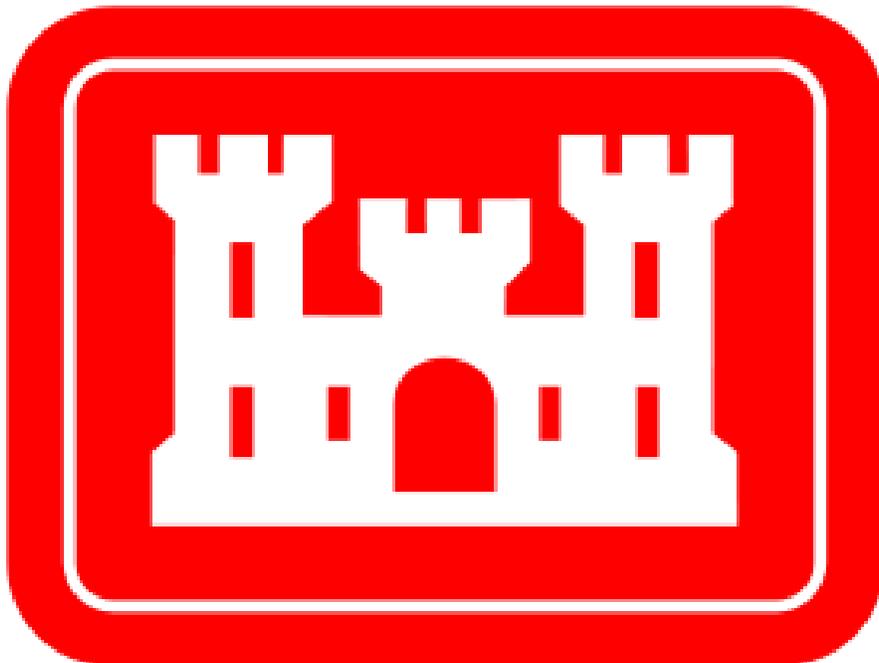


Draft Environmental Assessment  
Section 571 Wilsie-Rosedale  
Water System Improvements Phase II  
Braxton and Gilmer Counties, West Virginia



U.S. Army Corps of Engineers  
Huntington District  
Huntington, West Virginia  
March 2012



DRAFT FINDING OF NO SIGNIFICANT IMPACT  
SECTION 571 SUGAR CREEK  
WILSIE-ROSEDALE WATER SYSTEM IMPROVEMENTS PHASE II  
BRAXTON AND GILMER COUNTY, WEST VIRGINIA

1. Members of my staff have conducted an environmental assessment, in the overall public interest, concerning the implementation of the Sugar Creek Public Service District (PSD) Wilsie-Rosedale Phase II Water System Improvements Project Section 571 Project. The purpose of this project is to provide potable water and fire protection to areas that are not currently served by the Sugar Creek Public Service District (PSD). This action will improve water quality and the health and safety of the community. The proposed project is authorized under Section 571 of the Water Resources Development Act (WRDA) of 1999 (Public Law 106-53).
2. The possible consequences of the project have been studied for environmental, cultural and social well-being impacts. Another factor bearing on the investigation was the capacity of the action to meet the needs of the public for whom it was proposed.
3. The Proposed Action Alternative (PAA) and the No Action Alternative (NAA) were the only alternatives carried forward for detailed evaluation. The PAA is the most cost effective and is both environmentally and socially acceptable. The NAA would not be in the public's best interest and would have continued negative impact on the health and safety of the community.
4. An evaluation of the PAA and the NAA produced the following pertinent conclusions:
  - a. Environmental Considerations. The Huntington District has taken reasonable measures to assemble and present the known or foreseeable environmental impacts of the project in the Environmental Assessment (EA). All adverse effects of the project implementation are considered insignificant and should last only a few months longer than the construction period.
  - b. Social Well-Being Considerations. The proposed project will ensure safe, reliable drinking water and fire service for Wilsie-Rosedale area. No significant economic or social well-being impacts that are both adverse and/or unavoidable are foreseen as a result of the proposed action. The project will not have any impact on sites of known significant archeological or historic importance. Hazardous, Toxic, and Radioactive Waste (HTRW) will not be impacted on the site.
  - c. Coordination with Resource Agencies. Pursuant to the Fish and Wildlife Coordination Act (FWCA) of 1958, coordination with the U.S. Fish and Wildlife Service (USFWS), Natural Resource Conservation Service (NRCS), the West Virginia State Historic Preservation Office (SHPO), and the West Virginia Division of Natural Resources (WVDNR) has been maintained throughout the study. Appropriate measures and best management practices will be identified and incorporated into the PAA. Also, in accordance with the Endangered Species Act, as amended, the recommended plan should not impact listed species.



d. Other Pertinent Compliance. No prime or unique farmland under the Farmland Protection Policy Act (FPPA) will be involved. The PAA is also in compliance with the National Historic Preservation Act (NHPA Section 106, 36 CFR 800), Executive Order (EO) 11988 (Floodplain Management), and EO 11990 (Protection of Wetlands).

e. Other Public Interest Considerations. There has been no significant opposition to the PAA. Comments received during the public review period will be included in the EA.

f. Section 176(c) Clean Air Act. The PAA has been analyzed for conformity and applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act (CAA). According to the WV DEP, Braxton County, West Virginia is classified as “attainment” for all criteria pollutant standards. The PAA will not exceed *de minimis* levels or direct emissions of a criteria pollutant or its precursors and is exempted by 40 CFR Part 93.153. For these reasons a conformity determination is not required for the action.

5. I find the Sugar Creek PSD Wilsie-Rosedale Phase II Water System Improvements Section 571 Project has been planned in accordance with current authorization as described in the EA. The PAA is consistent with national policy, statutes and administrative directives. This determination is based on thorough analysis and evaluation of the PAA and alternative courses of action. In conclusion, I find the proposed Sugar Creek PSD Wilsie-Rosedale Phase II Water System Improvements Section 571 Project will have No Significant Adverse Impact on the quality of the human environment.

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Date

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Robert D. Peterson  
Colonel, Corps of Engineers  
District Engineer



DRAFT ENVIRONMENTAL ASSESSMENT  
SECTION 571 WILSIE-ROSEDALE  
WATER SYSTEM IMPROVEMENTS PHASE II  
BRAXTON AND GILMER COUNTIES, WEST VIRGINIA

RESPONSIBLE AGENCY: U.S. Army Corps of Engineers, Huntington District, West Virginia

**ABSTRACT:** In accordance with the National Environmental Policy Act, the U.S. Army Corps of Engineers (USACE) Huntington District has prepared this Draft Environmental Assessment (EA) to document the evaluation of potential environmental impacts of a water system improvement project located in Braxton and Gilmer County, West Virginia. The Huntington District's review and analyses of economic, human and natural environments, and engineering designs have determined that the Proposed Action Alternative (PAA) would address the purpose and need for the project and would have minimal adverse impact on the human environment.

The work effort for the PAA includes the installation of approximately 24,000 linear feet of 6-inch water main, approximately 6,900 linear feet of 2-inch water line, one 30,000 gallon fire-flow storage tank, one fire hydrant assembly, valves, meters and appurtenances. The Draft EA presents the results of the evaluation of the Proposed Action's potential impacts, positive and negative. Positive impacts are associated with improved water supplies and fire protection for the Wilsie and Rosedale areas. The PAA will improve the overall water quality and safety by providing safe, reliable drinking water and fire service. Adverse impacts include those associated with construction of the project, but are expected to be minor and temporary.

The proposed project is authorized under Section 571 of the Water Resources Development Act (WRDA) of 1999 (PL 106-53).

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SECTION 571 WILSIE-ROSEDALE  
WATER SYSTEM IMPROVEMENTS PHASE II  
BRAXTON AND GILMER COUNTIES, WEST VIRGINIA

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*The brief and concise nature of this document is consistent with the 40 CFR requirements of the National Environmental Policy Act (NEPA) to reduce paperwork and delay by eliminating duplication with existing environmental documentation, incorporating pertinent material by reference and by emphasizing interagency cooperation. The majority of data collection and analysis in this document was performed by Dunn Engineers in conjunction with the U.S. Army Corps of Engineers (USACE).*

## **Summary**

The proposed Wilsie-Rosedale Phase II water system improvements project area is located in the Tague and Rosedale area of Braxton County, West Virginia with a portion of the project extending into Gilmer County. Information gathered for the preparation of the Environmental Assessment (EA) was derived by Federal, state, and local agencies and databases. Areas of concern, including aquatic and terrestrial ecosystems, wetlands, socioeconomic conditions, Hazardous, Toxic, and Radioactive Waste (HTRW), and underground storage tanks (USTs), were evaluated for potential adverse impacts. Impacts associated with the project area are anticipated to be temporary and proper erosion control measures will be implemented in order to minimize any damage to vegetation or streams.

## **1.0 PROJECT DESCRIPTION**

### **1.1 Project Background**

The areas of Wilsie, Tague, and Rosedale experience health hazards related to drinking water supplies. The Wilsie-Rosedale Waterline Association was created in an attempt to provide potable water and fire protection to residents of the Wilsie, Tague, and Rosedale areas. The project will serve approximately 69 new customers whose present source of water consists almost exclusively of wells. A study, completed in 2005 by Mr. Dale McCutcheon, determined that coliform bacteria were present in all samples taken from local wells of residences and business in the Wilsie-Rosedale area. The survey concluded that a definite health hazard exists from the use of present water supplies. To eliminate the current problem, the Sugar Creek Public Service District (PSD) is proposing to extend their water system to serve customers in these areas. Implementation of the proposed project will provide the community with acceptable water and fire service, while eliminating the threat of contamination through tainted well water.

The project area is located northwest of Frametown, along WV Routes 9 and 23, between the communities of Frametown and Rosedale in Braxton County, West Virginia. A small portion of the project extends into Gilmer County as the county line is located in Rosedale. The Right Fork of Steer Creek flows from the south to the north and roughly parallels WV Route 9 through the project area. The project would include the installation of approximately six miles of water distribution lines and appurtenances. Source water will be provided by the PSD's water treatment facility located along the Elk River near Frametown and existing storage tanks. The majority of the proposed distribution system will be located within road rights of way and previously disturbed areas. See appendix A for maps of the area.



## **1.2 Purpose, Need and Authorization**

The purpose of the project is to provide potable water and fire protection to residents of the Wilsie, Tague, and Rosedale areas of Braxton County, West Virginia. The need for the water system in the proposed Project area is to address health and safety issue associated with water quality of existing wells. The project has been designed in response to residents' requests for safe, reliable drinking water and fire service, which complies with the West Virginia Department of Health and Human Resources water quality and design standards.

The proposed project is a partnership agreement between the Sugar Creek PSD and USACE, established under the authority of Section 571 of the Water Resources Development Act (WRDA) of 1999 (Public Law 106-53), which provides authority for the USACE to establish a program to provide environmental assistance to non-Federal interests in central West Virginia. This law provides assistance in design and construction of water-related environmental infrastructure, resource protection and development, and restoration projects in central West Virginia, including projects for wastewater treatment and related facilities, water supply, and related facilities, and surface water resource protection and development. No other Federal agencies are involved with funding for this project. Funding for Phase II is also provided by Small Cities Block Grant (SCBG) and WV Infrastructure and Jobs Development Council (IJDC).

This EA is prepared pursuant to NEPA, Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1517), and USACE implementing regulation, ER 200-2-2, 1988.

## **2.0 PROPOSED ACTIONS AND ALTERNATIVES**

### **2.1 Proposed Action Alternative (PAA)**

The PAA would involve the installation of approximately 24,000 linear feet of 6-inch water main; approximately 6,900 linear feet of 2-inch water line; one 30,000 gallon fire-flow storage tank; one fire hydrant assembly; valves; meters; and appurtenances. The majority of the PAA will be constructed within road rights of way. Pipeline easements (10' Permanent) will be obtained from the West Virginia Division of Transportation (DOT) and private property owners prior to construction. Proposed construction will be accomplished utilizing standard construction methods with a minimum depth of bury of 42-inches. An encroachment permit will be obtained for any work occurring within West Virginia Division of Highways (DOH) right of way, as well as driveway connection permit(s) for any access roads or permanent above ground improvements. A sediment and erosion control plan, utilizing Best Management Practices (BMP's) is included in the plans and specifications.

### **2.2 No Action Alternative (NAA)**

The NAA would constitute that the aforementioned project not be built. The NAA would result in continued use of contaminated well water and no fire protection service. This alternative was considered unacceptable due to obvious health hazards for the residents of the project area.



### **3.0 ENVIRONMENTAL SETTING AND CONSEQUENCES**

#### **3.1 Location**

The project area is located in the Appalachian Plateau physiographic province which consists of the narrow, relatively level flood plain adjacent to the Right Fork of Steer Creek and the moderate to steep slopes of surrounding areas. Woodlands in the area consist mainly of oak, poplar, and pine. The project area is centered near latitude 38.720953° and longitude - 80.932705° (WGS 84). The project area is located northwest of Frametown, on the Rosedale (West Virginia) United States Geologic Survey (USGS) 7 ½ minute quadrangle topographic map, between the communities of Tague and Rosedale, along the Right Fork of Steer Creek in Braxton and Gilmer Counties (See Appendix A).

#### **3.2 Terrestrial Habitat**

The majority of the project area is rural residential in nature with small farms and a few commercial businesses located throughout. Historically, the area has been used for mining, oil and natural gas exploration and farming. Considering the project location and scope, impacts to land use are not expected to change as a result of the PAA. The NAA would have no effect on land use.

The Fish and Wildlife Coordination Act (FWCA) requires Federal agencies to take action to prevent loss or damage to wildlife resources and provide for the measures taken to mitigate such impacts. Wildlife and wildlife resources are defined by the FWCA to include: birds, fish, mammals and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent. The U.S. Fish and Wildlife Service (FWS) was contacted to determine if the PAA would impact wildlife resources. The FWS found that the PAA is in accordance with provisions of the FWCA and determined that the project will have no effect on Federally listed endangered or threatened species. The FWS found no records of rare, threatened, or endangered (RTE) species or habitat within the project area and no biological assessment or further Section 7 consultation under the Endangered Species Act (ESA) is required.

Executive Order 11988 requires federal agencies to consider the potential effects of their proposed actions to floodplains. In order to determine the PAA's potential floodplain impact, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) was reviewed and the project is located within the 100-year floodplain. The proposed water distribution system will be buried at a minimum depth of 42- inches. The fire flow storage tank finished grade is located above the 100-year floodplain. Floodplain coordinators in both Braxton and Gilmer County have been contacted regarding the project and have no exception to the project as there are no above ground structures. The floodplain will be restored to its original contour and as a result, no adverse impacts would occur to the flood plain as a result of the PAA. A National Pollutant Discharge Elimination System (NPDES) storm water permit will be obtained from the WV DEP prior to construction activity.



No impacts to floodplains are anticipated to occur from the NAA.

The majority of the construction associated with the PAA will occur in previously disturbed road right-of-ways. The area would be stabilized and reseeded with grasses as soon as possible upon work completion. Therefore, potential impacts to vegetation would be minimal and temporary. Only short-term impacts during construction with no long-term adverse impacts are anticipated to occur from the PAA. No impacts to vegetation are anticipated to occur from the NAA.

The Farmland Protection Policy Act (FPPA) requires federal agencies to minimize the conversion of prime and unique farmland to non-agricultural uses. The Natural Resource Conservation Service (NRCS) was contacted to determine if the PAA would impact prime or unique farmland potentially located within the project area. The NRCS found that the project does not impact Prime, Statewide, or Locally Important Farmland, because the construction is on previously disturbed road right-of-ways, therefore, neither the PAA nor NAA would result in impacts to prime or unique farmlands.

### **3.3 Aquatic Habitat**

Construction of the proposed water system will include 16 stream crossings of the Right Fork of Steer Creek, Two Mile Fork, Lower Sleith Run, Barn Run, and Mill Run. Directional drilling will be utilized at six stream crossings and impacts to the aquatic habitat will be avoided. However, the standard open cut method will be utilized at ten stream crossings, resulting in minor and temporary impacts to the aquatic habitat. Impacts to surface water quality will be minimized by the use of Best Management Practices (BMP) and no in stream work will be conducted during the fish-spawning season. All construction activities associated with stream crossings are authorized under Nationwide Permit #12 (Utility Line Activities); thus the project is already granted general 401 Certification. In addition, a Stream Activity Permit for the project has been granted from the WV DNR (Appendix B).

Based on the National Wetlands Inventory (NWI) map published by the United States Department of Interior (USDOJ), wetlands were present in the general project area. However, a site reconnaissance by Dunn Engineering verified that all wetlands are small farm ponds and that no construction will occur within proximity of these ponds that would adversely affect their structural integrity or cause sedimentation within these water bodies. The proposed project alignment was designed to avoid wetlands. Therefore, no wetlands would be affected by project construction.

The PPA would cause localized and temporary impacts to surface water quality. However, terms and conditions associated with the Nationwide and Stream Activity permits, along with the use of BMP's, will be used to minimize the effects of the project.

No designated State Wild or Scenic Rivers are present within the project area. Since no State Wild or Scenic Rivers are located within the project area, no impacts to these resources are anticipated from the PAA or NAA.



### **3.4 Hazardous, Toxic, and Radioactive Waste (HTRW)**

A limited Phase 1 HTRW investigation was conducted by Dunn Engineering, Inc for the Wilsie-Rosedale Water System Improvements Project to determine the existence of hazardous substances in the project area. Items contained in the investigation include a Federal and state environmental database search, site reconnaissance, review of historical aerial and topographic mapping and interviews. The assessment recognized that no Leaking Underground Storage Tank (LUST) sites were identified in the project area. Four UST sites were identified; one active, two identified and listed as abandoned or removed, and one identified; by personal interview only. The latter may be previously identified under another owner or name. Suspected UST locations have been indicated on the plans. Project alignment avoids areas of concern and therefore should pose no risks with respect to the PAA. The limited Phase I HTRW study was reviewed and determined to be acceptable by the USACE. No further HTRW investigation is necessary at this time.

### **3.5 Cultural Resources**

On October 2011, Sugar Creek PSD contracted Archaeological Consultants of the Midwest to conduct a Phase I archaeological literature review and reconnaissance survey for the proposed Wilsie-Rosedale Phase II waterline extension project. Nearly all of the Phase II waterline extension project will be located within the existing road right-of-ways (ROW). An 830 foot section of the proposed waterline will be located outside of the existing road ROWs. This 830 foot section comprises the project area for this investigation. The width within the project area is 10 feet, while the proposed depth of construction will be approximately 3.5 feet. The total area examined by this investigation is approximately 0.2 acres.

The literature review indicated that no professional investigations have been conducted and no archaeological sites have been recorded either in the project area or within a one mile radius. An examination of the historic property inventory forms, cemetery survey forms, and National Register of Historic Places (NRHP) files indicated that none of these resources have been documented in the project area. A review of the USGS 1910 Gassaway quadrangle (15' topographic map) indicated that no buildings/structures were recorded in the project area; however, one building/structure was noted immediately south of the project area. The field investigation consisted of visual inspection and the excavation of shovel probes. Within the floodplain section of the project area, bucket augers were excavated at the base of the shovel probes. No buried cultural deposits/horizons were encountered in the shovel probes/bucket augers. Data collected from the floodplain section of the project area indicated that the potential for significant buried cultural deposits/horizons in the proposed project area is minimal. Because of this, deep testing is not recommended in the proposed project area. One site, 46Bx103, was documented by this investigation. Six artifacts were collected from the site; within 25cm from the ground surface. Analysis of the artifacts indicated that they all consisted of lithic debitage; consequently, the cultural/temporal association of the site could not be ascertained. Data collected by this investigation indicated that further work at the site would not provide information that would enhance our understanding of the prehistory of the region.



Therefore, the site fails to meet the minimum criteria for inclusion on the NRHP under Criterion D.

No further work is recommended on site 46Bx103. It should be noted that if the designs for the proposed project area are altered, then a Phase I survey will need to be undertaken in order to determine if the site extends outside of the current boundaries. If it is ascertained that the site does extend beyond its current boundaries, then the site will need to be re-evaluated for inclusion on the NRHP. The West Virginia State Historic Preservation Office (SHPO) concurred with this recommendation. Correspondence from SHPO has been included in Appendix D.

No impacts to cultural resources are anticipated to occur from the NAA.

### **3.6 Threatened and Endangered Species**

The Endangered Species Act of 1973 requires federal agencies to consider the effects of actions on federally listed endangered, threatened, and/or candidate species. The FWS published list of endangered and threatened species in West Virginia was reviewed for the project. The Federally listed endangered Indiana Bat (*Myotis sodalis*) is known or believed to exist in Braxton County, West Virginia and Gilmer County, West Virginia. The Federally listed endangered Clubshell (*Pleurobema clava*) is known or believed to occur in Braxton County, West Virginia. The FWS and the Wildlife Resource Section of the WV DNR were contacted regarding threatened and endangered species. The FWS found no records of rare, threatened, or endangered (RTE) species or habitat within the project area. The FWS determined the PAA would result in no effect on Federally listed endangered or threatened species. No biological assessment or further Section 7 consultation under the Endangered Species Act is required.

No impacts to threatened or endangered species are anticipated to occur from the NAA.

### **3.7 Air Quality**

The Clean Air Act (CAA) allows the U.S. Environmental Protection Agency (USEPA) to set air quality standards for pollutants considered harmful to public health and welfare. The National Ambient Air Quality Standards (NAAQS) set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. These standards have been established for six criteria pollutants including carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and Sulfur dioxide (SO<sub>2</sub>). Each state is required to develop implementation plans for each pollutant. Areas are generally in “attainment” of the standards for the pollutants listed above or in “nonattainment”. Nonattainment areas are required by the CAA to comply with the NAAQS standards through the evaluation and development of a maintenance plan.

According to the WV DEP, Braxton County, West Virginia is classified as “attainment” for all standards. The operation of the PAA would not result in significant impacts to air quality; however, construction of the PAA would have the potential to cause periodic localized and temporary, nuisance air quality impacts. Potential sources of these impacts include emissions



from construction activity including heavy equipment operation which include diesel fuel fumes and exhaust. The PAA would not require around the clock construction; therefore, equipment downtime would allow for dispersion of the nuisance fumes generated during operation. The proposed action is therefore exempt from making a conformity determination since estimated emissions from construction equipment would be far below the *de minimis* standards of 100 tons/year, which are the minimum threshold for which a conformity determination must be performed. The WV DEP Office of Air Quality indicates that the PAA will have no adverse impact on air quality. The project should not require any air quality related permits or approvals unless right of way clearing debris is to be burned. Therefore, no long term impacts will result from the PAA.

Under the NAA, no temporary construction related air emissions would occur. Existing air quality conditions would remain.

### 3.8 Noise

#### 3.8.1 Background

Noise is measured as Day Night average noise levels (DNL) in "A-weighted" decibels that the human ear is most sensitive to (dBA). There is no federal standard for allowable noise levels; however, the USACE and other federal agencies have adopted guidance for evaluating noise level impacts.

The USACE Safety and Health Requirements Manual (September 2008) provides criteria for permissible noise exposure levels, as well as thresholds for the consideration of hearing protection and/or the implementation of sound reduction controls. Table 1 presents the minimum duration and noise level thresholds outlined in the USACE Safety and Health Requirements Manual.

**Table 1**  
**Permissible Non-Department of Defense Noise Exposures**

Duration/day (hours)	Noise level (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105

Source: USACE Safety and Health Requirements Manual, 2008

The Department of Housing and Urban Development (HUD) Guidelines denote DNLs below 65 dBA as normally acceptable levels of exterior noise in residential areas. Several other agencies, including the Federal Energy Regulatory Commission, use a DNL criterion of 55 dBA as the



threshold for defining noise impacts in sparse suburban and rural residential areas (Schomer et al 2001). According to Dr. Paul Schomer in his 2001 Whitepaper, while there are numerous thresholds for acceptable noise in residential areas, research suggests that an area's current noise environment, which has experienced noise in the past may reasonably expect to tolerate a level of noise about 5 dBA higher than the general guidelines. Down and Stock (1978) conducted a study to determine the human reaction to progressive sound increases. The results of the study indicate that increases in ambient noise levels below 5 dB go unnoticed while every 5 dB increase above that level becomes increasing noticeable and increases over 20 dB are intolerable (Table 2).

**Table 2**  
**Human Reaction to Increases in Sound Pressure Level**

<b>Increase in Sound Pressure (dB)</b>	<b>Human Reaction</b>
Under 5	Unnoticed to tolerable
5 – 10	Intrusive
10 – 15	Very noticeable
15 – 20	Objectionable
Over 20	Very objectionable to intolerable

Source: Down and Stocks, 1978

### **3.8.2 Analysis**

Construction noise would be similar to that of farm equipment and other small machinery used in the local area. A large crane, excavator, dozer, and dump truck are the equipment to be used during installation of the water system, and each emits noise levels around 85 dBA at 45 feet.

Construction machinery would be operated for approximately eight hours, generating noise during the daytime (8am-5pm) when many residents are at work. Therefore, a reasonable exposure time of two hours would be expected during times when residents may be home during the day. Elevated noise levels are anticipated for three to four months for the duration of the construction of the project. While the construction noise generated would be considered unacceptable according to HUD standards, these limited exposures and time intervals are still within allowable Corps safety levels (USACE 2003). Further, they are similar to typical neighborhood noise generated by gas powered lawnmowers in the local area, which could range from 90-95 dBA at three feet and 70-75 dBA at 100 feet. There could be an increase in noise levels during the construction period. However, the impact would be localized, temporary and should not approach nuisance levels. Due to daytime construction and the short and limited duration of elevated noise levels associated with the PAA, impacts from noise should be minor and temporary.

No temporary construction related noise impacts would occur from the NAA.



### **3.9 Socioeconomic Conditions**

Under Executive Order 12898 “Federal Action to Address Environmental Justice in Minority Populations and Low Income Populations,” federal agencies are directed to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low income populations.

According to the U.S. Census Bureau, the 2000 population estimate for Braxton County, West Virginia was 14,702 and does not contain significant minority populations. The 2009 census indicates that Braxton County, West Virginia is 98.2% white and has a median household income of \$31,471 compared with \$37,423 for the state of West Virginia. Individuals residing in the county below the poverty level is 23.3% compared to 17.8% statewide.

Service provided by the water distribution line and appurtenances will serve 69 new customers whose present source of water consists almost exclusively of wells. Implementation of the PAA will provide the community with acceptable water and fire service while eliminating the threat of contamination through tainted well water. The most immediate environmental impact would be an increase in the reliable and safe drinking water for residents in the project area. No homes or buildings would be impacted by the proposed project. Therefore, the project meets the directive of EO 12898 by avoiding any disproportionately high adverse human health or environmental effects on minority or low income populations.

No impacts to minority and low income populations are anticipated to occur from the NAA.

### **3.10 Aesthetics**

Temporary disturbance of the local aesthetics is anticipated during construction of the PAA; however after the water system is complete, the contractor would be required to fill, re-grade, and re-vegetate excavated sites to original conditions. The proposed location is rural and will mainly be located within road right-of-ways and previously disturbed areas.

No impacts to aesthetics are anticipated to occur from the NAA

### **3.11 Transportation and Traffic**

Existing traffic patterns in the area consist of local residents’ access to homes and businesses in addition to through traffic along WV Route 9 and WV Route 23. Construction of the PAA in and along existing roadways will involve some delays in the normal traffic flow. Coordination with the WVDOH will be accomplished prior to and during construction to ensure minimal disruption of existing traffic patterns. Flaggers, portable electronic traffic signals, etc., will be utilized on portions of roadways which are reduced to a single lane due to construction activities. Impacts anticipated to occur from the PAA would be minimal and temporary.

No impacts to transportation and traffic are anticipated to occur from the NAA.



### **3.12 Health and Safety**

The PAA has been designed to eliminate failing water supplies, thereby minimizing health hazards to drinking water in between the Wilsie, Tague, and Rosedale areas. The presence of bacteria in all the samples taken from present water supplies in this area threatens the health and safety of local residents. The minimization or elimination of bacteria is necessary to prevent health and safety problems associated with area drinking water.

Under the NAA, current unsafe and unreliable drinking water in the project area would continue, perpetuating health and safety concerns.

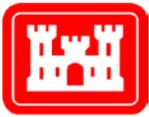
### **3.13 Cumulative Effects**

The USACE must consider the cumulative effects of the proposed project on the environment as stipulated in the National Environmental Policy Act (NEPA). Cumulative effects are "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions". Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR Part 1508.7 Council on Environmental Quality [CEQ] Regulations).

The cumulative effects analysis is based on the potential effects of the proposed project when added to similar impacts from other projects in the region. An inherent part of the cumulative effects analysis is the uncertainty surrounding actions that have not yet been fully developed. The CEQ regulations provide for the inclusion of uncertainties in the analysis and states that "when an agency is evaluating reasonably foreseeable significant adverse effects on the human environment...and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking" (40 CFR 1502.22).

Section 3.0 documents the existing environment and potential environmental effects of the NAA and PAA with respect to existing conditions. The effects, as discussed beforehand, are localized and minor. In scoping past and present future actions, the spatial, or geographic, limits for analysis of actions that may contribute cumulatively with the proposed action would appropriately be limited to the Right Fork of Steer Creek watershed and vicinity. Past actions that may result in similar effects may include upgrading of other linear utilities in the watershed. No reasonably foreseeable future actions that would have similar impacts as the proposed action were identified. In scoping cumulative effects issues, no resources were identified as having a potential to be significantly affected.

As was described in previous sections, only minor and temporary impacts to ecological resources would be sustained with the implementation of either action alternative. These resources would be fully reestablished upon completion of construction. Therefore, this project would not be expected to contribute significantly to cumulative impacts to ecological resources in the basin.



Under the NAA, the project would not be built. The area would continue to use potentially contaminated well water and continue to have no fire protection service.

## **4.0 REQUIRED COORDINATION**

### **4.1 Public Involvement**

This EA, along with the Finding of No Significant Impact (FONSI), will be circulated to the local community and local, state and federal governmental agencies with jurisdiction by law or special expertise for a 30-day review/comment period. A copy will be made available at the local Braxton County Public Library and a public notice published in the Braxton Citizens' News. A mailing list of parties that received notice of this EA has been included in Appendix C.

Since 2004, numerous public meetings have been held at the Frametown Volunteer Fire Department in conjunction with the Wilsie-Rosedale Waterline Association and the Braxton County Commission. Additional meetings have also been held at the Braxton County Commission and the Sugar Creek PSD Office. No opposition to the PAA was voiced at either meeting.

### **4.2 Required Agency Coordination**

Coordination with federal, state, county, and local agencies has been conducted throughout the preparation of this report. All correspondence letters can be found in Appendix B. The USFWS, USACE, Office of Environmental Health Services with the West Virginia Bureau for Public Health (BPH), WV DNR, SHPO, NRCS, WV DOH, and WV DEP have all been asked to review the project for potential negative resource impacts.

## **5.0 CONCLUSION**

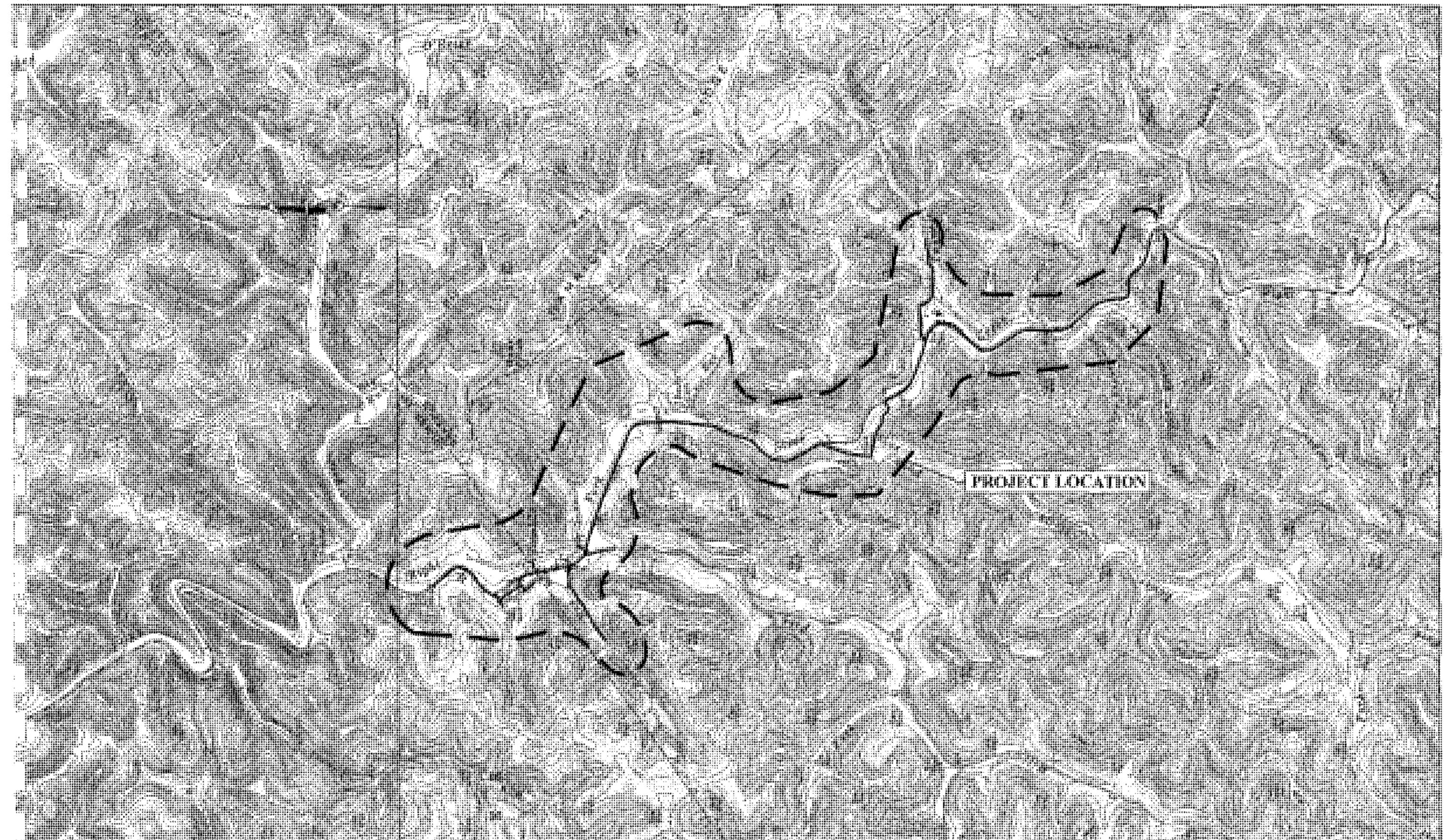
All residents in the Tague and Rosedale areas of Braxton County almost exclusively depend on wells for potable water service. Based on a study completed by Mr. Dale McCutcheon and authorized by the Wilsie-Rosedale Waterline Association, water quality is very poor and unfit for human consumption. The proposed project will provide 69 residents and businesses in the area with reliable, safe drinking water service, as well as fire protection. No significant adverse impacts have been identified with implementation the proposed water system improvements. The construction would mainly take place on previously disturbed land and the contractor would be required to fill, re-grade, and re-vegetate excavated sites to original conditions. Health and safety as well as water quality benefits, would be realized immediately with project implementation. Proper erosion control measures will be implemented in order to minimize any damage to vegetation or streams. USTs in the area will be avoided by means of on-site coordination with the property owner, contractor and engineer prior to and during construction. Coordination with state and government agencies will continue until project completion.



Short term impacts associated with construction of the water system improvements would be localized and minor with the use of BMPs. Some possible temporary negative impacts on the human environment could include noise, floodplain, and aesthetics. However, these impacts would be temporary and insignificant when compared to the positive permanent impact the project would have on the local community's increased standard of living.

# Appendix A

## Exhibits



PROJECT LOCATION



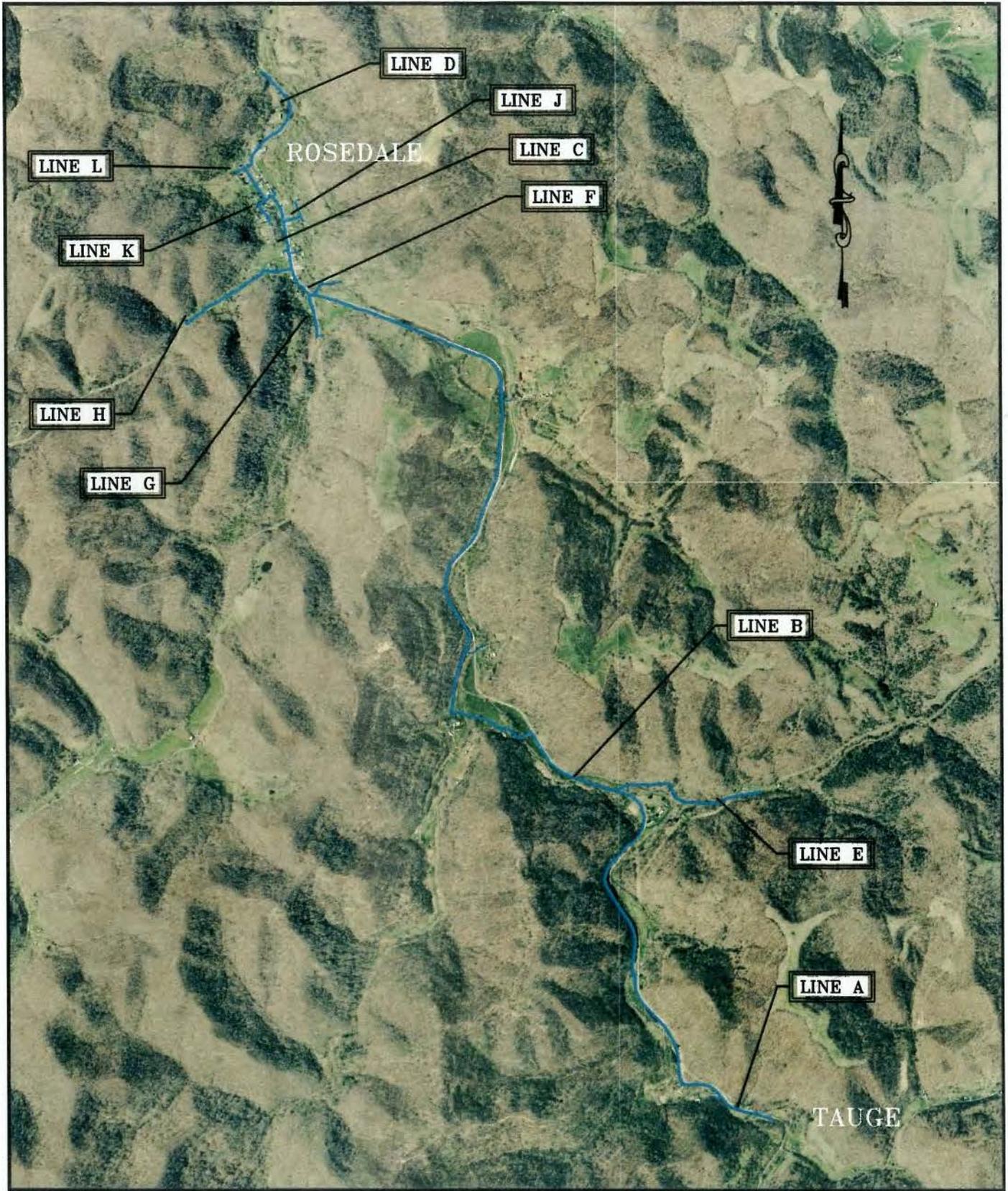
**DUNN ENGINEERS, INC.**  
405 SOUTH HOFFMAN ROAD  
CHARLESTON, W.V. 25304

Scale: 1"=2000' ROSEDALE Quad

**SUGAR CREEK**  
**PUBLIC SERVICE DISTRICT**  
HESTER COUNTY, WEST VIRGINIA

WILHE-ROSEDALE  
PHASE II  
WATER SYSTEM  
IMPROVEMENTS

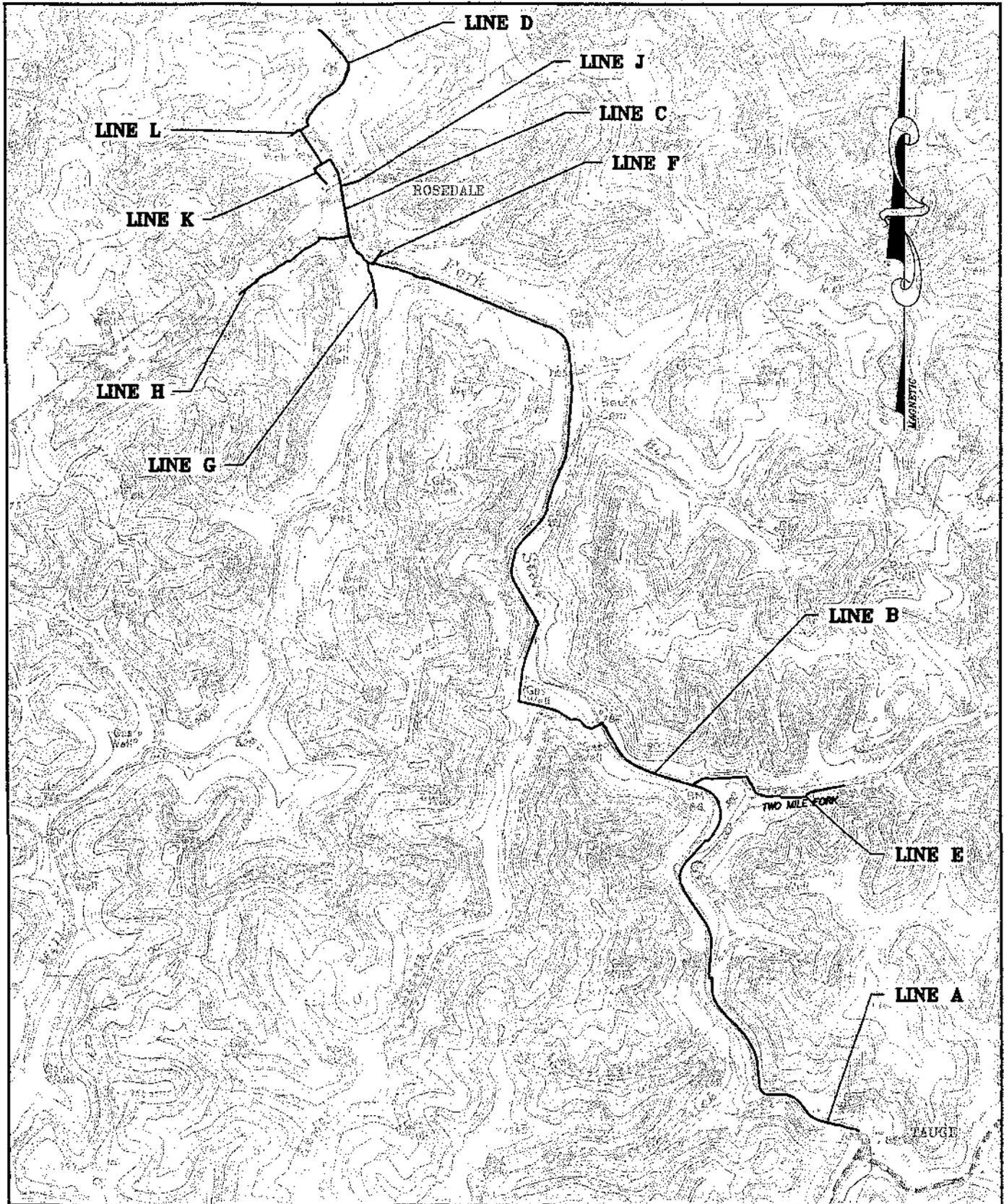




**DUNN ENGINEERS, INC.**  
400 SOUTH RUFFNER ROAD  
CHARLESTON, W.V. 25314

**SUGAR CREEK**  
**PUBLIC SERVICE DISTRICT**  
BRAXTON COUNTY, WEST VIRGINIA

# Wilsie-Rosedale Waterline Extension PHASE II



1"=2000'

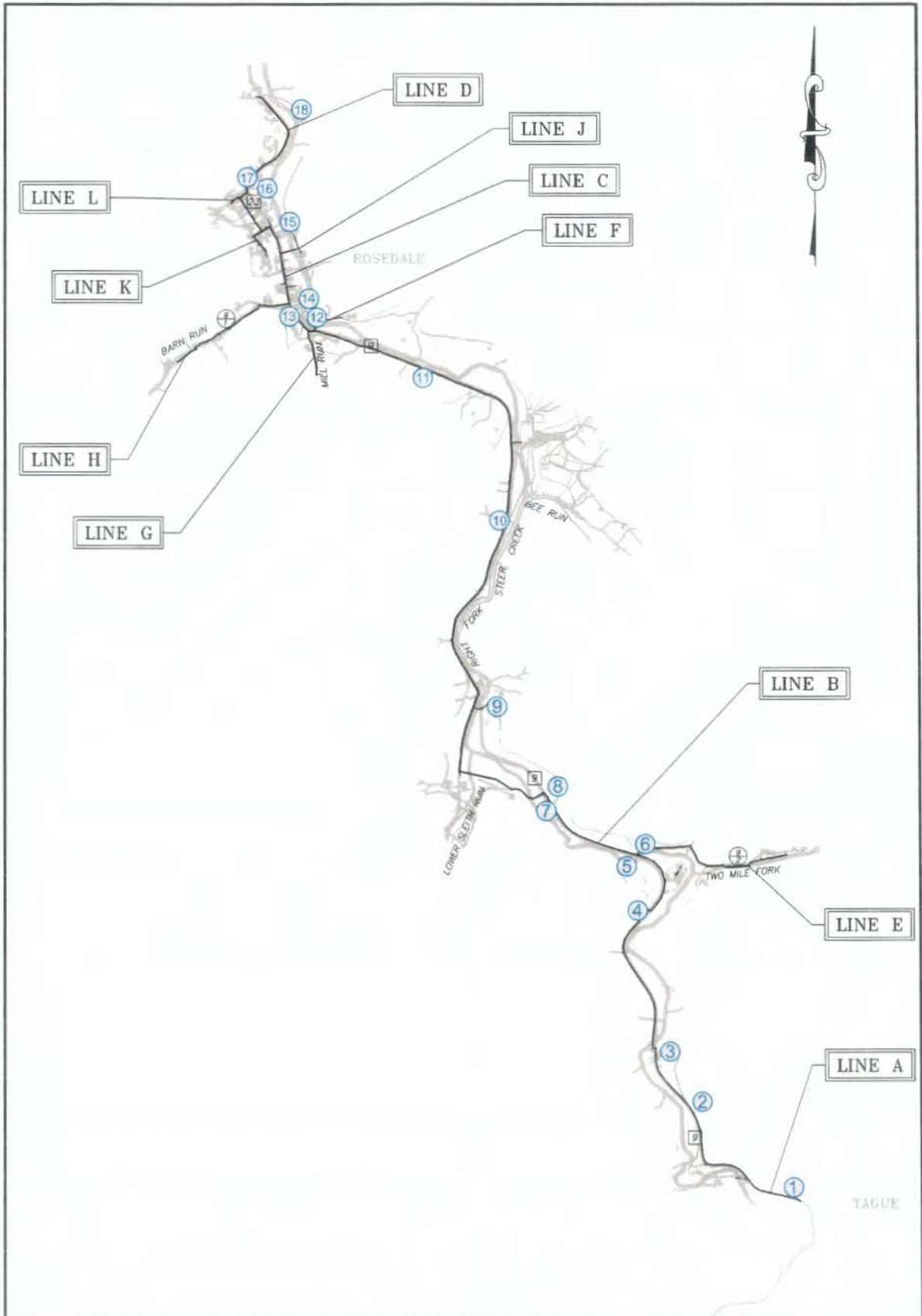
Sugar Creek P.S.D.  
BRAXTON COUNTY, WEST VIRGINIA



**DUNN ENGINEERS, INC.**  
400 SOUTH RUFFNER ROAD  
CHARLESTON, W.V. 25314

**PROJECT LAYOUT**  
**Phase II Waterline Extension**  
USGS Quadrangle - Rosedale, WV

P:\0506-Rosedale-Tague\Phase II-Water-Tague bw topo.dwg, 3/14/2011 12:18:59 PM, 1:2000

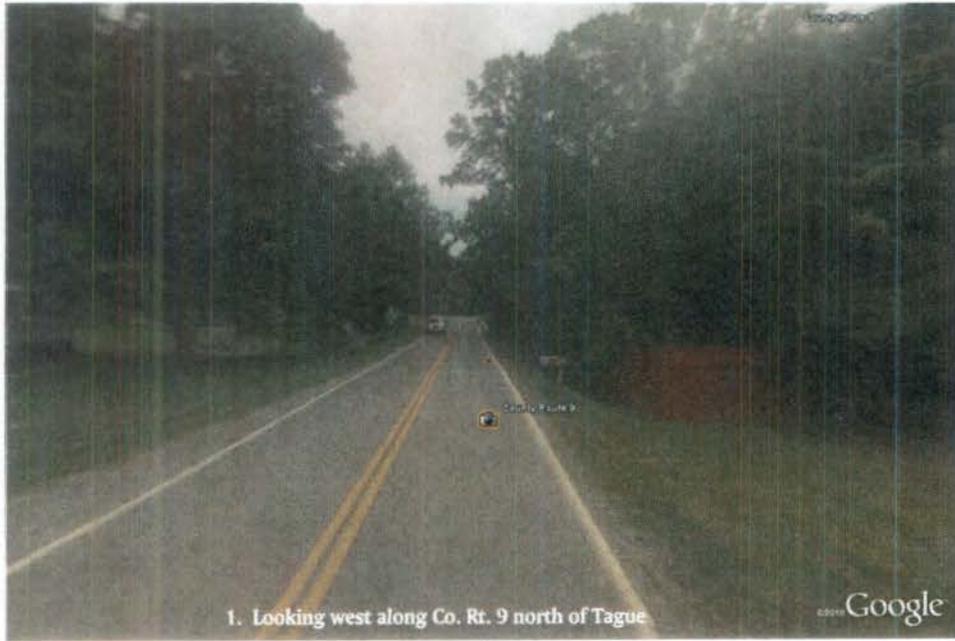


**DUNN ENGINEERS, INC.**  
 400 SOUTH RUFFNER ROAD  
 CHARLESTON, W.V. 25314

**SUGAR CREEK**  
**PUBLIC SERVICE DISTRICT**  
 BRAXTON COUNTY, WEST VIRGINIA

WILSIE-ROSEDALE  
 PHASE II  
 WATER SYSTEM  
 IMPROVEMENTS  
 ENVIRONMENTAL ASSESSMENT

**Photo Location Map**



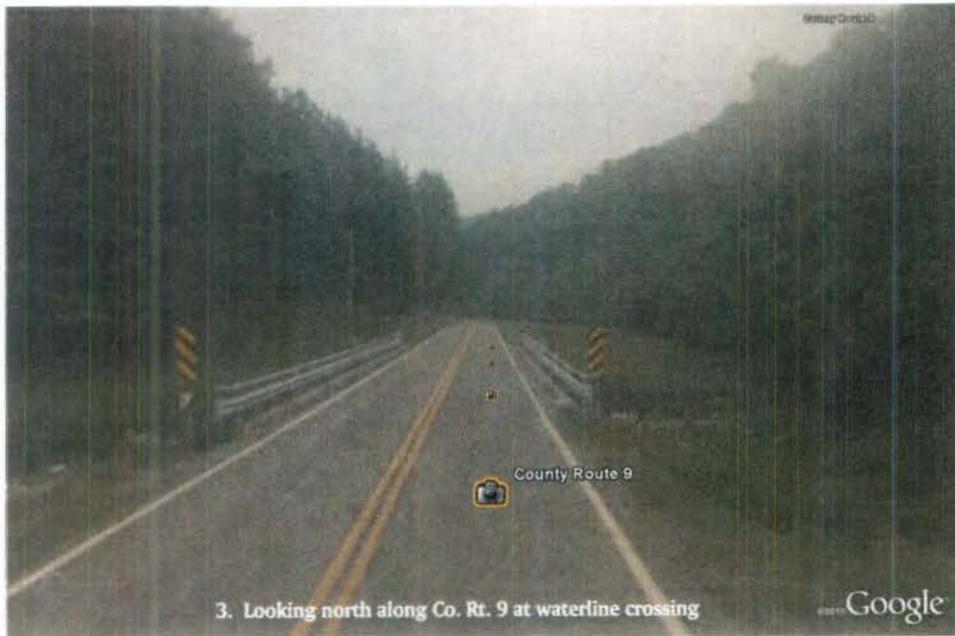
1. Looking west along Co. Rt. 9 north of Tague

1



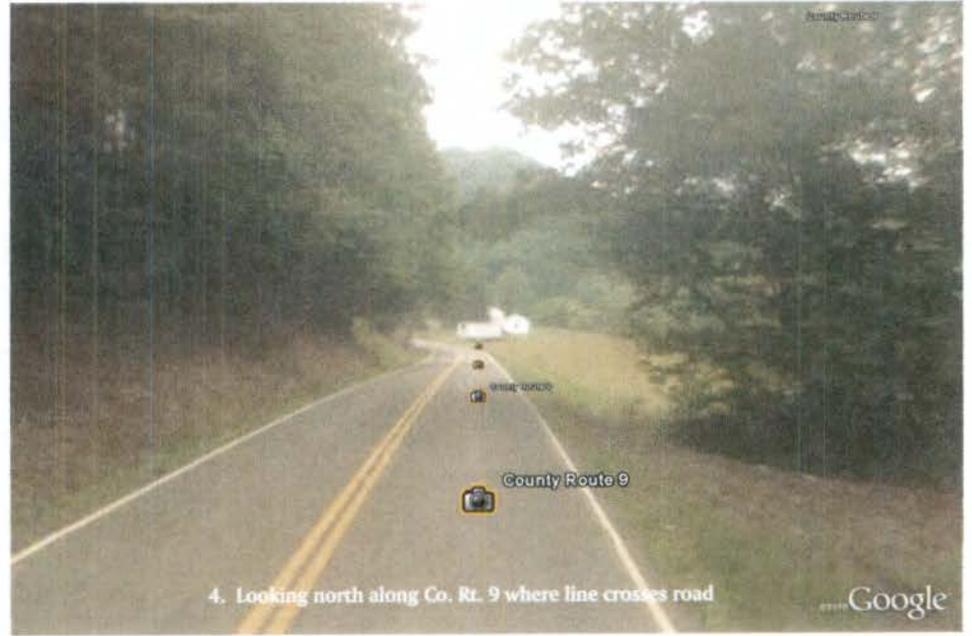
2. Looking north along Co. Rt. 9

2



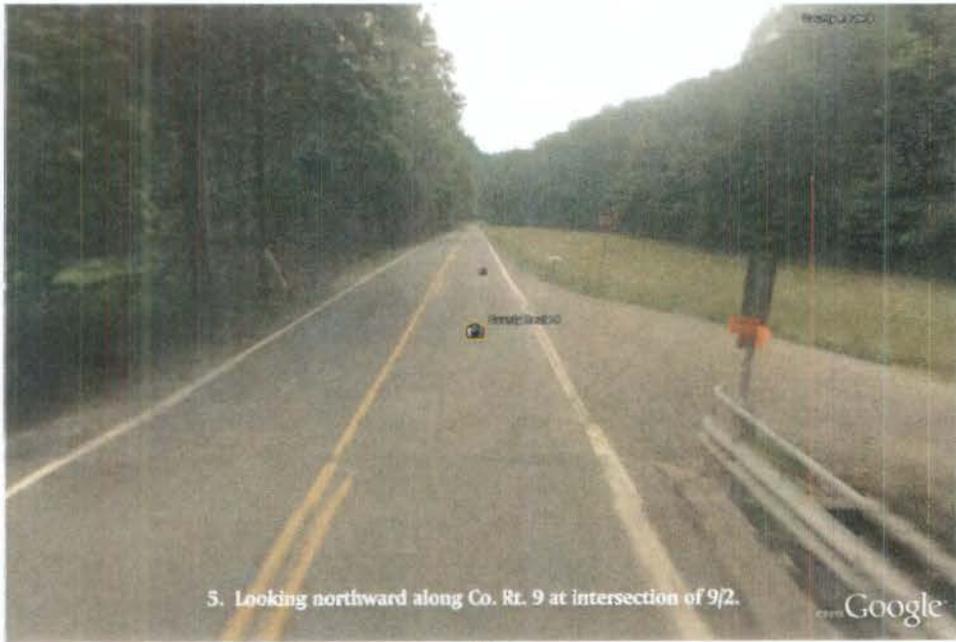
3. Looking north along Co. Rt. 9 at waterline crossing

3



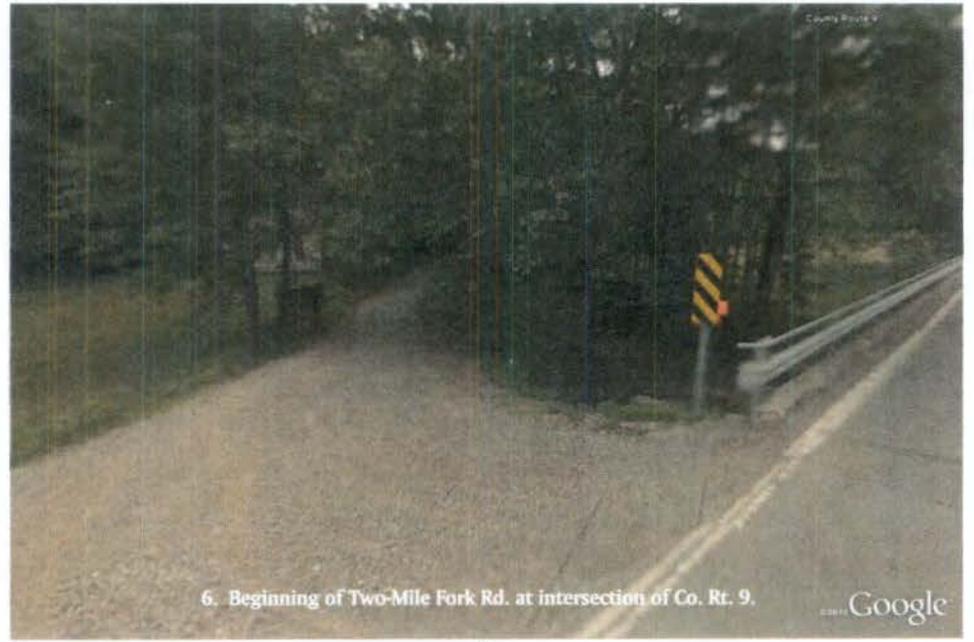
4. Looking north along Co. Rt. 9 where line crosses road

4



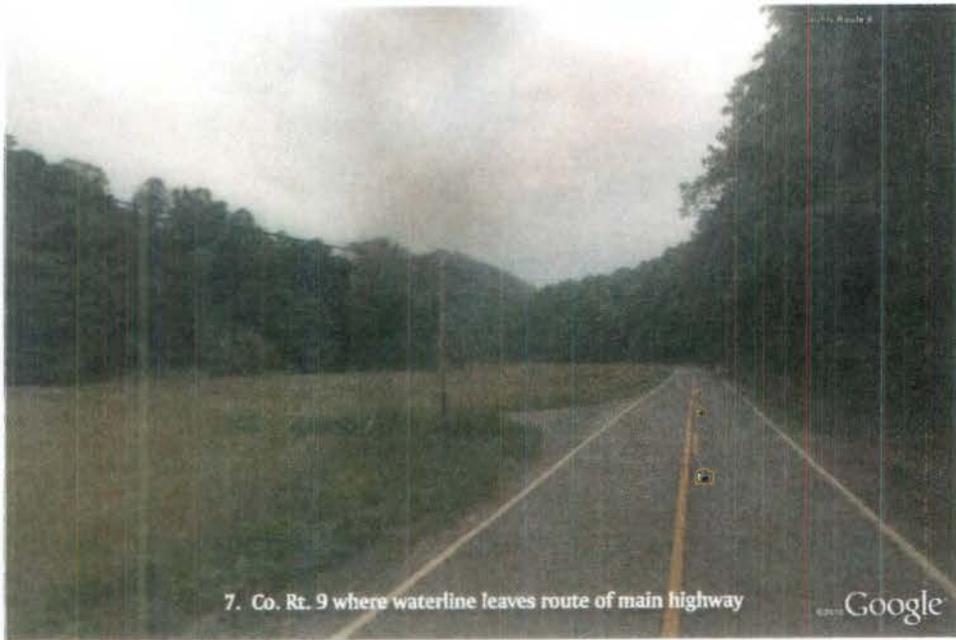
5. Looking northward along Co. Rt. 9 at intersection of 9/2.

5



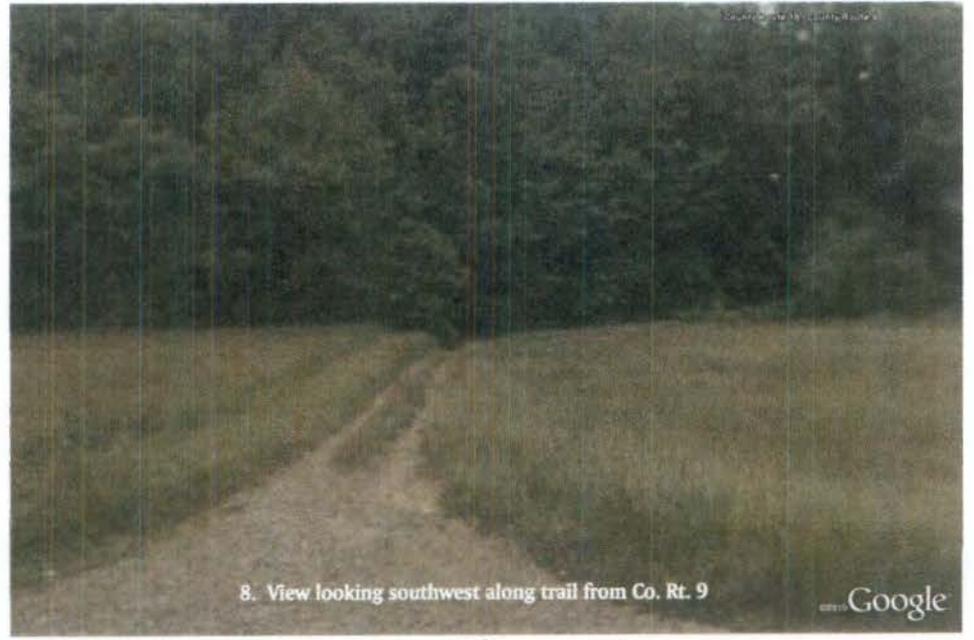
6. Beginning of Two-Mile Fork Rd. at intersection of Co. Rt. 9.

6



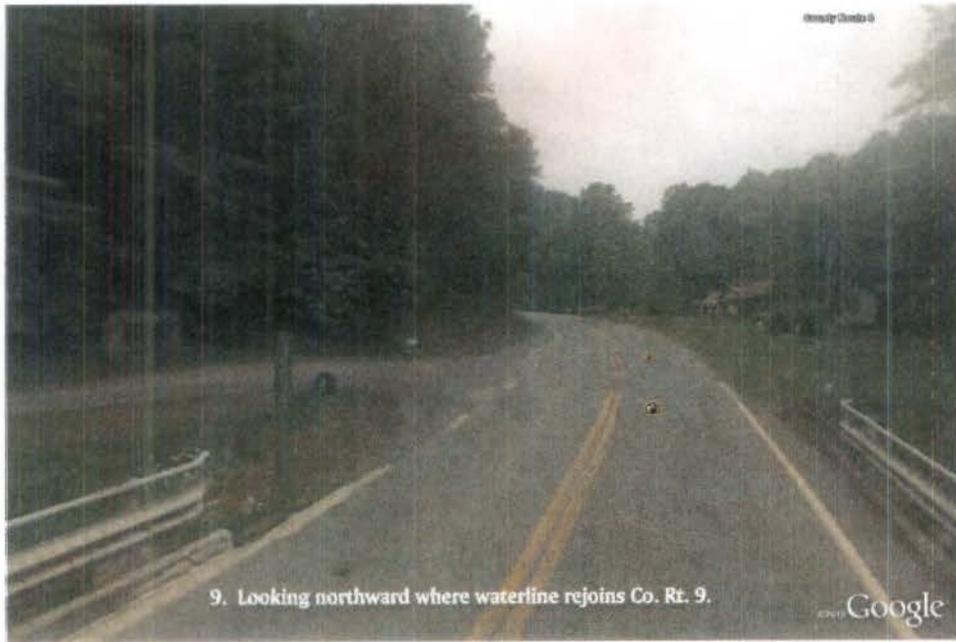
7. Co. Rt. 9 where waterline leaves route of main highway

7



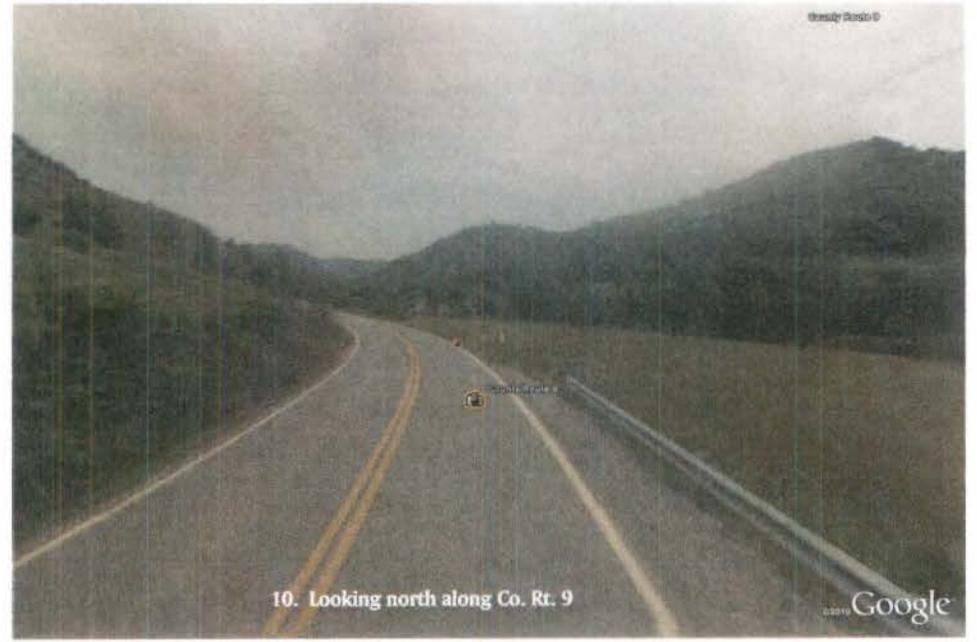
8. View looking southwest along trail from Co. Rt. 9

8



9. Looking northward where waterline rejoins Co. Rt. 9.

9



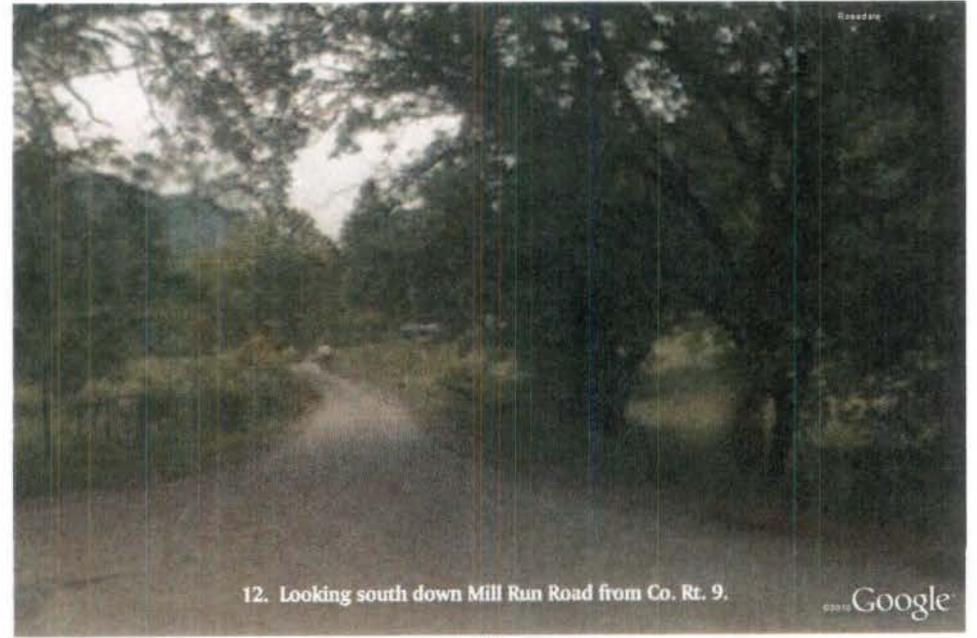
10. Looking north along Co. Rt. 9

10



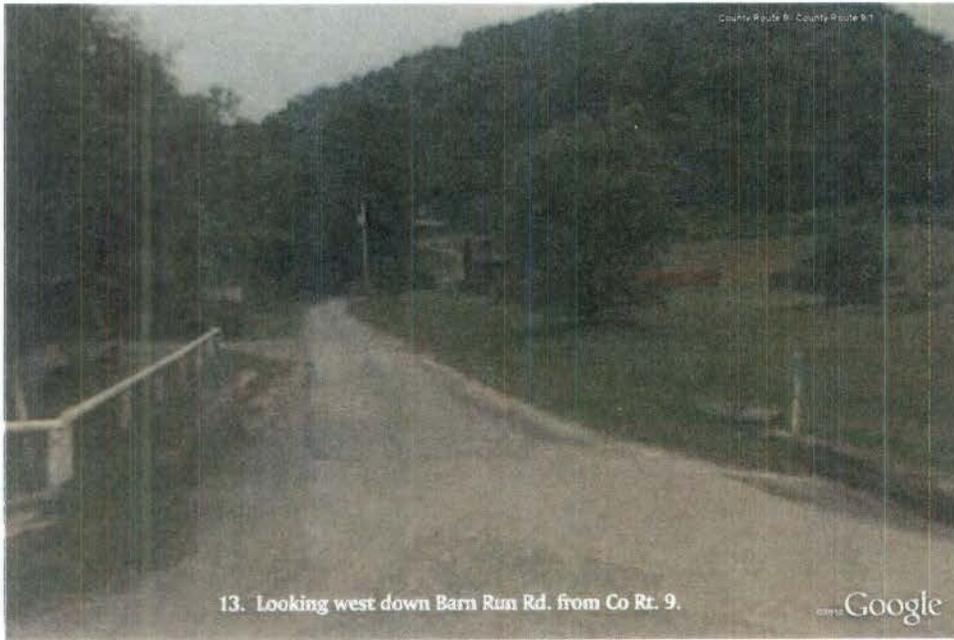
11. Looking westward along Co. Rt. 9.

11



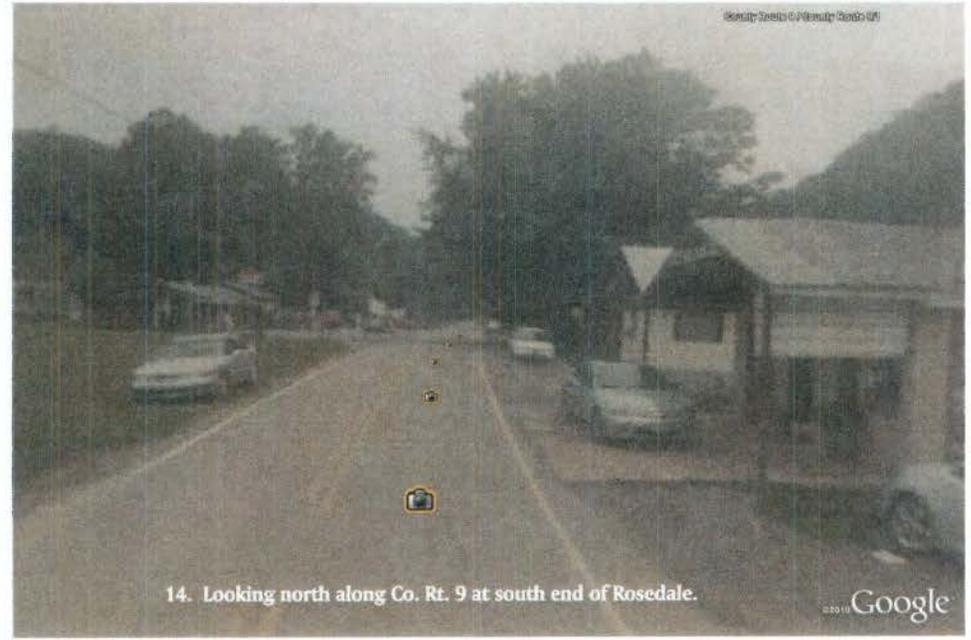
12. Looking south down Mill Run Road from Co. Rt. 9.

12



13. Looking west down Barn Run Rd. from Co Rt. 9.

13



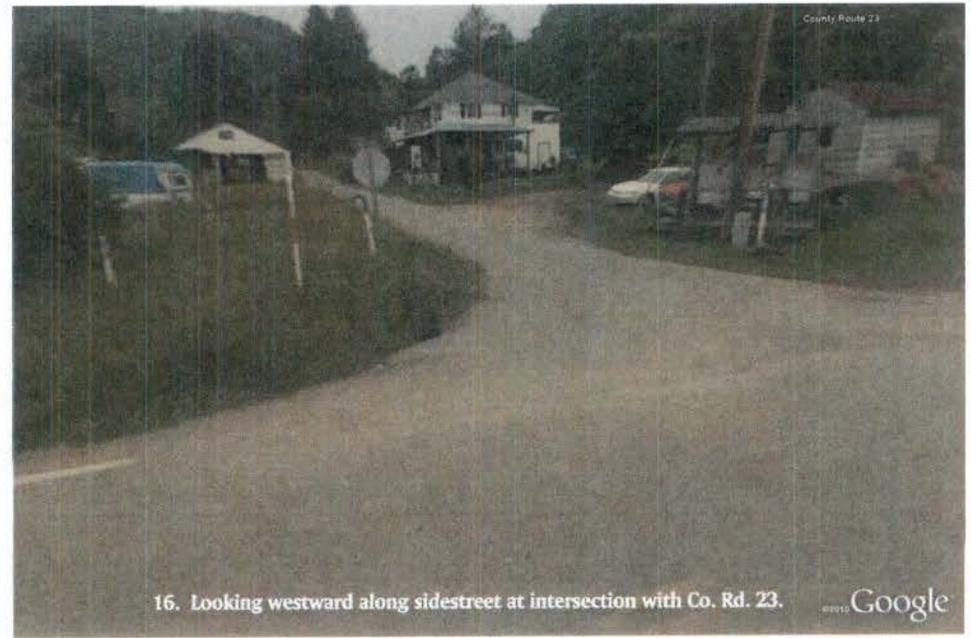
14. Looking north along Co. Rt. 9 at south end of Rosedale.

14



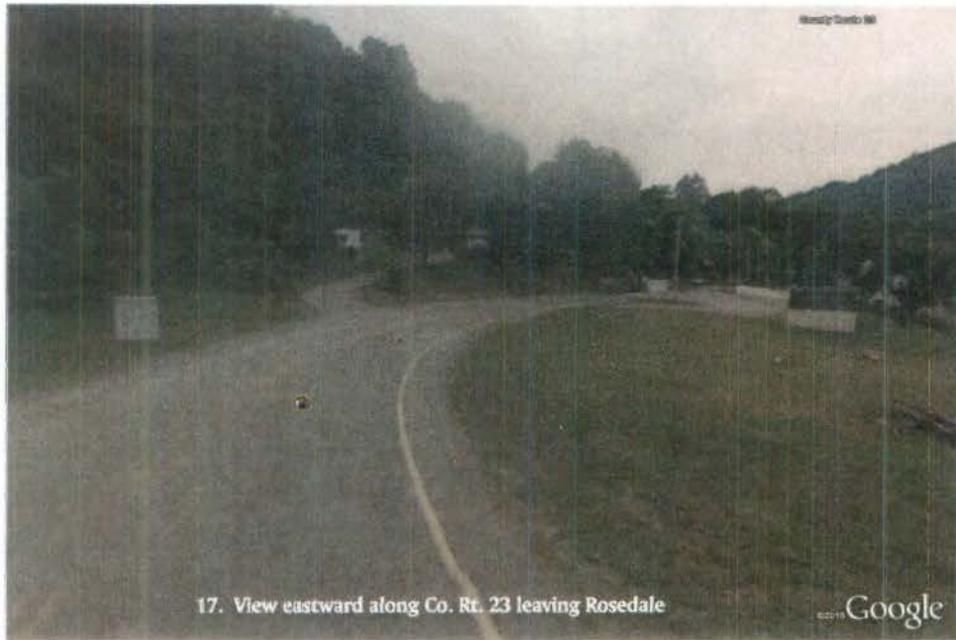
15. Looking westward along side street from Co. Rt. 23 in Rosedale.

15



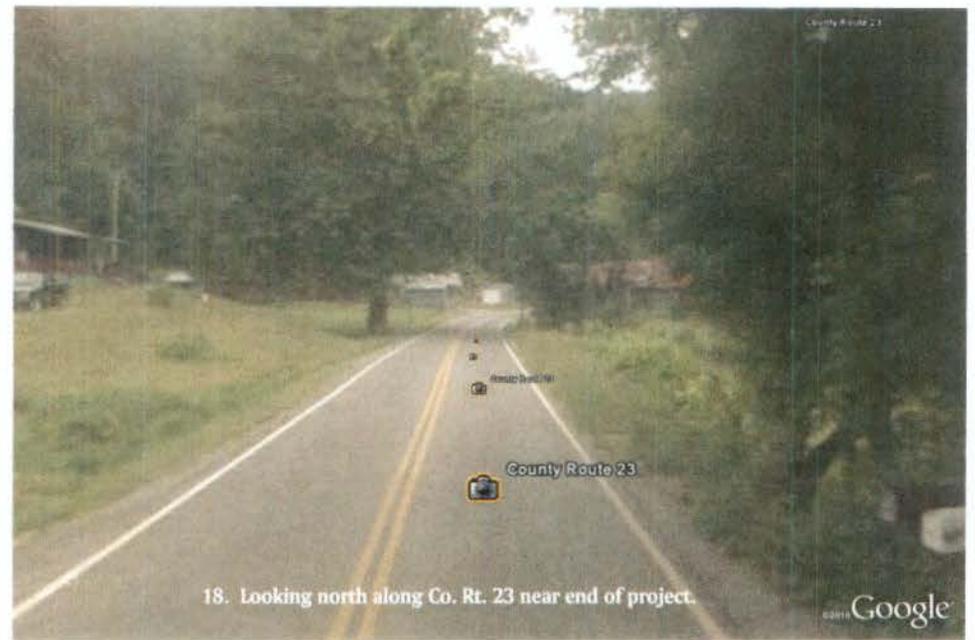
16. Looking westward along sidestreet at intersection with Co. Rd. 23.

16



17. View eastward along Co. Rt. 23 leaving Rosedale

17



18. Looking north along Co. Rt. 23 near end of project.

18

P:\0806-Sugar Creek Phase 2\WTRVA\WTRW Draw for E&A.dwg, 1/28/2011 8:06:09 AM, 1:12:00



**Wetland Type**

Estuarine and Marine Deepwater	Dark Blue
Estuarine and Marine Wetland	Medium Blue
Freshwater Emergent Wetland	Light Green
Freshwater Forest/Shrub Wetland	Dark Green
Freshwater Pond	Medium Green
Lake	Light Blue
Other	Brown
Revision	Yellow

**Station Map**

Digital Vector Data	Yellow
State Vector Data	Light Blue
Non-Digital Pointing	Dark Blue
As Shown	Grey



**DUNN ENGINEERS, INC.**  
400 SOUTH RUFFNER ROAD  
CHARLESTON, W.V. 25314

SCALE: 1"=1200'

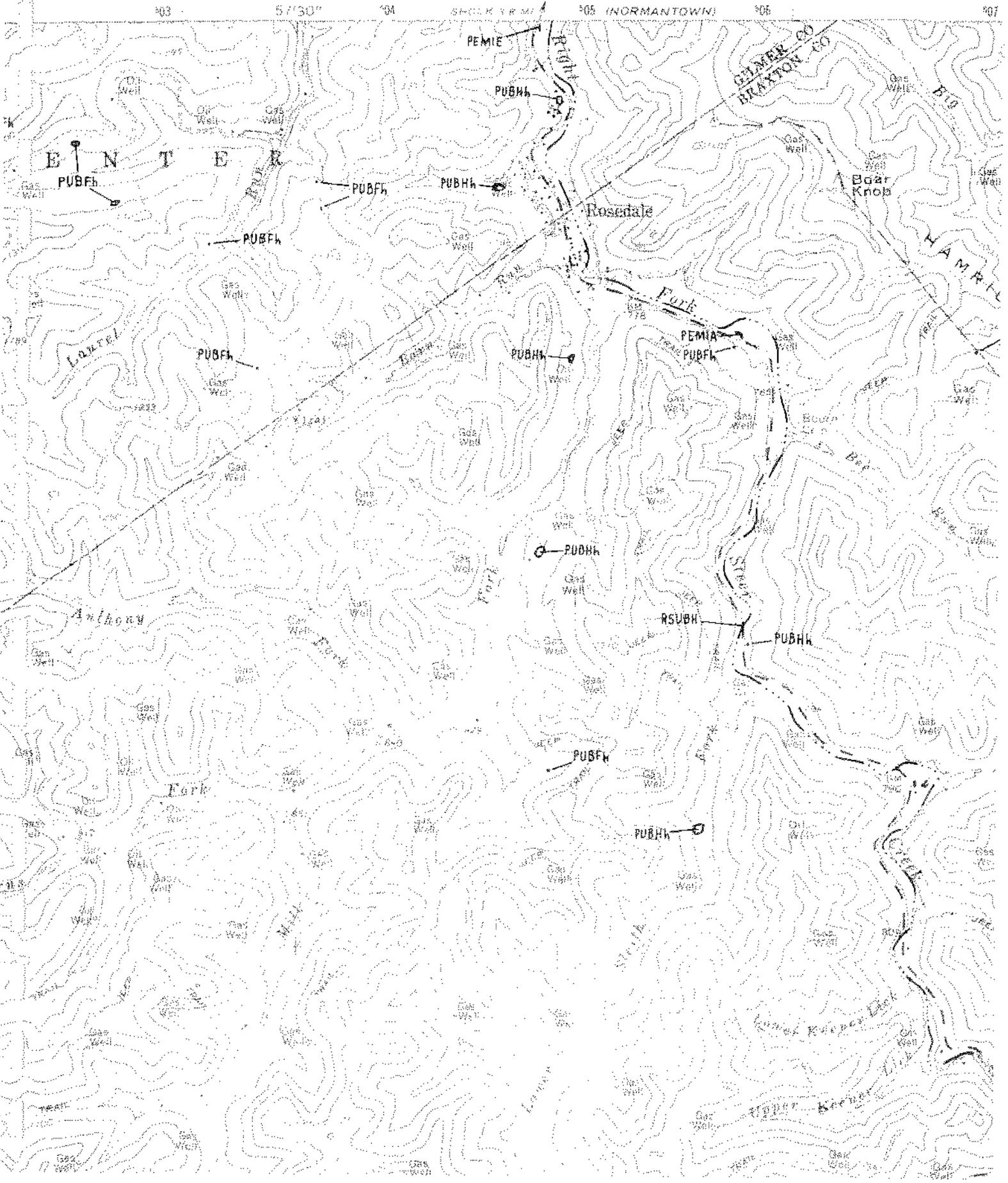
**SUGAR CREEK**  
**PUBLIC SERVICE DISTRICT**  
BRAXTON COUNTY, WEST VIRGINIA

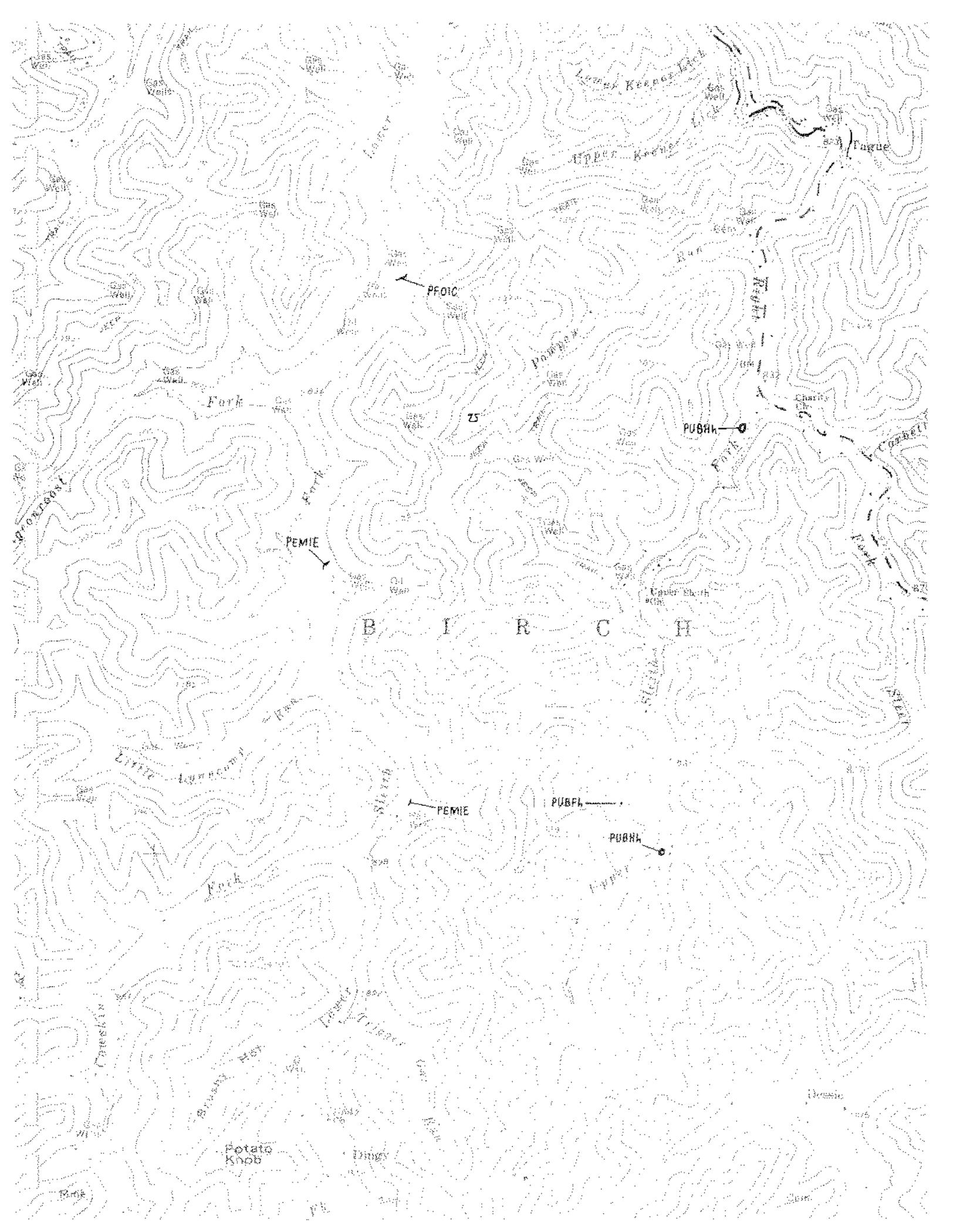
WILSIE-ROSEDALE  
PHASE II  
WATER SYSTEM  
IMPROVEMENTS  
ENVIRONMENTAL ASSESSMENT

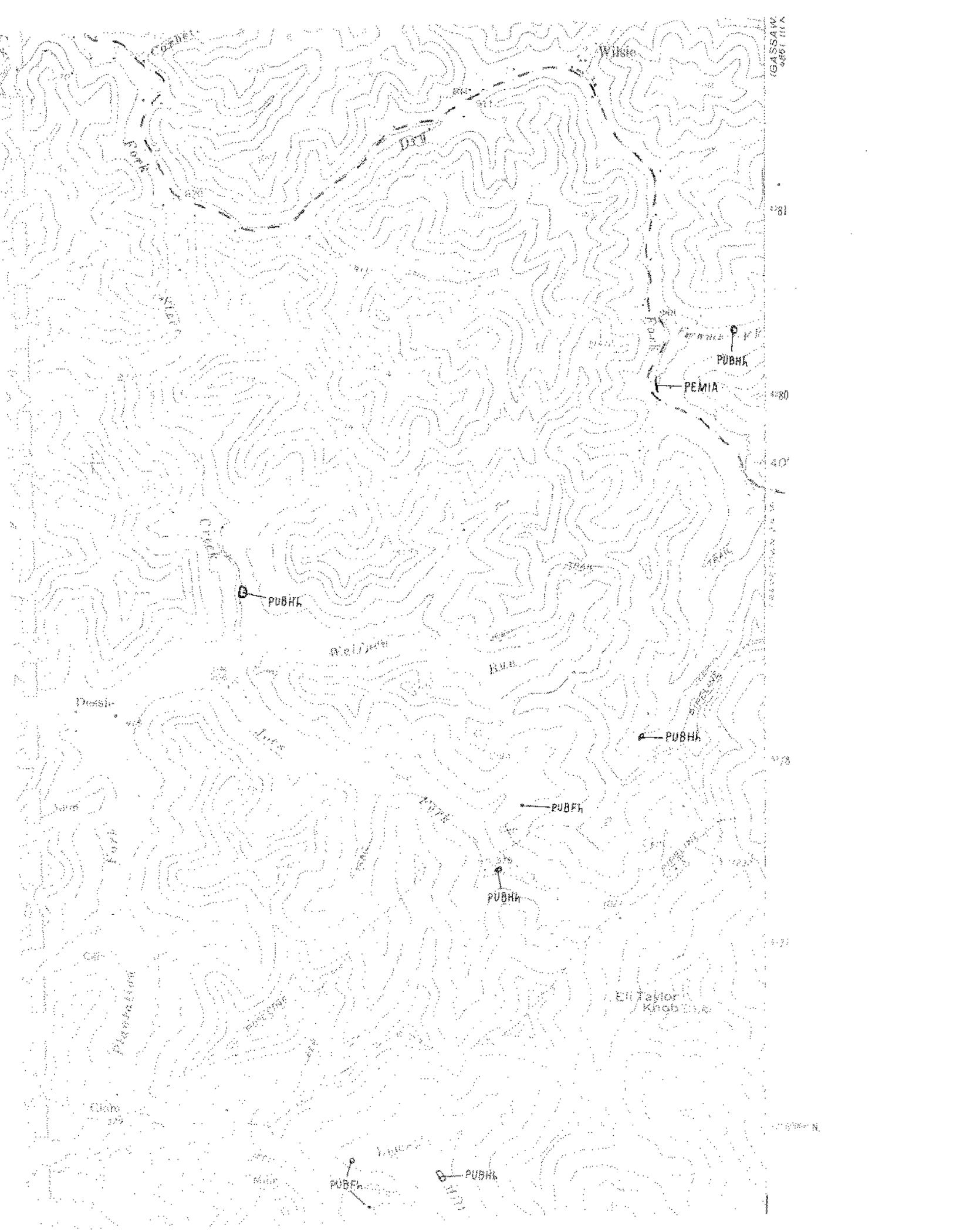
**Wetlands Location Map**

# NATIONAL WETLANDS INVENTORY

## UNITED STATES DEPARTMENT OF THE INTERIOR







GASSAK  
4861 IIIA

480

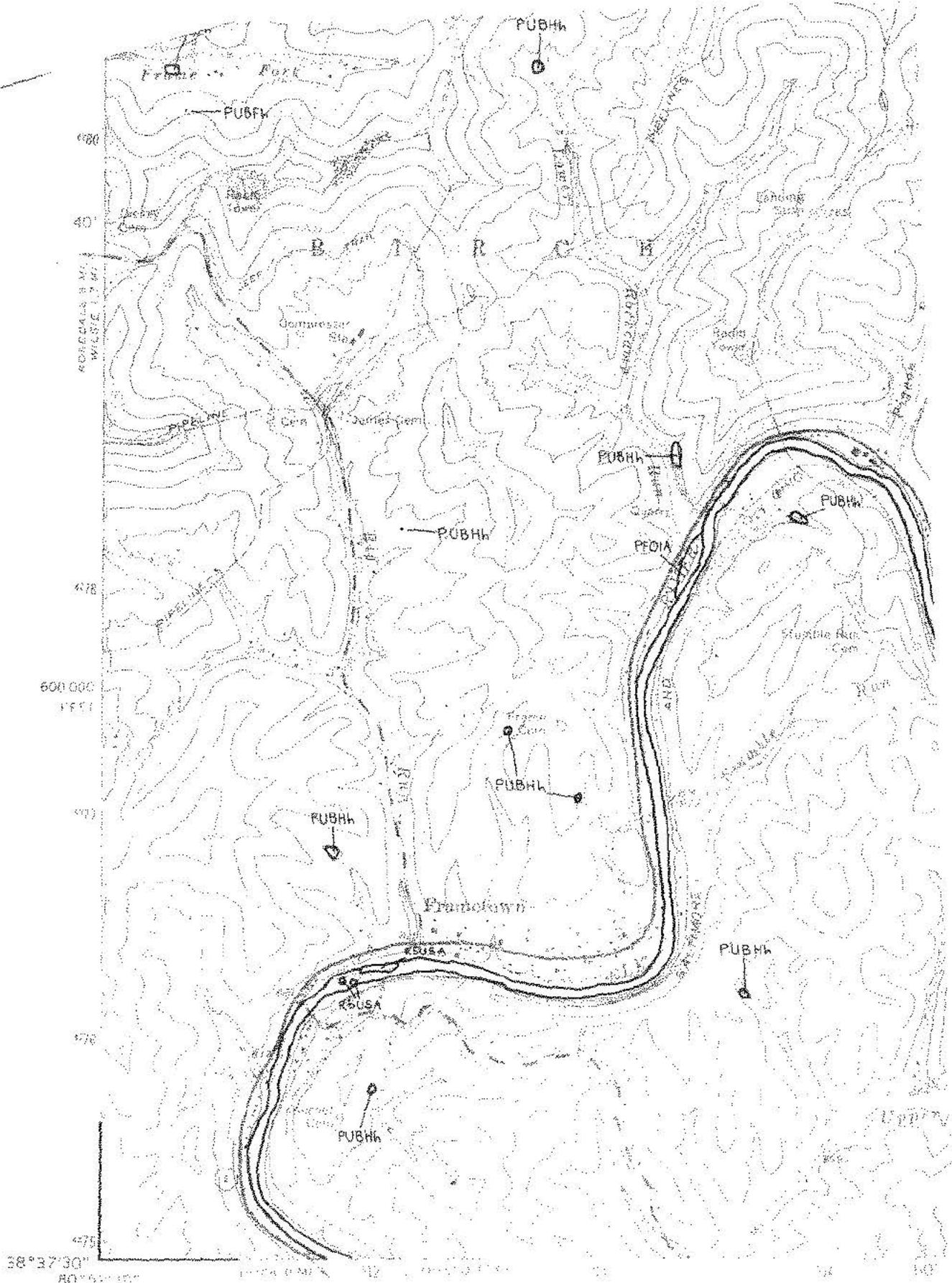
480

40'

478

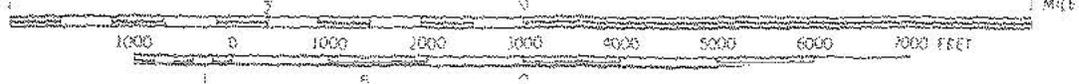
477

476 N

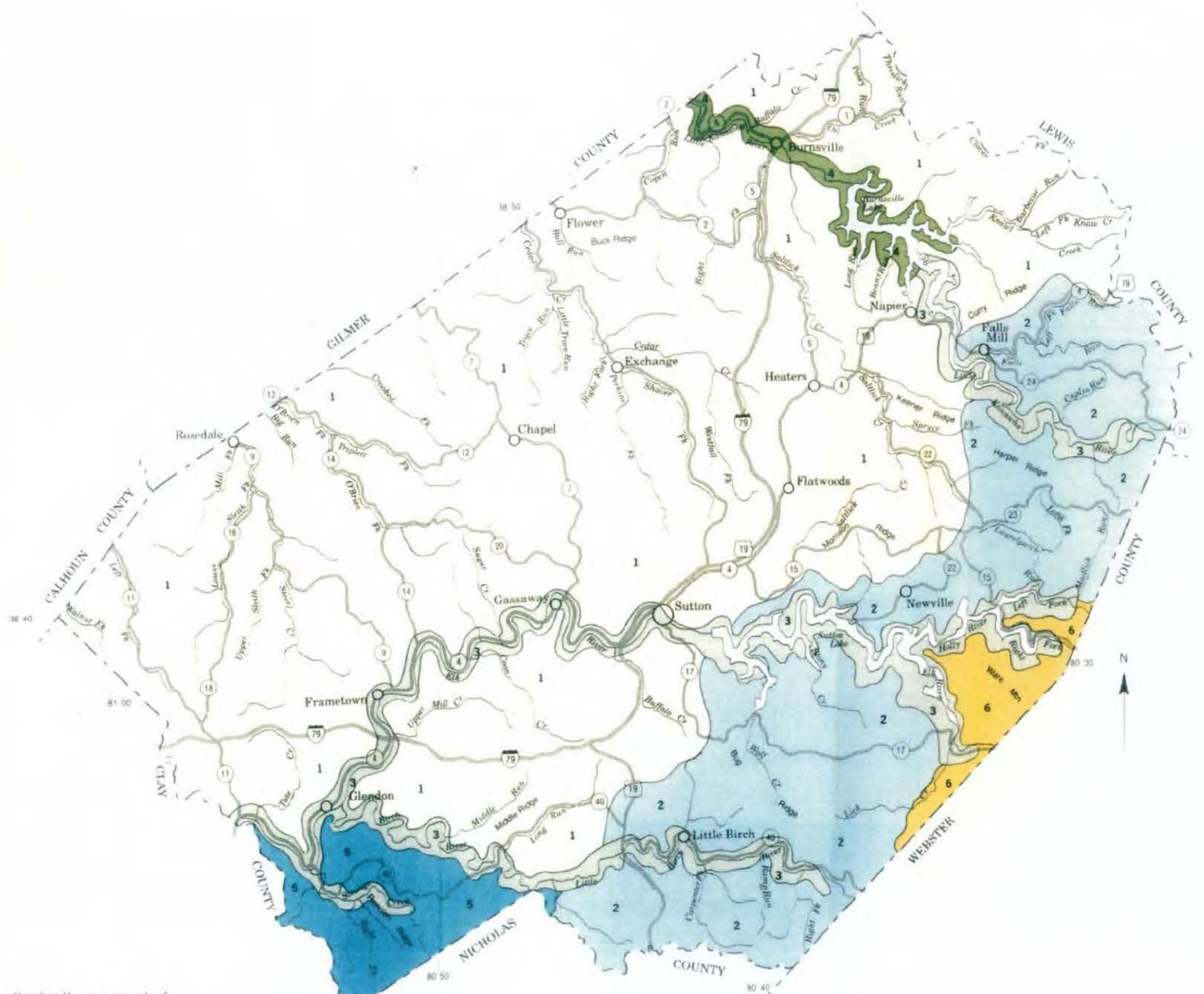


CHARLESTON NE  
SUTTON

SCALE 1:24 000



**SPECIAL NOTE**  
This document was  
analysis of high altitud



**SOIL LEGEND\***

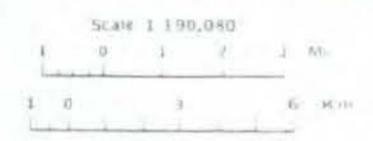
- 1 GILPIN UPSHUR VANDALIA
- 2 GILPIN BUCHANAN LILY
- 3 BUCHANAN CHAVIES POPE
- 4 VANDALIA CHAVIES POPE
- 5 GILPIN UPSHUR BUCHANAN
- 6 GILPIN BUCHANAN PINEVILLE

\* The units on this legend are described in the text under the heading "General Soil Map Units."

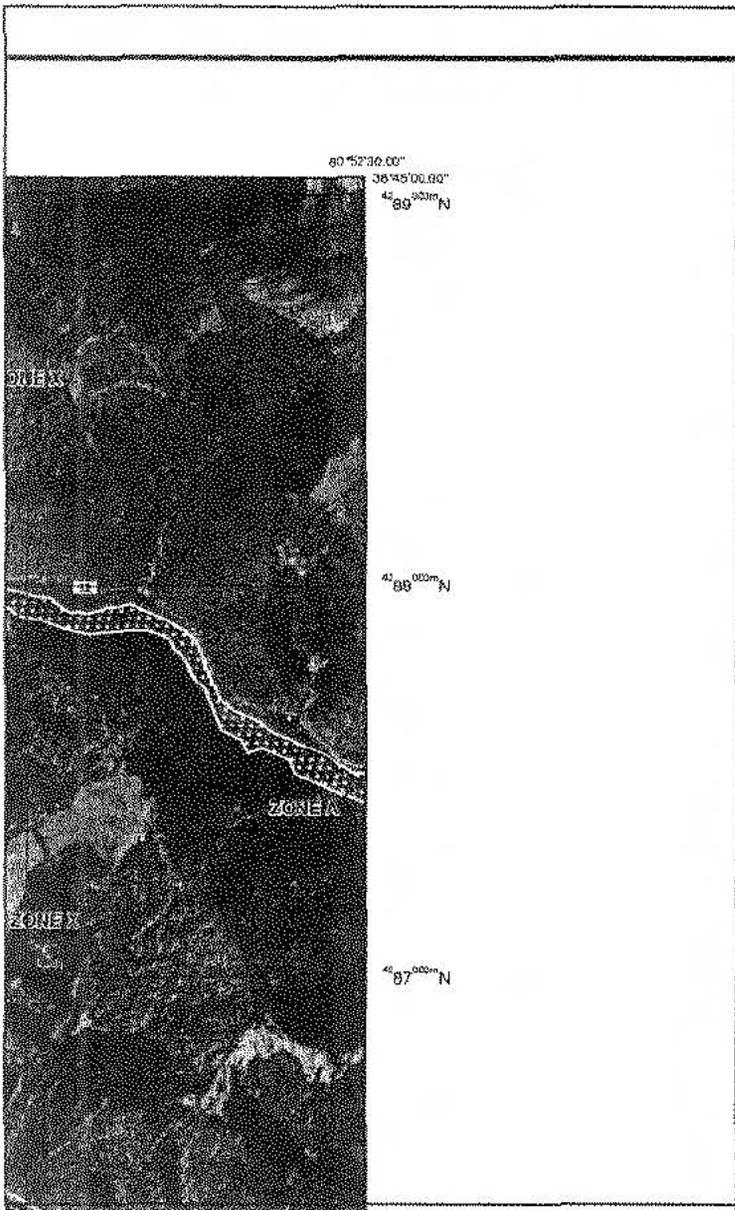
Compiled 1996

UNITED STATES DEPARTMENT OF AGRICULTURE  
 NATURAL RESOURCES CONSERVATION SERVICE  
 WEST VIRGINIA AGRICULTURAL AND FORESTRY EXPERIMENT ST.  
 BRAXTON COUNTY COMMISSION

**GENERAL SOIL MAP**  
 BRAXTON COUNTY, WEST VIRGINIA



Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



## LEGEND

### SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, ASB, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE ASB** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

### FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

### OTHER FLOOD AREAS

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

### OTHER AREAS

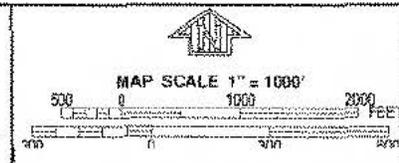
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

### COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

### OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- - - 0.2% annual chance floodplain boundary
- Floodway boundary
- - - Zone D boundary
- \*\*\*\*\* CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.



- Base Flood Elevations, Flood Depths or Flood Velocities
- Base Flood Elevation line and value, elevation in feet\*
- Base Flood Elevation value where unknown until noted otherwise in text
- \* Referenced to the Mean Higher High Water Datum of 1985 (MHHW 85)
- Green section line
- Highway line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter bathymetric (contour) elevations, zone 12
- 500-foot grid lines (not shown) Data from Geographic Survey, zone 18a (1982/83-8/83), Unrevised Contour, Zone 18
- Survey line (not reproduction. It refers to survey method of this project panel)
- Map title
- Map projection and datum
- Scale in Map Description box or Map Sheet
- BOUNDARY LINE OF COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREA
- Map No. 1000
- REPRODUCTION AUTHORITY: REPRODUCTION OF THIS PANEL: April 18, 2010 - in accordance with 44 CFR 60.406 (b) (2) and Special Flood Hazard Areas, 24 pages and forms, which will issue and be revised.

The community map revision history plot is available upon request in the Community Map History data, except in the Flood Insurance Rate Map for the jurisdiction. To determine if flood information is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-352-6829.



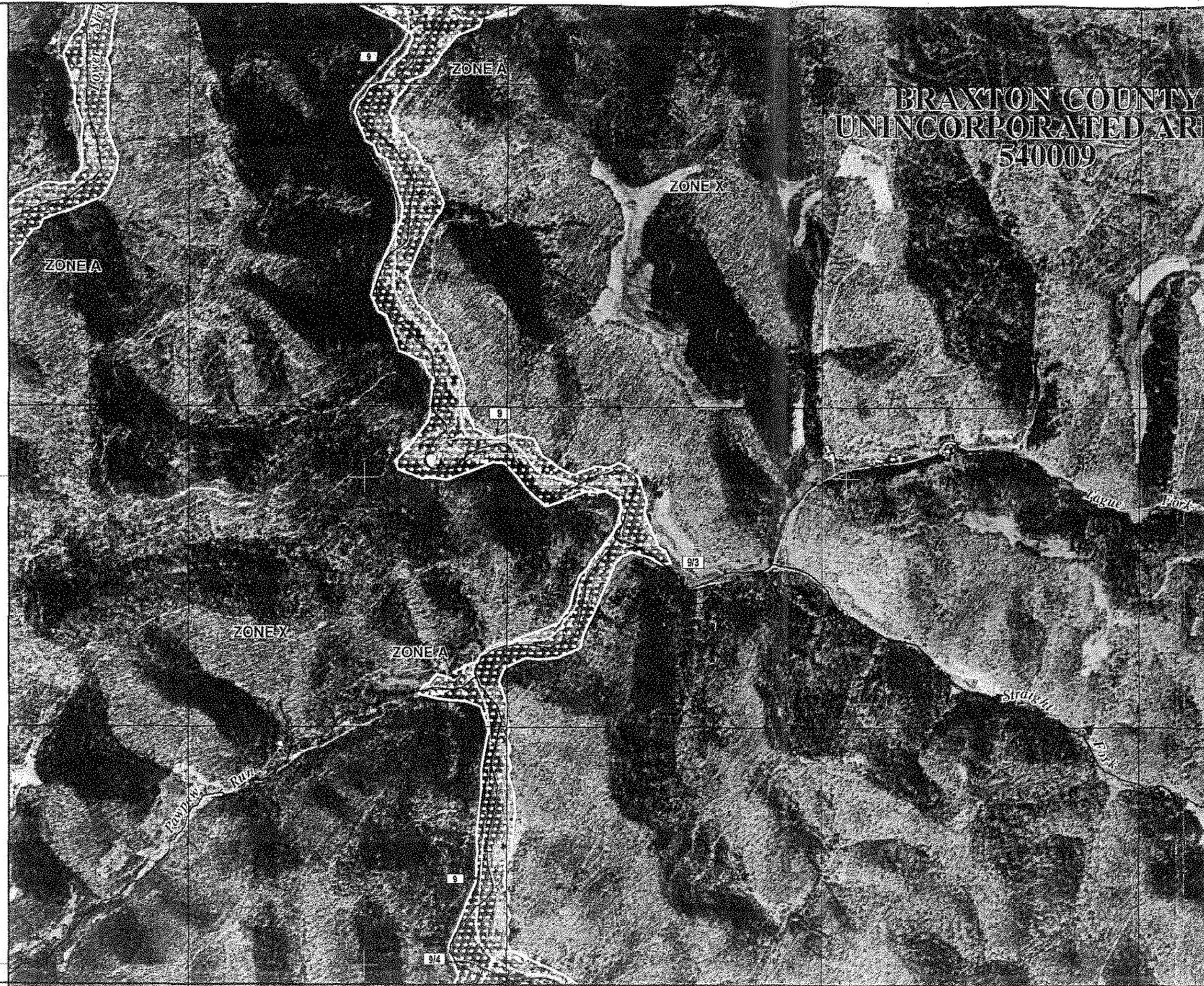
**PANEL 0218D**

This is an official copy of a portion of the above referenced flood map. It was reproduced using F-1071 (2-10-10). This map does not reflect changes in coordinates which may have taken place subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at [www.fema.gov/flood](http://www.fema.gov/flood).



MAP SCALE 1" = 1000'  
500 0 1000 2000 FEET

BRAXTON COUNTY  
UNINCORPORATED AREAS  
540009



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0210D

**FIRM**  
FLOOD INSURANCE RATE MAP  
BRAXTON COUNTY,  
WEST VIRGINIA  
AND INCORPORATED AREAS

PANEL 210 OF 425  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BRAXTON COUNTY	54009	0210	D

Note to User: The Map Number shown below should be used when placing map orders; the Community Number shown below should be used on insurance applications for the subject community.

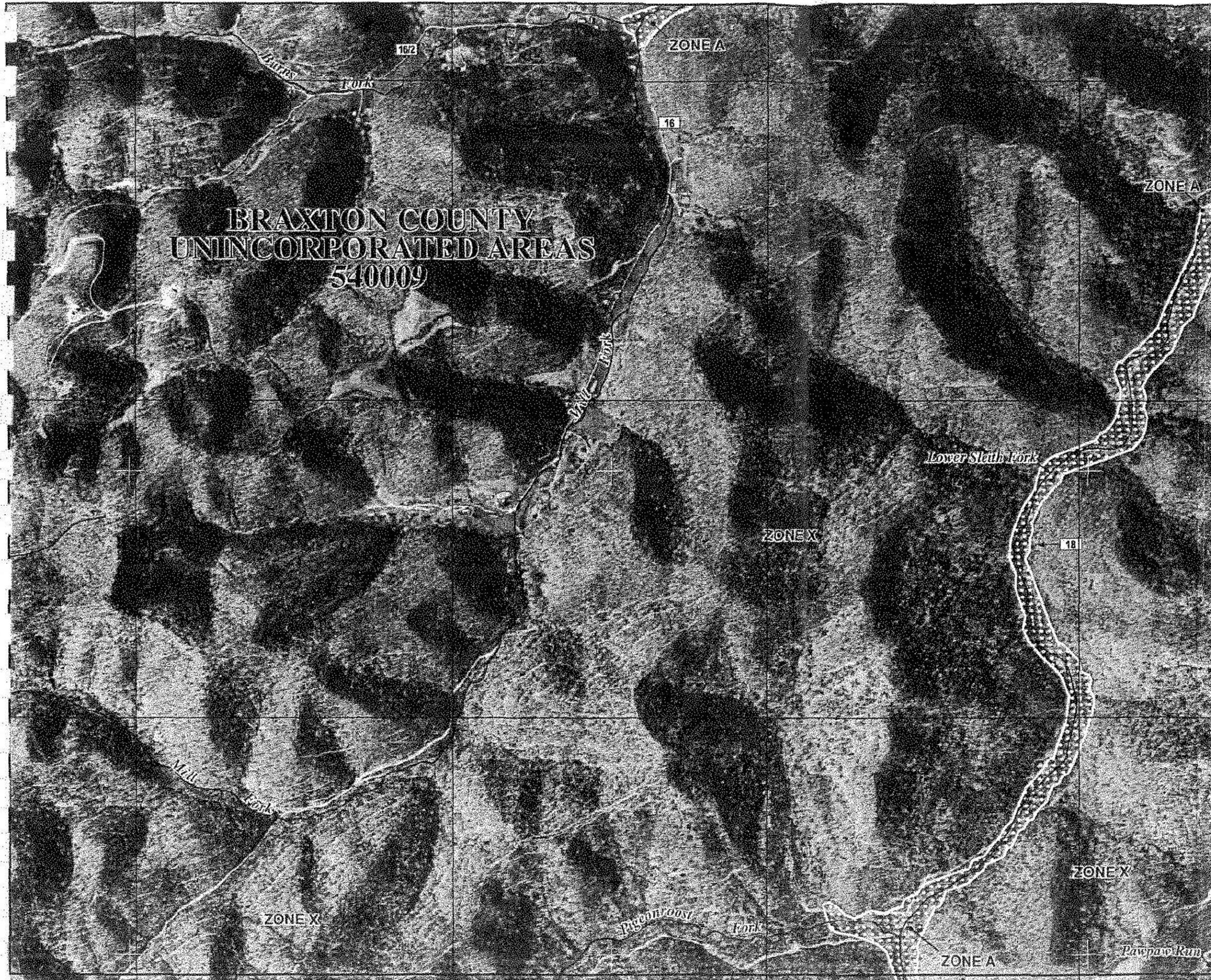


MAP NUMBER  
54007C0210D

MAP REVISED  
APRIL 19, 2010

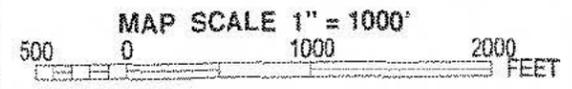
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRM On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at [www.nsc.fema.gov](http://www.nsc.fema.gov)



**BRAXTON COUNTY  
UNINCORPORATED AREAS  
540009**

National Flood Insurance Program at 1-800-638-6620.



**NFIP** PANEL 0205D

**FIRM  
FLOOD INSURANCE RATE MAP  
BRAXTON COUNTY,  
WEST VIRGINIA  
AND INCORPORATED AREAS**

PANEL 205 OF 425  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BRAXTON COUNTY	540009	0205	D

Notice to User: The Map Number shown below should be used when citing map series; the Community Number shown above should be used on insurance applications for the subject community.

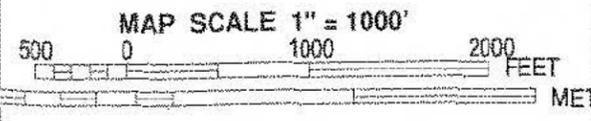
**MAP NUMBER  
54007C0205D  
MAP REVISED  
APRIL 19, 2010**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



**BRAXTON COUNTY  
UNINCORPORATED AREAS  
540009**



NFIP  
PANEL 0210D

**FIRM**  
FLOOD INSURANCE RATE MAP  
BRAXTON COUNTY,  
WEST VIRGINIA  
AND INCORPORATED AREAS

PANEL 210 OF 425  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BRAXTON COUNTY	54009	0210	0

Note to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.


**MAP NUMBER**  
54007C0210D  
**MAP REVISED**  
APRIL 19, 2010  
Federal Emergency Management Agency

JOINS PANEL 0205

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRM On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



For the Flood Insurance Study report for this jurisdiction. If more information is available in this community, contact your insurance agent or the National Flood Insurance Program at 1-800-638-6620.



GRAPHIC SCALE 1" = 1000'

0 100 200 300 400

**NFIP**

**PANEL 0205D**

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**BRAXTON COUNTY,**  
**WEST VIRGINIA**  
**AND INCORPORATED AREAS**

**PANEL 205 OF 425**  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

**CONTAINS:**

COMMUNITY	NUMBER	PANEL	SUFFIX
BRAXTON COUNTY	54007	0205	D

Notice to User: The Map Number shown below should be used when ordering maps online. The Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
**54007C0205D**

**MAP REVISED**  
**APRIL 19, 2010**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRM On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



MAP SCALE 1" = 1000'



NFIP

PANEL 0265C

NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**

FLOOD INSURANCE RATE MAP  
GILMER COUNTY  
WEST VIRGINIA  
AND INCORPORATED AREAS

PANEL 265 OF 360

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GILMER COUNTY	02655	0265	C

Note to User: The Map Number shown above should be used when ordering maps online. The Community Number shown above should be used on insurance applications for the subject community.

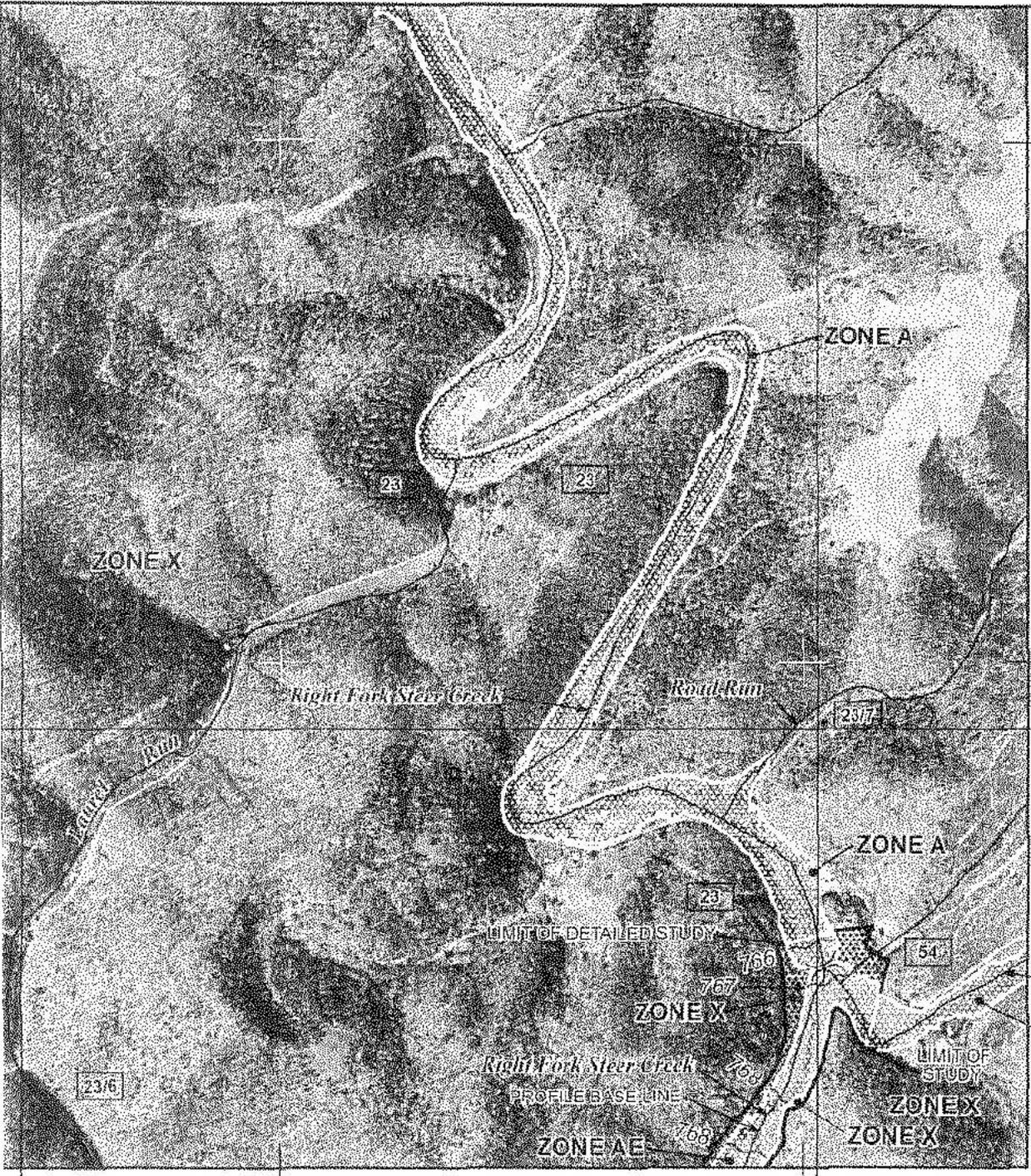


MAP NUMBER  
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MAP REVISED  
JUNE 16, 2009

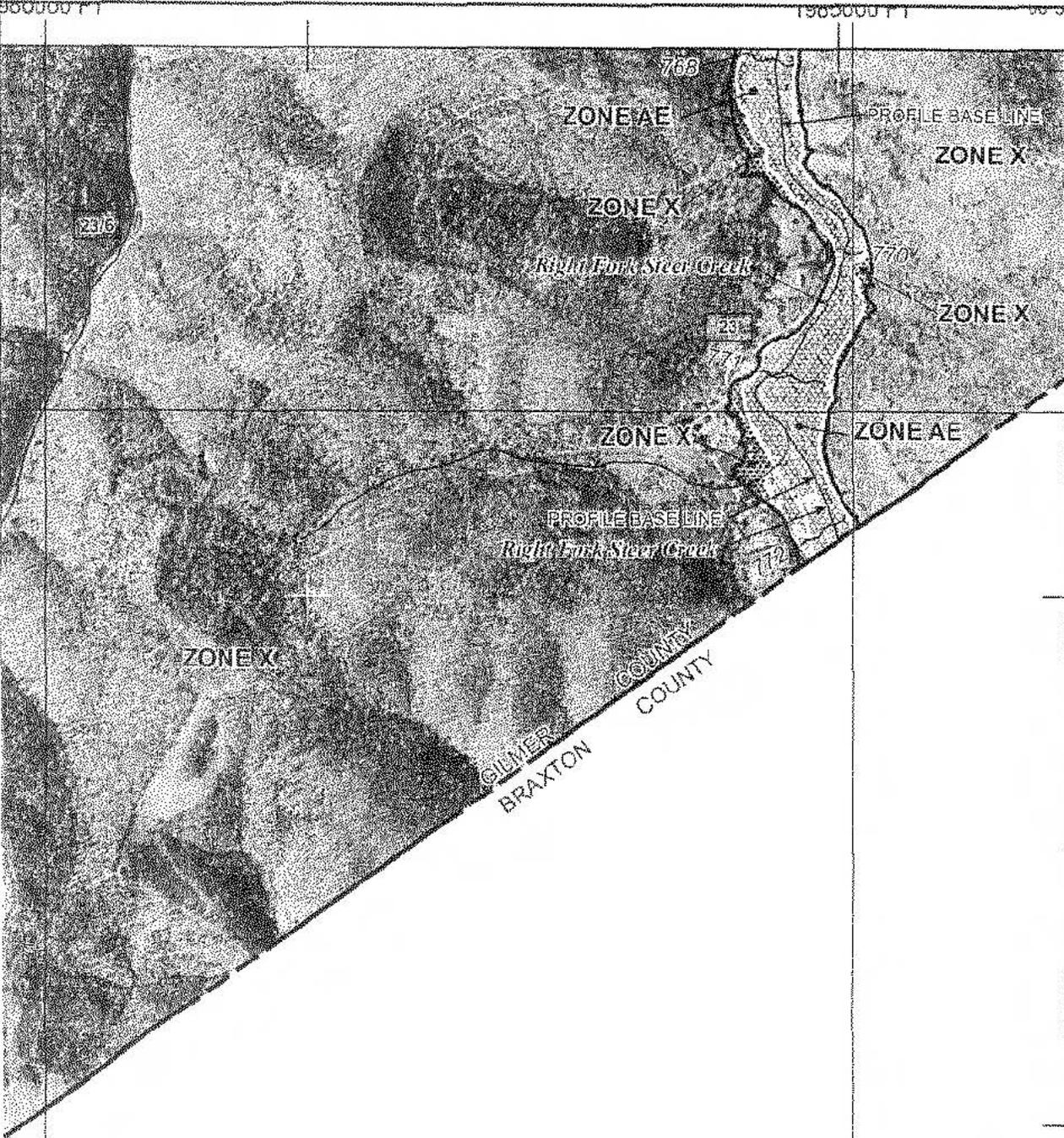
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)





MAP SCALE 1" = 1000'



NFIP  
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0355C

**FIRM**  
FLOOD INSURANCE RATE MAP  
GILMER COUNTY  
WEST VIRGINIA  
AND INCORPORATED AREAS

PANEL 355 OF 360  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GILMER COUNTY	0355C	0355	C

Notice to User: The Map Number shown below should be used when ordering maps online. The Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER  
54021C0355C

MAP REVISED  
JUNE 16, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

Appendix B  
Agency Correspondence



**The Culture Center**  
1900 Kanawha Blvd., E.  
Charleston, WV 25305-0300

**Randall Reid-Smith, Commissioner**

Phone 304.558.0220 • www.wvculture.org  
Fax 304.558.2779 • TDD 304.558.3562

EEO/AA Employer

December 7, 2011

Mr. Edward G. Garbett, II  
Dunn Engineers  
400 South Ruffner Road  
Charleston, WV 25314

RE: Sugar Creek Public Service District  
Wilsie-Rosedale Water Line Extension (Phase II)  
FR#: 06-368-BX-5

Dear Mr. Garbett:

We have reviewed the technical report titled, *A Phase I Archaeological Literature Review and Reconnaissance Survey for the Proposed Wilsie-Rosedale Phase II Waterline Extension (Phase II) Project near the Community of Rosedale, Braxton County, West Virginia*, prepared by Archaeological Consultants of the Midwest, Incorporated for the above referenced project. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

The report satisfactorily addresses our concerns regarding the presence of cultural resources within the proposed project area. Systematic survey conducted in the project area identified one new archaeological site, 46 Bx103, a low-density lithic scatter. According to the report, all of the artifacts were recovered within 25 centimeters from the ground surface and/or the Ap-horizon. The artifact assemblage consists of one Kanawha Black chert secondary flake and five Kanawha Black tertiary flakes. The consultant concludes that site 46Bx103 has a limited potential to provide significant information on West Virginia's prehistory. We concur with this conclusion and recommend that no further archaeological work is necessary.

In our opinion, there are no archaeological sites located within the proposed project area that are eligible for or listed in the National Register of Historic Places. No further consultation is necessary. However, according to the report, the boundaries of site 46Bx103 may extend beyond the area surveyed for the current project and we ask that our office be notified if project plans are altered.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Carolyn Kender, Archaeologist, at (304) 558-0240.*

Sincerely,

Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/CMK

CC: Ms. Susan Stafford - USACE, Huntington District  
Mr. Christopher Jackson - Archaeological Consultants of the Midwest, Inc.



**The Culture Center**  
1900 Kanawha Blvd., E.  
Charleston, WV 25305-0300

**Randall Reid-Smith, Commissioner**

Phone 304.558.0220 • [www.wvculture.org](http://www.wvculture.org)  
Fax 304.558.2779 • TDD 304.558.3562

EEO/AA Employer

September 6, 2011

Mr. Edward G. Garbett, II  
Dunn Engineers  
400 South Ruffner Road  
Charleston, WV 25314

RE: Sugar Creek Public Service District  
Rosedale-Wilsie Water Line Extension (Phase II)  
FR#: 06-368-BX-3

Dear Mr. Garbett:

We have reviewed the additional information submitted for the above referenced project. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

According to submitted information, the above referenced project has undergone a design change and will now have a section of approximately 830 linear feet of line that will be located outside of existing road rights-of-way.

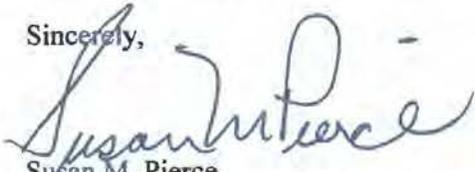
Although a search of office site files located no known archaeological sites within the current project area, our files do note the presence of site 46Bx78, a multi-component archaeological site along Steer Creek, south of the current project area. This resource is comprised of two distinct occupations, a Woodland period habitation site and an early twentieth century industrial/habitation site. The current project area is situated on the floodplain/terrace of the Right Fork of Steer Creek and Lower Sleith Fork in the vicinity of the confluence of these two drainages. Terrain which is considered by our office to have a high potential for archaeological deposits, especially prehistoric deposits. As a result, we have concerns that there may be unrecorded archaeological deposits present within the current project area. We, therefore, request that a Phase I archaeological survey be conducted on the section of proposed water line (830 linear feet) that will be installed outside of existing road rights-of-way. We will provide further comment upon receipt of the resulting Phase I archaeological survey technical report.

Please be aware that the archaeologists supervising all phases of the archaeological investigation, including the person(s) who will be in the field on a daily basis, must meet the Secretary of the Interior's Professional Qualification Standards as outlined in 36CFR61 (see enclosure). Resumes of all qualified personnel should be requested when seeking bids. If you need help in determining whether an individual is qualified, please contact the staff in the West Virginia State Historic Preservation Office. Resumes of all qualified personnel must be appended to the back of the report documenting the results of the investigations. Also, please be aware that we now require an PDF copy of technical reports, archaeological site forms, and cemetery forms be submitted in addition to the hard copy of the report. Failure to do so will result in the report being rejected.

September 6, 2011  
Mr. Garbett  
FR#: 06-368-BX-3  
Page 2

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Carolyn Kender, Archaeologist, at (304) 558-0240.*

Sincerely,

A handwritten signature in cursive script, appearing to read "Susan M. Pierce". The signature is written in black ink and is positioned above the printed name.

Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/CMK

Enclosure

CC: Ms. Susan Stafford - U.S. Army Corps of Engineers, Huntington District

# Professional Qualification Standards

In the September 29, 1983, issue of the Federal Register, the National Park Service published the following Professional Qualification Standards as part of the larger Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. These Professional Qualification Standards are in effect currently. Since 1983, the National Park Service has not issued any revisions for effect, although the National Park Service is in the process of drafting such revisions.

The following requirements are those used by the National Park Service, and have been previously published in the Code of Federal Regulations, 36 CFR Part 61. The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. In some cases, additional areas or levels of expertise may be needed, depending on the complexity of the task and the nature of the historic/prehistoric properties involved. In the following definitions, a year of full-time professional experience need not consist of a continuous year of full-time work but may be made up of discontinuous periods of full-time or part-time work adding up to the equivalent of a year of full-time experience.

## Archaeology

The minimum professional qualifications in archeology are a graduate degree in archeology, anthropology, or closely related field plus:

1. At least one year of full-time professional experience or equivalent specialized training in archeological research, administration or management;
2. At least four months of supervised field and analytic experience in general North American archeology; and
3. Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the prehistoric period.

A professional in historic archeology shall have at least one year of full-time professional experience at a supervisory level in the study of archeological resources of the historic period.



# DUNN ENGINEERS, INC.

RECEIVED

November 15, 2010

NOV 17 2010  
WVFO

Ms. Deborah Carter  
Field Supervisor  
U.S. Fish and Wildlife Service  
694 Beverly Pike  
Elkins, WV 26241

URGENT REQUEST

RE: Sugar Creek Public Service District  
Wilsic-Rosedale Waterline Extension

Dear Ms. Carter:

The Sugar Creek Public Service District, Braxton County, is planning to extend their water distribution system as outlined on the attached U.S.G.S. topographic maps (Phase 1 and 2).

The proposed lines are expected to be constructed along the Right fork of Steer Creek on West Virginia Division of Highways and private rights of way. These rights of way will be obtained as part of this project.

Dunn Engineers, Inc. requests that the U.S. Fish and Wildlife Service retrieve and compile information pertaining to federally listed or proposed threatened and/or endangered species for the indicated area.

We apologize for the urgent request, however, we recently discovered that your office had no record of the project (a request for information was sent on January 23, 2006).



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE



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

In response to your letter above, we have made a "no effect" determination that the project will not affect federally listed endangered or threatened species. Therefore no biological assessment or further section 7 consultation under the Endangered Species Act is required with the Fish and Wildlife Service. Should project plans change, or if additional information on listed and proposed species becomes available, this determination may be reconsidered.

Definitive determinations of the presence of waters of the United States, including wetlands, in the project area and the need for permits, if any, are made by the U.S. Army Corps of Engineers. They may be contacted at: Huntington District Regulatory Branch, 502 Eighth Street, Huntington, West Virginia 25701, telephone (304) 399-5710.

*Paula Douglas* 11/18/2010  
Reviewer's signature and date

*Deborah Carter* 11/18/2010  
Field Supervisor's signature and date



RECEIVED

JAN 30 2006

DUNN ENGINEERS, INC.

**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**

**Joe Manchin III**  
**Governor**

**Frank Jezioro**  
**Director**

January 27, 2006

Mr. Frederick L. Hypes  
Dunn Engineers, Inc.  
400 South Ruffner Road  
Charleston, WV 25314

Dear Mr. Hypes:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed Rosedale-Wilsie waterline extension project for the Sugar Creek Public Service District in Braxton County, WV.

We have no known records of any RTE species or sensitive habitats 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 contact me at the above number, extension 2048.

Sincerely,

Barbara Sargent  
Environmental Resources Specialist  
Natural Heritage Program

enclosure

g:\BDSInv\Dunn.doc



DEPARTMENT OF THE ARMY  
HUNTINGTON DISTRICT, CORPS OF ENGINEERS  
502 EIGHTH STREET  
HUNTINGTON, WEST VIRGINIA 25701-2070

0508  
ENV CLK

RECEIVED

APR 17 2006

DUNN ENGINEERS, INC.

REPLY TO

APR 14 2006

ATTENTION OF:

Operations and Readiness Division  
Regulatory Branch  
Right Fork Steer Creek -- 200600092

Mr. Fred Hypes  
Dunn Engineers, Inc.  
400 South Ruffner Road  
Charleston, West Virginia 25314

Dear Mr. Hypes:

I refer to your letter received in this office on January 25, 2006, submitted on behalf of the Sugar Creek Public Service District, concerning a proposal for a waterline extension project. The proposed project is located along the Right Fork Steer Creek and its tributaries, near Frametown, in Braxton County, West Virginia.

Section 404 of the Clean Water Act requires that a Department of the Army permit be obtained prior to the placement of dredged or fill material into waters of the U.S., including wetlands. The Corps of Engineers jurisdiction for waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328. Navigable streams, their tributaries, and adjacent wetlands are, in part, waters of the United States subject to the provisions of Section 404. The determination of jurisdiction for a stream is based on the presence of an ordinary high water (OHW) mark and evidence indicating the stream exhibits a surface water connection to a tributary system of a navigable water of the U.S. The Corps regulates streams up to the point where they no longer exhibit an OHW mark. The determination of jurisdictional for a wetland is based on the presence of wetland hydrologic conditions, hydric soils and hydrophytic plant communities and evidence indicating the wetland exhibits a surface water connection to a tributary system of a navigable water of the U.S.

A review of the USGS Topographical Quadrangles indicates that numerous streams exist within the boundaries of the proposed waterline extension. In addition, National Wetland Inventory mapping indicates that potential wetland areas may be located within the proximity of the proposed project. Also, it should be noted the Corps of Engineers does not have the regulatory authority for administering the 100-year floodplain regulation pursuant to the National Flood Insurance Program. This authority lies with the local government using floodplain ordinances approved by the Federal Emergency Management Agency (FEMA). I recommend that you seek technical assistance from the zoning officers in Braxton County, West Virginia concerning compliance with FEMA standards or FEMA-approved local floodplain construction requirements.

Based on the provided information, it appears your proposed activity may result in the placement of dredged or fill material into waters of the United States, including wetlands. Therefore, if it becomes necessary to place fill material into waters of the United States, including wetlands, authorization from the Corps of Engineers would be required. It is your responsibility to have the wetlands properly delineated in accordance with the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands". Upon completion of the delineation, you may submit the report to this office for verification.

Please be aware this letter does not obviate the need to obtain other Federal, state or local authorizations required by law. If you have any questions concerning the above information, please contact Ms. Sarah Workman of the South Regulatory Section at (304) 399-5710.

Sincerely,

A handwritten signature in black ink that reads "Teresa D. Spagna". The signature is written in a cursive style with a large initial "T".

Teresa D. Spagna  
Regulatory Project Manager  
South Regulatory Section

Enclosures

SUGAR CREEK



WEST VIRGINIA  
DIVISION OF  
CULTURE & HISTORY  
The Cultural Center  
1900 Kanawha Blvd., E.  
Charleston, WV  
25305-0300

Phone 304.558.0220  
Fax 304.558.2779  
TDD 304.558.3562  
www.wvculture.org  
EEO/AA Employer

April 9, 2009

Mr. Edward G. Garbett, II  
Dunn Engineers, Inc.  
400 South Ruffner Road  
Charleston, WV 25314

RECEIVED

APR 14 2009

DUNN ENGINEERS, INC.

RE: Sugar Creek Public Service District  
Rosedale-Wilsie Water Line Extension  
FR#: 06-368-BX-1

Dear Mr. Garbett:

We have reviewed the additional information submitted for the above referenced project. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

According to submitted information, the proposed project will involve the installation of new waterlines along the Right Fork of Steer Creek between Wilsie and Rosedale. It is our understanding that the project will involve the installation of a booster pump station next to the Frametown Volunteer Fire Department and the installation of a 100,000 gallon water storage tank.

Architectural Resources:

In our opinion, the proposed project will have no effect on any architectural or structural resources listed in or eligible for inclusion in the National Register of Historic Places. No further consultation regarding architectural or structural resources is required.

Archaeological Resources:

A search of our records located no known archaeological sites within the proposed waterline corridor and site 46Bx78, multi-component prehistoric open air habitation site with a historic industrial component, within 300 feet of proposed line locations in the vicinity of Charity Church. However, submitted project information indicates that the proposed line installation work will be confined to existing road rights-of-way and/or previously disturbed areas. Also, it is our understanding that the proposed water storage tank and proposed booster pump station will be installed within previously disturbed areas. Due to the confinement of proposed construction activities to previously disturbed areas, we are of the opinion that the potential for intact archaeological deposits is limited. In our opinion, there are no archaeological sites located within the proposed project area that are eligible for or listed in the National Register of Historic Places. If, however, cultural materials are encountered during construction, all activity within the discovery area shall cease and our office shall be contacted immediately.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Ginger Williford, Structural Historian, or Carolyn Kender, Archaeologist, in the Historic Preservation Office at (304) 558-0240.*

Sincerely,

Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/GW/CMK



# DUNN ENGINEERS, INC.

January 25, 2011

FILE COPY

Mr. Ron Wigal, Environmental Specialist  
USDA - NRCS  
1550 Earl Core Rd., Suite 200  
Morgantown, WV 26505

**RE: Sugar Creek Public Service District  
Wilsie-Rosedale Waterline Extension  
Phase I & II**

Dear Mr. Wigal:

The Sugar Creek Public Service District is planning to extend their water system to customers in the Wilsie, Tague and Rosedale areas of Braxton County. Dunn Engineers, Inc. requests a review of the project relative to prime and important farmlands.

Presently, residents of the area rely on well water, which is contaminated. Funding for Phase I is to be provided by the Appalachian Region Commission (ARC) and Housing and Urban Development (HUD). Phase II is funded by the U.S. Army Corps of Engineers, Small Cities Block Grant, Governor's Community Partnership Grant and a probable Infrastructure and Jobs Development Council (IJDC) loan.

A majority of the proposed lines will be placed in previously disturbed areas, such as road rights of way. Enclosed for your review, please find three (3) copies of the project layout drawings. Undisturbed areas have been highlighted in yellow. Approximate quantities are as follows:

**Phase I**

Total Length Pipe = 56,775 LF (Including water storage tank, booster and pressure reducing station)

Undisturbed = 9,920 LF

**Phase II**

Total Length Pipe = 30,400 LF

Undisturbed = 2,080 LF

Should you have any questions, please do not hesitate to contact our office.

Sincerely,

**DUNN ENGINEERS, INC.**

Edward G. Garbett, II

EG:sz

Enclosures



Natural Resources Conservation Service  
1550 Earl Core Road, Suite 200  
Morgantown, WV 26505

(304) 284-7560 (Phone)  
(304) 284-4839 (Fax)

February 15, 2011

Edward G. Garbett, II  
Dunn Engineers, Inc.  
400 South Ruffner Road  
Charleston, WV 25314

**RE: Sugar Creek PSD, Wilsie-Rosedale Waterline Extension Phase I & II, Braxton Co., WV**

Dear Mr. Garbett:

This is to acknowledge receipt of your request for evaluation of Important Farmland related to the above referenced project in Braxton County, WV. This Important Farmland information was requested in order for you to assess the environmental impacts of the proposed project in accordance with the National Environmental Policy Act.

The Farmland Protection Policy Act (FPPA – Public Law 97-98, 7 U.S.C. 4201) established the farmland conversion rating system to evaluate the impacts Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are implemented by a Federal agency or with the assistance from a Federal agency. Assistance from a Federal agency includes loans, financial and technical assistance.

Based on a review of the documents you submitted, the location does not impact Prime, Statewide, or Locally Important Farmland, because the construction is on previously disturbed highway right of ways. Because there is no impact on important farmlands, a form AD-1006 does not need to be completed.

If you have questions regarding this matter, please contact Ron Wigal, Environmental Specialist, at 304-284-7566.

Sincerely,

A handwritten signature in black ink that reads "Robert N. Pate".

Robert N. Pate, USDA-NRCS Resource Soil Scientist

cc: Pamela Yost, ASTC, Programs, NRCS, Morgantown, WV  
Ron Wigal, Environmental Specialist, NRCS, Morgantown, WV  
Charles Delp, State Soil Scientist, NRCS, Summerville, WV



Appendix C  
Mailing List

Appendix D  
Water Survey

# **WILSIE-ROSEDALE WATER SURVEY**

**by Dale McCutcheon, BS, MS, RS**

*TALMAN*

## **TABLE OF CONTENTS**

- I. INTRODUCTION**
- II. WATER QUALITY: ITS EFFECTS**
- III. THE WILSIE-ROSEDALE AREA**
- IV. WATER SURVEY**
- V. RESULTS**
- VI. CONCLUSION**

### **INTRODUCTION**

With the spread of public water systems throughout rural America great strides have been made in water purity since the days of typhus and other waterborne illnesses ravaged the United States. But still over 40 percent of American households are served by private sources, including wells, springs and cisterns. And a large percentage of these are either unsafe or severely lacking in quality due to a variety of factors. Some areas suffer more than others due to physical or economic or other conditions.

The following survey was conducted for the express purpose of bringing to light the severity of the water quality problem in the Wilsie-Rosedale area.

## **WATER QUALITY: ITS EFFECTS**

The importance of a safe and palatable water source for the home cannot be overemphasized.

### **HEALTH EFFECTS**

Since waterborne illness is very similar in symptoms to other illness it is difficult to ascertain the true magnitude of the water related disease in this country. But health professionals have estimated that up to 40 to 50 million cases of disease occur per year including thousands of deaths.

Exposure to waterborne pathogens may result in gastrointestinal distress, fever, nausea, vomiting, diarrhea and dehydration. Longterm exposure to chemical contaminants can lead to a wide variety of health effects, including cancers, reproductive abnormalities, developmental retardation, neurological problems, heart disease, diabetes and immune system problems.

Certain populations are particularly at risk. Pregnant women, infants and children, the elderly and persons with compromised immune systems are all prime candidates. It is important to note that these populations are well represented in West Virginia, particularly the elderly, and in the study area.

Other health effects are more difficult to quantify. Nutritionists and healthcare professionals maintain that the average person needs eight or more glasses of water per day for maximum health. When water supplies are as unpalatable as the majority of those in this study, there is no chance that family members will consume healthful amounts of water.

Proper handwashing and bathing suffer as well when poor water quality is all that is available. This may lead to foodborne illness as well as other bodily harm including skin rashes, infections and dermatological problems.

### **ECONOMIC EFFECTS**

Damage to plumbing can lead to thousands of dollars for repairs. Water heaters typically last half as long under conditions of hard or corrosive water. Plumbing lines may have to be replaced due to deposits building up within them or corrosion eating them away.

Alternatives to use of home supplies may also be a major expense. Having water delivered or purchasing bottled water may cost hundreds of dollars a year, an especially great economic burden for low income families. The cost of water treatment equipment and its upkeep can run into the thousands of dollars.

## COMMON WATER PROBLEMS AND EFFECTS

<b>PROBLEM</b>	<b>WHAT IS IT?</b>	<b>HARMFUL EFFECTS</b>
Hard water	Excess calcium	Damages plumbing and shortens the life of water of water heaters, use more soap and cleaners
Rusty	Excess iron	Stains plumbing, appliances and laundry; shortens life of clothes
Acid water	PH is too low	Corrodes and shortens life of plumbing and water heaters
Bacteria	Presence of bacteria	May cause illness or even death to elderly, immunosuppressed or infants
Oil or gas in water supply		May cause illness; damages plumbing and water heaters; harder to clean
Sulfur	Excess sulfur	Bad taste and smell; stains clothes
Inadequate supplies		Expensive to purchase water.

## WILSIE-ROSEDALE AREA

The communities of Wilsie and Rosedale lie in western Braxton County and eastern Gilmer County not far from the geographic center of West Virginia.

Much of the area is underlain with gas and oil deposits and extensive drilling has taken to tap these reserves. This has had a major impact on the groundwater in the area, with many wells suffering from oil or gas incursion.

From a demographic standpoint, in relation to water quality and its effects, the following should be noted. According to 2000 census figures, approximately one third of families in the area live below poverty level income wise. This group is the most harmed by the expense typically involved in dealing with poor water quality.

Agewise about 40 percent of the population is under the age of 18 or over the age of 55. The young and the elderly are among the most likely to suffer health problems related to usage of unsafe water.

## WATER QUALITY SURVEY

The water quality survey was done during the month of May and June, 2005. A total of 27 visits were made to homes and businesses in the Wilsie-Rosedale area.

The survey included the following:

1. Homeowners from throughout the area completed a questionnaire as to their concerns with their water systems before home visits were made.
2. Locations for onsite analysis were chosen representing all locales within the geographic area under consideration.
3. Thirty homes were visited during which included the following:
  - a. A physical examination was done of each water system including; Location and physical condition of the well, including age, depth and general condition where possible (i.e. if the well casing extended above or was below ground, what protection existed for the well, such as a wellhouse or concrete pad.
  - b. Possible sources of contamination were noted, including proximity to septic systems, oil and gas wells, and exposure to surface water incursion.
  - c. General condition of the plumbing systems were assessed, including water heater, toilet tank, sinks and basins, and supply lines.
  - d. Homeowners were questioned again as to their concerns with their water systems.
4. Visual and olfactory judgment was used to ascertain the presence of the following:
  - Sulfur
  - Gas
  - Oil
  - Iron bacteria
  - Turbidity (mud, clay, silt or sediment present)
5. Testing was performed for the following:
  - Hardness
  - PH
  - Iron
6. Sampling was done for bacteriological contamination with analysis performed by a certified lab (West Virginia State Hygenic Lab) for coliform bacteria and fecal coliforms.
7. Other conditions were noted including inadequate supplies.

## HOMEOWNER QUESTIONNAIRE

Since many problems with home water supplies are readily apparent, homeowners were asked for their input by way of a questionnaire requesting specific information from them. Sixty-eight responded indicating the following problems they felt existed with their water supplies.

CONDITION	NUMBER	PERCENTAGE
Iron	55	81
Hardness	28	41
Acidity	24	35
Gas/Oil	21	31
Sulfur	19	28
Inadequate Supply	8	12
Sediment	2	3

Bacterial-28 respondents felt they had bacteria in their water supplies. Only a few had had bacteriological testing done previously to verify this. This represents 41 percent of the respondents.

## SURVEY RESULTS

CONDITION	NUMBER	PERCENTAGE
Iron	17	63
Hardness	15	60
Acidity (low PH)	1	.4
Gas/Oil	14	57
Sulfur	15	60
Inadequate Supply	1	.4
Sediment	1	.4
Bacterial iron	5	19
Coliform bacteria	8	*100

\*All samples (8) taken for bacteriological analysis came back positive for coliform bacteria.

## CONCLUSION

Based on the results from above and the questionnaire responses, severe problems exist with water wells throughout the study area. Iron, hardness, gas and/or oil, and sulfur were found in over half the water tested. Bacteria was present in 100 percent of the samples taken and the presence of bacterial iron was probable in 19 percent.

The majority of wells suffered from construction shortcomings. Casings did not extend above ground and there were no protective pads around them to keep surface water out of most wells. Many wells were situated too close to septic systems which themselves were older and not constructed according to established guidelines.

In summary the potential for health hazard exists throughout the area from usage of the existing water supplies. In addition the financial burden for homeowners from poor quality water is doubtless in the several thousands of dollars yearly.

There are few, if any, communities in West Virginia which could profit more from a safe reliable public water supply than the Wilsie-Rosedale area.

Dale McCutcheon has been involved with water quality issues since 1975 when he first became a registered sanitarian in Greenbrier County, West Virginia. In this capacity he has worked in five West Virginia counties during which time he has evaluated and or tested water supplies from thousands of households as well as lakes, streams and other surface water sources. He has conducted research on surface waters to determine sources of contamination as well as tracing potential sources of contamination for private wells.

Mr. McCutcheon, who has a Master Degree in Environmental Science, has also worked in the water quality field. He has analyzed countless water supplies and specified water treatment to private homeowners as well as being the statewide commercial industrial representative for a major water treatment company. Mr. McCutcheon at present works as a Registered Sanitarian for the Braxton County Health Department and has his own home construction which often includes services related to water quality.