

FINAL ENVIRONMENTAL ASSESSMENT

U.S. Customs Service Firearms Training Facility Harpers Ferry, West Virginia

July 2002



U.S. Customs Service

1300 Pennsylvania Avenue, N.W.

Washington, D.C. 20229



COVER PAGE

FINAL ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE U.S. CUSTOMS SERVICE HARPERS FERRY FIREARMS TRAINING FACILITY

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ABSTRACT:

This document constitutes the Final Environmental Assessment and Finding of No Significant Impact (FONSI) prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. Probable environmental impacts and mitigation measures have been identified and comments addressed for the following alternatives:

The No Action Alternative: The proposed Harpers Ferry Firearms Training Facility would not be constructed.

Construction of the Firearms training facility on a 104-Acre Parcel: The proposed Harpers Ferry Firearms Training Facility would be constructed on an approximately 104-acre site within Jefferson County, West Virginia. Construction of the Harpers Ferry Training Facility, under this alternative would utilize 60-acres transferred to the U.S. Customs Service from the National Park Service, along with administrative jurisdiction, as required by PL 106-246 and the "Agreement to Transfer Administrative Jurisdiction of Land" and a 45-foot right-of-way. A 7-acre privately-owned parcel and a 37-acre privately-owned parcel would need to be acquired for implementation of this alternative.

Construction of the Firearms training facility on a 60-Acre Parcel: The proposed Harpers Ferry Firearms Training Facility would be constructed on an approximately 60-acre site within Jefferson County, West Virginia. Construction of the Harpers Ferry Training Facility, under this alternative, would utilize 60-acres transferred to the U.S. Customs Service from the National Park Service, along with administrative jurisdiction, and a 45-foot right-of-way. No additional land would be acquired by the Government under this alternative.



**Finding of No Significant Impact
for the
U.S. Customs Service Firearms Training Facility
Harpers Ferry, West Virginia**

FINDING

In accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508), I find that the U.S. Customs Service Firearms Training Facility, as described in the attached Environmental Assessment (EA), will not significantly affect the quality of the natural or human environment. Construction of the Firearms Training Facility on a 104-acre parcel is the selected alternative.

RECOMMENDED: _____ Date _____

APPROVED: _____ Date _____

All wastes generated at the Firearms Training Facility will be managed in accordance with applicable Federal, State and local regulations. Bullet traps will be periodically emptied and spent bullets will be disposed of in accordance with the Resource Conservation and Recovery Act (RCRA). The wastes will be characterized to determine if the hazardous waste management and disposal requirements of RCRA Subtitle C are applicable.

All of the firing ranges will have self-contained bullet containment systems. The containment systems incorporated in the ranges will capture the fired projectiles into specially designed bins, which at the appropriate time will be packaged and properly disposed of as hazardous materials. Enhanced air emission control systems will be incorporated into each indoor range design to mitigate the possibility of any airborne contaminants entering the environment. As an additional safeguard, periodic air samples of mowing operations surrounding the ranges will be taken. The proposed firing ranges will be constructed with overhead baffling structures and dampening material that will reduce the sound propagation and perceived noise levels outside the ranges.

Current design specifications call for a 250,000-gallon storage tank to meet the fire demands for this project. The water storage tank will be designed to minimize impacts to the overall viewshed.

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LIST OF ACRONYMS (CONTINUED)

RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Office
STP	Shovel Test Pits
USGS	United States Geological Survey
WVDNR	West Virginia Division of Natural Resources
WVDOT	West Virginia Department of Transportation
WVFO	West Virginia Field Office

1 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The U.S. Customs Service proposes to construct the Harper's Ferry Firearms Training Facility in Jefferson County, West Virginia to support the mission of the U.S. Customs. This Environmental Assessment (EA) analyzes the potential environmental impacts that might result from the development of this facility. This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations (CFR) 1500 -1508), and the U.S. Department of the Treasury Directive 75-2.

1.1 PURPOSE OF THE ACTION

The purpose of the proposed action is to construct a firearms training facility which will provide U.S. Customs Service officers with the specialized training essential to safely and effectively perform their official duties. On a daily basis, U.S. Customs Service officers work in a variety of environments while engaged in air, cargo and maritime operations. Within these environments, U.S. Customs Service officers play an active and important enforcement role for the citizens of the United States. Upon completion, the firearms training facility will be the only federal training facility specifically designed and constructed to provide advanced scenario-based training in firearms and defensive tactics developed to counter the specialized occupational hazards and meet the particular applications of the Service. Moreover, the firearms training facility, on a restricted basis, will be capable of providing a safe and state of the art venue for other federal, state, and local law enforcement agencies to partially meet their firearm and related use of force training needs.

Funding for the firearms training facility was appropriated by the U.S. Congress under the Emergency Supplemental Act, 2000, Division B of Public Law 106-246 (hereafter "Act"). Under the Act, Congress expressly instructed the Secretary of the Treasury to establish and operate an in-service training facility for the U.S. Customs Service and other agencies at the site studied in this EA.

1.2 NEED FOR THE ACTION

Currently, the U.S. Customs Service trains its officers at conventional law enforcement training facilities. Although this training is very important and will continue to meet U.S. Customs Service basic training needs, these training facilities are not adequately equipped to handle the unique advanced in-service firearm and tactical training needs of the U.S. Customs Service. For this reason, the U.S. Customs Service requires an in-service firearms training facility.

The operational mission of the U.S. Customs Service necessitates the training of approximately 13,000 armed officers. These officers execute their duties in a multitude of operational environments. On a daily basis, officers perform their assigned duties on land, on the sea, and in the air, in an effort to ensure that all goods and persons entering and exiting the United States do so in compliance with all United States laws and regulations. Unfortunately, as incidents of narcotic smuggling and money laundering escalate and the

Action and recommends measures to mitigate impacts, as appropriate. Based on the findings in this EA, the U.S. Customs Service will take one of the following two actions:

- 1) If it is determined that the Proposed Action will not have a significant impact on the natural and human environment, the U.S. Customs Service will issue a Finding of No Significant Impact; or
- 2) If it is determined that the Proposed Action may have a significant impact on the environment, the U.S. Customs Service will prepare an Environmental Impact Statement to further analyze identified impacts.

The following process will be followed to comply with NEPA:

- Draft EA Published February 21, 2002
- 30-day Public Comment Period Held February 21 – March 25, 2002
- Final EA and Finding of No Significant Impact (FONSI) or Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) Published Summer 2002

2 ALTERNATIVES

Three alternatives, including the No Action Alternative are being considered by the U.S. Customs Service for construction of a Firearms Training Facility in Harpers Ferry, West Virginia. Preliminary site layouts were developed for two build alternatives. These design plans were used to help in the assessment of impacts from the proposed action on the environment.

2.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the alternate land development proposals studied in this EA would not be employed and the project area would remain undeveloped for the foreseeable future. Under the No Action Alternative, the U.S. Customs Service plan for an in-service firearms training center would be indefinitely delayed. The full ramifications of this delay on the U.S. Customs Service mission and the professional lives of its officers would never be known.

2.2 ALTERNATIVE A: CONSTRUCTION OF THE FIREARMS TRAINING FACILITY ON A 104-ACRE PARCEL

Alternative A consists of constructing the proposed Firearms Training Facility on an approximately 104-acre site within Jefferson County, West Virginia (see Figure 2-1). Construction of the Harpers Ferry Training Facility, under this alternative would utilize 60-acres and a 45-foot right-of-way transferred to the U.S. Customs Service from the National Park Service. Adjacent 7-acre and 37-acre parcels would be utilized to implement this alternative.

Alternative A would include construction of approximately 41,649 gross square feet of administrative and support buildings, and training facilities. The components contained in Alternative A are shown on Figure 2-2 and are described below (Ross Barney + Jankowski, 2001):

Administrative Building – This building would be located on the northeast portion of the site and would serve as a welcoming center to the facility. The Administrative Building would contain conference rooms, a lunchroom, a library, a computer lab, and an auditorium.

Defensive Tactics Training – This building will contain classrooms, large, padded defensive tactics training rooms and a processing center for the production of and design of course materials.

Firearms Training Areas/Firearms Training Support – The Firearms Training area would be located on the southeast corner of the site. Five ranges will be built: four indoor firing ranges and one outdoor baffle range. Each range will include classrooms, assembly areas, weapons cleaning areas, target storage, and a control room.

Armory Support Facility – The Armory Support Facility will be located near the Firearms Training Areas and will include spaces for storage, issuance, and repair of ammunitions.

Simunitions Training Areas - These areas will provide the opportunity for interactive simulations in realistic training environments. In these areas, the U.S. Customs Service will undertake scenario-based exercises in areas that closely depict U.S. Customs Service officers work environment. These areas will include the following:

Simunitions Training Support Building will house spaces for storage and cleaning of simunition firearms and ammunition, and additional classrooms. This building will contain a lunchroom, classroom, and office support space.

Training Areas – individual training areas will be created that simulate conditions that U.S. Customs Service officers may encounter. These training areas would include an Urban Training Area, an Airport Training Area, a Land Border Training Area, a Seaport and Marine Training area, and a Truck Inspection Training Area.

Dormitory – The dormitory would provide 50 rooms. For purposes of this EA, it was assumed that each room would be single-occupancy. The dormitory would also contain a cafeteria with full kitchen facilities.

Under Alternative A, there would be approximately 30 full time employees and between 200 and 250 trainees on the site at any given time. Trainees will include U.S. Customs Service officers, and, on a restricted basis, other federal, state, and local law enforcement agencies to partially meet their firearm and related use of force training needs.

2.3 ALTERNATIVE B: CONSTRUCTION OF THE FIREARMS TRAINING FACILITY ON A 60-ACRE PARCEL

Alternative B consists of constructing the proposed Firearms Training Facility on an approximately 60-acre site within Jefferson County, West Virginia (see Figure 2-3). Construction of the Harpers Ferry Training Facility, under this alternative would utilize 60-acres and a 45-foot right-of-way transferred to the U.S. Customs Service from the National Park Service. No additional land would be acquired by the Government under this alternative.

Alternative B includes construction of the same facilities as in Alternative A with the exception of the Dormitory, and the individual simulation training areas for Urban Training, Airport Training, Land Border Training, Seaport and Marine Testing, and Truck Inspection Training. Because the Dormitory is not included under Alternative B, all trainees would be required to obtain lodging and meals off-site.

As with Alternative A, under Alternative B there would be approximately 30 full time employees and between 200 and 250 trainees on the site at any given time. Trainees will include U.S. Customs Service officers, and, on a restricted basis, other federal, state, and local law enforcement agencies to partially meet their firearm and related use of force training needs.

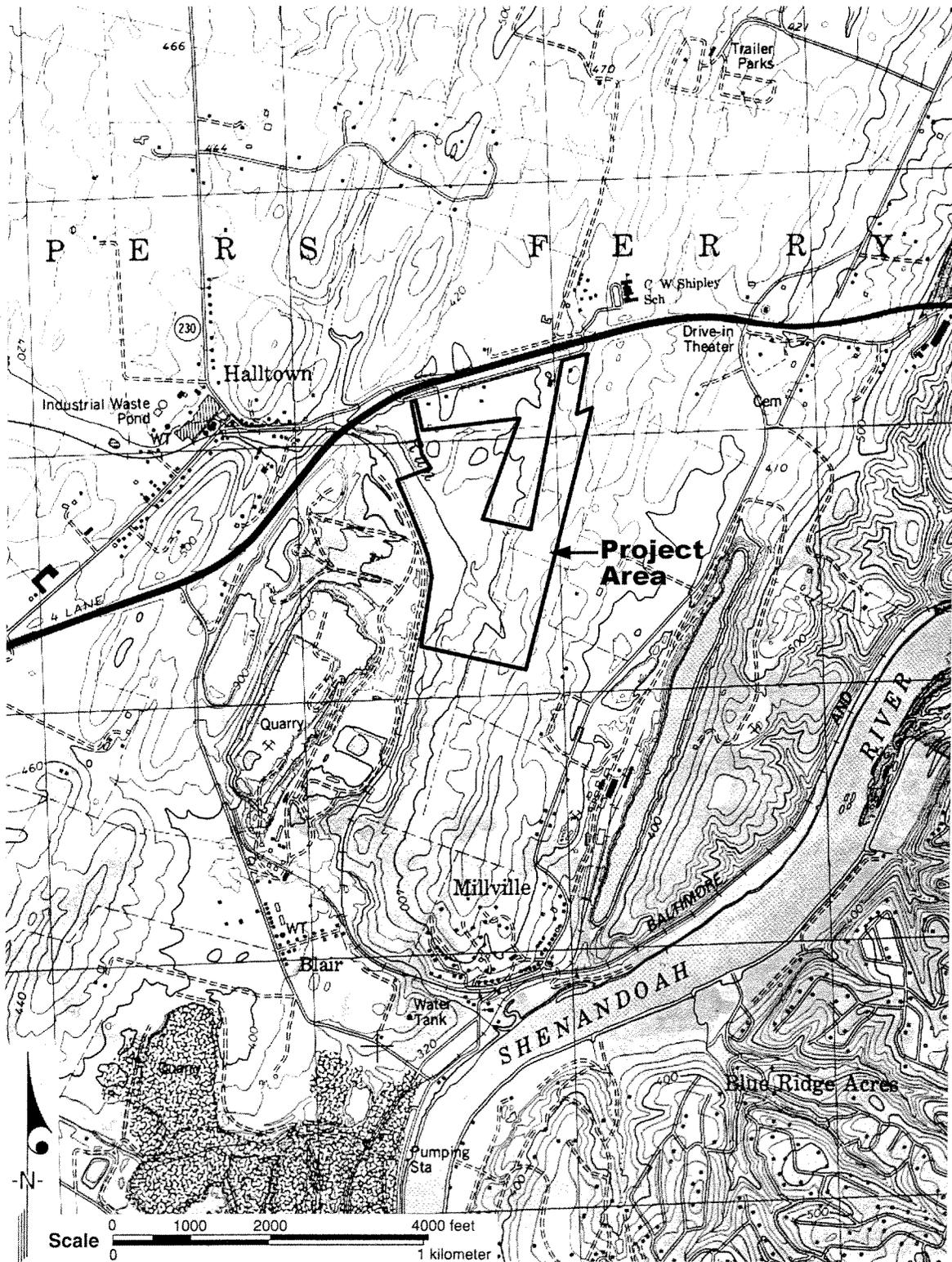


Figure 2-1. Project Area Location

Source: USGS Topographic map; Charles Town, W.VA.-VA-MD 1978, photorevised 1984.

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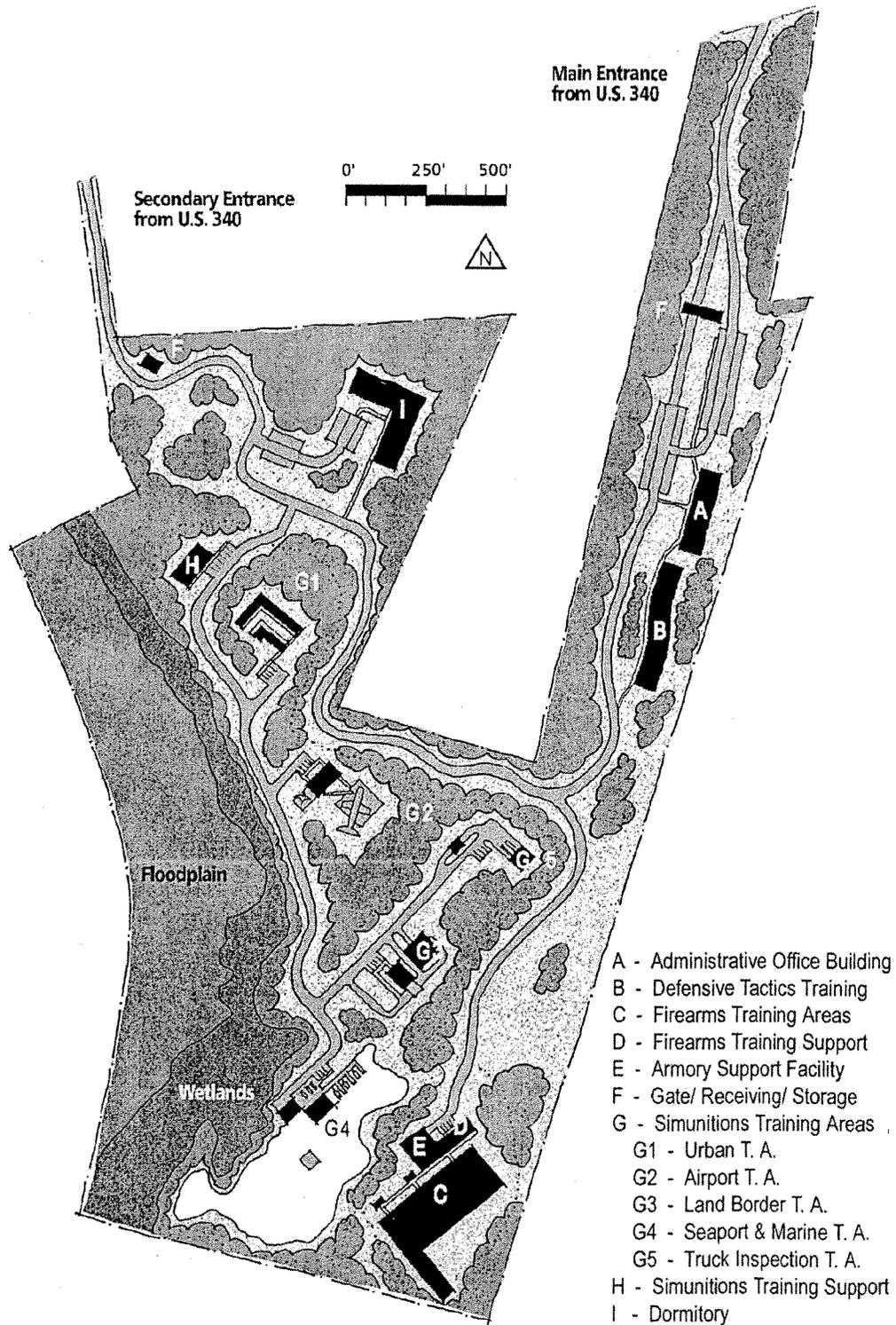


Figure 2-2. Alternative A – 104 acres

Source: Ross Barney & Jankowski, 2001.

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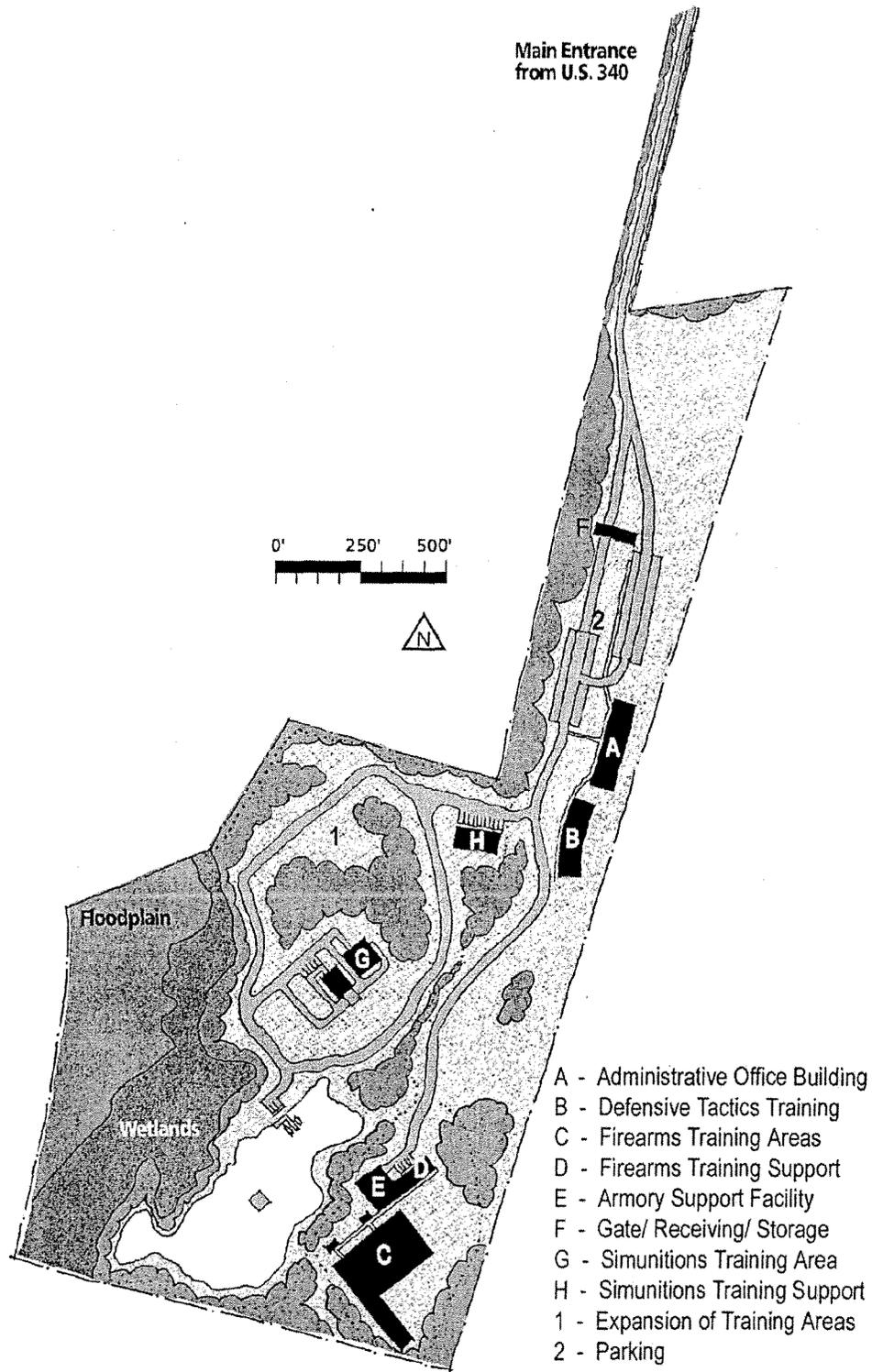


Figure 2-3. Alternative B – 60 acres

Source: Ross Barney & Jankowski, 2001.

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3 AFFECTED ENVIRONMENT

3.1 NATURAL AND PHYSICAL ENVIRONMENT

3.1.1 GEOLOGY, TOPOGRAPHY, AND SOILS

Two separate geologic provinces underlie Jefferson County: the Blue Ridge Province and the Great Limestone Valley Province. The project area is located in the eastern edge of the Great Limestone Valley Province adjacent to the Blue Ridge Province (Figure 3-1). The Great Limestone Valley Province is moderately rolling and is underlain by limestone and a small amount of acid shale. Farms and orchards occupy almost the entire province. Woodlots are small and scattered and generally exist as borders separating pastures or fields and agricultural land and along streams.

Elevations in the Great Limestone Valley vary from about 300 to 600 feet above sea level. Harpers Ferry, the lowest point in the state, is 247 feet above sea level. The rolling terrain is oriented in a northeast/southwest axis, reflecting the underlying trend of the folded limestone formations (USDA, 1973). Elevations on the project area range from about 380 feet along Flowing Springs Run to about 440 feet along the ridge on the eastern edge of the project area.

The character of the underlying bedrock to a large extent determines the topography, surface drainage, surficial soil characteristics, and hydrogeologic characteristics of the region. The strike of the bedrock in this region is approximately N 15°E (Keys, Condon, Florance Architects, 1990). The predominant bedrock formation underlying the project area is Tomstown Dolomite, a massive gray-buff dolomite with minor thin-bedded limestone and dolomite. The eastern edge of the project area is underlain by the Waynesboro Formation. The upper part of this formation is red shale and sandstone, the middle part consists of dolomite and limestone, and the lower zone is sandy limestone, sandstone, and shale (Dean, Lessing, and Kulander, 1990). Several sinkholes are present in the southern and southeastern portion of the project area (see Figure 3-1).

The natural overburden soils within the project area consist of soils derived from in-place weathering of the underlying bedrock. The residual soils tend to be silty soils overlying sandy shale and limestone. Potential unstable erosional slopes in thick (20 to 30 feet) residual soil scarps are present (Keys, Condon, Florance Architects, 1990).

Soils are important determinants of the suitability of a site for development. Eight soil mapping units were identified on the project area (see Figure 3-2). The Soils Map, Figure 3-2, also illustrates the presence of hydric soils and prime and statewide important farmland on the project area. Major development constraints include shallow depth to bedrock, rock outcrops, steep slopes, flooding, high water table, and hydric soils. Hydric soils are generally indicative of wetland areas.

The soil mapping units, which differ in degree of slope, erosion, and minor changes in texture, are grouped into soil series. Five soil series, Benevola, Duffield, Frankstown, Huntington, and Lindside, occur on the project area; Benevola comprises about 60 percent of the soil series present. The Benevola series consist of steep, well-drained soils formed in weathered limestone that contains some magnesium. Benevola soils are difficult to work, but they are fertile. Soil slopes on most of the project area exceed 6 percent, and in some areas slopes are in the 12 to 25 percent range. Small areas are suited to corn, but most areas are better suited to hay or pasture. Limestone outcrops may severely limit tillage.

The Duffield series consists of deep, well-drained soils formed in material weathered mainly from limestone that contained some silty shale. Slopes are smooth and contain few limestone outcrops. They are easily worked and fertile and used mainly for crops. On the project area, they range from nearly level to 25 percent slope. The Frankstown soils are deep and well drained and formed in material weathered from silty limestone and interbedded limy shales. They are easily worked and are fertile and have been used extensively for crops on the project area, but are steep (12 to 25 percent) and subjected to erosion.

Hydric soils on the project area are Lindside silt loam, which occurs along Flowing Springs Run, and Huntington silt loam local alluvium, which occurs along a drainage to Flowing Springs Run (USDA, 1973) in the northwestern portion of the project area. Hydric soils constitute nearly 25 percent of the soils in the project area.

Prime farmland soils on the project area are Benevola silty clay loam at a 2 to 6 percent slope. Statewide important farmland soils on the project area are Benevola clay, 6 to 12 percent slope.

The loss of prime farmland is a national issue and is addressed by the 1981 Farmland Protection Policy Act (FPPA) (PL 97-980). The FPPA seeks to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland soils to nonagricultural uses. As defined by the FPPA, prime farmland has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops, and is also available for these uses. Any conversion of agricultural use on land not already in or committed to urban development or water storage is to be coordinated with the USDA Natural Resources Conservation Service (NRCS). The project area is zoned for urban development (see Section 3.2.1.2) but is currently undeveloped. Prime farmlands usually represent the most opportune portions of a site for development as they are generally level, deep, and well drained, factors that are associated with low construction costs. Benevola silty clay loam, a prime farmland soil identified by the Jefferson County NRCS, occurs in the northwestern portion of the project area, and comprises approximately eight percent of the project area. One soil of state importance, Benevola clay with 6 to 12 percent slopes, also occurs in the northwestern portion of the project area and comprises approximately eight percent of the project area.

3.1.2 WATER RESOURCES

3.1.2.1 Surface Water

The region around the project area drains to the Shenandoah and Potomac Rivers. Surface water drainage on the project area is westerly to Flowing Springs Run on the western side of the site. The headwaters of this stream is about 4 miles west of the project area and flows through the project area to the Shenandoah River about 1 mile south of the project area. A low flat area along Flowing Springs Run is poorly drained and is flood-prone. The FEMA 100-year floodplain for Flowing Springs Run (FEMA, 1993) is shown in Figure 3-3.

Much of Flowing Springs Run within the project area has been dammed by beavers that colonized the area within the past two to three years (around 1998) (personal communication, TW Hebb, 2001). Impoundments created by the beavers are causing local inundation of low-lying areas along Flowing Springs Run in the project area.

3.1.2.2 Groundwater

Approximately 86 percent of Jefferson County is underlain by limestone (carbonate). Three of the limestone formations are productive for groundwater for consumptive use. The Chambersburg formation, which underlies four percent of the county, is the most productive with a yield range of 1.3 to 1.5 million gallons per day per square mile. Beekmantown and Conococheague formations underlie 19 and 32 percent of the county, respectively, with yields of 175,000 to 485,000 gallons per day per square mile (Kozar et al, 1991 in Jefferson Co. Plan. Comm., 1994).

In general, groundwater flows toward the Shenandoah River east of the project area. The depth to groundwater is about 25 to 50 feet (Hobba, 1981) and varies with terrain and precipitation. Groundwater in the carbonate rocks tends to be hard due to dissolution of the rocks by slightly acidic surface water and precipitation that percolates downward through the rock. Samples from a well immediately north of the project area yielded water with a specific conductance of 780 micromhos/cm, pH of 6.9, hardness of 370 mg/l CaCO₃, nitrate level of 28 mg/l, and chloride level of 23 mg/l (Hobba, 1978). No yield data is available for this well. As stated earlier, the project area is underlain primarily by the Tomstown Dolomite formation, a massive dolomite formation with minor thin beds of limestone. A hydrogeological investigation would be required to determine the locations and number of wells necessary to support the operation of the Training Facility.

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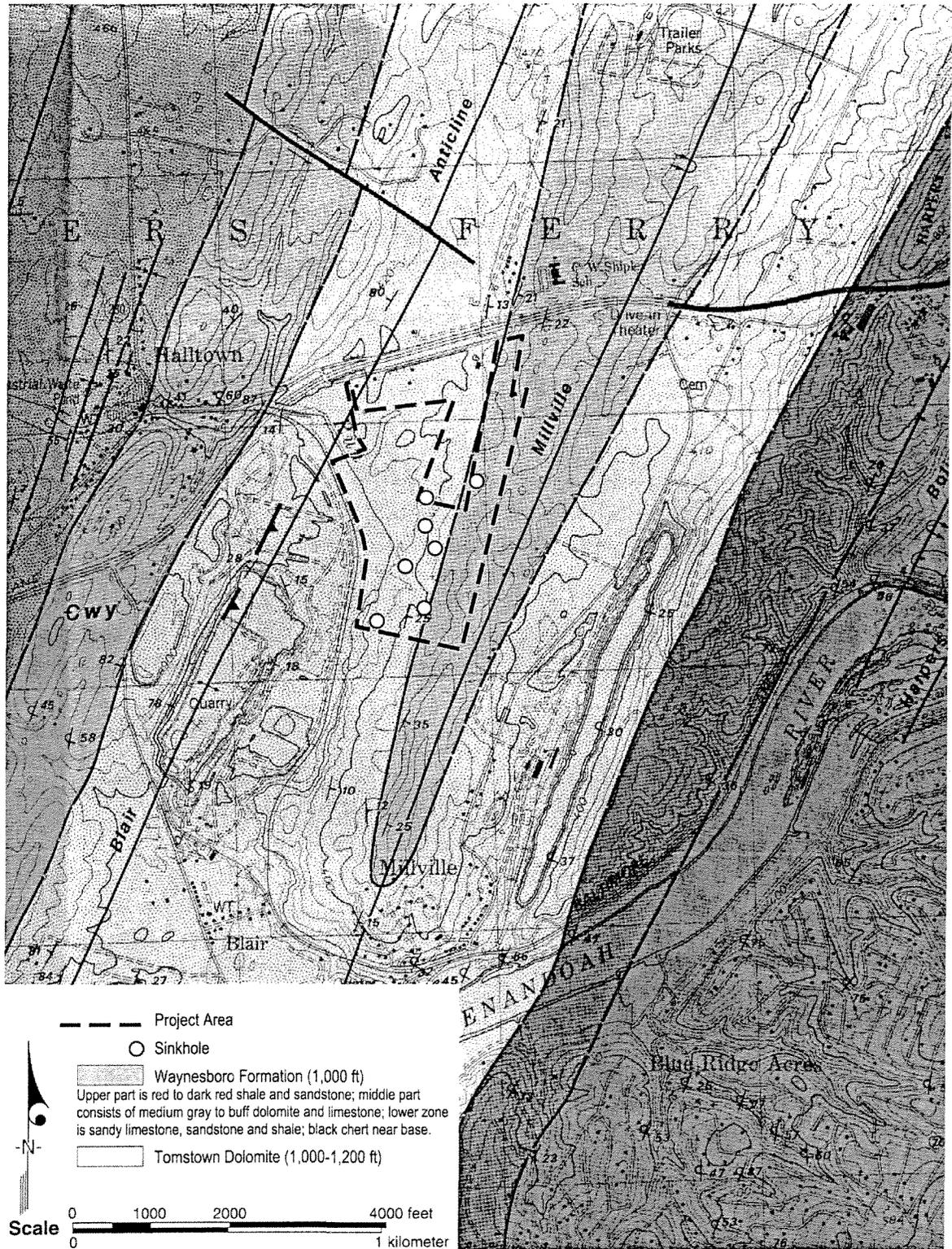


Figure 3-1. Regional Geologic Map

Source: West Virginia Geological and Economic Survey, 1990. Sinkholes identified through field survey by Greenhorne & O'Mara, Inc.

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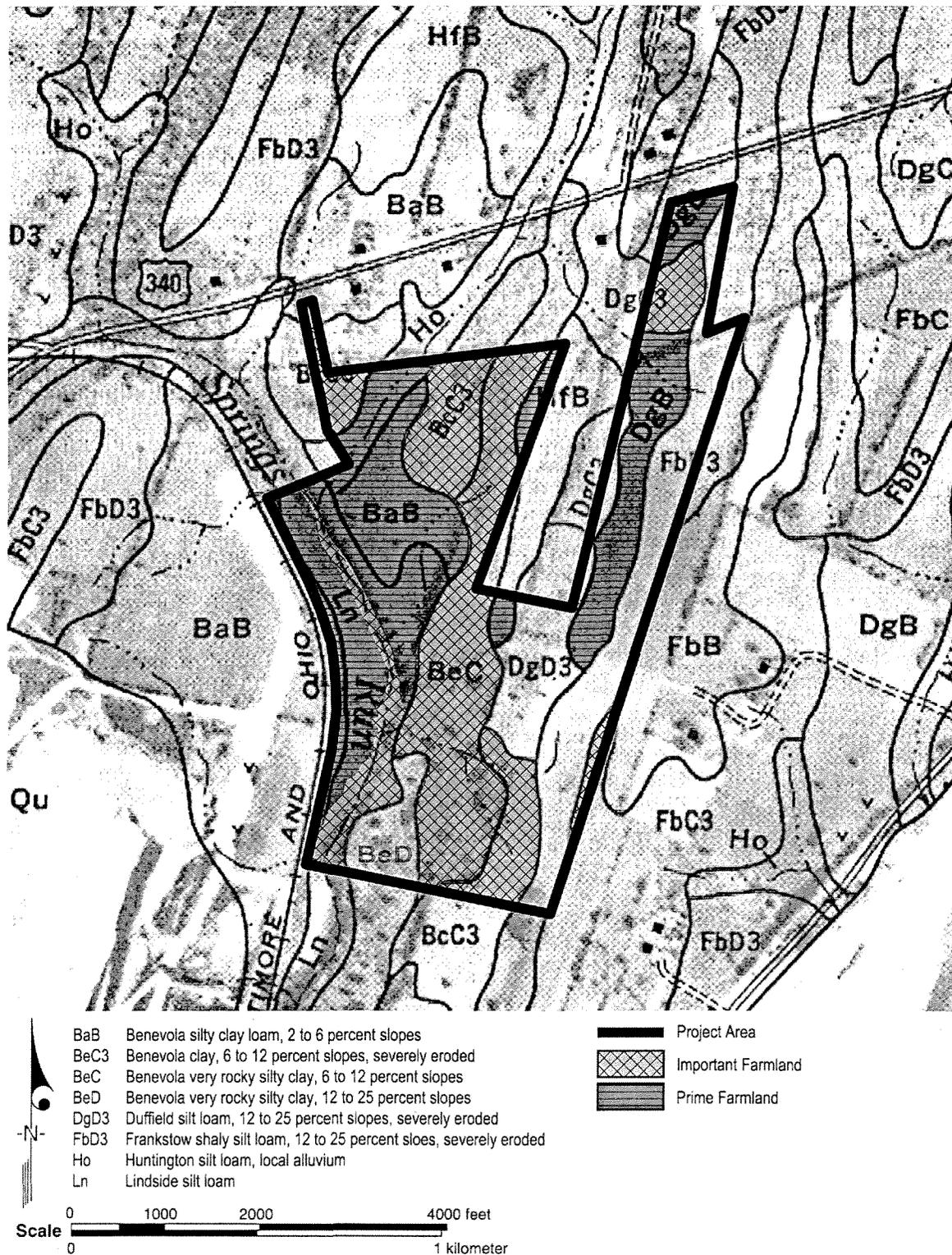


Figure 3-2. Soils Map

Source: USDA Soil Conservation Service, Soil Survey of Jefferson County, WV 1973.

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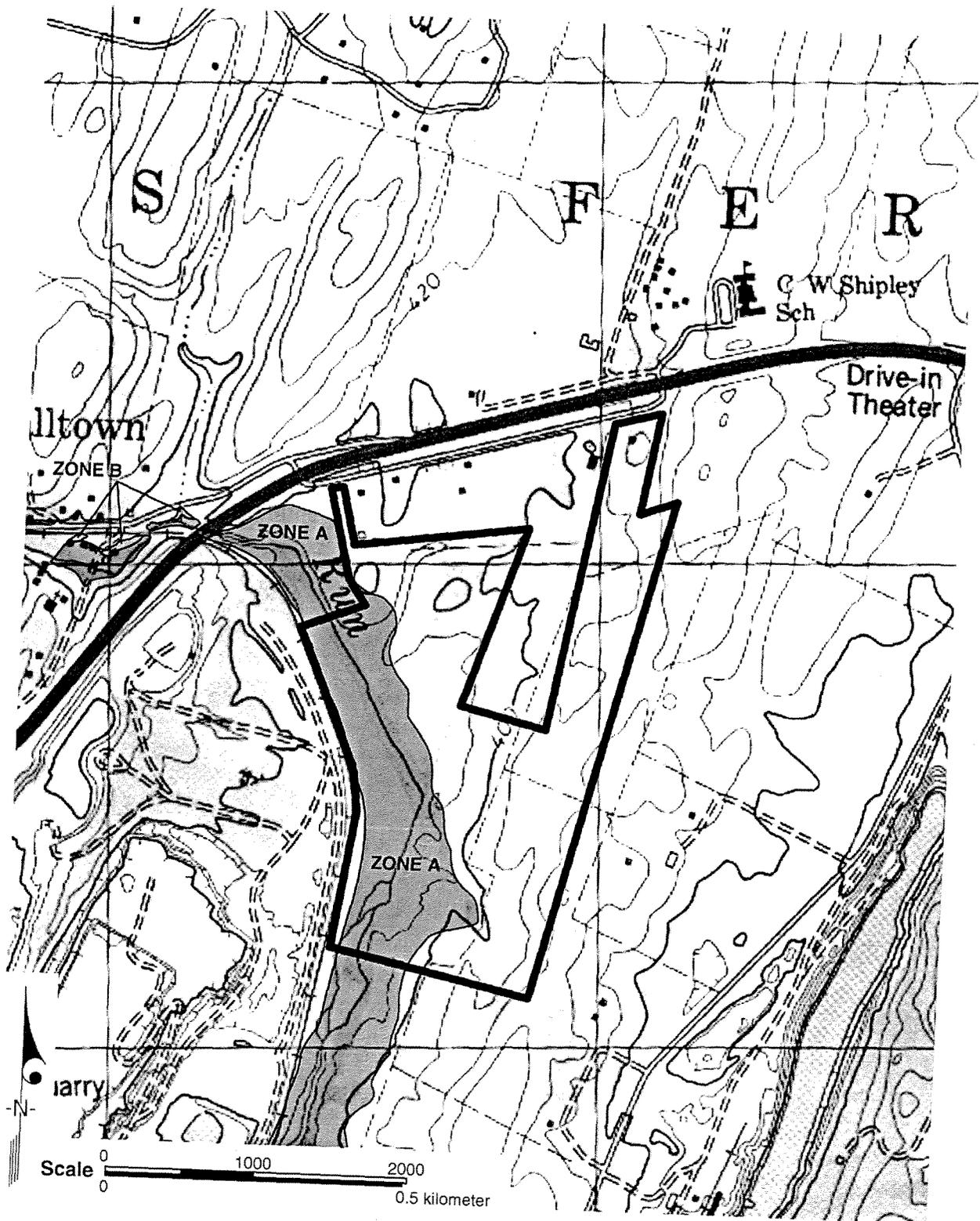


Figure 3-3. Floodplain Map

Source: FEMA, Flood Insurance Rate Map, Jefferson County, V.VA, 1993 overlaid on USGS Topographic map; Charles Town, W.VA-VA-MD, 1978.

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3.1.3 WETLANDS

In 2000, the U.S. Fish and Wildlife Service (FWS) determined the approximate wetland boundary of Flowing Springs Run within the 327-acre tract of land owned by the FWS that included the initial 60-acre tract of land transferred to the U.S. Customs Service (HFNHP, 2001) (Figure 3-4). The wetland is classified as a Palustrine Forest (PFO) community.

The wetland area extends outwards from the stream channel in the southern end of the project area because of impoundments created by beaver dams since about 1998 (personal communication, TW Hebb, 2001). A jurisdictional determination has been obtained from the U.S. Army Corps of Engineers for the 60-acre government-owned parcel (Rogalla, 2001). The determination does not include the additional narrow band of wetlands along Flowing Springs Run within the 37-acre parcel.

A total of 6 acres of wetland is located on the entire 104-acre site for the proposed Firearms Training Facility. Five acres of this wetland are located on the initial 60-acre parcel transferred to the U.S. Customs Service. All 6 acres are classified as a PFO community and are part of the wetland boundary for Flowing Springs Run.

3.1.4 VEGETATION AND WILDLIFE

3.1.4.1 Land Cover

Primary land cover types (Anderson et al., 1976) on the project area are Agricultural Land/Cropland, Forest Land/Deciduous Forest, Rangeland/Mixed Rangeland (shrub and brush), Rangeland/Herbaceous Rangeland (open grassland), and Wetland/Forested Wetland (see Figure 3-5). A palustrine forested (PFO) wetland community occurs in a portion of the deciduous forest along Flowing Springs Run on the western edge of the project area. For the purpose of this report, the wetland boundary determined by FWS was considered to be congruent with the palustrine forested (PFO) wetland cover type.

The project area ecosystems consists of approximately 24 acres of fallow agricultural field, 15 acres of grasslands (primarily in the northwestern portion), 30 acres of scattered shrub/scrub in formerly cleared land and fencerows, 35 acres of hardwood forests, plus 6 acres of wetland forest along Flowing Springs Run.

3.1.4.2 Natural Vegetation

Early successional species, e.g., ragweed, poppies, mullein, thistle, wild onion, and volunteer wheat dominate fallow agricultural field vegetation. Fence rows, field edges, and shrub/scrub habitats are dominated by honey locust (*Gleditsia triacanthos*), poison ivy (*Toxicodendron radicans*), Japanese honeysuckle (*Lonicera japonica*), various grasses, teasel (*Dipsacus sylvestris*), staghorn sumac (*Rhus typhina*), red cedar (*Juniperus virginiana*), and green ash (*Fraxinus pennsylvanica*). Chestnut oak (*Quercus prinus*), white oak (*Quercus alba*),

American basswood (*Tilia americana*), silver maple (*Acer saccharinum*), red maple (*Acer rubrum*), and American elm (*Ulmus americana*) dominate the forested areas; some of the oaks and basswoods are quite large. Other common species scattered on the project area are black cherry (*Prunus serotina*), hawthorn (*Crataegus sp.*), greenbriar (*Smilax sp.*), hickories (*Carya spp.*), and multiflora rose (*Rosa multiflora*).

3.1.4.3 Wildlife

Common wildlife species noted in the project area are primarily those associated with forest, forest edge, and riparian habitats. Mammalian species include gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*), raccoon (*Procyon lotor*), woodchuck (*Marmota monax*), whitetail deer (*Odocoileus virginianus*), and beaver (*Castor canadensis*); avian species include wood duck (*Aix sponsa*), turkey (*Meleagris gallopavo*), red fox (*Vulpes vulpes*), barred owl (*Strix varia*), red-tailed hawk (*Buteo jamaicensis*), Canada geese (*Grus canadensis*), indigo bunting (*Passerina cyanea*), American crow (*Corvus branchyrhynchus*), northern cardinal (*Cardinalis cardinalis*), and yellow-breasted chat (*Icteria virens*). Agricultural fields in the project area are used for foraging by whitetail deer, fox, turkey, Canada goose, American crow, pigeon (*Passer domesticus*), mourning dove (*Zenaida macroura*), fox, hawks, and owls. The Virginia Department of Game and Inland Fisheries has identified 355 species of wildlife (including terrestrial invertebrates but excluding fish and aquatic invertebrates) associated with the USGS Charles Town topographic quadrangle map coverage area (VAFWIS, 2001), which includes the project area. The National Park Service (NPS) has compiled species lists of 18 mammals, 123 birds, 15 reptiles, and 12 amphibians at Harpers Ferry National Historical Park (HFNHP, 2000).

The Shenandoah River, about 1 mile south of the project area, provides warm-water fishing and is used by waterfowl. Flowing Springs Run is classified as Category B1 (warm water fishery stream) under the general water use classification. The stream and associated wetland forest are used as a nesting and rearing habitat by wood ducks and also provide beaver habitat. No information on fish or other aquatic biota in the project area is available.

3.1.5 THREATENED, ENDANGERED AND SENSITIVE SPECIES

The FWS and West Virginia Division of Natural Resources (WVDNR) were contacted to determine whether any known critical habitats or listed threatened or endangered species have been documented on the project area. The WVDNR indicated that there are no records of any threatened or endangered species or critical habitats on the project area (WVDNR, 2001). In a letter dated July 11, 2001 from the Field Supervisor of the USFWS West Virginia Field Office (WVFO) (USFWS, 2001), it was stated that the only federally listed species



Figure 3-4. Wetlands

Source: Harpers Ferry National Historic Park.

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Figure 3-5. Land Cover

Source: Greenhorne & O'Mara, Inc.

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likely to occur on the proposed project area is the endangered Indiana bat (*Myotis sodalis*). The letter further stated that projects “affecting 17 acres or less of suitable foraging or roosting habitat will have an infinitesimally small chance (at the 98 percent confidence level) of resulting in direct or indirect take.” The FWS further stated that if less than 17 acres of suitable habitat will be disturbed, the FWS considers that action discountable and unlikely to adversely affect the endangered Indiana bat at any season of the year. (Suitable habitat is considered synonymous with forested habitat; pers. comm. Jones, 2001). If less than 17 acres of forested habitat will be removed, tree removal can occur at any season of the year (FWS, 2000, 2001). If 17 acres or more will be disturbed, mist net surveys must be conducted during the summer to determine if potential summer roosting and foraging habitat in the affected area is occupied by the bat. If the Indiana bat is determined to be present during mist netting, a Biological Assessment must be prepared pursuant to Section 7 of the Endangered Species Act. As an alternative to summer mist netting, timber removal operations may take place during the hibernation period between November 15 and March 31. If FWS determines that the extent of disturbance is significant relative to suitable habitat remaining in a 2-mile radius of the project, formal Section 7 consultation with FWS or mist netting to determine if the Indiana bat is, in fact, present will be required.

The NPS has conducted several rare plant surveys on HFNHP property (Fleming, 1999; Bartgis and Ludwig, 1996; Ludwig, 1996). The surveys included both legislatively protected and unprotected rare species. Eighty-five rare or watchlist species have been identified within the HFNHP property (Fleming, 1999). Study sites described in the surveys did not specifically include the project area. While it is possible that some of the “rare” plants species identified in the reports may be present in the project area, no protected species is expected to occur.

3.1.6 ENVIRONMENTAL CONTAMINATION

A Phase II Environmental Site Assessment (ESA) was conducted for the project area in March 2001 (Marshall Group, 2001). This ESA included background and records research, soil sampling, and surface water and stream sampling. According to the ESA there were no recognized adverse environmental conditions on-site. The project area has been in use as agricultural land for more than 200 years and consequently the soils have been impacted by the use of pesticides. However, a risk screening done for the ESA shows a relatively low risk from the levels of contaminants detected in the soil samples and concluded that the levels would not prohibit the future development and use of the property as currently proposed.

Site visits confirmed that approximately 75 percent of the property is open farm fields and former farm fields overgrown with brush, 20 percent is wooded and 5 percent is stream and wetlands. The presence of karst topography (sinkholes) was confirmed throughout the northern and eastern portions of the project area. Three debris piles were located in the northern portion of the project area near the adjacent Americast property boundary. According to survey markers, Americast is encroaching onto the northern and western portions of the property in several locations.

Eight subsurface soil borings were taken on-site. Bedrock was encountered at depths of less than 5 feet in three of the samples. The soils were field screened using a Photovac PID, and

no readings above background levels were detected. Arsenic was detected in all eight subsurface soil samples collected. Seven of the eight samples exceeded the Industrial Risk-Based Guidelines (RBCs) of 3.8 mg/kg. Iron was detected in three of the samples, manganese was detected in one sample, thallium was detected in one sample, and barium was detected in one sample. All of these were above the Residential RBCs, but below Industrial RBCs. Lead was found in all eight subsurface samples at concentrations ranging from 4.5 to 105 mg/kg. These concentrations are below Residential and Industrial RBCs.

Eighteen surface soil samples were collected on-site. Arsenic was detected in all eighteen surface soil samples collected. The concentrations ranged from 4.9 to 17.4 mg/kg, which exceeds Industrial (RBCs) of 3.8 mg/kg. Iron was detected in seven soil samples, manganese in two samples, and thallium in one sample. All of these were at concentrations greater than Residential RBCs but below Industrial RBCs. Lead was detected in all of the surface soil samples at concentrations ranging from 12.6 to 174 mg/kg. All of these levels are below the EPA Action Level of 400mg/kg for bare residential soil.

No groundwater samples were collected because groundwater was not encountered in any of the soil borings. A variety of constituents were detected in the two stream and sediment samples, but these risks could not be evaluated because the EPA has not issued RBCs for these types of media.

The Phase II ESA recommends that the solid waste debris piles be removed and disposed of properly. A geotechnical evaluation for the project area is recommended due to the karst topography. If a potable water well is to be installed, additional research and characterization is recommended to characterize groundwater conditions under the project area.

3.1.7 AIR QUALITY

Air quality became a national concern in the mid-1960s, leading to the passage of the Air Quality Act in 1967. The Act (now referred to as the Clean Air Act) and subsequent amendments have established procedures for improving conditions, including a set of National Ambient Air Quality Standards (NAAQS).

The U.S. Environmental Protection Agency is directed to set levels for pollutants in order to protect the public's health. The NAAQS have been adopted for six pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, particulate matter, and lead. A system of monitoring stations has been established across the country to measure progress in meeting these goals. If an area is found to exceed the allowable concentrations, then local officials are required to develop a plan for achieving air quality that meets the standards. Generally, the nation is making great progress towards providing good air quality.

Jefferson County is considered to be in attainment of the NAAQS. Therefore, it is not subject to the conformity requirements of the Clean Air Act. Nevertheless, the potential for air quality impacts from the proposed U.S. Customs Service facilities must be considered. Given the nature of the uses, it is expected that mobile sources will have the greatest capacity for impacts. Motor vehicles are the greatest source of carbon monoxide emissions, and they are important contributors of the precursors to ozone.

3.1.8 NOISE

Noise regulations have been established at all levels of government, from local municipalities to Federal agencies. While there is great variation in the controls established by different municipalities, the Federal guidelines provide widely accepted standards, which are reasonably consistent among the various agencies.

Congress passed the Noise Control Act in 1972, specifically authorizing the Environmental Protection Agency (EPA) to promulgate regulations establishing maximum permissible noise characteristics for products manufactured for interstate commerce. In addition, EPA was directed to publish information about the kind and extent of effects of different qualities and quantities of noise, and to define acceptable levels under various conditions to protect public health and welfare. This information was then used by other Federal agencies in establishing criteria applicable to their programs.

Jefferson County has adopted a noise ordinance that sets more stringent standards on noise generators, depending on the zoning of nearby parcels. The most restrictive measures are applied to Agricultural and Residential Growth Districts. In these locations, levels are not permitted to exceed 60 dBA in the daytime hours (7 AM to 6 PM) or 50 dBA in the nighttime period (6 AM to 7 AM). The regulations do not apply to certain sources (e.g., transportation sources not under the control of the land owner, emergency and safety devices, and temporary construction activities between the hours of 7 AM and 7 PM).

Quarry and other industrial operations have marked the area. There are several transportation noise sources (e.g., U.S. 340 and the railroad lines) in the vicinity of the project area. Depending on the proximity to these sources and time of day, it is likely that noise levels exceed the County standards at many locations within the vicinity of the proposed facility.

3.2 SOCIAL ENVIRONMENT

3.2.1 LAND USE AND ZONING

3.2.1.1 Regional Land Use Planning and Zoning

Jefferson County adopted the current Comprehensive Plan in 1994 to guide future growth of the County. The Zoning Ordinance for Jefferson County, originally adopted in 1988, was last revised in 1996. There are four zoning categories in Jefferson County: Residential/Growth, Industrial/ Commercial, Rural/Agricultural, and Residential/Light Industry/Commercial.

Agricultural Areas

The predominant land use within the County is agricultural. Jefferson County has fertile soils, water supplies, excellent markets, and the necessary infrastructure to support the agricultural industry. Historically, farming has been an important part of Jefferson County's economy. There were 357 farms in the county in 1997. Of the 135,040 acres in the County, 72,978 acres were in farms (USDA, 1999).

The County's agricultural industry is threatened by recent residential development, where most of the development is occurring in unincorporated areas. To address the growth issue, the Jefferson County Comprehensive Plan proposes a balanced approach to all land uses within the County in order to provide the best protection for farmers and agricultural resources.

According to the Comprehensive Plan, solutions and goals to control land use in Jefferson County include:

- Preserving farm industry to ensure the County has enough agricultural land to maintain viable farms;
- Encourage a balance between residential growth and rural economy;
- Promote protecting farmers from unreasonable restraints; and
- Encourage conservation to avoid pollution of natural resources.

The Comprehensive Plan suggests the use of Transferable Developments Rights, clustering lots on the less farmable portions of farms, and locating new development near existing or planned public services as ways to meet these goals.

Residential Land Use

As stated in the Comprehensive Plan, population growth, market forces, and government regulations of land influence residential land use. The adoption of the "Zoning and Development Review Ordinance" has proven very significant as a deterrent to urban sprawl in Jefferson County. However, it has continued to be a concern. With the increase in population within the next few years, several thousand acres would be required to meet residential needs. The acreage needed should be confined to growth areas. This would enable the conversion to residential use without affecting the rural and agricultural character of the land. The goals for residential use include attracting new residents of all economic levels through a variety of housing costs with a wide range of costs; providing a choice of suburban, semi-rural, and rural living areas; promoting the separation of residential areas from conflicting land uses; encouraging residential developments that would maximize existing utilities; and establishing water and sewer in areas of high residential density.

Industrial and Commercial Use

Most of the history of Jefferson County resides in both agricultural and industrial land use. However, the depletion of natural resources and the change in markets and technology has not attracted enough new industry to make up for the social and economic benefit when earlier industries diminished. According to the Comprehensive Plan one of the main challenges facing the County is to create a healthy and strong industrial and commercial economy while preserving the rural aspects and quality of life.

One of the main concerns of increased commercial land use is the County should control the commercial strip development to prevent congestion and pollution that would radically affect

quality of life within the County by concentrating future commercial growth near main retail areas, locating commercial development near adequate transportation corridors and where future water and sewer is most likely to occur, and establish site planning policies that would encourage setbacks, landscaping, and provide greenspaces. These goals would also apply to industrial expansion along with encouraging development by providing the highest priority for public service extension, encouraging expansion of existing industrial companies, providing a stable economic base, and encouraging tourism as an industry that are compatible with historic and environmental preservation.

3.2.1.2 Project Area Land Use and Zoning

Land use in the project area is comprised of undeveloped grasslands, scrub shrub, and forest. A portion of the 60-acre federally-owned property was farmed prior to the transfer of control to the U.S. Customs Service. The project area is bounded by the B & O Railroad on the west, which runs parallel to the Flowing Springs Run. U.S. 340 bounds the project area to the north and private properties bound the project area to the south. To the east, the School House Ridge runs parallel to the property. The Americast Cement Co., a concrete casting company, and private residential property bisect the northern section of the property, which creates a "U" shaped configuration. The project area is currently fallow agriculture land, with forested, scrub shrub, and grass areas.

The majority of the project area is zoned as I-C – industrial/commercial district (see Figure 3-6). The northern part of the project area along U.S. 340 has been zoned as +R-L-C – residential growth/light industrial/ commercial district. According to the "Jefferson County Zoning and Development Review Ordinance", the I-C district indicates areas for manufacturing, processing, and commercial uses, which may require extensive transportation and central public water and sewer services. The +R-L-C district is intended to guide the high intensity growth into perceived growth areas.

The entire project area is located in the Harpers Ferry tax district. According to the "Thirty Second Annual Report of the Jefferson County Planning and Zoning Commission," January 1 to December 31, 1999, the Commission, under the Subdivision Ordinance, approved 145 new lots, units, or sites. There are six subdivisions that had been approved for construction during that year in the Harpers Ferry district. The Shepherdstown district, which borders the Harpers Ferry district to the north, was approved for six subdivisions and the Charles Town district, which resides to the west and south, was also approved for six subdivisions during the 1999 calendar year.

3.2.2 POPULATION, HOUSING, ECONOMY, EMPLOYMENT AND INCOME

3.2.2.1 Population

The population of Jefferson County in the year 2000 was 42,190. Ninety one percent of the population is white, with African Americans comprising approximately 6 percent, and other races (Asians, Native Americans) constituting the remaining 3 percent. Jefferson County experienced a 17.4 percent population increase from 1990 to 2000, and most of this growth took place in the unincorporated areas of the county. As opposed to 1960, when 57 percent

of the population lived in unincorporated areas, today at least 76 percent of the population resides in unincorporated areas. Jefferson County is considered to be at the edge of the Washington D.C. metropolitan area and because of this the county is experiencing a fairly high growth rate compared to other counties in West Virginia. The population of the county is projected to increase to 44,831 by 2005, 47,178 by 2010, and 49,120 by 2015.

3.2.2.2 Housing

There are 17,623 housing units in Jefferson County and of these 16,165 are occupied. The number of housing units is expected to increase as the county has recently approved many subdivision development permits, many of these having several hundred units in them. In the project area alone there are seven subdivisions currently undergoing development, ranging in size from 25 single-family homes to approximately 200 homes. Single family homes comprise the majority of housing unit types in the county, approximately 73 percent, the remainder are multi-family at approximately 12 percent, and manufactured housing at about 14 percent. The 1991 median house sales price was \$112,435, and the 1990 median rent was \$294 per month.

The two closest towns to the project area are Harpers Ferry/ Bolivar and Charles Town/Ranson. Harpers Ferry/Bolivar contain 708 housing units and Charles Town/Ranson contain 2,675 housing units. The homeownership rate for the county is 75.8 percent. The average household size is 2.54 people and the majority of households are family households, approximately 70 percent.

3.2.2.3 Economy/Employment/Income

In Jefferson County, manufacturing and agriculture are major industries and bring a significant source of revenue to the county. In the last 20 years sectors such as mining and railroad transportation have decreased and are being replaced by tourism, warehousing and opportunities with the Federal government. Dairy farming is the leading source of farm income for the county followed by fruit production and cattle sales respectively. According to the county it appears that new industries have begun to be attracted to Jefferson County due to the availability of an inexpensive and hard-working existing labor force, and ready-to-use, competitively priced industrial lots.

Jefferson County has one of the lowest unemployment rates in the state of West Virginia and is generally below the national average. In 1994 the rate was 5.5 percent. Many of the county's residents are employed outside the county, approximately 49 percent in 1990. In 1990 the largest number of residents were employed in the service industry, followed by the retail trade and then manufacturing and construction respectively. The 1997 median income was \$39,607. This high number is primarily due to the higher incomes earned outside the county. Wages in Jefferson County industries are lower than state averages and this is generally attributed to the limited opportunities available locally for semi-skilled, skilled and professional employment. However, there has been a shift in the county, following national trends, in the increase of white-collar jobs and a decrease in blue-collar jobs.

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There are several motels/hotels and bed and breakfast inns near the project area that contribute to the growing economy. During peak season most accommodations are filled with tourists and vacancies are often hard to find. Peak season runs from April 1st through October 31st for most facilities. Prices for rooms during this time range from approximately \$45 to \$90 Sunday through Thursday and \$55 to \$100 Friday and Saturday nights. During the off-season rates for rooms range from \$40 to \$90 Sunday through Thursday and \$50 to \$100 Friday and Saturday nights. The amount of rooms available ranges from approximately three to four for a bed and breakfast inn to 50 to 112 for motels/hotels.

3.2.3 ENVIRONMENTAL JUSTICE IN MINORITY AND LOW-INCOME POPULATION

Executive Order 12898, Federal Sections to Address Environmental Justice in Minority Populations and Low Income Populations, directs Federal agencies to identify and address as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations.

This Environmental Assessment analyzes demographic data for Jefferson County, West Virginia. The minority population is a much smaller proportion of the total population than in the County as a whole. According to the 2000 Census figures, the racial mix within the County is approximately 6.1 percent black, 0.3 percent American Indian, 0.6 percent Asian, and 91.0 percent white. The County has a similar percentage of elderly residents with 11.2 percent of the population over the age of 65. The median household income in the County is approximately \$34,887. The percentage of all individuals living below the poverty line is slightly lower in Jefferson County than in the state of West Virginia; approximately 10 percent of the whole County population live below the poverty, compared to approximately 16.8 percent of the State population.

2000 Census data is currently not available on the block level in Jefferson County. Utilizing 1990 Census data, the demographic makeup of the two block groups nearest the project area is shown in the table below:

	Census Tract 9726 Block Group 3	Census Tract 9726 Block Group 4
Race		
Black	9 %	0.2 %
American Indian	0.1 %	0 %
Asian	0 %	0 %
White	90 %	99 %
Age – Over 65	18 %	7.8 %
Median Household Income	\$28,438	\$31,250
Percent Living Below the Poverty Line	10.6 %	4.5 %

3.2.4 TAXES AND REVENUE

The 60-acre government owned parcel does not currently generate tax revenues. The 40 acres of privately owned land in the study area is currently taxed at 1.2166 percent.

3.2.5 COMMUNITY FACILITIES/COMMUNITY SERVICES

3.2.5.1 Emergency Services

Emergency services communication in the county is provided through the Office of Emergency Services and Emergency Operating Center located at the Bardane Health Center. The Communications Center has a 100-foot antenna and is provided with auxiliary emergency power. All County emergency management activities are coordinated through this office.

3.2.5.2 Police

Residents of the county are served by the municipal police forces of Charles Town, Harpers Ferry/Bolivar, Ranson, Shepherdstown and the services of the State Police and the County Sheriff's Department. Depending upon the urgency of the request and the availability of personnel, police will respond to emergencies outside their jurisdiction. The Charles Town Police Department is located at 105 S. George Street and has nine officers and four vehicles. The Harpers Ferry/Bolivar Police Department includes a Chief of Police, a Corporal and a patrolman. The Ranson Police Department, located in Town Hall, includes eight police officers and four vehicles. The Shepherdstown Police Department includes a Chief of Police and three patrolmen. Troop Two of the West Virginia State Police is located in Charles Town. This troop includes 63 officers for Jefferson and five surrounding counties, 14 of these are assigned specifically to Jefferson County and each has a vehicle. State Police stationed within Jefferson County provide protection for the entire county, including the incorporated areas. The County Sheriff's department is located in the old jail in Charles Town. This department has 17 officers, five of whom are part time, and 13 vehicles. The six Sheriff's Deputies are the first officers notified and would most likely be the ones to respond to an incident. The Sheriff's Office and the State Police share the responsibility of providing services throughout the county and one of these organizations would be the responding unit for an incident at the proposed training site. Both departments expect their burden to increase as more people move into the unincorporated areas. The county has a "911" central dispatch system, which was installed in 1980, and is responsible for dispatching the nearest available unit having jurisdiction over the call.

3.2.5.3 Fire and Rescue

Jefferson County has five fire companies and one substation; all are operated by volunteers. Although each company has a designated service area, many locations along the boundaries of the service areas are covered jointly by two or more departments. All companies have rescue as well as fire-fighting equipment. Friendship Fire Company, Inc. (Company 1) is located in Harpers Ferry and serves Harpers Ferry, Bolivar and the neighboring areas. Citizens Fire Company, Inc. (Company 2) is located in Charles Town and serves the southwest portion of the county jointly with Company 4. Shepherdstown Fire Company, Inc. (Company 3) is located just west of Shepherdstown and serves the northern section of Jefferson County. Independent Fire Company, Inc. (Company 4) is located in Ranson and serves the southwestern portion of Jefferson County jointly with Company 2. Blue Ridge Mountain Volunteer Fire Company, Inc. (Company 5) is located on Keyes Ferry Road, with a substation on Mission Road, and they serve all areas of the county east of the Shenandoah

River. The Friendship, Citizen's or Independent Fire Stations would most likely be the ones to respond to an incident at the proposed training facility.

Jefferson County has eight ambulances and service is provided by four of the fire departments. The Friendship Fire Company has two ambulances, the Shepherdstown Fire Company has two ambulances, the Independent Fire Company has two ambulances, and the Blue Ridge Fire Company has two ambulances. Dispatching is done through the County 911 center where the nearest available ambulance is dispatched. The Friendship or Independent ambulance service would be the most likely to respond to an incident at the proposed training center. The medical facilities served by county ambulances are Jefferson Memorial Hospital in Ranson, City Hospital in Martinsburg, the VA Center in Martinsburg, and Winchester Memorial Hospital in Winchester, Virginia. The Jefferson Memorial Hospital in Ranson would most likely provide medical services for any incidents from the proposed training center.

3.2.5.4 Schools

The county school system includes thirteen public school buildings, along with two private schools - Country Day School and Claymont Children's School, in addition to Shepherd College, and West Virginia University. There are nine elementary schools in the county of which one, C.W. Shipley Elementary is almost directly across U.S. 340 from the project area. In addition there are three junior high schools and one high school. The closest one to the project area is Harpers Ferry Junior High, located approximately 2 miles from the site in Harpers Ferry.

3.2.5.5 Parks and Recreation

There are 14 parks and recreational areas within the county. Of these, eight are within 3 to 5 miles of the project area. Potomac Edison Park is located off of Route 27 in Millville and off Route 27 in Harpers Ferry. Sleepy Hollow Golf Course is located west of the project area off U.S. 340. Liberty Street Park and Jefferson County Memorial Park are located west of the project area in Charlestown and Ranson Park is located off Route 9 in Ranson. Riverside Park is south of the project area on Route 27. The Harpers Ferry National Park, east of the project area, is a major tourist attraction providing a scenic and historical setting.

3.3 CULTURAL ENVIRONMENT

Section 101(b)(4) of the National Environmental Policy Act of 1969 (P.L. 91-190), as amended, requires the federal government to coordinate and plan its actions to, among other goals, "preserve important historic, cultural and natural aspects of our national heritage...". Council of Environmental Quality (CEQ) implementing regulations require that federal impacts to historic and cultural resources be included as part of the NEPA process.

CEQ regulations also encourage coordination between NEPA and the environmental planning and review processes required by other federal, state, or local regulations. Like NEPA, Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, also requires the evaluation of impacts of federal actions on historic properties eligible for the National Register of Historic Places. The NEPA process, however, is not a substitute for

compliance with Section 106, which requires a formal identification/evaluation/consultation process subject to review by the State Historic Preservation Office (SHPO) and, if there are effects on historic properties, with the Advisory Council on Historic Preservation. The U.S. Customs Service has initiated Section 106 compliance activities with the West Virginia State Historic Preservation Office for the proposed project.

The "cultural environment" includes "historic properties," defined by 36CFR 800 as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places." This term includes artifacts, records, and the remains that are related to and located within such properties. The term "eligible for inclusion in the National Register" includes both properties formally determined eligible and all other properties that meet National Register listing criteria. To comply with the intent of NEPA, these "cultural resources" also include properties that may be important locally but not necessarily qualify for listing on the National Register. Taken in its broadest sense, the "cultural environment" also includes the intangible expressive traditions of cultural groups bound by ethnicity, region, occupation, or other common ties. These broader aspects of cultural resources are addressed, where applicable, in the socioeconomic section of this Environmental Assessment.

The significance of historic properties is generally judged against a property's ability to meet the four criteria for inclusion on the National Register of Historic Places (36 CFR 60):

- Criterion A Association with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B have an association with the lives of persons significant in our past; or
- Criterion C that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D that have yielded, or may be likely to yield, information important in prehistory or history.

Properties may be eligible for the National Register for contributions at the national, state, or local level. Ordinarily, properties achieving significance within the last 50 years are not considered eligible unless they are integral parts of historic districts or unless they are of exceptional importance; the most common types of properties less than 50 years old listed on the National Register are works of modern architecture or scientific facilities. State and local historic properties evaluation criteria generally adhere to National Register criteria, but with more emphasis on state and local significance.

Methodology for the Identification of Historic Structures and Archaeological Resources.

Background research for this investigation was conducted at the West Virginia Division of Culture and History in Charleston, Harpers Ferry National Park, and the Shepherdstown Public Library. Maps and information available on the Library of Congress web site were also consulted. Background research focused on examination of site files and technical

reports of previous investigations of archaeological and historic resources in the vicinity to assist in developing the historic context of the region. In addition, background research focused on Civil War activities that occurred in the area.

Field Methods

A USGS Quadrangle topographic map of Chares Town, WV was used to identify any standing structures within the project area. A field reconnaissance was then conducted in order to determine if any structures 50 years of age or older, exist within the Area of Potential Effects (APE). Previously documented historic structures and archaeological sites were identified through consultation with state and local agencies including the West Virginia Division of Culture and History and Harpers Ferry National Park.

The field survey consisted of a reconnaissance of the entire APE, during which all structures appearing to be 50 years or older were described, photographed, and mapped.

Project Area History

The project area has been historically characterized by farms, most of the land being open fields with hedgerows. Limestone quarrying, still carried out in the immediate area, has been a longstanding historic industry both to the east and west of the project area. The ridge within the project area south of U.S. 340 is known as School House Hill or School House Ridge. This ridge played a significant role in the 1862 battle at Harpers Ferry.

In 1862 the project area became part of the staging grounds for the siege and capture of Harpers Ferry, the first Confederate invasion of the North. The ridge along the eastern boundary of the current project area is known as School House Hill or School House Ridge. This ridge played a significant role in the 1862 battle of Harpers Ferry. After the 2nd battle of Manassas, General Lee sent three columns under the command of Thomas (Stonewall) Jackson to siege the Union garrison at Harpers Ferry, capture the town, and clear the way for a Confederate invasion of the North. As Union forces converged on Maryland Heights with two brigades, Confederates under the command of Brigadier Generals John G. Walker and Stonewall Jackson approached from the south at Loudoun Heights and from the West at School House Ridge. On the afternoon of September 14, 1862, Major General Ewell's division marched along the Charles Town Turnpike (U.S. 340) and camped along School House Hill on both sides of the Turnpike. On the night of the 14th, the entire division laid on their arms (rested for the night), and two brigades camped within the current project area. Confederate forces were ultimately positioned on high ground at Maryland Heights, Loudoun Heights, and School House Ridge. Batteries were placed in position on the crest of School House Hill on both sides of the turnpike. The Confederate batteries opened fire, but they experienced very little opposition. Inexperienced Union troops soon retreated and eventually surrendered.

3.3.1 ARCHAEOLOGICAL RESOURCES

Under contract to the U.S. Customs Service, Greenhorne & O'Mara, Inc. conducted a Phase I Archaeological Survey of the 104 acres (42 hectares) near Harpers Ferry in Jefferson County, West Virginia. The survey was conducted to identify all potentially significant

archaeological resources within the proposed Harpers Ferry Firearms Training Facility project area.

Research and the predictive model for archaeological sites suggested that there was moderate to high potential for the recovery of both prehistoric and historic archaeological resources in the project area. The potential for prehistoric resources varied across the project area based on topography and distance to water. Landforms with less than 10 percent slope and less than 100 meters (328 feet) from water were considered to have high potential for prehistoric resources. The potential for historic archaeological resources was considered high due to the presence of Confederate troops in the vicinity during the 1862 Battle of Harpers Ferry during the Civil War.

A total of 747 Shovel Test Pits (STPs) was excavated along transects established to systematically sample the project area. Each STP was 35 to 40 centimeters (cm) in diameter and was excavated in natural stratigraphic layers. Detailed notes on the excavations were made on field forms and then STPs were backfilled. In old agriculture areas with high ground visibility a controlled surface collection was conducted in order to identify artifacts brought to the surface during plowing.

In addition, a geomorphological analysis of the floodplain of Flowing Springs Run was conducted. Ten Deep Test Pits (DTP) were excavated to determine the potential for buried archaeological resources. The DTPs were excavated in the same manner as STPs, but were generally deeper due to the alluvial deposits associated with Flowing Springs Run. Soil profiles were closely examined in order to determine their age and depositional history.

The Phase I survey identified five prehistoric and nine historic isolated finds. The five prehistoric artifacts recovered from the project area included one projectile point, one biface, one uniface, and two debitage. The artifacts were not tightly clustered, and therefore do not represent archaeological sites. No prehistoric cultural features were identified. The prehistoric occupations of the project area appear to have been short-term events that did not result in significant archaeological remains. The prehistoric artifacts are not of sufficient quantity or quality to address research questions (e.g., lithic manufacturing technology). More importantly, the artifacts cannot be assigned to a specific culture period. Therefore they are not likely to contribute important information on prehistory and are recommended as ineligible for inclusion on the National Register of Historic Places (NRHP).

Thirteen historic artifacts were recovered from the project area. The artifacts were scattered through the eastern and central agricultural fields within the project area. The artifacts included a brick, two bullets, a two ceramics, an Indian head penny, four glass fragments, a horseshoe, a tobacco pipe stem fragment, and a piece of wire. The only artifacts likely related to the 1862 Battle of Harpers Ferry were the two bullets and possibly the tobacco pipe stem fragment. The sparseness of Civil War period artifacts may relate to the nature of troop movements (i.e., no substantial camps were built during the three day campaign), or be the result of an extensive artifact collecting tradition by Civil War relic hunters in the area. The remaining historic artifacts in the assemblage were not associated with historic domestic structures or foundations and appear to be only late 19th and 20th century refuse scatter.

The historic artifacts are not of sufficient quantity or quality to address research questions (e.g., Confederate troop lifestyles or battlefield strategies). In addition, the majority of the artifacts cannot be tightly dated and cannot be associated with known persons or events. These bullets were not found in close proximity to one another, nor were any historic features identified. Therefore the historic archaeological resources are not likely to contribute important information on history and are recommended as ineligible for inclusion on the NRHP.

3.3.2 HISTORIC PROPERTIES

The Area of Potential Effects (APE) for the project area extends approximately 500 feet beyond the east, west, and south project boundaries, and extends to the north side of U.S. 340 to the north. The project is located in a depression to the west of School House Ridge and has limited sight lines to the east. The western viewshed of the project is dominated by the limestone quarry industry. The topography also limits sight lines to the south. The visual character is abruptly interrupted by U.S. 340.

There are three properties listed on the National Register of Historic Places in the vicinity of the project area; however, they are all outside of the project APE. These properties are: the Halltown Union Colored Sunday School (Halltown Memorial Chapel) located on U.S. 340 in Halltown, WV; the Allstadt House and Ordinary, located in the southeast quadrant of the intersection of U.S. 340 and County Route 27; and Rion Hall, home of the Lucas Family and headquarters of General Philip H. Sheridan during the Civil War, located in the vicinity of Halltown.

The western boundary of Harpers Ferry National Historical Park, which contains the park's visitor's center and parking lot, lies approximately 4,000 feet east of the project APE. The historic and interpretive areas of the park are further northeast, on the north side of U.S. 340, approximately 1.5 miles from the project APE.

Four properties containing structures appearing to be 50 years or older were found within the project APE. These properties are depicted on Figure 3-7.

3.3.2.1 Allstadt Farmstead

The Allstadt Farmstead is not the same property as the Allstadt House and Ordinary. S. Howell Brown's *Map of Jefferson County, Virginia*, shows that in 1852, this property belonged to John H. Allstadt (Brown 1852). The property may have been occupied by members of the Allstadt family, or by tenants. Allstadt also owned the "Allstadt House and Ordinary", National Register site, northeast of this project area.

The Allstadt Farmstead consists of a frame dwelling, the remains of a stone dwelling, and several outbuildings. All structures are in ruins. The frame dwelling is practically invisible, being covered by vegetation. It is a 3x3-bay, balloon frame, two-story dwelling with an "L" shaped plan. It sits on a stone foundation. Siding is German style weatherboard, and it has a standing seam metal roof. All windows and doors have been removed, and most of the ornamentation and trim has long since disappeared. There are some brackets remaining on

the cornice line that suggest that the house was a vernacular Victorian style structure dating to the late 1800s. There is a small shed in ruins 60 feet north of this structure.

About 100 yards east of the frame dwelling lies a complex of outbuildings, including a shed, barn, and silo. These structures are also heavily buried under vegetation, and have very little physical integrity.

About 200 yards north of these structures stands the remains of a stone structure that appears to date from the early to mid 1800s. It appears to have been a 2 ½-story I-house constructed of limestone with interior gable chimneys at each side gable. The stone still has some of its original stucco. It appears that the house had an ell addition on its northwest corner. No windows or doors are extant. Although construction appears to date to the mid-1800s or earlier, one fireplace has machine-pressed brick that would date the house to the late 1800s, although the other fireplace appears older. This may represent a repair or renovation. However, there is no documentary evidence to support an earlier date for this house. Maps prior to 1880 do not show any house at this site.

A USGS map of the area from 1914 shows a different road configuration in the project area. The dirt road off Bloomery Road that leads to this property once continued north through what is currently agricultural fields, to meet U.S. 340. This map clearly shows the presence of two dwellings in the exact locations of the two dwelling sites found during this survey.

Although the frame dwelling may have been architecturally significant as an example of local vernacular Victorian architecture, it has lost too much of its physical integrity to meet National Register Criteria. All other structures on the property are in ruins, and are therefore also ineligible for the National Register for reasons of diminished integrity.

3.3.2.2 Rider Farmstead

Brown's map shows the Rider Farmstead as the farm of William Rider in 1852. Ownership appears to have remained in the Rider family during the mid-to-late 19th century. This property consists of a 3x2-bay brick farmhouse, four standing outbuildings, and several other ruins. The house is a 2 ½-story American Foursquare style house with a hip roof and front dormer. The brick is laid in common bond. All windows have long since been removed, and the front porch has collapsed. A small frame rear addition still survives. The addition has clapboard siding and standing seam metal roof. The 1914 USGS map depicts only one dwelling on this site. The outbuildings consist of three small one-story frame sheds with clapboard siding and asphalt roofs, and one small shed constructed with ceramic tile, having a frame hip roof with asphalt shingles.

South of the standing structures lies the ruins of two other outbuildings, possibly the remains of a barn and shed. Several hundred yards south of this complex rests the ruins of a single frame dwelling that appears to have been historically associated with this farmstead, and appears to pre-date the brick dwelling. All that remains standing is a small shed roofed addition section with clapboard siding. As with most other structures in this area of the APE, this structure is heavily covered with vegetation.

The 3x2-bay brick farmhouse on this property is an unremarkable example of the American Foursquare style and is not significant architecturally. In addition, it has lost a great deal of

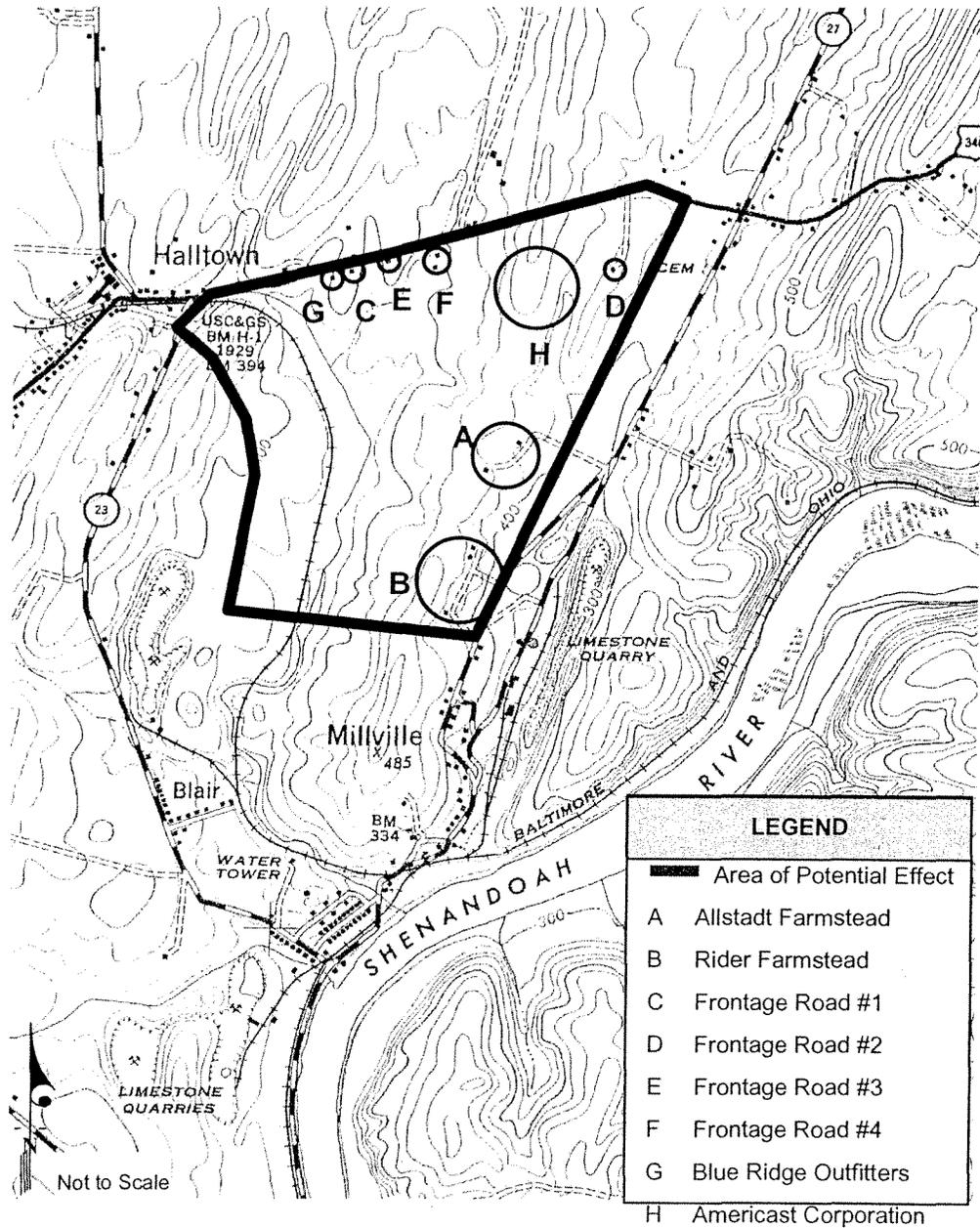


Figure 3-7. Project Area of Potential Effect (APE) and Surveyed Properties

Source: USGS Topographic map; Charles Town, W.VA, 1927.

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physical integrity from neglect and demolition. All windows have been removed, and the front porch has collapsed. Outbuildings on the property are unremarkable, and those that may have had some architectural significance are in ruins, and thus do not meet National Register Guidelines.

3.3.2.3 Frontage Road Property # 1

Frontage Road Property #1 lies on Frontage Road. It consists of a single dwelling and a number of outbuildings. The dwelling is a frame, 3x2 bay original structure with a 1x2-bay frame wing attached to both the east and west gable ends. It is a Colonial Revival style structure, constructed in 1940, according to its owner. It sits on a brick foundation. Windows are 6/6 double hung wood sashes. A single brick chimney pierces the roof that is clad with asphalt shingles. The house was sided with vinyl in the early 1990s, which is when the wings were added to the house, according to its owner.

To the rear of the property lies four outbuildings. Three are frame, and the fourth is a metal, pre-fabricated style garage. The frame buildings consist of a pole barn with aluminum vertical siding, a small frame shed, also having aluminum siding and corrugated metal roof, and the ruins of another frame shed. The ruins a fourth outbuilding lies at the southeast corner of the property, and consists only of a concrete slab foundation.

The dwelling on this property, a Colonial Revival style structure, is not an architecturally significant representative of its type. It was constructed in 1940, rather late for this stylistic type, and it has suffered from many renovations and alterations including window replacements and the addition of vinyl siding, as well as the addition of an attached garage in the late 20th century, which is inappropriate for this architectural style. The outbuildings associated with this property are not architecturally or historically significant. This property is therefore not eligible for the National Register of Historic Places.

3.3.2.4 Frontage Road Property # 2

Frontage Road Property #2 lies on the south side of Frontage Road, immediately east of Americast Corporation. The dwelling is constructed in the American Foursquare style and appears to date to the early 20th century. Sitting on a limestone foundation, it is a 2 ½-story, 3x2-bay brick dwelling with a hip roof having asphalt shingles on the main roof, and metal standing seam on the porch. A chimney lies on the exterior of the east façade of the house. Windows are 1/1 double-hung wood sashes. The house sits on a rise and is well screened by large trees. The house has a front porch with wood floor and stone posts that support a shed roof. The rear of the house has a small, enclosed porch with shed roof. Outbuildings consist of four small frame structures including an outhouse, two sheds, and a small garage.

The American Foursquare style house is not an architecturally significant example of its type, and is not associated with any historically significant events of persons. The American Foursquare style is an extremely common style, and only the best examples should be considered for inclusion in the National Register of Historic Places. It does not appear to be a noteworthy example of this style, as it has had minor additions and alterations including the enclosure or the rear porch and replacement of original roofing material with asphalt.

Outbuildings consist of four small frame structures including an outhouse, two sheds, and a small garage. It is therefore, not eligible for the National Register of Historic Places.

3.4 INFRASTRUCTURE

3.4.1 WATER SUPPLY

There are no existing public or private water systems in the immediate vicinity of the project area. The nearest system is at Harpers Ferry located about 2 miles to the east on the other side of a 180-foot high ridge.

There is a private system proposed for "Murphy's Landing" development located north of the project area across U.S. 340.

Wells in the area generally average 60 to 90 gpm in the 150-foot depth range or greater (Keyes Condon Florance Architects, 1990). The Jefferson County Engineer described the aquifer as "healthy" and stated that there should be no problem obtaining water in this area. (Personal Communication, Loughland, 2001).

3.4.2 SEWAGE

There are no existing public or private sewer systems in the immediate vicinity of the project area. The nearest system is at Harpers Ferry located about 2 miles to the east on the other side of a 180-foot high ridge. There is a private system proposed for the "Murphy's Landing" development located north of the project area across U.S. 340. Public systems have been proposed for other nearby areas such as Millville and Halltown, but nothing has been approved or funded (Personal Communication, DeHaven, 2001).

3.4.3 ELECTRICAL POWER AND NATURAL GAS

Allegheny Power overhead electric distribution lines exist to the north and east of the project area (see Figure 3-8). Three-phase service is available along U.S. 340 and Frontage Road to the north and single-phase service is available along Bloomery Road, located, at its closest point, 1,200 feet east of the project area. (Allegheny Power, 2001).

There are no natural gas lines in the area.

3.4.4 COMMUNICATION

There is an existing fiber-optic cable line owned by Citizens Communications along U.S. 340 (see Figure 3-9) (Citizens Communications, 2001).

3.4.5 WASTE MANAGEMENT

No wastes are currently generated on the project area. Three debris piles were located in the northern portion of the project area near the adjacent Americast property boundary.

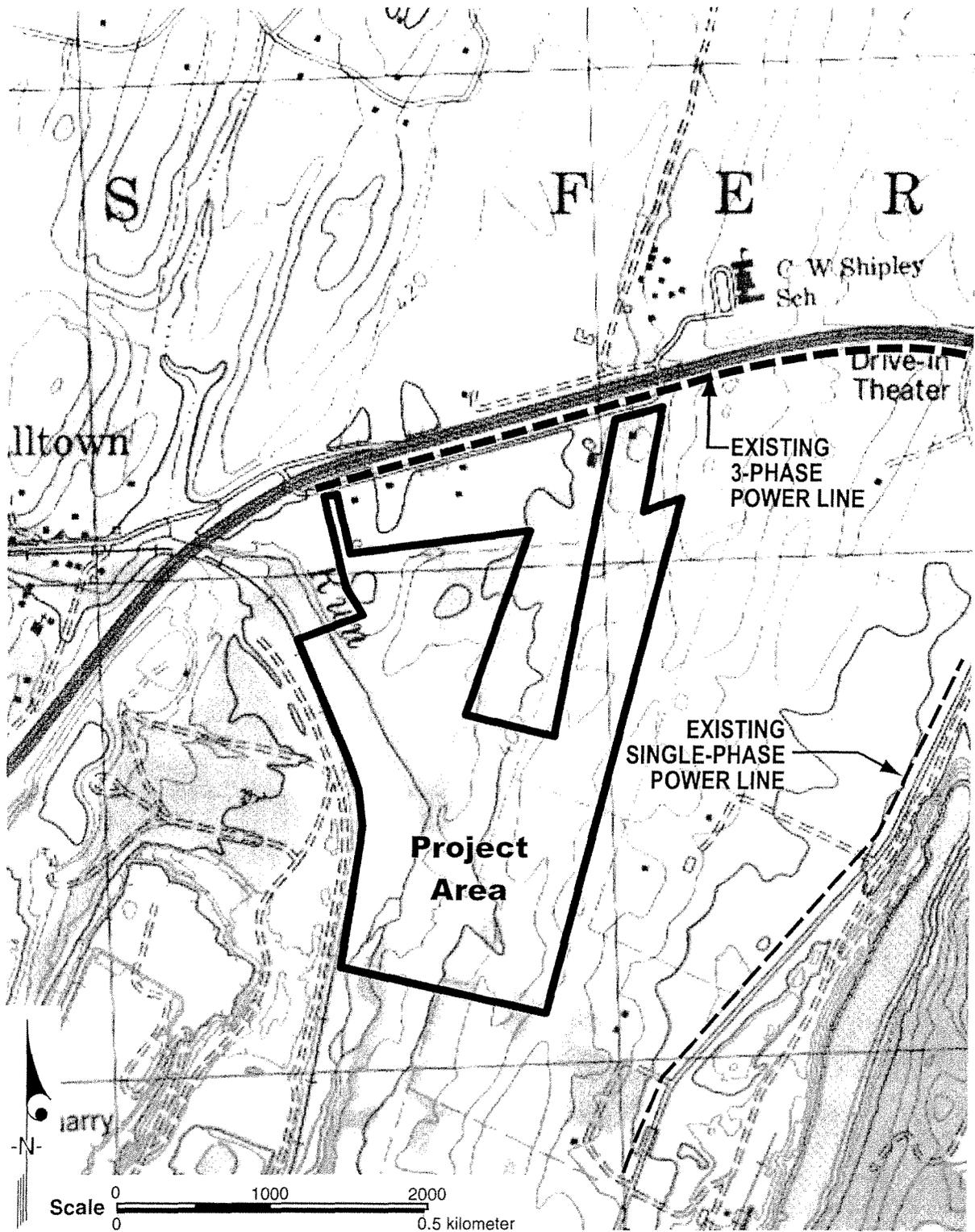


Figure 3-8. Electric Power Lines

Source: USGS Topographic map; Charles Town, W.VA-VA-MD, 1978.

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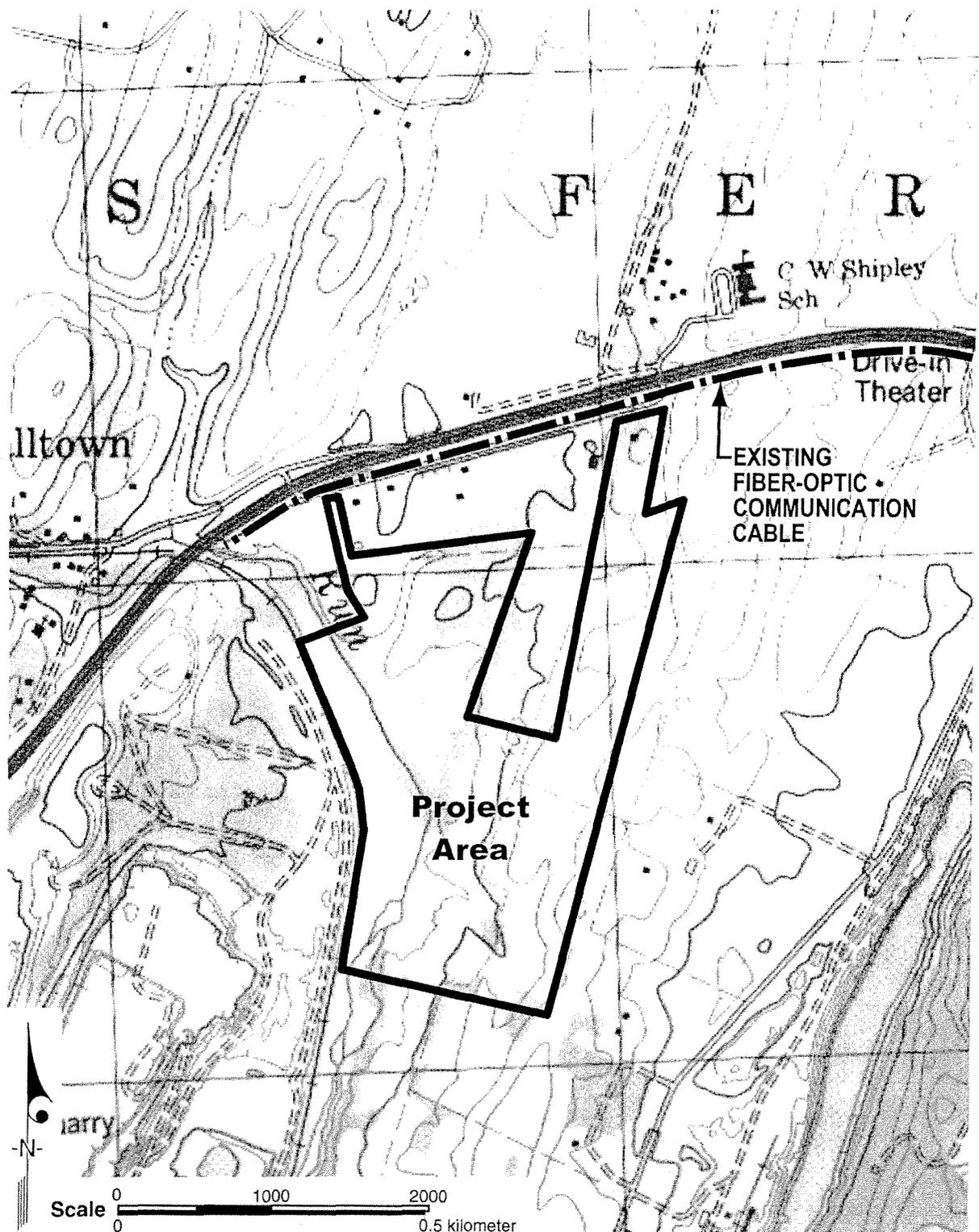


Figure 3-9. Fiber Optic Communication Line

Source: USGS Topographic map; Charles Town, W.VA-VA-MD, 1978.

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3.4.6 TRAFFIC AND TRANSPORTATION

The project area is located on the south side of U.S. 340 in Harpers Ferry, West Virginia between State Route 27 and State Route 23. Through this section, U.S. 340 is a four-lane divided highway with 10 to 12 foot shoulders and a grass median. Median openings are provided at the two intersections with Frontage Road. The nearest signalized intersection is to the east at S.R. 27 approximately one-half mile from the proposed entrance to the project area. Access is limited through the section with service roads along the north and side providing access to the adjacent land uses. The only facility located on the southern frontage road is a concrete plant, which does generate a number of truck trips.

3.4.6.1 Traffic Operations

As all access to the project area would be from U.S. 340, the study area was limited to the section of U.S. 340 between State Route 230 and Shipley School Road. The traffic operations near the project area were evaluated by calculating the level of service along U.S. 340 using HCS-2000 software. The term "level of service" is used to indicate the quality of traffic flow on an open highway or at an intersection and is reported on a alphabetical scale of "A" to "F". Level of service A represents free flow traffic conditions; level of service E represents operations at the theoretical capacity; and level of service F represents system failure with resultant stop and go conditions and long delays.

Traffic data obtained from West Virginia Department of Transportation indicates that in 1999 the average daily traffic on this section of roadway was approximately 22,500 vehicles per day. The two way AM and PM peak hour volumes were 1,476 and 1,895 respectively. An analysis of this section of roadway was performed using HCS 2000 software. Based on a 60 percent peak hour directional distribution, this section of roadway operates at a level of service B.

Accident data was also obtained from WVDOT for the period from January 1, 1998 thru December 31, 2000. The data was for the section of U.S. 340 between S.R. 27 and S.R. 230, a distance of 0.8 miles. Over the three-year period, 32 accidents were recorded with 15 injury accidents. The accident rate for this section is 165 accidents/hundred million vehicles miles (hmvm). This is higher than the statewide average rate of 103 accidents/hmvm for rural primary four lane highways. Of the 32 accidents, 65 percent occurred at intersections with the majority of these at unsignalized intersections.

3.4.6.2 Transit Operations

Transit is limited within the corridor. According to the Jefferson County Comprehensive Plan, the only service is PanTran that provides bus service within the City of Martinsburg and between Martinsburg and other locations in Jefferson County including Charles Town and Harpers Ferry. Transit is not considered to be a major mode of transportation and for purposes of our analysis, all trips were assumed to arrive by automobile.

3.4.6.3 Pedestrian/Bicycle Facilities

There are no sidewalks or bicycle facilities in the immediate area of the project area. Cyclists could use the shoulders along U.S. 340.

4 ENVIRONMENTAL CONSEQUENCES AND MITIGATION

4.1 NATURAL AND PHYSICAL ENVIRONMENT

4.1.1 GEOLOGY, TOPOGRAPHY, AND SOILS

4.1.1.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area and no direct, indirect, or cumulative adverse effects on the geology, topography or soils of the project area would occur. Soils on the approximately 20 acres of agricultural land that was taken out of production with the transfer of the property to U.S. Customs Service would likely remain uncultivated, but could be made available again for cultivation. Soils on the remainder of the project area would continue undisturbed.

4.1.1.2 Alternative A

Direct Impacts

Construction of the training center would have no effect on the geology and topography of the area. Transfer of property for the training center has directly removed approximately 24 acres of soil from agricultural production. Soils on approximately 40 to 45 acres would be disturbed by site construction for roads, facilities, and infrastructure. Construction in areas with steep slopes, particularly along the eastern portion of the project area, would contribute to erosion and would require mitigative measures to stabilize soils.

Under Alternative A, approximately 8 acres of prime farmland soils and 8 acres of statewide important farmland would be removed from potential agricultural use; these soils are currently fallow and have not been used for agricultural purposes for many years. Because these soils would be impacted, Parts I, III, and VI of the Farmland Conversion Impact Rating form (Form AD-1006) was completed. The form was submitted to the Natural Resource Conservation Service for completion of Parts II, IV, and V as required (see Appendix A, Agency Correspondence). To date, NRCS has not completed the rating form.

Temporary impacts may include soil erosion loads from construction activities.

Indirect Impacts

An indirect effect of this alternative would be revegetation and stabilization of soils that have been subject to many years of agricultural usage.

Under Alternative A, the firing ranges will consist of four indoor firing ranges and one outdoor baffle range. Lead waste from the outdoor firing range could indirectly contaminate soils on the site. Without proper controls, lead waste could migrate from the outdoor firing

range through stormwater runoff into soils. Lead presents risks because of its toxicity and its ability to persist once it enters the environment.

The outdoor range will be designed to accommodate the firing of leaded ammunition. All of the ranges will have self-contained bullet containment systems. The containment systems incorporated in the ranges will capture the fired projectiles into specially designed bins, which at the appropriate time will be packaged and properly disposed of as hazardous materials.

Cumulative Impacts

No cumulative impacts are anticipated for this alternative.

Mitigation Measures

Subsurface engineering studies will be undertaken prior to design and construction to ensure that sound building practices are followed. Soil suitability will be determined and appropriate building foundation specifications will be developed.

A sediment and erosion control plan will be implemented to minimize soil erosion during construction, as required by the Jefferson County Subdivision Ordinance and the West Virginia Erosion and Sediment Control Handbook for Developing Areas published by the U.S. Soil Conservation Service (Jefferson County 1979).

The following mitigation measures could be implemented to further reduce the potential for lead contamination of soils:

- Design the roof of the outdoor firing range to capture rainwater and divert it away from the range before it reaches the range floor where lead residue may be present.
- Periodically remove spent bullets from bullet traps and place spent bullets in approved DOT containers for disposition.
- Periodically clean the range walls, floor and ceiling, baffles, bullet traps, and targets utilizing equipment such as a HEPA vacuum or by wet mopping/wipes. Wastewater from cleanings will be collected in DOT approved containers for testing, transportation, and disposal.

4.1.1.3 Alternative B

Direct Impacts

Construction of the training center would have no effect on the geology and topography of the area. Transfer of property for the training center has directly removed approximately 24 acres of soil from agricultural production. Soils disturbed by site construction of roads, facilities, and infrastructure would be less than that impacted by Alternative A. Construction in areas with steep slopes, particularly along the eastern portion of the project area, would contribute to erosion and would require mitigative measures to stabilize soils.

No prime farmland soils or statewide important farmland would be affected by this alternative.

Indirect and Cumulative Impacts

Indirect and cumulative impacts under Alternative B would be the same as those described under Alternative A.

Mitigation Measures

Mitigation measures under Alternative B would be the same as those listed under Alternative A.

4.1.2 WATER RESOURCES

4.1.2.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area and no direct, indirect, or cumulative adverse effects to surface water or groundwater qualities in the project area would occur.

4.1.2.2 Alternative A

Direct Impacts

Alternative A would not directly affect surface water bodies, including Flowing Springs Run. No construction in or near the stream is anticipated under this alternative. The perimeter security fence would cross over Flowing Springs Run

Construction of the training center is not expected to have any impact on groundwater. Construction would avoid, or prevent surface runoff to, any sinkholes or other surface openings that could provide runoff or contaminants routes from the surface through the bedrock to subsurface water. Hydrologic testing would determine if sufficient groundwater is present to support operating the training center and to determine the best placement of wells. If groundwater is present, it would not be used for the training center unless it is deemed to be sufficient quantity to support the facility without detriment to the surrounding area; and, therefore, no impact to local or regional groundwater would be expected. If testing indicates that inadequate groundwater is present, there would be no extraction of groundwater and no impacts would occur. Any test wells would be sealed prior to abandonment to prevent subsurface contamination from the surface environment.

Indirect Impacts

Implementation of Alternative A could indirectly adversely impact Flowing Springs Run water quality and aquatic biota of the stream. Construction of buildings, parking lots, access drives, and sidewalks will result in an increase of impervious area on the project area.

Impervious surfaces can decrease groundwater recharge. Overall, however, groundwater reduction is expected to be minimal even though there is an increase in impervious area. Increases in impervious surfaces can also increase the volume of surface water runoff during precipitation events. As a result, peak flows in area streams may increase and base flows may decrease. High flows can cause erosion of stream banks and scouring of the streambed. Increased surface water runoff may also increase in-stream water temperatures affecting stream organisms. Temporary impacts from soil erosion during construction may include slight increases in sediment loads and turbidity.

Indirect impacts to groundwater quality may occur as a result of landscape maintenance, which may result in percolation of pesticides and nutrients, especially nitrogen, to the groundwater. Groundwater quality may be impacted by leaks, spills, or other releases of potential contaminants from facility operations; however, stringent waste management procedures will be implemented to prevent the possibility of contamination.

Under Alternative A, the firing ranges will consist of four indoor firing ranges and one outdoor baffle range. Lead waste from the firing ranges could indirectly affect water quality on the site. Without proper controls, lead waste could migrate from the firing ranges through wastewater and stormwater runoff into groundwater and surface waters. Lead presents risks because of its toxicity and its ability to persist once it enters the environment.

Only lead-free ammunition will be fired in three of the four indoor ranges. The remaining indoor range and the outdoor range will be designed to accommodate the firing of leaded ammunition. All of the ranges will have self-contained bullet containment systems. The containment systems incorporated in the ranges will capture the fired projectiles into specially designed bins, which at the appropriate time will be packaged and properly disposed of as hazardous materials.

Cumulative Impacts

Additional development in the vicinity of the project area, in addition to the proposed project, may lead to a further reduction in groundwater recharge and an increase in the potential for groundwater contamination. This development may also lead to increased sedimentation and pollutants in the storm water runoff. Stormwater management controls required by Jefferson County for all new development will help to mitigate these impacts.

Mitigation Measures

A stormwater collection system along the new roads and parking areas will be constructed utilizing a combination of roadside ditches and underground pipes. Jefferson County requires that storm drain pipes be designed to handle a 10-year storm.

Because construction will disturb more than three acres, the West Virginia Department of Environmental Protection will require construction permitting. The State does not have set requirements for stormwater management, but usually recommends control of the 2-year storm through detention/retention ponds. In the case of Jefferson County, the State defers review and approval of stormwater management measures to the County (Personal communication, Hardman, 2001).

Mitigation for the increase in impervious area can be achieved by the use of water quality devices such as infiltration devices, bioretention facilities, sand filters, and other detention/settling devices, to capture stormwater runoff, before release to stream system or the subsurface, and divert it to the subsurface. The design for water quality devices in the project area will be based on the first 1/2 inch of runoff from imperviously paved areas (Personal Communication, Loughland, 2001) (Jefferson County, 1979). The project area is located in a Karst terrain region, which is an irregular limestone region with sinks, underground streams, and caverns. Standard water quality measures, such as infiltration, may not be appropriate because pollutants may enter directly into the water table (Personal Communication, Loughland, 2001) (Jefferson County, 1979). Therefore, stormwater management measures will be designed using appropriate runoff calculation methods, and alternative quality measures, such as sand filter structures, may be used.

Devices to control stormwater quantity are normally required to be designed for the 2-year and 10-year storm. However, quantity measures may not be required for the proposed project because the project area is close to the mouth of the Shenandoah River. If quantity measures are required, they will most likely be minimal due to the terrain. A variance may be granted to allow the quality measures to also satisfy the quantity control (Personal Communication, Loughland, 2001).

Sediment and erosion control plans will be developed and implemented during construction to minimize the potential for increased sediment laden runoff. Sediment and erosion control plans will be designed according to the West Virginia Erosion and Sediment Control Handbook for Developing Areas, published by the U.S. Soil Conservation Service, and will be reviewed and approved by Jefferson County.

The following mitigation measures could be implemented to further reduce the potential for impacts to surface water and groundwater:

- The use of pervious road and driveway materials would minimize the impervious surface associated with the facility and subsequently the potential impacts of stormwater runoff and overland flow.
- The use of native plant species that are adapted to local soil conditions, and resistant to diseases and insects can decrease the amount of pesticides and fertilizers used and thus entering surface water and groundwater.
- The use of Integrated Pest Management, such as applying pesticides in natural habitat areas only when necessary to protect human health or to prevent loss of significant resources, can also decrease the potential for contaminating surface water and groundwater.

If the facility's security fence crosses Flowing Springs Run, maintenance will be required to remove debris that could impede the flow of the stream and wildlife movement.

The following mitigation measures could be implemented to further reduce the potential for lead contamination of groundwater and surface water:

- Design the roof of the outdoor firing range to capture rainwater and divert it away from the range before it reaches the range floor where lead residue may be present.
- Periodically remove spent bullets from bullet traps and place spent bullets in approved DOT containers for disposition.
- Periodically clean the range walls, floor and ceiling, baffles, bullet traps, and targets utilizing equipment such as a HEPA vacuum or by wet mopping/wipes. Wastewater from cleanings will be collected in DOT approved containers for testing, transportation, and disposal.

4.1.2.3 Alternative B

Direct, Indirect, and Cumulative Impacts

Impacts associated with Alternative B would be the same types discussed under Alternative A. However, because under Alternative B the dormitory and cafeteria would not be built, there would be less impervious surface created and thus slightly less potential for impacts to surface water.

Mitigation Measures

Mitigation measures under Alternative B would be the same as those for Alternative A.

4.1.3 WETLANDS

4.1.3.1 No Action Alternative.

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area and no direct, indirect, or cumulative adverse effects to wetlands in the project area would occur.

4.1.3.2 Alternatives A and B

Direct, Indirect, and Cumulative Impacts

Under Alternative A, no construction or operational activities are proposed within the wetland boundary of Flowing Springs Run. The U.S. Customs Service has obtained a jurisdictional determination for the 60-acre government-owned parcel from the U.S. Army Corps of Engineers. The determination does not include the additional narrow band of wetlands along Flowing Springs Run within the 37-acre parcel. Stormwater runoff from construction would be controlled through implementation of a sediment and erosion control plan to minimize impacts to stream and wetlands.

Mitigation Measures

Implementation of a sediment and erosion control plan during construction will minimize sedimentation in the wetland areas.

4.1.4 VEGETATION AND WILDLIFE

4.1.4.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area and no direct, indirect, or cumulative adverse effects to vegetation or wildlife in the project area would occur.

There would be no changes in activities that would affect these resources. The approximately 24 acres of agricultural land that was taken out of production with the transfer of the property to the U.S. Customs Service would likely remain uncultivated. It would become revegetated with grasses, forbs and other early successional vegetation and provide additional wildlife habitat. This area could be made available again for cultivation.

4.1.4.2 Alternative A

Direct Impacts

Under Alternative A, construction of the proposed training facility would result in disturbing and clearing portions of the 104-acre project area. It is anticipated that approximately 10 acres of forested land would be cleared, approximately 12 acres of scrub shrub would be disturbed, and approximately 15 acres of grassland and edges (ecotones) would be disturbed by construction activities. Construction of access and circulation roads on site would require additional clearing and disturbance of scrub shrub and approximately 1 to 2 acres of forested habitat.

Construction of a man-made lake for use at the proposed Seaport Training area would create new habitat for wildlife such as waterfowl.

Wildlife associated in the vicinity of the project area would be displaced and others would be disturbed by the activities and noise associated with construction. Affected species include eastern cottontail, gray squirrel, whitetail deer, red fox, mourning dove, cardinal, and hawks. Wildlife associated with the wetlands, e.g., raccoon, beaver, wood duck, would be only minimally affected by construction activities.

Indirect Impacts

Wildlife would be indirectly affected by implementation of Alternative A. Erection of a fence surrounding the training center would alter movement of medium and large size mammals. Construction activities on the site should frighten large animals such as deer away, thus limiting the number left within the site after it is fenced. Any animals contained within

the facility boundary when the fence is completed and too large to pass through the fencing may, over time, pose wildlife management problems within the facility if population management programs are not implemented. Some species, such as fox, raccoon, and groundhog, may be able to dig under the fencing, depending on the construction methods used. If larger species, particularly deer, remain inside the boundary when the fence is completed, they may need to be trapped and relocated outside of boundary; the U.S. Fish and Wildlife Service or the West Virginia Division of Natural Resources could provide expertise or assistance in accomplishing this. Beaver populations could also pose problems within the boundary if the methods used in constructing security barriers across Flowing Springs Run prevent emigration of any beaver contained within the fenced boundary. Wildlife agencies could also assist in controlling beaver populations, if necessary.

Noise from firing range operations may initially have some disruptive effect on wildlife, but it is expected that wildlife would soon become acclimated to the noise with little continuing adverse effect. Firing range design would minimize noise impacts on wildlife and other environmental components. Operation of the facility would have minimal effect on wildlife on or adjacent to the project area.

Cumulative Impacts

Cumulative impacts to vegetation and wildlife from the development of the project area and surrounding properties could include a regional loss of wildlife habitat and a decrease in the volume and diversity of both vegetation and wildlife.

Mitigation Measures

4.1.4.3 If the facility's security fence crosses Flowing Springs Run, maintenance will be required to remove debris that could impede the flow of the stream and wildlife movement. Alternative B

Direct Impacts

Under Alternative B, construction of the proposed training facility would result in disturbing and clearing portions of the project area. Within the 60-acre federally-owned site, it is anticipated that approximately 9 acres of forested land would be cleared and approximately 8 acres of scrub shrub would be disturbed by construction activities. Construction of access and circulation roads on site would require additional clearing and disturbance of scrub shrub and approximately 1 to 2 acres of forested habitat.

Construction of a man-made lake for use at the proposed Seaport Training area would create new habitat for wildlife such as waterfowl.

Wildlife associated in the vicinity of the project area would be displaced and others would be disturbed by the activities and noise associated with construction. Affected species include eastern cottontail, gray squirrel, whitetail deer, red fox, mourning dove, cardinal, and hawks. Wildlife associated with the wetlands, e.g., raccoon, beaver, wood duck, would be only minimally affected by construction activities.

Indirect Impacts

As described in Alternative A, wildlife would be indirectly affected by implementation of Alternative A. Erection of a fence surrounding the training center would alter movement of medium and large size mammals.

Cumulative Impacts

As with Alternative A, under Alternative B, cumulative impacts to vegetation and wildlife from the development of the project area and surrounding properties could include a regional loss of wildlife habitat and a decrease in the volume and diversity of both vegetation and wildlife.

Mitigation Measures

If the facility's security fence crosses Flowing Springs Run, maintenance will be required to remove debris that could impede the flow of the stream and wildlife movement.

4.1.5 THREATENED, ENDANGERED, AND SENSITIVE SPECIES

4.1.5.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area and no direct, indirect, or cumulative adverse effects to threatened, endangered, or sensitive species would occur.

4.1.5.2 Alternatives A and B

Direct Impacts

No adverse impact on state or federally listed species is expected under Alternative A or Alternative B. No state-listed species are expected to occur on the project area. The Indiana bat is the only federally listed species that may occur in the project area. It is anticipated that approximately 11 to 12 acres of forested land would be cleared under Alternatives A or B. Any Indiana bats utilizing the project area would not be significantly adversely affected by the removal of approximately 11 to 12 acres of forested habitat as FWS considers disturbance of less than 17 acres of suitable (i.e., forested) habitat unlikely to adversely affect the Indiana bat (FWS, 2000, 2001).

Indirect and Cumulative Impacts

No indirect or cumulative impacts are anticipated with the No Action Alternative.

Mitigation Measures

Once the project components are finalized, if more than 17 acres are determined to be cleared, then the U.S. Customs Service will either conduct mist net surveys on site or plan for

the removal of trees to occur during the Indiana bat's winter hibernation period between November 15th through March 31st.

4.1.6 ENVIRONMENTAL CONTAMINATION

4.1.6.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area. No contaminants, other than solid waste debris piles, were found during the Environmental Site Assessment that would require remediation.

4.1.6.2 Alternatives A and B

Direct Impacts

The Environmental Site Assessment (PMC Environmental, 2001) conducted on the project area did not identify any further environmental contamination that would lead to direct, indirect or cumulative environmental impacts.

Indirect and Cumulative Impacts

Without proper controls, lead waste from the firing ranges could result in environmental contamination. Potential impacts from lead contamination are described in Section 4.1.1, Geology, Topography, and Soils; Section 4.1.2, Water Resources; and Section 4.1.7, Air Quality.

Mitigation Measures

Mitigation measures to prevent lead contamination are discussed in Section 4.1.1, Geology, Topography, and Soils; Section 4.1.2, Water Resources; and Section 4.1.7, Air Quality.

The Phase II ESA recommends that the solid waste debris piles be removed and disposed of properly. No groundwater samples were collected because groundwater was not encountered in any of the soil borings. Therefore, if potable water wells are installed, additional research and characterization is recommended to characterize groundwater conditions under the project area.

4.1.7 AIR QUALITY

4.1.7.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area and no direct, indirect, or cumulative adverse effects to air

quality in the project area would occur. It is anticipated the area would remain in attainment for NAAQS.

4.1.7.2 Alternatives A and B

Direct Impacts

Intersections that operate at level of service D or worse are the most likely to generate CO concentrations. Intersections that are projected to operate at level of service D or better are not typically modeled for CO concentrations. Upon a review of the traffic projections for this facility, it has been determined that there is little potential for air quality impacts as a result of this proposed use. Traffic volumes are below the level at which a signalized intersection would be needed at the Frontage Road and U.S. 340.

Under Alternatives A and B, the firing ranges will consist of four indoor firing ranges and one outdoor baffle range. Airborne lead dust at an outdoor firing range could directly affect air quality in the immediate area of the range. Lead dust in indoor firing ranges can negatively affect air quality. Inhalation of lead dust can place employees and trainees at risk for lead poisoning (see Section 4.2.6, Public Health and Safety for additional information on potential impacts to human health).

Only lead-free ammunition will be fired in three of the four indoor ranges. The remaining indoor range and the outdoor range will be designed to accommodate the firing of leaded ammunition. Enhanced air emission control systems will be incorporated into each indoor range design to mitigate the possibility of any airborne contaminants entering the environment. As an additional safeguard, periodic air samples of mowing operations surrounding the ranges will be taken.

All of the ranges will have self-contained bullet containment systems. The containment systems incorporated in the ranges will capture the fired projectiles into specially designed bins, which at the appropriate time will be packaged and properly disposed of as hazardous materials.

Indirect and Cumulative Impacts

No indirect or cumulative impacts to air quality are anticipated under Alternatives A and B.

Mitigation Measures

The following mitigation measures could be implemented to further reduce the potential for airborne lead:

- Periodically remove spent bullets from bullet traps and place spent bullets in approved DOT containers for disposition.
- Periodically clean the range walls, floor and ceiling, baffles, bullet traps, and targets utilizing equipment such as a HEPA vacuum or by wet mopping/wipes. Wastewater

from cleanings will be collected in DOT approved containers for testing, transportation, and disposal.

- Periodically replace and dispose exhaust ventilation filters in accordance with all applicable regulations.

No further mitigation measures are proposed for air quality under Alternatives A or B.

4.1.8 NOISE

4.1.8.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area and no direct, indirect, or cumulative adverse effects to noise levels in the project area would occur.

4.1.8.2 Alternatives A and B

Direct Impacts

Construction of the proposed training center would have direct impacts on noise levels in the immediate vicinity of the project area. The proposed firearms training facility would be located in a rural, but not isolated location. As stated in Section 3.1.8, Noise, current noise sources in the vicinity of the project area include quarry and other industrial operations, U.S. 340 and railroad lines.

A number of factors can be considered in establishing impact criteria: hearing loss, annoyance, sleep disturbance, and speech interference. Due to differences between individuals, or the same person at different ages, it is difficult to establish specific numeric standards. The Occupational Safety and Health Administration (OSHA) developed regulations which assume that exposure to noise levels below 85 dBA has no risk of noise-induced hearing loss, and exposure to levels at or below 90 dBA for an eight-hour workday is acceptable. Annoyance may relate to the activity that is affected and to characteristics of the noise other than the level. In one study, about 14 to 21 percent of the people who were engaged in communication activities (e.g., watching television, talking on the phone) were disturbed by a given noise interference; about 10 to 12 percent of those who were relaxing were affected; about 8 percent of those who were sleeping were affected; and, about 4 percent of those who were eating were affected. Therefore, speech interference sets the most stringent impact criteria. One study indicates that 80 percent of the population are unaffected during sleep by levels of 69 dBA and that 60 percent are unaffected by levels of 85 dBA. Noise levels of 65 dBA or less generally have no affect on conversation.

Traffic is the most common source of community noise. For this reason, assessment of noise impacts is an important consideration of Federally-funded highway location studies. For residential areas, the Federal Highway Administration (FHWA) mandates mitigation consideration if the predicted outdoor equivalent noise levels approach or exceed 67 dBA in

the peak hour or if a substantial increase is predicted. In many states, "approach" 67 dBA is interpreted to be a level at or above 66 dBA, and noise mitigation must be considered for any project in an area where the predicted future noise level is 66 dBA or higher, even if the existing level already exceeds that criterion. Furthermore, there are varied definitions "substantial increase" typically involving changes of 10 to 15 dBA above the existing levels.

The Department of Housing and Urban Development (HUD) has established regulations defining three categories. It will fund projects in areas where the outdoor day-night noise levels are 65 dBA or lower. Projects are normally unacceptable in areas with levels between 65 dBA and 75 dBA, but they can be built with mitigation features. Areas with levels above 75 dBA are unacceptable.

Similarly, the Federal Aviation Administration considers an outdoor day-night noise level below 65 dBA to be acceptable for residential communities. A variety of abatement actions can be considered.

As noted above, the "worst case" one-hour equivalent level in many settings will be approximately equal to the day-night level. Therefore, these Federal agencies have adopted comparable standards for residential areas.

Firing range noise can vary depending on the number and type of weapons being utilized, and even depending on the ammunition. The levels at a given location will be affected by the proximity to the firing positions. In addition, the level of noise impacts at different locations may be affected by meteorological conditions and terrain. An attempt was made to develop a generalized estimate that would represent the likely "worst case" conditions at the proposed facility. To establish this worst case, noise levels were analyzed assuming all of the firing ranges would be outdoor ranges. Construction of indoor ranges would result in lower noise impacts.

Under current design plans, the proposed range will include a total of 105 firing positions, including 90 handgun and 15 rifle positions. It is expected that no more than 30 positions would be active at any one time. A variety of handguns and rifles are considered for potential use. Following is the methodology used to assess the noise impacts associated with the firing ranges.

Several references plus unpublished data were reviewed to determine appropriate source levels to use for estimating noise levels from the use of the proposed weapons. The available data represented a reasonable sample of the proposed weapons. While the different sources presented the data in different formats that made absolute comparisons difficult, there appeared to be a general consistency. A small caliber rifle produced the lowest levels, but larger handguns and rifles had similar reported levels (Chiang, 1993). Also, due to the spectral distribution of the sound, the levels are very similar whether reported in unweighted or A-weighted decibels. Following this review, it was determined that a reference level of 135 dB measured at a distance of 3 feet would be used to characterize the firing of a single weapon.

Next, the evaluation considered the levels at greater distances. When considered at a relatively close distance, it is likely that noise propagation from a firing line would act like a line source. However, with increasing distance, the firing could be treated as a point source. One reference (Mak et al., 1991) estimated that for a range with 33 firing positions, the transition to point source propagation occurs at a distance of about 100 feet. Therefore, it has been assumed that this facility will function in that way for any site on neighboring properties. Given the existing vegetative cover in the area, it has also been assumed that there is further attenuation due to ground effects. With the relatively proximity for the sites that were evaluated, meteorological effects have been ignored. Meteorological conditions can be highly variable and the effects of these conditions are generally small compared to the dissipation of noise due to distance.

While up to 30 firing positions are expected to be active at any one time, it is unlikely that all of the weapons would be discharged simultaneously. However, for this evaluation, the reference level has been increased assuming that all 30 guns release peak levels at the same instant.

One study on firing range noise (Mak et al., 1991) suggests several methods for estimating the effects of berms along the noise propagation path. Two of those analytical methods were applied to determine what effect an existing small ridge along the eastern boundary of the project might have in reducing noise levels at neighboring properties (Mak et al., 1991). Noise propagation paths were estimated using USGS mapping to determine distances and to approximate elevations. The two methods have different analytical assumptions (e.g., one considers the differential effects related to frequency distribution while the other does not). Nevertheless, for the several paths that were considered, there is strong agreement in the computed noise reduction. Depending on the path, it has been estimated that the ridge would reduce levels by about 6 to 12 dBA.

Two general locations have been used to estimate the potential "worst case" noise impacts from the firing ranges. One is a Residential Growth District about 2,500 feet to the northeast of the proposed firing range. The other is a residential strip in a Rural District about 2,000 feet to the southeast. This second location has better screening from a small ridgeline that follows the eastern property line. For both locations, the most stringent noise requirements from the County Zoning Ordinance have been applied. With the zoning, land abutting the proposed U.S. Customs Service property in the vicinity of the firing range does not have any noise restrictions. Therefore, these sites are considered to represent the "worst case" potential for noise impacts.

Given the assumptions listed above, a level of 56 dBA has been predicted for the Residential Growth District site. For the Rural District, a level of 54 dBA has been predicted. Both of these levels are below the 60-dBA daytime standard for noise levels. It is quite possible the gunfire would be masked by other sources. While it could be audible, these levels would not be considered intrusive; as discussed previously, these levels would be well below the level of normal conversation. However, the levels do exceed the nighttime standard of 50 dBA. Therefore, if nighttime training exercises were proposed, further mitigation would be needed in the design of the firing range. It is expected that a partial enclosure at the firing line could provide the further reductions that would be required.

Indirect and Cumulative Impacts

No indirect or cumulative impacts to noise levels are anticipated with Alternatives A or B.

Mitigation Measures

The proposed firing ranges will be constructed with overhead baffling structures and dampening material that will reduce the sound propagation and perceived noise levels outside the ranges.

4.2 SOCIAL ENVIRONMENT

4.2.1 LAND USE AND ZONING

4.2.1.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no changes in land use or zoning would occur. Under this alternative, the portions of the project area that are privately owned would be available for industrial or commercial development in accordance with the Jefferson County Zoning Ordinance.

4.2.1.2 Alternative A

Direct Impacts

Alternative A would result in the construction of approximately 41,649 gross square feet of office building, training facilities, and parking areas on the 104-acre project area. In addition, four firing ranges would be constructed; a 100-yard/15-point range and a three 25-yard/30-point ranges. Land use on the site would change from undeveloped forest, scrub shrub, and grassland to a light industrial use. This alternative is consistent with existing zoning (industrial/commercial and light industrial/commercial) and development planned under the Jefferson County Comprehensive Plan.

Indirect Impacts

As discussed in Section 3.2.1.2, Project Area Land Use and Zoning, development adjacent to the project area consists of private residential property, a concrete company, and fallow agricultural land. Indirect impacts to these land uses associated with the proposed action may result from the introduction of additional peoples to the area. These additional people may bring an increase to commercial establishments and may spur additional development in the area.

Cumulative Impacts

The construction of the training facility may increase the demand for service related commercial development including strip shopping center, gas stations, restaurants, and convenience stores. It is assumed that all future development around the study area will be consistent with the County's Zoning and Development Review Ordinance.

Mitigation Measures

No mitigation measures are proposed for changes in land use.

4.2.1.3 Alternative B

Direct Impacts

Under Alternative B, the Firearms Training Facility would be constructed on the 60-acre federally-owned property. Land use on the 60-acre site would change from undeveloped forest and scrub shrub to a light industrial use. This alternative is consistent with existing zoning (industrial/commercial and light industrial/commercial) and development planned under the Jefferson County Comprehensive Plan.

Because the privately-owned land in the project area would not be acquired under this alternative, it would be available for future development. It is assumed that any development of these parcels would be consistent with local zoning and development planned under the Jefferson County Comprehensive Plan.

Indirect and Cumulative Impacts

Indirect and cumulative impacts under Alternative B would be the same as those discussed under Alternative A.

Mitigation Measures

No mitigation measures are proposed for changes in land use.

4.2.2 POPULATION, HOUSING, ECONOMY, EMPLOYMENT, AND INCOME

4.2.2.1 No Action Alternative

Direct Impacts

Under the No Action Alternative the proposed Firearms Training Facility would not be constructed in the project area. The 60-acre parcel federally-owned portion of the project area would not be developed and would remain as a mixture of scrub shrub and forestland. The 44 acres of privately owned land in the project area would be available for development with new residences and businesses that would contribute to the area population and economy.

Indirect and Cumulative Impacts

No indirect or cumulative impacts are associated with the No Action Alternative.

4.2.2.2 Alternative A

Direct Impacts

Under Alternative A, U.S. Customs Service would purchase two privately-owned parcels adjacent to the 60-acre parcel federally-owned site. Both parcels would be combined to form a 104-acre parcel upon which the training center would be built. There are no residential uses planned with this development. If employees of the facility locate to Jefferson County there could be a slight increase in demand for housing. The existing local housing stock, combined with development already occurring, would be adequate to handle any increase in housing demand as a result of the project.

This alternative would also have positive short-term impacts on the local economy. The cost of constructing the facilities would be divided between labor, equipment charges, and supplies. Local economic activity would increase directly as local construction contractors and construction firms are hired for the project. In addition, contractor firms would buy building materials and construction supplies and rent or purchase equipment in the local area, thus increasing the flow of funds into the local economy.

Under Alternative A, a dormitory and cafeteria would be constructed. However, the dormitory is expected to only house one quarter (approximately 50) of the trainees. Therefore, the other trainees would likely stay in area hotels and eat at area restaurants providing added economic income to the area. Because of the project area's proximity to the Harpers Ferry National Historic Park and the C&O Canal, lodging in the immediate area may be difficult to obtain during peak tourist seasons. Therefore, trainees may have to travel to some distance away from the site for lodging.

Indirect Impacts

Indirect impacts associated with Alternative A include Federal government spending on salary and fringe benefits for employees of the facility, and outside contracts with vendors to support the operations of the facility, for example HVAC, maintenance and repair contractors.

Cumulative Impacts

No cumulative impacts are anticipated under Alternative A.

Mitigation Measures

No mitigation measures are proposed for impacts to population, housing, economy, employment, and income.

4.2.2.3 Alternative B

Direct Impacts

Under Alternative B, U.S. Customs Service would develop the 60-acre federally-owned parcel into a national training center. There are no residential uses planned with this development. If employees of the facility locate to Jefferson County there could be a slight increase in demand for housing, depending on the number of people who relocate. The existing local housing stock, combined with development already occurring, would be adequate to handle any increase in housing demand as a result of the project.

Under Alternative B, the dormitory and cafeteria would not be constructed. Therefore, all trainees would likely stay in area hotels and eat at area restaurants providing added economic income to the area. Because of the project area's proximity to the Harpers Ferry National Historic Park and the C&O Canal, lodging in the immediate area may be difficult to obtain during peak tourist seasons. Therefore, trainees may have to travel to some distance away from the site for lodging.

This alternative would have positive short-term impacts on the local economy. The cost of constructing the facilities would be divided between labor, equipment charges, and supplies. Local economic activity would increase directly as local construction contractors and construction firms are hired for the project. In addition, contractor firms would buy building materials and construction supplies and rent or purchase equipment in the local area, thus increasing the flow of funds into the local economy.

Indirect and Cumulative Impacts

Indirect and cumulative impacts under Alternative B would be the same as those described under Alternative A.

Mitigation Measures

No mitigation measures are proposed for impacts to population, housing, economy, employment, and income.

4.2.3 ENVIRONMENTAL JUSTICE IN MINORITY AND LOW-INCOME POPULATION

While there are minority and low-income populations in the vicinity of the proposed site, the proposed action will not adversely affect these groups. Construction of the proposed facilities on the project area is consistent with local land use plans. As stated in Section 4.2.2 Population, Housing, Economy, Employment, and Income, the proposed action may bring economic benefits from temporary construction jobs, long-term spending by facility employees, and outside contracts with vendors to support the operations of the facility. No mitigation measures are proposed

4.2.4 TAXES AND REVENUES

Determining the fiscal impacts of the proposed project requires a comparison of the estimated revenues versus the operating and capital expenditures from the proposed action. Revenues include property taxes, income, sales, and utility taxes as well as miscellaneous fees, user charges, and license fees. Capital expenditures can be either specific facilities (i.e. schools, sewer lines) associated directly with the proposed project, or community-wide capital improvements from which the proposed action would benefit. Operating expenditures would be those costs incurred in providing ongoing services to households linked to the proposed action (i.e. police and fire services).

4.2.4.1 No Action Alternative

Direct Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area. The 44-acres of privately-owned land in the project area would continue to generate property taxes for the County. In the event that this land were privately developed income, sales, and utility taxes could also be generated.

Indirect and Cumulative Impacts

No indirect or cumulative impacts are associated with the No Action Alternative.

4.2.4.2 Alternative A

Direct Impacts

Under Alternative A, Customs would acquire 44-acres of privately-owned for the proposed training facility. This would have a negative impact upon future annual property tax revenues for the county, as this alternative would remove the 44-acres from the rolls of taxable property in Jefferson County. The 44-acre privately owned parcel is currently taxed at 1.2166 percent.

The presence of the U.S. Customs Service as an employer in the County, however, will bring the benefit of tax revenue from any resident employees as well as local commercial entities that do business with the training center.

Increased sales transactions for the purchase of materials and supplies would generate some additional revenues for local and state government. If some of the construction workers used for the project are not currently employed, then the amount of additional revenue generated through income taxes on worker earnings would increase.

Indirect and Cumulative Impacts

Under Alternative A, a dormitory would be built to house approximately one quarter of the trainees at the facility. The remaining trainees would have to find lodging in area hotels, generating sales tax revenues.

Secondary jobs related to the increased economic activity of the project may be created. Additional retail services and business employment may result from the proposed action through a multiplier effect, yielding additional sales and income tax revenues for local and state governments.

Mitigation Measures

No mitigation measures are proposed for impacts to taxes and revenues.

4.2.4.3 Alternative B

Direct Impacts

Under Alternative B, only the 60-acre parcel would be developed for the proposed training facility. However, because the Federal Government currently owns the land there would be no change in tax status for the property. As a Federal government agency, U.S. Customs Service will not directly contribute property tax revenues to Jefferson County. Its presence as an employer in the County, however, will bring the benefit of tax revenue from any resident employees as well as local commercial entities that do business with the training center.

Increased sales transactions for the purchase of materials and supplies would generate some additional revenues for local and state government. If some of the construction workers used for the project are not currently employed, then the amount of additional revenue generated through income taxes on worker earnings would increase.

Under this alternative, trainees would be housed on-site; therefore, there would be no impact on area motel/hotels and bed and breakfast inns.

Indirect and Cumulative Impacts

Under Alternative B, the dormitory and cafeteria would not be built. Therefore, all trainees would have to find lodging in area hotels and eat meals at area restaurants, generating sales tax revenues.

Secondary jobs related to the increased economic activity of the project may be created. Additional retail services and business employment may result from the proposed action through a multiplier effect, yielding additional sales and income tax revenues for local and state governments.

Also, under Alternative B, the 44-acres of privately-owned land in the project area would continue to generate property taxes for the County. In the event that this land were privately developed income, sales, and utility taxes could also be generated.

Mitigation Measures

No mitigation measures are proposed for impacts to taxes and revenues.

4.2.5 COMMUNITY FACILITIES AND SERVICES

4.2.5.1 No Action Alternative

Direct Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no direct impacts to community facilities or services would occur.

Indirect and Cumulative Impacts

Under the No Action Alternative, the privately-owned land in the project area could be developed in the future. This development may increase the demand for community facilities and services.

4.2.5.2 Alternatives A and B

Direct Impacts

Under both Alternatives A and B, there are expected to be minor direct impacts to existing community facilities and services. The construction would not impact the school systems of Jefferson County, as significant numbers of employees are not anticipated to relocate to the area.

The proposed training center would not impact the quantity or quality of existing recreational facilities. The outfitter located along U.S. 340 would continue business as usual. As the parcel is already in Federal government control it is not being used as recreational land.

The proposed training center could slightly impact medical, police, fire, or rescue services. The facility will have its own security measures, including a perimeter fence. Local fire and rescue personnel would provide emergency services to the facility; however this is not expected to impact their ability to provide service to other areas.

Indirect and Cumulative Impacts

There are no indirect or cumulative impacts to community facilities or services anticipated under Alternatives A or B.

Mitigation Measures

There are no mitigation measures proposed for community facilities and services.

4.2.6 PUBLIC HEALTH AND SAFETY

4.2.6.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no direct, indirect, or cumulative impacts to public health and safety would occur.

4.2.6.2 Alternatives A and B

Direct Impacts

Public health and safety would not be directly impacted under Alternative A or Alternative B. The U.S. Customs Service will implement a health and safety plan designed to prevent impacts to employees, trainees, and the general public. Trainees will include U.S. Customs Service officers, and, on a restricted basis, other federal, state, and local law enforcement agencies to partially meet their firearm and related use of force training needs.

Safety and health procedures will be formally adopted for the proposed Firearms Training Facility that will address facility and range operations procedures; firearms regulations; blood lead level control in employees and trainees; hearing conservation; and accident investigation/reporting procedures.

The training center will be fenced for security purposes. All weapons and ammunition used on the site will be secured to prevent loss or theft.

Indirect Impacts

If not monitored, traditional firing ranges can cause lead contamination and indirectly affect water quality, soils, wildlife, and humans. Lead presents risks because of its toxicity and its ability to persist once it enters the environment. Humans can be exposed to lead by inhaling dust and vapors and by ingesting lead contaminates. It is known that exposures to high levels of lead can cause adverse health problems, such as convulsions and kidney damage. Consequently, the U.S. Customs Service will incorporate a state of the art lead containment system in each firing range.

Under Alternatives A and B, the firing ranges will consist of four indoor firing ranges and one outdoor baffle range. Only lead-free ammunition will be fired in three of the four indoor ranges. The remaining indoor range and the outdoor range will be designed to accommodate the firing of leaded ammunition. All of the ranges will have self-contained bullet containment systems. The containment systems incorporated in the ranges will capture the fired projectiles into specially designed bins, which at the appropriate time will be packaged and properly disposed of as hazardous materials.

Enhanced air emission control systems will be incorporated into each indoor range design to mitigate the possibility of any airborne contaminants entering the environment. As an additional safeguard, periodic air samples of mowing operations surrounding the ranges will be taken.

The baffle design of the outdoor firing range will eliminate the possibility of an errant projectile escaping from the firing lines.

Cumulative Impacts

Alternatives A or B will not cumulatively impact public health or safety.

Mitigation

The following mitigation measures could be implemented to further reduce the potential for lead contamination of soils, groundwater, surface water, and air:

- Design the roof of the outdoor firing range to capture rainwater and divert it away from the range before it reaches the range floor where lead residue may be present.
- Periodically remove spent bullets from bullet traps and place spent bullets in approved DOT containers for disposition.
- Periodically clean the range walls, floor and ceiling, baffles, bullet traps, and targets utilizing equipment such as a HEPA vacuum or by wet mopping/wipes. Wastewater from cleanings will be collected in DOT approved containers for testing, transportation, and disposal.
- Periodically replace and dispose exhaust ventilation filters in accordance with all regulations.

4.3 CULTURAL ENVIRONMENT

4.3.1 ARCHAEOLOGICAL RESOURCES

4.3.1.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no direct, indirect, or cumulative impacts to archaeological resources would occur.

4.3.1.2 Alternatives A and B

Direct Impacts

As discussed in Section 3.3.1, a Phase I Archaeological Survey was conducted to identify all potentially significant archaeological resources within the project area. The Phase I survey identified only five prehistoric and nine historic Isolated Finds. Based on the paucity of archaeological resources, and the lack of potential for contributing significant information on prehistory or history, the development of a Firearms Training Facility would not affect significant archaeological resources.

Indirect and Cumulative Impacts

No indirect or cumulative impacts to archaeological resources are anticipated under Alternatives A or B.

Mitigation Measures

No further archaeological studies are recommended within the project area.

4.3.2 HISTORIC STRUCTURES

4.3.2.1 No Action Alternative

Direct, Indirect, and Cumulative Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no direct, indirect, or cumulative impacts to historic structures would occur.

4.3.2.2 Alternatives A and B

Direct Impacts

No National Register eligible historic standing structures are located on the project area. Therefore, construction of U.S. Customs Service Firearms Training Facility on this site would not directly impact any historic structures.

Indirect Impacts

No National Register eligible historic standing structures are present within the project Area of Potential Effect (APE). The National Register listed Halltown Union Colored Sunday School (Halltown Memorial Chapel); the Allstadt House and Ordinary; and Rion Hall, are all sufficiently distanced from the project area and will not be impacted directly or indirectly by the proposed construction. The Harpers Ferry National Historical Park is located nearly a mile east of the project APE, and the historical interpretive section of the park is over 1 mile northeast of the project APE. Thus, no indirect impacts are anticipated to the Park as a result of the undertaking.

Cumulative Impacts

There are no cumulative impacts anticipated with historic structures under Alternatives A or B.

Mitigation Measures

No mitigation measures for impacts to historic structures are proposed.

4.4 INFRASTRUCTURE

4.4.1 WATER SUPPLY

4.4.1.1 No Action Alternative

Direct Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no direct impacts on the water supply of the project area would occur.

Indirect and Cumulative Impacts

Under the No Action Alternative, the privately-owned land in the project area could be developed in the future. This development may increase the water supply demand.

4.4.1.2 Alternative A

It is anticipated that it will not be feasible to connect to any existing water systems in the area due to the distances and elevation differences involved. The nearest public system is at Harpers Ferry located about 2 miles to the east on the other side of a 180-foot high ridge. It would not be cost effective to attempt to pump water over this ridge.

There is a private system proposed for "Murphy's Landing" development located north of the project area across U.S. 340. It may be possible to obtain domestic water from this system in the future (Personal Communication, Shepp, July 7, 2001).

Therefore, a system of on-site wells, storage tanks and pumps will be needed to provide sufficient water to the facility.

The U.S. Customs Service will meet all Safe Drinking Water Act requirements.

Direct Impacts

Under Alternative A, the projected daily demand for domestic water use is 15,000 gpd. Preliminary estimates for maximum domestic demand for the facility indicate a two well system (one for redundancy) at 20 gpm each. Fire flows will require more water if a fire requires more than the storage tank capacity. A 200,000-gallon tank will provide the minimum criteria of 1,500 gpm for two hours. It is recommended that the tank be larger, in

part because of economics of scale, and in part because two wells will take a long time to recharge the tank.

A two-well, 15,000 gpd Water Treatment System with high service pumps, and a 500,000-gallon surface concrete storage tank should be sufficient for normal demands, but it may be desirable to construct more wells in order to fill the tank more quickly. According to information supplied in a previous geotechnical report, and confirmed by the County Engineer, wells in this area can be expected to yield in excess of 50 gpm. This means that four wells could fill the 500,000 tank in two days. The system will also include telemetry for well and pump control, fire flow, booster pumps, and standby emergency power, distribution mains, and fire hydrants.

Wells would be designed according to West Virginia Health Department Design Standards and will require approval from the West Virginia Health Department.

Under Alternative A, construction of new water main on-site will result in little disturbance to environmental features. Stream crossings will not be necessary in order to provide service throughout the developed area. New water mains will likely be located within or adjacent to proposed access drives and parking areas.

Indirect Impacts

Adequate water supply can be supplied to the project area from the proposed well system; additional off-site extensions will not be needed.

Cumulative Impacts

Future expansion would place additional demands on the water supply system. Each future project would have to prepare studies to determine if the water distribution system would be adequate or whether any extensions would be necessary to provide service.

Mitigation Measures

The following measures could be implemented to conserve water and limit impacts to the regional water supply:

- Preparation of a water conservation plan and policy
- Installation of water saving fixtures throughout the facility
- Installation of water closets rated at 1.6 gallons per flush (gpf) and urinals rated at 1.0 gpf (3.9 liters per flush) in conformance with the Energy Policy Act of 1992
- Design of plumbing to meet criteria established in the BOCA - Energy Conservation Code (1990)
- Use of drought-tolerant plant materials and local indigenous plant material in landscaping to reduce water usage

- Minimization of landscape designs that require irrigation, and utilization of automatic, low volume irrigation equipment

4.4.1.3 Alternative B

It is anticipated that it will not be feasible to connect to any existing water systems in the area due to the distances and elevation differences involved. The nearest public system is at Harpers Ferry located about 2 miles to the east on the other side of a 180-foot high ridge. It would not be cost effective to attempt to pump water over this ridge.

There is a private system proposed for "Murphy's Landing" development located north of the project area across U.S. 340. It may be possible to obtain domestic water from this system in the future (Personal Communication, Shepp, July 7, 2001).

Therefore, a system of on-site wells, storage tanks and pumps will be needed to provide sufficient water to the facility.

The U.S. Customs Service will meet all Safe Drinking Water Act requirements.

Direct Impacts

Under Alternative B, which does not include the dormitory and cafeteria, the projected daily demand for domestic water use is 11,200 gpd. Preliminary estimates for maximum domestic demand for the facility indicate a two well system (one for redundancy) at 20 gpm each. Fire flows will require more water if a fire requires more than the storage tank capacity. A 200,000-gallon tank will provide the minimum criteria of 1,500 gpm for two hours. It is recommended that the tank be larger, in part because of economics of scale, and in part because two wells will take a long time to recharge the tank.

A two-well, 15,000 gpd Water Treatment System with high service pumps, and a 500,000 gallon surface concrete storage tank should be sufficient for normal demands, but it may be desirable to construct more wells in order to fill the tank more quickly. According to information supplied in a previous geotechnical report, and confirmed by the County Engineer, wells in this area can be expected to yield in excess of 50 gpm. This means that four wells could fill the 500,000 tank in two days. The system would also include telemetry for well and pump control, fire flow, booster pumps, and standby emergency power, distribution mains, and fire hydrants.

This work will be designed according to West Virginia Health Department Design Standards and will require approval from the West Virginia Health Department.

Under Alternative B, construction of new water main on-site will result in little disturbance to environmental features. Stream crossings will not be necessary in order to provide service throughout the developed area. New water mains will likely be located within or adjacent to proposed access drives and parking areas.

Indirect Impacts

Adequate water supply can be supplied to the project area from the proposed well system; additional off-site extensions will not be needed.

Cumulative Impacts

Future expansion would place additional demands on the water supply system. Each future project would have to prepare studies to determine if the water distribution system would be adequate or whether any extensions would be necessary to provide service.

Mitigation Measures

Mitigation measures under Alternative B would be the same as those discussed under Alternative A.

4.4.2 SEWAGE

4.4.2.1 No Action Alternative

Direct Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no direct impacts on the sewage system of the project area would occur.

Indirect and Cumulative Impacts

Under the No Action Alternative, the privately-owned land in the project area could be developed in the future. This development may require development of a sewage system.

4.4.2.2 Alternative A

Direct Impacts

Under Alternative A, the estimated average wastewater flow from the proposed facility would be 11,900 gpd. It is not feasible to connect to the existing public sewer in Harpers Ferry as it is located about 2 miles to the east on the other side of a 180 foot (55 m) high ridge. Individual interceptor tanks would serve the proposed facilities, with an on-site sewage treatment plant utilizing a recirculating sand filter treatment system or a conventional package plant. Treated effluent can discharge to Flowing Springs Run if permitted by the State, or an independent spray irrigation field. If the sprayfield option is selected, it may require as much as 6 acres of land surface.

There is a private wastewater treatment system proposed for "Murphy's Landing" development located north of the project area across U.S. 340. However, sending sewage to this facility would require a forced main and two pumping stations (Personal Communication, Shepp, 2001).

The on-site plant would require a sewage collection system to collect waste from all buildings. The plant would be designed to handle approximately 12,000 gpd and have an outfall to Flowing Springs Run. This is based on there being year-round adequate flow in Flowing Springs Run that will take the treated wastewater without significantly affecting the quality of water in the natural stream. If there is not adequate flow in Flowing Springs Run, then treated effluent will be discharged using a spray or drip irrigation field. Tertiary treatment would be provided. Solid waste from the plant would be trucked by private contractor to an off-site landfill.

The wastewater treatment system would be designed to the West Virginia Health Department Design Standards. It will also require a "Waste Load Allocation Approval" from the West Virginia Division of Environmental Protection, who would review and approve the plans concurrently.

Under Alternative A, construction of sewer lines on-site will result in little disturbance to environmental features. Stream crossings will not be necessary in order to provide service throughout the developed area. New on-site sewer lines will likely be located within or adjacent to proposed access drives and parking areas.

Indirect Impacts

Off-site extensions would not be needed.

Cumulative Impacts

Future expansion would place additional demands on the system. Future projects in the area would also place demands on the sewage system. Each future project would have to prepare studies to determine if sewage systems are adequate or if other improvements would be necessary to provide service.

Mitigation Measures

Mitigation measures as discussed under Section 4.4.1, Water Supply, could be implemented to decrease the amount of water used at the proposed facility, and thus decrease the amount of wastewater generated and treated.

4.4.2.3 Alternative B

Direct Impacts

Under Alternative B, the estimated average wastewater flow from the proposed facility would be 8,400 gpd. As stated previously, it is not feasible to connect to the existing public sewer in Harpers Ferry. The proposed facilities would be served by individual interceptor tanks, with an on-site sewage treatment plant utilizing a recirculating sand filter treatment system or a conventional package plant. Treated effluent can discharge to Flowing Springs Run if permitted by the State, or an independent spray irrigation field. If the sprayfield option is selected, it may require as much as 6 acres of land surface.

There is a private system proposed for “Murphy’s Landing” development located north of the project area across U.S. 340. However, sending sewage to this facility would require a forced main and two pumping stations (Personal Communication, Shepp, 2001).

The on-site plant would require a sewage collection system to collect waste from all buildings. The plant will be designed to handle approximately 12,000 gpd and have an outfall to Flowing Springs Run. This is based on there being year-round adequate flow in Flowing Springs Run that could take the treated wastewater without significantly affecting the quality of water in the natural stream. If there is not adequate flow in Flowing Springs Run, then treated effluent would be discharged using a spray or drip irrigation field. Tertiary treatment would be provided, and solid waste from the plant would be trucked by private contractor to a nearby landfill.

The wastewater treatment would be designed to the West Virginia Health Department Design Standards. It will also require a “Waste Load Allocation Approval” from the West Virginia Division of Environmental Protection, who will review and approve the plans concurrently.

Construction will be on-site and stream crossings or other environmental impacts should not be necessary in order to provide service throughout the developed area. New on-site sewer lines will likely be located within or adjacent to proposed access drives and parking areas.

Under Alternative B, construction of sewer lines on-site will result in little disturbance to environmental features. Stream crossings will not be necessary in order to provide service throughout the developed area. New on-site sewer lines will likely be located within or adjacent to proposed access drives and parking areas.

Indirect Impacts

Off-site extensions would not be needed.

Cumulative Impacts

Future expansion would place additional demands on the system. Future projects in the area would also place demands on the sewage system. Each future project would have to prepare studies to determine if sewage systems are adequate or if other improvements would be necessary to provide service.

Mitigation Measures

Mitigation measures as discussed under Section 4.4.1, Water Supply, could be implemented to decrease the amount of water used at the proposed facility, and thus decrease the amount of wastewater generated and treated.

4.4.3 ELECTRICAL POWER AND NATURAL GAS (ENERGY)

4.4.3.1 No Action Alternative

Direct Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no direct impacts on energy services in the project area would occur.

Indirect and Cumulative Impacts

Under the No Action Alternative, the privately-owned land in the project area could be developed in the future. This development may increase the demand for energy services.

4.4.3.2 Alternatives A and B

Direct Impacts

Under both Alternatives A and B, electric power would be provided by Allegheny Power, brought to a substation on-site via overhead lines, and then distributed throughout the project area with underground lines. Three-phase service could be brought to the project area from lines located along U.S. 340 and Frontage Road to the North. Single-phase service could be brought to the project area from lines located along Bloomery Road, located, at its closest point, 1,200 feet east of the project area.

Allegheny Power has provided a letter of agreement to supply power to the proposed project (Allegheny Power, 2001). The existing three-phase line, located along Frontage Road has adequate capacity to provide service to the proposed facility (Allegheny Power, 2001). New on-site underground lines will likely be constructed within or adjacent to proposed access drives and parking areas and should not involve stream crossings or other environmental impacts.

There are no natural gas lines in the area. Any demand for gas would have to be met using on-site propane storage tanks.

Actual electric and gas demand will depend on final architectural design.

Indirect Impacts

Construction to bring the new power lines from the existing lines along Frontage Road will likely remain within the street rights-of-way or public utility easements adjacent to the streets. The off-site impact at Frontage Road will be minor. As adequate service can be supplied to the project area from lines within adjacent street rights-of-way, additional off-site extensions will not be needed.

Cumulative Impacts

Future projects in the area would also place demands on the electrical system. Each future project would require coordination with Allegheny Power to determine if supply systems are adequate or if improvements would be necessary to obtain service.

Mitigation Measures

The following measures could be implemented to conserve energy and mitigate impacts related to fuel and power systems:

- Incorporate energy conservation measures into building designs
- Utilize variable speed pumping systems with variable speed drives for office areas to reduce energy demands
- Use a direct digital control (DDC) system to optimize energy usage and conservation in buildings
- Use lighting systems designed to provide the most efficient combination of lamp (T8) and ballast; do not use incandescent lighting
- Use emergency generator banks capable of paralleling with local utility to curtail peak demand

4.4.4 COMMUNICATION

4.4.4.1 No Action Alternative

Direct Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no direct impacts on the communications systems in the project area would occur.

Indirect and Cumulative Impacts

Under the No Action Alternative, the privately-owned land in the project area could be developed in the future. This development may require utilization of communications systems in the area.

4.4.4.2 Alternatives A and B

Direct Impacts

Service will be provided to the project area by installation of a remote switch on the existing Citizens Communications fiber-optic cable line along U.S. 340. A line will then run into the project area and be distributed as needed. Citizens Communications has provided a letter of agreement to supply service to the project area.

Citizens Communications anticipates no problems in serving the project area from existing underground fiber optic and copper lines adjacent to the project area (Citizens Communications, 2001).

The existing fiber optic line, located along Frontage Road does have adequate capacity to provide service to the proposed facility. New on-site underground lines will likely be constructed within proposed access drives and parking areas and should not involve stream crossings or other environmental impacts.

Indirect Impacts

Construction to bring the new communication lines from the existing lines along Frontage Road will likely remain within the street rights-of-way or public utility easements adjacent to the streets. The off-site impact at Frontage Road will be minor. As adequate service can be supplied to the project area from lines within adjacent street rights-of-way, additional off-site extensions will not be needed.

Cumulative Impacts

Future projects in the area would also place demands on the communications system. Each future project would require coordination with Citizens Communications to determine if communication systems are adequate or if improvements would be necessary to obtain service.

Mitigation Measures

The following measures will be implemented to mitigate impacts related to the communication system:

Fiber optic technology will be used as much as possible to minimize the size and number of cables that will need to be constructed.

4.4.5 WASTE MANAGEMENT

4.4.5.1 No Action Alternative

Direct Impacts

No wastes are currently generated on the project area. Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed in the project area, and no direct impacts to waste management would occur.

Indirect and Cumulative Impacts

Under the No Action Alternative, the privately-owned land in the project area could be developed in the future. This development would produce solid waste. It is assumed that this waste would be handled in accordance with the West Virginia Solid Waste Management Act (Article 15 §22-15-1).

4.4.5.2 Alternatives A and B

Direct Impacts

Solid waste would be generated during construction of the Firearms Training Center by the disposal of construction materials. These impacts would be temporary.

Waste streams from operation of the Firearms Training Facility will include general solid wastes and possibly hazardous wastes. Solid waste consists basically of all waste materials which are not regulated or defined as hazardous, special, or potentially dangerous and which do not require special handling and disposal due to potential hazards to human health or the environment. Typically, commercial solid waste consists of a mixture of paper goods, plastics, food scraps, glassware, metal items, and various other miscellaneous refuse materials.

Hazardous waste, as defined by the Resource Conservation and Recovery Act (RCRA), Subtitle C, is a waste that exhibits any of the following characteristics: corrosivity, ignitability, reactivity, or toxicity. The RCRA definition of hazardous waste also extends to wastes specifically listed in Title 40 CFR Part 261. Depending on concentrations, lead contaminated media resulting from firing range activities may be characterized as hazardous waste.

All wastes generated at the Firearms Training Facility will be managed in accordance with applicable Federal, State and local regulations. Bullet traps will be periodically emptied and spent bullets will be disposed of in accordance with RCRA. Waste generated from the periodic cleaning of the firing ranges will also be disposed of in accordance with RCRA. The wastes will be characterized to determine if the hazardous waste management and disposal requirements of RCRA Subtitle C are applicable.

General solid waste produced by the Firearms Training Facility will be managed in accordance with the West Virginia Solid Waste Management Act (Article 15 §22-15-1) and RCRA, Subtitle D. It is expected that solid waste will be placed into designated receptacles. Solid waste would be collected from receptacles on a regular basis and placed in dumpsters located outside of each building. A licensed solid waste hauler would transport the waste to permitted sanitary landfills.

The West Virginia Solid Waste Management Act and Jefferson County requires that government and commercial facilities participate in a recycling program.

Indirect Impacts

Traffic, air emissions, and fuel consumption associated with waste hauling would increase as a result of trash removal during construction and during operation of the facility.

Cumulative Impacts

Future development in the area, along with the proposed action, would cumulatively affect solid waste generation and disposal.

Mitigation Measures

Mitigation measures for lead waste are described in Section 4.2.6, Public Health and Safety.

A recycling program should be implemented during the construction of the project.

As required by Executive Order 12873, Federal Acquisition, Recycling, and Waste Prevention, and Executive Order, 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, the U.S. Customs Service Service would continue to incorporate waste prevention and recycling in the agency's daily operations.

The following measures could be implemented to further pollution prevention and reduce waste generated by the facility:

- Placement of special receptacles for collection of recyclable waste, including paper, glass, plastic, and aluminum materials, accessible to all work areas. The recyclable waste should be collected from the receptacles on a regular basis and stored at a central collection location until sufficient quantities are obtained for pick up by appropriate vendors or recycling agents
- Procurement and use of non-hazardous and non-toxic materials when practical
- Procurement of products made from recycled materials and products that are recyclable when practical
- Procurement of refillable/durable products rather than disposable products when practical

4.4.6 TRANSPORTATION SYSTEMS

To determine the impact of the site on the surrounding transportation system, a no action alternative was first evaluated to determine the impacts on the transportation system based on approved developments and normal traffic growth. For purposes of this study, a design year of 2006 was used as the year of total build out of the project area. Once the no action condition was determined, site generated traffic was determined and added to the no action condition to evaluate the overall impact of the site on the network and identify any possible improvements which would be necessary to mitigate the impacts.

4.4.6.1 No Action Alternative

Direct Impacts

Under the No Action Alternative, the proposed Firearms Training Facility would not be constructed. However, traffic would increase in the project area from traffic generated by developments that have been approved and not constructed plus normal background growth that is due to developments outside the immediate study area.

Approved Development

A discussion was held with the Jefferson County engineer to determine which developments have been approved and not constructed. The following were identified:

Murphys Landing – This development consists of 203 single family detached homes located east of State Route 27 along U.S. 340 Alt.

Gap View – A residential community located on S.R. 230 north of U.S. 340 with approximately 180 units remaining for build out.

Meadowbrook Farms – Approximately 48 single family dwellings remaining on S.R. 230 north of U.S. 340.

Yorkville – Approximately nine single family units on S.R. 230 north of the project area.

Commercial Development – A four lot commercial subdivision consisting of 1-acre lots for specialty trades located on S.R. 230 north of the site

230 frontage road – A residential development consisting of 200 units is proposed for the north frontage across from the project area.

Carriage Park -- A residential subdivision consisting of 25 single family homes located on S.R. 230 north of the site.

From the above, it was determined that approximately 462 residential units would be developed on S.R. 230 north of the project area. Using Institute of Transportation Engineers (ITE) trip generation rates from the Trip Generation Handbook, 6th edition, this development would generate approximately 4,250 trips per day. Of these trips, it was assumed that 50 percent would go east on U.S. 340 and be added to the existing average daily traffic (ADT).

In addition, 203 units would be located east of the project area. This would generate approximately 2,250 trips per day of which 25 percent or 563 would travel on U.S. 340 in front of the project area.

Based on the above, it was determined that the ADT on the section of U.S. 340 in front of the project area would increase by approximately 2,700 vehicles per day due to construction of the developments which have been approved.

Background Growth

A study of the project area in 1990 indicated that at that time the ADT on U.S. 340 was 15,000 vehicles per day. Based on the 1999 volume of 22,500, this indicates a yearly growth of approximately 4 percent. As the above developments are being considered independently, a background growth factor of 2 percent per year was used to project the 1999 traffic to 2006. This results an increase of 3,345 vehicles per day for an average daily traffic volume of 25,845.

HCS 2000 arterial planning analysis software was used to determine the level of service. A peak hour factor of 10 percent with 5 percent trucks was assumed with a 60/40 directional split in the traffic. U.S. 340 will operate at level of service C under these conditions.

Indirect and Cumulative Impacts

No indirect or cumulative impacts to transportation systems are anticipated under the No Action Alternative.

4.4.6.2 Alternative A

Direct Impacts

Under Alternative A, the proposed project would employ approximately 30 people and will train between 200 and 250 people at a time. Under this Alternative, approximately one quarter of the trainees would be staying on site in dormitories. For purposes of this analysis, it was assumed that under the worst case condition each employee and the trainees staying off-site would generate two trips per day from the site with trips evenly split going eastbound and westbound on U.S. 340. This will result in an increase of approximately 218 trips per day on U.S. 340 east of the project area and approximately 218 trips per day on U.S. 340 west of the project area.

With build out of the site, the level of service for U.S. 340 would remain at "C". This indicates that development of the site will not worsen operations along U.S. 340 in the vicinity of the project area. It should be noted that turning movement counts were not performed at the intersections and some modifications to the existing intersections may be required.

Transit Operations

Due to the rural nature of the project area, transit is very limited. The nature of the site as a training center with a limited number of employees is not a transit oriented facility and would have minimal impact on the existing transit operations.

Bicycle Pedestrian Operations

The location and nature of the facility are not conducive to bicycle/pedestrian travel to the project area. There are shoulders along U.S. 340 that could be used by bicyclists. The site is a training facility with a campus like setting and should be pedestrian friendly.

Indirect Impacts

No indirect impacts to transportation systems are anticipated under Alternative A.

Cumulative Impacts

Future development in the project area, in addition to the proposed project, would lead to increases in traffic and impacts to the transportation system. Future projects that are currently planned in the area have been taken into account in the direct impacts analysis for this alternative.

Mitigation Measures

No mitigation measures are proposed for impacts to transportation facilities.

4.4.6.3 Alternative B

Direct Impacts

Under Alternative B, the proposed project would employ approximately 30 people and will train between 200 and 250 people at a time. Under this Alternative, dormitories would not be provided, and all trainees would be required to stay off-site. For purposes of this analysis, it was assumed that under the worst case condition each employee and trainee would generate two trips per day from the site with trips evenly split going eastbound and westbound on U.S. 340. This will result in an increase of approximately 280 trips per day on U.S. 340 east of the project area and approximately 280 trips per day on U.S. 340 west of the project area.

With build out of the site, the level of service for U.S. 340 would remain at "C". This indicates that development of the site will not worsen operations along U.S. 340 in the vicinity of the project area. It should be noted that turning movement counts were not performed at the intersections and some modifications to the existing intersections may be required.

Transit Operations and Bicycle Pedestrian Operations

Impacts to Transit Operations and Bicycle Pedestrian Operations would be the same under Alternative B as discussed under Alternative A.

Indirect Impacts

No indirect impacts to transportation systems are anticipated under Alternative B.

Cumulative Impacts

Future development in the project area, in addition to the proposed project, would lead to increases in traffic and impacts to the transportation system. Future projects that are currently planned in the area have been taken into account in the direct impacts analysis for this alternative.

Mitigation Measures

No mitigation measures are proposed for impacts to transportation facilities.

5 REFERENCES

- Allegheny Power. 2001. Letter from D. Bartrug, Allegheny Power, Fairmont, WV, to B.K. O'Mara, Greenhorne & O'Mara, Inc. regarding providing of electrical service to the project site. June 6, 2001.
- Anderson, J. R., E. E. Hardy, J. T. Roach, and R. E. Witmer. 1976. A Land Use and Land Cover Classification System for Use with Remote Sensor Data. U.S. Geological Survey, Professional Paper 964.
- Bartgis, R. L., and J. C. Ludwig, 1996. Rare Plant Survey, Harpers Ferry National Historical Park. MD Department of Natural Resources, Annapolis, MD, and VA Dept. of Conservation and Recreation.
- California Department of Health Services. Undated. OLPPP Technical Bulletin Number 96-1. "Point Blank: Lead Hazards at Indoor Firing Ranges."
- Chiang, Jimenez, and Siebein. 1993. Field Measurements of Sound Pressure Levels of Various Firearms, A Research Report to the National Rifle Association Grants-in-Aid Program, Washington, DC.
- Dean, S. L., P. Lessing, and B. R. Kulander. 1990. Geology of the Berryville, Charles Town, Harpers Ferry, Middleway, Round Hill Quadrangles, Berkeley and Jefferson Counties, West Virginia. West Virginia Geological and Economic Survey. Map-WV35. Morgantown, West Virginia.
- Citizens Communications. 2001. Letter from P. Espinosa, Citizens Communications, Charles Town, WV to B.K. O'Mara, Greenhorne & O'Mara, Inc. regarding the availability of telecommunications services at the project site. June 12, 2001.
- FEMA. 1993. National Flood Insurance Program, Flood Insurance Rate Map, Jefferson County, West Virginia (Unincorporated areas). Community-Panel Numbers 540065 0036 C and 540065 0038 C.
- Fleming, C. S. 1999. Rare Plant Survey of Harpers Ferry National Historical Park. The Nature Conservancy of West Virginia.
- FWS. 2000. Letter from J. K. Towner, Field Supervisor, U.S. Fish and Wildlife Service West Virginia Field Office, Elkins, WV, to J. R. Lemon, Director, U.S. Fish and Wildlife Service National Conservation Training Center, Shepherdstown, WV, regarding potential presence of federally listed species at Marcus Property. December 15, 2000.
- FWS. 2001. Letter from J. K. Towner, Field Supervisor, U.S. Fish and Wildlife Service West Virginia Field Office, Elkins, WV, to S. E. Pomeroy, Greenhorne & O'Mara, Inc., Greenbelt, MD, regarding potential presence of federally listed species at the proposed Harpers Ferry Firearms Training Facility in Jefferson County, West Virginia. July 11, 2001.

- Harpers Ferry National Historical Park. 2000. Memorandum from Harpers Ferry Natural Resources Manager regarding flora and fauna databases for the HFNHP. March 29, 2000.
- Harpers Ferry National Historical Park. 2001. Wetlands on USFWS & US Customs Service Parcels. Wetlands layout map produced by HFNHP GIS Dept.
- Harris, ed., 1979. Handbook of Noise Control, Second Edition, McGraw-Hill Book Company, New York.
- Hobba, W. A., Jr. 1978. Ground-water Hydrology of Jefferson County, West Virginia. Map. West Virginia Geological and Economic Survey. Morgantown, West Virginia.
- Hobba, W. A., Jr. 1981. Ground-water Hydrology of Jefferson County, West Virginia. Environmental Geology Bulletin EGB-16. West Virginia Geological and Economic Survey. Morgantown, West Virginia.
- Jefferson County Planning Commission. 1994. Jefferson County Comprehensive Plan.
- Keys, Condon, Florance Architects. 1990. Site Assessment: National Education and Training Center, Harpers Ferry, West Virginia. Prepared for the US. Fish and Wildlife Service.
- Ludwig, J. C. 1996. An Inventory for Rare Plants in the Virginia Portion of Harpers Ferry National Historical Park. Natural Heritage Technical Report 96-2. Virginia Dept. of Conservation and Recreation, Division of Natural Heritage, Richmond, Virginia. Unpublished report submitted to Maryland Natural Heritage Program. January, 1996.
- Mak, Cervone, Jin, and Siebein. 1991. Field Measurements of the Insertion Loss of Earth Berms Used as Noise Barriers at Outdoor Firing Ranges, A Research Report to the National Rifle Association Grants-in-Aid Program, Washington, DC.
- National Rifle Association of America. nd. *Outdoor Range Source Book*, Washington, DC.
- Naval Civil Engineering Laboratory (NCEL). 1991. Environmental Effects of Small Arms Ranges. October 1991.
- Rogalla, A. 2001 Letter from A. Rogalla, U.S. Army Corps of Engineers, Pittsburgh District to L. Sullivan, U.S. Customs Service regarding wetland delineation.
- Ross Barney + Jankowski, 2001. US Customs Service Harpers Ferry Firearms Training Facility, Harpers Ferry, West Virginia, Program Report. 2001
- PMC Environmental, 2001. Final Phase II Environmental Site Assessment 60-Acre U.S. Fish and Wildlife Parcel Harpers Ferry, West Virginia, 7 March 2001.
- U.S. Census Bureau. 2001. 2000 Census.

- U.S. Department of Agriculture. 1973. Soil Survey of Jefferson County, West Virginia. Soil Conservation Service, in cooperation with West Virginia Agricultural Experiment Station.
- U.S. Department of Agriculture. 1999. 1997 Census of Agriculture, AC97-A-48. West Virginia State and County Data, Vol. 1.
- U.S. Department of Housing and Urban Development. 1991. *The Noise Guidebook*, Office of Community Planning and Development, Washington, DC.
- U.S. Environmental Protection Agency. 1998. *Latest Findings on National Air Quality: 1997 Status and Trends*. Office of Air Quality Planning and Standards, Research Triangle Park, NC.
- U.S. Geological Survey. 1978. Charles Town, W. VA. -VA. -MD. Topographic map, revised 1984.
- VAFWIS. 2001. Species list within 7.5' quadrangle (4823) Charles Town. The Virginia Fish and Wildlife Information Service, Internet site.
- West Virginia Division of Natural Resources. 2001. Letter from B. Sargent, Environmental Resources Specialist, Nongame Wildlife & Natural Heritage Program, to Greenhorne & O'Mara, Inc., regarding rare, threatened, and endangered species and wetlands at Harpers Ferry Training Facility. May 24, 2001.

Personal Communications

- Bartrug, D. 2001. Fax from D. Bartrug, Allegheny Power to B. O'Mara, Greenhorne & O'Mara, Inc., regarding karst formation. June 12.
- DeHaven, R. 2001. Personal communication between R. DeHaven, Jefferson County Health Department and B.K. O'Mara, Greenhorne & O'Mara, Inc. regarding approval for sewer system, treatment plants, and wells. June 5.
- Hardman, C. 2001. Personal communication between C. Hardman, WV Department of Environmental Protection, and B.K. O'Mara, Greenhorne & O'Mara, Inc., regarding state permitting of the project site. July 17, 2001.
- Hebb, TW. 2001. Personal communication between TW Hebb, National Park Service, Harpers Ferry National Historic Park, and S.E. Pomeroy, Greenhorne & O'Mara, Inc. regarding the presence of beaver in Flowing Spring Run. May, 2001.
- Loughland, J. 2001. Personal communication between J. Loughland, Office of Jefferson County Engineer, and B.K. O'Mara, Greenhorne & O'Mara, Inc., regarding public water and sewer lines in the vicinity of the proposed project. June 5, 2001.

Loughland, J. 2001. Personal communication between J. Loughland, Office of Jefferson County Engineer, and C. Perry, Greenhorne & O'Mara, Inc., regarding potential groundwater supply from wells. July 12, 2001.

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Philadelphia, PA 19103-2029

National Park Service
Einar Olsen, Regional Chief Ranger
National Capital Region
1110 Ohio Drive, SW
ORS – Room 357
Washington, DC 20242

7.3 STATE AGENCIES

WV Dept. of Environmental Protection
Mr. Andrew Gallagher
Chief Communications Officer
1356 Hansford Street
Charleston, WV 25301

WV State Historic Preservation Office
Marc Holma, Senior Structural Historian
for Review and Compliance
The Cultural Center
1900 Kanawha Blvd, East
Charleston, WV 25305-0220

WV Department of Commerce
Division of Natural Resources
1900 Kanawha Boulevard East
Building 3, Room 669
Charleston, WV 25305

7.4 LOCAL OFFICIALS AND AGENCIES

James A. Addy, Mayor
Mayor's Office Harpers Ferry
1000 Washington St.
Harpers Ferry, WV 25425

Commissioner James Ruland
Jefferson County Commission
P.O. Box 250
Charles Town, WV 25414

Tim Collins, Mayor
Town of Bolivar
Bolivar, WV 25425

Leslie Smith
Jefferson County Administrator
P.O. Box 250
Charles Town, WV 25414

Commissioner James Knode
Jefferson County Commission
P.O. Box 250
Charles Town, WV 25414

Jane K. Peters, CED
Jefferson County Development Authority
P.O. Box 237
Charles Town, WV 25414

Commissioner Al Hooper
Jefferson County Commission
P.O. Box 250
Charles Town, WV 25414

Darrell Penwell
Jefferson County Emergency Services
Director
P.O. Box 250
Charles Town, WV 25414

Commissioner Dean Hockensmith
Jefferson County Commission
P.O. Box 250
Charles Town, WV 25414

John Laughland
Jefferson County Engineer
P.O. Box 250
Charles Town, WV 25414

Commissioner Jane Tabb
Jefferson County Commission
P.O. Box 250
Charles Town, WV 25414

Tim Barr
Jefferson County Parks & Recreation
P.O. Box 596
Charles Town, WV 25414

Scott Coyle, President
Jefferson County Planning Commission
Planning Commission
P.O. Box 338
Charles Town, WV 25414

Paul Raco
Jefferson County Planning Department
P.O. Box 250
Charles Town, WV 25414

8 RESPONSES TO COMMENTS RECEIVED ON THE DRAFT ENVIRONMENTAL ASSESSMENT

A Draft Environmental Assessment was circulated, between February 26, 2002 and March 25, 2002, to public officials; federal, state, and local agencies; and other interested parties. Comment letters were received from three federal agencies (U.S. Fish and Wildlife Service (USFWS) National Conservation Training Center, the USFWS West Virginia Field Office, and the National Park Service), and two state agencies (West Virginia Division of Culture and Historic and the West Virginia Division of Natural Resources). These comments are addressed in the following section.

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
National Conservation Training Center
Route 1, Box 166
Shepherdstown, WV 25443

In Reply Refer To:
AEA-NCTC-TRNG-WL

MAR 25 2002

Mr. Lee Sullivan
c/o Harpers Ferry Team
U.S. Customs Service
Field Procurement Services Branch
6026 Lakeside Boulevard
Indianapolis, Indiana 46278

Dear Mr. Sullivan:

The National Conservation Training Center, U.S. Fish and Wildlife Service, has two comments on the Draft Environmental Assessment for the Harpers Ferry Firearms Training Facility. They are as follows:

- 1. The cover page mentions 60-acres and a 45-foot right-of-way transferred to the U.S. Customs Service from the National Park Service as required by PL 106-246. This should say administrative jurisdiction for the 60-acres and 45-foot right-of-way are being transferred. (On page 1-3, it does mention administrative jurisdiction of the 60-acre tract.) #1
- 2. Page 4-5. Mention is made of the use of native plant species to decrease use of pesticides and fertilizers. The U.S. Fish and Wildlife Service does emphasize the use of native plants wherever possible for ornamentals, erosion control, etc. The National Conservation Training Center can supply a list of native plants that would be useful in this regard. #2

Thank you for giving us the opportunity to comment on this Draft Environmental Assessment for the Harpers Ferry Firearms Training Facility.

Sincerely,


John R. Lemon, Director
National Conservation Training Center

**U.S. FISH AND WILDLIFE SERVICE,
NATIONAL CONSERVATION TRAINING CENTER**

**John R. Lemon
Director**

Response to Comment #1:

The text has been amended.

Response to Comment #2

No response is necessary.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office
694 Beverly Pike
Elkins, West Virginia 26241

APR 23 2002



Mr. Lee Sullivan
U.S. Customs Service
6026 Lakeside Boulevard
Indianapolis, Indiana 46278

Dear Mr. Sullivan:

The U.S. Fish and Wildlife Service received the Draft Environmental Assessment (DEA) for the U.S. Customs Service Firearms Training Center, Harpers Ferry, West Virginia on March 26, 2002. We received a copy of this document after the close of the comment period and upon our request of March 25, 2002. Upon request, the Service was also provided the Phase II Environmental Site Assessment for the 60-Acre U.S. Fish and Wildlife Parcel, March 7, 2001. We offer the following comments in accordance with the requirements of Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and consistent with the National Environmental Policy Act (NEPA) of 1969.

The Customs Service proposes to construct a firearms training facility at a site east of Halls town and west of Harpers Ferry in Jefferson County, West Virginia. Two build alternatives and a no-action alternative were provided for consideration. Alternative A would include construction of approximately 41,649 square feet of administrative and support buildings and training facilities on 104 acres. This includes: an administrative building, a defensive tactics training building, firearms training areas/firearms training support, an armory support facility, a simulations training support building and training areas, and a dormitory. Training areas include: an urban training area, an airport training area, a land border training area, and a seaport and marine training area (we were told this includes the construction of a four-acre pond), and a truck-inspection training area. Under this alternative, a 60-acre parcel with a 45-foot right-of-way (transferred to the Customs Service from the National Park Service), a 7-acre privately-owned parcel, and a 37-acre privately-owned parcel would be utilized.

Alternative B consists of the construction of the proposed Firearms Training Facility on a 60-acre parcel with a 45-foot right-of-way. No additional land would be acquired under this alternative. Alternative B includes construction of the same facilities as in Alternative A with the exception of a dormitory and the individual simulation training areas for urban training, airport training,

#1

land border training, seaport and marine testing, and truck-inspection training. However, this conflicts with Figure 2-3 for Alternative B which includes a simunitions training and support area and pond. A preferred alternative was not identified.

#1
cont.

Fish and Wildlife Service biologists visited the proposed project site on April 11, 2002 along with Mr. Randy Greenstein of the Customs Service. We were told that the Alternatives presented in the DEA are conceptual and therefore the specific locations of project components are unknown at this time. We were told that the size of the proposed pond is four acres, but the siting of the pond, the water source for the pond, and the pond discharge point are unknown.

#2

Section 3.1.4 Vegetation and Wildlife, page 3-11

The document states that 35 acres of hardwood forest exist in the 104-acre site (Alternative A). However, it is not clear if six acres of delineated forested wetland, and a five-acre forested wetland that has not been delineated (mentioned in Section 3.1.3), were included in the hardwood forest habitat component. For the purposes of evaluating effects on the endangered Indiana bat, *Myotis sodalis* (discussed below), we recommend that total forest acreage be clearly distinguished for the 104-acre (Alternative A) and the 60-acre (Alternative B) tracts.

#3

Section 3.1.6 Environmental Contamination, page 3-17

A Phase II Environmental Site Assessment (ESA) was conducted for the project area in March 2001. Arsenic was detected in all eighteen soil samples at levels exceeding the Environmental Protection Agency's (EPA) Industrial Risk-Based Concentrations (RBC's). Seven of eight subsurface soil samples for arsenic exceeded the EPA's Industrial RBC's. Iron, manganese, thallium, and barium were detected in subsurface soil samples above the Residential RBC's. The ESA concluded that no recognized adverse environmental conditions occur on-site and there is a relatively low risk to human health from the levels of contaminants detected in the soil samples if the property will remain a firearms training or other commercial/industrial facility. RBC's represent screening criteria for evaluation of an unacceptable risk to industrial workers or residents. Screening criteria to evaluate effects on ecological receptors were not used. We recommend that the final EA discuss environmental consequences of the soil contamination for fish and wildlife with project construction, including soil disturbance, excavation, spoil disposal, and site erosion. We suggest using the National Oceanic and Atmospheric Administration (NOAA) quick screening reference tables found in the NOAA HAZMAT Report 97-2 (Buchman, 1998). The assessment should include a discussion of the modes of mobilization for high levels of soil constituents found (see comments in Section 4.1.1 below) and how this will be addressed with facility and pond construction. The assessment should also consider the discharge from the proposed pond into Flowing Springs Run and the potential impacts of the proposed pond to adjacent wetlands. The karst topography of the area, which includes sinkholes, and may include underground streams, is vulnerable to pollutants directly entering the water table. Therefore, geology should be given careful consideration prior to selecting a site for the pond. Also, consideration should be given to the effects of the surface and subsurface soil contamination on the water quality of the pond and the potential effects on waterfowl, shorebirds, reptiles, amphibians, and other wildlife that will be attracted to this pond.

#4

The DEA also stated that two stream samples and two sediment samples (it should be noted that the ESA states that three stream and sediment samples) were collected, that a "variety of constituents were detected", and that risks could not be evaluated because the EPA has not issued RBC's for these constituents. A table should be provided in the final EA which shows those constituent levels. As with the soil samples, we suggest that screening be based on ecological receptors. Environmental risk values for sediments are provided in the National Status and Trends Program Approach (Long and Macdonald, 1992). Baseline information on Flowing Spring Run will be useful in assessing the biological effects of any pond discharge on the stream system.

#4
cont.

An ESA was apparently not conducted for the two privately-owned parcels that are a component of Alternative A. In order for Alternative A to be given thorough consideration as an alternative, an ESA should be conducted for these parcels.

#5

Section 4.1.1 Geology, Topography, and Soils

This section states that soils have not been in agricultural production for many years. The ESA stated that organochlorine pesticide screening was not conducted for the site because agricultural use at this site was historic in nature and likely involved lead/arsenic-based pesticides. On the site visit, cornfields and contemporary agricultural equipment were observed. Because crop production has continued until the present on this site, we recommend that the soils be evaluated for organochlorine pesticides, particularly PCB's, DDT's, and for mercury.

#6

Section 4.1.4 Vegetation and Wildlife, page 4-7

On the site visit, it was noted that the beaver pond wetland area adjacent to Flowing Springs Run was drained. This pond/wetland was within the existing forested wetland area in the floodplain of Flowing Springs Run and appears to have provided valuable wildlife habitat. A security fence is proposed to cross Flowing Spring Run and wildlife, including beaver, could be trapped within the facility boundary. The document stated that this would present a potential animal control problem. We suggest that consideration be given to constructing the security fence on the eastern perimeter of Flowing Springs Run and the adjacent wetland, thus eliminating the need for regular maintenance (debris removal) and to allow wildlife to use the stream and adjacent wetland area without becoming entrapped. We also understand that the portion of the property on the west of Flowing Springs Run could not be used for facility construction because it is within the floodplain of Flowing Spring Run, and thus may not require security fencing.

#7

Section 4.1.5, Threatened, Endangered, and Sensitive Species, page 4-9

By letters dated November 15, 2000, December 15, 2000, and July 11, 2001, our office stated that the only federally listed species that is likely to occur within the proposed project area is the endangered Indiana bat, *Myotis sodalis*. The DEA stated that no adverse impact is expected to occur to any federally listed species from either Alternative A or B. As we recently learned, project alternatives are somewhat conceptual and specific locations of project components are unknown at this time. Without this information and thus the amount of Indiana bat

#8

roosting/maternity habitat disturbance, we cannot concur with the determination that no adverse impact is expected to occur to the Indiana bat. We recommend that mist-net surveys for the Indiana bat be conducted on the site, or removal of trees occur during the winter hibernation period, November 15 through March 31. These options were discussed in greater detail in our July 11, 2001 letter. A third option is to wait until project components are finalized and the amount of forest disturbance can be accurately determined. Calculation of forest disturbance should include all forest containing trees greater than five inches in diameter at breast height and, unlike the determination made in the DEA, should include forest removed as a result of access and circulation road construction and pond construction. If more than 17 acres of suitable roosting/maternity habitat will be disturbed, one of the two options identified above can be utilized. If fewer than 17 acres of forest will be cleared, we consider that action discountable and unlikely to adversely affect the endangered Indiana bat and tree removal can occur at any time of year.

#8
cont.

Until the requested habitat information and/or mist net survey information is provided to the Service, we cannot concur that the proposed action is not likely to adversely affect the Indiana bat.

We appreciate the opportunity to provide comments on the DEA, and would also appreciate receiving a copy of the final EA. If you have any questions regarding our comments, or require further guidance on Section 7 consultation, please contact Linda Smith, of my staff, or contact me directly at (304) 636-6586, or at the letterhead address.

Sincerely,



Jeffrey K. Towner
Field Supervisor

Literature Cited

Buchman, M.F. 1998. NOAA screening quick reference tables. Hazardous Materials Response and Assessment Division, NOAA HAZMAT Report 97-2, National Oceanic and Atmospheric Administration. Seattle, Washington. 12pp.

Long, E.R. and D.D. Macdonald. 1992. National Status and Trends Program Approach. In: Sediment Classification Methods Compendium. EPA 823-R-92-006. EPA Office of Water (WH-556). Washington, D.C.

**U.S. FISH AND WILDLIFE SERVICE
WEST VIRGINIA FIELD OFFICE**

**Jeffery K. Towner
Field Supervisor**

Response to Comment # 1:

Both Alternative A and Alternative B include construction of simunitions training areas; however, only Alternative A includes *individual* simunitions areas for Urban Training, Airport Training, Land Border Training, Seaport and Marine Testing, and Truck Inspection Training. Under Alternative B, only one training area would be constructed.

Response to Comment # 2:

No response necessary.

Response to Comment # 3:

The project area consists of 41 total acres of forestland. This includes a total of 35 acres of hardwood forest and 6 acres of palustrine forested wetlands along flowing Springs Run.

A total of 6 acres of palustrine forest (PFO) wetland is located on the 104-acre site for the proposed Firearms Training Facility. Five acres of this wetland is located on the initial 60-acre parcel transferred to the U.S. Customs Service from the National Park Service.

Section 3.1.3 has been amended to further clarify the total acreage for forestland and wetlands.

Response to Comment # 4:

As requested, findings of the U.S. Customs Phase II Environmental Site Assessment were analyzed using the NOAA Screening Quick Reference Tables (SquiRTs) (NOAA, 1999) and the National Status and Trends Program Approach (Long, and McDonald 1992). A summary of this analysis follows:

As requested, water samples from the Phase II ESA were also compared to the SQuiRTs (see Table A). For water samples, SQuiRTs provide concentrations considered to be the highest level for a four-day average exposure not to be exceeded more than once every three years (synonymous with “acute” exposure.) Concentrations of silver and aluminum in water samples taken from Flowing Springs Run exceeded the chronic exposure concentrations in the SQuiRTs for Inorganics in Water. Concentrations of no other analyte reported in the Phase II ESA and included in SQuiRTs were considered to pose any threat to ecological receptors.

Table A
Water Samples from Flowing Springs Run

Constituent	U.S. Customs Service Site Sample Range (ppb) (Phase II ESA)	WV DEQ Samples at Halltown, WV 1987-1988 (ppb)	Chronic exposure concentration (CCC)* (ppb)
Inorganic Compounds			
Aluminum	152 - 221**	118 - 750	87
Antimony	1.6 - 4	--	30
Arsenic	3	--	150
Barium	56.5 - 58.2	1.1	--
Chromium	1 - 1.5	10	11 (hexavalent)
Copper	3.1 - 4.2	5	9
Iron	225 - 304	156 - 2,000	1,000
Lead	2.2 - 2.5	--	2.5
Manganese	14.4 - 17	10 - 78	
Silver	2.3 - 2.5**	--	0.12
Thallium	3.9 - 5	--	40
Vanadium	2.1	--	
Zinc	10.4 - 22.2	12	120
Organic Compounds			
Bis(2-ethylhexyl)phthalate	4.4 - 6.8	--	3
Acetone	2.2 - 2.4	--	--

*CCC- Criteria Continuous Concentration is the highest level for a four-day average exposure not to be exceeded more than once every three years, and is synonymous with “acute.”

**Water sample values exceed NOAA SQuiRTs chronic exposure concentration levels

Concentrations of organic and inorganic compounds in sediments were compared against the NOAA SQUIRT threshold effects level (TEL) (see Table B and C). None of the sediment samples obtained as part of the Phase II ESA had levels of organic compounds that exceeded the threshold effects level (TEL) for ecological receptors. Several organic compound sample results exceeded the effects range-low (ERL) values identified in Long and MacDonald (1992); however, none of the sample means exceeded the ERL. The ERL is used to estimate potential for adverse effects among benthic communities. Several inorganic compounds exceeded the mean background levels in sediments as identified in SQUIRTs. Concentrations of cadmium, copper, lead, and zinc exceeded the SQUIRTs TEL for ecological receptors.

Table B
Sediment Samples from Flowing Springs Run
Organic Compounds

Constituent	U.S. Customs Service Site Sample Range (ppb) (Phase II ESA)	Threshold Effects Level (ppb) (NOAA SQUIRTs)
4,4'-DDD	2.1 - 11	3.54
4,4'-DDE	1 - 55	1.42
Benzo(a)anthracene	140 - 380	31.7
Benzo[a]pyrene	28 - 360	31.9
Chrysene	170 - 390	57.1
Dieldrin	7.9 - 6.1	2.85
Endrin	4 - 6	2.67
Fluoranthrene	250 - 970	111
Phenanthrene	120 - 450	41.9
Pyrene	190 - 530	53

Table C
Sediment Samples from Flowing Springs Run - Inorganics

Constituent	U.S. Customs Service Site Sample Range (ppb) (Phase II ESA)	Background values (ppb) (NOAA SQuiRTs)	Threshold Effects Level (ppb) (NOAA SQuiRTs)
Aluminum	5,020-7,720*	2600	--
Antimony	0.72-2.5*	0.160	--
Arsenic	3.3-5.3*	1.100	5.9
Barium	67.5-120*	0.700	--
Beryllium	0.49-0.72	Not listed	--
Cadmium	0.35-0.64*+	0.100-0.300	0.596
Chromium	14.3-28.2*	7-13	37.3
Cobalt	5.5-8.2	10	--
Copper	33.8-124*+	10-25	35.7
Iron	9,680-13,500	9,900-18,000	--
Lead	103-997*+	4-17	35
Manganese	170-251	400	--
Mercury	0.54-1.6*	0.004-0.051	174
Nickel	7.1-12.9	9.9	18
Selenium	1.3-502*	0.290	--
Silver	0.51-2.4*	<0.50	--
Thallium	1-1.1	Not listed	--
Vanadium	15.7-21.7	Not listed	--
Zinc	88.4-211*+	7-38	123.1

*Sediment sample values exceed NOAA SQuiRTs mean background levels

+Sediment sample values exceed NOAA SQuiRTs threshold effects levels

For screening purposes, NOAA SquiRTs identify the average concentrations of inorganic compounds found in natural soils of the U.S. These tables also identify the range of concentrations found in natural soils. These concentrations are referred to as “background” in the NOAA tables. The concentrations of inorganic compounds reported for on-site soils at the U.S. Customs property, as presented in the Phase II ESA, and are well within the background range from the SQuiRTs (see Table D). The high-end concentrations of inorganic compounds reported for the on-site soil samples are all above the background mean values. The SquiRTs do not provide information to assess ecological effects of inorganic compounds in soils.

Table D
Soil Concentrations of Inorganic Compounds

Constituent	U.S. Customs Service Site Sample Range (ppb) (Phase II ESA)	Background mean values (ppb) (NOAA SQuiRTs)	Background range values (ppb) (NOAA SQuiRTs)
Aluminum	5,260,000 - 24,600,000	--	--
Antimony	830 - 1,400	480	Below detection - 8,800
Arsenic	1,800 - 41,100	5,200	Below detection - 97,000
Barium	15,100,000	440,000	10,000 - 0.5%
Cadmium	130 - 1,700	--	--
Chromium	12,900 - 57,400	37,000	1,000 - 0.2%
Cobalt	5,900 - 25,200	6,700	Below detection - 70,000
Copper	6,700 - 88,700	17,000	Below detection - 700,000
Iron	23,200-68,000	--	--
Lead	4,500 - 174,000	16,000	Below detection - 700,000
Manganese	2,090,000-3,460,000 & 103,000,000	330,000	Below detection - 0.7%
Mercury	44 - 5,700	58	Below detection - 4,600
Nickel	4,800 - 84,800	13,000	Below detection - 700,000
Silver	240 - 10,400	--	--
Vanadium	29,400 - 70,900	58,000	Below detection - 500,000
Zinc	42,600 - 64,000	48,000	Below detection - 0.29%

The NOAA SquiRTs identify targets for concentrations of organic compounds in soils in agricultural use and in urban/park/residential use. These targets were obtained from British Columbia and are recommended as thresholds for remediation. These targets also provide a soil value intended to protect adjacent, aquatic habitat. However, these targets do not represent official NOAA or Federal Government policy and do not constitute criteria or clean-up levels (NOAA, 1999). While the levels of organic compounds found on the U.S. Customs site are above the agricultural target, they are all well below the urban/park/residential target (see Table E).

Table E
Soil Concentrations of Organic Compounds

Constituent	U.S. Customs Service Site Sample Range (ppb) (Phase II ESA)	Agricultural Target (ppb) (NOAA SQuiRTs)	Urban/Park/Residential Target (ppb) (NOAA SQuiRTs)
Benzo(a)anthracene	270 – 380	100	1,000
Benzo(a)pyrene	280 – 360	100	1,000
Benzo(b)fluorathene	290 – 330	100	1,000
Benzo(k)fluorathene	220 - 370	100	1,000
Benzene	1.6	8	8
Indeno(1,2,3-cd)pyrene	35 – 111	100	1,000
Naphthalene	36	100	5,000
Phenathrene	47 – 200	100	5,000
Pyrene	24 – 250	100	10,000

The U.S. Customs Service will mitigate for the potential transport of contaminants to surface water through the use of sediment and erosion control measures during construction. A sediment and erosion control plan will be developed and provided to Jefferson County for review.

During construction, there is the potential for soils to be transported to groundwater through the bedrock on the site. As stated in the EA, measures would be taken during construction to avoid, or prevent surface runoff to any sinkholes or other surface openings that could provide runoff or contaminants routes from the surface through the bedrock to subsurface water.

There is the potential for organic and inorganic substances currently present in soils to enter the pond and then to enter Flowing Springs Run. However, a stormwater management plan will be developed as part of the site design, and this plan will address potential water quality issues.

Response to comment # 5:

Environmental Site Assessments were not conducted on the two parcels acquired by the U.S. Customs Service. However, a review of past site use suggests that soils on the parcels would be similar to soils found on the 60-acre parcel.

Response to Comment # 6:

While portions of the site were farmed until recently, the portions of the site containing prime farmland soils and statewide important soils have not been used for agricultural purposes for many years. The EA states, “approximately 20 acres of soil that was agricultural land was taken out of production with the transfer of property to the U.S. Customs Service, and the land would likely remain uncultivated. Approximately 8 acres of prime farmland soils and 8 acres of statewide important farmland would be removed from potential agricultural use; these soils are currently fallow and have not been used for agricultural purposes for many years.”

Sampling was conducted for the Phase II Environmental Site Assessment (ESA). The ESA states: "sampling in the current or former agricultural areas focused on characterization of potential environmental impact of pesticides that may have been applied including both "modern" organochlorine pesticides as well as "historical" lead arsenate pesticides. Surface soil samples collected in these areas were analyzed for Target Compound List (TCL) pesticides, lead, and arsenic."

As stated in the Phase II ESA, "subsurface soils samples collected in these areas were analyzed for lead and arsenic, but not organochlorine pesticides. Pesticides tend to adhere to fine soils particles (clays) and organic matter and become tightly bound to soils particles, thereby limiting migration into deeper soils. In most cases, contaminant levels decrease substantially with depth, usually reflecting background levels at 1.5 to 2 feet below ground surface (Peryea and Craear, 1994)."

Response to Comment # 7:

Because of safety and security concerns, the U.S. Customs Service has determined that it is not feasible to move the fence to the east side of Flowing Springs Run. The Customs Service will provide maintenance to remove debris that could impede the flow of the stream and wildlife movement.

Response to Comment # 8:

Under Alternative A, it is anticipated that approximately 10 acres of forested land would be cleared if the U.S. Customs Service constructed the Firearms Training Facility on the 104-acre tract of land. Construction of access and circulation roads on the site would require additional clearing and disturbance of 1 to 2 acres of forested habitat. Therefore, the total anticipated forested land to be cleared and/or disturbed under this alternative would be approximately 12 acres. The U.S. Customs Service will make every reasonable attempt to limit the impacts to forested land.

Under Alternative B: Construction of the Firearms Training Facility on the 60-acre parcel is anticipated to clear approximately 9 acres of forested land and construction of access and circulation roads on the site would require additional clearing and disturbance of 1 to 2 acres of forested habitat. Therefore, the total anticipated forested land to be cleared and/or disturbed under this alternative would be approximately 11 acres.

Once the project design is finalized, if more than 17 acres will be cleared, then the U.S. Customs Service will either conduct mist net surveys on site or plan for the removal of trees to occur during the Indiana bat's winter hibernation period between November 15th through March 31st.

Sections 4.1.4.2 and 4.1.4.3 of the Environmental Assessment have been updated to reflect this information.



United States Department of the Interior

NATIONAL PARK SERVICE
Harpers Ferry National Historical Park
P.O. Box 65
Harpers Ferry, West Virginia 25425

IN REPLY REFER TO:
L1425(HAFE)

APR 26 2002

Mr. Lee Sullivan
U.S. Customs Service
6026 Lakeside Boulevard
Indianapolis, Indiana 46278

Dear Mr. Sullivan:

The following are our comments on the Draft Environmental Assessment for the U.S. Customs Service Harpers Ferry Firearms Training Facility. These comments are submitted outside the official comment period ending on March 25; however, we wish to bring them to your attention.

1. The lands to the east and south of the firearms facility are administered by the National Park Service (NPS) pursuant to P.L. 106-246. While the land is not formally part of the Harpers Ferry National Historical Park, it could be considered eligible for National Register nomination as part of the Civil War battlefield associated with the 1862 Battle for Harpers Ferry. If the adjoining land is determined to be eligible for the National Register of Historic Places, the criteria would have to be applied.

#1

2. The NPS will be developing a recreational overlay on the adjoining land described above. The recreational use will overlay the existing agricultural use of the land and will include trails, wayside exhibits, and associated interpretive facilities to interpret the 1862 Battle for Harpers Ferry. The NPS will design the recreational overlay to minimize the effects of noise associated with the firearms facility. In addition, the NPS will locate visitor facilities away from the ranges and tactical areas to reduce the possibility of a visitor being hit by ammunition escaping the facility. Likewise, the ranges and tactical training sites should be designed to minimize, as much as possible, the amount of noise emanating from the facility. Safety features should be a high priority design element so that any ammunitions escaping the facilities are directed away from visitor use areas.

#2

3. Both action alternatives call for a 500,000-gallon surface concrete storage tank. Although the site location and design of this structure has not been determined, typical water storage structures constructed in Jefferson County are very tall exceeding 180 feet in height. We have recently commented to the Environmental Protection Agency that the height of a 182-foot water storage tank on the proposed Murphy's Landing residential development, which is

#3

mentioned in the EA as a possible source for water and wastewater treatment, would have an adverse visual affect on the Harpers Ferry National Historical Park, a National Register property. Water storage tanks, like those serving the Park and Towns of Harpers Ferry and Bolivar, are appropriate for historic sites like Harpers Ferry. They are approximately 35 feet high, and painted an earth tone color to blend with the surrounding landscape.

#3
cont.

4. Other structures which could have an adverse visual affect on the Park include electric transmission lines, communication antennas, buildings and other similar tall structures. Such structures should be designed to be low profile or underground to prevent visual impacts to historic and scenic views from the Park including the adjoining land described above.

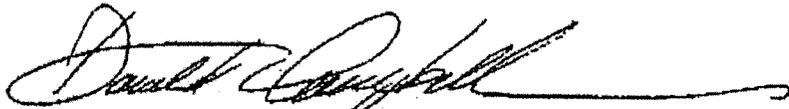
#4

5. Finally, the archeological remains of the school house for which School House Ridge (School House Hill) was named, may be located in the area where the entrance facilities for Alternative A are laid out. Based on the Maps of Jefferson County, Virginia (1852 and October 1862) by S. Howell Brown, the school house appears to have been constructed either near the house site within the treeline (privately owned at time of archeological survey- no subsurface testing) or the complex of structures in the agricultural field that can be seen on the aerial photos in the EA (which is out of the project area). If the school house was located within the treeline, it could be adversely impacted by Alternative A, since the entrance road is more centrally located on this plan. We recommend that a more comprehensive archeological survey be conducted over the northeast section of the project area for Alternative A. If the school house site exists, it could be considered eligible for the National Register of Historic Places, the criteria would have to be applied.

#5

Thank you for the opportunity to comment on the draft Environmental Assessment.

Sincerely,



Donald W. Campbell
Superintendent

NATIONAL PARK SERVICE

Donald W. Campbell
Superintendent

Response to Comment #1:

The Area of Potential Effects (APE) was determined based upon the limited sight distance and barrier created by the local topography. The APE was discussed in the field with Todd Bolton of the National Park Service. The APE documented in the *Historic Resources Determination of Eligibility and Assessment of Effects* report and this document. The APE extends approximately 500 feet beyond the east, west, and south project boundaries, and extends to the north side of U.S. 240 to the north. The project is located in a depression to the west of School House Ridge and has limited sight lines to the east. The western viewshed of the project is dominated by the limestone quarry industry. The topography also limits sight lines to the south. The visual character is abruptly interrupted by U.S. 340.

Due to the terrain, the report determined that there was no potential for effect to any potential resources outside of this area. Within the APE the height of School House Ridge also eliminates the potential for adverse effects to the property east of the project area.

The West Virginia SHPO concurred with the Area of Potential Effects as defined in the Historic Resources report. A letter from Susan Pierce, dated November 16, 2001, stated, "we determine that there will be *No Effect* to the properties within the Area of Potential Effect for this project."

Within the U.S. Customs Service project area there is not indication of battles. Troops camped in the project area, but there is no historical evidence of fighting in the project area. The Historic Resources report amply discusses the role of the project area during the September 1862 siege of Harpers Ferry.

During research and field meetings with National Park Service staff, no concern of the adjacent lands and their cultural landscape and eligibility was expressed.

Response to Comment #2:

A noise analysis was conducted as part of this Environmental Assessment to assess potential noise impacts associated with the Firearms Training Facility. To establish this worst case, noise levels were analyzed assuming all of the firing ranges would be outdoor ranges. Construction of indoor ranges would result in lower noise impacts. The analysis found that the firing ranges would not produce noise levels that would be obtrusive to surrounding land uses. To reduce the noise impacts associated with firing ranges, the ranges will be constructed with overhead baffling structures and dampening material that will reduce the sound propagation and perceived noise levels outside the ranges.

Baffles at the firing ranges will be designed, in accordance with applicable guidelines, to capture errant projectiles from escaping from the firing line.

Response to Comment # 3:

Design specifications currently call for a 250,000-gallon storage tank; the Final EA has been updated to reflect this change. The tank will be designed to minimize impacts to the overall viewshed.

Response to Comment # 4:

The U.S. Customs Service will design the Firearms Training Center in sensitive manner. Buildings will be limited to one-story and vegetated buffers will be used to shield structures. As stated in the EA, all utilities will be placed underground.

Response to Question # 5:

In preparing the Historic Structures Determination of Eligibility Report and the Phase I Archaeological Report, research was conducted with the West Virginia Division of Culture and History which serves as the WV State Historic Preservation Office (SHPO), and with the National Park Service. A Phase I Archaeological survey was conducted of the project area. While no excavation on the 7-acre parcel was possible at the time (the owner would not allow the testing), an intensive site walk-over was conducted to identify potentially significant archaeological resources. However, none were identified. Historic research and meetings with the Harpers Ferry National Historical Park staff did not indicate the school house was of concern. Further research indicated that the location of school house was north of the current U.S. 340. The school house is shown on 1852 and 1883 S. Howell Brown maps. Park staff stated that U.S. 340 has shifted to the south since that time. At the time of the research and field investigations there was no mention of the school house by Park staff.

Personnel of the Harpers Ferry National Historical Park have recently concurred with the EA, that the school house was north of U.S. 340 and that the current school may have been built on the old school foundations. They further indicated that no such school house foundations within the archaeological Area of Potential Effects are known. Foundations are outside of the project area, but it has not been determined if they were related to the school. Park Staff also indicated that they have now reinterpreted the historic maps and believe the school could have been south of U.S. 340, but the precise location is not known.

In addition, Ms. Susan Pierce, Deputy SHPO, toured the site area and did not express concerns about cultural issues. The Phase I Archaeology report was submitted to her office for review and was accepted. A letter, dated September 18, 2001, stated the resources identified "exhibit no potential to provide additional significant information and are thus *not eligible* for inclusion in the National Register. No further consultation is necessary regarding archaeological resources."



FIELD PROC SVCS GRP

2002 MAR 25 P 3: 31

WEST VIRGINIA DIVISION OF
CULTURE AND HISTORY CUSTOMS SERVICE

March 18, 2002

Mr. Lee Sullivan
Contracting Officer
US Customs Service
6026 Lakeside Boulevard
Indianapolis, IN 46278

RE: Harpers Ferry Firearms Training Facility
FR#: 01-1307-JF-3

Dear Mr. Sullivan:

We have reviewed the Draft Environmental Assessment (DEA) for the above mentioned project. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800, "Protection of Historic Properties," we submit our comments.

Architectural Resources:

We reiterate our determination that the proposed project will not effect any properties eligible for or listed in the National Register of Historic Places. No further consultation is necessary with this office regarding architectural resources.

#1

Archaeological Resources:

In our letter dated September 18, 2001, we stated our determination that the prehistoric and historic items recovered during Phase I archaeological survey of the project area were not eligible for inclusion in the National Register of Historic Places due to their lack of research potential. We remain in concurrence with this determination. The proposed activity will have no effect upon known archaeological resources listed on or eligible for inclusion in the National Register. No further consultation is necessary.

#2

We appreciate the opportunity to be of service. If you have questions regarding our comments or the Section 106 process, please call Robin Fisher, Historian, or Juanna Wilson, Senior Archaeologist, at (304) 558-0240.

Sincerely,

Susan M. Pierce
Susan M. Pierce
Deputy State Historic Preservation Officer

SMP:jlw/rlf

WEST VIRGINIA DIVISION OF CULTURE AND HISTORY

Susan M. Pierce
Deputy State Historic Preservation Officer

Response to Comment #1:
No response required.

Response to Comment #2:
No response required.



RECEIVED
02 MAR 25 PM 2:26

DIVISION OF NATURAL RESOURCES
Wildlife Resources Section
Capitol Complex, Building 3, Room 812
1900 Kanawha Boulevard, East
Charleston WV 25305-0664
Telephone (304) 558-2771
Fax (304) 558-3147
TDD 1-800-354-6087

NLC
TRADE MGMT. BRANCH

Bob Wise
Governor

Ed Hamrick
Director

March 18, 2002

Mr. Lee Sullivan
c/o Harpers Ferry Team
U.S. Customs Service
Field Procurement Services Branch
6026 Lakeside Boulevard
Indianapolis, Indiana 46278

Re: Draft Environmental Assessment for the proposed Harpers Ferry
Advanced Training Center in Jefferson County, WV.

Dear Mr. Sullivan:

The Division of Natural Resources, Wildlife Resources Section (WRS) has completed its review of the Draft Environmental Assessment (DEA) for the proposed Harpers Ferry Advanced Training Center (HFATC) in Jefferson County, West Virginia, dated February 21, 2002 and offers the following comments and recommendations. Comments are submitted pursuant to the authorities of the Fish and Wildlife Coordination Act (as amended), the Federal Water Pollution Control Act/Clean Water Act (as amended), the Endangered Species Act of 1973 (as amended), and corresponding responsibilities described in The Laws of West Virginia (WV Code, Chapter 20).

The U.S. Customs Service proposes to build a state-of-the-art firearms training facility on a 104 or 60 acre parcel in Jefferson County, West Virginia. The DNR recognizes the need for the HFATC. The U.S. Customs Service has designed their advanced firearms training facility in an environmentally friendly manner that will minimize impacts to both aquatic and terrestrial resources. The main concern with any firing range is lead contamination entering the environment. The HFATC design has taken all reasonable measures to minimize the leaching of lead into the environment.

After reviewing the DEA, we offer the following specific comments.

4.1.2 Water Resources

The only direct impact to aquatic resources will be if the perimeter security fence crosses Flowing Springs Run. Fencing can collect and trap debris and cause blockages during high flow events which can, in turn, lead to accelerated bank erosion in the vicinity of the fence. We suggest that the

#1

Mr. Lee Sullivan
Page 2
March 18, 2002

fence be closely monitored and all large woody debris and trash be immediately removed. If the maintenance is accomplished without placing heavy machinery below the ordinary high water mark of Flowing Springs Run, then no permits are required to remove the blockage. The U.S. Customs Service may want to consider a minimal amount of rip-rap on the stream bank at the security fence to prevent possible bank erosion and aid in the efficient removal of accumulated debris. Clean Water Act permits and Public Land Corporation right-of-entry authorization will be necessary if any fill is placed below the ordinary high water mark of Flowing Springs Run.

#1
cont.

4.1.4 Vegetation and Wildlife Resources

The DEA indicates that the construction of a man-made lake at the Seaport Training Area would create new habitat for wildlife such as waterfowl. The area may be beneficial for migrating waterfowl, however, the Customs Service should be aware that large numbers of resident Canada geese can become a nuisance.

#2

The DEA indicates that noise from construction activities will frighten deer from the area and the eight foot security fence will exclude deer from the facility. Therefore, only a minimal number of deer will be trapped inside the security fence. Deer are highly adaptable and will quickly become accustomed to the construction activities. An eight-foot fence will normally exclude deer if it is installed on level ground. If the fence is installed on a steep slope, deer can cross on the uphill side of the fence.

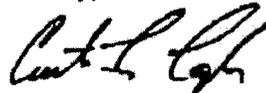
#3

The DEA states that deer may become a nuisance if the population within the HFATC is not controlled. Trapping and relocating is offered as a possible alternative for controlling the deer population within the facility. DNR does not trap and relocate nuisance deer. Trapping of deer is generally cost prohibitive and inefficient as a means of population control. In addition, there is a significant amount of stress to the animal during the trapping and relocation process. If the deer population within the facility becomes a safety concern or an excessive nuisance, DNR will assist in the organization of a controlled hunt or it may issue special permits to allow the Customs Service or its agent to shoot the problem animals.

#4

The WRS has concluded after reviewing the DEA, that the HFATC will not result in a significant loss of natural resources. If you have any questions regarding our comments or if we can be of any assistance to you, please contact Mr. Danny Bennett of my staff at (304) 637-0245.

Sincerely,



Curtis I. Taylor, Chief
Wildlife Resources Section

CIT/adk

**WEST VIRGINIA DIVISION OF NATURAL RESOURCES
WILDLIFE RESOURCES SECTION**

**Curtis I. Taylor
Chief**

Response to Comment #1

Because of safety and security concerns, the U.S. Customs Service has determined that it is not feasible to move the fence to the east side of Flowing Springs Run. The Customs Service will provide maintenance to remove debris that could impede the flow of the stream and wildlife movement.

Response to Comment # 2:

No response required.

Response to Comment # 3:

No response required.

Response to Comment # 4:

The U.S. Customs Service will work with the U.S. Fish and Wildlife Service and the WV Division of Natural Resources to determine the best possible means of implementing population management programs for the management of wildlife contained within the facility boundary.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office
694 Beverly Pike
Elkins, West Virginia 26241



JUL 11 2001

Mr. Steven E. Pomeroy
Greenhorne & O'Mara, Inc.
9001 Edmonston Road
Greenbelt, MD 20770

Dear Mr. Pomeroy:

This responds to your information request of May 15, 2001 regarding the potential presence of federally listed species on and around the proposed Harpers Ferry Firearms Training Facility in Jefferson County, West Virginia.

The only federally listed species that is likely to occur within the proposed project area is the endangered Indiana bat, *Myotis sodalis*. This species may use the project area for foraging and roosting between April 1 and November 14. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, or upland forest, and old fields or pastures with scattered trees. Roosting/maternity habitat consists primarily of live or dead hardwood tree species such as shagbark hickory, which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites.

The Service has determined the number of acres of suitable foraging and roosting habitat on the West Virginia landscape available to each Indiana bat known to occur there. On that basis, we have determined that small projects, generally affecting 17 acres or less of suitable foraging and roosting habitat, will have an infinitesimally small chance (at the 98% confidence level) of resulting in direct or indirect take. If less than 17 acres of suitable habitat will be disturbed, the Service considers that action discountable and unlikely to adversely affect the endangered Indiana bat at any season of the year. A determination should be made as to the amount of suitable habitat that will be removed as a result of this project. If less than 17 acres will be removed, tree removal can occur at any season of the year. If 17 acres or more will be disturbed, the Service recommends one of two options. Mist net surveys can be conducted to determine if the summer foraging and roosting habitat within the area affected by the proposed project is occupied. A survey plan should be submitted to the Service and the West Virginia Division of

Natural Resources for concurrence prior to conducting the work. The survey should follow the standard Indiana bat mist net protocol, and be conducted between May 15 and August 15 by a qualified mammalogist with experience in identifying Indiana bats.

If Indiana bats are collected, the data should be incorporated into a Biological Assessment pursuant to Section 7 of the ESA. Biological Assessments are designed to assist Federal agencies in determining if formal consultation is required. The Service recommends that the following steps be taken in preparation of the BA.

1. Conduct recent interviews of recognized experts on the species at issue, including those within the Service, West Virginia Division of Natural Resources (WVDNR), U.S. Forest Service, universities and others who may have data not yet found in scientific literature.
2. Review up to date literature and other scientific data to determine the species distribution, habitat needs, and other biological requirements.
3. Analyze the effects of the action on individuals and populations of the species and its habitat, including indirect and cumulative effects of the action.
4. Analyze alternative actions that may provide conservation measures.
5. Conduct any studies necessary to fulfill the requirements of (1) through (4) above.
6. Review any other relevant information.

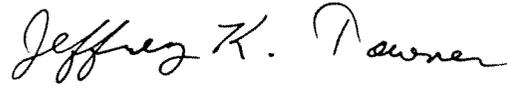
If you determine that the proposed action "may affect" a federally listed species you must request, in writing, formal consultation with this office, pursuant to Section 7(a) of the ESA. If the determination is "no effect", no further consultation is necessary, unless requested by the Service. Regardless of your findings, you should provide this office a copy of the survey results and any other relevant information that assisted you in reaching your conclusion.

Another option the Federal agency may use to address Indiana bat concerns is to assume Indiana bats are present and schedule timber removal operations during the hibernation period, between November 15 and March 31. If that option is chosen, the Federal agency must then submit a calculation of the percentage of area of suitable habitat that would remain within a two-mile radius after the proposed disturbance. If the Service determines that the extent of disturbance is significant and may affect the Indiana bat, the Federal agency must request formal Section 7 consultation with the Service or conduct mist net surveys to determine if Indiana bats are, in fact, present. If Indiana bats are collected during mist netting, the Federal agency must prepare a Biological Assessment, as described above.

A compilation of federally listed endangered or threatened species in West Virginia is enclosed for your information.

If you have any questions regarding this letter, please have your staff contact Shane Jones of my staff, or contact me directly, at (304) 636-6586, or at the letterhead address.

Sincerely,

Handwritten signature of Jeffrey K. Towner in cursive script.

Jeffrey K. Towner
Field Supervisor

Enclosure

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN WEST VIRGINIA

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
<u>FISHES</u>			
None			
<u>BIRDS</u>			
Eagle, bald	<u>Haliaeetus leucocephalus</u>	T*	Entire state Nest sites: (1) Mineral, (2) Hampshire, (1) Hancock, (1) Pendleton, (1) Grant, (3) Hardy, and (1) Wood Counties
<u>MAMMALS</u>			
Bat, Indiana	<u>Myotis sodalis</u>	E	Known hibernacula in Tucker, Pocahontas, Greenbrier, Randolph, Preston, Pendleton, Monroe and Mercer Counties. Critical habitat: Hellhole Cave, Pendleton County - Bats may occupy summer habitat throughout the entire state
Bat, Virginia big-eared	<u>Corynorhinus (=Plecotus) townsendii virginianus</u>	E	Primarily northeastern counties, especially Pendleton, Tucker and Grant Counties. Critical habitat: Hellhole Cave, Cave Mountain Cave, Hoffman School Cave, and Sinnit Cave in Pendleton Co.; Cave Hollow Cave in Tucker Co.
Bat, gray	<u>Myotis grisescens</u>	E	Hellhole Cave, Pendleton Co.
Cougar, eastern	<u>Felis concolor cougar</u>	E	Entire state, may be extinct
Squirrel, West Virginia northern flying	<u>Glaucomys sabrinus fuscus</u>	E	Pocahontas, Tucker, Pendleton, Greenbrier, Webster, and Randolph Counties, within proclamation boundary of Monongahela National Forest
<u>MOLLUSKS</u>			
Snail, flat-spined three-toothed land	<u>Triodopsis platysayoides</u>	T	Monongalia and Preston Counties, mainly in Cooper's Rock State Forest area, both sides of Cheat River Gorge
Mussel, tubercled-blossom pearly	<u>Epioblasma (=Dysnomia) torulosa torulosa</u>	E	Kanawha River, Fayette Co., may be extinct
Mussel, pink mucket pearly	<u>Lampsilis abrupta (=orbiculata)</u>	E	Kanawha River, Fayette Co., Ohio River, Cabell, Mason and Wood Counties; Elk River, Kanawha Co.
Mussel, James spiny	<u>Pleurobema (=Canthyria) collina</u>	E	Monroe Co., South Fork of Potts Creek
Mussel, fanshell	<u>Cyprogenia stegaria (=irrorata)</u>	E	Kanawha River, Fayette Co.; Ohio River, Wood Co.
Mussel, clubshell	<u>Pleurobema clava</u>	E	Elk River, Braxton, Kanawha, and Clay Counties; Hackers Creek, Lewis Co.; Meathouse Fork, Doddridge, Co.; South Fork Hughes River, Ritchie County
Mussel, northern riffleshell	<u>Epioblasma torulosa ranqiana</u>	E	Elk River, Kanawha Co.

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
<u>PLANTS</u>			
Harperella	<u>Ptilimnium nodosum</u>	E	Morgan and Berkeley Counties
Shale barren rock cress	<u>Arabis serotina</u>	E	Greenbrier, Hardy, and Pendleton Counties
Running buffalo clover	<u>Trifolium stoloniferum</u>	E	Fayette, Webster, Tucker, Pocahontas, Barbour and Randolph Counties
Virginia spiraea	<u>Spiraea virginiana</u>	T	Nicholas, Fayette, Mercer, Raleigh, Summers, and Greenbrier Counties
Northeastern bulrush	<u>Scirpus ancistrochaetus</u>	E	Berkeley and Hardy Counties
Small whorled pogonia	<u>Isotria Medeoloides</u>	T	Greenbrier County
<u>AMPHIBIANS</u>			
Cheat Mountain salamander	<u>Plethodon nettingi</u>	T	Pendleton, Pocahontas, Randolph, Grant and Tucker Counties

* Threatened

** Endangered





DIVISION OF NATURAL RESOURCES

Wildlife Resources Section
Operations Center
P.O. Box 67

Elkins, West Virginia 26241-3235
Telephone (304) 637-0245
Fax (304) 637-0250

Bob Wise
Governor

Ed Hamrick
Director

May 24, 2001

Mr. Steven E. Pomeroy
Greenhorne & O'Mara, Inc.
9001 Edmonston Road
Greenbelt, MD 20770

Dear Mr. Pomeroy:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and wetlands for the area of the proposed Harpers Ferry Training Facility in Jefferson County, WV.

We have no known records of any RTE species or wetlands within the project area. The Wildlife Resources Section knows of no surveys that have been conducted in the area for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review.

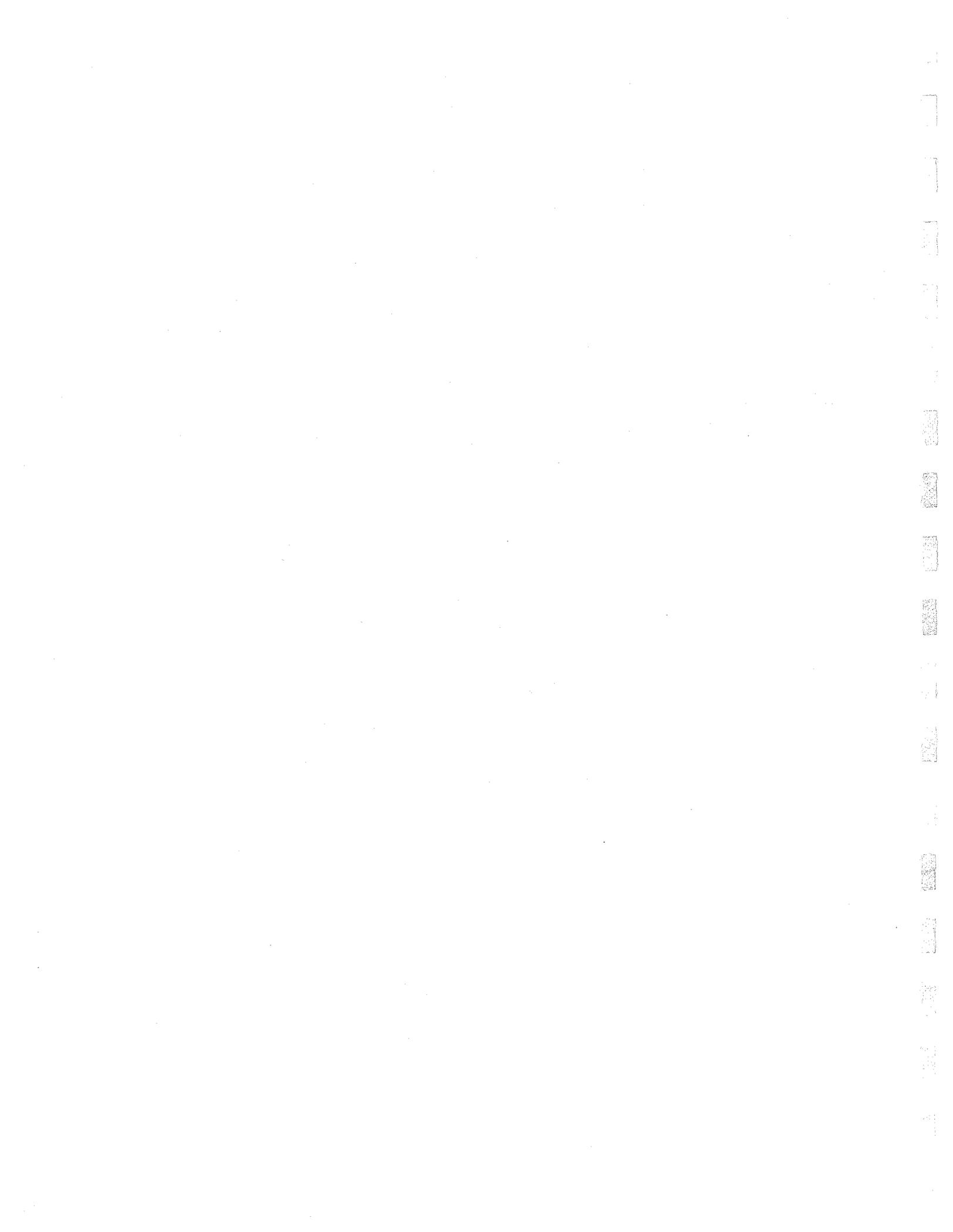
Enclosed please find an invoice.

Thank you for your inquiry, and should you have any questions please feel free to call upon us.

Sincerely,

Barbara Sargent
Environmental Resources Specialist
Nongame Wildlife & Natural
Heritage Program
Wildlife Resources Section

enclosure





DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
WILLIAM S. MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE
PITTSBURGH, PA 15222-4186

Received
8/16/01

REPLY TO
ATTENTION OF:

August 10, 2001

Operations and Readiness Division
Regulatory Branch
200101438

Mr. Lee Sullivan
Contracting Officer
U.S. Customs Service
6026 Lakeside Blvd.
Indianapolis, Indiana 46278

Dear Mr. Sullivan:

I refer to your letter of May 31, 2001 regarding the wetland delineation performed at a 60-acre parcel proposed for the Customs Service Training Center located south of U.S. Route 340 and adjacent to Flowing Springs Run, near Harpers Ferry, Jefferson County, West Virginia.

On July 18, 2001, Mr. Richard Sobol, my biologist met with Mr. Bill Hebb of the National Park Service to inspect the delineation and to verify the boundaries.

As a result of the inspection, we are satisfied that the delineation accurately depicts the wetlands on this parcel and we are in agreement with those findings. This delineation will remain valid for a period of five years from the date of this letter, unless new information warrants revision.

With the development of this site, every effort should be made to avoid and minimize the wetland impacts to the fullest extent practicable. Once a final development plan is established, it should be compared with the wetlands map and this office again be contacted to verify permit requirements. Development of the upland areas will not require any permits from this office.

If you have any questions, please contact Mr. Richard Sobol at (412) 395-7153.

Sincerely,

Albert H. Fogalla
Chief, Regulatory Branch

Copy Furnished:

Ms. Barbara Taylor
WV Division of Natural Resources
Water Resources Section
Office of Environmental and Regulatory Affairs
1201 Greenbriar Street
Charleston, WV 25311-1088



July 26, 2001

Mr. Pat Luke
U.S. Department of Agriculture
Natural Resources Conservation Service
209 E. Third Avenue
Ranson, West Virginia 25438

Re: Submittal of "Farmland Conversion Impact Rating" form, AD-1006

Dear Mr. Duke:

The U.S. Customs Service is preparing an Environmental Assessment (EA) for the proposed Harpers Ferry Firearms Training Facility in Jefferson County, West Virginia. The Proposed Action consists of the construction of a firearms training facility on a 104-acre parcel. The facility will serve as the training headquarters for the U.S. Customs Service. The site is located approximately 3 miles west of Harpers Ferry and north of Millville.

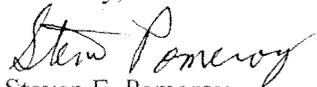
In accordance with the Farmland Protection Policy Act (FPPA) requirements, we request completion of Parts II, IV, and V of the three attached copies of Form AD-1006, Farmland Conversion Impact Rating. Based on the Soil Survey of Jefferson County, West Virginia, and lists of Prime Farmland Soils and Soils of Statewide Importance provided by your office, we have determined that proposed project is subject to the FPPA. We are, therefore, submitting the attached AD-1006 to your office.

Enclosed are three copies of the AD-1006, location maps for the 104-acre proposed site and the 60-acre alternative site, soil maps of the sites, and aerial photographs showing the two sites.

Thank you for your assistance. If you have any questions regarding the nature of this study or need additional information, please feel call me at 301-982-2800, extension 605, or you may e-mail me at spomeroy@g-and-o.com.

Please mail one copy of the completed form to: Steven E. Pomeroy
Greenhorne & O'Mara, Inc.
9001 Edmonston Road
Greenbelt, MD 20770

Sincerely,


Steven E. Pomeroy
Environmental Scientist

Enclosures

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)	Date Of Land Evaluation Request
---	---------------------------------

Name Of Project Harpers Ferry Firearms Training Facility	Federal Agency Involved US Customs Service
---	---

Proposed Land Use Training facility for US Customs agents	County And State Jefferson County, WV
--	--

PART II (To be completed by NRCS)	Date Request Received By NRCS
--	-------------------------------

Does the site contain prime, unique, statewide or local important farmland? <i>(If no, the FPPA does not apply -- do not complete additional parts of this form).</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Acres Irrigated	Average Farm Size
--	------------------------------	-----------------------------	-----------------	-------------------

Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount Of Farmland As Defined in FPPA Acres: %
---------------	---	---

Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS
-------------------------------------	--------------------------------------	---------------------------------------

PART III (To be completed by Federal Agency)	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	104.0	60.0		
B. Total Acres To Be Converted Indirectly	0.0	0.0		
C. Total Acres In Site	104.0	60.0	0.0	0.0

PART IV (To be completed by NRCS) Land Evaluation Information	Site A	Site B	Site C	Site D
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				

PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)	0	0	0	0
--	---	---	---	---

PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Nonurban Use	15	5	5		
2. Perimeter In Nonurban Use	10	6	7		
3. Percent Of Site Being Farmed	20	2	4		
4. Protection Provided By State And Local Government	20	0	0		
5. Distance From Urban Builtup Area	15	15	15		
6. Distance To Urban Support Services	15	10	10		
7. Size Of Present Farm Unit Compared To Average	10	10	10		
8. Creation Of Nonfarmable Farmland	10	0	0		
9. Availability Of Farm Support Services	5	5	5		
10. On-Farm Investments	20	0	0		
11. Effects Of Conversion On Farm Support Services	10	0	0		
12. Compatibility With Existing Agricultural Use	10	1	1		
TOTAL SITE ASSESSMENT POINTS	160	54	57	0	0

PART VII (To be completed by Federal Agency)	Site A	Site B	Site C	Site D
Relative Value Of Farmland (From Part V)	100	0	0	0
Total Site Assessment (From Part VI above or a local site assessment)	160	54	57	0
TOTAL POINTS (Total of above 2 lines)	260	54	57	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
----------------	-------------------	--

Reason For Selection:



Allegheny Power

an Allegheny Energy company

Customer Service Center

1310 Fairmont Avenue

P.O. Box 1392

Fairmont, WV 26554

Phone: (800) 255-3443

FAX: (800) 453-9366

June 06, 2001

Greenhorne & O'Mara, Inc.
9001 Edmonston Road
Greenbelt, MD 20770

Dear Mr. Brian O'Mara

PROVISION OF ELECTRIC SERVICE

This letter confirms that Allegheny Power will provide electric service to the property located at Frontage Road and Bloomery Road near Millvale, WV

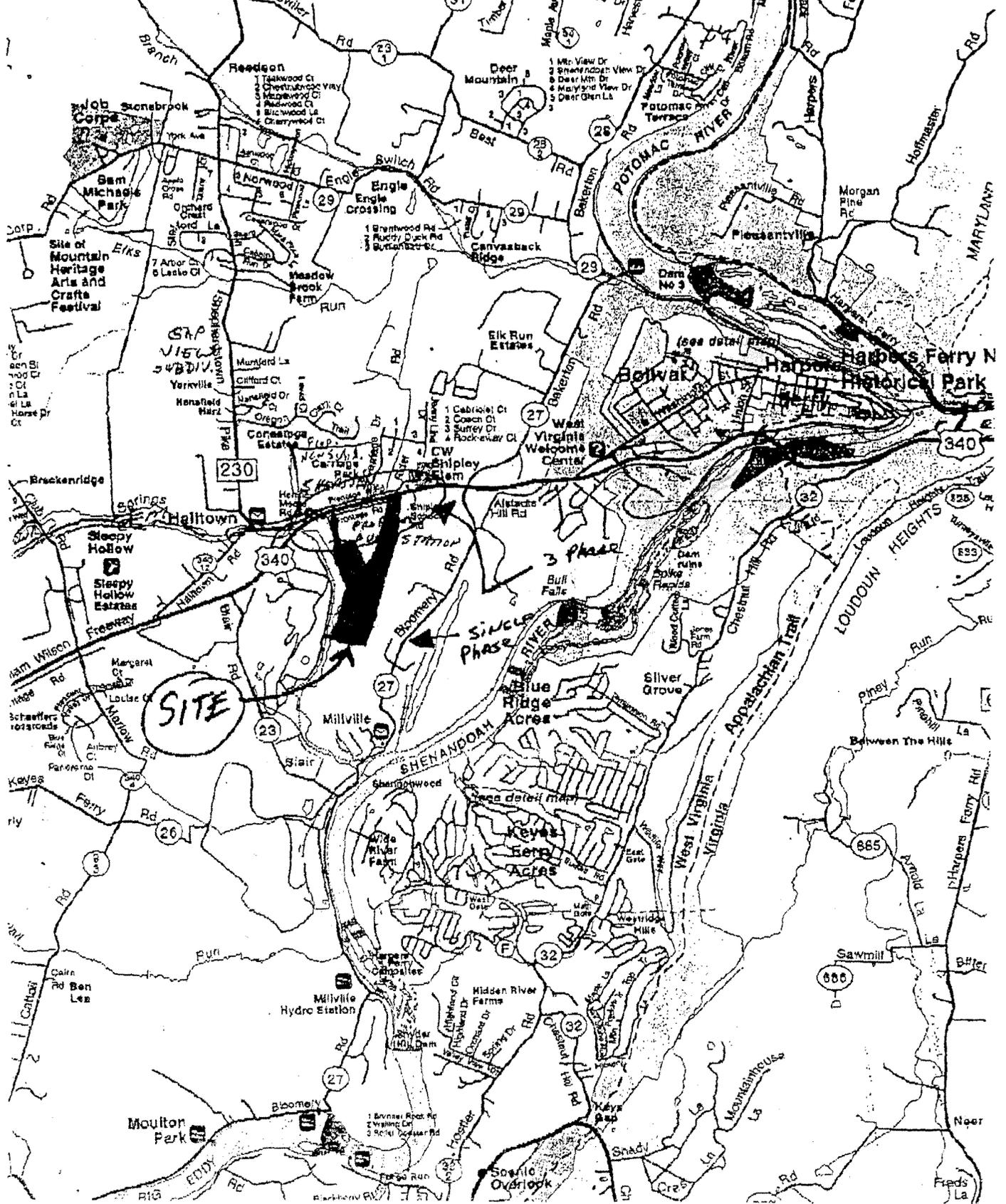
We will process your request for service as promptly as possible after your application has been received and all financial and contractual arrangements have been satisfied. All work performed by Allegheny Power will be completed according to the rules and regulations filed with the West Virginia Public Service Commission.

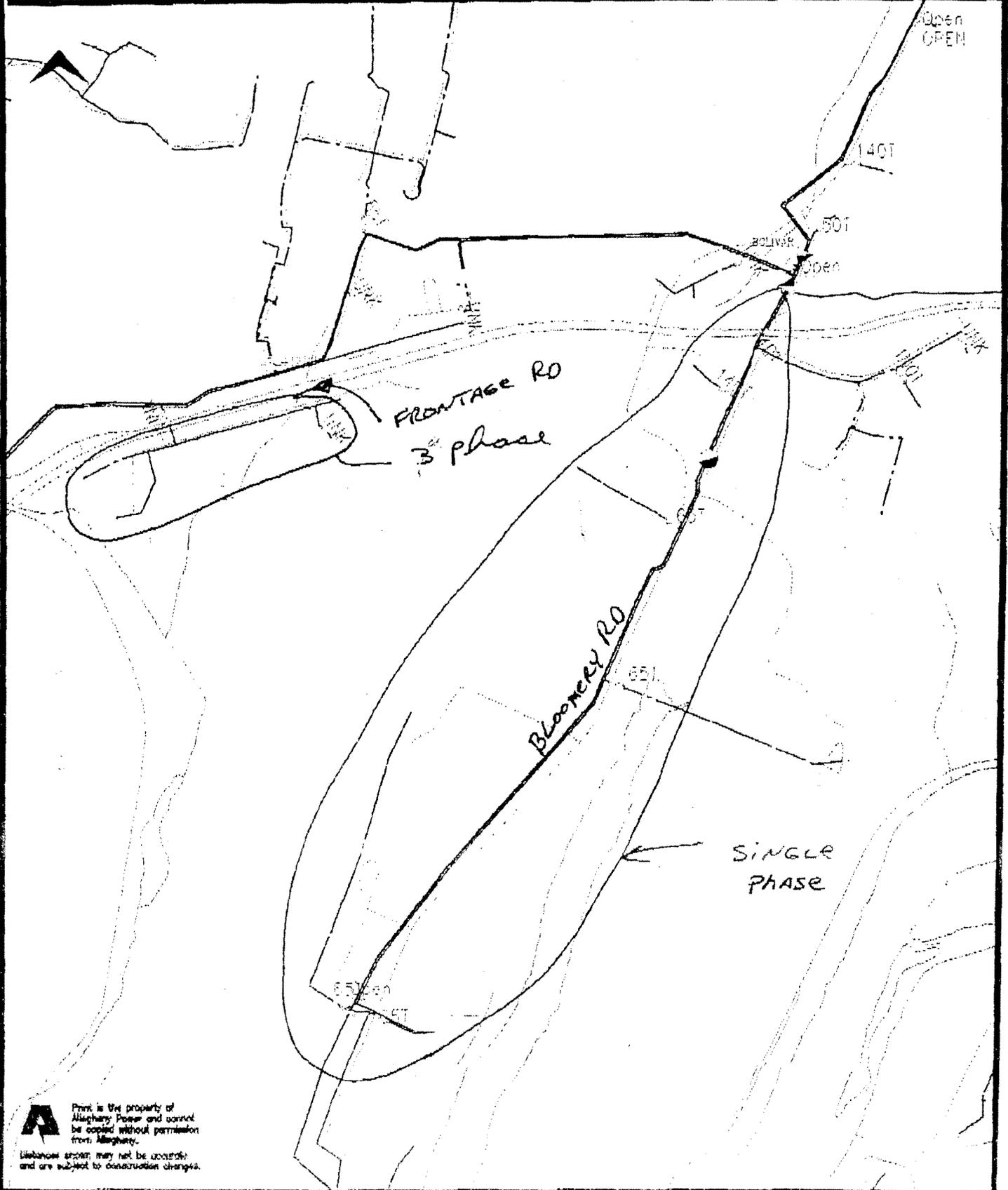
If we can be of further assistance or if you require additional information, please contact our Service Center at (800) 255-3443, extension 4907. We look forward to serving you.

Sincerely,

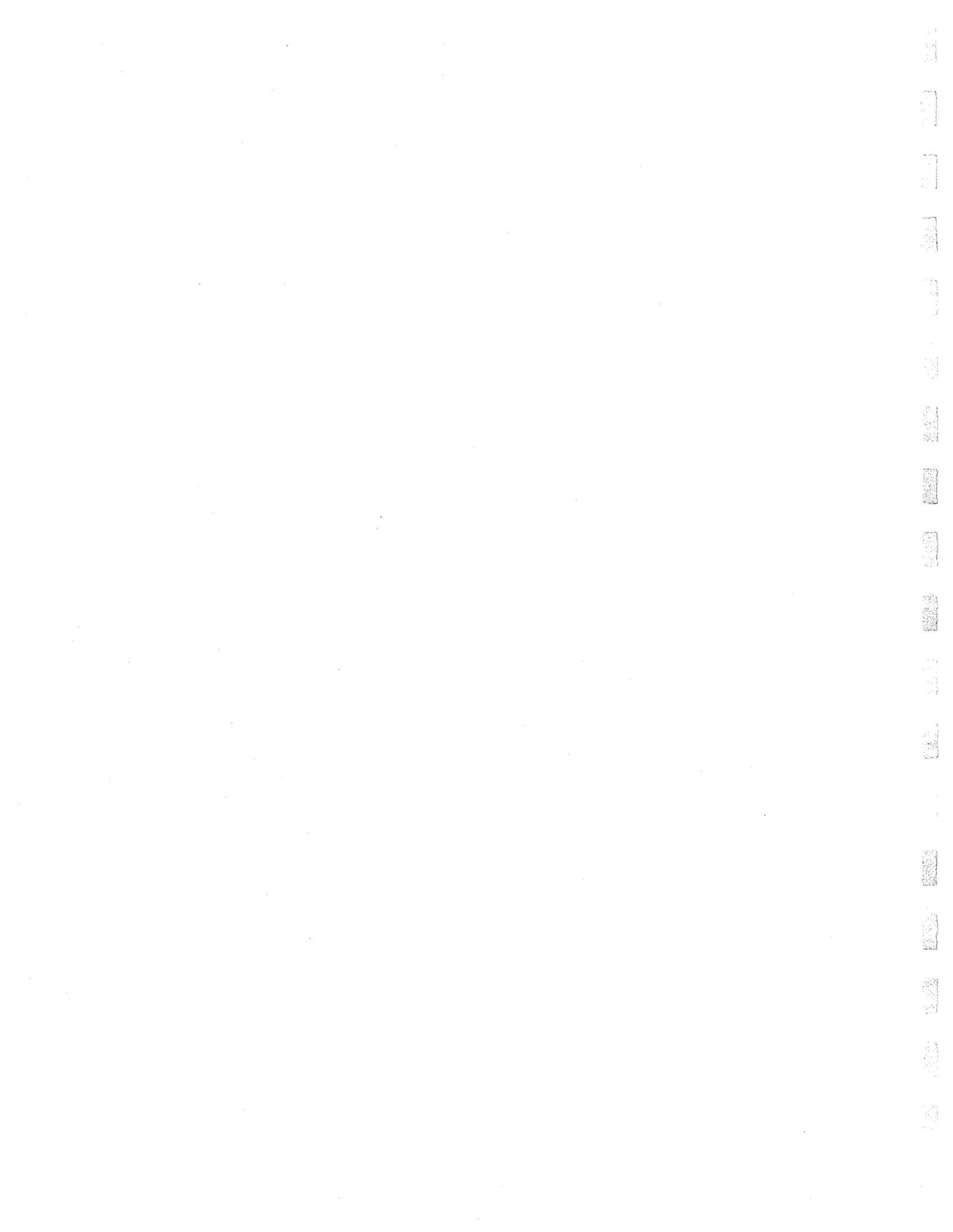
David A. Bartrug

Customer Service Representative - Technical





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Liabilities shown may not be accurate and are subject to construction changes.





June 12, 2001

Mr. Brian O'Mara
Project Manager/Civil Engineer
Greenhorne & O'Mara, Inc.
9001 Edmonston Road
Greenbelt, MD 20770

Dear Mr. O'Mara:

Reference is made to your facsimile of June 6, 2001 requesting information on availability of telecommunications services and a letter of commitment to provide service to the proposed U.S. Customs Facility near Halltown, West Virginia.

Please be advised that Citizens Communications has an existing fiber-optic cable route along US Route 340, adjacent to your proposed site, which would be more than adequate to meet the needs outlined in your facsimile. Service to your proposed site would be accomplished through the installation of a remote switch near the proposed site which Citizens is prepared to install upon notification of your client's intent to proceed. Citizens would appreciate at least sixty (60) days advance notice so we can make the necessary facilities preparations.

If you require additional information, please feel free to contact me at 800-668-2074.

Sincerely yours,

Paul Espinosa
Sales Associate

cc: Engineering





WEST VIRGINIA DIVISION OF
CULTURE AND HISTORY

FIELD PROC SVCS GRP

2001 SEP 24 P 3:49

U.S. CUSTOMS SERVICE

September 18, 2001

Mr. Lee Sullivan
Contracting Officer
US Customs Service
6026 Lakeside Boulevard
Indianapolis, IN 46278

RE: Harpers Ferry Firearms Training Facility
FR#: 01-1307-JF-1

Dear Mr. Sullivan:

We have reviewed two reports submitted for the above mentioned project: "Historic Resources Determination of Eligibility and Assessment of Effect Report" and the "Phase I Archaeological Survey." As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

Architectural Resources:

The site maps provided in this report require clarification. Figures 1 and 2 in the DOE report are not the same. The site map for the survey of historic structures differs from the Project Area. We assume that the consultants created a larger Area of Potential Effect, which then served as the survey area in order to include adjacent buildings and structures. Although page 8 of the report discusses the Area of Potential Effect, it does not explain how the APE was determined. It would be useful to know the reasoning behind this decision and to show the location of the buildings surveyed with respect to the Project Area. (A more useful site plan which shows the intended layout of the facility is included in the Phase I archaeological report as its Figure 2.) We request that an addendum to this report provide appropriate mapping and clarification.

There are several additional comments included in this report that bear mentioning. They will be addressed as follows:

First on page 6 it is noted that a Civil War bivouac site is likely within the project boundaries. There is no further reference to this statement in the DOE report. Please cross reference any information gathered from the archaeological report. While staff can exchange information, future use of this report will require using the other to follow this theme.

Page 2

Mr. Lee Sullivan

September 18, 2001

On page 7, three National Register properties are identified: the Halltown Union Colored Sunday School, the Allstadt House and Ordinary and finally, Rion Hall. It is stated that these are outside the Area of Potential Effect. Without knowing the justification of the APE, it is not possible for us to evaluate the potential secondary effects to these resources. Their relative distance from the project area is not included on any maps.

On page 8, reference is made to auditory impacts. With respect to Harpers Ferry Historic National Park, distance from the "heart of the Park's interpretive area" is said to limit the possible noise impacts. We agree that the distance may limit impact; however, there are several areas of historic significance within the project's vicinity which are of interest to the National Park Service. If you have not already done so, please discuss this issue with the Harpers Ferry Historic Park staff.

Similarly, we ask if auditory impacts were considered with respect to the four National Register properties. Although noise minimization measures are mentioned, there is no explanation. Did the Area of Potential Effect address noise impacts?

Finally, we reviewed the determination of eligibility for the four properties within the APE. First, please provide completed state historic property inventory forms for these resources. These were not included with the reports.

At this time, we are unable to concur with the determination that the Allstadt Farmstead is ineligible. No information is provided regarding the relationship of this resource with the nearby Allstadt House and Ordinary. Given their proximity, it would be useful to know any historic background regarding this ruin in order to establish its context. Also, without archaeological testing, we cannot rule out Criterion D.

We concur that the following properties are not eligible to the National Register of Historic Places: Rider Farmstead, Frontage Road Property #1, Frontage Road Property #2, and those listed as less than 50 years old.

Archaeological Resources:

Pedestrian survey and testing of the above mentioned project area resulted in the location of 14 isolated finds, five prehistoric in nature and the remainder historic. The prehistoric isolates, consisting of lithic tools and debitage, are not diagnostic of a particular time period and are not associated with intact features or other cultural materials. As such, they exhibit no potential to provide additional significant information and are thus *not eligible* for inclusion in the National Register of Historic Places. The historic isolates include a variety of items such as Civil War-era bullets, bottle glass, and an "Indian Head" penny. As with the prehistoric artifacts, however, the historic objects are without context or association with features. They exhibit no potential to provide additional significant information and are thus *not eligible* for inclusion in the National Register. No further consultation is necessary regarding archaeological resources.

Page 3

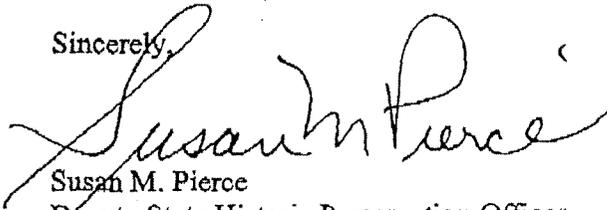
Mr. Lee Sullivan

September 18, 2001

Regarding disposition of artifacts, the statement that West Virginia has no permanent curation facility is only partly true. Although we cannot accept collections at this time, we are in the process of renovating an existing museum space to serve as a curation center, and look forward to the ability to accept collections in the near future.

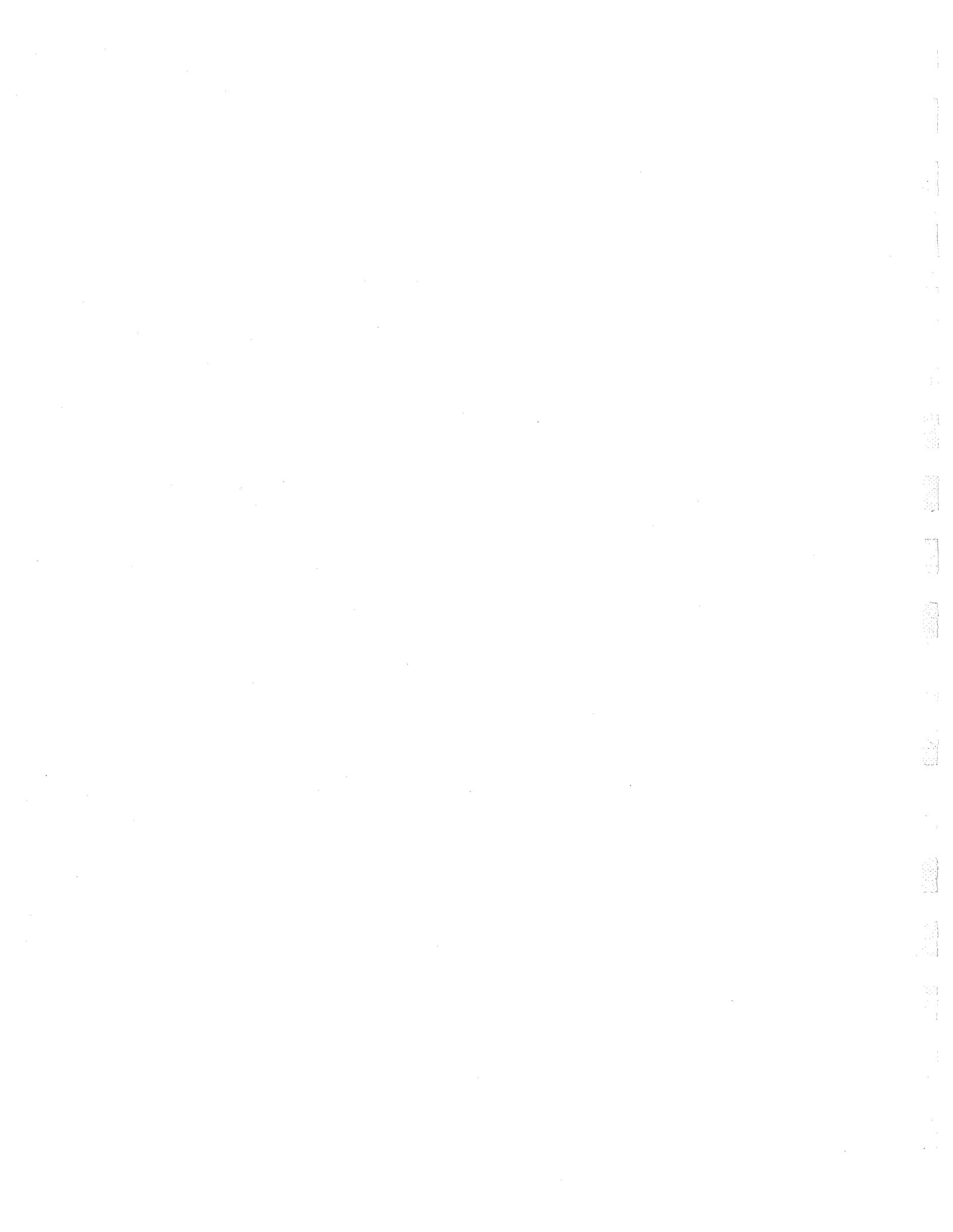
We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please call me or Joanna Wilson, Senior Archaeologist, at (304) 558-0220.*

Sincerely,



Susan M. Pierce

Deputy State Historic Preservation Officer





**WEST VIRGINIA DIVISION OF
CULTURE AND HISTORY**

November 16, 2001

Mr. Lee Sullivan
Contracting Officer
US Customs Service
6026 Lakeside Boulevard
Indianapolis, IN 46278

RE: Harpers Ferry Firearms Training Facility
FR#: 01-1307-JF-2

Dear Mr. Sullivan:

We have reviewed the report submitted for the above mentioned project: "Historic Resources Determination of Eligibility and Assessment of Effect Report." As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

Architectural Resources:

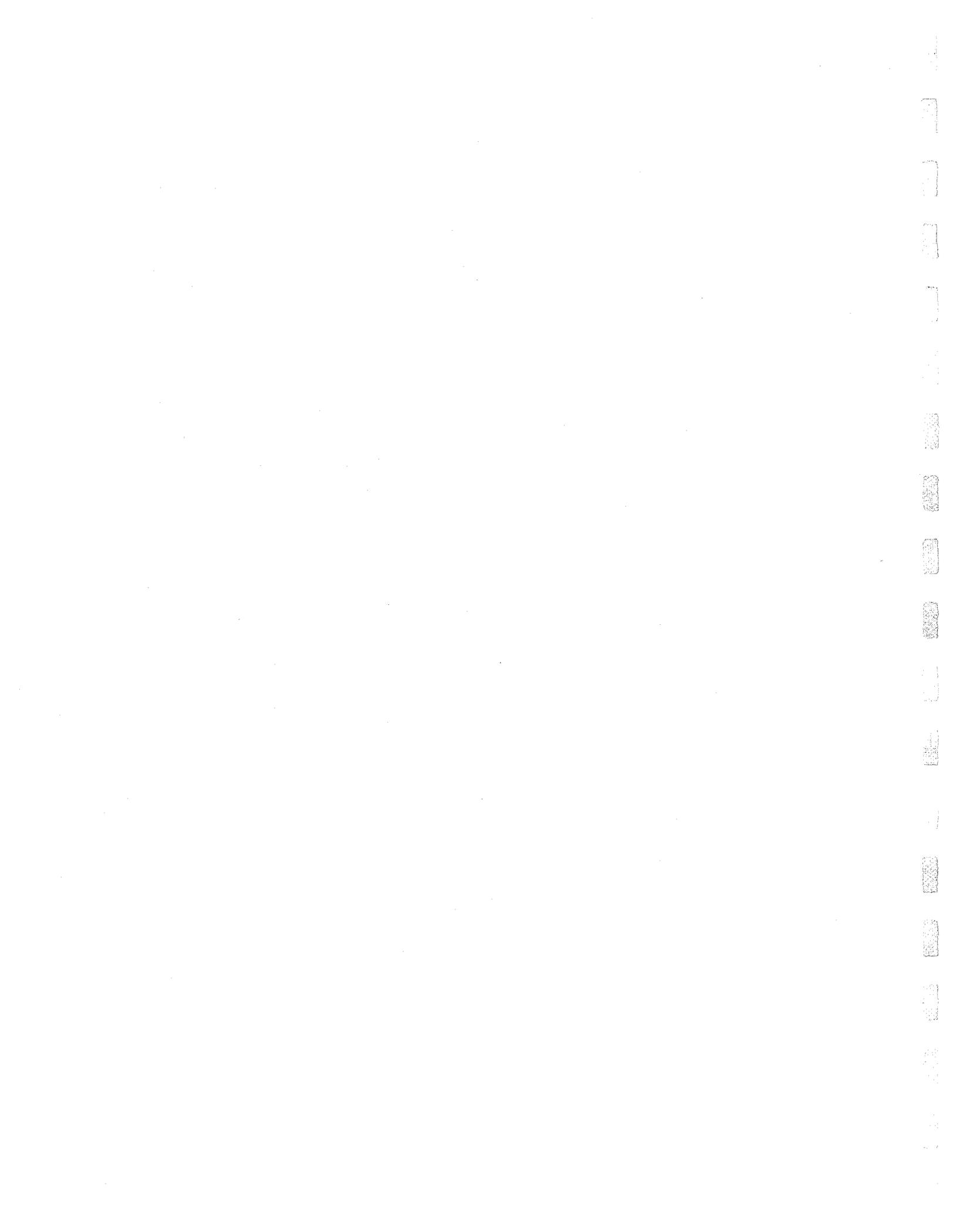
Thank you for submitting the additional information to your report. We accept the findings of this report and concur that the Allstadt Farm is not eligible for listing in the National Register of Historic Places. Therefore, we determine that there will be *No Effect* to the properties within the Area of Potential Effect for this project.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please call Robin Fisher, Historian, at (304) 558-0220.*

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

rjf



CHAPTER 7

DEPARTMENT OF THE TREASURY

DEPARTMENTAL OFFICES

SALARIES AND EXPENSES

Government
organization.
Contracts.

For an additional amount, \$24,900,000 for the Secretary of the Treasury to establish and operate an in-service firearms training facility for the United States Customs Service and other agencies, to remain available until expended: *Provided*, That the Secretary is authorized to designate a lead agency to oversee the development, implementation and operation of the facility and to conduct training: *Provided further*, That the land identified as the Sleepy Hollow Partnership and Marcus Enterprises tract (44,-R), Harpers Ferry Magisterial District, Jefferson County, West Virginia, together with a forty-five foot right-of-way over the lands of Valley Blox, Inc., as described in the deed from Joel T. Broyhill Enterprises, Inc., to Sleepy Hollow Partnership, et al., in a Deed dated March 29, 1989, and recorded in the Jefferson County Clerk's Office in Deed Book 627, Page 494, originally acquired by the United States Fish and Wildlife Service as a proposed site for a training center but not selected for that purpose and presently held by the United States Fish and Wildlife Service in an administrative capacity, shall be managed by the National Park Service pursuant to a cooperative management agreement between the United States Fish and Wildlife Service and the National Park Service, consistent with the laws (including regulations) generally applicable to the National Park Service: *Provided further*, That administrative jurisdiction of a suitable portion of said land that is necessary for the creation of a Department of the Treasury training facility, to be identified by the National Park Service, shall be transferred under a lease-type arrangement at no cost within 120-days of the date of the enactment of this Act to the Department of the Treasury for such time as required by the Department of the Treasury: *Provided further*, That the training to be conducted at the facility shall be configured in a manner so that it does not duplicate or displace any Federal law enforcement program of the Federal Law Enforcement Training Center: *Provided further*, That training currently being conducted at a Federal Law Enforcement Training Center facility shall not be moved to the new training facility: *Provided further*, That at such time as the land is no longer required for training purposes, administrative jurisdiction shall be transferred back to the Department of the Interior in a manner and condition acceptable to the Department of the Interior: *Provided further*, That the total amount made available under this section is designated by the Congress as an emergency requirement pursuant to section 251(b)(2)(A) of the Balanced Budget and Emergency Deficit Control Act of 1985, as amended: *Provided further*, That the entire amount shall be available only to the extent that an official budget request that includes designation of the entire amount as an emergency requirement as defined in the Balanced Budget and Emergency Deficit Control Act of 1985, as amended, is transmitted by the President to the Congress.

Government
organization.
Contracts.
Deadline.



Area: 60.00 acres, more or less

Date: September 7, 2000
Revised: November 27, 2000

Purported Owner: United States of America

Harpers Ferry National Historical Park

Portion of Tract 44 (60 acres)

All that certain tract or parcel of land lying and being situated in the Harpers Ferry Magisterial District, Jefferson County, State of West Virginia, lying about 2.5 miles southwest of the Town of Harpers Ferry, south of U.S. Route 340, and west of West Virginia Secondary Route 27, and being more particularly described as follows:

BEGINNING at a 5/8-inch capped rebar found at the southwest corner of lands, now or formerly, of Valley Blox, Incorporated, said rebar marking a corner common to said Valley Blox, Inc., lands, now or formerly, of H. Gus Muntzing, et al., and subject owner; thence, with lands of said Valley Blox, Inc. the following two bearings and distances:

South $81^{\circ} 06' 31''$ East, 600.50 feet to a found capped 5/8-inch rebar; and,

North $08^{\circ} 50' 24''$ East, passing a set 5/8-inch rebar at 770.00 feet, for a total distance of 1,414.45 feet to a called for 5/8-inch rebar, not found, another corner common to said Valley Blox, said Muntzing, and subject owner, said corner being the southwest corner of a 45-foot wide right-of-way, identified as Tract 44-R, described below; thence, with the southern limits of said right-of-way, Tract 44-R, North $85^{\circ} 03' 08''$ East, 46.33 feet to the southeast corner of said right-of-way, said corner being common to lands of lands, now or formerly, of Dixie D. Kilham, and subject owner; thence, with lands, of said Kilham; the following three bearings and distances:

North $85^{\circ} 03' 08''$ East, 29.81 feet to a found capped 5/8-inch rebar in a stone pile;

South $18^{\circ} 09' 40''$ West, 238.24 feet to a called for capped rebar, not found; and,

North $68^{\circ} 12' 56''$ East, 579.40 feet to a set 5/8-inch rebar, near a wire fence line, and on the property line common to said Dixie D. Kilham and subject owner; thence, severing the lands of subject owner, the following two bearings and distances:

South $14^{\circ} 53' 19''$ West, 3,147.52 feet to a set 5/8-inch rebar; and,

North 81° 09' 36" West, passing a set 5/8-inch rebar at 692.28 feet, for a total distance of 1,305.00 feet to a set 5/8-inch rebar located near a wire fence line, and on the eastern right-of-way limits of the Baltimore and Ohio (B&O) Railroad line, now CSX; thence, with said Railroad right-of-way line, the following two courses and distances:

North 10° 21' 26" East, 627.64 feet to a point of curve; and,

along a curve to the left having a radius of 1,450.69 feet, and a delta of 12° 40' 11" for an arc-length of 320.79 feet, (said curve having a chord bearing and distance of North 04° 01' 20" East, 320.14 feet) to a called for 5/8-inch iron rebar marking a corner common to said Muntzing, and subject owner; thence, leaving said Railroad right-of-way, and with lands of said Muntzing, the following two bearings and distances:

North 73° 12' 38" East, passing a called for 5/8-inch rebar at 447.45 feet, for a total distance of 470.37 feet; and,

North 19° 06' 23" East, passing a called for 5/8-inch rebar at 28.12 feet, for a total distance of 495.95 feet to the point of beginning.

Containing 60.00 acres, more or less.

and

A 45-foot wide right-of-way, designated as Tract 44-R in the above-described deed and being more particularly described as follows:

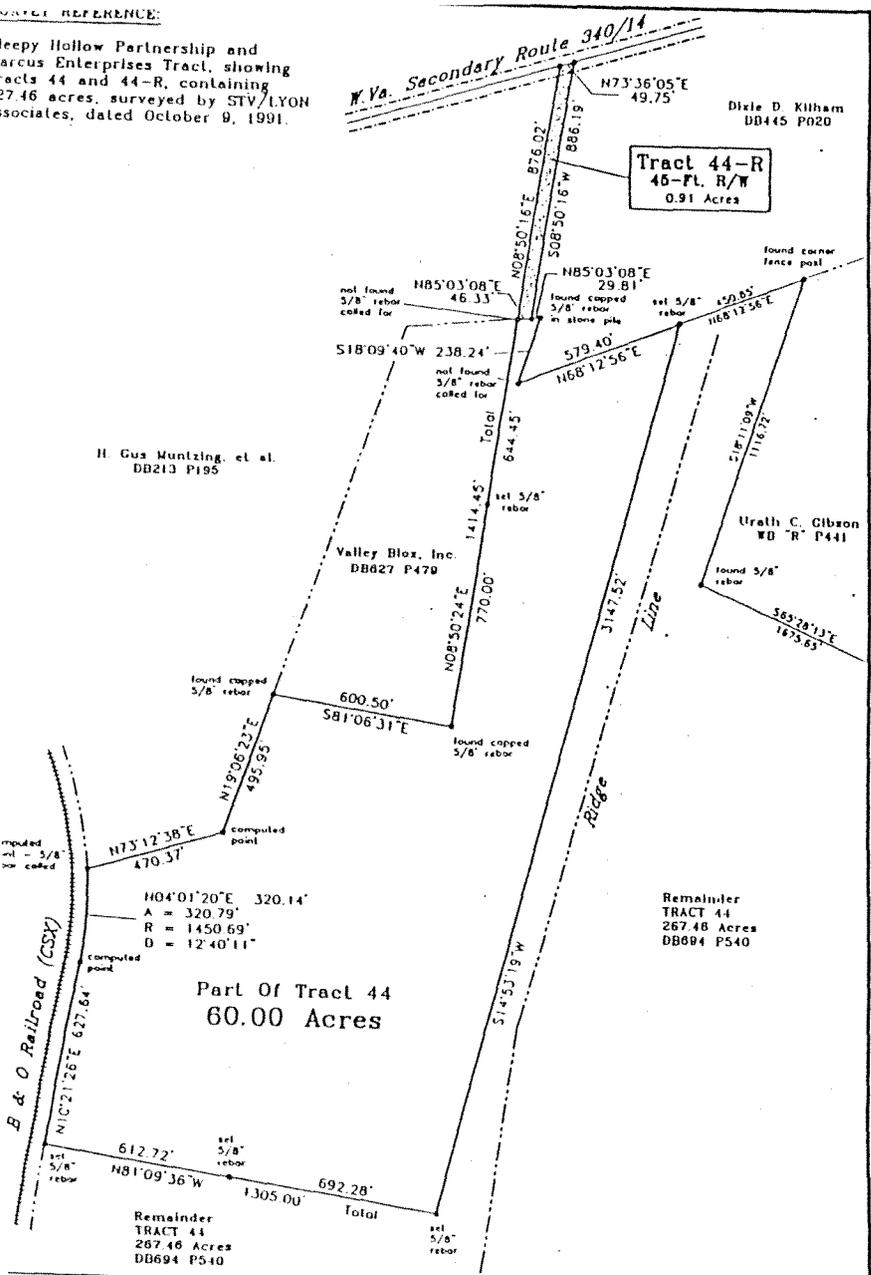
BEGINNING at the southeast corner of the 45-foot wide right-of-way being a corner with lands, now or formerly, of Dixie D. Kilham; thence, South 85° 03' 08" West 46.33 feet; thence, with lands, now or formerly, of H. Gus Muntzing, et al., North 08° 50' 16" East, 876.02 feet to a point on the right-of-way of West Virginia Secondary Route 340/14; thence, with said Route 340/14, North 73° 36' 05" East, 49.75 feet; thence, with lands of said Kilham, South 08° 50' 16" West, 886.19 feet to the point of beginning.

Containing 0.91 of an acre, more or less.

The above-described parcels are a portion of Tract 44, and all of Tract 44-R of the same land acquired by the United States of America, Department of the Interior, US Fish & Wildlife Service from Sleepy Hollow Partnership by deed dated October 25, 1991 and recorded October 25, 1991 in Deed Book 694, Page 540, in the Office of the County Clerk of Jefferson County, State of West Virginia.

REFERENCE IS MADE TO A PLAT OF SURVEY PREPARED FOR THE UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, ENTITLED "SLEEPY HOLLOW PARTNERSHIP AND MARCUS ENTERPRISES TRACT, (44, -R) 327.46 ACRES" PREPARED BY DONALD J. WISE, P.E., # 9449 OF SVT/LYON ASSOCIATES, DATED OCTOBER 9, 1991, SCALE 1" = 400'

INDEX REFERENCE:
 Heely Hollow Partnership and
 Marcus Enterprises Tract, showing
 tracts 44 and 44-R, containing
 127.46 acres, surveyed by STV/LYON
 associates, dated October 9, 1991.



UNITED STATES DEPARTMENT OF THE INTERIOR - NATIONAL PARK SERVICE

STATE PLANE
 COORDINATE SYSTEM
 (North N Zone)

SURVEY OF 60.00 ACRES
 To
DEPARTMENT OF TREASURY

Harpers Ferry District
 Jefferson County
 West Virginia

SURVEYED BY: Charles E. Sager, MFS
 DRAWN BY: Charles E. Sager, MFS
 APPROVED BY: Christine Blawie, MFS
 DATE: November 2000

APPALACHIAN NATIONAL SCENIC TRAIL
 LAND ACQUISITION FIELD OFFICE
 P.O. BOX 908
 MARTINSBURG, WV 25401



Scale: 1" = 400'