for up to a 10-year storm event. As a part of these regulations the capture and treatment of the first half inch of run-off in a storm event is required, and all stormwater management facilities must be maintained in perpetuity. Compliance with any other applicable state or federal stormwater management requirements will be determined during final design. During final design, a detailed hydraulic survey and study would evaluate specific effects on stormwater discharges. This evaluation would adhere to the aforementioned specifications ensuring that no substantial increases to flooding would occur.

## **3.7 WILDLIFE AND HABITAT**

### **3.7.1 Aquatic Habitat**

Streams in the corridor represent a variety of habitat types and range in class from large navigable waters that support sport fish to small, intermittent mountain streams with eroding banks and unstable substrates, wetlands, and ponds. Mountain streams provide good habitat for

invertebrates and amphibians, and provide water for terrestrial wildlife, however they are not deep or stable enough to support fish species. The Cranes Nest arm of the John W. Flannagan Reservoir is the largest water body crossed by the proposed project. The reservoir provides habitat for bass, crappie, catfish, bluegill, musky, carp, bream, trout and walleye – all of which are important sport fish. Alewives and gizzard shad provide forage for the sport fish populations. Russell Fork is a lower perennial stream large enough to provide habitat for fish including trout and bass.

### **3.7.2 Terrestrial Habitat**

The majority of the corridor (approx. 96%) consists of forested habitat. Eastern deciduous hardwood forest makes up the majority of the forest with patches interspersed with a mix of deciduous hardwoods, pines, and other conifers. Pines generally dominate topography breaks at previously mined sites where they were used for revegetation and erosion control. According to a survey done in 1993 by the Cumberland Plateau Planning District Commission, Dickenson and Buchanan Counties collectively have over 475,000 acres of forestland. This project would result in the impact of less than one half of one percent of the forest in these two counties. The remaining habitat is associated with residential or farmland land cover. These areas can provide good habitat for edge species and allow for shrub and sapling growth which offer an important food supply source.

## **3.8 THREATENED AND ENDANGERED SPECIES**

### **3.8.1 Indiana Bat (*Myotis sodalis*)**

The Indiana bat is a federally listed endangered species which has one known residential occurrence in Wise County and occasional summer foraging occurrences in Dickenson County. A biological assessment was conducted for this species for the FEIS and was reviewed by USFWS. USFWS concluded that the project was “not likely to affect” the species. Field reviews of the revised project corridor did not find conditions substantially different from those of Alternative F1. Furthermore, VDOT will implement time of year restrictions identical to those previously committed (i.e., no clearing trees within the project limits and buffer area between April 1 and November 15 of each year) in order to minimize the potential for effects on possible summer foraging activities of the bat. Further coordination will be conducted with USFWS as part of the review process for this EA.

### **3.8.2 Virginia Big-Eared Bat (*Corynorhinus townsendii virginianus*)**

The Virginia big-eared bat is a federally listed endangered species. It inhabits caves during both summer and winter and is known to occur in three caves in Tazewell County, which lies to the south and east of Buchanan County (i.e., not in the project area). Field investigations of the revised project corridor revealed no caves. No areas designated as critical habitat are located within the project vicinity. Accordingly, the project will have no effect on this species.

### **3.8.3 Shiny Pigtoe (*Fusconaia cor*)**

The shiny pigtoe is a federally listed endangered mussel. According to USFWS, this species is not known from the watershed crossed by the project. Therefore, the project will have no effect on this species.

### **3.8.4 Rayed Bean (*Villosa fabalis*)**

The rayed bean is a federally listed endangered mussel. According to the USFWS, this species has been extirpated from Virginia. Therefore, the project will have no effect on this species.

### 3.8.5 Virginia Spiraea (*Spiraea virginiana*)

Virginia spiraea is a federally listed threatened shrub. Based on field investigations, appropriate habitat for Virginia spiraea was identified within the revised project corridor in Dickenson County along Russell Fork; however no Virginia spiraea were found. The Virginia Department of Conservation and Recreation's Natural Heritage Division has documented two Virginia spiraea colonies on Russell Fork near Breaks Gorge and on the Pound River downstream of the John W. Flannagan Dam. These two sites are removed in distance from the revised project corridor. No areas designated as critical habitat are located within the project vicinity. Accordingly, the project will have no effect on this species.

### 3.8.6 Small Whorled Pogonia (*Isotria medeoloides*)

The small whorled pogonia is a federally listed plant in the orchid family. Habitat surveys conducted within the revised project corridor revealed no suitable habitat for the small whorled pogonia. This area is dominated by steep forested slopes, highly disturbed field and pasture located on old mining sites, and wetland areas, which are all unsuitable for this species. Additionally, no areas designated as critical habitat are located within the project vicinity. Accordingly, the project will have no effect on this species.

## 3.9 INVASIVE SPECIES

Although a detailed inventory of all plant species in the project corridor was not conducted, highly invasive species noted during field investigations include tree of heaven (*Ailanthus altissima*), autumn olive (*Elaeagnus umbellata*), Chinese lespedeza (*Lespedeza cuneata*), Japanese honeysuckle (*Lonicera japonica*), Japanese knotweed (*Polygonum cuspidatum*), kudzu (*Pueraria lobata*), and multiflora rose (*Rosa multiflora*). Several moderately or occasionally invasive species also occur in the corridor, such as princess tree (*Paulownia tomentosa*) and curly dock (*Rumex crispus*).

In accordance with Executive Order 13112, Invasive Species, the potential for the establishment of invasive terrestrial or aquatic animal or plant species during construction of the proposed project will be minimized by following provisions in VDOT's *Road and Bridge Specifications*. These provisions require prompt seeding of disturbed areas with seeds that are tested in accordance with the Virginia Seed Law and VDOT's standards and specifications to ensure that seed mixes are free of noxious species. While the right-of-way is vulnerable to the colonization of invasive plant species from adjacent properties, implementation of the stated provisions will reduce the potential for the establishment and proliferation of invasive species.

## 3.10 INDIRECT EFFECTS

Indirect effects are "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR 1508.8(b)).

As noted in the Purpose and Need section, one purpose of the project is to support economic development in the region by providing better transportation infrastructure. However, while the provision of better transportation facilities can enhance economic development opportunities, other factors also play large roles in whether such development actually occurs. Such factors include general economic conditions, inclinations of land owners, availability of utilities (water, sewer, electricity), and efforts by local officials and interest groups to recruit businesses. Accordingly, there is not necessarily a sole and direct causal relationship between

implementation of the project and the realization of economic development. Notwithstanding, the FEIS (section 4.20) included a comprehensive discussion of potential indirect effects of the alternatives considered. For example, it was estimated that each build alternative would create an estimated 4,000 basic jobs and 6,000 non-basic jobs by the year 2020. Basic activities produce goods and services for outside markets, whereas non-basic activities provide support services that rely almost entirely on local trade. Localities attempt to promote basic industry development since it would be expected to also spur non-basic job creation.

A review of the previous documentation and existing conditions relative to the shifted alignment does not suggest any meaningful changes to the basic conclusions presented in the FEIS. The FEIS identified several locations where potential development could occur adjacent to or near the project. Similar opportunities would be available at locations along the revised alignment; however, specific identification of such locations would only be speculative at this time. Accordingly, it is not possible to meaningfully assess specific indirect effects in a way that would contribute to informed decision making. Local officials continue to support the project as one element of multi-pronged efforts to diversify the economic base, attract new employers, and provide employment opportunities.

### **3.11 CUMULATIVE EFFECTS**

Cumulative effect is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

Because of the rural nature of the project area and slow growth in the region, there are not many reasonably foreseeable actions related to increasing populations planned within the project area. While improved transportation and system linkage could help attract more development in the future, the specific locations of such development are unknown at this time. Accordingly, a meaningful assessment of the potential impacts of such development is not practical.

Poplar Gap, an economic development area being developed by Buchanan County, and which is served by the Buchanan County Industrial Access Connector, also developed by the County, is the one area that is already planned to be a focus of Buchanan County’s economic development. The connector is an approximately four-mile highway linking the CFX to Route 83 in Buchanan County. It would connect these other major roadways to the county’s planned Poplar Gap Development. This connector is also in close proximity to the Route 460 Connector, Phase II terminus at CFX, and thus would provide further system linkage to the region.

The Route 460 Connector, Phases I and II, is another new highway that will run from the CFX to Kentucky. Phase I of the Route 460 Connector is currently under construction.

There are various mining and natural gas projects in the region, though development authorities have reported that such projects are less frequent in the area, prompting them to prepare for other industries to grow the region. The following paragraphs describe these reasonably foreseeable projects overlapping the area potentially affected by CFXII.

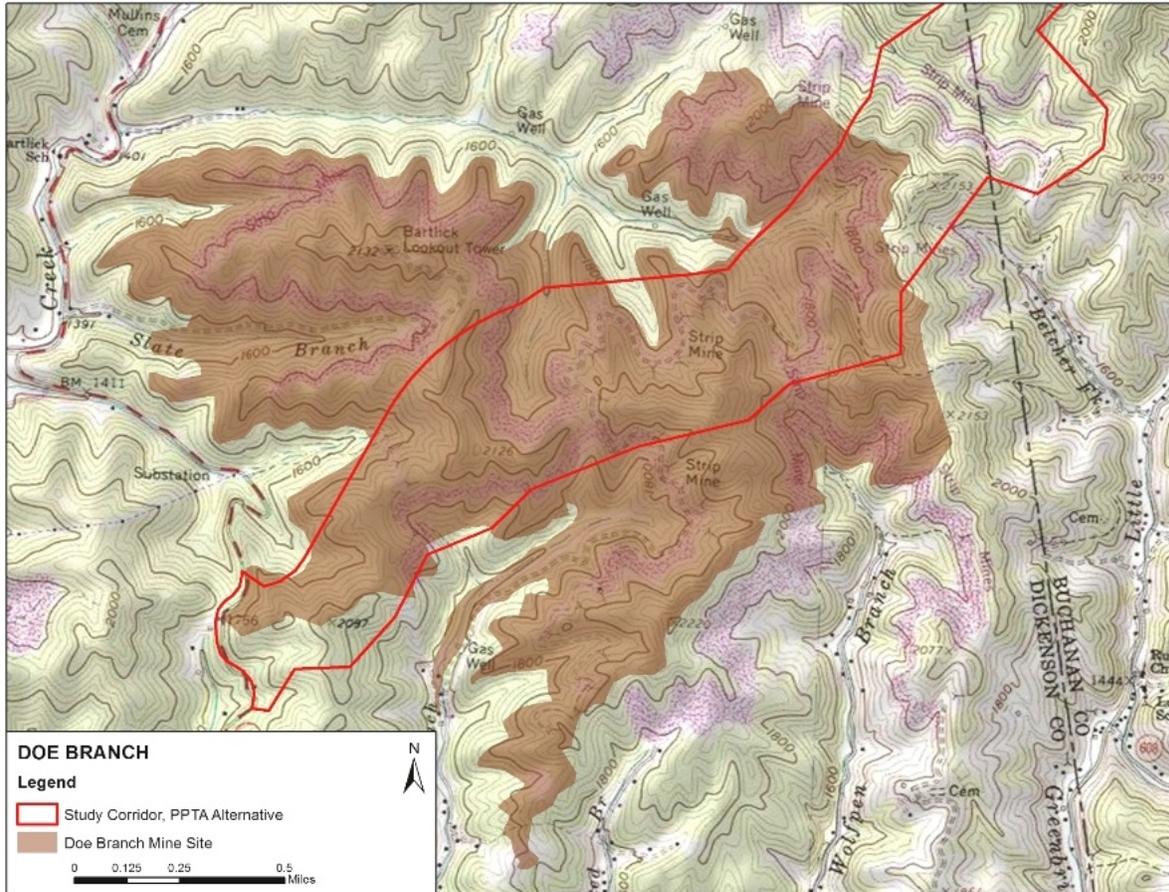
Construction of the proposed project, in combination with other foreseeable projects in the area, would result in a net loss of forest vegetation and would reduce the availability of habitat for wildlife populations. The existence of large areas of similar deciduous forest in the surrounding region, in concert with the relatively small number of other foreseeable projects in the area suggest no new substantial cumulative impacts on wildlife populations.

Disturbance from mining projects are subject to a rigorous permit approval process, as required by the Virginia Coal Surface Mining Control Reclamation Act (Chapter 19, Title 45.1 of the Code of Virginia) and any subsequent environmental review processes required for the approval of necessary permits (e.g., a Clean Water Act Section 404 Permit). The permit approval process includes opportunity for comment from resource agencies, including the VDGIF and FWS. All areas disturbed from mining must be returned to conditions that are capable of supporting the land use it could support prior to mining, unless a higher or better use has been determined and approved (4VAC25-130-816.133). Consequently, most mined lands in southwestern Virginia are returned to forestland. Additionally, in accordance with 4VAC25-31-360, reclamation of the mined land is conducted as simultaneously as is feasible, which would have the effect of allowing wildlife to inhabit the area as soon as possible if wildlife habitat was a pre-mining land use for the area. With the efforts to reduce disturbance within the right of way, the mitigation measures for the remaining unavoidable impacts, and the availability of undisturbed acreage in the region, the cumulative effects on vegetative land cover from the proposed project would not be substantial.

Conveyances of stormwater from the proposed project, as well as from the other foreseeable highway and mining projects, would be subject to regulation through the National Pollutant Discharge Elimination System (NPDES) permit program. The project would be constructed in accordance with federal and state technical guidance, permit conditions, and amended VDOT specifications that would require the use of best management practices (BMPs) to control the rate of runoff and, where practical, to retain runoff on site. Construction of the CFX would include construction of a new stormwater management system that would collect, treat, and discharge highway runoff from the new impervious surfaces. Additionally, the receiving waters and streams would each receive only a small percentage of their total flow from the construction areas. Mining projects in the region are subject to review by the Virginia Department of Mines, Minerals, and Energy (DMME) in a Cumulative Hydrologic Impact Assessment (CHIA). The CHIA incorporates all previous and planned/permitted mining activities as related to the hydrologic impacts of the receiving streams. Additionally, the application for surface mining will not be approved without an erosion and sediment control plan. The post-mining peak flow rate of runoff is subject to limitations that would protect downstream areas from erosion and flooding (4VAC25-150-270). Also, in accordance with 4VAC25-31-360, reclamation of the mined land is conducted as simultaneously as is feasible, which would have the effect of reducing runoff and erosion among other environmental protections. It is anticipated that once construction is complete, BMPs are in place, and revegetation has occurred, the cumulative effects on surface waters would not be substantial.

In accordance with 23 CFR 771.107(c), FHWA's action would be the approval of the request for federal funds for construction of CFXII. FHWA's action would not include the approval of any permits related to mining activities. A portion of CFXII would be on lands to be mined as part of the Doe Branch surface mine, as shown on the image below created from a USGS topographic map cutout. Route 80 is to the left of the image and the Dickenson/Buchanan County line is to the right. As indicated by "strip mine" labels on the topographic map base, some of the area already has been previously mined.

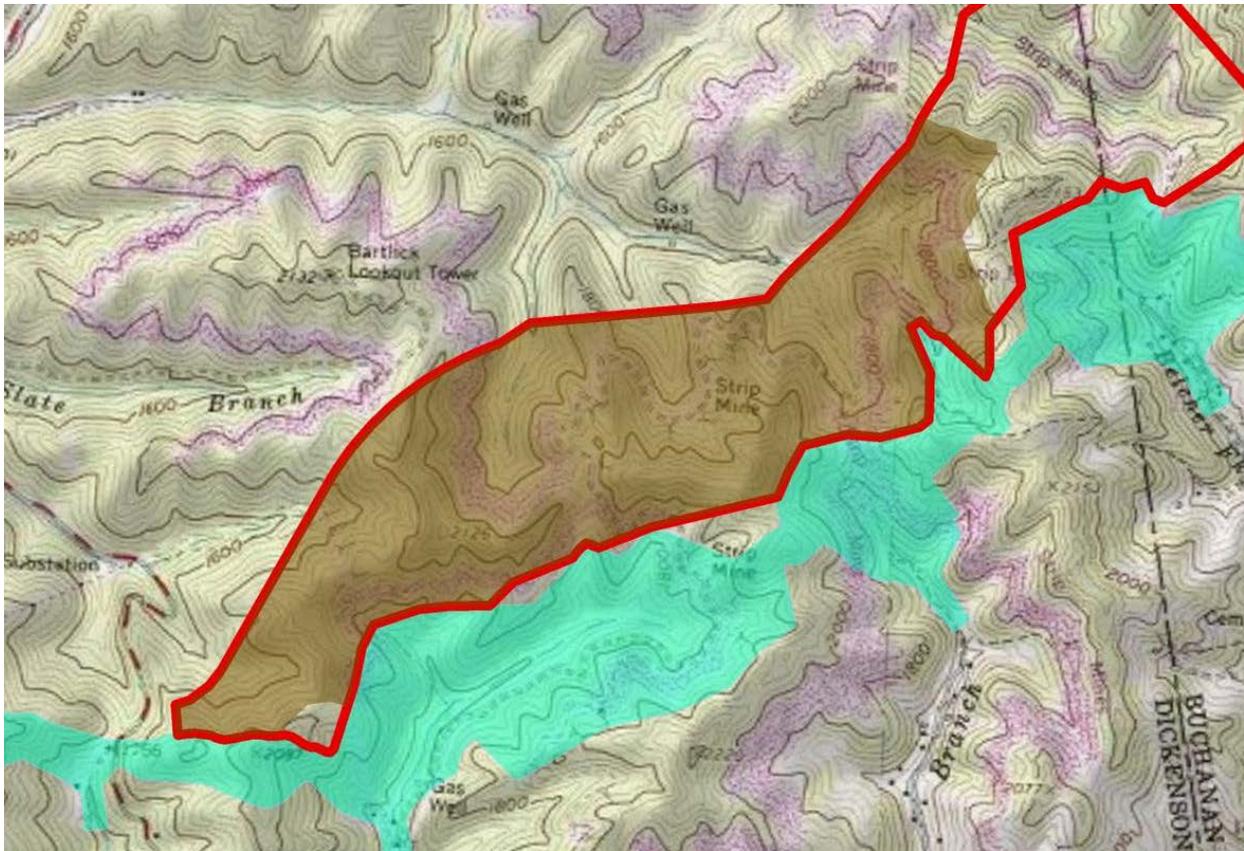
A second image on the next page shows a blow-up of the PPTA Alternative study corridor, indicated by the red outline, and the Doe Branch mine site, indicated by the brown shading. In this image, the blue shading represents an earlier version of the PPTA Alternative.



According to the public notice published by the U.S. Army Corps of Engineers following the mining company's application for permits required pursuant to Sections 401 and 404 of the Clean Water Act, the operator of the mine proposes to operate and reclaim an approximately 1,100-acre surface mine. The Doe Branch surface mine project would affect multiple streams in the Big Sandy River watershed, including Slate Branch, unnamed tributaries to Barts Lick Creek, Doe Branch, unnamed tributaries to Doe Branch, and Wolfpen Branch.

The proposed mining project involves the construction of permanent excess spoil disposal fills, temporary sediment control ponds, and backfill and reclamation of the mined area. The proposed mine operation would impact approximately 16,330 linear feet of stream channel (1,980 perennial, 9,670 intermittent, and 4,680 ephemeral) and approximately 2.42 acres of wetlands. The operator's stated purpose for the mining project is recovery of coal reserves from the Clintwood, Blair, and Eagle coal seams.

According to the public notice, the water quality permit application for the mine indicates that several alternatives were considered during project design. Additionally, measures to avoid and minimize impacts were incorporated into the proposed mine project. An alternative off site project location was not considered based on the need for a resource extraction project to be located where the target geologic deposits are found. Off site spoil disposal locations as well as alternative mining methods including underground, mountaintop removal, single cut contour, and auger/highwall combined with contour, were considered but eliminated from detailed study as not practicable. Four onsite action alternatives determined to be practicable were considered in



Reference: *Haysi and Prater Quadrangles; graphic excerpted from Figure 2 in Cultural Resources Survey, Adjustments to Proposed Alignment, Coastal Carolina Research, Inc., October 2011.*

detail for the proposed mining operation. Each of these uses a combination of mining methods referred to as Contour Area-Surface Mining method. The applicant incorporated avoidance and minimization measures such as reduction in the number of spoil fills, placement of sediment control ponds in close proximity to the proposed fills, placement of fills at the most upstream point possible, reduction in the number of in stream sediment control ponds, reduction in the quantity of excess spoil for disposal by reclamation of existing high wall on the mine site, and application of the Fill Placement and Optimization Process. These efforts resulted in the applicant's preferred alternative, described in U.S. Army Corps of Engineer's public notice, as the alternative with the least impact to jurisdictional waters.

To compensate for the impacts associated with the mining work, the applicant proposed to reconstruct a portion of the affected stream channels and riparian areas along with all affected wetlands on the surface mine site once mining operations have been completed. Additional stream channel and riparian areas would be restored in existing streams off the mine site. These off site mitigation areas are directly adjacent to the proposed surface mine and within the same watershed.

Application of the Eastern Kentucky Stream Assessment Protocol (EKSAP) by the applicant indicated that the proposed mining project's 11,650 linear feet of perennial and intermittent stream impact results in a loss of 5,687 Ecological Integrity Units (EIUs). The proposed compensation would reconstruct and restore, using natural channel design, 11,820 linear feet of perennial and intermittent stream resulting in a projected gain of 5,688 EIUs. The applicant proposed to utilize the spoil disposal fill groin ditches to replace the loss of 4,680 linear feet of

ephemeral channel. The 2.42 acres of impacted wetlands would be mitigated at a one to one ratio with the onsite reconstruction of 2.42 acres of wetlands upon completion of mining.

The portion of the PPTA Alternative that overlaps the mine area crosses several tributaries of Barts Lick Creek. The net effect of the overlap is an overall reduction in stream impacts as compared with Alternative F1 because the CFXII alignment is in an area that will already be impacted by mining activities instead of a different area that would not otherwise have been impacted. This overlap of impact areas is another benefit of the synergy realized by coordinating the roadway construction with mining activities by the PPTA partners.

A positive cumulative effect of construction of the proposed project, along with other reasonably foreseeable highway projects, would be to provide improved system linkage across the region. Subsequent positive effects to local economies would be magnified with the development of Poplar Gap. The planned road projects would provide vital links to enable the area's localities to improve their economic development potential. While the construction of these highway projects would cost taxpayers, they also would have the benefit of providing jobs and improving the economic viability of their region. In addition, the cumulative effect of constructing the proposed roadway in partnership with VDOT's PPTA partners would be to substantially reduce VDOT's highway construction costs.

#### **4.1 AGENCY COORDINATION**

As part of the Coalfields Expressway Location Study and EIS, federal, state, and local agencies were contacted to obtain pertinent information and to identify key issues regarding potential environmental impacts for the project. The DEIS was then distributed for review and comment and the FEIS addressed the comments received (see Chapter 7 of the FEIS for the full list of agencies and comments and responses).

As part of the preparation of this EA, additional coordination was undertaken with the following federal, state, and local agencies:

- U.S. Department of Agriculture
- U.S. Army Corps of Engineers
- U.S. Department of Interior, Fish and Wildlife Service
- U.S. Department of Interior, Office of Surface Mining
- U.S. Forest Service, Clinch Ranger District
- Tennessee Valley Authority
- Virginia Department of Agriculture and Consumer Services
- Virginia Department of Conservation and Recreation
- Virginia Department of Environmental Quality, Air Division
- Virginia Department of Environmental Quality, Water Division
- Virginia Department of Forestry
- Virginia Department of Game and Inland Fisheries
- Virginia Department of Health
- Virginia Department of Health, Water Programs
- Virginia Department of Historic Resources
- Virginia Department of Mines, Minerals, and Energy
- Virginia Outdoors Foundation
- Cumberland Plateau Planning District Commission
- Lenowisco Planning District Commission
- Buchanan County Administrator
- Buchanan County Department of Health
- Buchanan County School Board
- Dickenson County Administrator
- Dickenson County Schools
- Wise County Administrator
- Wise County School Board

A review copy of this Environmental Assessment will be distributed to these agencies when it is made available for public review.

## **4.2 PUBLIC INVOLVEMENT**

Several public meetings and a public hearing were held as part of the Coalfields Expressway Location Study and Environmental Impact Statement (see Chapter 7 of FEIS). Other public outreach efforts included newsletters, a telephone “hotline,” a project website, and countertop displays at public locations (e.g., post offices, schools, and libraries). Public support for the project has been high. For example, approximately 94 percent of the respondents at the public hearing, including mail-ins, supported the proposed Coalfields Expressway. Generally, the comments indicated a desire to begin construction of the Coalfields Expressway soon and that the project would improve economic prospects for Buchanan, Dickenson, and Wise counties.

Another public hearing will be held to present information, including this Environmental Assessment, about the proposed alignment changes and to obtain input and comments from the community. Comments received will be considered prior to making a final decision about the proposed changes.

