APPENDIX A – MAPS

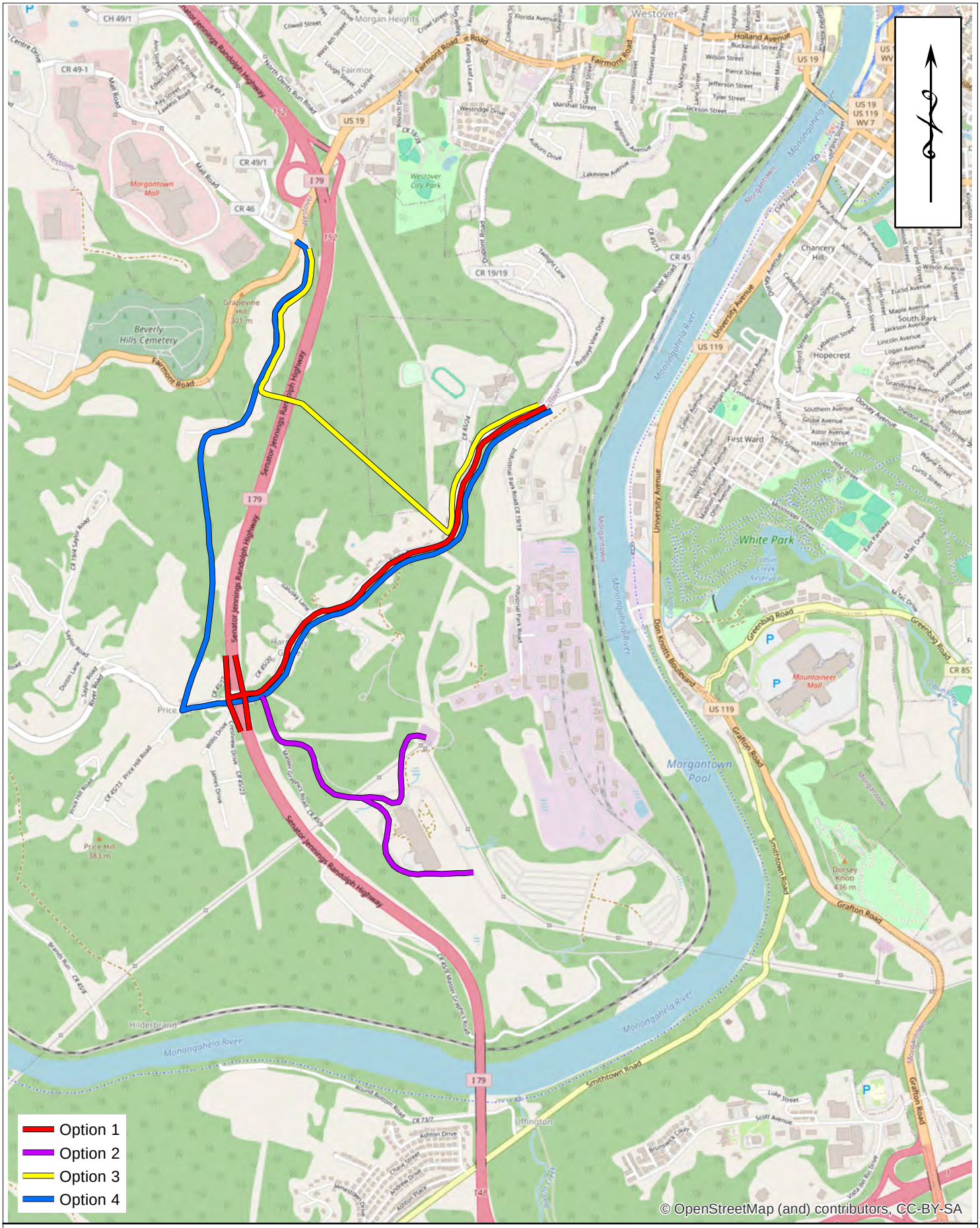


Figure A-1: Eliminated Alternative Options

Monongalia County - West Virginia

1 inch = 2,000 feet

11/13/2025

THRASHER

Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\EliminatedOptions_Harmony_8x11.mxd

By: dively

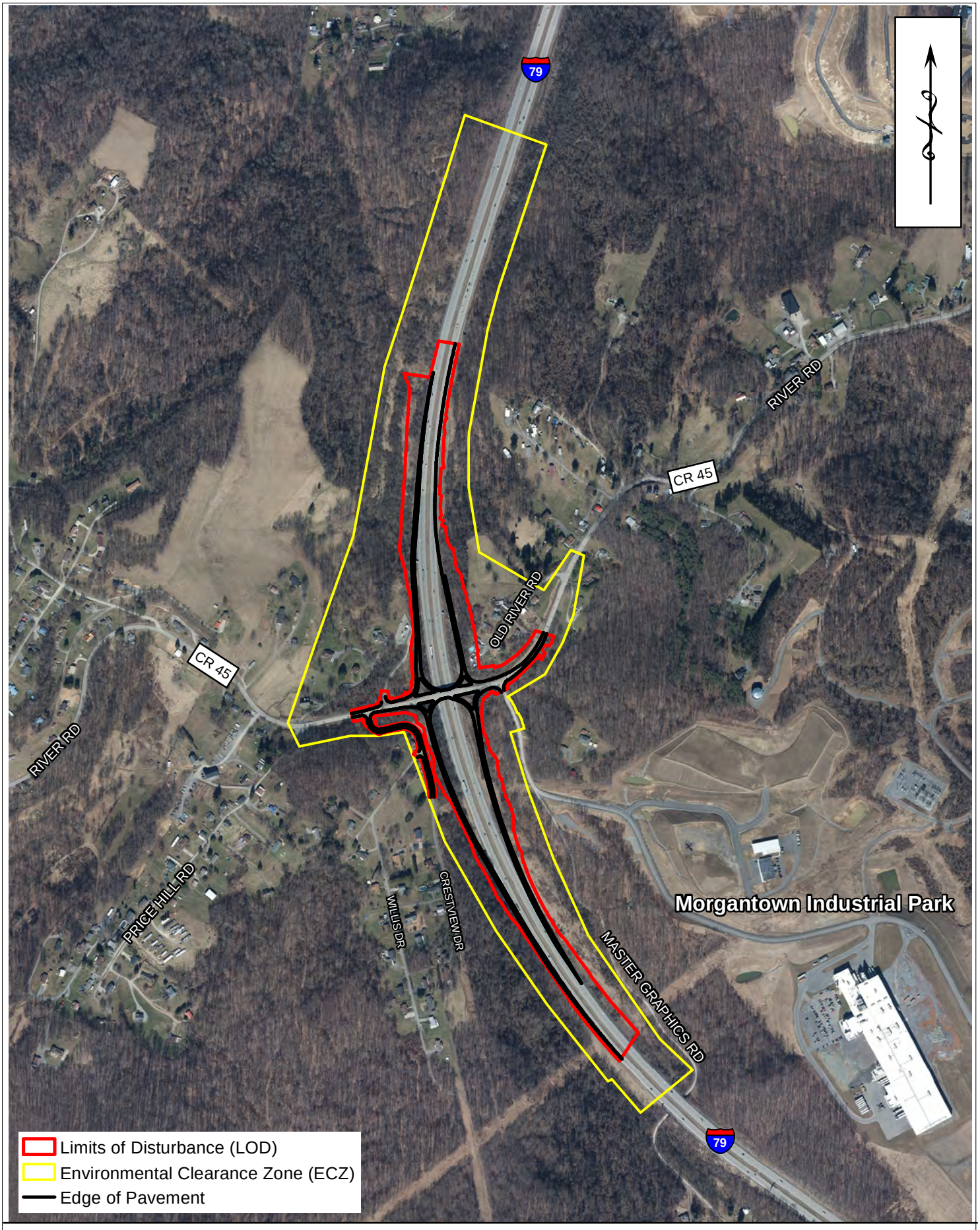


Figure A-2: Alternative 1 SPUI

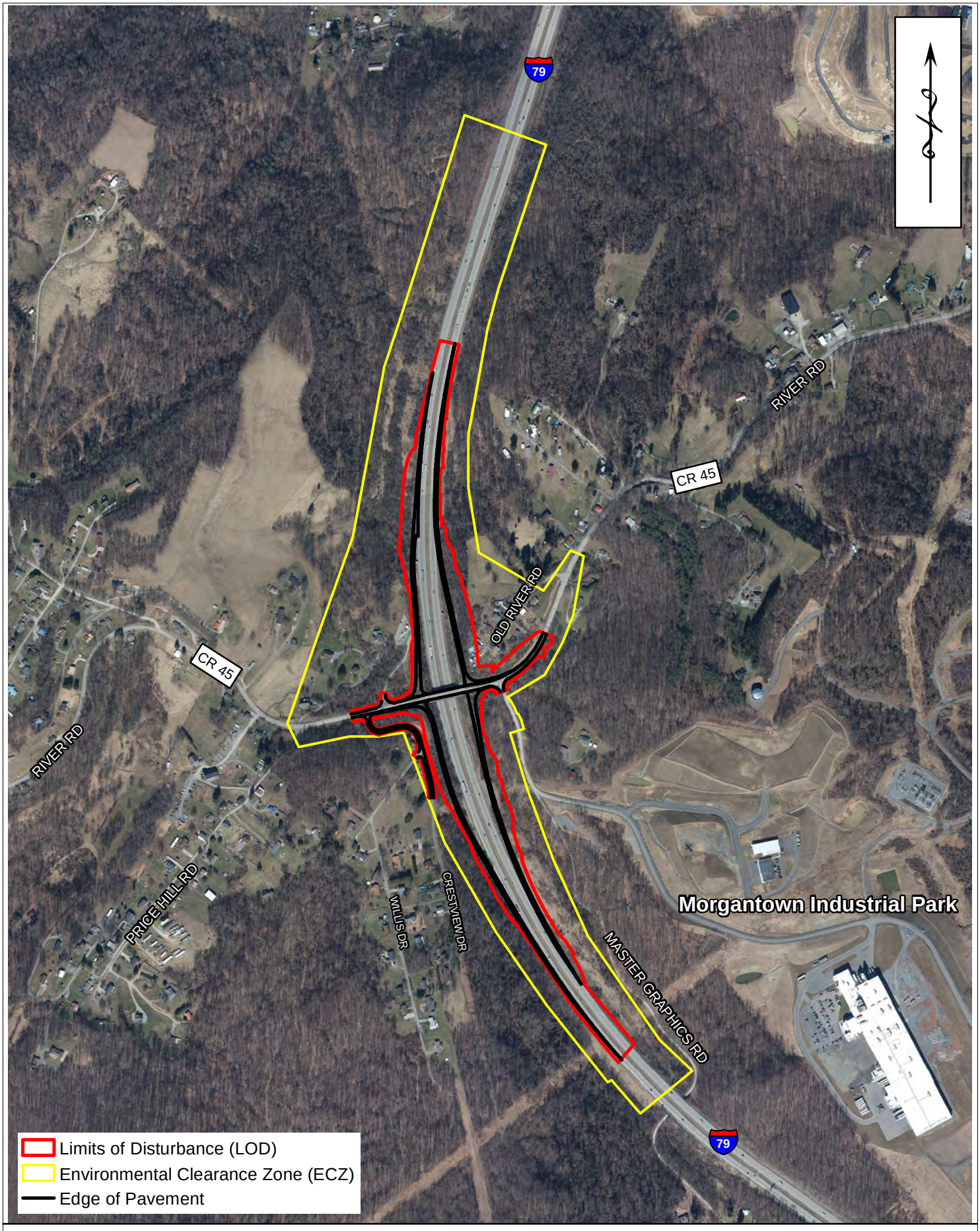
Monongalia County - West Virginia

1 inch = 800 feet

11/13/2025

THRASHER

By: dlively Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\ALT 1\ALT 1_AERIAL SITE LOCATION W EOP_Harmony_8X11.mxd



THRASHER

Figure A-3: Alternative 2 (A+B) TDI

Monongalia County - West Virginia

1 inch = 800 feet

11/13/2025

Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\ALT 2\ALT 2_AERIAL SITE LOCATION W EOP_Harmony_8X11.mxd

By: dlively

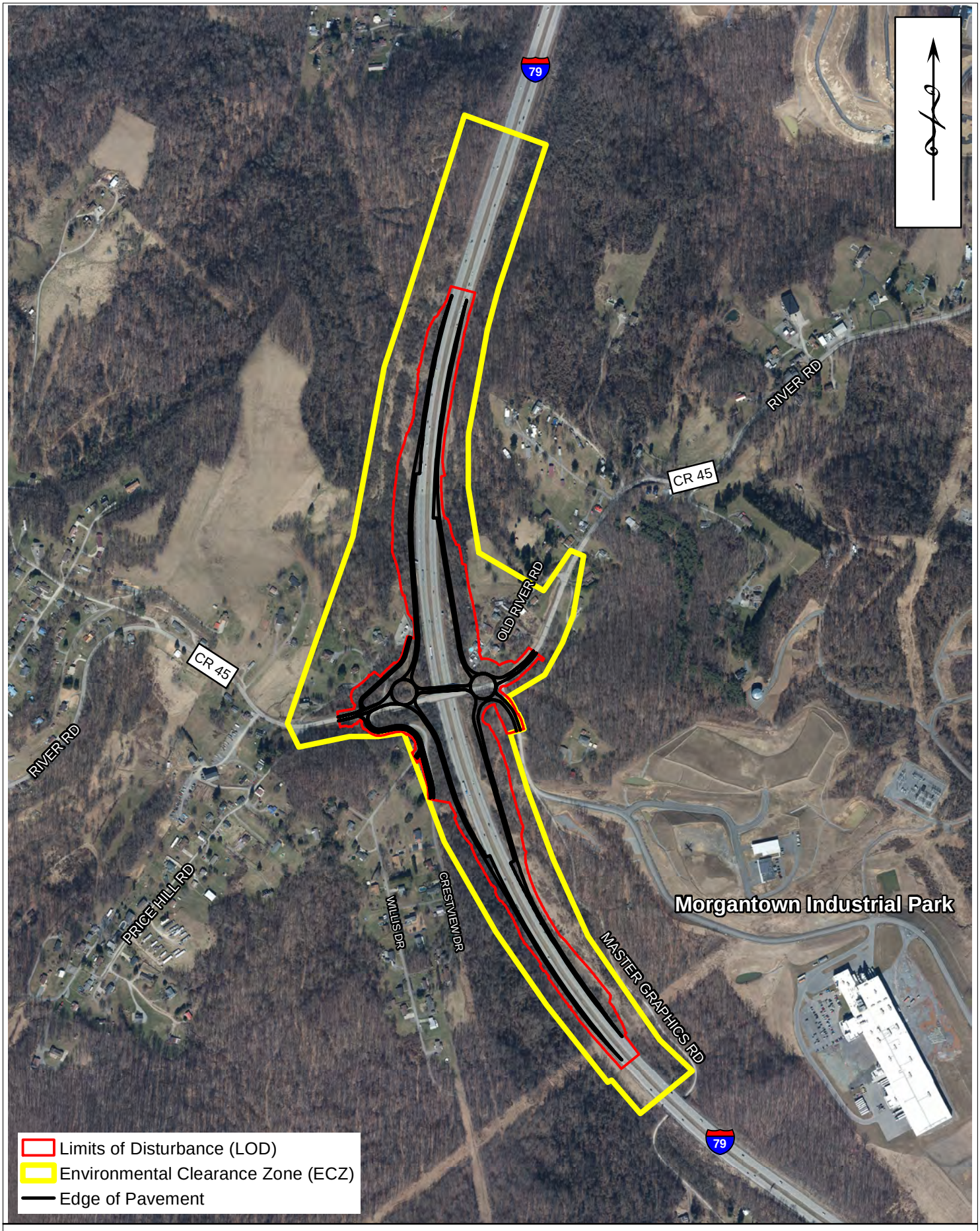


Figure A-4: Alternative 2C TDI with Roundabouts

Monongalia County - West Virginia

1 inch = 800 feet

11/13/2025

THRASHER

Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\ALT 2C\ALT 2C_AERIAL SITE LOCATION W EOP_Harmony_8X11.mxd

By: dlively

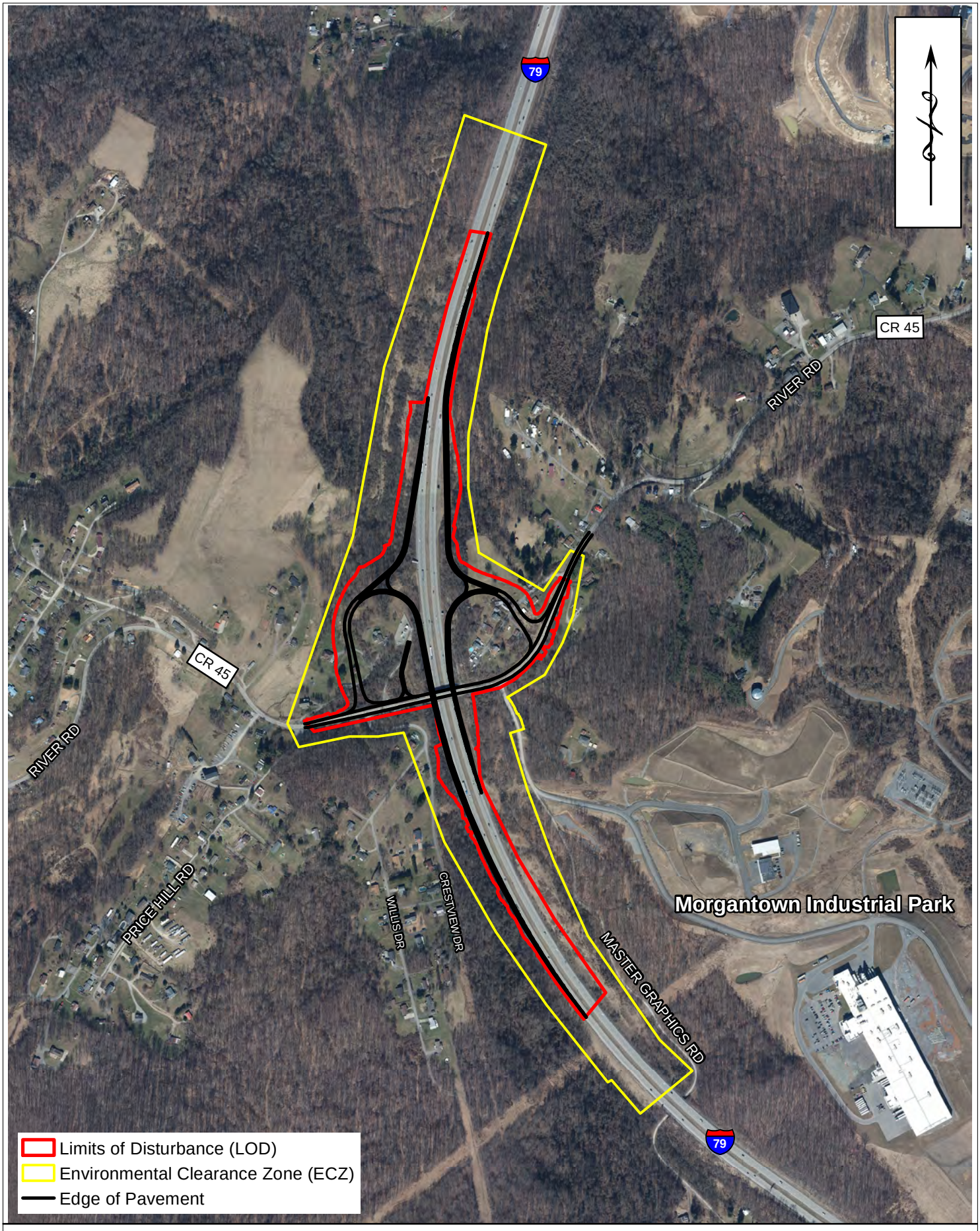


Figure A-5: Alternative 3 MCI

Monongalia County - West Virginia

THRASHER

1 inch = 800 feet

11/13/2025

Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\ALT 3\ALT 3_AERIAL SITE LOCATION W EOP_Harmony_8X11.mxd

By: dlively

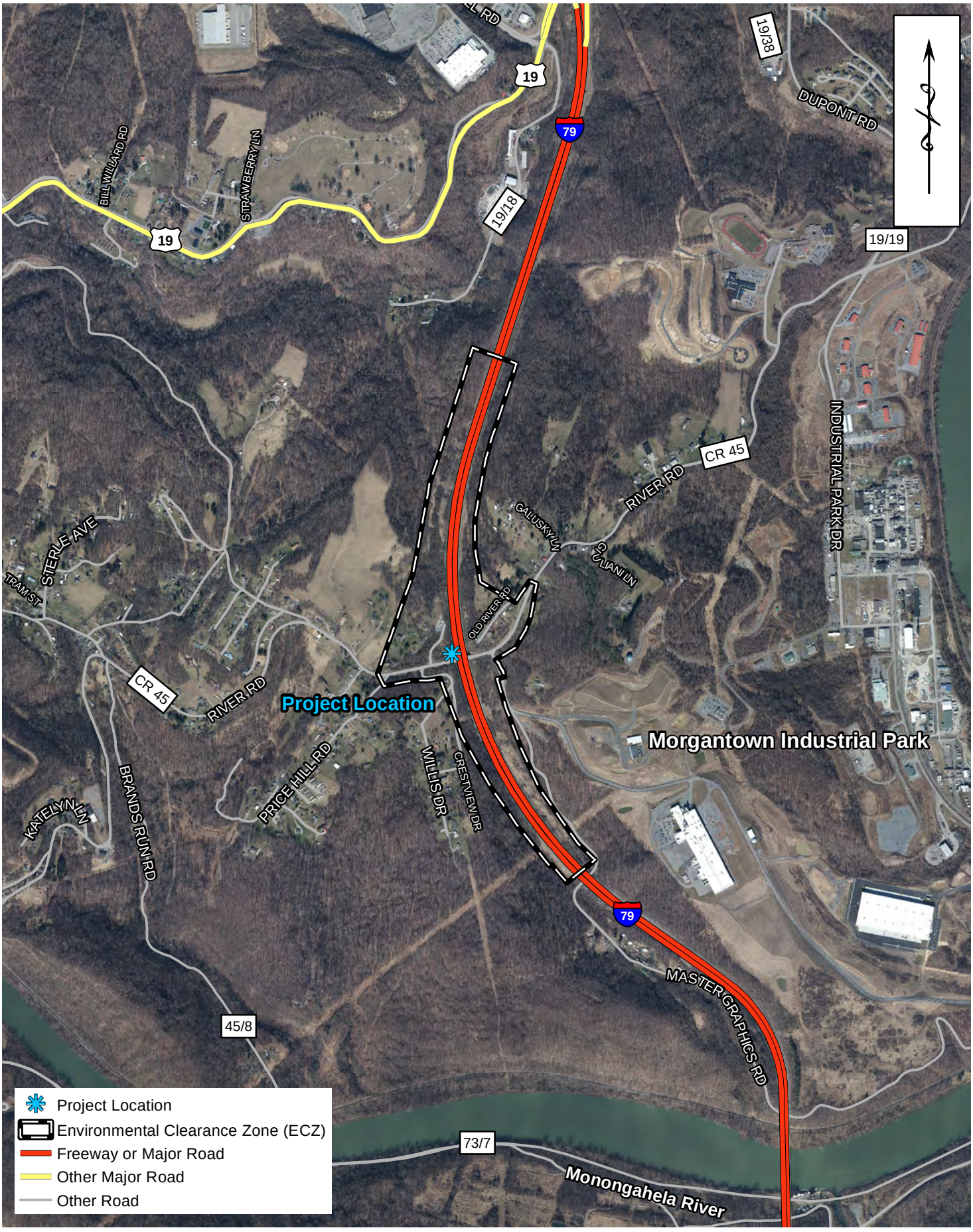


Figure A-6: Project Environmental Clearance Zone (ECZ)

Monongalia County - West Virginia

1 inch = 1,500 feet

11/13/2025

THRASHER

By: dlively

Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\Project Location Map.mxd

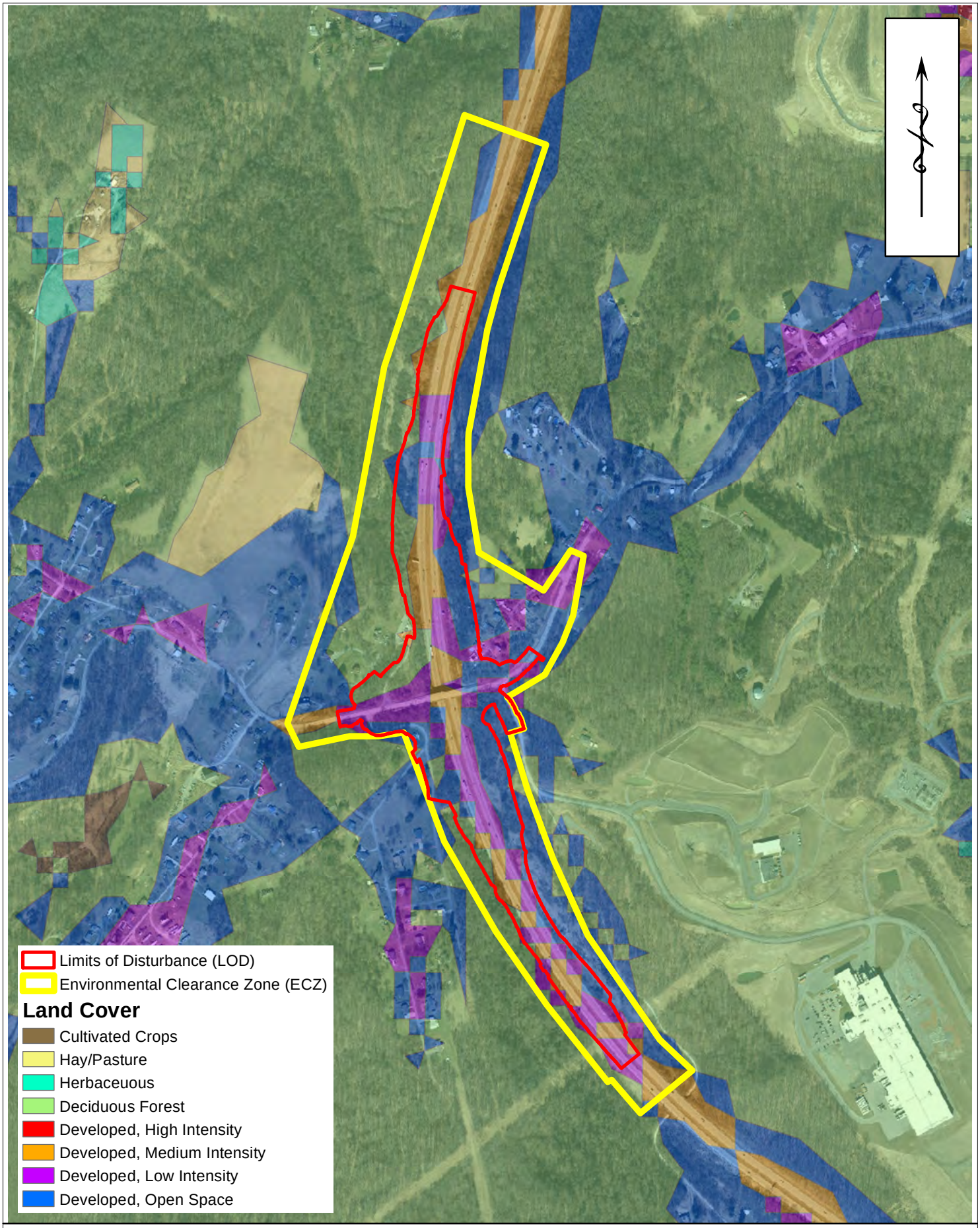


Figure A-7: Land Use Land Cover Map

Alternative 2C TDI with Roundabouts

Monongalia County - West Virginia

THRASHER

1 inch = 800 feet

11/13/2025

Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\ALT 2C\ALT 2C_LAND COVER MAP_Harmony_8X11.mxd

By: dlively

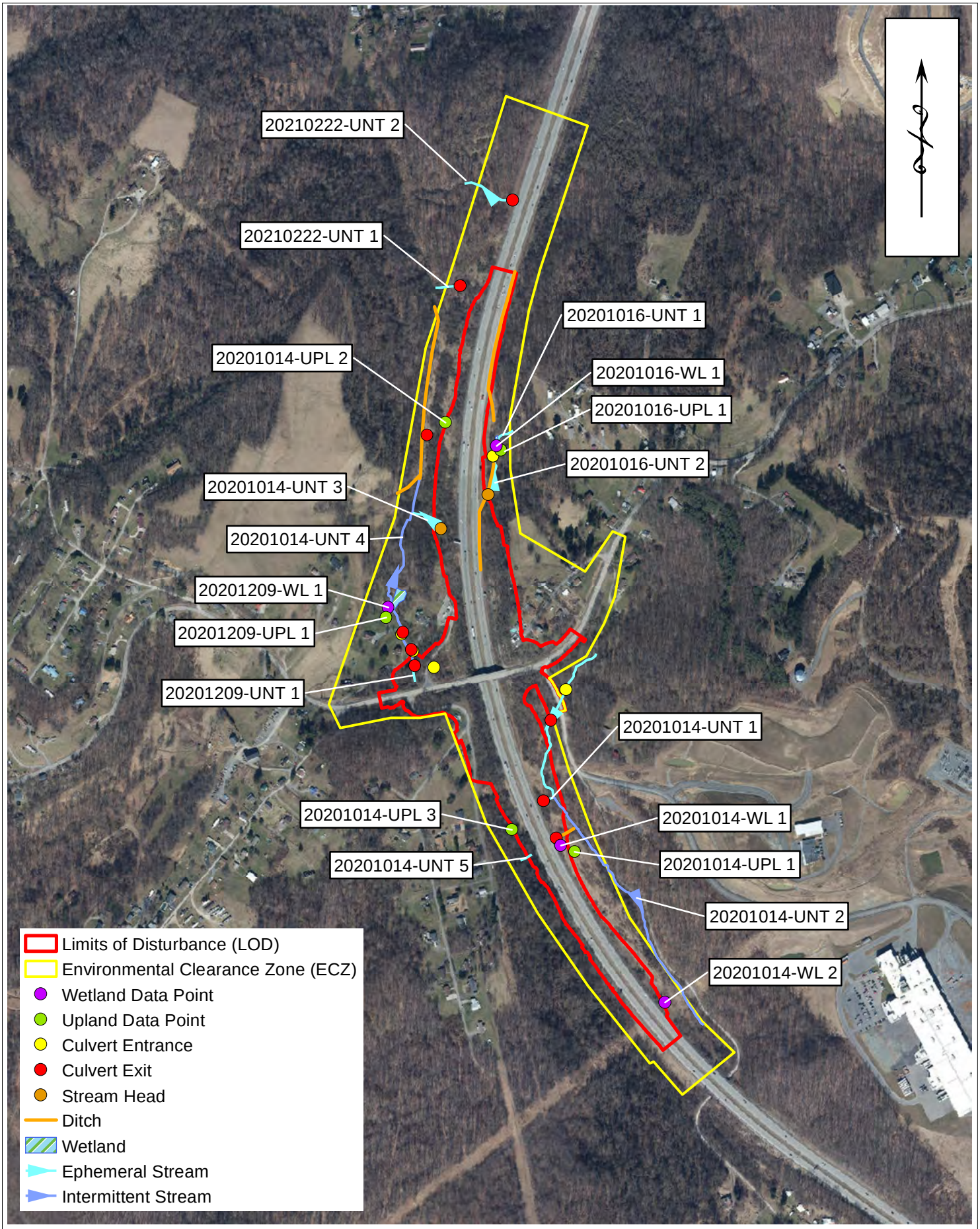


Figure A-8: Aquatic Resources Map

Alternative 2C TDI with Roundabouts

Monongalia County - West Virginia

1 inch = 800 feet

11/13/2025

THRASHER

Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\ALT 2C\ALT 2C_Aquatic Delineation_Harmony_8X11.mxd

By: dlively

APPENDIX B – NRCS COORDINATION

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Stephen T. Rumbaugh, P. E.
Secretary of Transportation
Commissioner of Highways

May 14, 2025

Mr. Jared Beard, State Soil Scientist
United States Department of Agriculture
Natural Resources Conservation Service
1550 Earl L. Core Road, Room 200
Morgantown, WV 26505

Dear Mr. Beard:

State Project N/A
Federal Project N/A
Harmony Grove Interchange
Interstate 79 (MP 151) and County Route 45
Monongalia County

Please be advised that the West Virginia Division of Highways (WVDOH) has initiated NEPA studies for the above-referenced project. Enrout Properties, LLC, in coordination with the WVDOH, is proposing to build a new interchange off Interstate 79 at approximately mile marker 151 with approximate center coordinates of 39.604993, -79.993329. Your comments on possible concerns your agency may have regarding this project are requested so that they may be included in the environmental studies.

The United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey (WSS) website was used to determine if any Prime, Unique, Statewide, or Local Important Farmland is present within the proposed project limits of disturbance (LOD). It was determined that there are 22.8 acres of Statewide Important Farmland within the LOD (see attached WSS map) and therefore the project is subject to the Farmland Projection Policy Act. As such, we have started the attached AD 1006 Form for your review and completion. Please also find attached an aerial map of the project location.

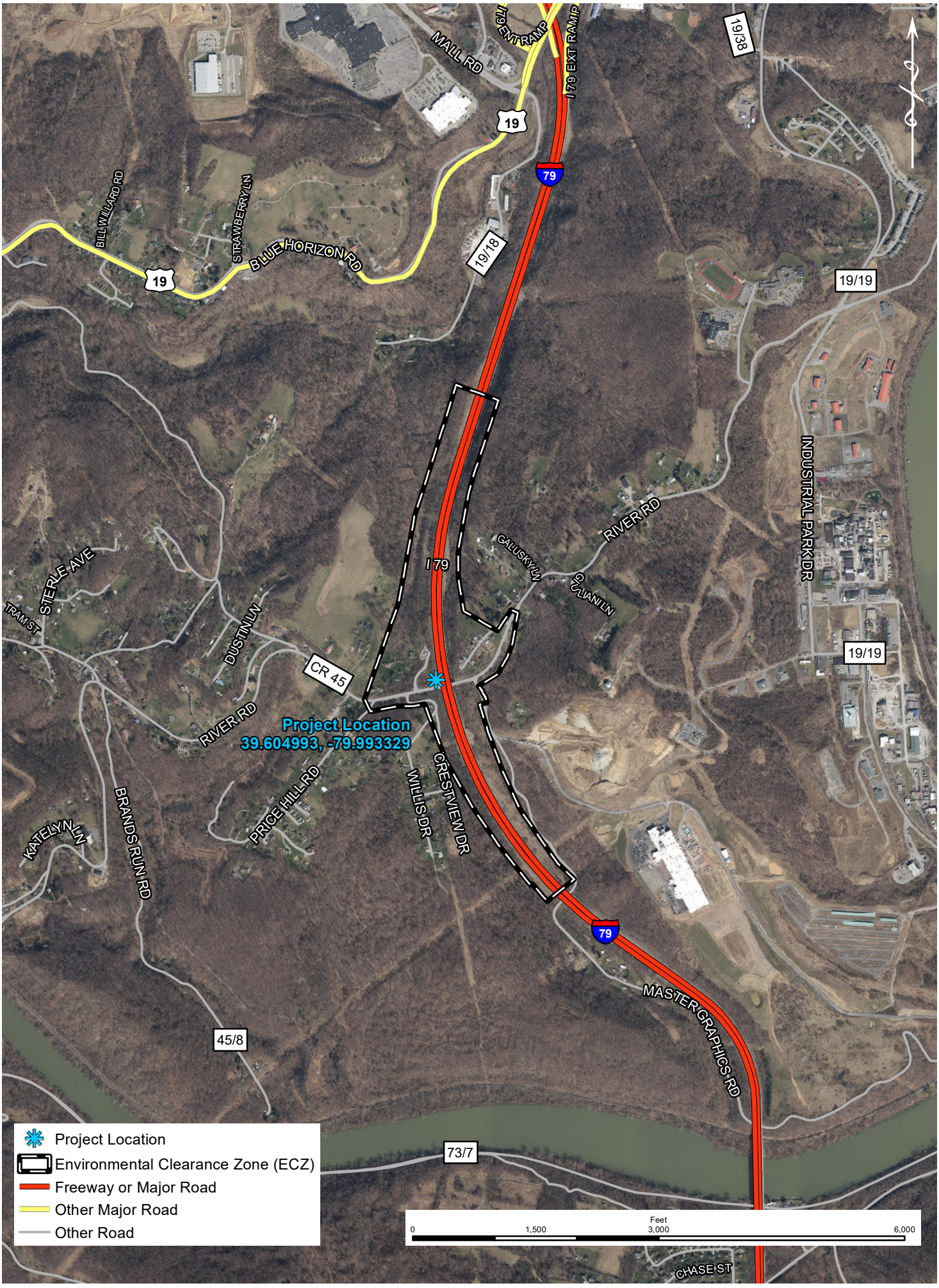
Should you require additional information, please contact Sondra Mullins of our NEPA Compliance and Permitting Section at (304) 414-6468 or Sondra.l.mullins@wv.gov.

Very truly yours,

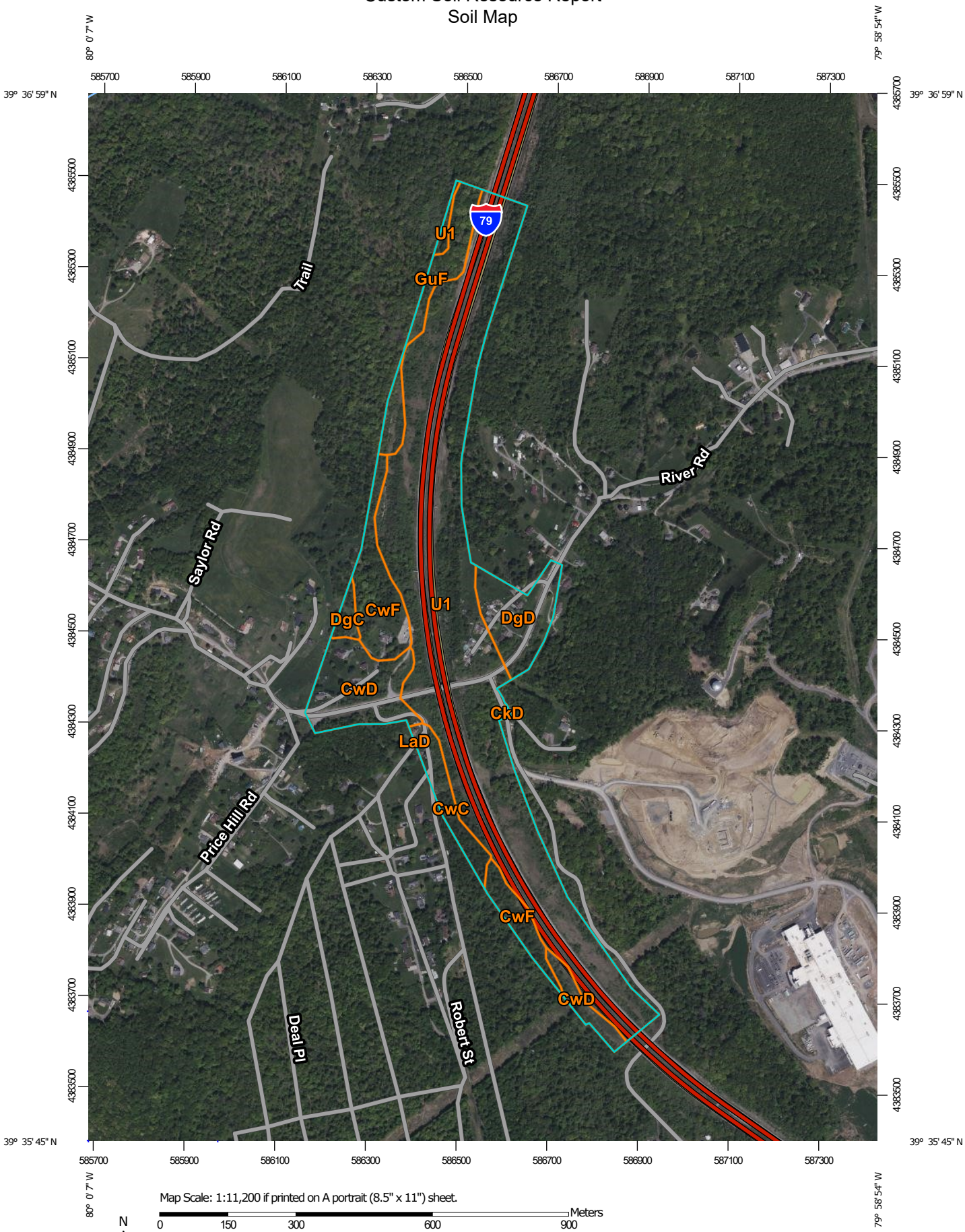
Sondra Mullins

Sondra Mullins, Assistant Director
Technical Support Division

SLM: m
Attachments
cc: DSN(SLM)


MALL RD
I79 ENT RAMP
I79 EXT RAMP
19/38
19
79
BILL WILLARD RD
STRAWBERRY LN
BLUE HORIZON RD
19/18
19/19
INDUSTRIAL PARK DR
RIVER RD
CALUSKY LN
GALIANI LN
I 79
STERLE AVE
TRAM ST
DUSTIN LN
CR 45
Project Location
39.604993, -79.993329
RIVER RD
CRESTVIEW DR
WILLIS DR
PRICE HILL RD
KATELYN LN
BRANDS RUN RD
MASTERGRAPHICS RD
45/8
73/7
CHASE ST
Project Location
Environmental Clearance Zone (ECZ)
Freeway or Major Road
Other Major Road
Other Road
Feet
0
1,500
3,000
6,000

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Marion and Monongalia Counties, West Virginia
Survey Area Data: Version 18, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 20, 2023—Aug 19, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

West Virginia State Office
1550 Earl Core Road, Suite 200
Morgantown, West Virginia, 26505
(304) 284-7540 (Phone)
(855) 857-6448 (Fax)

May 14, 2025

Sondra Mullins
Assistant Director
WVDOT-DOH
1900 Kanawha Blvd East, Bldg 5, Room 110
Charleston, West Virginia 25305

RE: ENVIRONMENTAL ASSESSMENT — Harmony Grove Interchange Interstate 79 (MP 151) and County Route 45 Monongalia County

Ms. Mullins,

This is to acknowledge receipt of your request for evaluation of important farmland related to the above referenced project in Monongalia County, WV. This important farmland information was requested 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 or assisted by a federal agency. Assistance from a Federal agency includes loans, financial and technical assistance.

Based on a review of the submitted documents, aerial photography, and the soil survey mapping it is determined that this project **does not** impact prime or other important farmland and is therefore not subject to the Farmland Protection Policy Act. The areas identified in the project are either prior disturbed soils or are exempted consistent with urban build up.

If you have any questions regarding this determination, please contact me at 304-284-7579.

JARED BEARD Digitally signed by JARED BEARD
Date: 2025.05.14 09:44:03 -04'00'

JARED BEARD
State Soil Scientist

Attachment: NRCS-AD-1006

cc: [Chris Toothman District Conservationist, NRCS, White Hall West Virginia
Matalyn Stark, Resource Soil Scientist, NRCS, Morgantown, West Virginia

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 5/14/2025
Name of Project I79 Harmony Grove Interchange	Federal Agency Involved FHWA
Proposed Land Use Highway Interchange	County and State Monongalia, WV
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 5/14/2025 / Person Completing Form: Jared Beard

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 ☐ NO ☒	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	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site				
PART IV *(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				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)				

PART VI *(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
PART VII ***(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
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☐

Reason For Selection:

Name of Federal agency representative completing this form:	Date:

(See Instructions on reverse side) **Form AD-1006 (03-02)**

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, http://fppa.nrcs.usda.gov/lesa/.

Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s)of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map**,** or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)

Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.

Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.

Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.

Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.

2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \text{ X } 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

APPENDIX C – CULTURAL RESOURCES COORDINATION

WV SHPO Coordination

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Byrd E. White, III
Secretary of Transportation/
Commissioner of Highways

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

March 31, 2021

Ms. Susan Pierce, Deputy State
Historic Preservation Office
Department of Arts, Culture and History
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305-0430

Dear Ms. Pierce:

Phase IA Archaeological Survey Sensitivity Study
Harmony Grove Interchange Project
Monongalia County, West Virginia

Please find located in the Shared Cultural Resources Document File on Drop Box one digital copy of The Phase IA Archaeological Survey Sensitivity Study for The Harmony Grove Interchange Project. The Phase IA study determined that approximately 2.9 acres (ac) of the 106.4-ac project area (approximately 2.7 percent) are considered to have high sensitivity for archaeological resources. Areas of moderate sensitivity constitute 12.5 ac (approximately 11.7 percent) while the remaining 91.0 ac (approximately 85.6 percent) are considered to have low sensitivity.

A Phase IB survey is recommended for areas of significant construction impacts within areas of high or moderate archaeological sensitivity.

We ask for your concurrence with these findings.

Should you require additional information, please contact Rodney DeMott of our Environmental Section at (304) 414-6435.

Sincerely,

Sondra L. Mullins

Digitally signed by Sondra L. Mullins
DN: C=US, E=Sondra.L.Mullins@wv.gov, O=WVDOH, OU=Environmental, CN=Sondra L. Mullins
Date: 2021.03.31 09:16:12-04'00'

Ben L. Hark
Section Head
Environmental Section
Engineering Division

H:k

Attachments

Bcc: DDE(RCD)

West Virginia Department of
ARTS, CULTURE
AND HISTORY

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

Randall Reid-Smith, Curator
Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

April 1, 2021

Mr. Ben L. Hark
Section Head, Environmental Section
West Virginia Division of Highways
1334 Smith Street
Charleston, WV 25301-1434

RE: Harmony Grove Interchange Project
Phase IA Archaeological Survey Sensitivity Study
FR#: 21-481-MG

Dear Mr. Hark:

We have reviewed the Phase IA archaeological report that was 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 the submitted information, the West Virginia Division of Highways is proposing to construct an interchange that will provide an entrance/exit point to I-79 in Harmony Grove, Monongalia County, WV. We understand that the proposed project is in the early planning stages. The currently proposed project area encompasses approximately 106.4 acres of terrain.

According to the report, the Phase IA study included background research, using a variety of resources, was conducted to develop an archaeological sensitivity assessment for the currently proposed project area. Multiple environmental variables were considered to define areas of low, moderate, and high archaeological sensitivity. Based on the assessment, approximately 2.9 acres of the proposed project area are considered to have high archaeological sensitivity; approximately 12.5 acres are considered to be moderately sensitive. The remainder of the project area is considered to have low potential due to steep and previously disturbed terrain as well as other factors. The report recommends a Phase IB archaeological survey within those areas considered to be highly or moderately sensitive. We concur with these recommendations and will provide further comment upon receipt of the Phase IB report.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Lora A. Lamarre-DeMott, Senior Archaeologist, at (304) 558-0220.*

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/LLD

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Byrd E. White, III
Secretary of Transportation/
Commissioner of Highways

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

March 25, 2021

Ms. Susan Pierce, Deputy State
Historic Preservation Officer
Division of Culture and History
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305

Dear Ms. Pierce:

State Project
Federal Project
Harmony Grove Interchange
Monongalia County

The West Virginia Division of Highways (WVDOH) is submitting the attached Desktop Survey for the proposed Harmony Grove Interchange in Monongalia County. The proposed interchange is located on Interstate 79 at mile marker 151 and County Route 45. Your concurrence on the recommended Area of Potential Effect is requested.

Should you require additional information, please contact Randy Epperly of our Environmental Section at (304) 414-6439.

Very truly yours,

Sondra L. Mullins

Digitally signed by Sondra L. Mullins
DN: C=US, E=Sondra.L.Mullins@wv.gov, O=WVDOH, OU=Environmental, CN=Sondra L. Mullins
Date: 2021.03.25 13:40:55-04'00'

Ben L. Hark
Environmental Section Head
Engineering Division

BH:s
Attachments
bcc: DDE (RE)

West Virginia Department of
ARTS, CULTURE
AND HISTORY

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

Randall Reid-Smith, Curator
Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

April 7, 2021

Mr. Ben Hark
Section Head
Division of Highways
1900 Kanawha Boulevard East, Building 5, Room 110
Charleston, WV 25305

RE: Harmony Grove Interchange, Monongalia County
FR#: 21-462-MG

Dear Mr. Hark:

We have reviewed the above-mentioned project to determine its effects to cultural resources. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, its implementing regulations, 36 CFR 800: "Protection of Historic Properties," and West Virginia Code § 29-1-8, we submit our comments.

According to the submitted information, the West Virginia Division of Highways (WVDOH) is proposing to construct an interchange at the intersection of I-79 (MP-151) and County Route 45 (CR45; River Road) at the existing arch bridge in the unincorporated town of Harmony Grove in Monongalia County. The proposed interchange is required to relieve some of the current traffic using Exit 152 for U.S. Route 19. In anticipation of the proposed project, an Area of Potential Effects (APE) was established to account for the extent of both physical impacts and potential visual effects resulting from the proposed project. The northeast quadrant of the proposed APE includes the residences along Galusky Lane, CR 45/20 and the architectural resources on both sides of CR 45. The southeast quadrant of APE includes the resources on both sides of Master Graphics Road (CR 45/9) and terminates at a point southeast of the area where Master Graphics Road crosses I-79. The southwest quadrant of the APE includes the residences along CR 45/22, CR 45/23, Crestview Drive, and James Drive, terminating near the intersection of Crest Drive. The APE also includes residences along Price Hill Road (CR 45/15) within approximately 400 feet of the intersection with CR 45. Finally, to the west the APE follows the eastern slope of a hill above an unnamed tributary of Dent's Run and crosses I-79 near South Dent's Run Road to a point north of Galusky Lane and includes the resources along CR 45 to its intersection with CR 19/17. The archaeological portion of the proposed project was not discussed in this submittal.

Architectural Resources:
While we cannot complete our review with the information submitted, we are agreeable to the proposed APE for the anticipated interchange project. Based on the provided documentation, one architectural resource, the Harmony Grove Meeting House (NR# 83003245) listed in the National Register of Historic Places in 1983, is

located within the APE. In addition, the several residences and architectural resources noted as being within the proposed APE may be eligible for inclusion in the National Register either individually or as contributing resources to a potential historic district. At this time, we request a Historic Property Inventory (HPI) form be completed and submitted to our office with color photographs for each of the architectural resources within the APE over forty-five (45) years of age. The HPI form is available, along with instructions to fill it out, at www.wvculture.org/shpo/forms.html. Please be sure to indicate the original date of construction as well as details about any changes, additions, and/or alterations the resources have experienced. Your photographs need to be keyed to a USGS topographic or aerial map and should accurately depict from various angles any architectural resources, building or structural details, and outbuildings. Your photographs also need to document the project area by showing general views, known disturbances, and any rock outcrops. Panoramic shots of surrounding landscapes and viewsheds are also necessary for us to complete our review. Be sure to include images of the proposed project area from the position of the individual properties. If buildings or structures are less than forty-five (45) years old or will not be within the line-of-sight of the proposed project, please confirm in writing. Also, all resources need a determination of eligibility (individual and/or historic district) for the National Register by a qualified professional meeting the *Secretary of the Interior's Historic Preservation Professional Qualification Standards*. We will provide additional comments upon receipt of the requested information.

Consulting Parties/Public Comment:
Federal regulations in 36 CFR §§ 800.2(c–d), 800.3(e–f), and 800.6(a)(4) all stress the importance of involving the general public, local government representatives, and organizations that have a demonstrated interest in historic preservation or the undertaking in the Section 106 review process. If you have already completed this aspect of the requirements under Section 106, please provide written documentation along with any comments you have received, or any that you receive in the future, to this office. If you have not already done so, please consider forwarding a copy of the submitted information for the above-mentioned project to any individuals living near or within a line-of-sight of the proposed interchange site, including the owners of the Harmony Grove Meeting House, and to the Preservation Alliance of West Virginia to request their comments or opinions on the matter. Please forward any comments regarding cultural resources that you receive to this office. If you receive no comments within thirty (30) days, please indicate that *in writing* to this office.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Benjamin M. Riggle, Structural Historian, at (304) 558-0240.*

Sincerely,

Susan M. Pierce

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/BMR

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Byrd E. White, III
Secretary of Transportation/
Commissioner of Highways

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

August 18, 2021

Ms. Susan Pierce, Deputy State
Historic Preservation Office
Department of Arts, Culture and History
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305-0430

Dear Ms. Pierce:

Phase IB Archaeological Survey
Harmony Grove Interchange Project
State Project: TBD
FR # 21-481-MG
Monongalia County, West Virginia

Please find located in the shared Project Wise folder one digital copy of The Phase IB Archaeology Report for the Harmony Grove Interchange Project and one set of corresponding GIS files. The report describes the methodology and results of archaeological investigations conducted to determine the presence or absence of significant cultural resources which may be located within the project APE.

As a result of the survey no significant archaeological resources were identified. It is therefore recommended that the project be allowed to proceed without further investigation.

We ask for your concurrence with these findings.

Should you require additional information, please contact Rodney DeMott at (304) 414-6435.

Sincerely,

Ben L.Hark Digitally signed by Ben L.Hark
DN: C=US, E=Ben.L.Hark@wv.gov, O=WVDOH - Engineering Division, OU="Environmental ", CN=Ben L.Hark
Date: 2021.08.18 10:40:30-04'00'

Ben L. Hark
NEPA Compliance and Permitting Section Head
Technical Support Division

H:k

Attachments

Bcc: DSN(RCD)

West Virginia Department of
ARTS, CULTURE
AND HISTORY

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

Randall Reid-Smith, Curator
Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

August 25, 2021

Mr. Ben L. Hark
Section Head, Environmental Section
West Virginia Division of Highways
1334 Smith Street
Charleston, WV 25301-1434

RE: Harmony Grove Interchange Project
Phase IB Archaeological Survey
FR#: 21-481-MG-1

Dear Mr. Hark:

We have reviewed the Phase IB archaeological survey report that was 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 the report, archaeological survey of the APE focused on the 15.4 acres that were identified in the Phase IA report as being sensitive for archaeological resources. The survey included pedestrian reconnaissance and the excavation of 141 shovel test pits across four survey areas. Shovel testing encountered primarily intact soils, but no artifacts were recovered, and no archaeological sites were identified. As a result, we concur with recommendations made in the report that the proposed project will have no effect on archaeological historic properties. No further consultation is necessary for this project as currently defined.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Lora A. Lamarre-DeMott, Senior Archaeologist, at (304) 558-0220.*

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/LLD

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

D. Alan Reed, P.E.
State Highway Engineer

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

October 25, 2021

Ms. Susan Pierce
Deputy State Historic Preservation Officer
Division of Culture and History
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305

Dear Ms. Pierce:

State Project N/A
Federal Project N/A
Harmony Grove Interchange Project
Monongalia County

Enrout Properties, LLC, in coordination with the West Virginia Division of Highways (WVDOH), is proposing to build a new interchange off Interstate 79 at approximate mile marker 151. Attached for your review and concurrence is the Architectural Resources Survey Report. The report recommends a No Adverse Effect to historic resources including the Harmony Grove Meeting House. Please take note of page 16 which shows the NRHP boundary for the Harmony Grove Meeting House outside of the construction limits.

Should you require additional information please contact Randy Epperly of our NEPA Compliance and Permitting Section at (304)414-6439 or Randy.T.Epperly@wv.gov.

Very truly yours,

Ben L. Hark
NEPA Compliance and Permitting Section Head
Technical Support Division

BH:e

Attachments

bcc: DSN(RE)

West Virginia Department of
ARTS, CULTURE
AND HISTORY

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Randall Reid-Smith, Curator
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EEO/AA Employer

November 22, 2021

Mr. Ben L. Hark
Section Head, Environmental Section
West Virginia Division of Highways
1334 Smith Street
Charleston, WV 25301-1434

RE: Harmony Grove Interchange Project, Monongalia County
FR#: 21-481-MG-2

Dear Mr. Hark:

We have reviewed the Architectural Resources Survey Report: Harmony Grove Interchange I-79 (MP-151) and C.R. 45, Monongalia County, WV, that was submitted for the above-referenced project. We note that neither a federal or state project number was assigned to this undertaking in your submission to our office. Therefore, In accordance with Section 106 of the National Historic Preservation Act of 1966 and West Virginia Code § 29-1-8, we submit our comments:

According to the submitted information, the West Virginia Division of Highways (WVDOH) is proposing to construct a new interchange off of Interstate 79 at approximate mile marker 151, in the Harmony Grove area of Monongalia County, WV. The area of potential effect (APE) is defined as the proposed limits of disturbance; it includes the Harmony Grove Meeting House (NR# 83003245, listed 1983), listed in the National Register of Historic Places. Archaeology will be addressed internally by WVDOH.

According to the report, twenty-two (22) resources 45 years or older were identified and surveyed in accordance with the *Criteria for Evaluation of Historic Properties*. The desktop survey found that only the Harmony Grove Meeting House (NR# 83003245, listed 1983) is a historically significant property. The structures were further surveyed by field reconnaissance. The field reconnaissance confirmed that twenty-two (22) structures 50 years of age or older are within the Area of Potential Effects (APE) for this project. Of these, twenty-one (21) are recommended *not eligible* for listing in the National Register of Historic Places due to their lack of architectural merit, historic significance or compromised integrity, and we concur with this assessment.

The Harmony Grove Meeting House (NR# 83003245, listed 1983) was found to be within 590-feet of the project boundary. The assessment concluded that due to intervening distance, topography and "screening vegetation," the proposed project will have no direct or indirect adverse effect on the resource. This assessment

accounted only for visual effects and did not take into account the potential for new auditory or atmospheric impacts to the resource, such as signage, lights or traffic from increased commercial activity.

Additionally, the assessment did not consider adverse effects known as "cumulative effects." "Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative." And as cited in 36 CFR §800.5(a) (2) (v), "Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features." While the meeting house was constructed in 1854 and many new elements have already been introduced around the structure, the impacts of increased commercial and/or residential development induced by the construction of this interchange should be assessed and measures for mitigation, minimization or avoidance considered. Please conduct an assessment of these effects and confirm this assessment and any proposed measures for mitigation, minimization or avoidance of these effects in writing to this office.

Consulting Parties/Public Comments:
State and federal regulations stress the importance of involving the general public and organizations that have a demonstrated interest in historic preservation or the undertaking in the state review process. If you have already completed this aspect of the review requirements, please provide written documentation along with any comments you have received, or any that you receive in the future, to this office. If you have not already done so, please consider forwarding a copy of the submitted information for the above-mentioned project to any individuals living near or within a line-of-sight of the proposed project site and to the Monongalia County Historic Landmarks Commission and the Monongalia County Historical Society to request their comments or opinions on the matter. Please forward any comments regarding cultural resources that you receive to this office. If you receive no comments, please indicate that in writing to this office.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Kent C. Walker, Structural Historian, at (304) 558-0220.*

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/KCW

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

D. Alan Reed, P.E.
State Highway Engineer

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

May 16, 2022

Ms. Susan Pierce, Deputy State
Historic Preservation Officer
Division of Culture and History
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305

Dear Ms. Pierce:

State Project: N/A
Federal Project: N/A
FR: 21-481-MG-2
Harmony Grove Interchange
Monongalia County

The West Virginia Division of Highways (WVDOH) is submitting, for your review, the attached Architectural Resource Assessment of Effects Report for the subject project. The report is in response to your attached letter dated November 22, 2021, requesting assessment of effects on the Harmony Grove Meeting House.

Should you require additional information, contact Randy Epperly of our NEPA Compliance and Permitting Section at (304) 414-6439.

Very truly yours,

Travis E. Long, Director
Technical Support Division

TEL:e

Attachments

bcc: DSN(RE)

West Virginia Department of
ARTS, CULTURE
AND HISTORY

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

Randall Reid-Smith, Curator
Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

June 24, 2022

Mr. Travis Long
West Virginia Division of Highways
1900 Kanawha Boulevard East, Building 5, Room 110
Charleston, WV 25305
Via email: travis.e.long@wv.gov

RE: Harmony Grove Interchange Project, Monongalia County
FR#: 21-481-MG-3

Dear Mr. Long:

We have reviewed the Architectural Resources Survey Report: Assessment of Effects for Harmony Grove Interchange I-79 (MP-151) and C.R. 45, Monongalia County, WV, that was submitted for the above-referenced project. In accordance with Section 106 of the National Historic Preservation Act of 1966 and West Virginia Code § 29-1-8, we submit our comments:

According to the submitted information, the West Virginia Division of Highways (WVDOH) is proposing to construct a new interchange off of Interstate 79 at approximate mile marker 151, in the Harmony Grove area of Monongalia County, WV. The area of potential effect (APE) is defined as the proposed limits of disturbance; it includes the Harmony Grove Meeting House (NR# 83003245, listed 1983), listed in the National Register of Historic Places. Archaeology will be addressed internally by WVDOH.

The Harmony Grove Meeting House (NR# 83003245, listed 1983) was previously found to be within 590-feet of the project boundary. TRC Engineers, Inc. was retained by the WVDOH to complete an assessment of cumulative effects on this resource as defined in 36 CFR §800.5(a) (2) (v) as requested in our previous correspondence, dated November 22, 2021. From the submission:

> TRC took noise measurements at the Harmony Grove Meeting House during midday hours on January 25, 2021[2]. Existing year 2020 noise levels were modeled to be 63.7 dBA at the meeting house during peak traffic hours. The traffic noise model for the proposed undertaking predicts a future Build traffic noise level for the preferred alternative to be 55.8 dBA, which is a predicted traffic noise decrease of 7.9 dBA at the Harmony Grove Meeting House (TRC 2022: 12). The future No-Build is an increase to 65.4 dBA; however, the predicted noise level between the future No-Build and existing conditions cannot be discerned by the human ear, since the human ear can only detect a change in

loudness of 3 dBA or more. Future Build Alternative 2a (2040) has been advanced as the preferred alternative. There is a predicted discernable decrease in noise loudness between the future No-Build and Build scenario for the preferred alternative; therefore, TRC recommends that the Project will have a beneficial traffic noise effect on the Harmony Grove Meeting House.

Additionally, TRC Engineers, Inc. modeled traffic patterns through three (3) scenarios, using 2020 traffic levels as a baseline and evaluating 2040 build and no-build options for the proposed intersection. Both scenarios demonstrate a traffic increase on Master Graphics Road. However, the Harmony Grove Meeting House is buffered from the increased noise and traffic by the existing topography and intervening vegetation on the property. The lack of an exit (Master Graphics Road is a dead-end road) is projected to restrict both traffic volume and commercial development in the vicinity of Harmony Grove Meeting House. For the same reason, it is not anticipated that traffic control or street lighting or signage will be installed on Master Graphics Road or in the vicinity of Harmony Grove Meeting House.

We *concur* with the recommendation of TRC Engineers, Inc., that the proposed intersection project will create *no adverse effect* on the Harmony Grove Meeting House (NR# 83003245, listed 1983). No further consultation is necessary regarding architectural resources; however, we do ask that you contact our office if your project should change.

Consulting Parties/Public Comments:
We note that letters dated February 23, 2022 were sent to Preservation Alliance of West Virginia, Morgantown Historic Landmarks Commission and the Monongalia Historical Society. A response was received from Ms. Shannon Tinnell of the Morgantown HLC dated March 8, 2022, noting that the project submission does not address impacts to the church (Harmony Grove Meeting House) or the driveway/access road to the church. Mr. Randy Epperly of WVDOH responded to Ms. Tinnell in correspondence dated March 14, 2022, that the project is currently focused on identifying resources and assessing effects and that alignment and effects of the project have not been determined yet. He stated that WVDOH is "very much aware" of the Harmony Grove Meeting House and its significance. To date, no further comments have been received. We understand that any additional comments received will be forwarded to our office.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Kent C. Walker, Structural Historian, at (304) 558-0220.*

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/KCW

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Stephen T. Rumbaugh, P. E.
Secretary of Transportation
Commissioner of Highways

June 26, 2025

Ms. Susan Pierce
Deputy State Historic Preservation Officer
Division of Culture and History
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305

Dear Ms. Pierce:

State Project: N/A
Federal Project: N/A
FR: 22-481-MG-3
Harmony Grove Interchange Project
Monongalia County

The West Virginia Division of Highways (WVDOH) is submitting, for your review, results of the latest noise study and potential noise impacts on the Harmony Grove Meeting House. The predicted noise levels will have no adverse effect on the National Register property.

Should you require additional information, please contact Randy Epperly of our NEPA Compliance & Permitting Section at Randy.T.Epperly@wv.gov or (304) 414-6439.

Very truly yours,

Sondra Mullins

Sondra Mullins, Assistant Director
Technical Support Division

SLM:e

Attachments

bcc: DSN(RE)

WEST VIRGINIA
DEPARTMENT OF TOURISM

STATE HISTORIC PRESERVATION
1900 Kanawha Blvd. East | The Culture Center
Charleston, West Virginia 25305
(304) 558-0220 | WVculture.org

July 7, 2025

Ms. Sondra Mullins
Assistant Director
Technical Support Division
WV Division of Highways
1900 Kanawha Blvd E
Building 5, Room 820
Charleston, WV 25305
Via email: sondra.l.mullins@wv.gov

RE: Harmony Grove Interchange, Morgantown, Monongalia County
FR#: 21-481-MG-5

Dear Ms. Mullins:

We have reviewed the information submitted in support of the above-mentioned project. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR § 800: "Protection of Historic Properties," we submit our comments.

According to the submitted information, the West Virginia Division of Highways (WVDOH) is proposing to construct a new interchange off of Interstate 79 at approximate mile marker 151, in the Harmony Grove area of Monongalia County, WV. The area of potential effect (APE) is defined as the proposed limits of disturbance; it includes the Harmony Grove Meeting House (NR# 83003245, listed 1983), listed in the National Register of Historic Places.

This submission includes information on an updated noise analysis. This assessment additionally considers increased traffic as a result of a bridge being constructed over the Monongahela River that will connect to the River Road/Morgantown Industrial Park to U.S. Route 119; therefore, the additional bridge combined with the proposed project will result in more increased traffic on Master Graphics Road near the Harmony Grove Meeting House.

Noise levels of the No Build option and Alternative 3 are anticipated to approach or exceed the Federal Highway Administration/West Virginia Division of Highways Noise Abatement Criteria. It is our understanding that Alternative 3 has not been advanced for further consideration. It is also our understanding that Alternative 2c has been selected as the preferred Alternative because the predicted sound level increases will not be discernible and will not exceed the noise abatement criteria at the Harmony Grove Meeting House. We concur based upon the submitted findings that the preferred Alternative 2c will have no adverse effect on the Harmony Grove Meeting House or any other architectural resources eligible for or included in the National

Register. No further consultation is necessary regarding architectural resources; however, we ask that you contact our office if your project should change.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Abigail M. Ayers, Structural Historian, at (304) 558-0240.*

Sincerely,

Ennis B. Smith
State Historic Preservation Officer

EBS/AMA

4425-B Forbes Blvd.
Lanham, MD 20706

T 301.306.6981
TRCcompanies.com

November 12, 2025

Mr. Rodney Demott
Archaeology Unit Leader
West Virginia Division of Highways
1900 Kanawha Boulevard East, Building Five
Room 110
Charleston, WV 25301

RE: Harmony Grove Interchange – Archaeology Review of Additional 0.38-0 Acre Area
State Project: N/A
Federal Project: N/A
FR: 21-481-MG-2
Monongalia County, West Virginia

Dear Mr. Demott,

A new area of WVDOH Right-of-way (ROW) was added to the proposed Harmony Grove Interchange Project (Interchange Project) located in Monongalia County, West Virginia. The area consists of two small strips of land totaling 0.38 acres located on both sides of Master Graphics Road in the southeastern quadrant of the proposed Interchange Project **(Figures 1 and 2)**.

The Interchange Project was previously subjected to a Phase IA archaeological survey titled *Phase IA Archaeological Study: Harmony Grove Interchange, prepared for The Thrasher Group and West Virginia Department of Transportation, Division of Highways, prepared by TRC, Lanham* (Gollup et al. 2021), which was followed a an archaeological field survey titled *Phase IB Archaeological Study: Harmony Grove Interchange, prepared for The Thrasher Group and West Virginia Department of Transportation, Division of Highways, prepared by TRC, Lanham* (Steinwachs et al. 2021). The Phase IA survey included an analysis of historical maps, previous archaeological studies, known site locations, and the environmental setting to define areas of archaeological sensitivity for the overall Interchange Project. The Phase IB field survey was conducted to examine all high sensitivity areas defined for the Project.

For the current review of the added 0.38-acre, TRC re-examined the Phase IA report and found that the subject parcel lies within an area of low archaeological sensitivity and no former historic structure are depicted in this area on historic maps **(Figure 3).** No Phase IB field survey was deemed necessary in the immediate vicinity of this area given it was considered to have low archaeological sensitivity. No archaeological resources were recorded during the Phase IB survey of the original Project area.

Based on this review, and given the added parcel lies along existing roadway, TRC recommends that no archaeological survey is warranted for the added 0.38-acre area as the potential for identifying archaeological resources is low. TRC recommends the archaeological review has been completed for this area of the Interchange Project and no further archaeological study is warranted.

Should you have any questions regarding this letter report, please do not hesitate to contact me at (410) 241-2914, or tsara@trccompanies.com.

4425-B Forbes Blvd.
Lanham, MD 20706

T 301.306.6981
TRCcompanies.com

Sincerely yours,

Timothy R. Sara, RPA
Program Manager, Archaeology

Cc: Jennifer Arp-Bazzie (TRC)

file: 387351.0000.0000

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Lanham, MD 20706
T 301.306.6981
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FIGURES

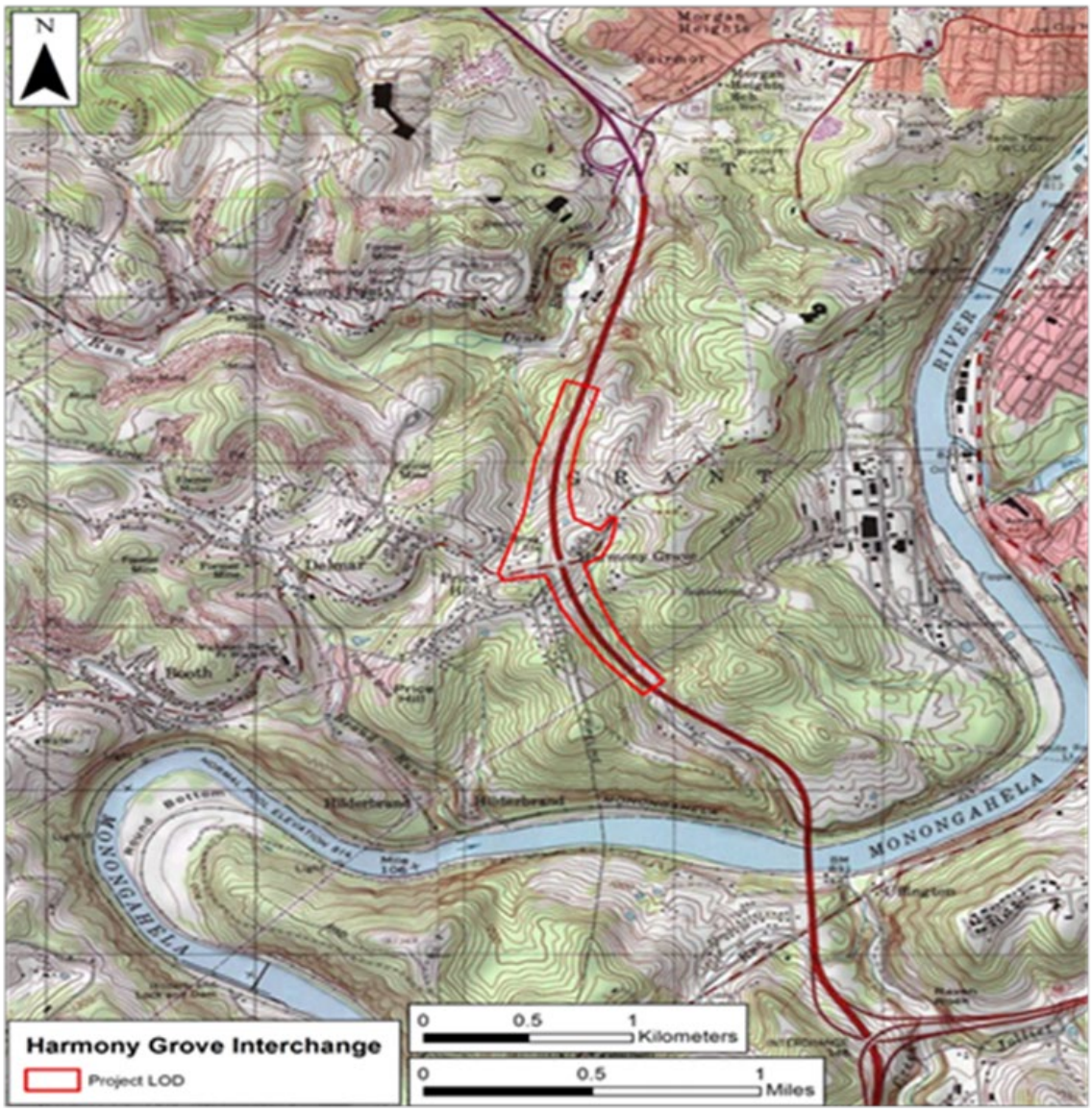

Figure 1 – Original Project area depicted on the USGS Morgantown South, WV-PA 2016 7.5 Minute Quadrangle Map from 2021 Phase IA and Phase IB report.

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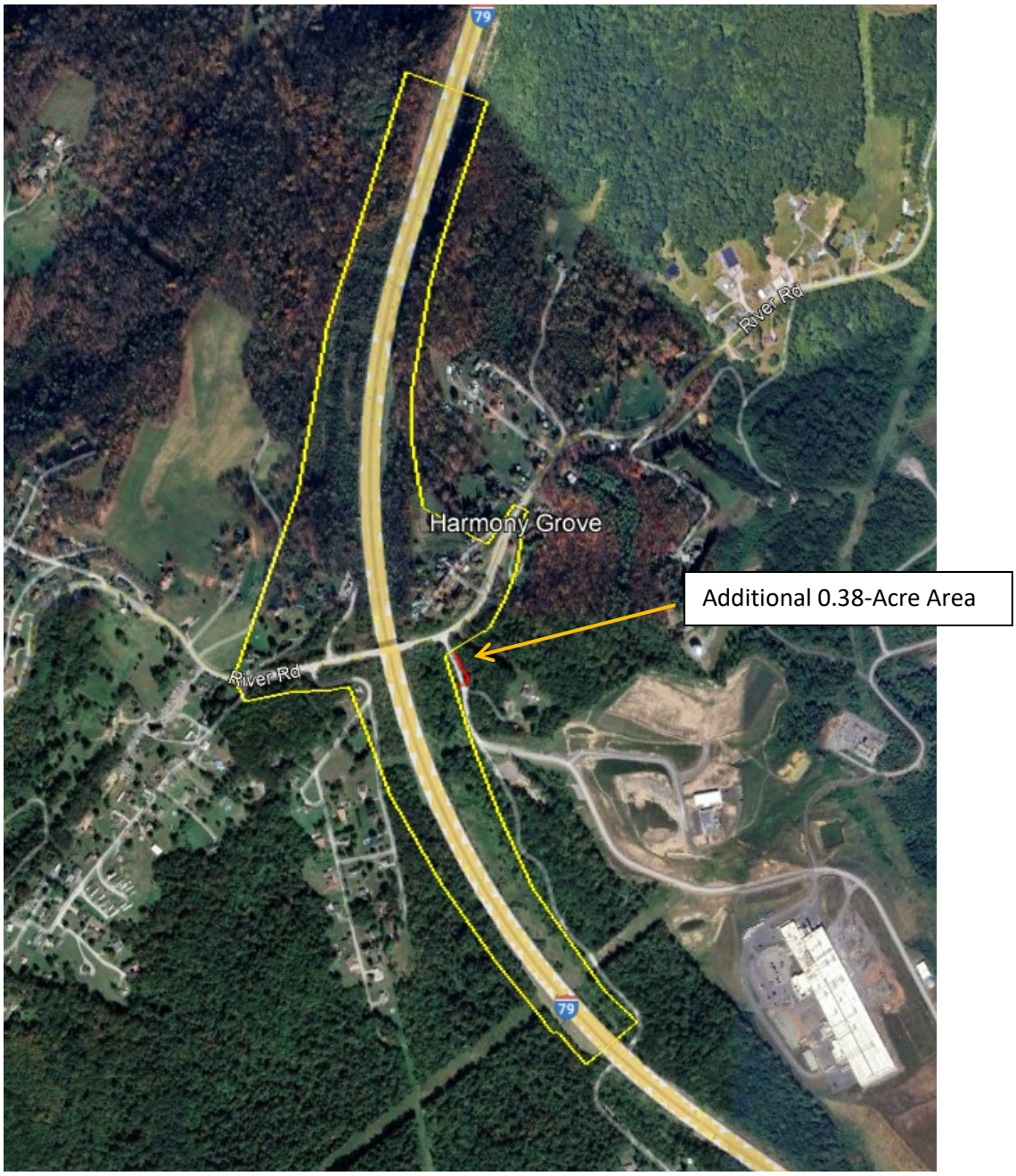

Figure 2. Detail and Location of Additional 0.38-Acre Area.

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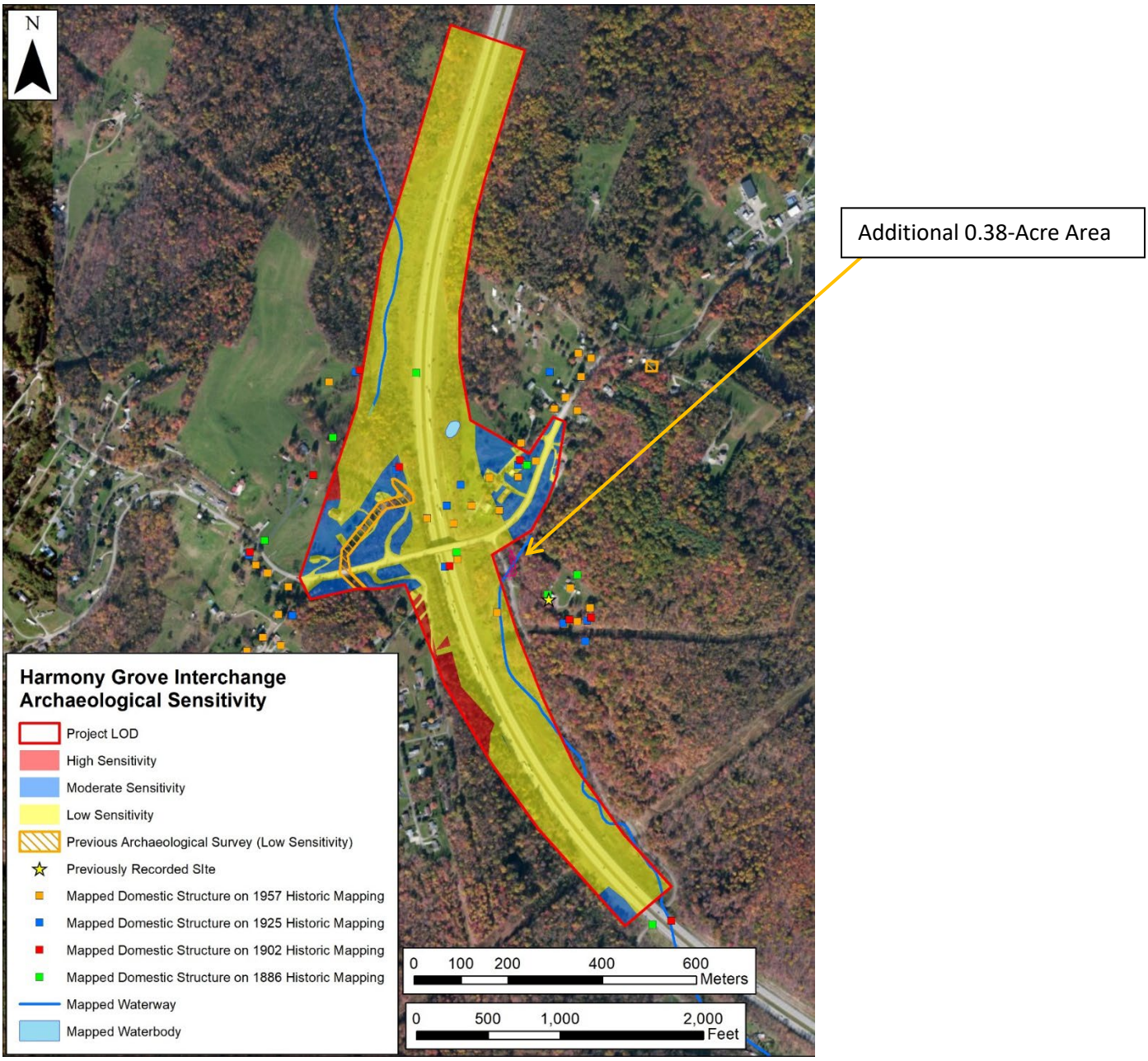

Figure 3 – Archaeological Sensitivity of the Project area from Phase IA and IB report

REFERENCES

Gollup, J., E. Masters, J. Warrenfeltz, T. Sara, P. Walters, and R. Wall
2021 *Phase IA Archaeological Survey Harmony Grove Interchange Monongalia County, West Virginia*. The Thrasher Group, 300 Association Drive, West Virginia. Prepared by TRC: Lanham, Maryland.

Steinwachs, E., J. Warrenfeltz, T. Sara, and R. Wall
2021 *Phase IB Archaeological Survey Harmony Grove Interchange Monongalia County, West Virginia.* The Thrasher Group, 300 Association Drive, West Virginia. Prepared by TRC: Lanham, Maryland.

WEST VIRGINIA
DEPARTMENT OF TOURISM

STATE HISTORIC PRESERVATION OFFICE
1900 Kanawha Blvd. East | The Culture Center
Charleston, West Virginia 25305
(304) 558-0220 | WVculture.org

November 14, 2025

Ms. Sondra L. Mullins
Assistant Director
Technical Support Division
WV Division of Highways
1900 Kanawha Blvd E
Building 5, Room 820
Charleston, WV 25305
Via email: sondra.l.mullins@wv.gov; rodney.c.demott@wv.gov

RE: Harmony Grove Interchange Project
Archaeology Review of Additional Area
FR#: 21-481-MG-6

Dear Mr. Hark:

We have reviewed the archaeological addendum letter report prepared by TRC in support 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 the submitted information, the West Virginia Division of Highways is adding new right-of-way (ROW) to the proposed project that will provide an entrance/exit point to I-79 in Harmony Grove, Monongalia County, WV. The new ROW totals 0.38 acre and consists of two small strips of land located on both sides of Master Graphics Road in the southeastern quadrant of the proposed project.

According to the addendum report, the new 0.38-acre parcel is situated within an area that consists of prior disturbance and sloped terrain. It was also investigated during a survey conducted for the Morgantown Industrial Park Access Project with negative results. Consequently, we concur with the recommendation that no further archaeological survey is warranted. In our opinion, the addition of the 0.38-acre ROW to the proposed project will have no effect on archaeological historic properties.

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

Sincerely,
Lora A. Lamarre-DeMott

Digitally signed by: Lora A. Lamarre-DeMott
DN: CN = Lora A. Lamarre-DeMott email = lora.a.lamarredemott@wv.gov C = AD O = SHPO OU = Historic Preservation
Date: 2025.11.14 08:22:21 -05'00'

Lora A. Lamarre-DeMott
Senior Archaeologist

Coordination with Historic Preservation Organizations

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

D. Alan Reed, P.E.
State Highway Engineer

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

February 23, 2022

Mr. Edward Hawkins, President
Monongalia Historical Society
Post Office Box 127
Morgantown, West Virginia 26507-0127

Dear Mr. Hawkins:

State Project N/A
Federal Project N/A
Harmony Grove Interchange Project
Monongalia County

Please be advised the West Virginia Division of Highways is developing the subject project at the location shown on the attached vicinity maps. As we begin this process, we request your input as to any concerns your organization may have regarding this project. Enrout Properties, LLC, in coordination with the WVDOH, is proposing to build a new interchange at mile marker 151of Interstate 79. The attached aerial map and topographic map show the project location.

The Harmony Grove Meeting House, a NRHP-listed historic property (NR#83003245), is within the Project survey area. The meeting house is listed under NRHP Criteria A and C. The meeting house dates from 1854 and was listed in 1983. Other historic resources were documented as part of a historic resources survey completed in 2021 for the Project.

We are asking your organization for comments you may have related to the proposed undertaking, as well as any additional information the historical society may have on the meeting house. Should you require additional information please contact Randy Epperly of our NEPA Compliance and Permitting Section at (304)414-6439 or Randy.T.Epperly@wv.gov.

Very truly yours,

Travis E. Long, Director
Technical Support Division

L:e
Attachments
bcc: DSN(RE)

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

D. Alan Reed, P.E.
State Highway Engineer

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

February 23, 2022

Shannon Tinnell, Chair
Morgantown Historic Landmarks Commission
389 Spruce Street
Morgantown, West Virginia 26505

Dear Ms. Tinnell:

State Project N/A
Federal Project N/A
Harmony Grove Interchange Project
Monongalia County

Please be advised the West Virginia Division of Highways is developing the subject project at the location shown on the attached vicinity maps. As we begin this process, we request your input as to any concerns your organization may have regarding this project. Enrout Properties, LLC, in coordination with the WVDOH, is proposing to build a new interchange at mile marker 151of Interstate 79. The attached aerial map and topographic map show the project location.

The Harmony Grove Meeting House, a NRHP-listed historic property (NR#83003245), is within the Project survey area. The meeting house is listed under NRHP Criteria A and C. The meeting house dates from 1854 and was listed in 1983. Other historic resources were documented as part of a historic resources survey completed in 2021 for the Project.

We are asking your organization for comments you may have related to the proposed undertaking, as well as any additional information the historical society may have on the meeting house. Should you require additional information please contact Randy Epperly of our NEPA Compliance and Permitting Section at (304)414-6439 or Randy.T.Epperly@wv.gov.

Very truly yours,

Travis E. Long, Director
Technical Support Division

L:e
Attachments
bcc: DSN(RE)

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

D. Alan Reed, P.E.
State Highway Engineer

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

February 23, 2022

Preservation Alliance of WV
421 Davis Avenue, #4
Elkins, West Virginia 26241

To Whom It May Concern:

State Project N/A
Federal Project N/A
Harmony Grove Interchange Project
Monongalia County

Please be advised the West Virginia Division of Highways is developing the subject project at the location shown on the attached vicinity maps. As we begin this process, we request your input as to any concerns your organization may have regarding this project. Enrout Properties, LLC, in coordination with the WVDOH, is proposing to build a new interchange at mile marker 151of Interstate 79. The attached aerial map and topographic map show the project location.

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Very truly yours,

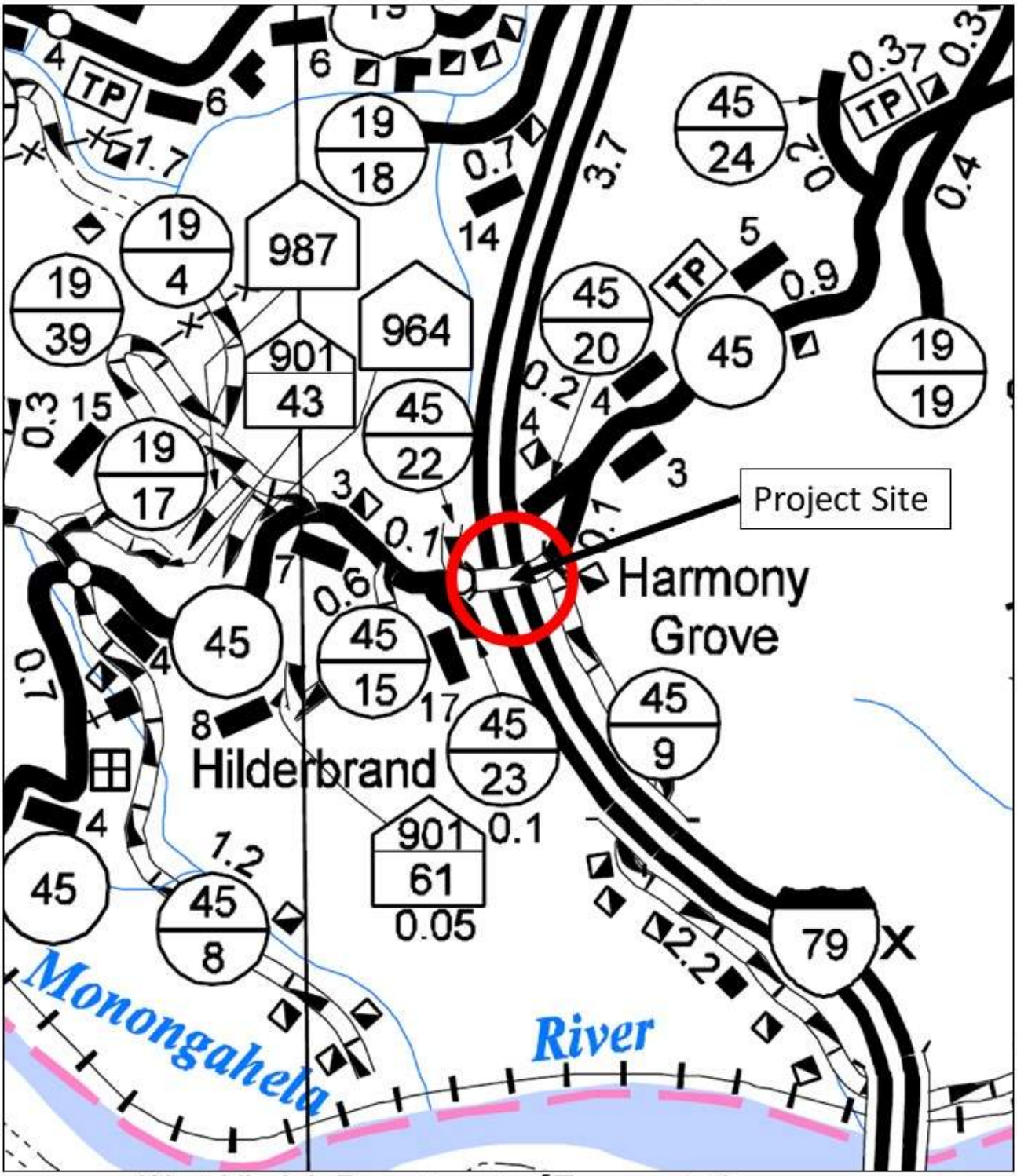
Travis E. Long, Director
Technical Support Division

L:e
Attachments
bcc: DSN(RE)

LOCATION MAP

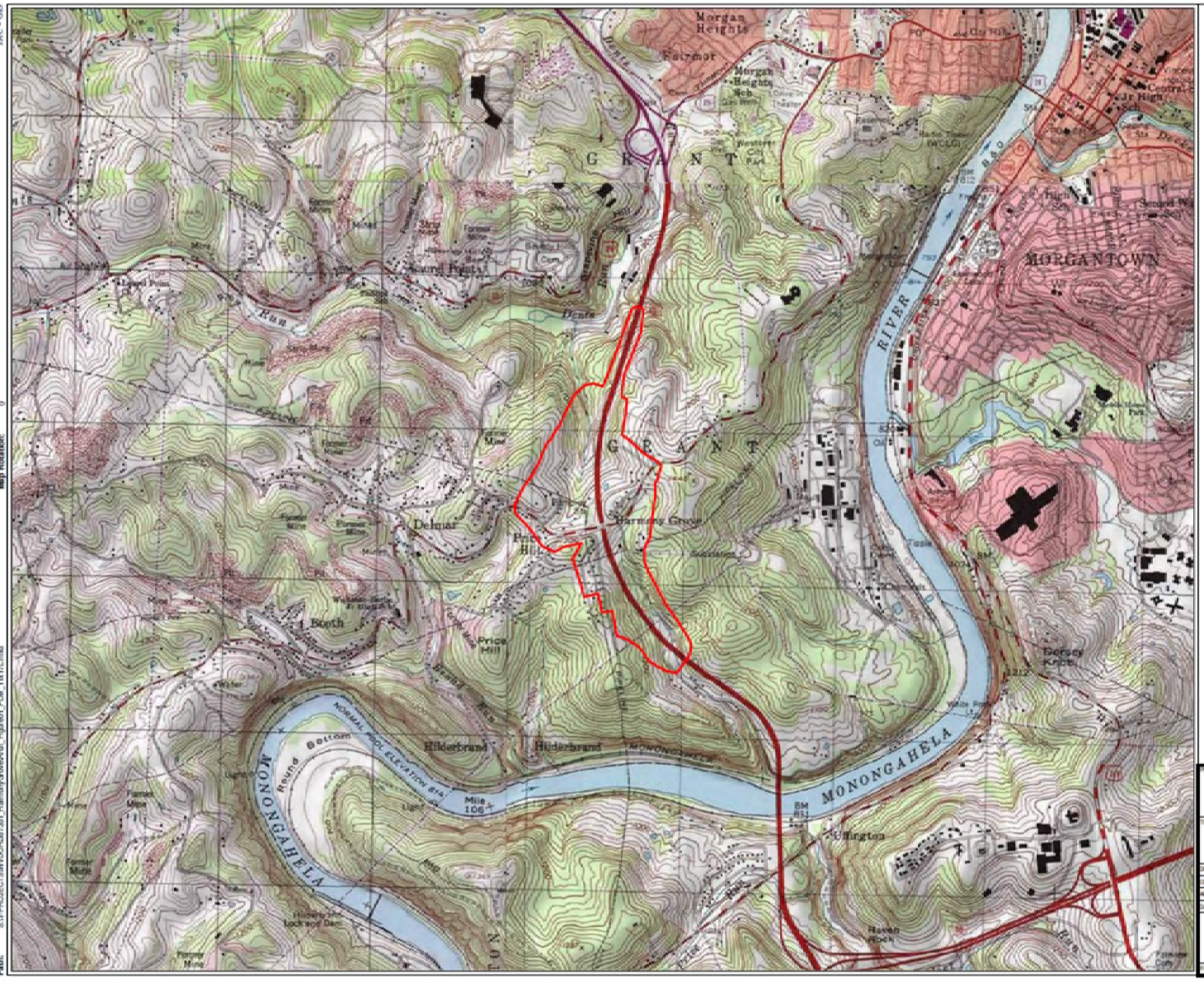
HARMONY GROVE INTERCHANGE PROJECT

MONONGALIA COUNTY

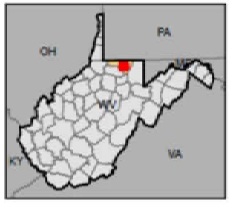


West Virginia Department of Transportation
Division of Highways

General Highway Map, WV (WVDOT)



AREA OF POTENTIAL EFFECTS



0 1,000 2,000 Feet

1" = 2,000'
1:24,000

NORTH

HARMONY GROVE INTERCHANGE PROJECT
MONONGALIA COUNTY, WEST VIRGINIA

PROJECT LOCATION MAP

DRAWN BY:	M. OREL	PROJ NO.:	387351
CHECKED BY:	M. HYLAND		
APPROVED BY:	J. ARP-BAZZIE		FIGURE 1
DATE:	MARCH 2021		

TRC

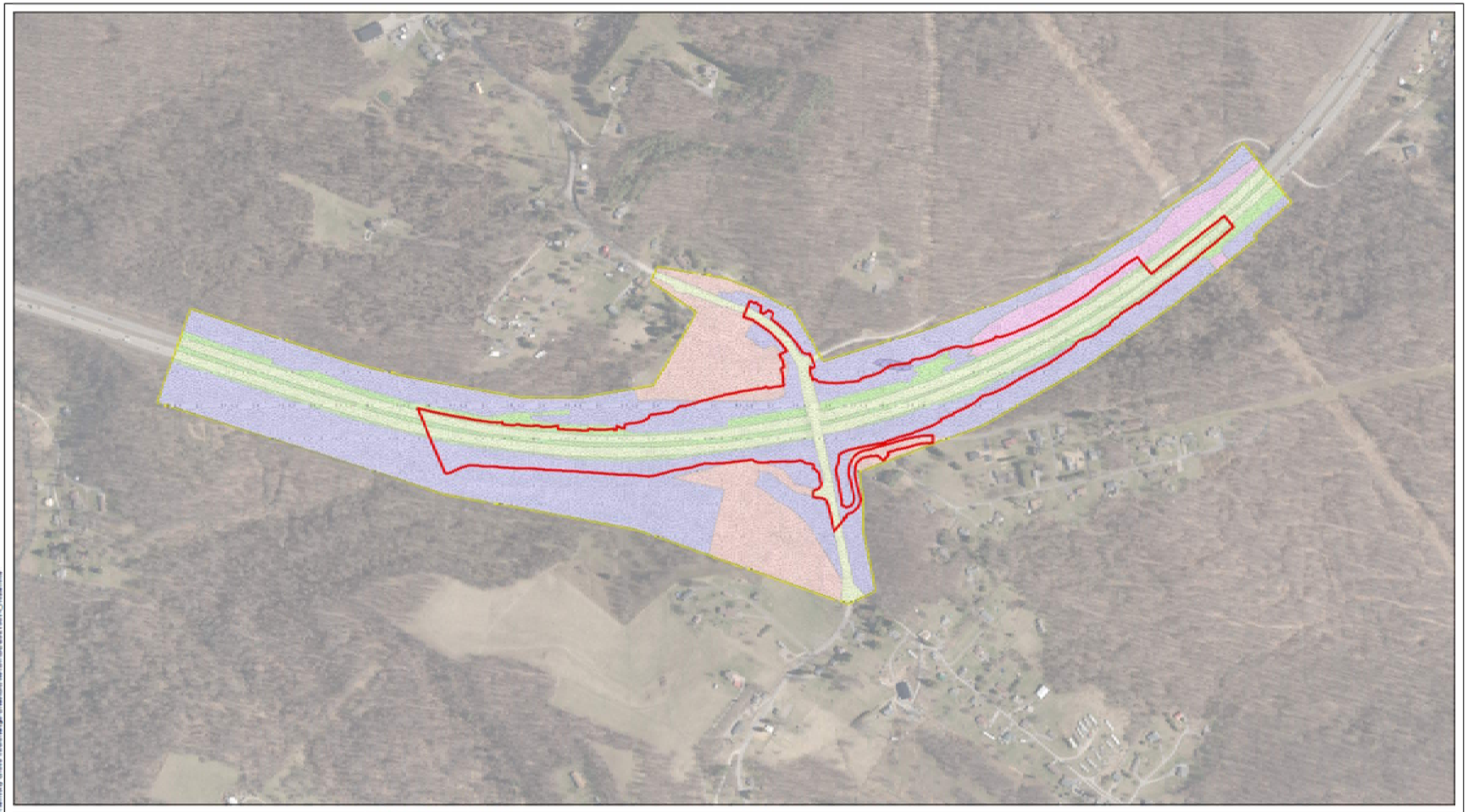
1 KENTON DRIVE, SUITE 200
CHARLESTON, WV 25311

FILE NO.: Arch_Figure01_PLM_11x17L.mxd

Coordinate System: NAD 1983 StatePlane West Virginia North FIPS 4701 Feet (Foot US)
Map Rotation: 0

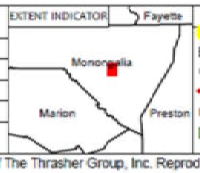
Plot Date: 3/5/2021, 10:39:30 AM by MOREL - LAYOUT ANSI B (11"x17")
Path: S:\1 PROJECTS\WV\OH\387351_HarmonyGroveArch_Figure01_PLM_11x17L.mxd

TRC - GIS



DETAILS:

Quad: Morgantown South	
Drawn By: astolarski	Date: 6/14/2021
Surveyed By: AS/KW	Date:2020/2021
Project No.080-10024	
Sheet Number: Overall	



Legend

- Environmental Clearance Zone
- Non-suitable for Running Buffalo Clover
- Low Potential for Running Buffalo Clover Habitat
- Polyline
- Land Cover
- Herbaceous (maintained grasses and forbs)
- High-intensity development
- Forest
- Herbaceous (frequently maintained grasses)
- Low-intensity development (residential)

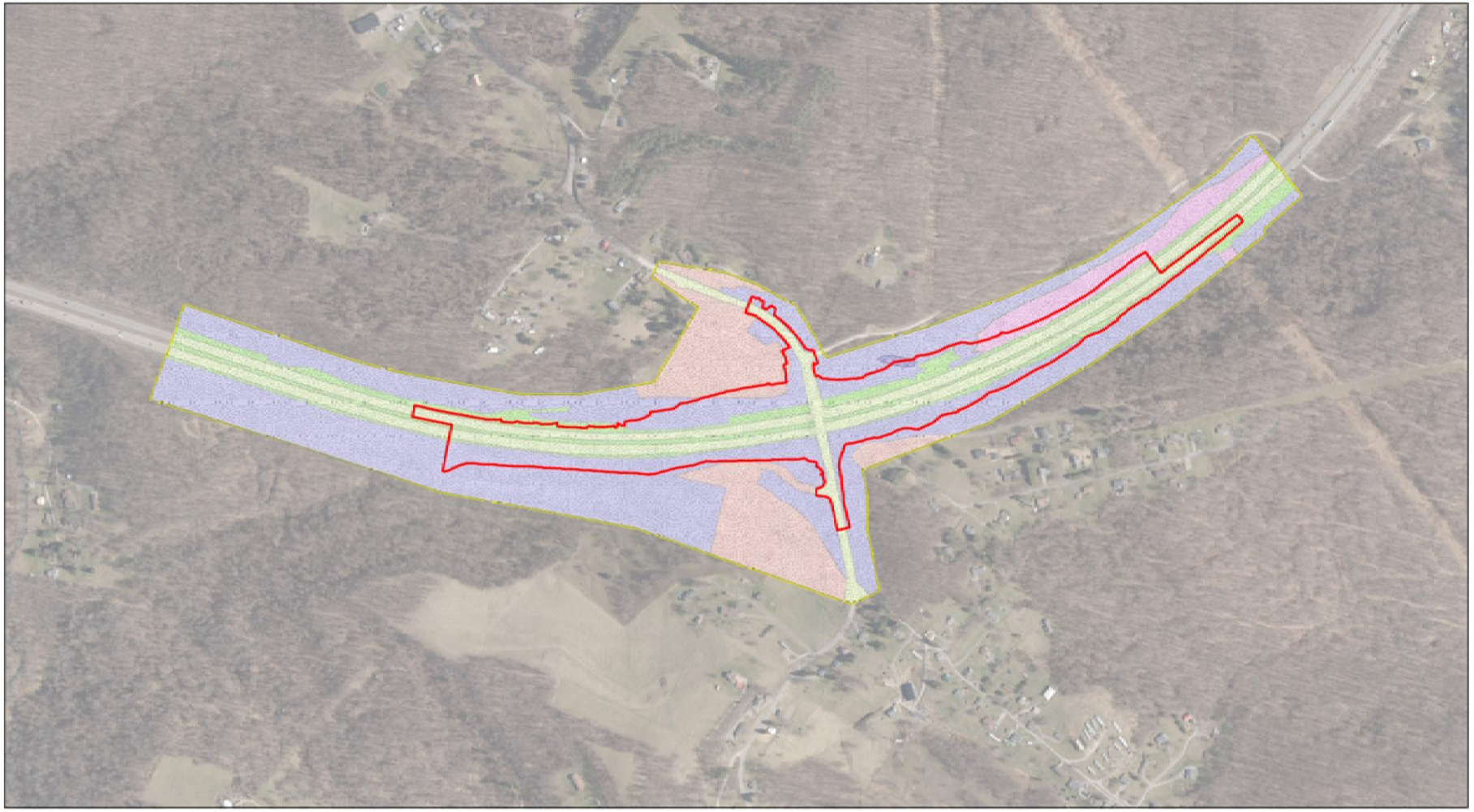
1 inch = 500 feet

0 250 500 1,000 Feet

Enrout Properties, LLC

Figure 2b:Potential RBC Habitat Map
Alternative 2A: The Tight-Diamond Alternative
Monongalia County - West Virginia

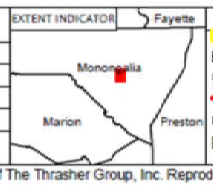
THRASHER



DETAILS:

Quad: Morgantown South	
Drawn By: astolarski	Date: 6/14/2021
Surveyed By: AS/KW	Date:2020/2021
Project No.080-10024	
Sheet Number: Overall	

EXTENT INDICATOR



Legend

- Environmental Clearance Zone
- Non-suitable for Running Buffalo Clover
- Low Potential for Running Buffalo Clover Habitat
- Alternative 2B Construction Limits

Land Cover

- Herbaceous (maintained grasses and forbs)
- High-intensity development
- Forest
- Herbaceous (frequently maintained grasses)
- Low-intensity development (residential)

1 inch = 500 feet

0 250 500 1,000 Feet

Enrout Properties, LLC

Figure 2c:Potential RBC Habitat Map
Alternative 2B: The Tight-Diamond Alternative
Monongalia County - West Virginia

THRASHER

March 8, 2022

Mr. Randy Epperly
NEPA Compliance and Permitting Section
West Virginia Department of Transportation
Division of Highways
1900 Kanawha Blvd. East. Building Five. Room 110
Charleston, WV 25305-0430

Harmony Grove Interchange

Dear Mr. Epperly,

This shall serve as a response to the proposed Harmony Grove Interchange located in Morgantown, Monongalia County, WV 26506. The West Virginia Department of Highways is currently proposing to build a new interchange at mile marker 151 of I79 in Morgantown, Monongalia County, West Virginia 26506. There is concern about whether the new interchange would impact the historic Harmony Grove Meeting House built in 1854. Harmony Grove is the oldest unaltered church structure in Monongalia County, West Virginia, and in 1983, was listed on the National Register of Historic Places under criteria A and C. The information sent didn't mention if the new interchange affects the right of way to the church and whether or not the church would be impacted by this project. Further information addressing these two concerns would be greatly appreciated.

We look forward to consulting with your office on this project. If you have any questions or require additional information, please feel free to contact me at 304-685-7747 or by email at shannontinnell@gmail.com

Sincerely,
Shannon Tinnell

Epperly, Randy T <randy.t.epperly@wv.gov>

Re: Document shared with you: "Harmony Grove "

1 message

Epperly, Randy T <randy.t.epperly@wv.gov> Mon, Mar 14, 2022 at 2:16 PM
To: shannon tinnell <shannontinnell@gmail.com>

Thank you for the comment and your interest. The project is in the preliminary stages and it is too early to determine alignments and their effects. At this stage we are identifying any cultural resources in the area and we are very much aware of the Meeting House and its significance. If you have any further questions or concerns, please do not hesitate to contact me.

On Fri, Mar 11, 2022 at 10:07 AM shannon tinnell (via Google Docs) <drive-shares-dm-noreply@google.com> wrote:

shannontinnell@gmail.com shared a document

shannontinnell@gmail.com has invited you to **edit** the following document:

Mr. Epperly,

Hello, I hope you are well. I've attached our comments for the Harmony Grove project. Please let me know if you have any questions.

Best,

Shannon Tinnell

Harmony Grove

shannontinnell@gmail.com is outside your organization.

Open

If you don't want to receive files from this person, block the sender from Drive

APPENDIX D – EDR RADIUS MAP REPORT

Harmony Grove Interchange
I-79
Morgantown, WV 26501

Inquiry Number: 8001832.2s
May 29, 2025

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	627
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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-13
Physical Setting Source Map Findings	A-15
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

I-79
MORGANTOWN, WV 26501

COORDINATES

Latitude (North):	39.6049900 - 39° 36' 17.96''
Longitude (West):	79.9933200 - 79° 59' 35.95''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	586426.1
UTM Y (Meters):	4384191.5
Elevation:	1258 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	14449272 MORGANTOWN SOUTH, WV
Version Date:	2019
Northeast Map:	14449270 MORGANTOWN NORTH, WV
Version Date:	2019
Southwest Map:	14449374 RIVESVILLE, WV
Version Date:	2019
Northwest Map:	14449358 OSAGE, WV
Version Date:	2019

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20200707
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
I-79
MORGANTOWN, WV 26501

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1		1216 RIVER RD	WV NPDES	Lower	1 ft.
A2		1256 RIVER RD	WV NPDES	Higher	1 ft.
B3		1370 RIVER RD	WV NPDES	Higher	1 ft.
B4	SHUMILOFF, GEORGE M	1370 RIVER RD	FINDS, ECHO	Higher	1 ft.
A5	JEFF HENRICH	1352 RIVER RD	WV NPDES	Higher	1 ft.
A6	BOLYARD, TRAVIS & JO	1334 RIVER ROAD	WV NPDES	Higher	1 ft.
A7	BOLYARD, TRAVIS & JO	1334 RIVER ROAD	FINDS, ECHO	Higher	1 ft.
B8	GEORGE M. SHUMILOFF	1370 RIVER ROAD	WV NPDES	Higher	1 ft.
9	WILLIAM R. MOORE	60 OLD RIVER RD	WV NPDES	Higher	1 ft.
C10	DUSENBERRY'S MHP	RT 2 BOX 23-A	FINDS, ECHO	Lower	1 ft.
C11	DUSENBERRY'S MHP		WV NPDES	Lower	1 ft.
D12	CHARLES E & SHERIDAN	1390 RIVER ROAD	FINDS, ECHO	Higher	1 ft.
D13	CHARLES E & SHERIDAN	1390 RIVER ROAD	WV NPDES	Higher	1 ft.
C14	FORNEY E. DUSENBERRY	ROUTE 2, BOX 23-A	FINDS, ECHO	Lower	1 ft.
15	ORDNANCE WORKS DISPO	1100 DUPONT RD	Delisted NPL, SEMS, US ENG CONTROLS, US INST...	Lower	2804, 0.531, East
E16	SI GROUP USA, LLC -	1000 MORGANTOWN INDU	SEMS-ARCHIVE, CORRACTS, RCRA-TSDF, RCRA-LQG, RMP	Lower	3633, 0.688, ENE
E17	SI GROUP USA (USAA)	1000 MORGANTOWN INDU	SEMS-ARCHIVE, CORRACTS, RCRA-TSDF, RCRA-LQG, 2020	Lower	3633, 0.688, ENE
18	CLEAN EARTH OF MORGA	85 OLIN STREET	SEMS-ARCHIVE, CORRACTS, RCRA-TSDF, RCRA-LQG, US...	Lower	4236, 0.802, East
19	MORGANTOWN OW		FUDS	Lower	4294, 0.813, East
20	CARBON REACTIVATION,	1000 DUPONT ROAD, BU	WV SHWS	Lower	4456, 0.844, NE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing

Lists of Federal RCRA generators

RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

Lists of state and tribal landfills and solid waste disposal facilities

WV SWF/LF ---------- List of M.S.W. Landfills/Transfer Station Listing
WV LCP ---------- Landfill Closure Program

Lists of state and tribal leaking storage tanks

WV LUST ---------- Leaking Underground Storage Tanks
WV LAST ---------- Leaking Aboveground Storage Tanks
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST ---------- Underground Storage Tank Listing

WV UST ---------- Underground Storage Tank Database
WV AST ---------- Aboveground Storage Tanks
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

WV INST CONTROL ---------- Sites with Institutional Controls

Lists of state and tribal voluntary cleanup sites

WV VCP ---------- Voluntary Remediation Sites
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

WV BROWNFIELDS ---------- Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
ODI ---------- Open Dump Inventory
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
WV CDL ---------- Drug Lab Site Locations
US CDL ---------- National Clandestine Laboratory Register

Local Land Records

LIENS 2 ---------- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
WV SPILLS ---------- Spills Listing

Other Ascertainable Records

RCRA NonGen / NLR ---------- RCRA - Non Generators / No Longer Regulated
DOD ---------- Department of Defense Sites
SCRD DRYCLEANERS ---------- State Coalition for Remediation of Drycleaners Listing
EPA WATCH LIST ---------- EPA WATCH LIST
TSCA ---------- Toxic Substances Control Act
TRIS ---------- Toxic Chemical Release Inventory System
SSTS ---------- Section 7 Tracking Systems

PADS PCB Activity Database System
ICIS Integrated Compliance Information System
FTTS FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS Material Licensing Tracking System
COAL ASH DOE Steam-Electric Plant Operation Data
COAL ASH EPA Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER PCB Transformer Registration Database
RADINFO Radiation Information Database
HIST FTTS FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS Incident and Accident Data
CONSENT Superfund (CERCLA) Consent Decrees
INDIAN RESERV Indian Reservations
FUSRAP Formerly Utilized Sites Remedial Action Program
UMTRA Uranium Mill Tailings Sites
LEAD SMELTERS Lead Smelter Sites
US AIRS Aerometric Information Retrieval System Facility Subsystem
US MINES Mines Master Index File
ABANDONED MINES Abandoned Mines
MINES MRDS Mineral Resources Data System
UXO Unexploded Ordnance Sites
DOCKET HWC Hazardous Waste Compliance Docket Listing
FUELS PROGRAM EPA Fuels Program Registered Listing
PFAS NPL Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES Federal Sites PFAS Information
PFAS TSCA PFAS Manufacture and Imports Information
PFAS TRIS List of PFAS Added to the TRI
PFAS RCRA MANIFEST PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR PFAS Contamination Site Location Listing
PFAS WQP Ambient Environmental Sampling for PFAS
PFAS NPDES Clean Water Act Discharge Monitoring Information
PFAS PROJECT NORTHEASTERN UNIVERSITY PFAS PROJECT
PFAS ECHO FIRE TRAIN Facilities in Industries that May Be Handling PFAS Listing
PFAS PT 139 AIRPORT All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC Aqueous Foam Related Incidents Listing
BIOSOLIDS ICIS-NPDES Biosolids Facility Data
UST FINDER RELEASE UST Finder Releases Database
UST FINDER UST Finder Database
WV AIRS Permitted Facility and Emissions Listing
WV ASBESTOS Asbestos Notification Information
WV COAL ASH Coal Ash Landills
WV DRYCLEANERS Listing of Drycleaner Locations
WV Financial Assurance Financial Assurance Informtion Listing
WV MINES Mining Permit Information
WV UIC Underground Injection Wells

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants
EDR Hist Auto EDR Exclusive Historical Auto Stations
EDR Hist Cleaner EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

WV RGA LF Recovered Government Archive Solid Waste Facilities List

EXECUTIVE SUMMARY

WV RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal Delisted NPL sites

Delisted NPL: The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may deleted from the NPL where no further response is appropriate.

A review of the Delisted NPL list, as provided by EDR, and dated 03/27/2025 has revealed that there is 1 Delisted NPL site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ORDNANCE WORKS DISPO EPA ID:: WVD000850404 Site ID:: 302884	***1100 DUPONT RD***	***E 1/2 - 1 (0.531 mi.)***	***15***	***14***

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 02/17/2025 has revealed that there are 3 CORRACTS sites within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SI GROUP USA, LLC -	***1000 MORGANTOWN INDU***	***ENE 1/2 - 1 (0.688 mi.)***	***E16***	***38***
SI GROUP USA (USAA) EPA ID:: WVD980552384	***1000 MORGANTOWN INDU***	***ENE 1/2 - 1 (0.688 mi.)***	***E17***	***152***
CLEAN EARTH OF MORGA EPA ID:: WVD981107600	***85 OLIN STREET***	***E 1/2 - 1 (0.802 mi.)***	***18***	***281***

Lists of state- and tribal hazardous waste facilities

WV SHWS: West Virginia uses the federal CERCLIS database in place of a state hazardous waste site list. The Comprehensive Environmental Response, Compensation and Liability Information System contains information on sites identified by the United States Environmental Protection Agency as abandoned, inactive or uncontrolled hazardous waste sites that may require cleanup. The data come from the United States Environmental Protection Agency.

A review of the WV SHWS list, as provided by EDR, and dated 08/13/2024 has revealed that there is 1 WV SHWS site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CARBON REACTIVATION,	1000 DUPONT ROAD, BU	NE 1/2 - 1 (0.844 mi.)	20	626

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 01/30/2025 has revealed that there is 1 FUDS site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MORGANTOWN OW		E 1/2 - 1 (0.813 mi.)	19	625

ROD: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 04/25/2025 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ORDNANCE WORKS DISPO EPA ID:: WVD000850404	***1100 DUPONT RD***	***E 1/2 - 1 (0.531 mi.)***	***15***	***14***

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 04/22/2025 has revealed that there are 5

FINDS sites within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHUMILOFF, GEORGE M Registry ID:: 110067564549	***1370 RIVER RD***	***0 - 1/8 (0.000 mi.)***	***B4***	***9***
BOLYARD, TRAVIS & JO Registry ID:: 110067593946	***1334 RIVER ROAD***	***0 - 1/8 (0.000 mi.)***	***A7***	***10***
CHARLES E & SHERIDAN Registry ID:: 110067576867	***1390 RIVER ROAD***	***0 - 1/8 (0.000 mi.)***	***D12***	***13***

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUSENBERRY'S MHP Registry ID:: 110054967167	***RT 2 BOX 23-A***	***0 - 1/8 (0.000 mi.)***	***C10***	***12***
FORNEY E. DUSENBERRY Registry ID:: 110054957551	***ROUTE 2, BOX 23-A***	***0 - 1/8 (0.000 mi.)***	***C14***	***14***

ECHO: ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

A review of the ECHO list, as provided by EDR, and dated 12/21/2024 has revealed that there are 5 ECHO sites within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHUMILOFF, GEORGE M Registry ID: 110067564549	***1370 RIVER RD***	***0 - 1/8 (0.000 mi.)***	***B4***	***9***
BOLYARD, TRAVIS & JO Registry ID: 110067593946	***1334 RIVER ROAD***	***0 - 1/8 (0.000 mi.)***	***A7***	***10***
CHARLES E & SHERIDAN Registry ID: 110067576867	***1390 RIVER ROAD***	***0 - 1/8 (0.000 mi.)***	***D12***	***13***

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUSENBERRY'S MHP Registry ID: 110054967167	***RT 2 BOX 23-A***	***0 - 1/8 (0.000 mi.)***	***C10***	***12***
FORNEY E. DUSENBERRY Registry ID: 110054957551	***ROUTE 2, BOX 23-A***	***0 - 1/8 (0.000 mi.)***	***C14***	***14***

WV NPDES: A listing of wastewater discharge permits.

A review of the WV NPDES list, as provided by EDR, and dated 12/20/2024 has revealed that there are 9 WV NPDES sites within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported Permit ID: 023335	1256 RIVER RD	0 - 1/8 (0.000 mi.)	A2	8
Not reported Permit ID: 014819	1370 RIVER RD	0 - 1/8 (0.000 mi.)	B3	8
JEFF HENRICH	1352 RIVER RD	0 - 1/8 (0.000 mi.)	A5	9

Permit ID: WVG413613				
BOLYARD, TRAVIS & JO Permit ID: WVG410514	1334 RIVER ROAD	0 - 1/8 (0.000 mi.)	A6	10
GEORGE M. SHUMILOFF Permit ID: WVG411104	1370 RIVER ROAD	0 - 1/8 (0.000 mi.)	B8	11
WILLIAM R. MOORE Permit ID: WVG413495	60 OLD RIVER RD	0 - 1/8 (0.000 mi.)	9	11
CHARLES E & SHERIDAN Permit ID: WVG413598	1390 RIVER ROAD	0 - 1/8 (0.000 mi.)	D13	13

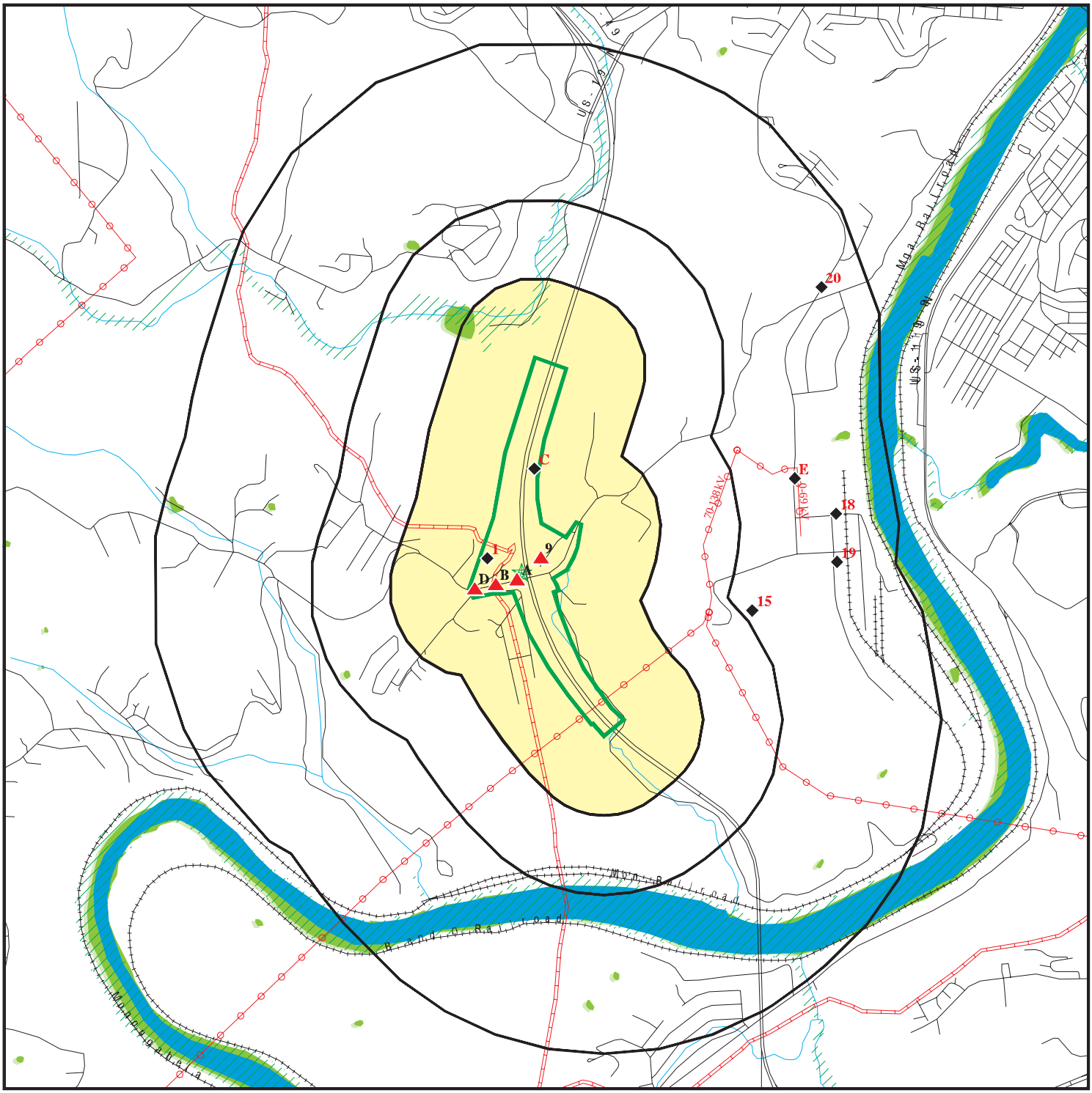
Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported Permit ID: 021219	1216 RIVER RD	0 - 1/8 (0.000 mi.)	1	8
DUSENBERRY'S MHP Permit ID: WVG550346		0 - 1/8 (0.000 mi.)	C11	12

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 2 records.

Site Name	Database(s)
EDNA PCB TRANSFORMER SITE	WV SHWS
MOUNTAIN LINE TRANSIT AUTHORITY	WV LUST, WV UST

OVERVIEW MAP - 8001832.2S

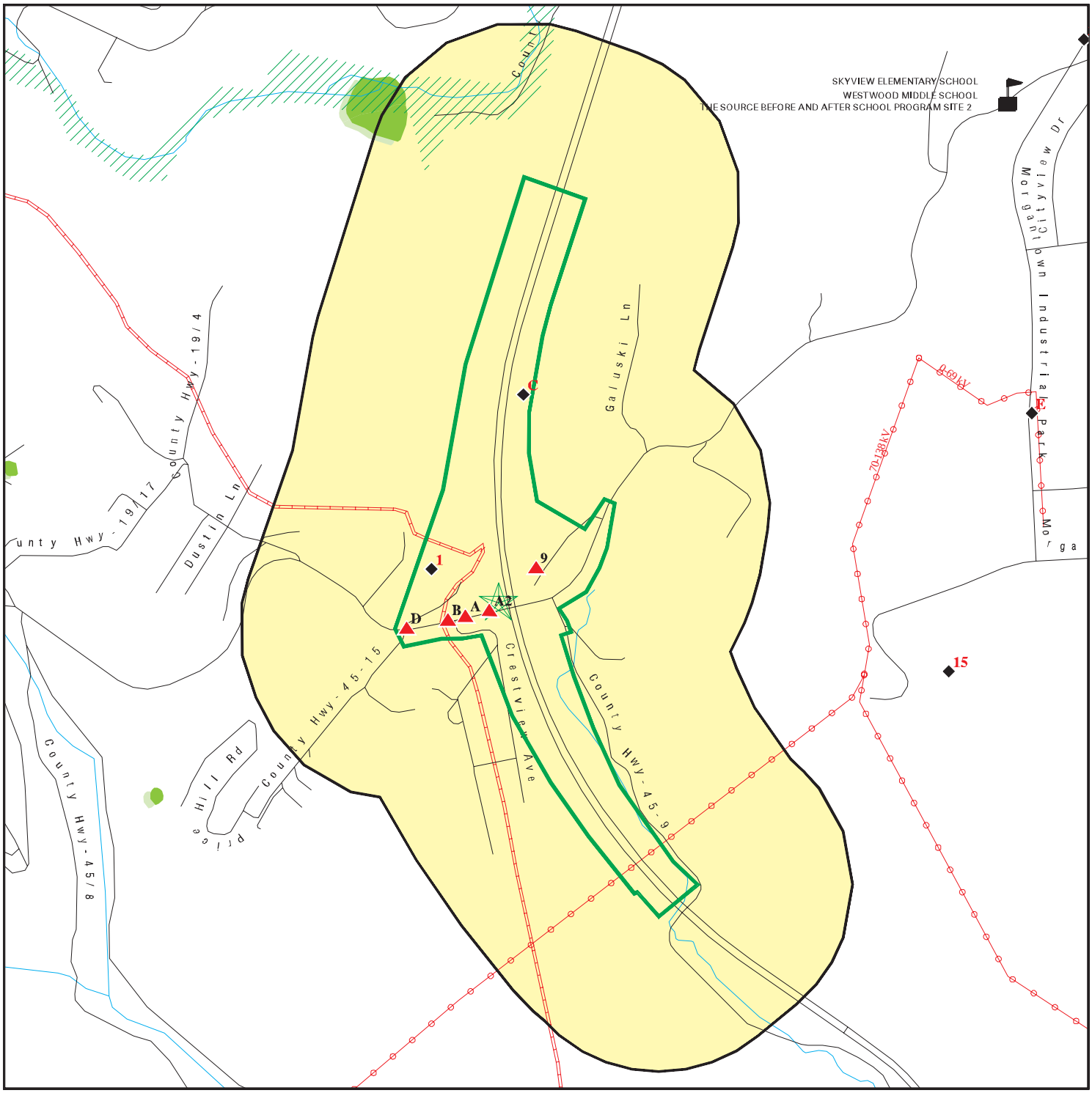


- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Pipelines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

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: Harmony Grove Interchange	CLIENT: Thrasher Engineering, Inc.
ADDRESS: I-79	CONTACT: Kati Kelley
Morgantown WV 26501	INQUIRY #: 8001832.2s
LAT/LONG: 39.60499 / 79.99332	DATE: May 29, 2025 11:37 am

DETAIL MAP - 8001832.2S



0 1/8 1/4 1/2 Miles

- 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
- Power transmission lines
- Pipelines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

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:	Harmony Grove Interchange	CLIENT:	Thrasher Engineering, Inc.
ADDRESS:	I-79 Morgantown WV 26501	CONTACT:	Kati Kelley
LAT/LONG:	39.60499 / 79.99332	INQUIRY #:	8001832.2s
		DATE:	May 29, 2025 11:38 am

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	1	NR	1
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	3	NR	3
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal hazardous waste facilities								
WV SHWS	N/A		N/A	N/A	N/A	N/A	N/A	N/A
Lists of state and tribal landfills and solid waste disposal facilities								
WV SWF/LF	0.500		0	0	0	NR	NR	0
WV LCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal leaking storage tanks								
WV LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
WV LAST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
WV UST	0.250		0	0	NR	NR	NR	0
WV AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
WV INST CONTROL	0.500		0	0	0	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
WV VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
WV BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
WV CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
WV SPILLS	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	1	NR	1
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	1	NR	1
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
FINDS	0.001		5	NR	NR	NR	NR	5
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		5	NR	NR	NR	NR	5
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS PROJECT	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0
UST FINDER RELEASE	0.500		0	0	0	NR	NR	0
UST FINDER	0.250		0	0	NR	NR	NR	0
E MANIFEST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
WV AIRS	0.001		0	NR	NR	NR	NR	0
WV ASBESTOS	0.001		0	NR	NR	NR	NR	0
WV COAL ASH	0.500		0	0	0	NR	NR	0
WV DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WV Financial Assurance	0.001		0	NR	NR	NR	NR	0
WI MANIFEST	0.250		0	0	NR	NR	NR	0
PA MANIFEST	0.250		0	0	NR	NR	NR	0
RI MANIFEST	0.250		0	0	NR	NR	NR	0
NJ MANIFEST	0.250		0	0	NR	NR	NR	0
NY MANIFEST	0.250		0	0	NR	NR	NR	0
WV MINES	0.250		0	0	NR	NR	NR	0
WV NPDES	0.001		9	NR	NR	NR	NR	9
WV UIC	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
WV RGA LF	0.001		0	NR	NR	NR	NR	0
WV RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	19	0	0	6	0	25

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

APPENDIX E – AQUATIC RESOURCES REPORT

ARCHITECTURE | ENGINEERING | FIELD SERVICES

THRASHER PROJECT #080-10024

AQUATIC RESOURCES REPORT

FOR THE

HARMONY GROVE INTERCHANGE PROJECT

MONONGALIA COUNTY, WEST VIRGINIA

PREPARED FOR:
WEST VIRGINIA DIVISION OF HIGHWAYS

PREPARED BY:
THE THRASHER GROUP, INC.
600 WHITE OAKS BOULEVARD
BRIDGEPORT, WV 26330
(304) 624-4108

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2.2 Field Investigation Methods 3

3.0 SUMMARY OF FINDINGS 3

3.1 Desktop Analysis 3
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APPENDICES

Appendix A – Project Mapping

- Figure 1: USGS Site Location
- Figure 2: NWI Map
- Figure 3: NRCS WSS Soil Types
- Figure 4: Aerial Site Location
- Figure 5: Delineation Map

Appendix B – Wetland and Stream Photo Log
Appendix C – Wetland Determination Data Forms

EXECUTIVE SUMMARY

The Thrasher Group, Inc. (Thrasher), is conducting an environmental screening for the purposes of completing a Environmental Assessment (EA) and pursuant National Environmental Policy Act (NEPA) compliance for a proposed interstate interchange development. The existing Exit 153 Interchange (University Town Center Drive) on Interstate 79 (I-79) is located in the United States Geological Survey Morgantown South 7.5-minute quadrangle of Morgantown, Monongalia County, West Virginia.

Prior to field investigations, an approximate 106.5-acre environmental clearance zone (ECZ), located in the Upper Monongahela (HUC# 05020003) watershed was developed in order to conduct a desktop and an onsite environmental review for aquatic resources of the project area. During field investigations of the proposed ECZ on October 14-16, December 9, 2020, and February 22, 2021, 10 streams and four wetlands were identified by Thrasher environmental scientists. Of the aquatic resources identified, two of the streams are potentially jurisdictional under United States Army Corps of Engineers purview.

1.0 INTRODUCTION

The Thrasher Group, Inc. (Thrasher), conducted both a desktop analysis, as well as an onsite investigation, of aquatic resources for the Harmony Grove Interchange Project (Project). Information contained in this report documents the West Virginia Department of Transportation's due diligence in ensuring a thorough aquatic resources investigation was performed by Thrasher.

1.1 Project Location and Description

The proposed Project will occur within a 106.5-acre environmental clearance zone (ECZ), located at center coordinates 39.604833ºN, 79.992922ºW. The Project is located in the United States Geological Survey (USGS) Morgantown South 7.5-Minute quadrangle of Monongalia County, West Virginia (WV) (Appendix A, Figure 1: USGS Site Location).

The Project is still in a preliminary planning phase with an Environmental Assessment of potential environmental impacts being prepared at this time in accordance with the National Environmental Policy Act. The proposed Project will involve grading and clearing to develop an interchange to improve accessibility between I-79 and the Morgantown Industrial Park.

1.2 Climate/Site Conditions

Wetland and stream delineations of an ECZ were conducted on October 14-16, December 9, 2020, and February 22, 2021. Weather conditions during the wetland and stream delineations are listed in Table 1 below.

Table 1. Weather Observed During Wetland and Stream Delineations

Date	High Temperature (°F)	Low Temperature (°F)	Weather Conditions
October 14, 2020	70	48	Sunny
October 15, 2020	75	45	Sunny
October 16, 2020	56	42	Rain
December 9, 2020	44	29	Overcast
February 22, 2021	42	8	Overcast

The proposed ECZ is situated on a hillslopes and graded slopes associated with the existing I-79 corridor. Predominant land uses of the ECZ consist of forested hillsides, herbaceous fields, lawns, and utility right of ways (ROWs).

2.0 METHODS

2.1 Desktop Analysis

Prior to field reconnaissance, a comprehensive desktop analysis of the Project area was completed and included the following information sources:

- USGS topographic mapping;

- United States Fish and Wildlife Service National Wetlands Inventory (NWI) data;
- United States Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey; and
- Aerial mapping.

2.2 Field Investigation Methods

Wetlands

The presence or absence of wetlands was determined in the field using routine determination methods outlined in the *United States Army Corps of Engineers (USACE) Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplemental to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (2012, Version 2.0). Using the three-parameter approach, wetland boundaries were determined where hydrophytic vegetation, hydric soils, and positive hydrology were confirmed present. All three criteria are required for a valid formal wetland determination unless a problematic condition is present. The percent aerial cover of dominant plants within each stratum of plant communities was estimated and their hydrophytic status was determined through the USACE National Wetland Plant List, version 3.4 (2018). Soil borings were extracted from depths of 0 to 20 inches, if refusal was not met, and identified using a *Munsell Soil Color Book* (2009). Hydrologic indicators for the appropriate region must be present in the form of at least one primary indicator or two secondary indicators.

Streams

Streams were identified as having features in accordance with 33 Code of Federal Regulations § 328.3. Features include, but are not limited to having a bed, bank, ordinary high-water mark, and connection to a Traditionally Navigable Water and their tributaries. Streams are typically subdivided into three categories based on the permanence or duration of flow: perennial, intermittent, or ephemeral. Stream categories were determined by visual observations of stream flow and historical data of stream flow.

Spatial Data Collection

The spatial extent of features was recorded in the field using a Trimble GeoXH 6000 handheld global positioning system unit equipped with Floodlight® technology and capable of submeter accuracy. Coordinates of vertices were recorded along the perimeter of each potential waters of the United States (WOTUS).

3.0 SUMMARY OF FINDINGS

3.1 Desktop Analysis

USGS Topographic Mapping

The USGS Morgantown South quadrangle was reviewed to determine site locations and potential aquatic resources by observing changes in elevation and potential drainage patterns based on changes in topography. Two mapped streams were identified on the USGS mapping (Appendix A, Figure 1: USGS Site Location). No wetlands were identified on the USGS mapping.

NWI Data

A review of the NWI data indicated two intermittent streams within the ECZ (Appendix A, Figure 2: NWI Map).

NRCS Web Soil Survey (WSS)

The predominant mapped soil type is mapped as Udorthents (map unit U1) and comprises 64.4% of the ECZ, these soils associated with the development of I-79 do not have a drainage classification. Other soil types observed include Culleoka- Westmoreland silt loams (map units CwC, CwE, and CwF), comprising 22.9% of the ECZ, and Dormont-Guernsey (map units DgC and DgD) silt loams comprising 7.5% of the ECZ. Gilpin-Culleoka-Upshur silt loams (map unit GuF) comprises 5.2 % of the ECZ. The Culleoka-Westmoreland silt loam is classified as a "B" hydric soil rating, the Dormont- Guernsey silt loams have a "C" hydrologic soil rating, and the Gilpin-Culleoka-Upshur silt loams have a hydrologic soil rating of "B" and "D", based on the parent components. None of the soil groups are listed as hydric soils. Soil groups that have slow to very slow infiltration rates, in combination with local topography, can lead to the development of wetlands areas. These soil attributes, in combination with the gently rolling topography of the local terrain, can support the existence of wetland areas within the ECZ (Appendix A, Figure 3: Soil Types).

Aerial Mapping

The prominent feature within and around the ECZ that can be seen from aerial mapping is I-79. Additional observations include a channelized structure towards the western edge of the ECZ, as well as patches of forested land use and herbaceous habitat (Appendix A, Figure 4: Aerial Site Location).

3.2 Field Investigation Findings

During field investigations, four wetlands and three streams were identified however, of these aquatic resources identified, four potentially jurisdictional wetlands and eight potentially jurisdictional streams were identified within the ECZ. All identified features are mapped on Figure 5: Delineation Map in Appendix A. A photo log of jurisdictional features can be found in the Wetland and Stream Photo Log in Appendix B. Descriptions and tables of the identified aquatic resources can be found below.

Wetlands

Four palustrine emergent (PEM) wetlands were identified within the Project ECZ. Please see Table 2 below for wetland characteristics as well as Appendix C Wetland Determination Data Forms. Upland data forms in various habitats within the ECZ can also be found in Appendix C.

Table 2. Wetlands Identified During Delineation

Wetland ID	Cowardin Wetland Classification[1]	Area (acres)	Latitude	Longitude	USACE Jurisdictional[2] (Y/N)
20201014-WL 1	PEM	0.02	39.601925	-79.991174	N
20201014-WL 2	PEM	0.01	39.599218	-79.988875	N
20201016-WL 1	PEM	0.04	39.608855	-79.992710	N
20201209-WL 1	PEM	0.20	39.606134	-79.994940	N

[1]Wetland Classifications as described by *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin 1979).
[2]Features have assumed jurisdiction and have not been evaluated by the USACE

Streams

One intermittent stream, eight ephemeral streams, and one stream with both intermittent and ephemeral flow regimes were identified within the Project ECZ. Please see Table 3 below for stream characteristics.

Table 3. Streams Identified Within the Project ECZ

Stream ID	Stream Type	Latitude	Longitude	Linear Feet Within ECZ	Receiving Waterway	USACE Jurisdictional (Y/N)*
20201014-UNT 1	Ephemeral	39.602709	-79.991500	68.3	Monongahela River	N
20201014-UNT 2	Ephemeral	39.600979	-79.989503	1069.5	Monongahela River	Y
20201014-UNT 2	Intermittent	39.604099	-79.991434	1790.1	Monongahela River	Y
20201014-UNT 3	Ephemeral	39.607556	-79.994243	212.0	Dents Run	N
20201014-UNT 4	Intermittent	39.606531	-79.994979	1341.2	Dents Run	Y
20201014-UNT 5	Ephemeral	39.601690	-79.991995	82.1	Dents Run	N
20201016-UNT 1	Ephemeral	39.609025	-79.992519	113.5	Dents Run	N
20201016-UNT 2	Ephemeral	39.608254	-79.992772	219.7	Dents Run	N
20201209-UNT 1	Ephemeral	39.604873	-79.994538	107.5	Dents Run	N
20210222-UNT 1	Ephemeral	39.611567	-79.993819	159.6	Dents Run	N
20210222-UNT 2	Ephemeral	39.613192	-79.992932	341.8	Dents Run	N

*Features have assumed jurisdiction and have not been evaluated by the USACE

4.0 CONCLUSION

All aquatic features delineated within the proposed Project ECZ are potentially subject to USACE jurisdiction under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act, and the WV Department of Environmental Protection (WV DEP) jurisdiction under Section 401 of the CWA. The scope of this delineation effort was to ascertain the presence or absence of potentially jurisdictional areas.

On October 14-16, December 9, 2020, and February 22, 2021, Thrasher environmental scientists conducted a delineation of potential WOTUS including wetlands and streams, within the Project ECZ for the proposed Project located in Monongalia County, WV. Thrasher determined that there are four potentially WV DEP jurisdictional wetlands and two potentially USACE jurisdictional streams and eight potentially WV DEP jurisdictional streams within the Project ECZ. All determinations are subject to USACE and the WV DEP agreeance.

5.0 REFERENCES

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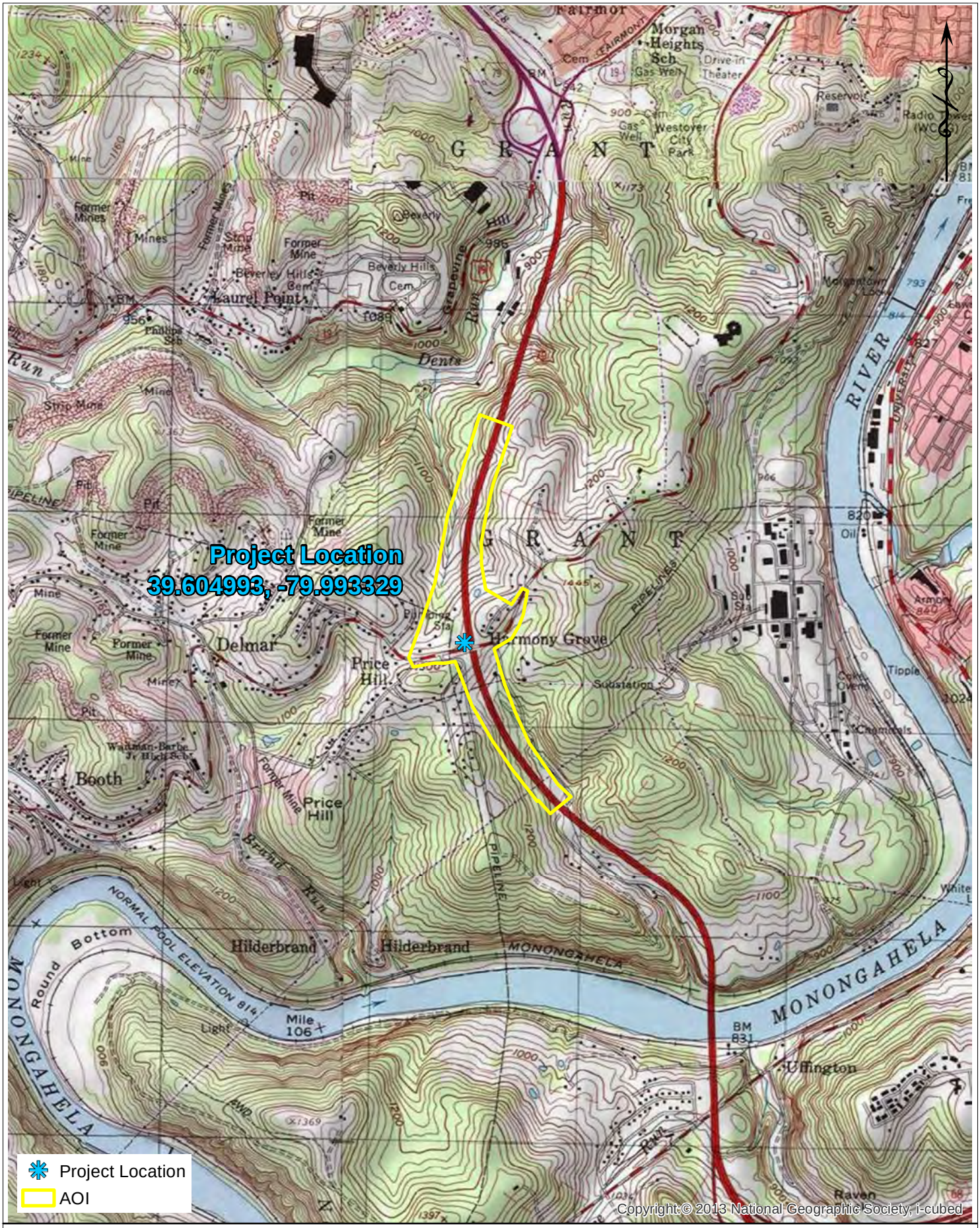
APPENDIX A

PROJECT MAPPING

FIGURE 1: USGS SITE LOCATION
FIGURE 2: NWI MAP
FIGURE 3: NRCS WSS SOIL TYPES
FIGURE 4: AERIAL SITE LOCATION
FIGURE 5: DELINEATION MAP



Enrout Properties, LLC

1 inch = 2,000 feet

USGS Site Location

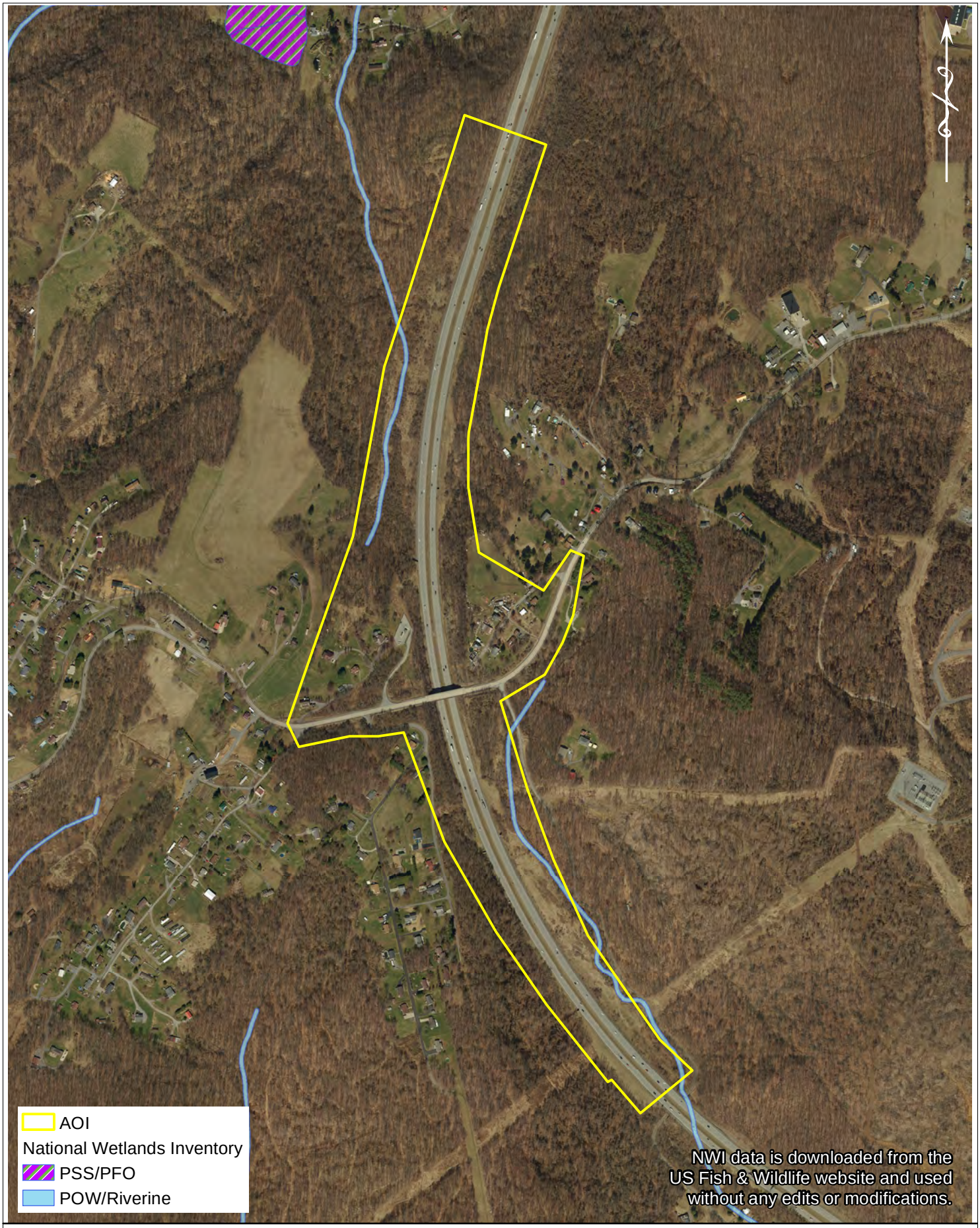
Hamrony Grove

Monongalia County - West Virginia

THRASHER

2/21/2022

By: lhovermale Document Path: R:\0801080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\WDSIR\USGS_Harmony_8x11.mxd



Enrout Properties, LLC

NWI Map

Hamrony Grove

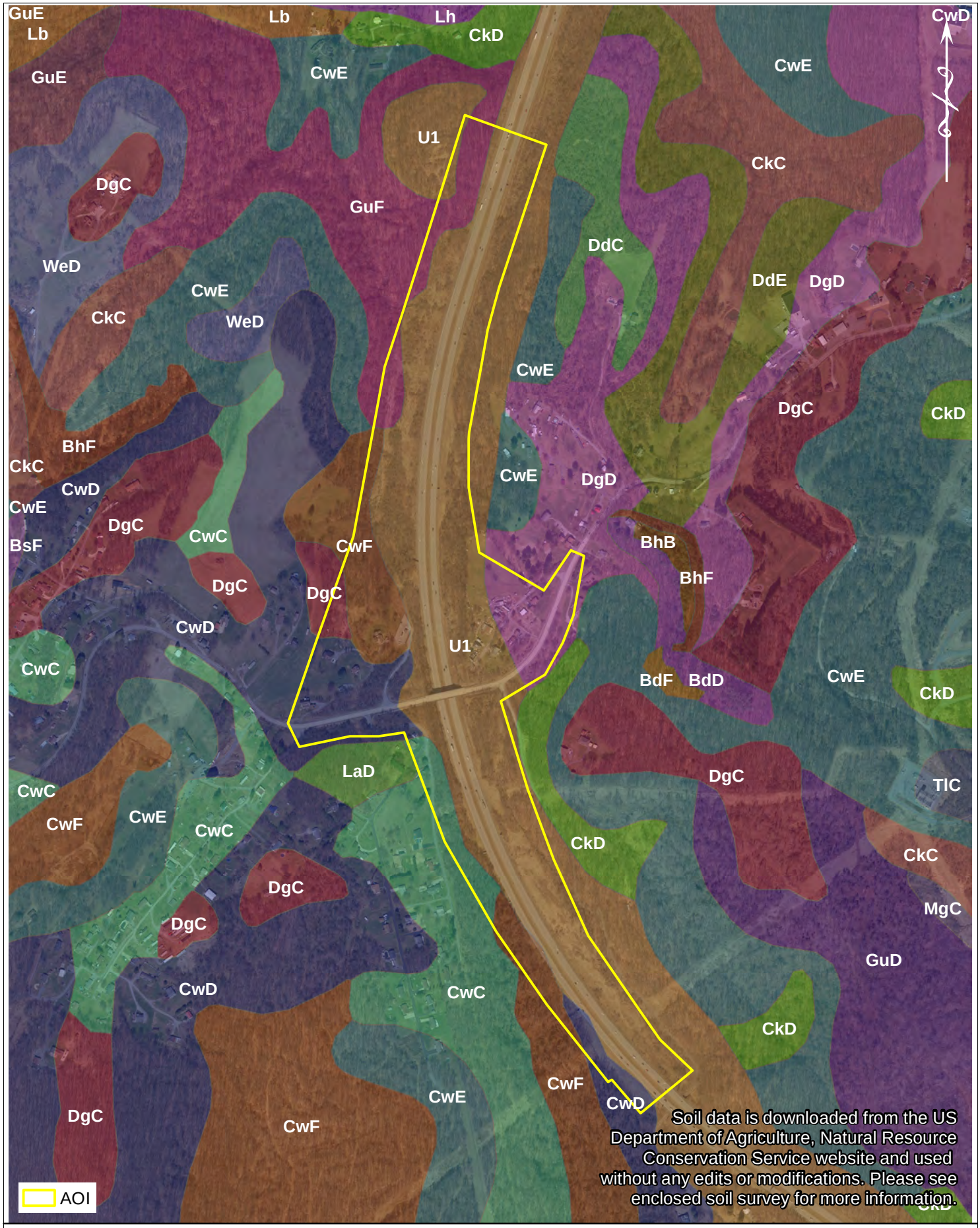
Monongalia County - West Virginia

THRASHER

1 inch = 800 feet

2/21/2022

By: lhovermale Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\WDS\R\NWI_Harmony_8x11.mxd



Enrout Properties, LLC

NRCS WSS

Hamrony Grove

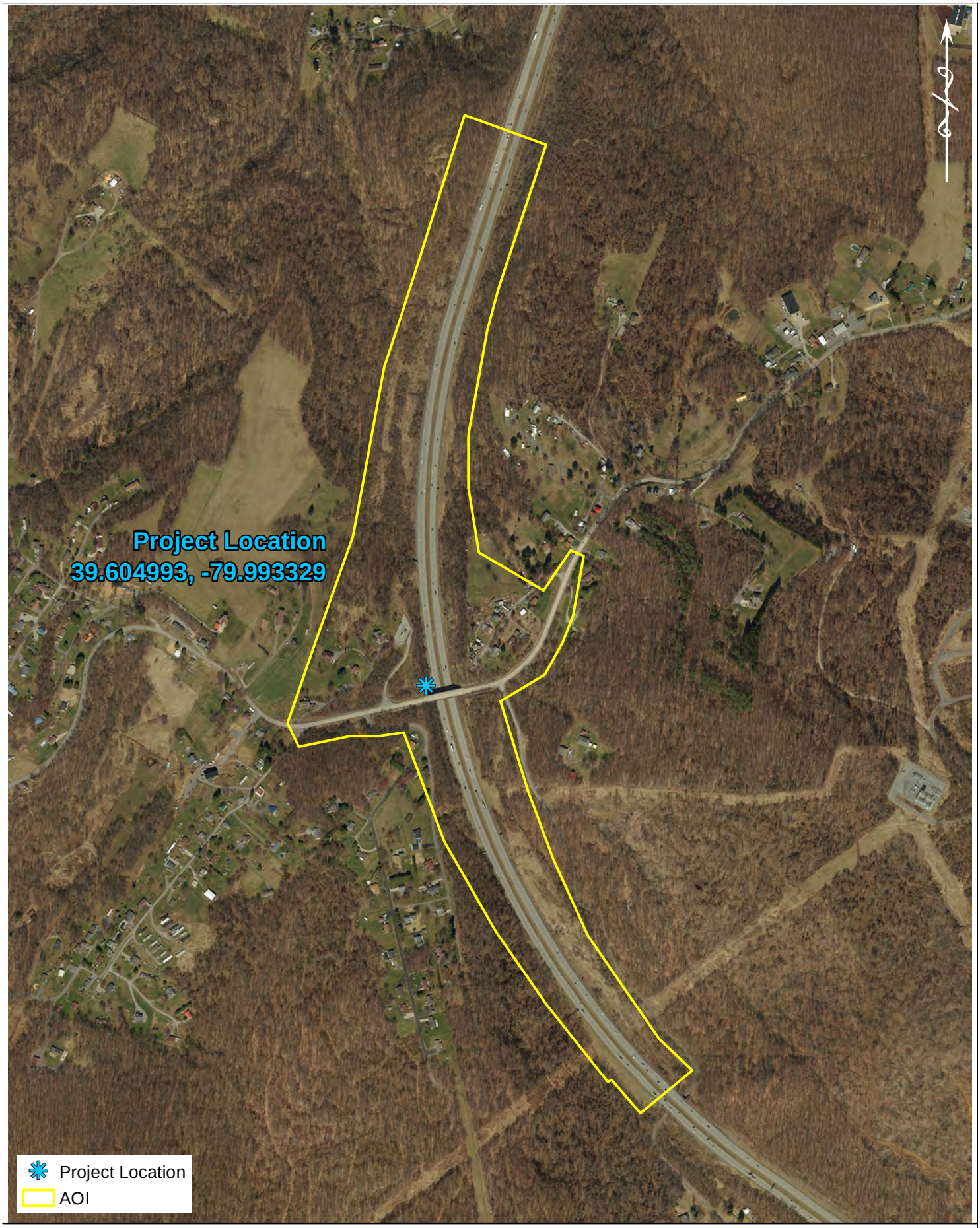
Monongalia County - West Virginia

THRASHER

1 inch = 800 feet

2/21/2022

By: lhovermale Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\WDSIR\Soil Types_Harmony_8x11.mxd



Enrout Properties, LLC

Aerial Site Location

Hamrony Grove

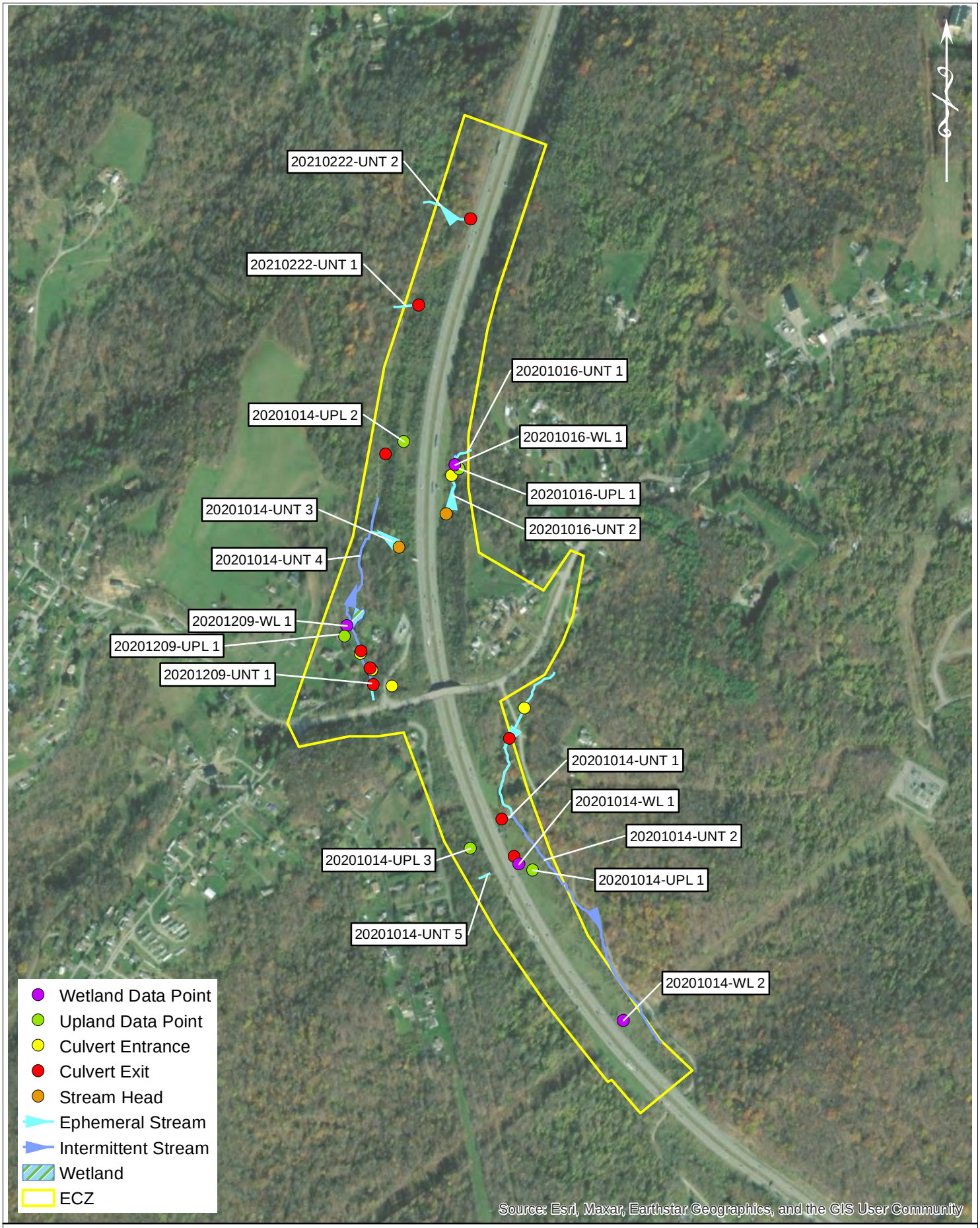
Monongalia County - West Virginia

THRASHER

1 inch = 800 feet

2/21/2022

By: lhovermale Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\WDSIR\Aerial_Harmony_8x11.mxd



Enrout Properties, LLC

Delineation Map

Hamrony Grove

Monongalia County - West Virginia

THRASHER

1 inch = 800 feet

6/6/2022

Document Path: R:\080\080-10024.00-Harmony Grove Interchange-Chas\GIS\MXD\WDSIR\Delineation_Harmony_8x11.mxd

By: gpanasik

APPENDIX B

WETLAND AND STREAM PHOTO LOG

Photograph # 1
20201014-UNT 1- Ephemeral– Facing Upstream

Photograph # 2
20201014-UNT 1- Ephemeral– Facing Downstream

Photograph # 3
20201014-UNT 1- Ephemeral– Facing Across Bank

Photograph # 4
20201014-UNT 2- Ephemeral– Facing Upstream

Photograph # 5
20201014-UNT 2- Ephemeral– Facing Downstream

Photograph # 7
20201014-UNT 2- Intermittent– Facing Upstream

Photograph # 6
20201014-UNT 2- Ephemeral – Facing Across Bank

Photograph # 8
20201014-UNT 2- Intermittent – Facing Downstream

Photograph # 9
20201014-UNT 2- Intermittent - Facing Across Bank

Photograph # 10
20201014-UNT 3- Ephemeral – Facing Upstream

Photograph # 11
20201014-UNT 3- Ephemeral – Facing Downstream

Photograph # 12
20201014-UNT 3- Ephemeral – Facing Across Bank

Photograph # 13
20201014-UNT 4- Intermittent – Facing Upstream

Photograph # 14
20201014-UNT 4- Intermittent – Facing Downstream

Photograph # 15
20201014-UNT 4- Intermittent - Facing Across Bank

Photograph # 16
20201014-UNT 5- Ephemeral – Facing Upstream

Photograph # 17
20201014-UNT 5- Ephemeral – Facing Downstream

Photograph # 18
20201014-UNT 5- Ephemeral – Facing Across Bank

Photograph # 19
20201016-UNT 1- Ephemeral – Facing Upstream

Photograph # 20
20201016-UNT 1- Ephemeral – Facing Downstream

Photograph # 21
20201016-UNT 1- Ephemeral – Facing Across Bank

Photograph # 22
20201016-UNT 2- Ephemeral – Facing Upstream

Photograph # 23
20201016-UNT 2- Ephemeral – Facing Downstream

Photograph # 24
20201016-UNT 2- Ephemeral – Facing Across Bank

Photograph # 25
20201209-UNT 1- Ephemeral – Facing Upstream

Photograph # 26
20201209-UNT 1- Ephemeral – Facing Downstream

Photograph # 27
20201209-UNT 1- Ephemeral – Facing Across Bank

Photograph # 28
20210222-UNT 1- Ephemeral – Facing Upstream

Photograph # 29
20210222-UNT 1- Ephemeral – Facing Downstream

Photograph # 30
20210222-UNT 1- Ephemeral – Facing Bank to Bank

Photograph # 31
20210222-UNT 2- Ephemeral – Facing Upstream

Photograph # 32
20210222-UNT 2- Ephemeral – Facing Downstream

Photograph # 33
20210222-UNT 2- Ephemeral – Facing Bank to Bank

Photograph # 34
20201014-Wetland (WL) 1- Palustrine Emergent (PEM)- Test Pit

Photograph # 35
20201014-WL 1- PEM- Soil Profile

Photograph # 36
20201014-WL 1- PEM– Facing North

Photograph # 37
20201014-WL 1- PEM-– Facing South

Photograph # 38
20201014-WL 1- PEM– Facing East

Photograph # 39
20201014-WL 1- PEM- Facing West

Photograph # 40
20201014-WL 2- PEM – Test Pit

Photograph # 41
20201014-WL 2- PEM – Soil Profile

Photograph # 42
20201014-WL 2- PEM Facing North

Photograph # 43
20201014-WL 2- PEM - Facing South

Photograph # 44
20201014-WL 2- PEM -Facing East

Photograph # 45
20201014-WL 2- PEM - Facing West

Photograph # 46
20201014-Upland (UPL)– Test Pit

Photograph # 47
20201014-UPL 1 – Soil Profile

Photograph # 48
20201014-UPL 1 – Facing North

Photograph # 49
20201014-UPL 1 – Facing South

Photograph # 50
20201014-UPL 1 – Facing East

Photograph # 51
20201014-UPL 1 – Facing West

Photograph # 52
20201014-UPL 2 – Test Pit

Photograph # 53
20201014-UPL 2 – Soil Profile

Photograph # 55
20201014-UPL 2 – Facing South

Photograph # 54
20201014-UPL 2 – Facing North

Photograph # 56
20201014-UPL 2 – Facing East

Photograph # 57
20201014-UPL 2 – Facing West

Photograph # 58
20201014-UPL 3– Test Pit

Photograph # 59
20201014-UPL 3– Soil Profile

Photograph # 60
20201014-UPL 3– Facing North

Photograph # 61
20201014-UPL 3– Facing South

Photograph # 62
20201014-UPL 3– Facing East

Photograph # 63
20201014-UPL 3- Facing West

Photograph # 64
20201016-WL 1 - PEM – Test Pit

Photograph # 65
20201016-WL 1 -PEM – Soil Profile

Photograph # 66
20201016-WL 1 - PEM – Facing North

Photograph # 67
20201016-WL 1 - PEM – Facing South

Photograph # 68
20201016-WL 1 -PEM – Facing East

Photograph # 69
20201016-WL 1 - PEM – Facing West

Photograph # 71
20201016-UPL 1 – Soil Profile

Photograph # 70
20201016-UPL 1 – Test Pit

Photograph # 72
20201016-UPL 1 – Facing North

Photograph # 73
20201016-UPL 1 – Facing South

Photograph # 74
20201016-UPL 1 – Facing East

Photograph # 75
20201016-UPL 1 – Facing West

Photograph # 76
20201209-WL 1 - PEM – Test Pit

Photograph # 77
20201209-WL 1 - PEM – Soil Profile

Photograph # 79
20201209-WL 1 - PEM – Facing South

Photograph # 78
20201209-WL 1 - PEM – Facing North

Photograph # 80
20201209-WL 1 - PEM – Facing East

Photograph # 81
20201209-WL 1 - PEM – Facing West

Photograph # 82
20201209-UPL 1 – Test Pit

Photograph # 83
20201209-UPL 1 – Soil Profile

Photograph # 84
20201209-UPL 1 – Facing North

Photograph # 85
20201209-UPL 1 – Facing South

Photograph # 86
20201209-UPL 1 – Facing East

Photograph # 87
20201209-UPL 1 – Facing West

APPENDIX C

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Harmony Grac Interchange City/County: Monongalia Sampling Date: October 14, 2020

Applicant/Owner: WVDOH State: WV Sampling Point: 20201014-UPL1

Investigator(s): AS, KW Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N Lat: 39.601802 Long: -79.990908 Datum: NAD83

Soil Map Unit Name: Udorthents, cut and fill NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ✓, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
Data point 20201014-UPL1 is located in an open herbaceous area along the I-79 corridor. Soil has been compacted due to development of I-79.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Aerial imagery from 2020 was evaluated

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 20201014-UPL1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	– = Total Cover		
50% of total cover: –	20% of total cover: –		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	– = Total Cover		
50% of total cover: –	20% of total cover: –		
Herb Stratum (Plot size: 5')			
1. Lespedeza cuneata	35	Y	FACU
2. Phalaris arundinacea	30	Y	FACW
3. Daucus carota	20	Y	UPL
4. Solidago canadensis	15	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	– = Total Cover		
50% of total cover: –	20% of total cover: –		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	30	x 2 =	60
FAC species		x 3 =	
FACU species	50	x 4 =	200
UPL species	20	x 5 =	100
Column Totals:	100 (A)		360 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: 20201014-UPL1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	98	10YR 5/6	2	C	M	clay loam	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Compacted fill

Depth (inches): 6

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soil past 6 inches was unable to be obtained due to compacted fill. Soil meets the criteria for a depleted matrix. Observed soil had gravel mixed in.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Harmony Grove Interchange City/County: Monongalia Sampling Date: October 14 2020

Applicant/Owner: WVDOH State: WV Sampling Point: 20201014-UPL

Investigator(s): AS, KW Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR N Lat: 39.600216 Long: -79.993885 Datum: NAD83

Soil Map Unit Name: Udorthents, cut and fill NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ✓, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Upland data point was taken on a toeslope where cattails were observed. Compacted fill material was observed in the soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Aerial imagery from 2020 was evaluated.

Remarks:
Hydrology was confirmed by the presence of concave geomorphic position and a positive FAC-neutral test.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 20201014-UA 2

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
50% of total cover: –	20% of total cover: –		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 = Total Cover		
50% of total cover: –	20% of total cover: –		
Herb Stratum (Plot size: 5')			
1. Typha latifolia	60	Y	OBL
2. Eutrochia arsenifolia	30	Y	FAC
3. Juncus effusus	10	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: –	20% of total cover: –		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: 20201014-UR2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	2.5Y 5/3	90	5YR 5/6	5	C	M	clay loam	gravelly
			10YR 5/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Compacted fill

Depth (inches): 10

Hydric Soil Present? Yes ____ No ✓

Remarks:

Soil was unable to be dug deeper than ten inches, the identified soil contained gravel.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Harmony Grove City/County: Monongalia Sampling Date: October 14, 2020
Applicant/Owner: WVDOH State: WV Sampling Point: 20201014-UPL3
Investigator(s): AS, KW Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): LRRN Lat: 39.602177 Long: -79.992320 Datum: NAD83
Soil Map Unit Name: Udorthents cut and fill NWI classification: N/I
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ✓, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
Upland 20201014-UPL3 was taken in a representative forested area. Soils were compacted.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Aerial imagery from 2020 was reviewed.

Remarks:
No wetland hydrology indicators observed.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: UPLAND-UPC3

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	20	Y	FACW
2. Sassafras albidum	10	Y	FACU
3. Robina pseudoacacia	10	Y	FACU
4.			
5.			
6.			
7.			
	40	= Total Cover	

50% of total cover: 20 20% of total cover: 8

Sapling/Shrub Stratum (Plot size: 15')			
1. Rosa multiflora	20	Y	FACU
2. Lonicera maackii	20	Y	FACU
3. Lindera benzoin	10	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
	50	= Total Cover	

50% of total cover: 25 20% of total cover: 10

Herb Stratum (Plot size: 5')			
1. Verbesina alternifolia	25	Y	FAC
2. Alliaria petiolata	5	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: – 20% of total cover: –

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 37.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	20	x 2 =	40
FAC species	35	x 3 =	105
FACU species	65	x 4 =	260
UPL species		x 5 =	
Column Totals:	110 (A)		405 (B)

Prevalence Index = B/A = 3.68

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: 20201104-UPL3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 5/3	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: compacted fill

Depth (inches): 14

Hydric Soil Present? Yes ___ No ✓

Remarks:

Compacted fill was hit at 14 inches

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Harmony Grove City/County: Monongalia Sampling Date: October 16, 202
Applicant/Owner: WVDOH State: WV Sampling Point: 20201016-wl
Investigator(s): A.S., KW Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): LRR Lat: 39.608817 Long: -79.997707 Datum: NAD83
Soil Map Unit Name: Udorthents, Cut and fill NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Wetland 20201014-WL1 was taken in a swale. The wetland was observed as a palustrine emergent wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Aerial imagery from 2020 was reviewed

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 20201016-Lw1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
50% of total cover: -	20% of total cover: -		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 = Total Cover		
50% of total cover: -	20% of total cover: -		

Herb Stratum (Plot size: 5')			
1. Arthraxon hispidus	50	Y	FAC
2. Persicaria pensylvanica	20	Y	FACW
3. Persicaria sagittata	20	Y	OBL
4. Impatiens capensis	10	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover:		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: -	20% of total cover: -		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 20201016- WL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/1	100					Silt	
1-6	10YR 4/2	90	10YR 3/6	10	C	PL, M	Silt loam	
6-8	10YR 5/2	85	10YR 3/6	10	C	M		
			2.5Y 5/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 8

Hydric Soil Present? Yes ✓ No ___

Remarks:

Gravel was encountered at eight inches.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Harmony Grove City/County: Monongalia Sampling Date: October 16, 2020

Applicant/Owner: WVDOH State: WV Sampling Point: 20201016-UPL

Investigator(s): AS, KW Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 7

Subregion (LRR or MLRA): LRR N Lat: 39.608748 Long: -79.992607 Datum: NAD83

Soil Map Unit Name: Udorthents Cut and fill NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:
Data point 20201016-UPL1 was taken in a representative area of forested habitat. The upland point was taken upslope of PEM wetland 20201016-WL1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Aerial imagery from 2020 was reviewed.

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 20201016-wl1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharum	40	Y	FACU
2. Platanus occidentalis	10	N	FACW
3. Prunus serotina	5	N	FACU
4. Juglans cinera	5	N	FACU
5.			
6.			
7.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		
Sapling/Shrub Stratum (Plot size: 15')			
1. Rosa multiflora	15	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		
Herb Stratum (Plot size: 5')			
1. Smilax rotundifolia	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Woody Vine Stratum (Plot size: 30')			
1. Vitis labrusca	10	Y	FACU
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species	75	x 4 =	300
UPL species		x 5 =	
Column Totals:	90 (A)		335 (B)

Prevalence Index = B/A = 3.72

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 20201016-UP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					Silt loam	
1-3	10YR 5/3	100					fine sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 3

Hydric Soil Present? Yes ____ No ✓

Remarks:

Attempts to dig past three inches were met with rock refusal.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Harmony Grove City/County: Monongalia Sampling Date: October 16, 2020
Applicant/Owner: WVDOH State: WV Sampling Point: 20201016-WL1
Investigator(s): AS, KW Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): LRR Lat: 39.608817 Long: -79.992707 Datum: NAD83
Soil Map Unit Name: Udorthents, Cut and fill NWI classification: N/I
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Wetland 20201014-WL1 was taken in a swale. The wetland was observed as a palustrine emergent wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Aerial imagery from 2020 was reviewed

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 20201016-Lw.1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
50% of total cover: -	20% of total cover: -		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 = Total Cover		
50% of total cover: -	20% of total cover: -		
Herb Stratum (Plot size: 5')			
1. Arthraxon hispidus	50	Y	FAC
2. Persicaria pensylvanica	20	Y	FACW
3. Persicaria sagittata	20	Y	OBL
4. Impatiens capensis	10	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover:		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: -	20% of total cover: -		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: 20201016- WL1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/1	100					silt	
1-6	10YR 4/2	90	10YR 3/6	10	C	PL+M	silt loam	
6-8	10YR 5/2	85	10YR 3/6	10	C	M		
			2.5Y 5/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 8

Hydric Soil Present? Yes ✓ No ___

Remarks:

Gravel was encountered at eight inches.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Harmony Grove City/County: Monongalia Sampling Date: December 9, 2020

Applicant/Owner: WVDOH State: WV Sampling Point: 20201209-VAL1

Investigator(s): AS, EA Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR N Lat: 39.605783 Long: -79.995066 Datum:

Soil Map Unit Name: Colleoca-Westmoreland Silt loams, 35-65 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
Data point 20201209-VAL1 was taken in the floodplain of an intermittent stream.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Aerial imagery from 2020 was reviewed

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 20201209-UPL1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
50% of total cover: –	20% of total cover: –		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 = Total Cover		
50% of total cover: –	20% of total cover: –		
Herb Stratum (Plot size: 5')			
1. Phalaris arundinacea	30	4	FACW
2. Lonicera japonica	30	4	FACU
3. Solidago canadensis	30	4	FACU
4. Rosa multiflora	5	N	FACU
5. Agrimonia parviflora	5	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: –	20% of total cover: –		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	35	x 2 =	70
FAC species		x 3 =	
FACU species	65	x 4 =	260
UPL species		x 5 =	
Column Totals:	100 (A)		330 (B)

Prevalence Index = B/A = 3.3

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: 20201209-up1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	2.5Y 4/2	100					Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): -

Type: -

Depth (inches): -

Hydric Soil Present? Yes ______ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Harmony Grove City/County: Monongalia Sampling Date: December 9, 2020

Applicant/Owner: WVDOH State: WV Sampling Point: 20201209-WL1

Investigator(s): AS, EA Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR N Lat: 39.606014 Long: -79.905109 Datum: NAD83

Soil Map Unit Name: Culleoka-Westmoreland Silt loams, 35-65 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: Wetland 20201209-WL1 was identified as a palustrine emergent wetland in a toeslope depression.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] True Aquatic Plants (B14)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres on Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [✓] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ✓	No ____	Depth (inches): 5
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 2

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Aerial imagery from 2020 was reviewed

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 20201209-WC1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
50% of total cover: —	20% of total cover: —		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 = Total Cover		
50% of total cover: —	20% of total cover: —		
Herb Stratum (Plot size: 5')			
1. Phalaris arundinacea	40	Y	FACW
2. Carex lurida	35	Y	OBL
3. Juncus effusus	10	N	FACW
4. Clematis virginiana	10	N	FAC
5. Daucus carota	5	N	UPL
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: —	20% of total cover: —		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: 20201209-wu1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/1	90	10YR 5/6	10	C	PL/M	silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: cobble

Depth (inches): 8

Hydric Soil Present? Yes ✓ No ____

Remarks:

Soils were unable to be extracted past eight inches due to cobble refusal

July 2, 2025

United States Army Corps of Engineers
Huntington District
502 Eighth Street
Huntington, WV 25701-2070

RE: Jurisdictional Determination Addendum
Harmony Grove Interchange Project
Morgantown, West Virginia
Thrasher Project # 080-10024

To Whom It May Concern,

The Thrasher Group, Inc. (Thrasher) is submitting information as an addendum to the Wetland Delineation and Stream Identification Report for the Harmony Grove Interchange Project. The Project is in the United States Geological Survey (USGS) Morgantown South 7.5-minute quadrangle of Monongalia County, WV. Refer to the attached USGS Location Map and the Aerial Site Location Map.

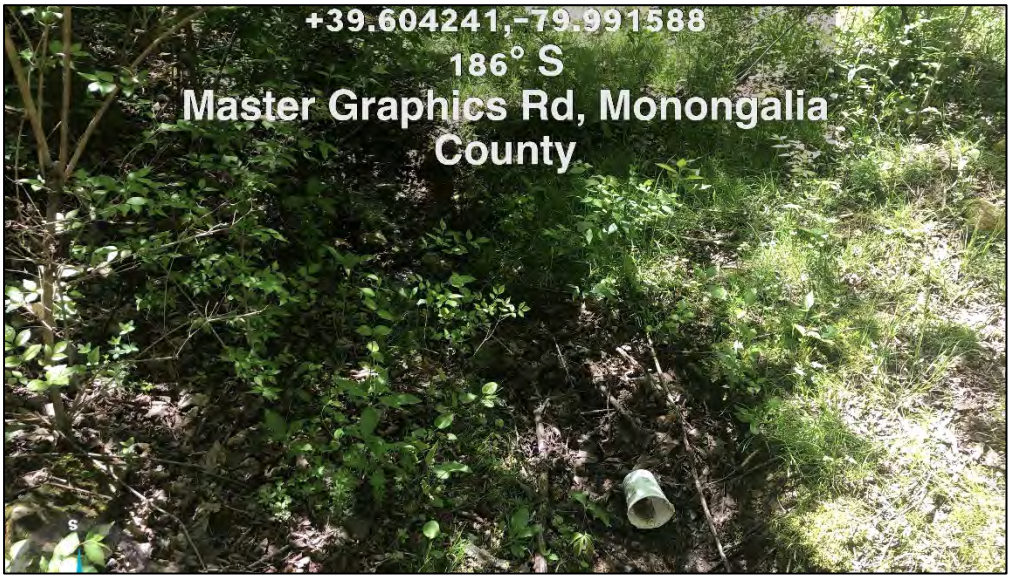
Aquatic Resource Description:

On October 14-16, December 9, 2020, and February 22, 2021, The Thrasher Group, Inc. (Thrasher) completed wetland and stream delineations to document any surface waters located within the initial Project Environmental Clearance Zone (ECZ). Recently, an additional area totaling 0.40 acres has been added to the ECZ. A wetland and stream delineation occurred within this additional area on April 28, 2025, and one aquatic resource was identified. The aquatic resource identified is an unnamed ephemeral tributary of the Monongahela River. This stream was previously identified during previous delineations; however, due to the expansion of the ECZ, the linear feet of this stream within the ECZ have changed. Please see Table 1 below for updated stream Characteristics and photographs below of the identified stream and photos of general site conditions.

Table 1. Streams Identified Within the Project ECZ

Stream ID	Stream Type	Latitude	Longitude	Linear Feet Within ECZ	Receiving Waterway	Jurisdictional (Y/N) *
20201014-UNT 2	Ephemeral	39.604099	-79.991434	442	Monongahela River	N

20201014-UNT 2 facing upstream



20201014-UNT 2 facing downstream

20201014-UNT 2 facing bank to bank

Additional Project area overview facing northwest.

Additional Project area overview facing northwest.

Thrasher respectfully requests concurrence from the USACE Huntington District with the determination of non-jurisdictional for these features. If any further documentation is requested for this Project, or any questions or concerns should arise, please feel free to contact me at your earliest convenience at (304) 476-6315 or bward@thethrashergroup.com.

Sincerely,

THE THRASHER GROUP, INC.

Brittany Ward

BRITTANY A. WARD
Environmental Project Manager III
1000 Corporate Landing
Charleston, WV 25311
Phone: (304) 476-6315

APPENDIX F – RARE, THREATENED, AND ENDANGERED SPECIES COORDINATION

WVDNR Coordination

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Stephen T. Rumbaugh, P. E.
Secretary of Transportation
Commissioner of Highways

March 11, 2025

Mr. Danny Bennett
West Virginia Division of
Natural Resources
Post Office Box 67
Elkins, West Virginia 26241

Dear Mr. Bennett:

State Project N/A
Federal Project N/A
Harmony Grove Interchange
Interstate 79 (MP-151) and County Route 45
Monongalia County

Enrout Properties, LLC (Enrout), in coordination with the West Virginia Division of Highways (WVDOH), is developing the subject project at the location shown on the attached vicinity maps. The project is proposing to build a new interchange off of Interstate 79 at approximate mile marker 151. This project is being privately funded by Enrout but still requires approval from the WVDOH. The project location is shown on the attached USGS Morgantown South quadrangle map. The approximate center coordinates of the project location are 39.604993, -79.993329.

Your comments on possible effects to rare or endangered species and natural trout streams are requested so that they may be included in our environmental studies. Should you require additional information, please contact Sondra Mullins of our NEPA Compliance and Permitting Section at (304) 414-6468 or Sondra.l.mullins@wv.gov.

Very truly yours,

Sondra Mullins

Sondra Mullins, Assistant Director
Technical Support Division

SLM: m
Attachments
cc: DSN(SM)

Map


Project Location
39.604993, -79.993329
Project Location
Environmental Clearance Zone (ECZ)
Feet
0
2,000
4,000
8,000
Copyright © 2013 National Geographic Society, i-cubed

March 13, 2025

Ms. Sondra Mullins
Division of Highways
Technical Support Division
1900 Kanawha Blvd., East
Building Five Room 110
Charleston, WV 25305-0430

Dear Ms. Mullins,

We have reviewed Natural Heritage Program files for information on rare, threatened, and endangered (RTE) species and natural trout streams for the area of the proposed highway project:

Harmony Grove Interchange
Interstate 79 (MP-151) and County Route 45
Monongalia County

According to our database there are no bats, RTE species, or reproducing trout streams within the project buffer.

There are no known bald eagle nests within a 660-foot buffer of your proposed project. However, your project is located within a predicted bald eagle abundance area within one mile of the Monongalia River and there is a potential of an undocumented nest within your project's AOI. In order to minimize unintentional violation of the Bald and Golden Eagle Protection Act, we recommend that, prior to commencement of project activities, a ground transect survey be conducted during the leaf-off period (12/1 to 3/15) to confirm the absence of active bald eagle nest(s) within 660 feet (200 meters) of the project site. If a bald eagle nest or evidence of nest building activity is discovered, you should immediately contact WVDNR Ornithologist Mr. Richard Bailey at 304-630-0213 (Richard.S.Bailey@wv.gov).

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.

The information provided is the result of a search of the following bat buffers: summer occurrences, captures, and hibernacula for each of the Indiana bat, northern long-eared bat, Virginia big-eared bat, and tricolored bat. Data provided include and differentiate between the inner- and outer-tiers of capture, roost and hibernacula records, respectively, and identify

anthropogenic sites such as bridges and culverts. All buffer types and distances are consistent with U.S. Fish and Wildlife Service values as of December 13th, 2024. Please note that due to changes in the U.S. Fish and Wildlife Service guidance, and concurrent updates to the WVDNR records database, new records request responses may differ from past requests. In particular, the current U.S. Fish and Wildlife Service guidance reduces northern long-eared bat and tricolored bat buffers at culverts, bridges, and at all tricolored bat hibernacula. 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. The Wildlife Resources Section knows of no other 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. This response is valid for three years.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the number below, or Anne.M.Wakeford@wv.gov.

Sincerely,

Anne M. Wakeford

Anne M. Wakeford
Wildlife Biologist
Environmental Coordination
Operations Unit

USFWS Coordination

From:	Burke, Sydney T
To:	elizabeth_stout@fws.gov
Cc:	Cummings, Traci L; Facemire, Lovell R; Mullins, Sondra L; Hark, Ben L; Epperly, Randy T; Gina Panasik; Arp-Bazzie, Jennifer
Subject:	Individual Project Review - Harmony Grove exit 151
Date:	Friday, June 10, 2022 8:48:05 AM
Attachments:	22-1090.00 Harmony Grove Habitat Assessment.pdf

*** CAUTION: External E-mail !!!

Liz,

Attached is a habitat assessment and PRT analysis for the Harmony Grove project, in Monongalia County. This project proposes to build a new interchange off Interstate 79 at approximate mile marker 151. Please review the attached document in its entirety, as I've only highlighted the main points below.

WVDOH, on behalf of FHWA, is making an NLAA determination for both the Indiana bat and NLEB for this project. Can you concur with this effects determination?

- The project has a total of 106.5 acres, of which 27.7 acres were determined to be marginal quality forested habitat and 78.8 acres were determined to be poor and/or non-forested habitat.
- Based on IPaC, this project is not within a known-use area for the Indiana bat or northern long-eared bat. During the field assessment, a total of 5 PRTs were identified within the project area. Two were classified as potential primary PRTs and the remaining three were identified as potential secondary roost trees.
- No potential winter habitat was observed during field efforts.
- Mitigative and minimization efforts are included in the plan including winter tree removal, BMPs, and erecting artificial roosting structures for any PRTs that are lost during the project development.

If you have any questions, please let me know.

Thanks,

Sydney

BAT HABITAT ASSESSMENT FOR THE PROPOSED HARMONY GROVE PROJECT IN MONONGALIA COUNTY, WEST VIRGINIA

PREPARED BY:
Apogee, Inc.

PREPARED FOR:
The Thrasher Group, Inc.

APOGEE SURVEY NUMBER:
22-1090.00

June 2022

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1.0 INTRODUCTION

Apogee, Inc. (Apogee) was contracted by The Thrasher Group, Inc. (Thrasher) to assess potential summer and winter habitat for state and federally endangered/threatened bats for the proposed Harmony Grove Project (the project) in Monongalia County, West Virginia.

The following report details the findings of the bat habitat assessment conducted by Apogee on behalf of Thrasher to fulfill requirements set forth by U.S. Fish & Wildlife Service (USFWS).

2.0 PERSONNEL

- **Wesley Webb:** Senior Ecologist/Project Manager, Alice Lloyd College, B.S. Biology,2011
- **Luke Fultz:** Ecologist, Juniata College, B.S. Wildlife Conservation,2019

3.0 SITE LOCATION AND DESCRIPTION

The proposed project is a new interchange at mile marker 151 on I-79 located approximately 1.25 miles west of Morgantown, West Virginia. Located within the Morgantown South USGS 7.5-minute quadrangle map, the project encompasses approximately 106.5 acres of which approximately 27.7 acres are forested and will need be cleared during the seasonal tree clearing windows for potentially impacted listed bat species.

The project is characterized by mixed age deciduous woodlots and areas of scrub-brush mixed with early successional woodlots. Woodlots are highly fragmented by a bisecting (north-south) interstate highway (I-79) as well as several areas of residential development mostly devoid of trees. The project area is also bisected (east-west) by River Road which crosses I-79 by way of a bridge. Elevations within the project area range from approximately 900 – 1250 feet above sea level. The proposed project area maps can be found in Appendix A.

4.0 METHODS

Habitat Assessments

Prior to field investigations, a protected species review was conducted to gain insight regarding the potential presence of state and federally listed species onsite or within the vicinity of the project. The following agencies and associated databases were reviewed for protected species:

- U.S Fish and Wildlife Services (USFWS) – Information, Planning and Consultations (IPaC)
- West Virginia Department of Natural Resource (WVDNR)

After review of these data resources, two listed bat species were determined to be potentially present within the project area:

Table 1. Potentially present listed bat species for the Harmony Grove Project.

Common Name	Scientific Name	Status*
Northern Long-eared Bat	*Myotis septentrionalis*	FT / ST
Indiana Bat	*Myotis sodalis*	FE / SE

*FT=federally threatened; ST=state threatened; FE=federally endangered; SE=state endangered

During field investigations, qualified biologists followed methods set forth by *2020 Range-wide Indiana Bat Summer Survey Guidelines* (USFWS, March 2020) while conducting an on-site assessment of the quality and quantity of suitable bat habitat present within the proposed project area. In-field assessments were conducted on February 21, 2022.

A. Summer Habitat

Suitable summer Indiana bat habitat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel. Indiana bats may also utilize human-made structures (bridges, artificial roosts, etc.), some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. Suitable forested/wooded habitat consists of live trees and/or snags ≥ five inches diameter at breast height (DBH) that have exfoliating bark, cracks, crevices and/or hollows as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Suitable summer habitat for northern long-eared bat (NLEB) is consistent with Indiana bat requirements with the lone exception being that NLEB potential roost trees can be as small as ≥ three inches DBH and NLEBs may also utilize man-made structures such as barns and buildings.

In order to assess the quality and quantity of potential suitable bat habitat present within the limits of disturbance (LOD), qualified biologists with knowledge of bat habitat requirements conducted a desktop review and an on-site pedestrian survey of the entire proposed project area. The on-site assessment included a detailed analysis of potential roost trees (PRTs) that may be affected by the project as well as a description of potential foraging and commuting areas present. In addition, the most recent aerial photography was used to delineate non-forested and forested areas within the proposed project area. Separate habitat areas were identified based on dominant vegetation and rated for quality of summer habitat as either non-forested habitat, high quality habitat, or marginal quality forested habitat using the following methods:

- High Quality Habitat: Habitat with > 10 percent forest cover that has at least six hardwood trees > 18-inch diameter at breast height (DBH) per acre with four of those trees being a preferred species.
- Marginal Habitat: Habitat with > 10 percent forest cover that does not have at least six hardwood trees > 18-inch DBH per acre with four of those trees being a preferred species.
- Non-forested: Habitat with < 10 percent forest cover, occupied by trees of any size or species.

Indiana bats use a variety of tree species for PRTs. Preferred species of trees include shagbark hickory (*Carya ovata*), shellbark hickory (*C. laciniosa*), bitternut hickory (*C. cordiformis*), mockernut hickory (*C. tomentosa*), pignut hickory (*C. glabra),* red maple *(Acer rubrum),* sugar maple *(A. saccharum),* slippery elm *(Ulmus rubra),* American elm *(U. americana)*, black locust (*Robinia pseudoacacia*), green ash (*Fraxinus pennsylvanica*), white ash (*F. americana*), eastern cottonwood (*Populus deltoides*), sycamore (*Platanus occidentalis*), northern red oak (*Quercus rubra*), scarlet oak (*Q. coccinea*), black oak (*Q. velutina*), chestnut oak (*Q. montana*), and white oak (*Q. alba*).

PRTs were also rated as either primary or secondary roost trees. PRTs rated as primary are typically large (> nine-inch DBH) with roosting features such as exfoliating bark, cracks, crevices, or hollows with a moderate to high degree of solar exposure. PRTs rated as secondary are typically smaller (<nine-inch DBH) with roosting features such as exfoliating bark, cracks, crevices, or hollows with little to no solar exposure. Data sheets associated with the surveys can be found in Appendix B.

B. Winter Habitat

To determine if potential winter habitat was present within the proposed project area, qualified biologists reviewed karst occurrence, mining history, and environmental resource maps to determine if any open abandoned mine or karst areas were present within a three-mile radius of the proposed project area. In addition, qualified biologists with knowledge of bat winter habitat requirements conducted an in-field survey of the proposed project area.

5.0 HABITAT ASSESSMENT RESULTS

A. Summer Habitat

Based upon a desktop review of the most recent aerial photography and in-field surveys, potential Indiana bat and NLEB summer habitat does exist within the proposed project area. Habitat consists of forested and other lands with snags and trees large enough to meet minimum DBH requirements for both the Indiana bat and the NLEB that meet the USFWS criteria to be considered potential summer roosts. During field efforts, five (5) potential roost trees were identified within the project area, of which two (2) were classified as primary potential roost trees and the remaining three (3) were identified as potential secondary roost trees.

Commuting areas within the project area were sparse. No forested corridors were found within the project area. The forested areas that exist within the project area are highly fragmented by residential areas and I-79. Closed canopy within the project area was also found to be sparse. The lack of closed canopy forested corridors exposes bats to higher potential for predation.

Watering areas within the project area were sparse. Two streams were observed flowing within Habitat 1 in the southeast and northwest sections of the project area. The southeast stream is located in the only forested section of the project area in which PRTs were found. This stream empties directly into the Monongahela River less than a mile south of the project area. The stream observed in the northwest portion of the project area flows north through limited forested areas primarily dominated by scrub-brush and early successional habitats.

Within the project area, three (3) separate habitat areas were identified based on dominant vegetation type and coverage. Of the 106.5 acres within the survey area, 27.7 acres were determined to be marginal quality forested habitat and 78.8 acres were determined to be poor and/or non-forested habitat (low quality). PRT and habitat data sheets can be found in Appendix B. Photos of PRTs can be found in Appendix C.

Habitat 1 (marginal quality habitat), which covers approximately 27.7 acres, is scattered throughout the project area as non-contiguous woodlots, and contains mixed deciduous forests. This habitat is dominated by white oak, northern red oak, red maple, American beech (*Fagus grandifolia*), shagbark hickory, black cherry (*Prunus serotina*), black walnut (*Juglans nigra*), and sycamore. The understory of these woodlots varied from generally clear to dense thickets of spicebush (*Lindera benzoin*), multiflora rose (*Rosa multiflora*), and autumn olive (*Eleagnus umbellata*) along the forest edges.

Habitat 2 (low quality habitat) which covers approximately 27.87 acres, is primarily dominated by scrub-brush interspersed with areas of early successional forest. Throughout this habitat early successional and invasive species were dominant. Species observed include sapling black locust, sycamore, autumn olive, multiflora rose, tree-of-heaven (*Ailanthus altissima*), immature red maple, American beech, and black walnut. Most trees were located along the outer reaches of

these areas or along fence rows or road edges.

Habitat 3 (low quality habitat), which covers approximately 50.95 acres, is mostly non-forested habitat primarily consisting of interstate highway (I-79), several disturbed areas, roads, and residential development. Throughout this habitat a four-lane highway bisects the project area and mowed lawns were ubiquitous in residential areas and early successional and invasive species were dominant along the outer reaches of these areas. Species observed include sapling black locust, autumn olive, tree-of-heaven, black walnut, and red maple. Most trees were located along property or road edges. A bridge is present along River Road crossing I-79. The underside of the bridge consists of concrete that has cracks and leaking water and crosses over a busy interstate highway; therefore, the bridge was not found to provide suitable potential bat habitat. Habitat Photos can be found in Appendix D.

B. Winter Habitat

Review of the karst occurrence, mining history, and environmental resource maps showed no caves or abandoned mine portals within the proposed project area. In addition, no caves, rock shelters, or abandoned underground mines were observed during the in-field survey of the site.

6.0 HABITAT ASSESSMENT DISCUSSION

This habitat assessment was conducted with the appropriate level of effort and under the appropriate conditions to investigate potential summer and winter habitat for listed bats. Potential summer roosting habitat was found during the survey. Five (5) potential roost trees were identified within the project area, of which two (2) were classified as primary potential roost trees and the remaining three (3) were identified as potential secondary roost trees. A total of 27.7 acres of the project area was considered to be of marginal quality. The remaining area of the project, totaling 78.82 acres and consisting of I-79, the River Road bridge, and areas of residential development, was classified as poor bat habitat due to lack of suitable roost trees, water resources, and safe foraging potential. Despite the existence of preferred tree species, the non-contiguous woodlots are surrounded by a busy interstate highway and open areas due to residential development which makes foraging bats susceptible to predation, and a lack of water resources devalues the overall quality of the habitat in the survey area. No potential winter habitat was observed during field efforts.

7.0 POSSIBLE MINIMIZATION AND MITIGATION MEASURES

In an effort to reduce the disturbance and impacts to bats, the following minimization and mitigation measures can be implemented:

- Trees will only be cleared between November 15 – March 31 (required)
- Avoid cutting potential roost trees
- Minimize limits of disturbance (narrowed LOD or ROW)
- Minimize impacts (clearing) around suitable swarming and summer habitat and wetland/riparian zones
- Collocate project features with previously disturbed or cleared areas
- Phase tree clearing over multiple years
- Reforest disturbed areas
- Strong erosion and sedimentation best management practices
- Pollution control plan

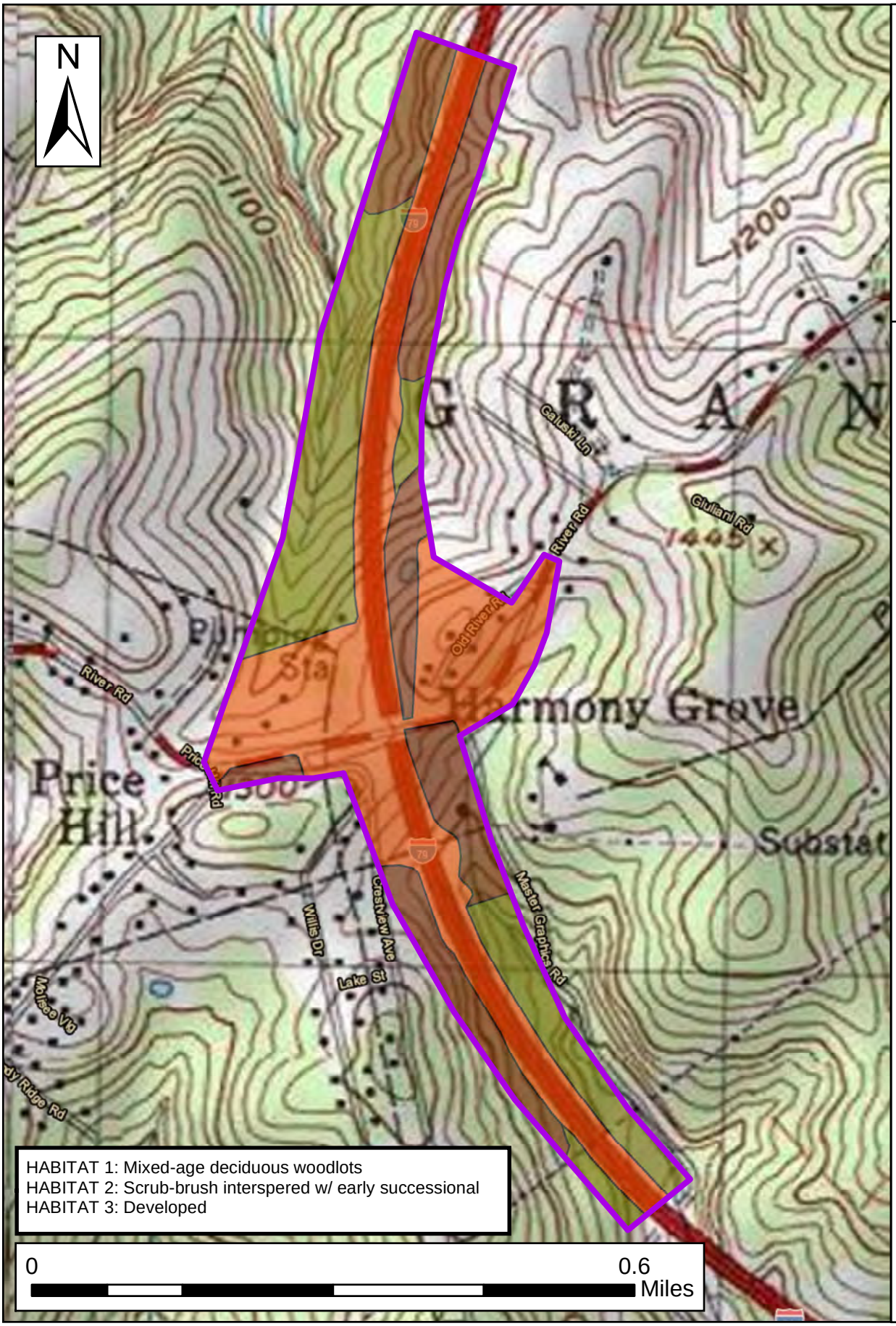
- Erecting artificial roosting structures on a 1:1 ratio for potential primary roost trees that are lost during project development with a 2-year monitoring plan
- Erecting artificial roosting structures on a 4:1 ratio to replace potential secondary roost trees that are lost during project development with a 2-year monitoring plan

During the habitat assessment, two (2) potential primary roosts and three (3) potential secondary roosts were discovered. If artificial roosts are to be used as mitigation, they will be installed on a 1:1 ratio for potential primary roosts, and a 4:1 ratio for potential secondary roosts; therefore, a total of three (3) artificial roosts will be installed. Monitoring of the three artificial roosts will need to occur for two years, once per season. The artificial roosts must be installed by March 31 if monitoring is to be conducted within the same calendar year. Roosts would be visually inspected via thermal cameras and/or borescopes to determine occupancy.

APPENDIX A

SURVEY AREA MAPS

APOGEE



Harmony Grove Bat Habitat Assessment

22-1090.00

Habitat Map

Monongalia County, WV

Figure 1A:
Topo Map

LEGEND

PROJECT AREA

HABITAT

HABITAT 1

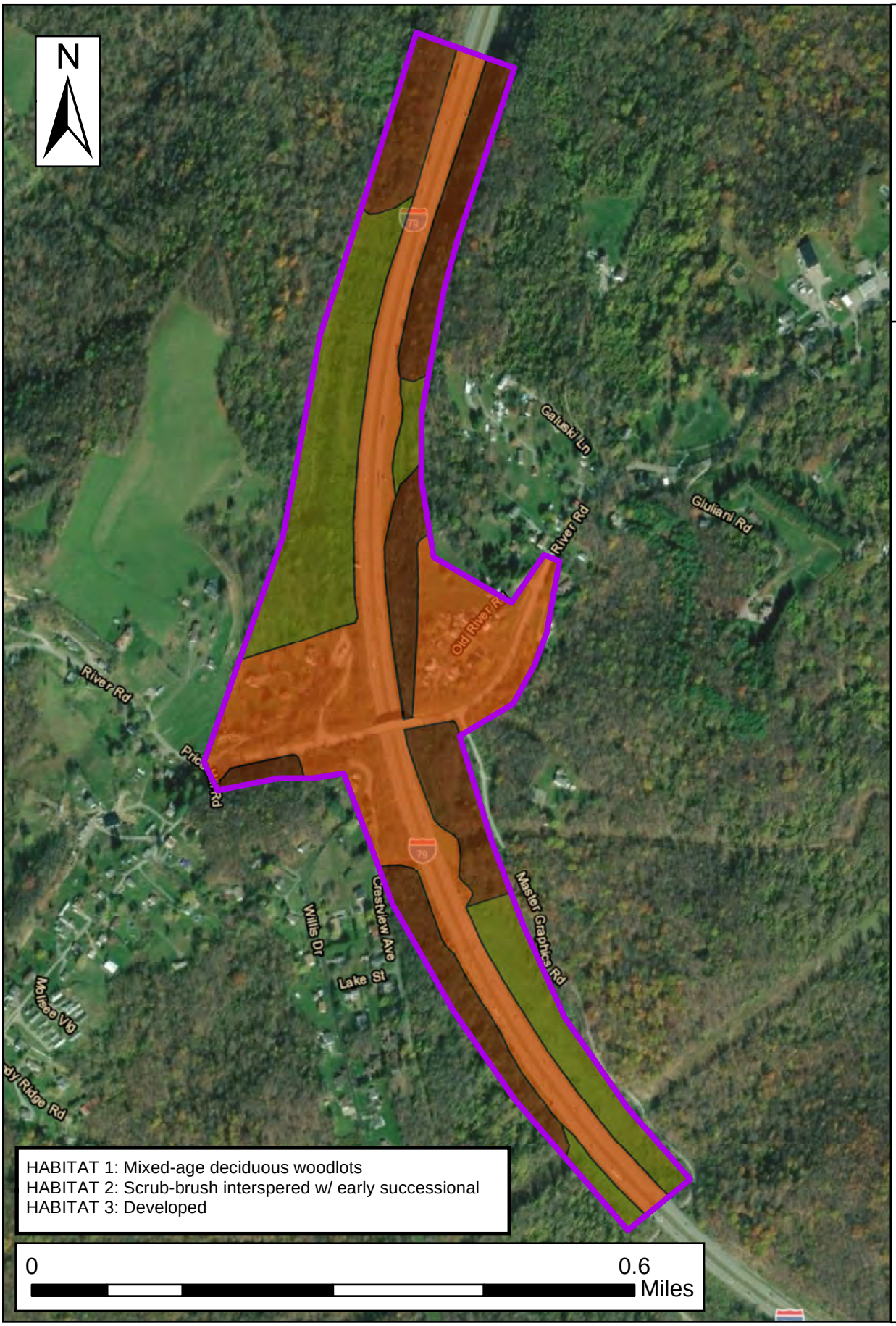
HABITAT 2

HABITAT 3

1 in = 0.1 miles

Quad Name: Morgantown South (1979), WEST VIRGINIA

APOGEE



Harmony Grove Bat Habitat Assessment

22-1090.00

Habitat Map

Monongalia County, WV

Figure 1B:
Aerial Map

LEGEND

PROJECT AREA

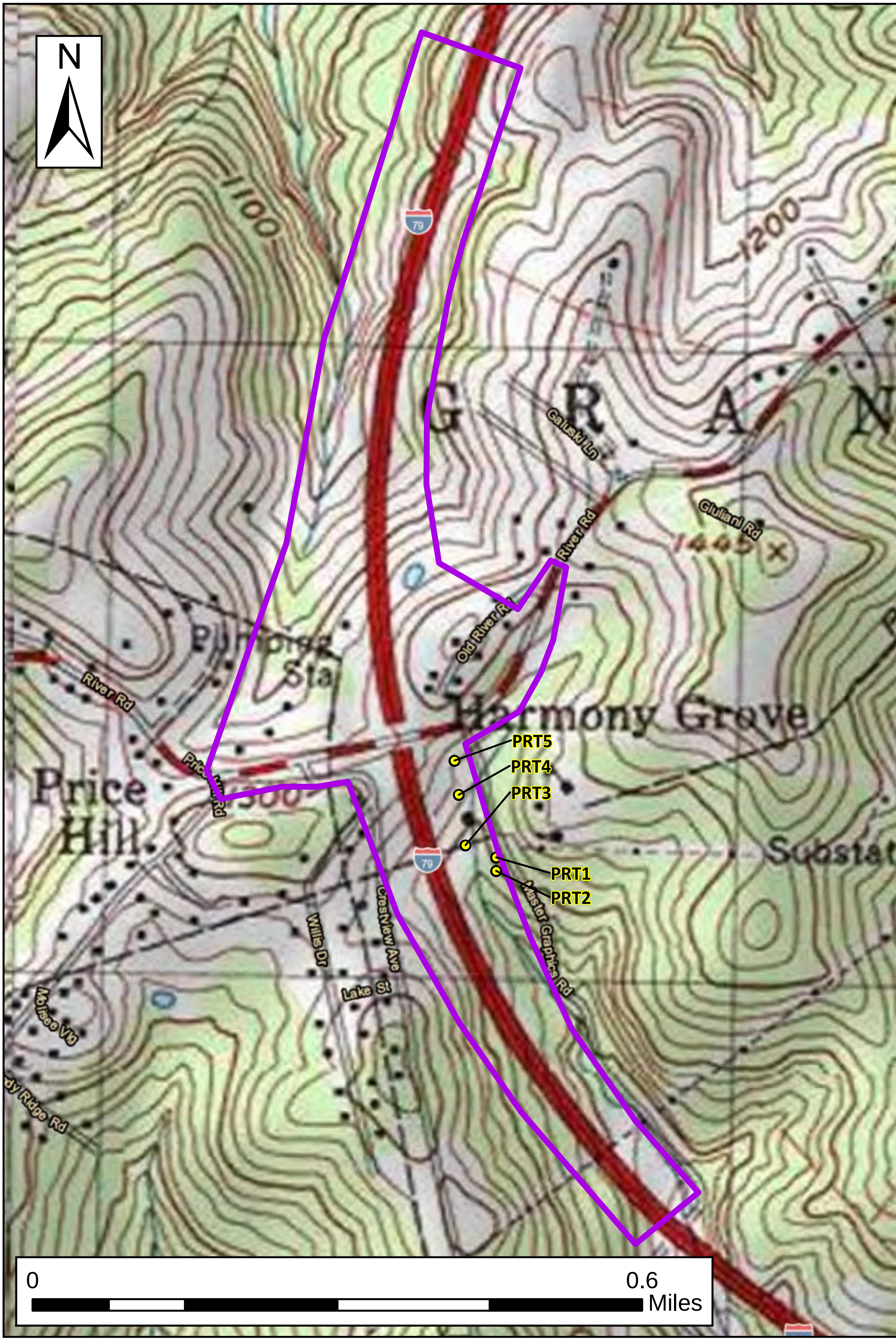
HABITAT

HABITAT 1

HABITAT 2

HABITAT 3

1 in = 0.1 miles



Harmony Grove Bat Habitat Assessment

22-1090.00

PRT Location Map

Monongalia County, WV

Figure 2A:
Topo Map

LEGEND

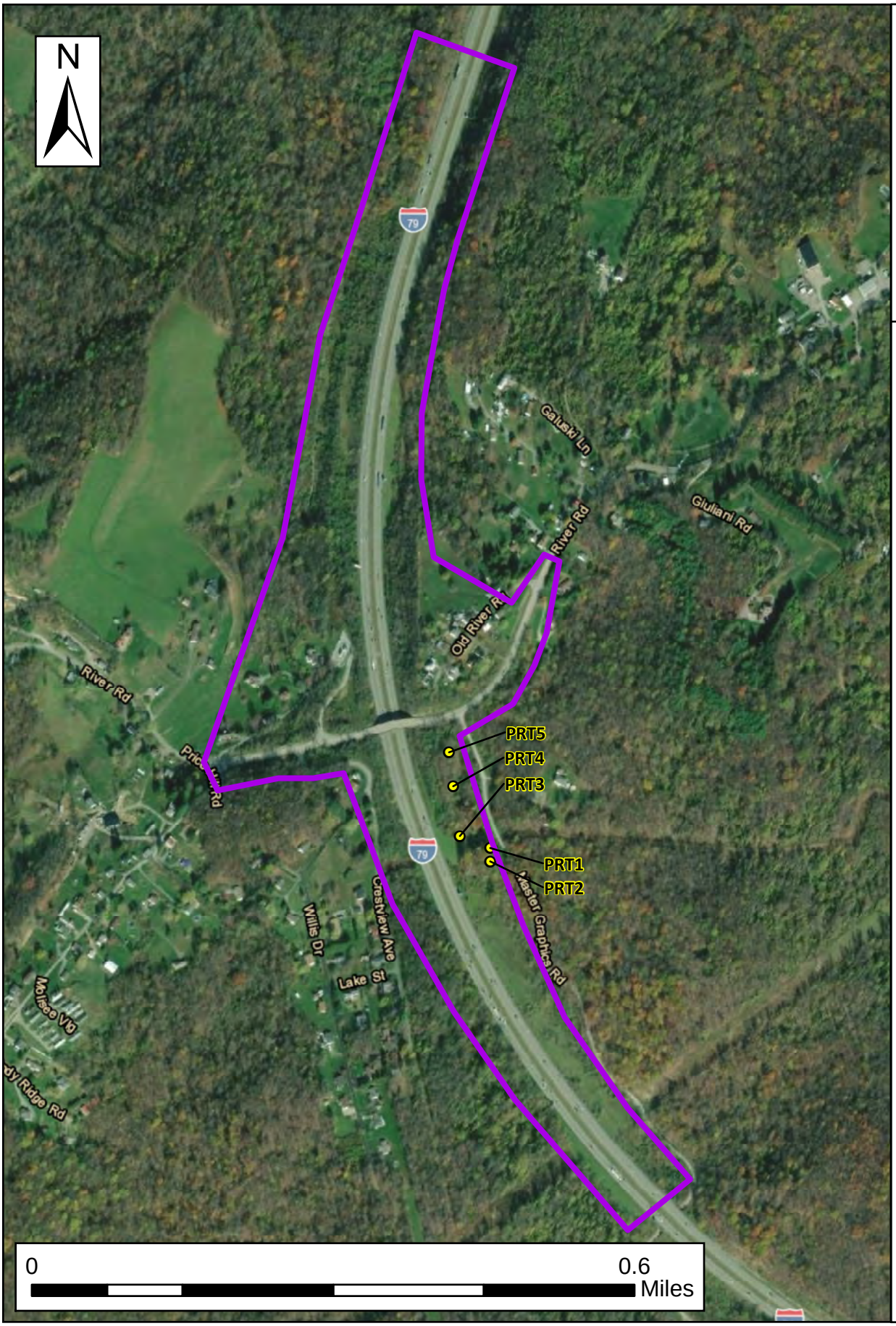
PROJECT AREA

PRT LOCATION

1 in = 0.1 miles

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Copyright:© 2013 National Geographic Society, i-cubed

Quad Name: Morgantown South (1979), WEST VIRGINIA



Harmony Grove Bat Habitat Assessment

22-1090.00

PRT Location Map

Monongalia County, WV

Figure 2B:
Aerial Map

LEGEND

PROJECT AREA

PRT LOCATION

1 in = 0.1 miles

APPENDIX B

DATA SHEETS

Potential Roost Tree Information Sheet

Project #: 22-1090 State: WV County: Monongalia

Team ID: Wes Webb and Luke Fultz Date: 02-21-2022

Tree ID #	Species	DBH (inches)	Primary or Secondary	Alive/ Dead	Coordinates		Photo #	Avoid/ Unavoid
					Latitude	Longitude		
1	Quercus alba	31	primary	dead	N39.60311	W-79.99108	1	A
2	Quercus alba	20	secondary	dead	N39.60292	W-79.99108	2	U
3	snag	18	secondary	dead	N39.60328	W-79.99165	3	U
4	Prunus serotina	14	secondary	dead	N39.60400	W-79.99178	4	U
5	Quercus spp.	33	primary	dead	N39.60449	W-79.99186	5	A

Myotis Habitat Data

Project #: 22-1090

Locational Data:

Well Pad ID:	N/A		
Plot ID:	Habitat 1	Date of Survey:	02/21/2022
Pipeline Segment:	N/A		Wes Webb, Luke Fultz
Approx MP: Tract No.:	N/A	Team ID:	N39.6034948
	N/A	Latitude:	W-79.9917102
State:	WV	Longitude:	
County:	Monongalia	Photographs:	Yes

Plot Description:

Mixed-age deciduous woods, scattered throughout the project area. This habitat is fragmented by disturbed areas, scrub-brush, early successional habitats, residential development, and interstate highway 79.

Description of Adjacent Areas:

Habitat 1 is highly fragmented and is immidately adjacent to interstate highway 79, as well as several developed residential areas mostly devoid of trees

Distribution of Trees - dbh by inch: (percent)

Small (3-8 inch dbh)	30
Medium (8-15 inch dbh)	40
Large > 15 dbh	20

Forest Density: (percent)

Understory closure:	40
Midstory closure:	25
Canopy closure:	35

Species:	Ave. dbh
Quercus alba	16"
Quercus rubra	8"
Carya ovata	9"
Prunus serotina	7"
Acer rubrum	4"
Fagus grandifolia	3"
Juglans nigra	6"
Platanus occidenta	5"

Waterbodies: (total # and ID)

Ephemeral	2
Intermittent	0
Perennial	0

Wetlands: (total # and ID)

Number	0
Acres	0

IBat Habitat Type:	1
NEB Habitat Type:	1

Notes:

MYSO Habitat Types:

1. Maternity Roosting Habitat: Stand with ≥ 1 suitable roost tree ≥ 9 inches dbh that are either preferred species with ≤ 30% exfoliating bark or suitable snags

2. Non-Materntiy Roosting Habitat: A forested stand with the following characteristics:

a. no trees that are greater than or equal to nine inches dbh that are either preferred tree species with greater than or equal to 30 percent exfoliating bark or suitable snags, and

b. trees greater than or equal to four inches dbh that are either preferred tree species or suitable snags.

3. Foraging Habitat: A forested stand with trees ≥ four inches dbh with no preferred tree species or suitable snags.

MYSE Habitat Types:

1. Roosting Habitat: A forested stand with trees ≥ 3 inches DBH

Sampling Frequency:

In contiguous forest, sample one 30 x 400 foot plot centered on centerline for each defined change in habitat, with a minimum of one plot per kilometer.

In small isolated woodlots, sample 30 ft width for entire length of woodlot

Survey Corridor:

Myotis Habitat Data

Project #: 22-1090

Locational Data:

Well Pad ID:	N/A		
Plot ID:	Habitat 2	Date of Survey:	02/21/2022
Pipeline Segment:	N/A		Wes Webb, Luke Fultz
Approx MP: Tract No.:	N/A	Team ID:	N39.6092603
	N/A	Latitude:	W-79.9938825
State:	WV	Longitude:	
County:	Monongalia	Photographs:	Yes

Plot Description:

Primarily scrub-brush interspersed with areas of early successional forest and some dense thickets. This habitat is scattered throughout the project area and exhibits evidence of previous tree clearing.

Description of Adjacent Areas:

Surrounded by highly fragmented small woodlots and is immidately adjacent to interstate highway 79, as well as several developed residential areas characterized by mowed lawns and mostly devoid of trees.

Distribution of Trees - dbh by inch: (percent)

Small (3-8 inch dbh)	100
Medium (8-15 inch dbh)	0
Large > 15 dbh	0

Forest Density: (percent)

Understory closure:	85
Midstory closure:	14
Canopy closure:	1

Species:	Ave. dbh
Robinia pseudoac	2"
Platanus occidenta	4"
Ailanthus altissima	3"
Acer rubrum	2"
Fagus grandifolia	3"
Juglans nigra	4"

Waterbodies: (total # and ID)

Ephemeral	1
Intermittent	0
Perennial	0

Wetlands: (total # and ID)

Number	0
Acres	0

IBat Habitat Type:	3
NEB Habitat Type:	1

Notes:

MYSO Habitat Types:

1. Maternity Roosting Habitat: Stand with ≥ 1 suitable roost tree ≥ 9 inches dbh that are either preferred species with ≤ 30% exfoliating bark or suitable snags

2. Non-Materntiy Roosting Habitat: A forested stand with the following characteristics:

a. no trees that are greater than or equal to nine inches dbh that are either preferred tree species with greater than or equal to 30 percent exfoliating bark or suitable snags, and

b. trees greater than or equal to four inches dbh that are either preferred tree species or suitable snags.

3. Foraging Habitat: A forested stand with trees ≥ four inches dbh with no preferred tree species or suitable snags.

MYSE Habitat Types:

1. Roosting Habitat: A forested stand with trees ≥ 3 inches DBH

Sampling Frequency:

In contiguous forest, sample one 30 x 400 foot plot centered on centerline for each defined change in habitat, with a minimum of one plot per kilometer.

In small isolated woodlots, sample 30 ft width for entire length of woodlot

Survey Corridor:

Myotis Habitat Data

Project #: 22-1090

Locational Data:

Well Pad ID:	N/A		
Plot ID:	Habitat 3	Date of Survey:	02/21/2022
Pipeline Segment:	N/A		Wes Webb, Luke Fultz
Approx MP: Tract No.:	N/A	Team ID:	N39.6056804
	N/A	Latitude:	W-79.9921961
State:	WV	Longitude:	
County:	Monongalia	Photographs:	Yes

Plot Description:

Mostly non-forested primarily consisting of residential development characterized by mowed lawns, several disturbed areas, and roads including interstate 79. Early successional and invasive species were observed along the outer reaches of these parcels. Most trees were located along property or road edges. Habitat 3 also contains a bridge crossing along River Road over interstate highway 79. The underside of the bridge consists of concrete that has cracks and leaking water as well as crossing over a busy interstate highway (I-79)

Description of Adjacent Areas:

highly fragmented small woodlots, and scrub-brush interspersed with early successional habitat.

Distribution of Trees - dbh by inch: (percent)

Small (3-8 inch dbh)	98
Medium (8-15 inch dbh)	1
Large > 15 dbh	1

Forest Density: (percent)

Understory closure:	1
Midstory closure:	1
Canopy closure:	1

Species:	Ave. dbh
Robinia pseudoac	2"
Juglans nigra	4"
Acer rubrum	4"
Ailanthus altissima	3"

Waterbodies: (total # and ID)

Ephemeral	0
Intermittent	0
Perennial	0

Wetlands: (total # and ID)

Number	0
Acres	0

IBat Habitat Type:	3
NEB Habitat Type:	1

Notes:

MYSO Habitat Types:

1. Maternity Roosting Habitat: Stand with ≥ 1 suitable roost tree ≥ 9 inches dbh that are either preferred species with ≤ 30% exfoliating bark or suitable snags

2. Non-Materntiy Roosting Habitat: A forested stand with the following characteristics:

a. no trees that are greater than or equal to nine inches dbh that are either preferred tree species with greater than or equal to 30 percent exfoliating bark or suitable snags, and

b. trees greater than or equal to four inches dbh that are either preferred tree species or suitable snags.

3. Foraging Habitat: A forested stand with trees ≥ four inches dbh with no preferred tree species or suitable snags.

MYSE Habitat Types:

1. Roosting Habitat: A forested stand with trees ≥ 3 inches DBH

Sampling Frequency:

In contiguous forest, sample one 30 x 400 foot plot centered on centerline for each defined change in habitat, with a minimum of one plot per kilometer.

In small isolated woodlots, sample 30 ft width for entire length of woodlot

Survey Corridor:

APPENDIX C

POTENTIAL ROOST TREE PHOTOS

Potential Roost Tree #1

Potential Roost Tree #2

Potential Roost Tree #3

Potential Roost Tree #4

Potential Roost Tree #5

APPENDIX D

HABITAT PHOTOS

Habitat 1

Habitat 2

Habitat 3

Habitat 3 (con't)

United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office
6263 Appalachian Highway
Davis, West Virginia 26260

August 2, 2022

Ms. Sydney Burke
West Virginia Division of Highways
1334 Smith Street
Charleston, West Virginia 25301

Re: Harmony Grove, I-79 Interchange at Mile Marker 151, Monongalia County, WV
(FWS File Number: 2022-W-0551)

Dear Ms. Burke:

This letter responds to your June 10, 2022, request for information regarding the potential occurrence of federally listed species and their designated critical habitats within the proposed project area. The project is located at mile marker 151 on I-79 in Monongalia County, West Virginia. This project has been assigned FWS File Number 2022-W-0551 and all future correspondence should clearly reference this FWS File Number.

It is the U.S. Fish and Wildlife Service (Service) West Virginia Field Office's (WVFO) understanding that the West Virginia Division of Highways (WVDOH) proposes to construct a new interchange at mile marker 151 on I-79. The proposed project encompasses approximately 106.5 acres of which 27.7 acres of forest are proposed to be cleared.

These comments are provided pursuant to the Endangered Species Act (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq). The Service's WVFO has determined that two federally listed species may occur within the proposed project area and may be affected by the construction of the project. They are the endangered Indiana bat (*Myotis sodalis*) and the threatened northern long-eared bat (*Myotis septentrionalis*).

The Indiana bat and northern long-eared bat may use the project area for foraging and roosting between April 1 and November 15. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, upland forest, and old fields or pastures with scattered trees. Roosting/maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites. In West Virginia, the Service considers all forested habitat containing trees greater than or equal to 5 inches in diameter at breast height to be potentially suitable as summer roosting and foraging habitat for the Indiana bat.

Indiana bats feed on emerged aquatic and terrestrial flying insects. Moths, caddisflies, flies, mosquitoes, and midges are major prey items. Aquatic insects that have concentrated emergences or that form large mating aggregations above or near water appear to be preferred prey items. As a result, streams, wetlands, and associated riparian forests are often preferred foraging habitats for pregnant and lactating Indiana bats. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (e.g., old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. Increased erosion and sedimentation of streams reduces diversity and biomass of benthic invertebrates, i.e. insects. Some projects propose impacts to aquatic features such as streams or wetlands, which could result in a decrease in insects available to both bat species for foraging.

Similar to the Indiana bat, northern long-eared bat foraging habitat includes forested hillsides and ridges, and small ponds or streams. Northern long-eared bats are typically associated with large tracts of mature, upland forests with more canopy cover than is preferred by Indiana bats. Northern long-eared bats seem to be flexible in selecting roosts. They choose roost trees based on suitability to retain bark or provide cavities or crevices, and this species is known to use a wider variety of roost types than the Indiana bat. Males and non-reproductive females may also roost in cooler places like caves and mines. Although rare, this bat has also been found roosting in structures like barns and sheds.

Indiana bats and northern long-eared bats use caves or mine portals for winter hibernation between November 15 and March 31. These species also use the hibernacula and the areas around them for fall- swarming and spring-staging activity (August 15 to November 14 and April 1 to May 14, respectively). Some males have been known to stay close to the hibernacula during the summer and may use the hibernacula as summer roosts. There may be other landscape features being used as hibernacula by northern long-eared bats during the winter that have yet to be documented.

When the WVFO evaluates potential impacts to the Indiana bat, we consider the biological requirements for the species, the location of the project, and the extent of impacts. This proposed project is not located within any known use Indiana bat areas[1], will not affect any suitable caves or mines, and will only affect a limited amount of suitable forested habitat. Additionally, in your June 10, 2022, correspondence, you stated that the WVDOH proposed to clear all forested acreage between November 15 and March 31, when bats are in hibernation and not present on the landscape. Therefore, the WVFO anticipates any associated effects to the Indiana bat will be insignificant and/or discountable.

Based on the information provided, the northern long-eared bat is within the range of the proposed project and may be affected by the proposed construction and operation of this project. Any take of northern long-eared bat occurring in conjunction with these activities that complies with the conservation measures (as outlined in the 4(d) Rule), as necessary, is exempted from Section 9 prohibitions by the 4(d) Rule and does not require site specific incidental take authorization. Note that the 4(d) Rule does not exempt take that may occur

as a result of adverse effects to hibernacula and that no conservation measures are required as part of the 4(d) Rule unless the proposed project (1) involves tree removal within 0.25 miles of known northern long-eared bat hibernacula; or (2) cuts or destroys known, occupied maternity roost trees or any other trees within a 150-foot radius around known, occupied maternity tree during the pup season (June 1 to July 31). This proposed project is not located within any of these radii around known hibernacula or roost trees and will not affect any known northern long-eared bat hibernacula, therefore any take of northern long-eared bat associated with this project is exempted under the 4(d) Rule and no conservation measures are required. However, please note, on March 23, 2022, the Service published a proposal to reclassify the northern long-eared bat (NLEB) as endangered under the Endangered Species Act. The U.S. District Court for the District of Columbia has ordered the Service to complete a new final listing determination for the NLEB by November 2022 (Case 1:15-cv-00477, March 1, 2021). The proposed reclassification, if finalized, would remove the current 4(d) Rule for the NLEB, as these rules may be applied only to threatened species. The change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective (anticipated to occur by December 30, 2022.

If the project plans change or amendments be proposed that we have not considered in your proposed action, or if additional information on listed and proposed species becomes available, or if new species become listed or critical habitat is designated, this technical assistance may be reconsidered.

If you have any questions regarding this letter, please contact Liz Stout of my team at elizabeth_stout@fws.gov or at the letterhead address.

Sincerely,

Jennifer L. Norris

Jennifer L. Norris
Field Supervisor

cc:
Project File
Reader File
ES:WVFO:EStout:skd:8/2/2022
Filename: 2022-W-0551 Harmony Grove Exit 151 NLAAjln.docx

Bat Bridge Form

Bridge/Culvert Bat Assessment Form

Date & Time of Assessment: 4/19/2023	DOT Project Number or IPaC Code: 31-45-10.07	Route/Facility Carried: 45	County: Monongalia
Federal Structure ID: 31A114	Structure Coordinates (latitude and longitude): 39.60484, -79.99285	Structure Height (approximate): 30ft	Structure Length: 230ft

Structure Type (check one)

Bridge Construction Style

- [ ] Cast-in-place
- [ ] Flat Slab/Box
- [ ] Truss (Side View)
- [ ] Parallel Box Beam
- [ ] Pre-stressed Girder
- [ ] Steel I-beam
- [ ] Covered
- [x] Other: Steel Arch

Culvert Type

- [ ] Box
- [ ] Pipe/Round
- [ ] Other:

Other Structure

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
[ ] Metal	[ ] None	[x] Concrete
[x] Concrete	[ ] Concrete	[ ] Timber
[ ] Timber	[x] Steel	[ ] Stone/Masonry
[ ] Open grid	[ ] Timber	[ ] Other:
[ ] Other:	[ ] Other:	

Culvert Material

- [ ] Metal
- [ ] Concrete
- [ ] Plastic
- [ ] Stone/Masonry
- [ ] Other:

Creosote Evidence

- [ ] Yes
- [x] No
- [ ] Unknown

Notes:

No signs of guano or staining. Heavy rusting underneath of the bridge. Some cracking on the deck topside.

Crossings Traversed (check all that apply)

- [ ] Bare ground
- [ ] Rip-rap
- [ ] Flowing water
- [ ] Standing water
- [ ] Seasonal water
- [ ] Open vegetation
- [ ] Closed vegetation
- [ ] Railroad
- [x] Road/trail - Type:
- [ ] Other:

Surrounding Habitat (check all that apply)

- [ ] Agricultural
- [x] Commercial
- [ ] Residential-urban
- [ ] Residential-rural
- [x] Woodland/forested
- [ ] Grassland
- [ ] Ranching
- [ ] Riparian/wetland
- [ ] Mixed use
- [ ] Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	Assessment Notes	Evidence of Bats (include photos if present)
[x] All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos Species
[x] Concrete surfaces (open roosting on concrete)	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos Species
[x] Spaces between concrete end walls and the bridge deck	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos Species
[x] Crack between concrete railings on top of the bridge deck (Gap, Railing)	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos Species
[ ] Vertical surfaces on concrete I-beams	[x] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos Species
[x] Spaces between walls, ceiling joists	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos Species
[x] Weep holes, scupper drains, and inlets/pipes	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos Species
[x] All guiderails	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos Species
[x] All expansion joints	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos Species

Name: Harmony Grove

Signature:

Date: 2025.04.17 09:03:05-04'00'

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Stephen T. Rumbaugh, P. E.
Secretary of Transportation
Commissioner of Highways

June 4, 2025

Ms. Jennifer Norris
US Fish and Wildlife Service
West Virginia Field Office
6263 Appalachian Highway
Davis, WV 26260

Dear Ms. Norris:

State Project N/A
Federal Project N/A
Harmony Grove Interchange
Monongalia County

We are submitting this project to the Service for individual project review based on the completion of the Northeast Endangered Species Determination Key and the Northern Long-eared Bat Rangewide Determination Key on IPaC. According to the IPaC Concurrence and Consistency letters, we request your concurrence with the following determinations.

1. **Northern Long-eared Bat**
   - **IPaC Determination: May Affect**
   - **DSN Determination: We feel that this project is not likely to adversely affect the species due to:**
     - **Time of year tree clearing restrictions from November 15th-March 31st.**
     - **The ramps are held horizontally closer to the interstate which allows for limited right of way impacts and a smaller area of disturbance.**

We are also requesting your acknowledgement of the following proposed endangered species.

2. **Tricolored Bat**
   - **DSN Determination: We feel that this project will have no jeopardy to the continued existence of the Tricolored Bat, nor will it cause an adverse modification of designated critical habitat of this species. It is understood that interagency coordination under ESA Section 7(a)(2) may be needed for this project, if and when the final listing rules for the proposed species for which we have made determinations becomes effective.**

We are developing the subject project, located on Interstate 79, as shown on the attached vicinity maps. The project is proposing to build a new interchange off of Interstate 79 at approximate mile marker 151. The purpose of this project is to reduce truck traffic along Fairmont Road (US 19) and Dupont Road (CR 19/19) in the City of Westover, accommodate future local and regional expansion including the MIP, and improve accessibility to communities along River Road (County Route (CR) 45). Alternative #2 the Tight Diamond Interchange (TDI) is the preferred alternative. The TDI consists of four ramps, one in each of the four quadrants of the interchange. The ramps are held horizontally closer to the interstate which would allow for limited right of way impacts. The bridge over I-79 will be 203'0" in length and 66'0" in width and carry two-lanes of River Road through traffic and 2 left turn lanes for the full length of the bridge. A pier is required in the median of I-79.

Each of the entrance ramps from River Road will have a right turn lane from each direction and a left turn lane from the bridge that converge at the terminal of the ramp and taper down to one lane. The exit ramps from I-79 both expand to two lanes at the intersections with a stop conditions at River Road. Approximately 600 feet of approach roadway work would be necessary on the west approach and 600 feet on the east approach of the bridge. The west approach contains a 450 foot center lane that is a dedicated left turn lane that will provide additional storage for the left turn lane for the I-79 northbound entrance ramp. The east approach contains a 350 foot center lane that is a dedicated left turn lane that will provide additional storage for the left turn lane for the I-79 southbound entrance ramp. Each roadway approach will taper the third lane to the existing width of River Road. Master Graphics Road and Crestview Drive will be incorporated into River Road and access will be provided at all times during construction.

The project location is shown on the USGS MORGANTOWN SOUTH quadrangle map. The coordinates of the project location are 39.604993, -79.993329.

Your comments on possible effects to Federally-listed threatened and endangered species are requested so that they may be included in our environmental studies. WVDOH is acting on behalf of the FHWA, and as part of the NEPA process, a Section 7 determination concurrence is needed. Does the USFWS concur with the determination for number 1, as well as acknowledge the determination for number 2, above? Should you require additional information, please contact Ashley Gauntt, of our NEPA Compliance and Permitting Section at 304-414-6401 or ashley.v.gauntt@wv.gov.

Very truly yours,

Sondra Mullins

Sondra Mullins, Assistant Director
Technical Support Division

M: g
Attachments
bcc: DSN (AG)

IPAC Species list and Determination Keys

United States Department of the Interior

FISH AND WILDLIFE SERVICE
West Virginia Ecological Services Field Office
6263 Appalachian Highway
Davis, WV 26260-8061
Phone: (304) 866-3858 Fax: (304) 866-3852
https://www.fws.gov/office/west-virginia-ecological-services

In Reply Refer To: 06/04/2025 13:17:11 UTC
Project Code: 2025-0079197
Project Name: Harmony Grove Interchange

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). If you determine that other federally protected species not listed in this Official Species List are present in your action area, you are still responsible to analyze your potential effects to those species and consult with the U.S. Fish and Wildlife Service if consultation is required.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of

this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

West Virginia Ecological Services Field Office
6263 Appalachian Highway
Davis, WV 26260-8061
(304) 866-3858

PROJECT SUMMARY

Project Code: 2025-0079197

Project Name: Harmony Grove Interchange

Project Type: Railroad - Maintenance/Modification

Project Description: Enrout Properties, LLC (Enrout), in coordination with the West Virginia Division of Highways (WVDOH), is developing the subject project at the location shown on the attached vicinity maps. The project is proposing to build a new interchange off of Interstate 79 at approximate mile marker 151. This project is being privately funded by Enrout but still requires approval from the WVDOH. The project location is shown on the attached USGS Morgantown South quadrangle map. The approximate center coordinates of the project location are 39.604993, -79.993329.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.6035627,-79.9923583698872,14z

Counties: Monongalia County, West Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions: ▪ All activities in this location should consider potential effects to this species. This project is not within a known-use area, but potentially occupied habitat may exist. Please contact the WVFO for further coordination. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

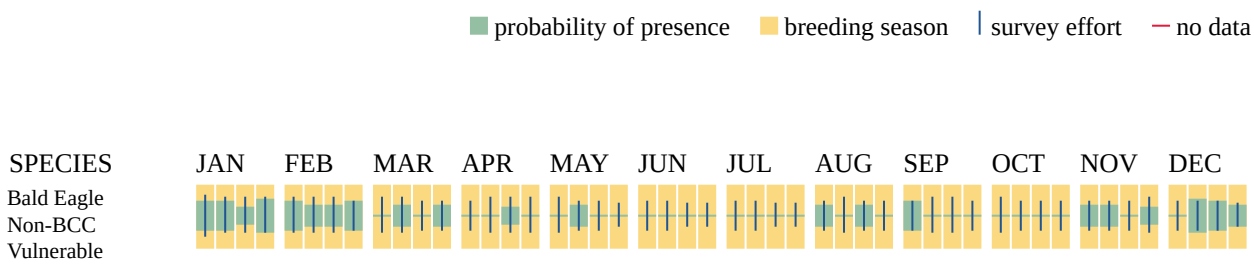
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Golden Eagle
Non-BCC
Vulnerable

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

NAME	BREEDING SEASON
Black-capped Chickadee *Poecile atricapillus practicus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/10645	Breeds Apr 10 to Jul 31
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9643	Breeds May 20 to Aug 10
Cerulean Warbler *Setophaga cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 27 to Jul 20
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Henslow's Sparrow *Centronyx henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31

NAME	BREEDING SEASON
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort – no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC


Bald Eagle
Non-BCC
Vulnerable
Black-billed
Cuckoo
BCC Rangewide
(CON)
Black-capped
Chickadee
BCC - BCR
Bobolink
BCC Rangewide
(CON)
Canada Warbler
BCC Rangewide
(CON)
Cerulean Warbler
BCC Rangewide
(CON)
Chimney Swift
BCC Rangewide
(CON)
Golden Eagle
Non-BCC
Vulnerable
Henslow's Sparrow
BCC Rangewide
(CON)
Kentucky Warbler
BCC Rangewide
(CON)
Prairie Warbler
BCC Rangewide
(CON)
Prothonotary
Warbler
BCC Rangewide
(CON)
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Red-headed
Woodpecker
BCC Rangewide
(CON)
Rusty Blackbird
BCC - BCR
Wood Thrush
BCC Rangewide
(CON)

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency: West Virginia Division of Highways
Name: Ashley Gauntt
Address: 1334 Smith St
City: Charleston
State: WV
Zip: 25303
Email ashley.v.gauntt@wv.gov
Phone: 3044146401

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

United States Department of the Interior

FISH AND WILDLIFE SERVICE
West Virginia Ecological Services Field Office
6263 Appalachian Highway
Davis, WV 26260-8061
Phone: (304) 866-3858 Fax: (304) 866-3852

In Reply Refer To: 05/15/2025 12:29:30 UTC
Project code: 2025-0079197
Project Name: Harmony Grove Interchange

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Highway Administration

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for 'Harmony Grove Interchange'

Dear Ashley Gauntt:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on May 15, 2025, for “Harmony Grove Interchange” (here forward, Project). This project has been assigned Project Code 2025-0079197 and all future correspondence should clearly reference this number.

The Service developed the IPaC system and associated species’ determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into the IPaC must accurately represent the full scope and details of the Project. Failure to accurately represent or implement the Project as detailed in IPaC or the Northeast Determination Key (DKey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative effect(s)), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17). Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no further consultation with, or concurrence from, the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical

habitat, formal consultation is required (except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect (NLAA)" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13]).

The IPaC results indicated the following species is (are) potentially present in your project area and, based on your responses to the Service's Northeast DKey, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Indiana Bat (*Myotis sodalis*)	Endangered	NLAA

Conclusion
The Service concurs to the above-mentioned determination(s) of may affect, not likely to adversely affect. This concurrence confirms receipt of your agencies coordination required under Section 7(a)(2) of the ESA.

In addition to the species listed above, the following species and/or critical habitats may also occur in your project area and are not covered by this conclusion:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Northern Long-eared Bat *Myotis septentrionalis* Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

If no changes occur with the Project or there are no updates on listed species, no further consultation/coordination for this project is required for the species identified above. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project implements any changes which are final or commits additional resources.

Please Note: If the Action may impact bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d) by the prospective permittee may be required. Please contact the Migratory Birds Permit Office, (413) 253-8643, or PermitsR5MB@fws.gov, with any questions regarding potential impacts to Eagles.

If you have any questions regarding this letter or need further assistance, please contact the West Virginia Ecological Services Field Office and reference the Project Code associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Harmony Grove Interchange

2. Description

The following description was provided for the project 'Harmony Grove Interchange':

> Enrout Properties, LLC (Enrout), in coordination with the West Virginia Division of
> Highways (WVDOH), is developing the subject project at the location shown on the attached
> vicinity maps. The project is proposing to build a new interchange off of Interstate 79 at
> approximate mile marker 151. This project is being privately funded by Enrout but still requires
> approval from the WVDOH. The project location is shown on the attached USGS Morgantown
> South quadrangle map. The approximate center coordinates of the project location are 39.604993,
> -79.993329.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.6035627,-79.9923583698872,14z

QUALIFICATION INTERVIEW

1. As a representative of this project, do you agree that all items submitted represent the complete scope of the project details and you will answer questions truthfully?

   Yes

2. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed species?

   Note: This question could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered, or proposed species.

   No

3. Is the action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

4. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) the lead agency for this project?

   Yes

5. FHWA, FRA, and FTA have completed a rangewide programmatic biological opinion for transportation projects within the range of the Indiana bat and northern long-eared bat. Does your proposed project fall within the scope of this programmatic consultation?

   Note: If you are using the Northeast Key to satisfy consultation requirements for species not covered by the FHWA programmatic (e.g., species other than Indiana bat or northern long-eared bat), select "No" and continue through the key. If you are unsure whether your project qualifies for the FHWA programmatic, please select "Yes" and use the FHWA, FRA, FTA Assisted Determination Key to determine if the programmatic biological opinion is applicable to your project. If it is not applicable, you can return to this key.

   No

6. Are you including in this analysis all impacts to federally listed species that may result from the entirety of the project (not just the activities under federal jurisdiction)?

   Note: If there are project activities that will impact listed species that are considered to be outside of the jurisdiction of the federal action agency submitting this key, contact your local Ecological Services Field Office to determine whether it is appropriate to use this key. If your Ecological Services Field Office agrees that impacts to listed species that are outside the federal action agency's jurisdiction will be addressed through a separate process, you can answer yes to this question and continue through the key.

   Yes

7. Are you the lead federal action agency or designated non-federal representative requesting concurrence on behalf of the lead Federal Action Agency?

   Yes

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)?

   No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

10. Is the lead federal action agency the Natural Resources Conservation Service?

    No

11. Will the proposed project involve the use of herbicide where listed species are present?

    No

12. Are there any caves or anthropogenic features suitable for hibernating or roosting bats within the area expected to be impacted by the project?

    No

13. Does any component of the project associated with this action include activities or structures that may pose a collision risk to **birds** (e.g., plane-based surveys, land-based or offshore wind turbines, communication towers, high voltage transmission lines, any type of towers with or without guy wires)?

    Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

    No

14. Does any component of the project associated with this action include activities or structures that may pose a collision risk to **bats** (e.g., plane-based surveys, land-based or offshore wind turbines)?

    Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

    No

15. Will the proposed project result in permanent changes to water quantity in a stream or temporary changes that would be sufficient to result in impacts to listed species?

    For example, will the proposed project include any activities that would alter stream flow, such as water withdrawal, hydropower energy production, impoundments, intake structures, diversion structures, and/or turbines? Projects that include temporary and limited water reductions that will not displace listed species or appreciably change water availability for listed species (e.g. listed species will experience no changes to feeding, breeding or sheltering) can answer "No". Note: This question refers only to the amount of water present in a stream, other water quality factors, including sedimentation and turbidity, will be addressed in following questions.

    No

16. Will the proposed project affect wetlands where listed species are present?

    This includes, for example, project activities within wetlands, project activities within 300 feet of wetlands that may have impacts on wetlands, water withdrawals and/or discharge of contaminants (even with a NPDES).

    No

17. Will the proposed project directly affect a streambed (below ordinary high water mark (OHWM)) of the stream or tributary where listed species may be present?

    No

18. Will the proposed project bore underneath (directional bore or horizontal directional drill) a stream where listed species may be present?

    No

19. Will the proposed project involve a new point source discharge into a stream or change an existing point source discharge (e.g., outfalls; leachate ponds) where listed species may be present?

    No

20. Will the proposed project involve the removal of excess sediment or debris, dredging or in-stream gravel mining where listed species may be present?

    No

21. Will the proposed project involve the creation of a new water-borne contaminant source where listed species may be present?

    Note New water-borne contaminant sources occur through improper storage, usage, or creation of chemicals. For example: leachate ponds and pits containing chemicals that are not NSF/ANSI 60 compliant have contaminated waterways. Sedimentation will be addressed in a separate question.

    No

22. Will the proposed project involve perennial stream loss, in a stream of tributary of a stream where listed species may be present, that would require an individual permit under 404 of the Clean Water Act?

    No

23. Will the proposed project involve blasting where listed species may be present?

    Yes

24. Will the proposed project include activities that could negatively affect fish movement temporarily or permanently (including fish stocking, harvesting, or creation of barriers to fish passage).

    No

25. Will the proposed project involve earth moving that could cause erosion and sedimentation, and/or contamination along a stream or tributary of a stream where listed species may be present?

    Note: Answer "Yes" to this question if erosion and sediment control measures will be used to protect the stream.

    No

26. Will the proposed project impact streams or tributaries of streams where listed species may be present through activities such as, but not limited to, valley fills, large-scale vegetation removal, and/or change in site topography?

    No

27. Will the proposed project involve vegetation removal within 200 feet of a perennial stream bank where aquatic listed species may be present?

    No

28. Will erosion and sedimentation control Best Management Practices (BMPs) associated with applicable state and/or Federal permits, be applied to the project? If BMPs have been provided by and/or coordinated with and approved by the appropriate Ecological Services Field Office, answer "Yes" to this question.

    Yes

29. Is the project being funded, lead, or managed in whole or in part by U.S Fish and Wildlife Restoration and Recovery Program (e.g., Partners, Coastal, Fisheries, Wildlife and Sport Fish Restoration, Refuges)?

    No

30. [Semantic] Is the project located on a Group 4 stream: the Ohio River downstream of Hannibal Locks and Dam, Little Kanawha River (slack-water section adjoining the Ohio River), and/or the Kanawha River downstream of Kanawha Falls?

    Automatically answered
    No

31. Have you received a technical assistance communication (email or letter) from the West Virginia Field office?

    No

32. [Semantic] Does the project intersect the Virginia big-eared bat critical habitat?

    Automatically answered
    No

33. [Semantic] Does the project intersect the Indiana bat AOI?

    Automatically answered
    Yes

34. Are trees present within the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats (i.e., live trees and/or snags ≥5 inches dbh (12.7 centimeter), answer "Yes". If you are unsure, answer “Yes.” Or refer to Appendix A of the Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines for definitions and an assessment form that will assist you in determining if suitable habitat is present within your project's action area. Suitable summer habitat for Indiana bat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥5 inches dbh (12.7 centimeter) that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat

    Yes

35. Has a presence/probable absence bat survey following the Service’s Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines been conducted within the action area?

    No

36. Does the project involve removal or modification of a human-made structure (barn, house, or other building) known or suspected to contain roosting bats?

    Note: Most maintenance and general human disturbance in and around structures will not affect Indiana bats as bats roosting in human structures are adjusted to a certain level of routine noise and are generally expected to roost away from areas with excessive disturbance. Answer ‘no’ if the proposed action will not include disturbance to human structures known or suspected to contain roosting bats or if the structure does not offer suitable roosting habitat for northern long-eared bats. If unsure, answer ‘yes.’

    No

37. Does the project include removal/modification of an existing bridge or culvert?

    Yes

38. Is the bridge or culvert equal to or greater than 4.5 feet in height and 130 feet in length?

    Yes

39. Is the bridge/culvert within 1000 feet of suitable forested/wooded habitat for the Indiana bat?

    Note: Suitable forested habitat contains potential roosts (i.e., live trees and/or snags ≥5 inches diameter at breast height that have exfoliating bark, cracks, crevices, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be suitable habitat when they exhibit characteristics of suitable roost trees (see above) and are within 1,000 feet of other forested/wooded habitat. (See Appendix A of the Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines for definitions.).

    Yes

40. Has the bridge/culvert been inspected for signs of roosting bats (guano, urine staining, bat vocalizations, and/or bats) during the summer roosting season (May 1 through October 31 in NJ; May 15 through August 15 elsewhere) in accordance with the USFWS Bridge/ Structure Bat Assessment Guidance?

    Note: Bridge Structure Bat Assessment Guidance can be found here: https://www.fws.gov/sites/default/files/documents/appendix-d-bridge-structure-bat-assessment-form-guidance-april-2020.pdf

    A blank bridge assessment form can be found here: https://www.fws.gov/media/appendix-d-bridgestructure-assessment-form. In New Jersey, for information on conducting a bridge/structure assessment see NJFO's bridge guidance documents located within this library: https://www.fws.gov/library/collections/new-jersey-inlandfreshwater-species-and-habitat-management-documents

    Yes

    SUBMITTED DOCUMENTS

    - *Harmony Grove bridge Fillable Appendix K Bat Bridge Form.pdf https://ipac.ecosphere.fws.gov/project/X7NUNV4R5JEZRIVZIUWCNQCHZI/projectDocuments/160850009*

41. Were signs of bats observed?

    No

42. Will the project include tree cutting, other means of knocking down or bringing down trees, or tree trimming?

    Yes

43. Is the project a linear project (e.g., pipelines, utility rights-of-way, roads etc.)?

    Yes

44. Will all tree cutting/trimming or other knocking or bringing down of trees be restricted to the inactive season for the Indiana bat which occurs between November 15 and March 31?

    Yes

45. [Semantic] Does the project intersect the Indiana bat critical habitat?

    Automatically answered
    No

46. [Semantic] Does the project intersect the candy darter critical habitat?

    Automatically answered
    No

47. [Semantic] Does the project intersect the diamond darter critical habitat?

    Automatically answered
    No

48. [Semantic] Does the project intersect the Big Sandy crayfish critical habitat?

    Automatically answered
    No

49. [Hidden Semantic] Does the project intersect the Guyandotte River crayfish critical habitat?

    Automatically answered
    No

50. Do you have any other documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

1. Approximately how many acres of trees would the proposed project remove?

   27.7

2. Approximately how many total acres of disturbance are within the disturbance/ construction limits of the proposed project?

   106.5

3. Briefly describe the habitat within the construction/disturbance limits of the project site.

   The proposed project is a new interchange at mile marker 151 on I-79 located approximately 1.25
   miles west of Morgantown, West Virginia. The project encompasses approximately 106.5 acres of which
   approximately 27.7 acres are forested.

IPAC USER CONTACT INFORMATION

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City: Charleston
State: WV
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Email ashley.v.gauntt@wv.gov
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LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

United States Department of the Interior

FISH AND WILDLIFE SERVICE
West Virginia Ecological Services Field Office
6263 Appalachian Highway
Davis, WV 26260-8061
Phone: (304) 866-3858 Fax: (304) 866-3852
https://www.fws.gov/office/west-virginia-ecological-services

In Reply Refer To: 06/04/2025 13:27:21 UTC
Project code: 2025-0079197
Project Name: Harmony Grove Interchange

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Highway Administration

Subject: Technical assistance for 'Harmony Grove Interchange'

Dear Ashley Gauntt:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on June 04, 2025, for 'Harmony Grove Interchange' (here forward, Project). This project has been assigned Project Code 2025-0079197 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project. **Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey), invalidates this letter.**

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	May affect
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	May affect

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Indiana Bat *Myotis sodalis* Endangered
- Monarch Butterfly *Danaus plexippus* Proposed Threatened

You may coordinate with our Office to determine whether the Action may cause prohibited take of the species listed above.

Conclusion

Consultation with the Service is not complete. Further consultation or coordination with the Service is necessary for those species or designated critical habitats with a determination of "May Affect." A "May Affect" determination in this key indicates that the project, as entered, is not consistent with the questions in the key. Not all projects that reach a "May Affect" determination are anticipated to result in adverse impacts to listed species. These projects may result in a "No Effect", "May Affect, Not Likely to Adversely Affect", or "May Affect, Likely to Adversely Affect" determination depending on the details of the project. Please contact our West Virginia Ecological Services Field Office to discuss methods to avoid or minimize potential adverse effects to those species or designated critical habitats.

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate. Projects that receive a may affect determination for tricolored bat through the key, should contact the appropriate Ecological Services Field Office if they want to conference on this species.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Harmony Grove Interchange

2. Description

The following description was provided for the project 'Harmony Grove Interchange':

> Enrout Properties, LLC (Enrout), in coordination with the West Virginia Division of
> Highways (WVDOH), is developing the subject project at the location shown on the attached
> vicinity maps. The project is proposing to build a new interchange off of Interstate 79 at
> approximate mile marker 151. This project is being privately funded by Enrout but still requires
> approval from the WVDOH. The project location is shown on the attached USGS Morgantown
> South quadrangle map. The approximate center coordinates of the project location are 39.604993,
> -79.993329.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.6035627,-79.9923583698872,14z

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   Yes

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   Yes

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

10. Have you contacted the appropriate agency to determine if your action is near any known northern long-eared bat or tricolored bat **hibernacula**?

    Note: A document with links to Natural Heritage Inventory databases and other state-specific sources of information on the locations of northern long-eared bat and tricolored bat hibernacula is available here. Location information for northern long-eared bat and tricolored bat hibernacula is generally kept in state natural heritage inventory databases – the availability of this data varies by state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

    Yes

11. Is any portion of the action area within 0.5-mile radius of any known bat **hibernacula**?

    If unsure, contact your local Ecological Services Field Office.

    No

12. Have you contacted the appropriate agency to determine if your action is near any known occupied culverts?

    Note: A document with links to Natural Heritage Inventory databases and other state-specific sources of information on the locations of northern long-eared bat and tricolored bat hibernacula is available here. Location information for northern long-eared bat and tricolored bat hibernacula is generally kept in state natural heritage inventory databases – the availability of this data varies by state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

    Yes

13. Is any portion of the action area within a 0.25-mile radius of any known bat occupied culvert? If unsure, contact your local Ecological Services Field Office.

    No

14. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

15. Will the action cause effects to a bridge?

    Note: Covered bridges should be considered as bridges in this question.

    Yes

16. Has a site-specific bridge assessment following USFWS guidelines been completed?

    Note: For information on conducting a bridge/structure assessment, please see Appendix K in the USFWS' Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines at:https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines Additional resources can be found at: https://www.fws.gov/media/bats-and-transportation-structures-references-and-additional-resources and a training video is located at: https://www.youtube.com/watch?v=iuFwkT7q8Ws.

    Yes

17. Was evidence of bat use found during the bridge assessment?

    No

    SUBMITTED DOCUMENTS

    - *Harmony Grove bridge Fillable Appendix K Bat Bridge Form.pdf https://ipac.ecosphere.fws.gov/project/X7NUNV4R5JEZRIVZIUWCNQCHZI/projectDocuments/160850009*

18. Did you coordinate with your local Ecological Services Field Office (ESFO) and receive approval of the bridge assessment results? If NO, please contact the appropriate local ESFO before completing this determination key.

    Yes

19. Will the action result in effects to a culvert or tunnel at any time of year?

    No

20. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

21. Does the action include the intentional exclusion of bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

    No

22. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

23. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    Yes

24. Will any new road go through any area of contiguous forest that is greater than or equal to 10 acres in total extent?

    Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forest if the forested patches, added together, comprise at least 10 acres.

    No

25. Will any new road pass between two patches of contiguous forest that are each greater than or equal to 10 acres in extent and are separated by less than 1,000 feet? Bats may cross a road by flying between forest patches that are up to 1,000 feet apart.

    Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forested area if the forested patches, added together, comprise at least 10 acres.

    No

26. Will the action include or cause any construction or other activity that is reasonably certain to increase average night-time traffic permanently or temporarily on one or more existing roads? **Note:** For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    Yes

27. Will the increased vehicle traffic occur on any road that lies between any two areas of contiguous forest that are each greater than or equal to 10 acres in extent and are separated by less than 1,000 feet? Bats may cross a road by flying between forest patches that are up to 1,000 feet apart.

    Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forested area if the forested patches, added together, comprise at least 10 acres.

    Yes

28. For every 1,000 feet of road where increased traffic is expected, will there be at least one place where bats could cross the road corridor by flying less than 33 feet (10 meters) between trees whose tops are at least 66 feet (20 meters) higher than the road surface?

    No

29. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

    Note: For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

    No

30. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    No

31. Will the action include drilling or blasting?

    No

32. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

    No

33. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

    No

34. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

    Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

35. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

36. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    Yes

37. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

    No

38. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

    No

39. Does the project intersect with the 0- 9.9% forest density category?

    Automatically answered
    No

40. Does the project intersect with the 10.0- 19.9% forest density category map?

    Automatically answered
    No

41. Does the project intersect with the 20.0- 29.9% forest density category map?

    Automatically answered
    No

42. Does the project intersect with the 30.0- 100% forest density category map?

    Automatically answered
    Yes

43. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 100 acres in total extent?

    No

44. Will the proposed action result in the use of prescribed fire?

    Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

    No

45. Does the action area intersect the northern long-eared bat species list area?

    Automatically answered
    Yes

46. [Semantic] Is the action area located within 0.5 miles of radius of an entrance/opening to any known NLEB hibernacula? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

47. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

48. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Automatically answered
    No

49. Have you contacted the appropriate agency to determine if your action is within 150 feet of any documented northern long-eared bat roosts?

    Note: A document with links to Natural Heritage Inventory databases and other state-specific sources of information on the locations of northern long-eared bat roosts is available here. Location information for northern long-eared bat roosts is generally kept in state natural heritage inventory databases – the availability of this data varies by state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

    Yes

50. Is any portion of the action area within 150 feet of any known northern long-eared bat roosts? If unsure, contact your local Ecological Services Field Office.

    No

51. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
    If unsure, answer "Yes."

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

52. Have you contacted the appropriate agency to determine if the action area overlaps with a known northern long-eared bat habitat buffer? Summer habitat buffers include the following: (1) 3-mile buffer around northern long-eared bat captures or acoustic detections; (2)1.5-mile buffer around known roosts). The Spring Staging/Fall Swarming buffer includes 5-mile buffer around the entrance of known hibernacula)?

    Note: A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees can be found here. Location information for northern long-eared bat maternity roost trees and swarming areas is generally kept in state natural heritage inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

    Yes

53. Does the action area overlap with a known northern long-eared bat spring staging/fall swarming buffer (within 5 miles of known hibernacula)?

    No

54. Does the action area overlap with a known northern long-eared bat summer buffer (3-mile buffer around northern long-eared bat captures or acoustic detections; 1.5-mile buffer around known roost trees)?

    No

55. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area?

    No

56. Does the action area intersect the tricolored bat species list area?

    Automatically answered
    Yes

57. [Semantic] Is the action area located within 0.5 miles of radius of an entrance/opening to any known tricolored bat hibernacula? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

58. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

59. Have you contacted the appropriate agency to determine if your action is within 150 feet of any documented tricolored bat roosts?

    Note: A document with links to Natural Heritage Inventory databases and other state-specific sources of information on the locations of tricolored bat roosts is available here. Location information for tricolored bat roosts is generally kept in state natural heritage inventory databases – the availability of this data varies by state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

    Yes

60. Is any portion of the action area within 150 feet of any documented tricolored bat roosts? If unsure, contact your local Ecological Services Field Office.

    No

61. Have you contacted the appropriate agency to determine if the action area overlaps with a known tricolored bat habitat buffer? Summer habitat buffers include the following: (1) 3-mile buffer around tricolored bat captures or acoustic detections; (2)1.5-mile buffer around known roosts). The Spring Staging/Fall Swarming buffer includes a 3-mile buffer around the entrance of known hibernacula)?

    Note: A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of tricolored bat roost trees can be found here. Location information for tricolored bat maternity roost trees and swarming areas is generally kept in state natural heritage inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. If you'd like to assume presence of tricolored bats, answer "No".

    Yes

62. Does the action area intersect a known Spring Staging/Fall Swarming tricolored bat buffer (within 3 miles of known hibernacula)?

    No

63. Does the action area intersect a known tricolored bat summer buffer (3-mile buffer around tricolored bat captures or detections; 1.5-mile buffer around known roost trees)?

    No

64. Has a presence/probable absence bat survey targeting the tricolored bat and following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area?

    No

65. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities?
    (If unsure, answer ""Yes."")

    Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (Tillandsia usneoides), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    Yes

66. Do you have any documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

27.7

IPAC USER CONTACT INFORMATION

Agency: West Virginia Division of Highways
Name: Ashley Gauntt
Address: 1334 Smith St
City: Charleston
State: WV
Zip: 25303
Email ashley.v.gauntt@wv.gov
Phone: 3044146401

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office
6263 Appalachian Highway
Davis, West Virginia 26260

September 26, 2025

John Rogers
Acting Division Administrator, West Virginia Division
Federal Highways Administration
300 Virginia Street East
Suite 7400
Charleston, West Virginia 25301

Re: Harmony Grove Interchange, Monongalia County, West Virginia (FWS File Number 2025-0079197)

Dear John Rogers:

This letter responds to your request for information regarding the potential occurrence of federally listed species and their designated critical habitats within the proposed action area. The project submittal was originally provided on July 1, 2025. The proposed project is located on Interstate 79 near the community of Harmony Grove in Monongalia County, West Virginia. This project has been assigned FWS File Number 2025-0079197, and all future correspondence should clearly reference this number.

It is the U.S. Fish and Wildlife Service (Service) West Virginia Field Office's (WVFO) understanding that the West Virginia Division of Highways (WVDOH), on behalf of the Federal Highway Administration (FHWA), proposes to build a new interchange at approximately mile marker 151 on Interstate 79. The interchange will consist of four ramps, one in each of the four interchange quadrants, and will include a bridge over I-79 that will be 203 feet long and 66 feet wide. Approximately 600 feet of approach roadway work will also be necessary on both the west and east approaches. In total, the project encompasses approximately 106.5 acres, including 27.7 forested acres that will be cleared.

The comments below are provided pursuant to the Endangered Species Act (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq), and are based on information you provided. The Service's WVFO has determined that the following federally listed species may occur within the proposed project area and be affected by the project: Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*). The Indiana bat received a "not likely to adversely affect" determination from your input into the Northeast Determination Key; therefore, this species is not addressed in this letter.

There is no requirement to coordinate with the Service regarding species that are proposed for listing, unless the action agency determines that their proposed action is likely to jeopardize a

proposed species or destroy or adversely modify proposed critical habitat. The WVFO understands that WVDOH and FHWA have chosen to make a determination that this project is not likely to jeopardize the continued existence of the tricolored bat (*Perimyotis subflavus*), which is proposed for listing under the ESA. Interagency coordination under the ESA Section 7(a)(2) may be needed for this project, if and when the final listing rule for this species becomes effective.

Northern long-eared bat

The northern long-eared bat was listed as threatened on April 2, 2015 (80 FR 17974) and then reclassified as endangered on March 31, 2023 (88 FR 4908). The species may use the project area for foraging and roosting between April 1 and November 15. Northern long-eared bats are typically associated with large tracts of mature upland forests. The species also appears to be flexible in roost selection. Northern long-eared bats choose roost trees based on their suitability to retain bark or provide cavities or crevices, and this species is known to use a wide variety of roost types. In West Virginia all forested habitat containing trees greater than or equal to three inches in diameter at breast height is potentially suitable as summer roosting and foraging habitat for the northern long-eared bat. Males and non-reproductive females may also roost in cooler places like caves and mines or structures like barns and sheds.

Northern long-eared bats feed on emerged aquatic and terrestrial flying insects. Moths, caddisflies, flies, mosquitoes, and midges are major prey items. Aquatic insects with concentrated emergences or that form large mating aggregations above or near water appear to be preferred prey items. Northern long-eared bat foraging habitat also includes forested hillsides and ridges, and small ponds or streams. Increased erosion and sedimentation within streams reduces diversity and biomass of benthic invertebrates (i.e., insects). Impacts to aquatic features such as streams or wetlands, could result in a decrease of insects available to the species for foraging.

Northern long-eared bats use caves or mine portals for winter hibernation between November 15 and March 31. The species also uses hibernacula and the areas around them for fall-swarming and spring-staging activity (August 16 to November 15 and April 1 to May 14, respectively). There may be other landscape features being used as hibernacula by northern long-eared bats during the winter that have yet to be documented.

When the WVFO evaluates potential consequences to listed species, we consider the biological requirements of the species, the location of the project, and the extent of impacts. There are no known caves or mines used by northern long-eared bats during hibernation within the proposed project area. Therefore, it is unlikely that northern long-eared bats use the action area during spring staging, fall swarming, or overwintering. Suitable summer use habitat is located within the project area and the project is within the range of the species; therefore, northern long-eared bats may be present in the project area throughout the summer occupancy season (April 1 through September 30) and project actions have the potential to adversely affect the species. However, the WVDOH and FHWA have committed to the implementation of the following conservation measures to reduce potential adverse effects to northern long-eared bats:

1. Tree removal will only occur during winter when bats are not expected to be active on the landscape (November 15th – March 31st).
2. Blasting will not occur during the summer occupancy season (April 1 through September 30).
3. Erosion and sediment control best management practices will be used during earth disturbing activities.

WVDOH and FHWA have committed to remove all trees and vegetation during the northern long-eared bat inactive season (November 15 to March 31); therefore, the proposed action will avoid direct impacts to roosting bats. Additionally, the suitable mixed-age deciduous forest to be removed is dispersed along a linear path of approximately 1.2 miles, fragmented by disturbed areas, scrub-brush, early successional habitats, residential development, and the interstate. As such, tree clearing will not be concentrated in a large area in any given portion of the project area. Because northern long-eared bats are typically associated with large tracts of mature upland forests and the species is flexible in roost selection, indirect effects of habitat loss to the species are expected to be insignificant and/or discountable. Furthermore, blasting activities are not expected to affect northern long-eared bats because the species is not expected to be present within the action area outside of the summer occupancy season. Additionally, blasting will occur after tree clearing, so it will not generate indirect effects (i.e., habitat loss) to bats returning to the project area from overwintering.

The proposed action is expected to result in an increase in average night-time traffic, which has the potential to increase the risk of mortality for individual northern long-eared bats from collisions while foraging and commuting. The increase in traffic volume is expected to occur on River Road, which bisects the project, because of the direct access provided by the new interchange. Thus, existing traffic is expected to shift from the nearby Westover Interchange to the new interchange, with most of the traffic increase projected to occur on River Road east of Interstate 79. Average daily traffic in this area between 7:00 PM and 7:00 AM is expected to increase from approximately 1,080 vehicles (projected for 2050 under a no-build scenario) to 2,880 vehicles (projected for 2050 with the build of the new interchange). However, the probability that a northern long-eared bat will be struck by a vehicle as a result of this traffic increase is expected to be very low for two reasons. First, River Road is an existing road and will not be novel to bats using the area; therefore, bats in the area have previous experience with traffic and are likely adapted to the presence of the road. Bats that perceive vehicles as a threat are more than twice as likely to avoid crossing a road when a vehicle is present than when there is no vehicle (Zurcher et al. 2010). Additionally, road and traffic experience can reduce the probability of an individual animal being killed on the road (Mumme et al. 2000, Slater 2002). Second, the habitat along this area, near a large industrial park and residential development, is less suitable than nearby habitat. As a result, northern long-eared bats are more likely to use other nearby habitat, rather than habitat on either side of River Road.

Based on the information provided and the WVFO’s evaluation of potential consequences to listed species, the WVFO concurs with FHWAs determination of may affect, not likely to adversely affect for the federally endangered northern long-eared bat.

Conclusion

This letter serves as completed ESA Section 7 coordination for this project. If the project plans change or amendments are proposed that we have not considered in your proposed action, or if additional information on listed and proposed species becomes available, or if new species become listed or critical habitat is designated, this concurrence should be reconsidered.

If you have any questions regarding this letter, please contact Danielle Bradke on our team at danielle_bradke@fws.gov or the WVFO's office-wide email (fw5_wvfo@fws.gov).

Sincerely,

JENNIFER NORRIS

Digitally signed by JENNIFER NORRIS
Date: 2025.09.26 11:13:03 -04'00'

Jennifer L. Norris
Field Supervisor

Literature

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