

**APPENDIX B**  
**ENVIRONMENTAL**

## **DRAFT FINDING OF NO SIGNIFICANT IMPACT**

### **Section 14 Emergency Streambank Protection Project Guyandotte River, Water Street Village of Barboursville, Cabell County, West Virginia**

1. Members of my staff have conducted an Environmental Assessment (EA), in the overall public interest, which considers potential impacts on the human environment from the proposed Emergency Streambank Protection Project, located in the Village of Barboursville, West Virginia. The Recommended Plan provides a viable treatment solution for the protection of Water Street and adjacent utilities. Since 2014, flood flow erosion and recessional failure site conditions have resulted in the displacement of a retaining wall, drains, slopes, and stone placement intended to protect Water Street. Without treatment, the outside bend of streambank fill and alluvium would continue to undergo flood-related erosion and failure, resulting in extensive additional road collapse and utilities breaching. Failure to protect this road would result in loss of public access to the residential area and would preclude truck, school bus, and emergency response traffic and breach adjacent public utilities. Implementation of the proposed protection measures will restore stability to the streambank and prevent failure that is impacting Water Street and adjacent utilities.

2. The possible consequences of the proposed action have been studied for environmental, cultural, and social well-being effects.

3. The Recommended Plan and the No Action Alternative (NAA) were the only alternatives carried forward for detailed evaluation. The Recommended Plan would include a stone buttress and lagging panel replacement. Requirements for the construction of the Recommended Plan would include limited clearing of vegetation and the construction of a stone buttress along the approximately 240 LF reach of Water Street that has subsided and is partially breached. Within two (2) reaches of adjacent in-place H-pile and lagging walls, where loss of panel integrity has resulted in loss of road fill, concrete panels would be installed. Storm drains will be extended through the treatment to Guyandotte River outfalls. The Recommended Plan would be expected to have beneficial long-term impacts on public health and safety, aquatic resources, and water quality which are currently impacted by erosion from the failing streambank. No threatened or endangered species or any associated critical habitat would be impacted by the Recommended Plan.

Under the NAA, the U.S. Army Corps of Engineers (USACE) would not provide the funding for the project. It is reasonable to expect that the Village of Barboursville would, as funding allows, likely continue dumping rubble and re-surfacing the road as interim measures to allow for through traffic. These measures do not address bank erosion or the related failure processes and therefore would not be adequate to address design flood (i.e. 100-year occurrence interval) flows

and are not permanent solutions. Failure to protect the streambank and road would result in loss of public access to the residential area within the Village of Barboursville and would preclude truck, school bus, and emergency response traffic and breach adjacent public utilities. The NAA is not considered to be acceptable due to the immediate need for protection of Water Street and utilities. Additionally, the NAA would result in continued probability of impacts to water quality and aquatic resources.

4. An evaluation of the Recommended Plan and NAA produced the following pertinent conclusions:

a. Environmental Considerations. The Huntington District has taken reasonable measures to assemble and present the known or foreseeable impacts of the Recommended Plan to the human and natural environment in the draft EA. The Recommended Plan would have no effect to historical resources. Other potential adverse impacts of the proposed action would be temporary and minor. In addition, for reasons described in the EA, there is no practicable alternative to Federal action in the floodplain.

b. Social Well-Being Considerations. No significant economic or social well-being impacts that are both adverse and unavoidable are foreseen as a result of the Recommended Plan. Temporary and minor disturbances to noise and traffic are anticipated effects of the Recommended Plan. The community would benefit from the proposed action through protection of Water Street and adjacent utilities.

c. Coordination with Resource and Other Agencies. The project would be conducted in accordance with the Clean Water Act. Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, coordination with the WVSHPO has been conducted. The WVSHPO concurred with the USACE no potential to effect determination. Appropriate measures and best management practices have been identified and incorporated into the plan.

d. Other Public Interest Considerations. There has been no opposition to the Recommended Plan expressed by state or local governments, or organized environmental groups, and there are no unresolved issues regarding the implementation of the Recommended Plan.

5. I find the Recommended Plan has been planned in accordance with current authorization as described in the EA. The Recommended Plan is consistent with national policy, statutes, and administrative directives. This determination is based on thorough analysis and evaluation of the Recommended Plan and NAA. In conclusion, I find that the Emergency Streambank Protection Project in the Village of Barboursville, would have no significant adverse effect on the quality of the human and/or natural environment and preparation of an Environmental Impact Statement is not required.

---

Philip M. Secrist, III  
Colonel, Corps of Engineers  
District Engineer



June 18, 2016

- |  |   |  |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Forested/Shrub Wetland |  Other    |
|  Estuarine and Marine Wetland   |  Freshwater Pond                   |  Riverine |
|  Freshwater Emergent Wetland    |  Lake                              |  |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# WV Flood Map



This map is not the official regulatory FIRM or DFIRM. Its purpose is to assist with determining potential flood risk for the selected location.

 Location of flood information

### User Notes:

-  Cross Section (XS) Lines
-  Base Flood Elevation (BFE) Lines
-  Floodway

### Flood Hazard Zone

-  Approximate Study (Zone A)
-  Detailed Study (AE, AH, AO)

### Disclaimer:

The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. To obtain more detailed information in areas where Base Flood Elevations have been determined, users are encouraged to consult the latest Flood Profile data contained in the official flood insurance study. These studies are available online at [www.msc.fema.gov](http://www.msc.fema.gov).  
**WV Flood Tool** (<http://www.MapWV.gov/flood>) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.

Map created on June 17, 2016

### Flood Hazard Area:

Flood Hazard Area: Location is WITHIN the FEMA 100-year floodplain.

**Flood Hazard Zone:** AE

**Stream:** Guyandotte River

**FEMA Issued Flood Map:** 54011C0141D

**Watershed (HUC8):** Lower Guyandotte (5070102)

**Advisory Flood Height:** N/A

**Water Depth:** N/A

**Elevation:** About 531 ft

**Location (long, lat):** (82.299412 W, 38.409331 N)

**Location (UTM 17N):** (386550, 4252031)

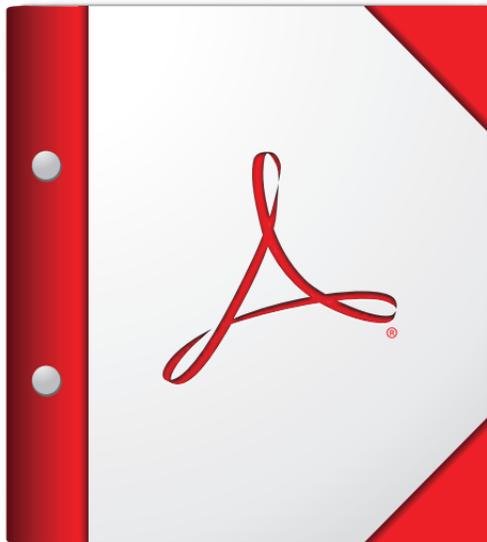
**Contacts:** Cabell

**CRS Information:** N/A

**Flood Profile:** 54011\_011

**HEC-RAS Model:** N/A

**Parcel Number:** 7-12



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

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

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March 16, 2016

Rebecca N. Rutherford  
Chief, Environmental Analysis Section  
USACOE, Huntington District  
502 Eighth Street  
Huntington, WV 25701

**RE: Farmland Conversion Impact Rating, Village of Barboursville, Streambank Protection Project, Cabell County, WV**

Ms. Rutherford:

This is to acknowledge receipt of your request for evaluation of Important Farmland related to the above referenced project in Cabell 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 proposed Streambank Protection Project will **not** impact Prime, Statewide Important Farmland, or Locally Important Farmland, because the project area is along already converted urban areas. The completed form AD-1006 is attached.

Sincerely,

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

Robert N. Pate  
USDA-NRCS Resource Soil Scientist, [Robert.Pate@wv.usda.gov](mailto:Robert.Pate@wv.usda.gov)

cc: Jared Beard; NRCS-WV

**FARMLAND CONVERSION IMPACT RATING**

<b>PART I</b> (To be completed by Federal Agency)		Date Of Land Evaluation Request <b>March 11, 2016</b>				
Name of Project <b>Village of Barboursville</b>		Federal Agency Involved <b>USACOE</b>				
Proposed Land Use <b>Streambank Protection Project</b>		County and State <b>Cabell Co., West Virginia</b>				
<b>PART II</b> (To be completed by NRCS)		Date Request Received By NRCS <b>3/11/2016</b>		Person Completing Form: <b>Rob Pate</b>		
Does the site contain Prime, Unique, Statewide or Local Important Farmland? (If no, the FPPA does not apply - do not complete additional parts of this form)		YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	Acres Irrigated	Average Farm Size	
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %				
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS				
<b>PART III</b> (To be completed by Federal Agency)		Alternative Site Rating				
		Site A	Site B	Site C	Site D	
A. Total Acres To Be Converted Directly		0				
B. Total Acres To Be Converted Indirectly		0				
C. Total Acres In Site		0				
<b>PART IV</b> (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland						
B. Total Acres Statewide Important or Local Important Farmland						
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted						
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value						
<b>PART V</b> (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)						
<b>PART VI</b> (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)		Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use		(15)				
2. Perimeter In Non-urban Use		(10)				
3. Percent Of Site Being Farmed		(20)				
4. Protection Provided By State and Local Government		(20)				
5. Distance From Urban Built-up Area		(15)				
6. Distance To Urban Support Services		(15)				
7. Size Of Present Farm Unit Compared To Average		(10)				
8. Creation Of Non-farmable Farmland		(10)				
9. Availability Of Farm Support Services		(5)				
10. On-Farm Investments		(20)				
11. Effects Of Conversion On Farm Support Services		(10)				
12. Compatibility With Existing Agricultural Use		(10)				
TOTAL SITE ASSESSMENT POINTS		160	0	0	0	0
<b>PART VII</b> (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	0	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	0	0	0	0
<b>TOTAL POINTS (Total of above 2 lines)</b>		260	0	0	0	0
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>				
Reason For Selection:						
Name of Federal agency representative completing this form:					Date:	

(See Instructions on reverse side)

Form AD-1006 (03-02)



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

REPLY TO  
ATTENTION OF

March 11, 2016

Planning Programs and Project Management Division  
Planning Branch, Environmental Analysis Section

Mr. Jared Beard  
USDA-Natural Resources Conservation Service  
1550 Earl Core Road, Suite 200  
Morgantown, WV 26505

Dear Mr. Beard:

We are requesting coordination under the Farmland Protection Policy Act with regards to the U.S. Army Corps of Engineers (USACE) Huntington District Village of Barboursville Section 14 Project. The Huntington District is in the process of preparing a Draft Environmental Assessment (DEA) and designing an effective treatment for a bank stabilization project. Below is a brief description of the project.

The USACE Huntington District is proposing a streambank protection project in the Village of Barboursville under the authority of Section 14 of the 1946 Flood Control Act. The Act authorizes USACE to plan and construct emergency streambank and shoreline protection projects to protect endangered highways, highway bridge approaches, and public facilities such as water and sewer lines, churches, public and private nonprofit schools and hospitals, and other nonprofit public facilities.

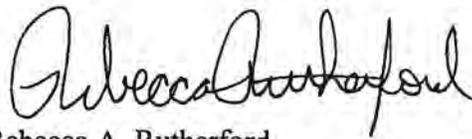
The proposed streambank project is located on the right descending bank of the Guyandotte River along a portion of Water Street between river miles 7.7 and 7.9 in the Village of Barboursville, Cabell County, West Virginia (38.409097, -82.299078). Water Street provides the main transportation route for a residential area within the Village of Barboursville. Gas, water, and electric utility lines along with storm sewer drains are located along the failing reach. Approximately 850 linear feet (LF) of streambank is in immediate need of protection from streambank erosion. This segment of Water Street and underlying public utilities are in danger of failing. Failure to protect this road would result in loss of public access to the residential area and endanger underlying public utilities.

The recommended alternative is a stone filled trench, stone buttress, and lagging panel replacement combined with an adjacent stone feature. The recommended plan would include limited excavation to provide suitable placement surfaces for the stone-filled trench treatment along the right descending bank of the Guyandotte River. The excavated trench would be approximately 610 LF in length, 6 feet in depth, and 4 feet in width. Upstream and downstream transitions together with perpendicular drainage interception and control features placed at approximate 100 foot intervals would be constructed to preclude recessional slope failures and secondary flood stage flow outflanking. Limited clearing and grubbing, approximately 40 feet

landward of the stream, would be required to form suitable placement surfaces for an approximately 240 LF stone buttress treatment. Geotextile reinforcement and separation fabric would be placed on these excavated surfaces. The buttress would then be constructed to a 1V:2H slope for height of bank, landward of the stone-filled trench, for approximately 240 LF.

Please provide us with any concerns or information your agency has concerning this project within 30 days of the receipt of correspondence to better aid us in the preparation of a DEA. If you have any additional questions regarding this request or about project details, please contact Ms. Ashley Stephens at 304-399-5947 or by email at [Ashley.L.Stephens@usace.army.mil](mailto:Ashley.L.Stephens@usace.army.mil).

Sincerely,



Rebecca A. Rutherford  
Chief, Environmental Analysis Section

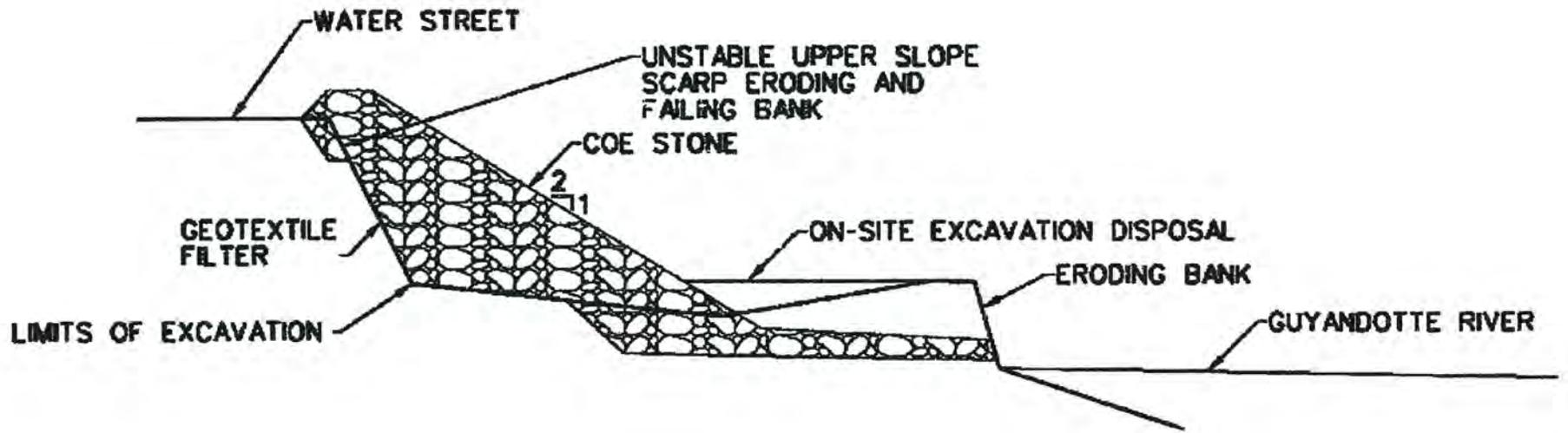
Encls

1. Proposed Treatment Extent and Construction Work Limits
2. Typical Cross Section

# Enclosure 1: Proposed Treatment Extents and Construction Work Limit



Enclosure 2: Typical Cross Section





**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**

**Earl Ray Tomblin**  
*Governor*

**Robert A. Fala**  
*Director*

March 23, 2016

Ms. Rebecca Rutherford  
Department of the Army  
Corps of Engineers  
502 Eighth Street  
Huntington, WV 25701-2070

Dear Ms. Rutherford:

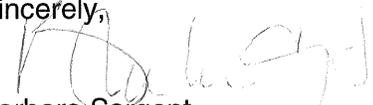
We have reviewed our files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed streambank stabilization project on the Guyandotte River at Barboursville, Cabell County, WV.

We have no known records of any RTE species or sensitive habitats within the project area; however, if activities are to occur with the wetted stream, a survey for freshwater mussels is required. 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.

The information provided above is the product of a database search and retrieval. This information does not satisfy other consultation or permitting requirements for disturbances to the natural resources of the state, and further consultation may be required. Additionally, any concurrence requirements for federally listed species must come from the US Fish and Wildlife Service.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, or [barbara.d.sargent@wv.gov](mailto:barbara.d.sargent@wv.gov).

Sincerely,

  
Barbara Sargent  
Environmental Resources Specialist  
Wildlife Diversity Unit



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west virginia department of environmental protection

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Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304 926 0475 • FAX: 304 926 0479

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.wvdep.gov](http://www.wvdep.gov)

February 23, 2016

Rebecca A. Rutherford, Chief  
Environmental Analysis Section  
Department of the Army  
502 Eighth Street  
Huntington, WV 25071-2070

RE: Streambank Protection Project, City of Charleston, Kanawha County, WV

Dear Ms. Rutherford:

This letter responds to your correspondence of February 18, 2016, concerning the project referenced above. The Division of Air Quality will only provide feedback on issues relating to air quality. If you determine that your project activity may have other environmental impacts, then you should consult with the appropriate environmental agency for that issue (e.g. the Division of Water and Waste Management should be consulted on potential water quality issues, for instance, if over one (1) acre will be disturbed, a construction stormwater general permit is required).

Based upon current regulatory requirements, the project referenced above as outlined in your letter does not appear to require any pre-construction permits, authorizations, or air quality analyses by WVDAQ except to the extent any of the following apply:

1. It is necessary to burn land clearing debris in order to complete the project; in which case, approval by the WVDEP Secretary or his or her authorized representative is required to conduct such burning (see 45CSR6) or;
2. The project entails the renovation, remodeling, or demolition, either partially or totally, of a structure, building, or installation, irrespective of the presence or absence of asbestos-containing materials, and is subject to 45CSR34 (the asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40CFR61, Subpart M). If such is the case, a formal Notification of Abatement, Demolition, or Renovation must be completed and timely filed with the WVDEP Secretary's authorized representative and approval received before commencement of the activities addressed in the Notification.

3. Backup or emergency electrical generators may be subject to federal and state requirements and require an air permit in accordance with 45CSR13.

If the project involves demolition, and/or excavation and transportation of soil/aggregates or the handling of materials that can cause problems such as nuisance dust emissions or entrainment or creation of objectionable odors, adequate air pollution control measures must be applied to prevent statutory air pollution problems as addressed by 45CSR4 and 45CSR17. Copies of all of the WVDAQ rules cited in this letter may be reviewed on the agency's website at <http://www.dep.wv.gov/daq>. To review the rules click on "Summary of Rules" after accessing the website.

You may obtain the latest published air quality data summaries and statistics for the WV Division of Air Quality's ambient air monitoring sites on our website (shown above). Simply click on the image for the Air Quality Annual Report. You may also find a document summarizing, in some detail, the attainment status of the 55 counties in West Virginia relative to National Ambient Air Quality Standards (NAAQS) on our website by clicking on the link for "Publications".

As of February 1, 2016, Kanawha County is designated an attainment area for all criteria pollutants.

If you have any questions or need further assistance or information, please contact this office at (304) 926-0475.

Sincerely Yours,



Dee Smith  
Planning Section

DAS/dw



CITY OF CHARLESTON  
PLANNING DEPARTMENT  
915 QUARRIER STREET, SUITE 1  
CHARLESTON WV, 25301

March 4, 2016

Attn: Rebecca Rutherford  
Department of the Army  
Huntington District Corps of Engineers  
502 Eight Street  
Huntington, WV 25701-2070

**Re: Kanawha River Streambank Stabilization Project**

Dear Rebecca Rutherford:

The Planning Department supports the proposed streambank stabilization project. The project appears to be similar to the first two phases that have already been completed. Furthermore, stabilizing and protecting Kanawha Boulevard and its associated infrastructure from streambank erosion is important to the City.

Sincerely,

Dan Vriendt  
Planning Director





**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

**Earl Ray Tomblin**  
*Governor*

**Robert A. Fala**  
*Director*

March 3, 2016

Ms. Rebecca Rutherford  
US Army Corps of Engineers  
502 Eighth Street  
Huntington, WV 25701-2070

Dear Ms. Rutherford:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed Kanawha River Bank Stabilization project in Charleston, Kanawha County, WV.

We have no known records of any RTE species or sensitive habitats within the project area. If activities are to occur within the area of the wetted stream, surveys for freshwater mussels must be conducted. Mussel relocations may also be required if mussels are encountered. In addition, any work within the Ordinary High Water Mark of the Kanawha River requires coordination with the US Fish and Wildlife Service as this is a federal mussel stream.

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.

The information provided above is the product of a database search and retrieval. This information does not satisfy other consultation or permitting requirements for disturbances to the natural resources of the state, and further consultation may be required. Additionally, any concurrence requirements for federally listed species must come from the US Fish and Wildlife Service.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, or [barbara.d.sargent@wv.gov](mailto:barbara.d.sargent@wv.gov).

Sincerely,

  
Barbara Sargent  
Environmental Resources Specialist  
Wildlife Diversity Unit



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west virginia department of environmental protection

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Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304 926 0475 • FAX: 304 926 0479

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.wvdep.gov](http://www.wvdep.gov)

March 17, 2016

Rebecca A. Rutherford, Chief  
Environmental Analysis Section  
Department of the Army  
502 Eighth Street  
Huntington, WV 25071-2070

RE: Streambank Protection Project, Village of Barboursville, Cabell County, WV

Dear Ms. Rutherford:

This letter responds to your correspondence of March 11, 2016, concerning the project referenced above. The Division of Air Quality will only provide feedback on issues relating to air quality. If you determine that your project activity may have other environmental impacts, then you should consult with the appropriate environmental agency for that issue (e.g. the Division of Water and Waste Management should be consulted on potential water quality issues, for instance, if over one (1) acre will be disturbed, a construction stormwater general permit is required).

Based upon current regulatory requirements, the project referenced above as outlined in your letter does not appear to require any pre-construction permits, authorizations, or air quality analyses by WVDAQ except to the extent any of the following apply:

1. It is necessary to burn land clearing debris in order to complete the project; in which case, approval by the WVDEP Secretary or his or her authorized representative is required to conduct such burning (see 45CSR6) or;
2. The project entails the renovation, remodeling, or demolition, either partially or totally, of a structure, building, or installation, irrespective of the presence or absence of asbestos-containing materials, and is subject to 45CSR34 (the asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40CFR61, Subpart M). If such is the case, a formal Notification of Abatement, Demolition, or Renovation must be completed and timely filed with the WVDEP Secretary's authorized representative and approval received before commencement of the activities addressed in the Notification.

CELRH-EC-CE (1110)

22 April 2016

Wolfe/5327

gw

MEMORANDUM FOR CELRH-PM-PP (Attn: Kevin Nelson)

SUBJECT: Limited Phase I Hazardous, Toxic, and Radioactive Waste (HTRW) Investigation Report, Barboursville, WV, Water Street Section 14 Streambank Protection Project, April 2016

1. Based on the assessment of current and historical information pertinent to the Barboursville, WV Water Street Section 14 Streambank Protection Project, no further HTRW investigation of this project area is necessary at this time. For your convenience, the Executive Summary to the report is enclosed as Attachment 1.
2. The Limited Phase I HTRW Investigation Report, prepared by EC-CE and dated April 2016, has been placed on the J drive in the Temp folder under the Barboursville-Water Street Section 14 subfolder. This report will also be placed on ProjectWise under the Barboursville Sec 14 Pre-Construction HTRW folder.
3. If there are any questions concerning the information referenced above, please contact Ms. Janet Wolfe at x5327.



WYATT H. KMEN  
Chief, Environmental and Remediation Section

Enclosure  
CF: EC-CE (file)

Attachment I  
**LIMITED PHASE I  
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)  
INVESTIGATION REPORT  
WATER STREET SECTION 14 STREAMBANK PROTECTION PROJECT  
BARBOURSVILLE, WV  
APRIL 2016**

**EXECUTIVE SUMMARY**

**1.0 SCOPE OF WORK**

In accordance with the provisions of Section 14 of the Flood Control Act of 1946, as amended, the Corps of Engineers is assisting the Village of Barboursville in a streambank protection project along Water Street in Barboursville, WV in Cabell County. The Corps of Engineers Huntington District, Environmental and Remediation Section (CELRH-EC-CE) conducted a Limited Phase I HTRW Investigation of the area where streambank protection work will be performed, in order to provide an initial assessment of the potential for HTRW contamination to the project area. The investigation included:

- Site visit to the project area.
- Review of environmental database search reports.
- Review of information provided by WV Department of Environmental Protection.
- Findings and conclusions in a Phase I HTRW Investigation Report.

**2.0 RECOMMENDATIONS**

Based on the investigative findings and the planned activities for this project, the following recommendations are presented.

- The miscellaneous trash and debris within the work zone need to be removed and disposed in accordance with appropriate solid and hazardous waste regulations.
- The burn piles, if within the work zone, need to be removed and the excavated soil and debris properly tested and disposed in accordance with appropriate solid and hazardous waste regulations.
- Air quality in the area of the petroleum smells needs to be monitored during construction. If the contaminant source for the smell is detected during construction activities, then construction activities shall be halted for additional investigation.
- The construction contractor needs to have a health and safety plan in place that addresses environmental protection.
- No sampling of surface water or soil is recommended at this time.
- Changes in Design. If the design plans undergo further changes to include any additional areas (such as the streambank where the Former Barboursville Brickyard Site is located), the additional areas would also require a Limited Phase I investigation prior to implementation.

**LIMITED PHASE I  
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)  
INVESTIGATION REPORT  
WATER STREET, BARBOURSVILLE  
SECTION 14 STREAMBANK PROTECTION PROJECT  
BARBOURSVILLE, WV**

**APRIL 2016**

**DEPARTMENT OF THE ARMY  
U. S. ARMY CORPS OF ENGINEERS  
GREAT LAKES AND OHIO RIVER DIVISION  
HUNTINGTON DISTRICT  
502 EIGHTH STREET  
HUNTINGTON, WV 25701**

**LIMITED PHASE I  
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)  
INVESTIGATION REPORT  
WATER STREET SECTION 14 STREAMBANK PROTECTION PROJECT  
BARBOURSVILLE, WV  
APRIL 2016**

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**APPENDICES**

- APPENDIX A: Site Maps
- APPENDIX B: Topographic Maps, Aerial Photos, & Sanborn Maps
- APPENDIX C: Site Photos
- APPENDIX D: Environmental Database Search Report
- APPENDIX E: Quality Control Plan
- APPENDIX F: Site Safety and Health Plan
- APPENDIX G: Barboursville Brickyard Site

**LIMITED PHASE I  
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)  
INVESTIGATION REPORT  
WATER STREET SECTION 14 STREAMBANK PROTECTION PROJECT  
BARBOURSVILLE, WV  
APRIL 2016**

**EXECUTIVE SUMMARY**

**1.0 SCOPE OF WORK**

In accordance with the provisions of Section 14 of the Flood Control Act of 1946, as amended, the Corps of Engineers is assisting the Village of Barboursville in a streambank protection project along Water Street in Barboursville, WV in Cabell County. The Corps of Engineers Huntington District, Environmental and Remediation Section (CELRH-EC-CE) conducted a Limited Phase I HTRW Investigation of the area where streambank protection work will be performed, in order to provide an initial assessment of the potential for HTRW contamination to the project area. The investigation included:

- Site visit to the project area.
- Review of environmental database search reports.
- Review of information provided by WV Department of Environmental Protection.
- Findings and conclusions in a Phase I HTRW Investigation Report.

**2.0 RECOMMENDATIONS**

Based on the investigative findings and the planned activities for this project, the following recommendations are presented.

- The miscellaneous trash and debris within the work zone need to be removed and disposed in accordance with appropriate solid and hazardous waste regulations.
- The burn piles, if within the work zone, need to be removed and the excavated soil and debris properly tested and disposed in accordance with appropriate solid and hazardous waste regulations.
- Air quality in the area of the petroleum smells needs to be monitored during construction. If the contaminant source for the smell is detected during construction activities, then construction activities shall be halted for additional investigation.
- The construction contractor needs to have a health and safety plan in place that addresses environmental protection.
- No sampling of surface water or soil is recommended at this time.
- Changes in Design. If the design plans undergo further changes to include any additional areas (such as the streambank where the Former Barboursville Brickyard Site is located), the additional areas would also require a Limited Phase I investigation prior to implementation.

**LIMITED PHASE I  
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)  
INVESTIGATION REPORT  
WATER STREET SECTION 14 STREAMBANK PROTECTION  
PROJECT  
BARBOURSVILLE, WV  
APRIL 2016**

**1.0 INTRODUCTION**

In accordance with the provisions of Section 14 of the Flood Control Act of 1946, as amended, the Corps of Engineers is assisting the Village of Barboursville in a streambank protection project along Water Street in Barboursville, WV in Cabell County.

The Village of Barboursville is located along the right descending bank of the Guyandotte River in Cabell County, West Virginia (38.409097,-82.299078). The proposed Section 14 project would address streambank erosion along a portion of Water Street between river miles 7.7 and 7.9 of the Guyandotte River.

Water Street provides the main transportation route for a residential area within the Village of Barboursville. This residential area, which consists of approximately 34 homes, is located directly adjacent to a reach of streambank in need of immediate protection and stabilization due to flood flow erosion and related recessional failures. Gas, water, and electric utility lines along with storm sewer drains are located along the failing reach. Approximately 850 linear feet (LF) of streambank is located within the project area. Since December 2014, Huntington District has monitored flood flow erosion and recessional failure site conditions resulting in the displacement of a retaining wall and stone slope protection designed to protect Water Street. As a result of these failures, an approximately 240 LF reach of Water Street has subsided and an adjacent 610 LF reach of retaining wall has been displaced and overturned. In addition to pavement subsidence, drains and public utilities adjacent to Water Street within this 850 LF project extent, have become misaligned. Without treatment, the outside bend of streambank alluvium would continue to undergo flood-related erosion and failure, resulting in extensive road collapse and utilities breaching. Failure to protect this road would result in loss of public access to the residential area and endanger adjacent public utilities. As a result, the primary purpose of this study is to develop a viable treatment solution for the protection of Water Street and adjacent public utilities serving a residential area within the Village of Barboursville.

The recommended alternative is a stonefilled trench, stone buttress, and lagging panel replacement combined with an adjacent stone feature. The recommended plan is the least costly stabilization option evaluated at this time and is more cost effective than relocating Water Street and the adjacent public utilities. The recommended plan would also include limited excavation to provide suitable placement surfaces for the stone-filled trench treatment along the right descending bank of the Guyandotte River.

A vicinity map is included in Appendix A. As part of the study phase, a Limited Phase I HTRW Investigation is necessary.

## **1.1 Scope of Work**

The Corps of Engineers Huntington District, Environmental and Remediation Section (CELRH-EC-CE) conducted a Limited Phase I HTRW Investigation of the area where streambank protection work will be performed, in order to provide an initial assessment of the potential for HTRW contamination to the project area. Under this limited investigation, individual tracts were not separately assessed and sixty-year ownership histories were not obtained. Records, mapping, and aerial photography were reviewed, and local officials were contacted to determine both prior and existing problematic land uses which could have caused contamination within the project area. A site reconnaissance was conducted to define any contamination within the project CWL areas. The investigation included the following:

- Site visit to the project area.
- Review of environmental database search reports.
- Review of information provided by WV Department of Environmental Protection.
- Documentation of findings and conclusions in a Phase I HTRW Investigation Report.

## **1.2 Limitations of Investigation**

The investigation was performed based solely upon information available to the Corps of Engineers at the time of the investigation. Services for the Limited Phase I HTRW Investigation did not include sampling, testing, and/or analysis to conclusively ascertain that contamination exists or is absent at or near the project site. Information concerning environmentally sensitive incidents was gathered based on state information available for public review and on information from local government officials. No warranties or certifications can be provided by CELRH-EC-CE concerning the accuracy or completeness of all the information reviewed during the investigation.

The determination of potential HTRW contamination should not be considered as a definite assertion that an environmentally sensitive condition actually exists. The conclusions and recommendations presented herein are based on information gathered using that degree of care and skill ordinarily exercised under similar circumstances by competent members of the environmental profession and no warranties are expressed or implied.

Furthermore, no environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Conducting a Limited Phase I HTRW Investigation is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions and this assessment recognizes reasonable limits of time and cost. In addition, appropriate inquiry does not mean an exhaustive assessment of a property. At some point, the cost of information obtained or the time required to gather it outweighs the usefulness of the information and in fact may be a material detriment to the orderly completion of transactions. Furthermore, subsequent environmental site assessments

should not be considered valid standards to judge the appropriateness of any prior assessment based on hindsight, new information, use of developing technology or analytical techniques, changing regulatory or industry standards, or other factors.

## **2.0 INVESTIGATIVE FINDINGS**

In accordance with Corps of Engineers policy for HTRW investigations, a Quality Control Plan (QCP) and Site-Specific Safety and Health Plan (SSHP) were developed and implemented prior to and during all phases of this investigation. Procedures and documentation of the QCP are enclosed in Appendix E. A copy of the SSHP is in Appendix F.

### **2.1 Site Descriptions and Field Investigative Findings**

On March 25, 2016 a site visit was made to the Water Street Section 14 Streambank Project site, located in Barboursville, WV. Site mapping is included in Appendices A and B. Site photos are included in Appendix C. The following observations were noted during the site visit:

- Petroleum smell along top of bank – across from 767 Water Street.
- Miscellaneous discarded debris/trash along hillside.
- Burn Areas – top of bank: 1) across from Elm Street; 2) across from 735 Water Street.
- Adjacent property – Barboursville Brickyard: WVDEP Voluntary Remediation Site.

### **2.2 Mapping**

Mapping was obtained for the project area and a review of reasonably ascertainable standard historical sources was performed as part of this investigation. The purpose of this historical record search is to determine the past uses of the project area. Aerial photographs, the USGS 7.5-minute historical topographic maps, and Sanborn maps showing the project area were available and reviewed. Copies of these maps are included in Appendix B.

The topographic maps, aerial photos, and Sanborn Maps did not indicate any past or present activities that would cause HTRW concerns within the project area.

### **2.3 Property Ownership Histories**

Property ownership histories were not included in this investigation.

### **2.4 Regulatory Records Search by EDR.**

Records of regulatory agencies listing recognized environmental conditions were obtained for the project area from Environmental Data Resources, Inc., a commercial database retrieval company. The search of environmental database records was based on a one-mile radius search area surrounding the site. These records have been included in Appendix D. The information presented in the database search reports includes mapped

and unmapped sites. Unmapped sites are properties with insufficient address information to be precisely mapped and are listed in the “Orphan Summary”.

Information on the following sites was reviewed for potential impacts to the project area.

- Three (3) mapped LUST sites located within the search area. It is not expected that these sites will impact the project area.
  - Station # 3915/SuperAmerica 7315, 602 Water Street. This site is adjacent to the Guyandotte River and downgradient to the project area.
  - James C. Brown Property, 651 Musgrave Court. The site location is approximate ¼ mile from the project area to the east.
  - Keaton’s Collision Center, 100 Keaton Lane. This site is located on the other side of the Guyandotte River, west of the project area
  
- One mapped WVDEP Voluntary Remediation site is located within the search area. This site was also listed as an unmapped site in the Orphan Summary (see below).
  - Barboursville Brickyard

**List of Unmapped Sites.** The EDR database search report includes an Orphan Summary, which is a list of unmapped sites within the search area. Only one site was listed, the Barboursville Brickyard Site. Discussion of this site is included in Section 2.5 below.

## **2.5 Adjacent Property: Barboursville Brickyard Site**

The Former Barboursville Brickyard Site is located on property adjacent to the project work area to the west and encompasses approximately 20 acres. The Barboursville Brickyard property is bordered to the north by the Guyandotte River; to the east by Big Gut Creek and residential property; to the south by the CSX railroad tracks; and to the west by residential apartments and commercial businesses.

WV Department of Environmental Protection (WVDEP) was contacted for information. Documents on the investigation and remediation of this site were provided by WVDEP. This site has been subject to extensive environmental investigation under the WVDEP Voluntary Remediation Program. Remediation activities to remove/control the onsite contamination were conducted and a Certificate of Completion (COC) was issued for the site by WVDEP. The COC includes a Land Use Covenant (LUC), which places restrictions on the use of the site. Although onsite soil and groundwater contamination remains, it was estimated through groundwater modeling and a human health and ecological risk assessment that no chemicals of concern in groundwater would migrate offsite. Chemicals of Concern at the site include the chemicals listed in the following table. See Appendix G for documentation which includes the COC/LUC and excerpts from the December 2009 Risk Assessment.

<b>Chemicals of Concern Former Barboursville Brickyard Barboursville, WV</b>		
<b>Soil</b>		<b>Groundwater</b>
<b>Volatile Organics</b>		<b>Volatile Organics</b>
1,2,4-trimethylbenzene		bromodichloromethane
1,3,5-trimethylbenzene		chloroform
benzene		
toluene		
ethylbenzene		
<b>Semi-volatile Organics</b>		<b>Semivolatile Organics</b>
benzo(a)pyrene		bis(2-ethylhexyl)phthlate
dibenz(a,h)anthracene		
		<b>Metals</b>
		arsenic
		iron
		manganese
		lead

Exposure pathways identified for these chemicals of concern include the following:

- Direct contact, inhalation and ingestion of chemicals of concern in site groundwater.
- Vapor migration into site structures, excavations or ambient air.
- Direct contact with chemicals of concern in site soil and occurring in site excavations.
- Incidental ingestion of chemicals of concern in site soil and occurring in site excavations.

These exposure pathways were addressed by implementing the LUC.

### **3.0 RECOMMENDATIONS**

Based on the investigative findings and the planned activities for this project, the following recommendations are presented.

- The miscellaneous trash and debris within the work zone need to be removed and disposed in accordance with appropriate solid and hazardous waste regulations.
- The burn piles, if within the work zone, need to be removed and the excavated soil and debris properly tested and disposed in accordance with appropriate solid and hazardous waste regulations.
- Air quality in the area of the petroleum smells needs to be monitored during construction. If the contaminant source for the smell is detected during construction activities, then construction activities shall be halted for additional investigation.

- The construction contractor needs to have a health and safety plan in place that addresses environmental protection.
- No sampling of surface water or soil is recommended at this time.

**Changes in Design.** If the design plans undergo further changes to include any additional areas (such as the streambank where the Former Barboursville Brickyard Site is located), the additional areas would also require a Limited Phase I investigation prior to implementation.

#### **4.0 REFERENCES**

ASTM E 1527-13, Standard Practices for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

ASTM E 1528-14, Standard Practices for Environmental Site Assessments: Transaction Screening Process.

EM 385-1-1, Safety and Health Requirements Manual

ER 1165-2-132, Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects.

Final Report, Voluntary Remediation Program, Former Barboursville Brickyard, Peyton St., Barboursville, WV, prepared by ERC and Kemron, July 2010, revised September 2010.

Phase I Environmental Site Assessment, Barboursville Brickyard, Barboursville, WV, H. C. Nutting Co., August 14, 2003.

Residual Human Health and Ecological Risk Assessment, Revision 1.0, Former Barboursville Brickyard, Peyton St., Barboursville, WV, prepared by ERC and Kemron, December 2009.

Certificate of Completion, VRA Project #08170, Former Barboursville Brickyard, Barboursville, WV, WV Department of Environmental Protection, September 20, 2010.

*Limited Phase I Hazardous, Toxic, and Radioactive Waste (HTRW) Investigation  
Water Street – Barboursville, WV  
Section 14 Streambank Protection Project*

**Appendix A: Site Maps and Drawings**

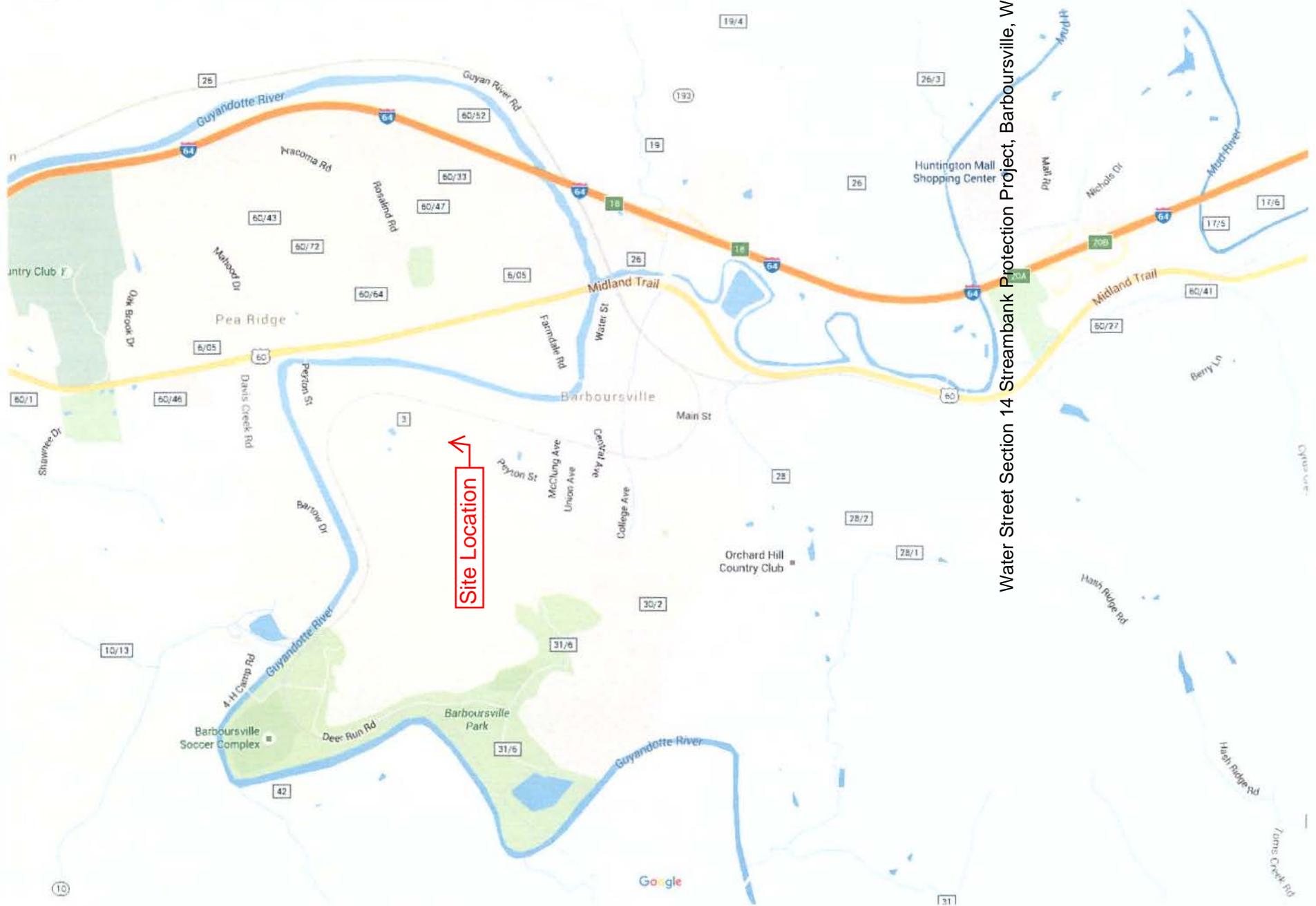
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Google Maps

Map data ©2016 Google 20 mi

Google Maps Charleston, WV



Water Street Section 14 Streambank Protection Project, Barbersville, WV

Site Location

# Barboursville, WV Section 14 Streambank Project Project Work Area

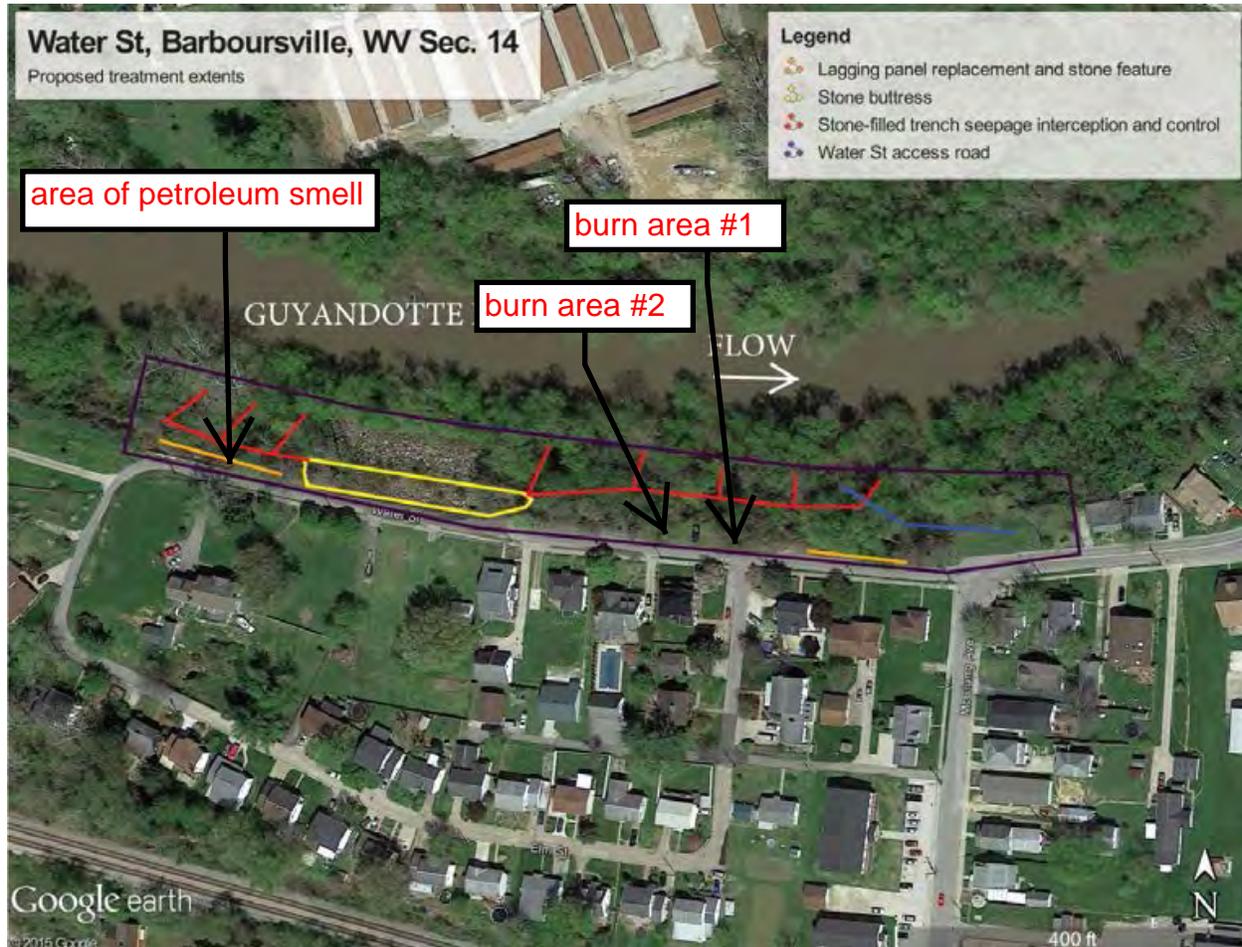
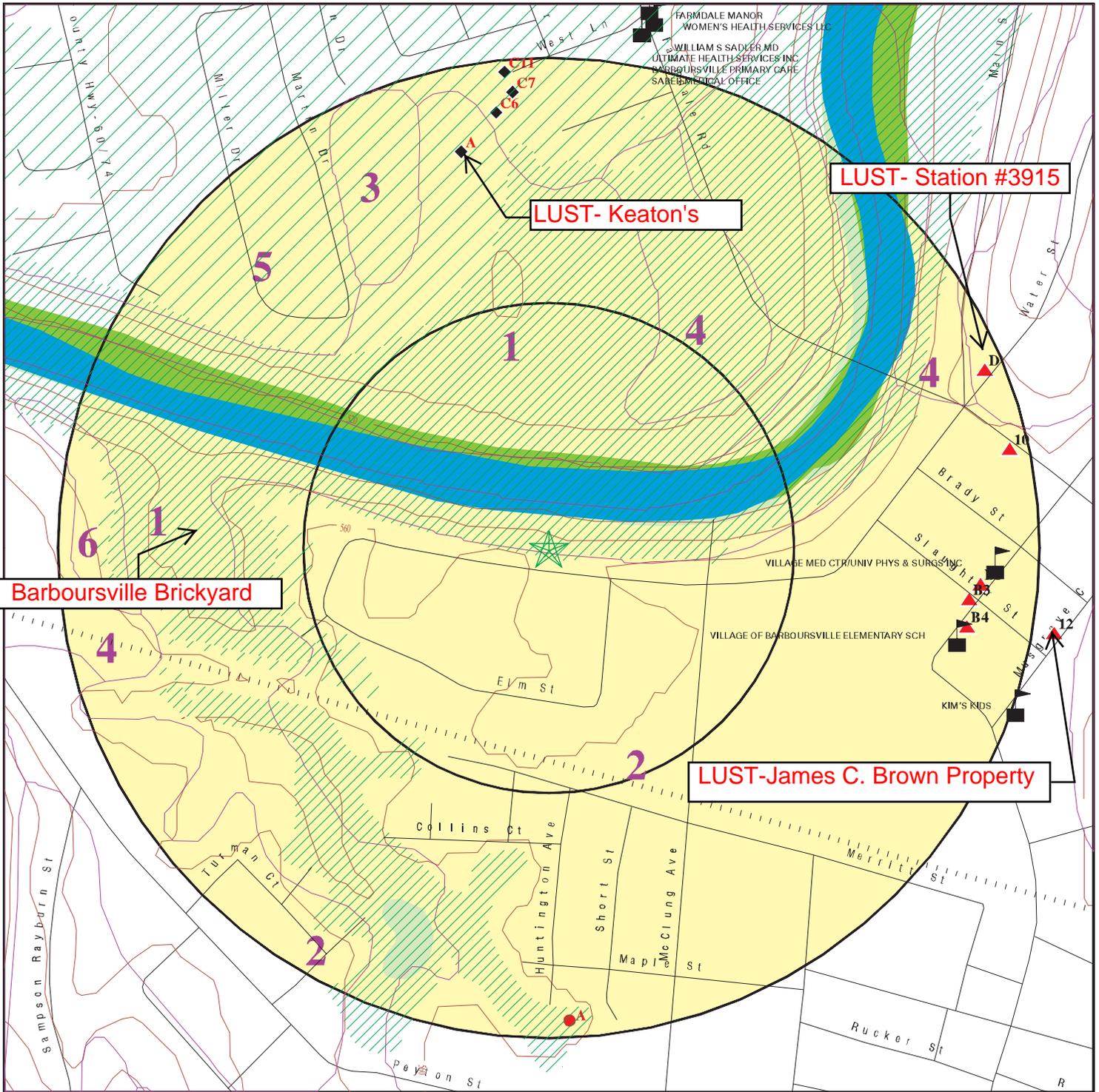


Figure 1: Water Street, Barboursville, WV – Proposed Treatment

# DETAIL MAP - 4568346.2S



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

## LUST - Leaking Underground Storage Tank

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Water Street Sect. 14 Project  
 ADDRESS: 725 Water Street  
 Barboursville WV 25504  
 LAT/LONG: 38.40907 / 82.299477

CLIENT: U.S. Army Corps of Engineers  
 CONTACT: Janet Wolfe  
 INQUIRY #: 4568346.2s  
 DATE: March 18, 2016 2:37 pm

*Limited Phase I Hazardous, Toxic, and Radioactive Waste (HTRW) Investigation  
Water Street – Barboursville, WV  
Section 14 Streambank Protection Project*

**Appendix B: Topo Maps, Aerial Photos, Sanborn Maps**

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Water Street Sect. 14 Project

725 Water Street

Barboursville, WV 25504

Inquiry Number: 4568346.5

March 21, 2016

## The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

**Site Name:**

**Client Name:**

U.S. Army Corps of Engineers  
 502 8th Street  
 Huntington, WV 25701  
 Contact: Janet Wolfe



EDR Inquiry # 4568346.5

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

**Search Results:**

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2011	1"=500'	Flight Year: 2011	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2007	1"=500'	Flight Year: 2007	USDA/NAIP
2001	1"=500'	Flight Date: October, 01 2001	USGS
1996	1"=500'	Flight Date: April, 02 1996	USGS
1990	1"=500'	Flight Date: September, 25 1990	USGS
1988	1"=500'	Acquisition Date: March, 28 1988	USGS/DOQQ
1983	1"=1000'	Flight Date: April, 25 1983	USGS
1976	1"=1000'	Flight Date: April, 01 1976	USGS
1971	1"=500'	Flight Date: April, 12 1971	USGS
1967	1"=500'	Flight Date: March, 30 1967	USGS
1960	1"=500'	Flight Date: April, 13 1960	USGS
1955	1"=750'	Flight Date: April, 08 1955	USGS

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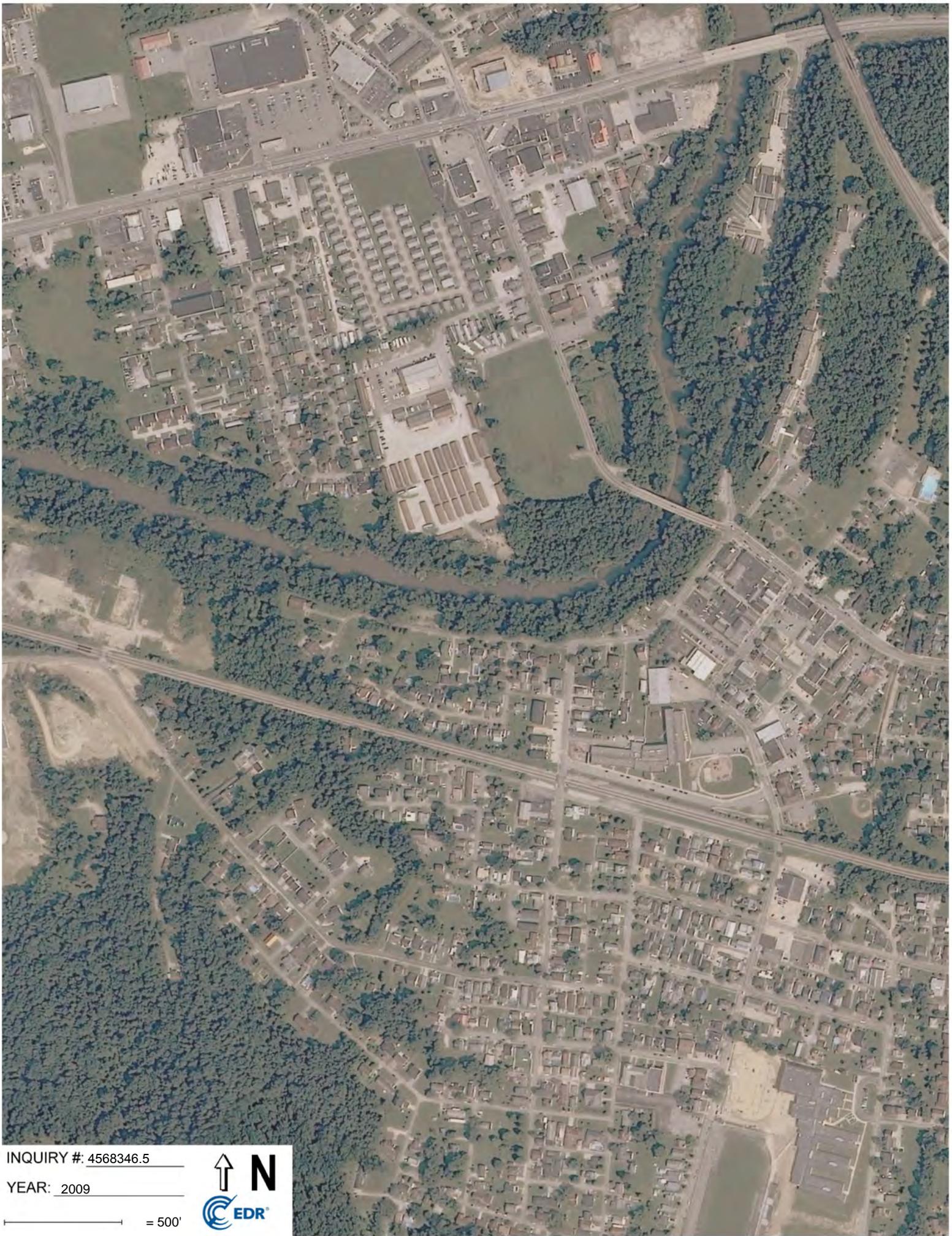


INQUIRY #: 4568346.5

YEAR: 2011

— = 500'





INQUIRY #: 4568346.5

YEAR: 2009

— = 500'





INQUIRY #: 4568346.5

YEAR: 2007

— = 500'



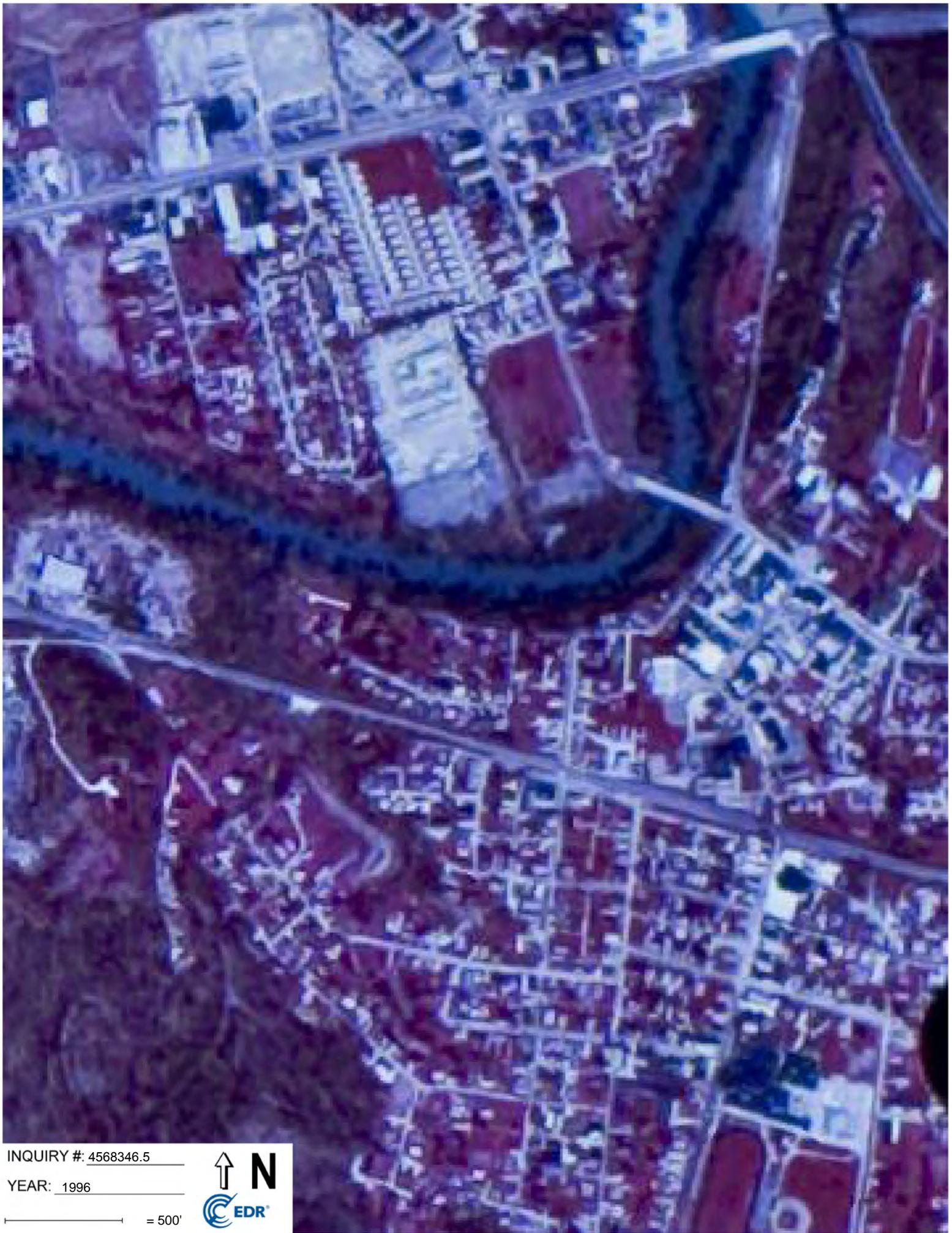


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INQUIRY #: 4568346.5

YEAR: 1996

— = 500'





INQUIRY #: 4568346.5

YEAR: 1990

— = 500'





INQUIRY #: 4568346.5

YEAR: 1988

— = 500'





INQUIRY #: 4568346.5

YEAR: 1983

— = 1000'





INQUIRY #: 4568346.5

YEAR: 1976

\_\_\_\_\_ = 1000'





INQUIRY #: 4568346.5

YEAR: 1971

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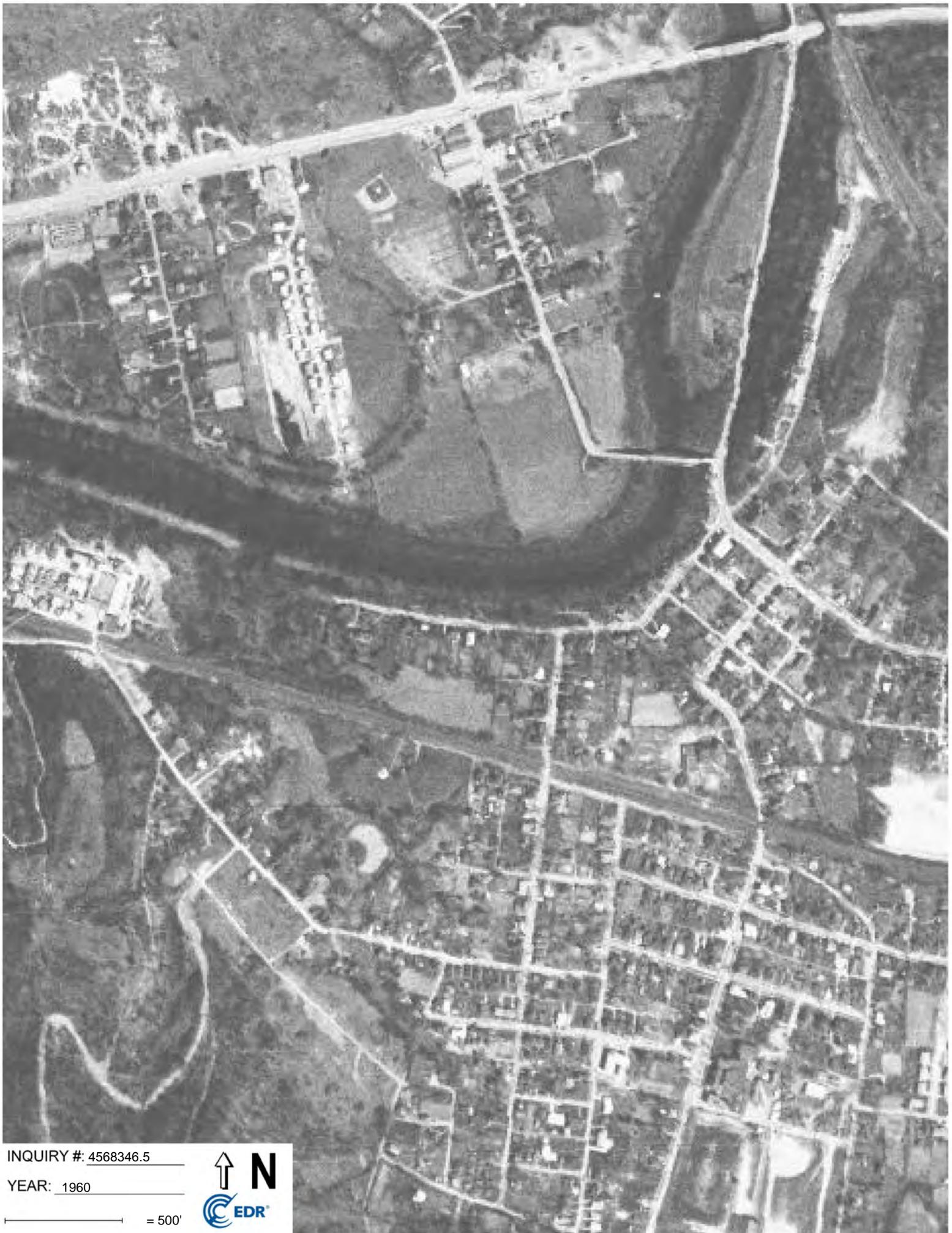


INQUIRY #: 4568346.5

YEAR: 1967

— = 500'





INQUIRY #: 4568346.5

YEAR: 1960

— = 500'





INQUIRY #: 4568346.5

YEAR: 1955

— = 750'



Water Street Sect. 14 Project

725 Water Street

Barboursville, WV 25504

Inquiry Number: 4568346.3

March 20, 2016

## Certified Sanborn® Map Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# Certified Sanborn® Map Report

03/20/16

**Site Name:**

Water Street Sect. 14 Project  
725 Water Street  
Barboursville, WV 25504  
EDR Inquiry # 4568346.3

**Client Name:**

U.S. Army Corps of Engineers  
502 8th Street  
Huntington, WV 25701  
Contact: Janet Wolfe



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## Certified Sanborn Results:

**Certification #** BA77-49C6-B795  
**PO #** NA  
**Project** Water Street Sect. 14  
**Maps Provided:**

1944  
1934  
1922



Sanborn® Library search results

Certification #: BA77-49C6-B795

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- Library of Congress
- University Publications of America
- EDR Private Collection

*The Sanborn Library LLC Since 1866™*

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## Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.



### 1944 Source Sheets



Volume 1, Sheet Keymap/Sheet1  
1944

### 1934 Source Sheets



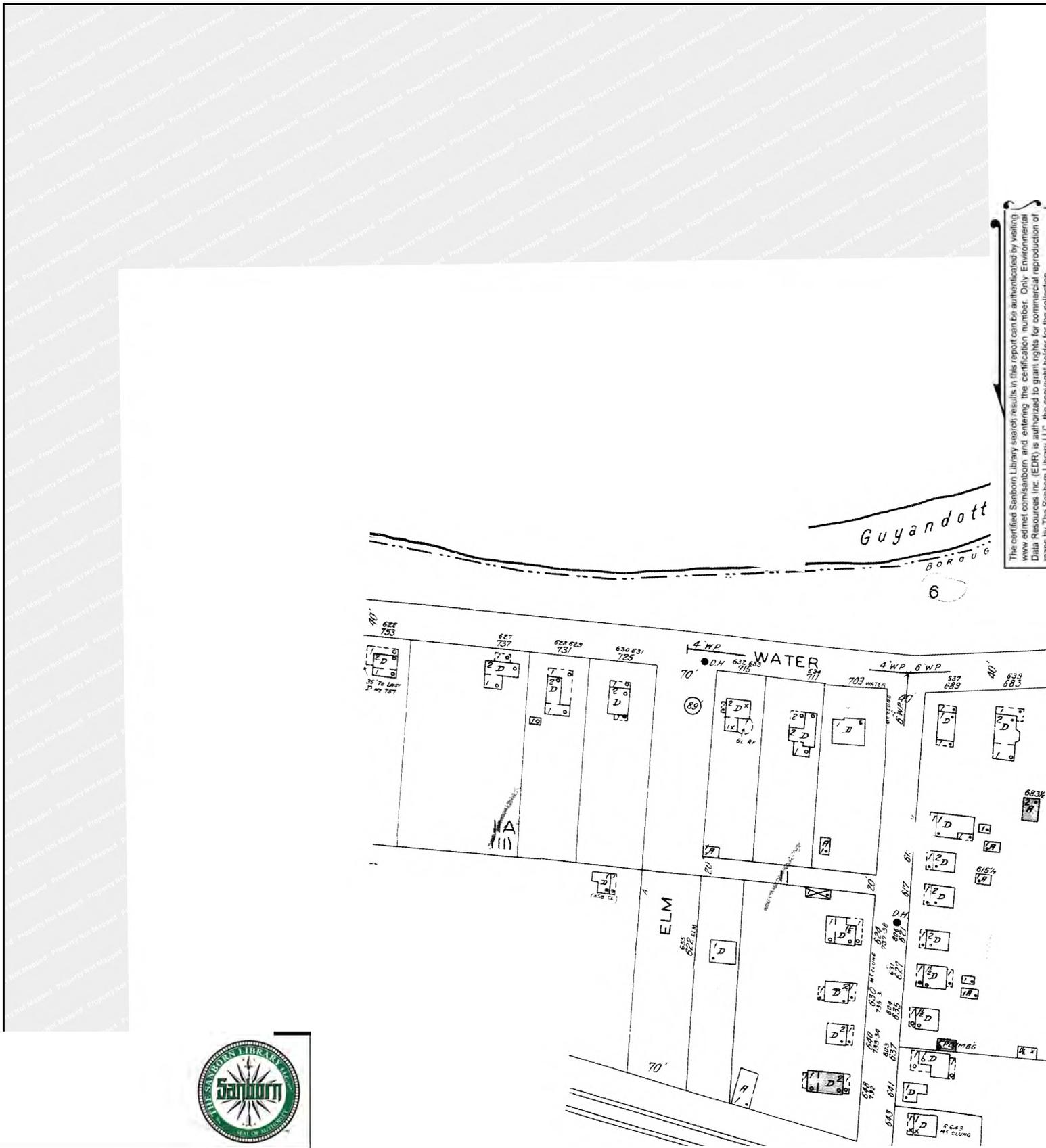
Volume 1, Sheet Keymap/Sheet1  
1934

### 1922 Source Sheets



Volume 1, Sheet 3  
1922

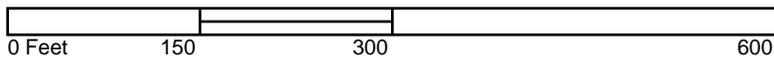
# Certified Sanborn® Map



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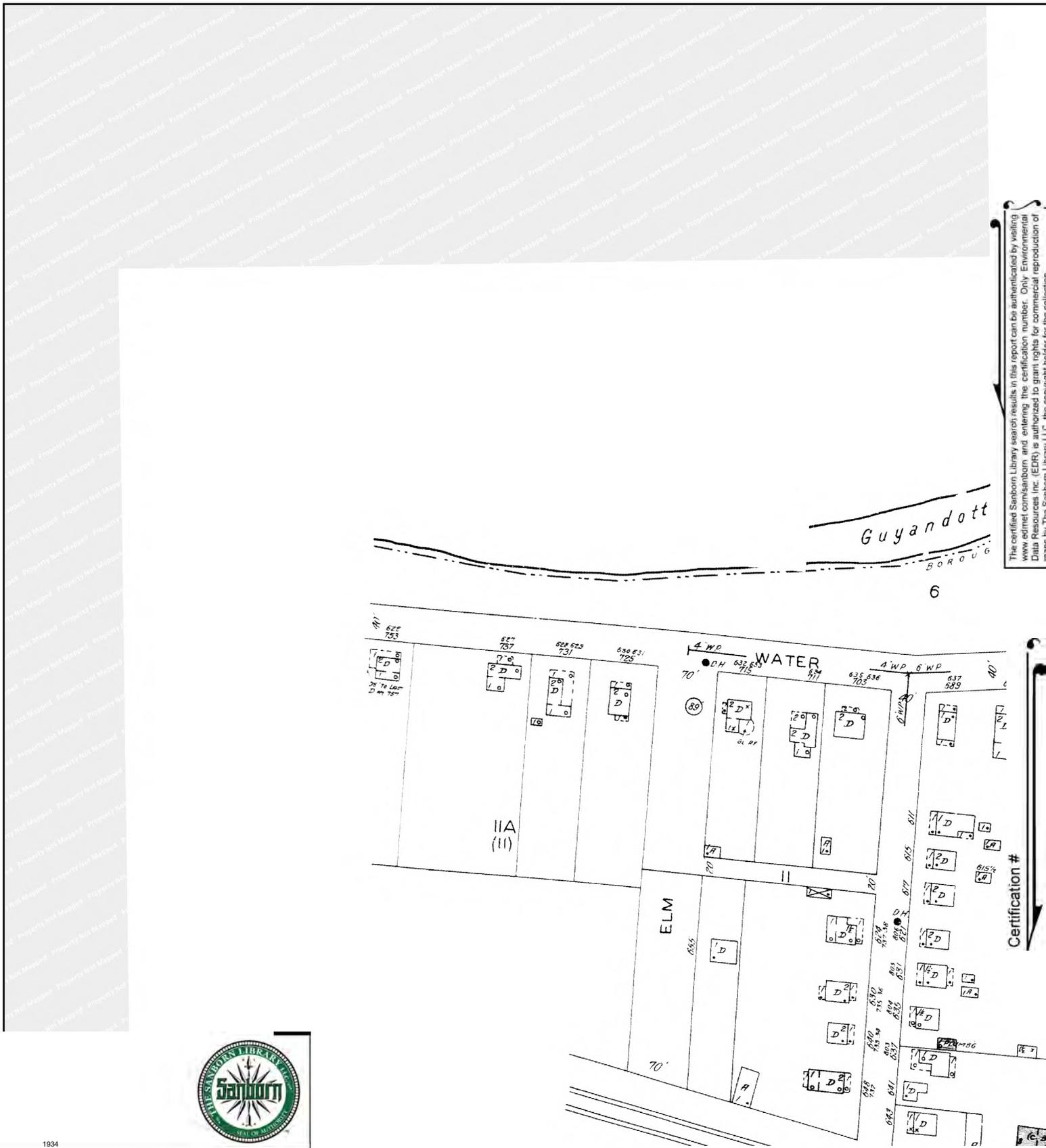


This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.



Volume 1, Sheet Keymap/Sheet1



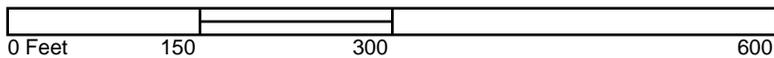


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1934

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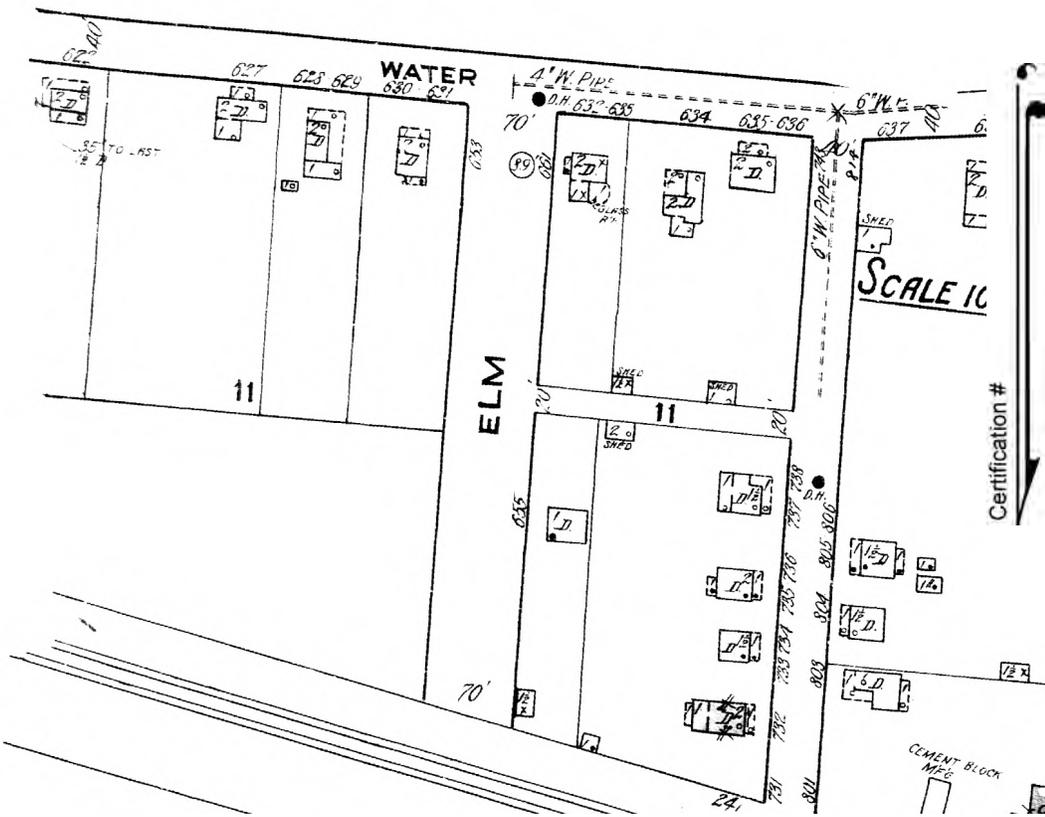


Volume 1, Sheet Keymap/Sheet1



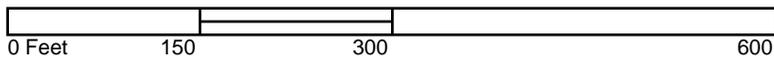
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Guyandotte River

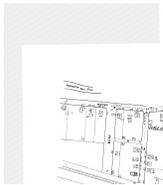


1922

This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 3



Water Street Sect. 14 Project

725 Water Street

Barboursville, WV 25504

Inquiry Number: 4568346.4

March 18, 2016

# EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# EDR Historical Topo Map Report

Site Name:

Client Name:



EDR Inquiry #

Contact:

## Search Results:

## Coordinates:

P.O.#

Latitude:

Project:

Longitude:

UTM Zone:

UTM X Meters:

UTM Y Meters:

Elevation:

## Maps Provided:

2014	1892
1985	
1975	
1968	
1957	
1902	
1901	
1898	

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EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by U.S. Army Corps of Engineers were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

## **Topo Sheet Key**

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### **2014 Source Sheets**



Barboursville  
2014  
7.5-minute, 24000

### **1985 Source Sheets**



Barboursville  
1985  
7.5-minute, 24000  
Photo Revised 1985  
Aerial Photo Revised 1983

### **1975 Source Sheets**



Barboursville  
1975  
7.5-minute, 24000  
Photo Revised 1975  
Aerial Photo Revised 1975

### **1968 Source Sheets**

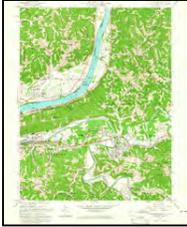


Barboursville  
1968  
7.5-minute, 24000  
Aerial Photo Revised 1967

## **Topo Sheet Key**

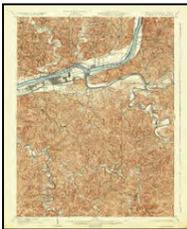
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### **1957 Source Sheets**



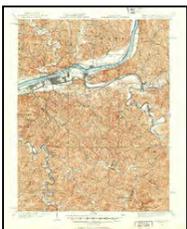
Barboursville  
1957  
7.5-minute, 24000  
Aerial Photo Revised 1956

### **1902 Source Sheets**



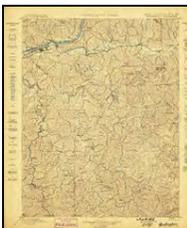
Guyandot  
1902  
15-minute, 62500

### **1901 Source Sheets**



Guyandot  
1901  
15-minute, 62500

### **1898 Source Sheets**



Huntington  
1898  
30-minute, 125000

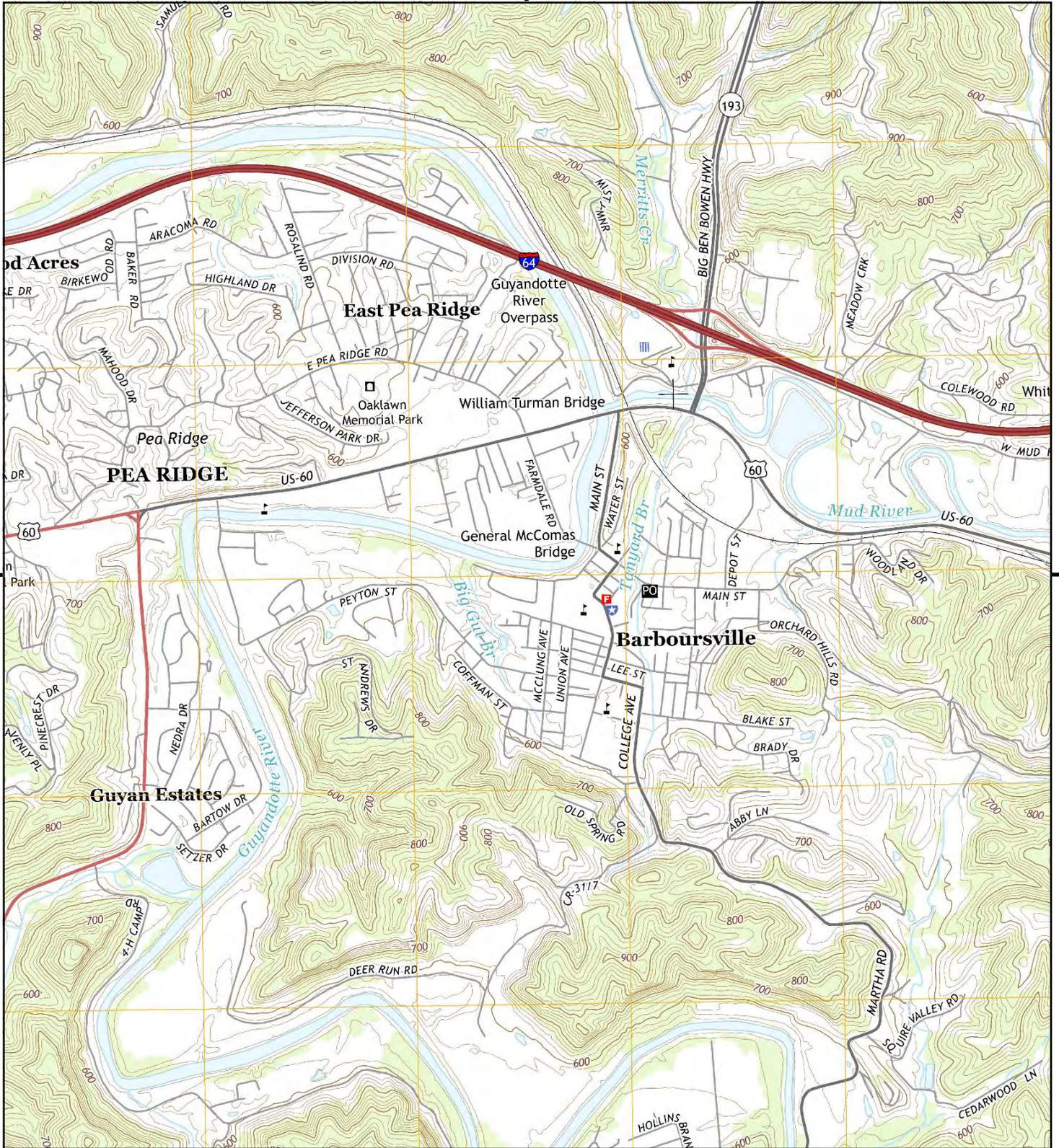
## ***Topo Sheet Key***

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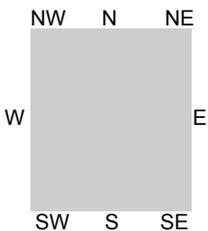
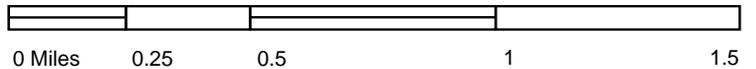
### **1892 Source Sheets**



Huntington  
1892  
30-minute, 125000



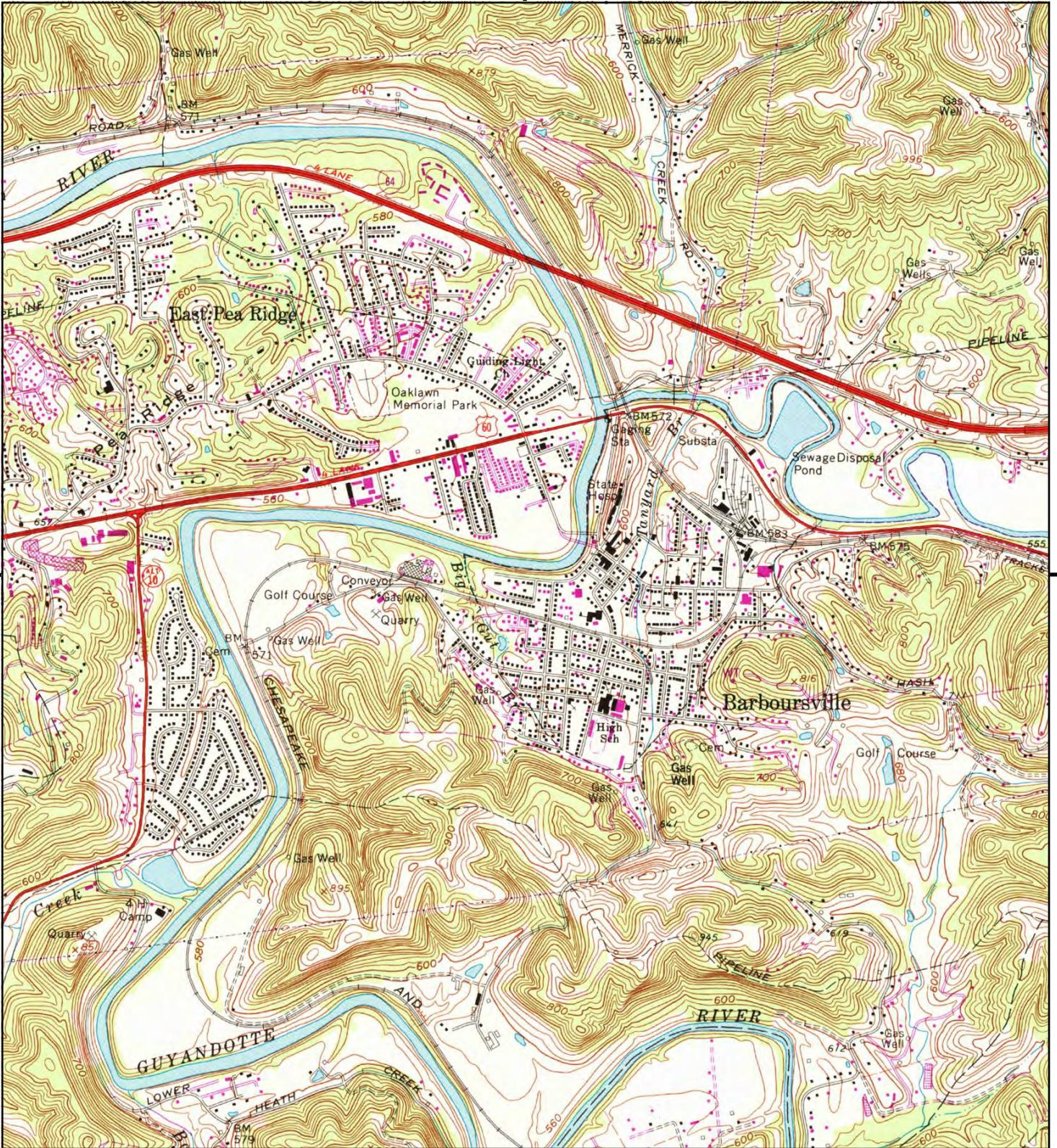
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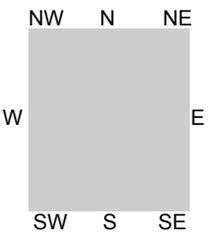
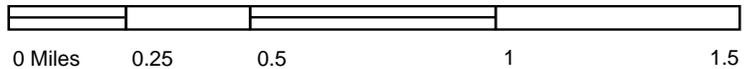
TP, Barbourville, 2014, 7.5-minute

SITE NAME:  
 ADDRESS:  
 CLIENT:





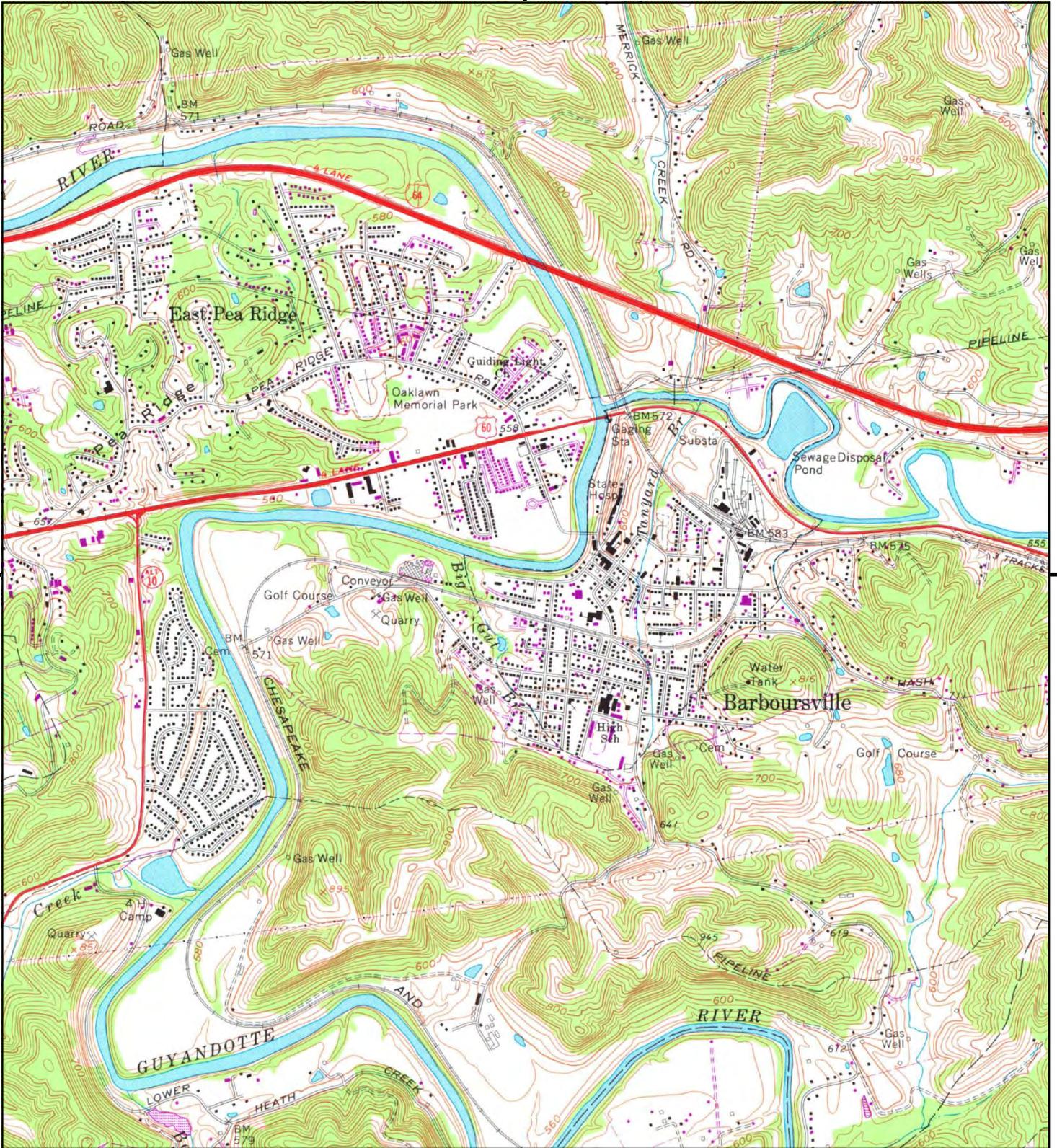
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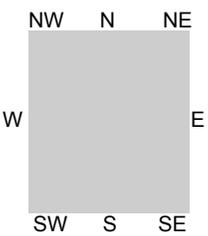
TP, Barbourville, 1985, 7.5-minute

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 CLIENT:





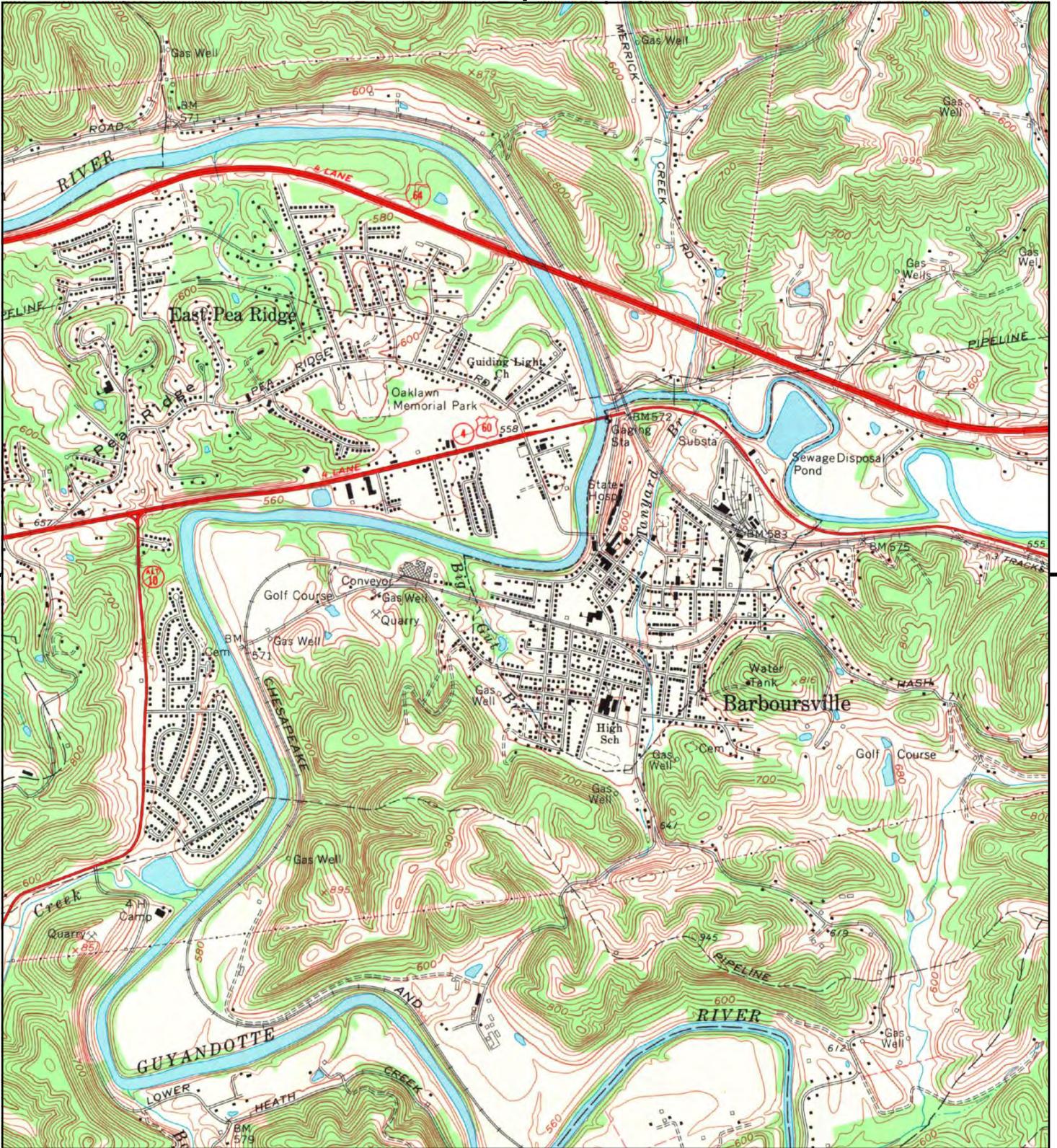
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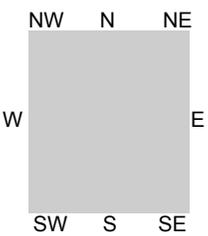
TP, Barbourville, 1975, 7.5-minute

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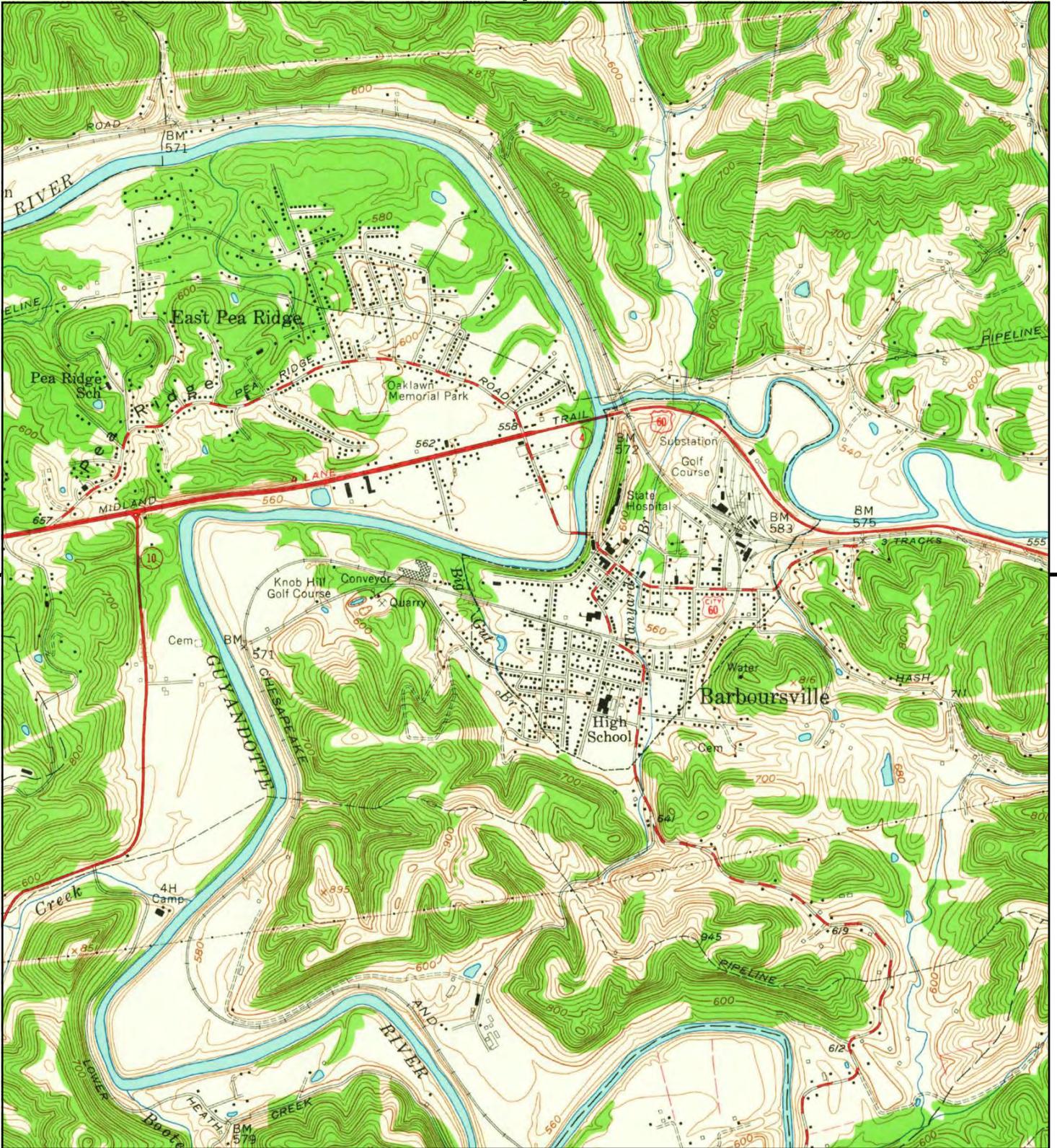
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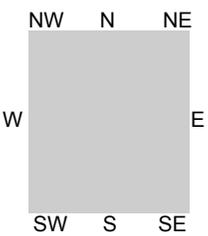
TP, Barbourville, 1968, 7.5-minute

SITE NAME:  
 ADDRESS:  
 CLIENT:





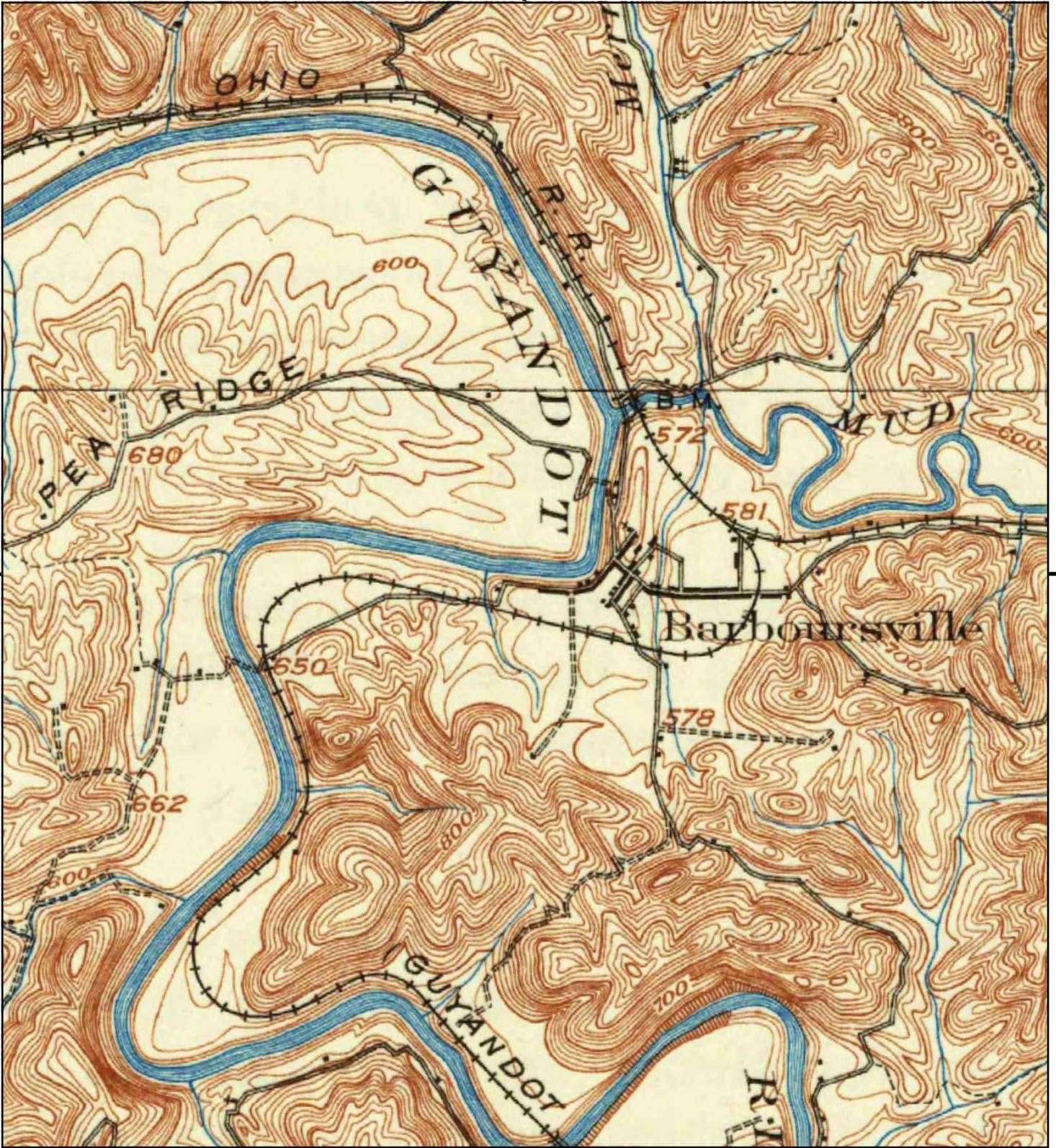
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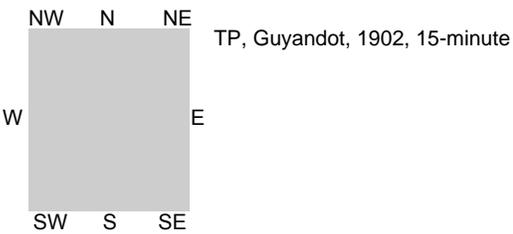
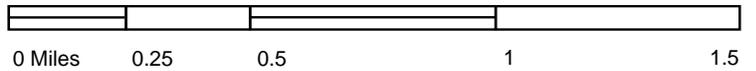
TP, Barbourville, 1957, 7.5-minute

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 ADDRESS:  
 CLIENT:



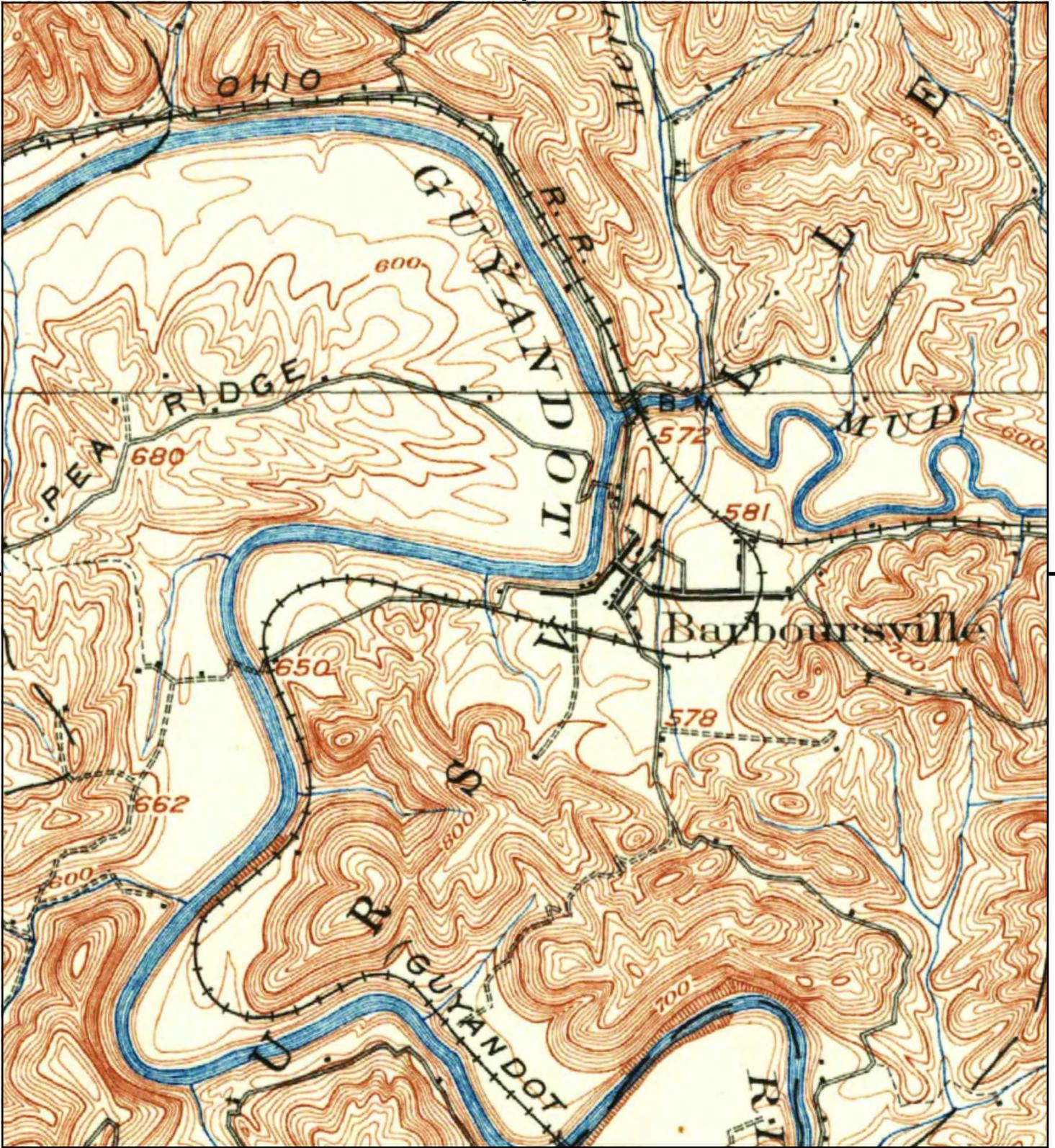


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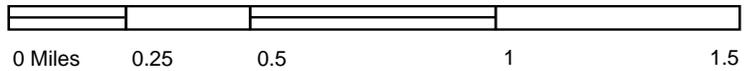


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 CLIENT:





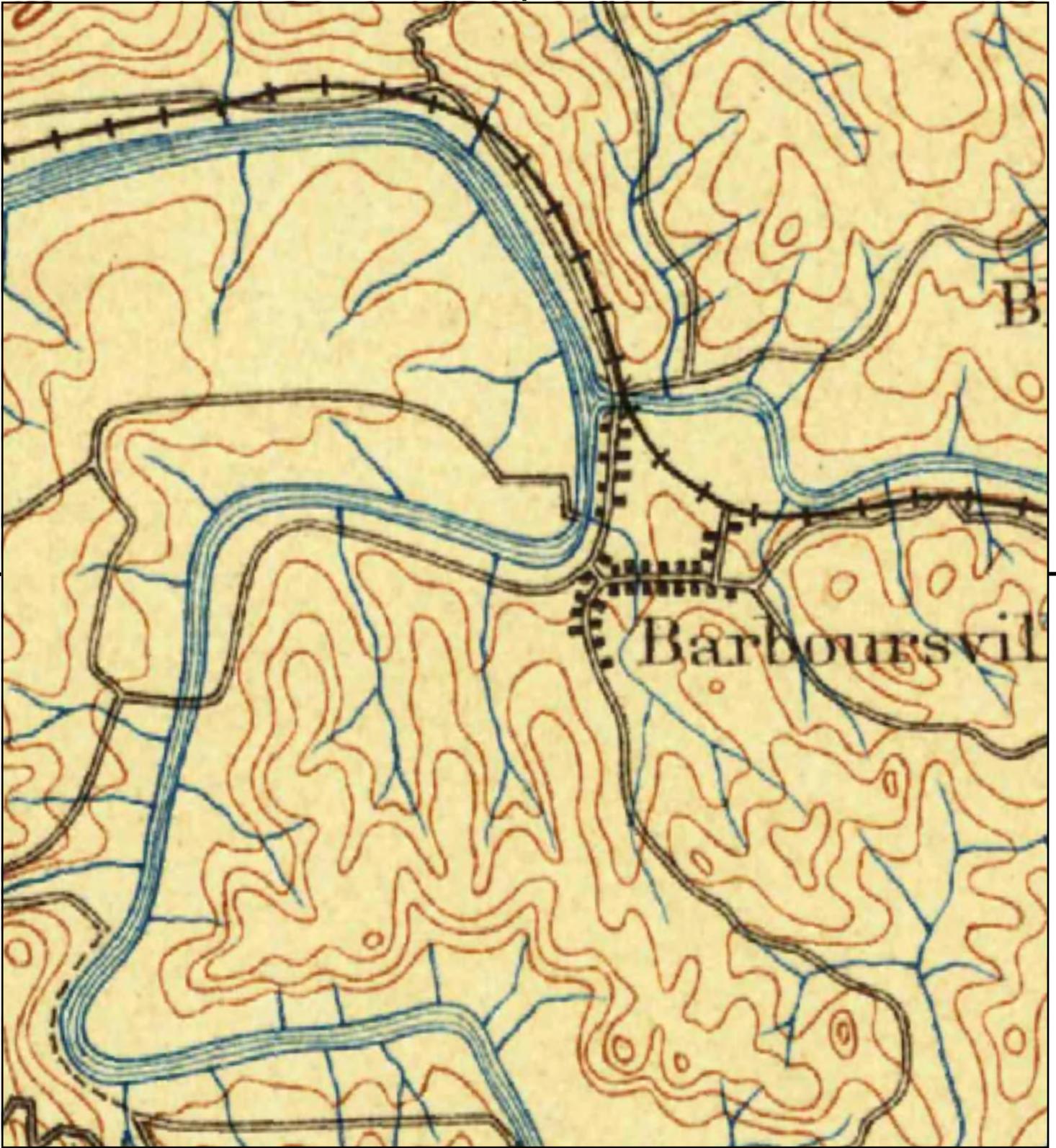
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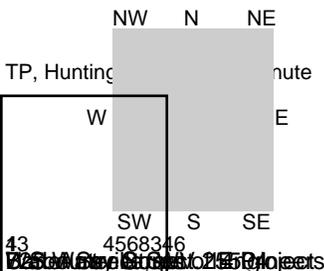
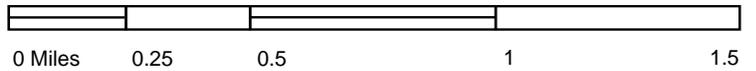
NW	N	NE
TP, Guyandot		ute
W		E
SW	S	SE
42	4568346	

SITE NAME:  
 ADDRESS:  
 CLIENT:



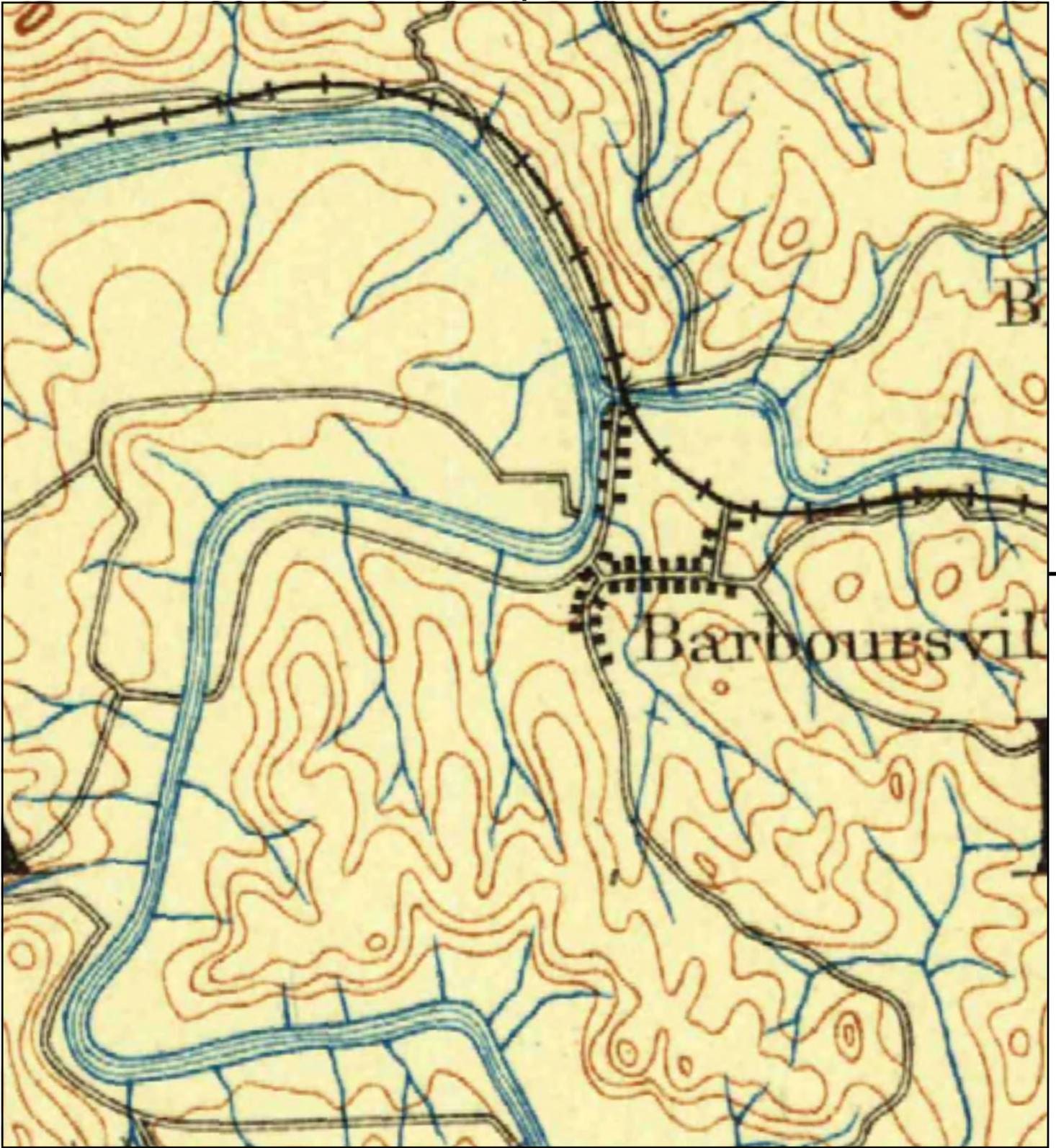


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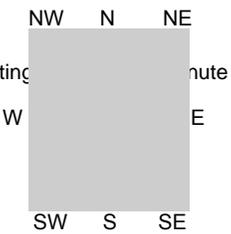
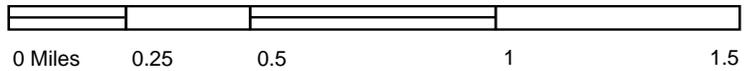


SITE NAME:  
 ADDRESS:  
 CLIENT:





This report includes information from the following map sheet(s).



SITE NAME:  
 ADDRESS:  
 CLIENT:



*Limited Phase I Hazardous, Toxic, and Radioactive Waste (HTRW) Investigation  
Water Street – Barboursville, WV  
Section 14 Streambank Protection Project*

**Appendix C: Site Photos**

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**Water Street-Barboursville, WV Section 14 Streambank Protection Project  
Barboursville, WV  
3/25/2016 Site Visit**

**Photo No. 1  
Treated wood/railroad ties along top of hillside at Elm Street, possibly for  
stabilization of hillside.**



**Photo No. 2  
At Elm Street, area of burn pile #1.**



**Water Street-Barboursville, WV Section 14 Streambank Protection Project  
Barboursville, WV  
3/25/2016 Site Visit**

**Photo No. 3  
Another view of burn pile #1.**



**Photo No. 4  
Area of burn pile #2 across from 735 Water Street.**



**Water Street-Barboursville, WV Section 14 Streambank Protection Project  
Barboursville, WV  
3/25/2016 Site Visit**

**Photo No. 5  
Petroleum smell along hillside at point where sign is located, across from 767 Water  
Street, facing west.**



**Photo No. 6  
Trash along hillside in area of petroleum smell.**



**Water Street-Barboursville, WV Section 14 Streambank Protection Project  
Barboursville, WV  
3/25/2016 Site Visit**

**Photo No. 7  
Trash along hillside in area of petroleum smell.**



**Photo No. 8  
Bricks/debris along hillside .**



**Water Street-Barboursville, WV Section 14 Streambank Protection Project  
Barboursville, WV  
3/25/2016 Site Visit**

**Photo No. 9  
Miscellaneous trash/debris along hillside.**



**Photo No. 10  
Miscellaneous trash/debris along top of hillside**



**Water Street-Barboursville, WV Section 14 Streambank Protection Project  
Barboursville, WV  
3/25/2016 Site Visit**

**Photo No. 11  
Miscellaneous trash/debris along hillside**



**Photo No. 12  
Miscellaneous trash/debris/gravel along hillside**



**Water Street-Barboursville, WV Section 14 Streambank Protection Project  
Barboursville, WV  
3/25/2016 Site Visit**

**Photo No. 13  
Stormwater drainage along hillside at McClung St.**



**Photo No. 14  
Another view of stormwater drainage at McClung St., along with discarded tire**



**Water Street-Barboursville, WV Section 14 Streambank Protection Project  
Barboursville, WV  
3/25/2016 Site Visit**

**Photo No. 15  
Stormwater drainage along hillside.**



**Photo No. 16  
Stormwater drainage along hillside.**



**Water Street-Barboursville, WV Section 14 Streambank Protection Project  
Barboursville, WV  
3/25/2016 Site Visit**

**Photo No. 17**

**Stormwater drainage along hillside at western end of project.**



**Photo No. 18**

**Example of seeps within project area.**



3. Backup or emergency electrical generators may be subject to federal and state requirements and require an air permit in accordance with 45CSR13.

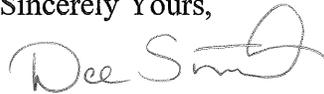
If the project involves demolition, and/or excavation and transportation of soil/aggregates or the handling of materials that can cause problems such as nuisance dust emissions or entrainment or creation of objectionable odors, adequate air pollution control measures must be applied to prevent statutory air pollution problems as addressed by 45CSR4 and 45CSR17. Copies of all of the WVDAQ rules cited in this letter may be reviewed on the agency's website at <http://www.dep.wv.gov/daq>. To review the rules click on "Summary of Rules" after accessing the website.

You may obtain the latest published air quality data summaries and statistics for the WV Division of Air Quality's ambient air monitoring sites on our website (shown above). Simply click on the image for the Air Quality Annual Report. You may also find a document summarizing, in some detail, the attainment status of the 55 counties in West Virginia relative to National Ambient Air Quality Standards (NAAQS) on our website by clicking on the link for "Publications".

As of March 1, 2016, Cabell County is designated an attainment area for all criteria pollutants.

If you have any questions or need further assistance or information, please contact this office at (304) 926-0475.

Sincerely Yours,



Dee Smith  
Planning Section

DAS/dw